Environmental Impact Statement for EA-18G "Growler" Airfield Operations at Naval Air Station Whidbey Island Complex, WA

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Volume 2

Appendices A and B

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Prepared by:

United States Department of the Navy

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Acronyms and Abbreviations

Acronym	Definition
AAD	Annual Average Daily
AGL	Above Ground Level
ANSI	American National Standards Institute
ASA	Acoustical Society of America
CVW	Carrier Air Wing
dB	Decibel
DNL	Day-Night Average Sound Level (U.S. cumulative noise metric)
DNWG	Department of Defense Noise Working Group
DOD	Department of Defense
E&E	Ecology & Environment, Inc.
EA	Environmental Assessment
EIS	Environmental Impact Statement
EXP	Expeditionary
FAA	Federal Aviation Administration (U.S.)
F	degrees Fahrenheit
FCLP	Field Carrier Landing Practice
FICON	Federal Interagency Committee on Noise
FRS	Fleet Replacement Squadron
ft	Feet
GCA	Ground-Controlled Approach
Hz	Hertz
in Hg	inches of mercury (barometric pressure)
kPa-s/m^2	KiloPascals per second per square meter
L_{eq}	Equivalent Sound Level
$L_{eq(24)}$	Equivalent Sound Level over 24 hours

Acronym	Definition
$L_{eq(8h)}$	Equivalent Sound Level over 8 hours
L_{max}	Maximum Sound Level
MAGIC CARPET	Maritime Augmented Guidance with Integrated Controls for Carrier Approach and Recovery Precision Enabling Technologies (also known as Precision Landing Mode).
MSL	Mean Sea Level
NA	Number of Events At or Above a Selected Threshold
NAS	Naval Air Station
NASMOD	Naval Aviation Simulation Model
NIPTS	Noise-induced Permanent Threshold Shift
NLR	Noise Level Reduction
OLF	Outlying Landing Field
PA	Probability of Awakening
OTOB	One-third octave band
PHL	Potential Hearing Loss
PNL	Perceived Noise Level
POI	Point of Interest
RES	Reserve
RH	Relative Humidity
RLD	Red Label Delta
RLF	Red Label Foxtrot
SAR	Search and Rescue
T&G	Touch-and-Go
U.S. or US	United States
USEPA	U.S. Environmental Protection Agency
USAF	United States Air Force
VFR	Visual Flight Rules

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1 Introduction and Executive Summary

The United States Department of the Navy (the Navy) is preparing an Environmental Impact Statement (EIS) for the addition of EA-18G "Growler" aircraft at Naval Air Station (NAS) Whidbey Island, Washington. Additional aircraft at the NAS would mean additional EA-18G Growler flight and run-up operations there as well as at the NAS's Outlying Landing Field (OLF) Coupeville (aka "the OLF"). The two airfields combined are referred to herein as the "NAS Whidbey Island complex." Figure 1-1 shows the location of the complex. Growler usage of Special Use Airspace is not within the scope of this study.

The purpose of this study is to present the noise exposure associated with the additional EA-18G aircraft operations in the vicinity of the complex. The primary noise metric for quantifying noise exposure is the Day-Night Average Sound Level (DNL), presented in A-weighted decibels (dB), and is based on Annual Average Daily (AAD) aircraft events. Annual flight operations and runway utilization were derived from a separate Naval Aviation Simulation Model (NASMOD) study. All other modeling parameters, such as (but not limited to) flight tracks and profiles, were provided by Navy personnel.

Noise exposure was computed with the Department of Defense (DoD) NOISEMAP suite of computer programs, the core of which is called "NMAP." The noise study was conducted using the most current official version, Version 7.3, of NMAP, leveraging its ability to account for the effect of ground elevation and impedance on the propagation of sound. Noise exposure is primarily presented in terms of estimated off-station population affected in 5 dB bands of DNL, starting at 65 dB. DNL is also computed for 48 off-station Points of Interest (POIs) in the complex's region, representing residential areas, schools, and parks/recreational areas. Consistent with DoD guidelines, the DNL analysis is supplemented by the following analyses:

- risk of hearing loss
- nighttime probability of awakening (PA)
- residential daytime indoor speech interference
- classroom learning interference, and
- recreational daytime and nighttime speech interference

The study examines 34 operational scenarios consisting of 17 scenarios for each of two Field Carrier Landing Practice (FCLP) tempos for the EA-18G, referred to as the "average year" and the "high-tempo FCLP year." The noise study focuses on the average year set, but it also provides results for the high-tempo FCLP year. Each set of scenarios consists of a baseline scenario, a No Action Alternative, and three (action) alternatives, numbered 1 through 3. Each numbered alternative has the same five FCLP distribution scenarios: A, B, C, D, and E. Scenario A places 20 percent of the FCLP operations at Ault Field and 80 percent at the OLF. Scenario B distributes the FCLP operations equally at both fields. Scenario C is the inverse of Scenario A, with 80 percent of the FCLP operations at Ault Field and 20 percent at the OLF. Scenario D places 30 percent of the FCLP operations at Ault Field and 70 percent at the OLF, while Scenario E places 70 percent of the FCLP operations at Ault Field and 30 percent at the OLF.

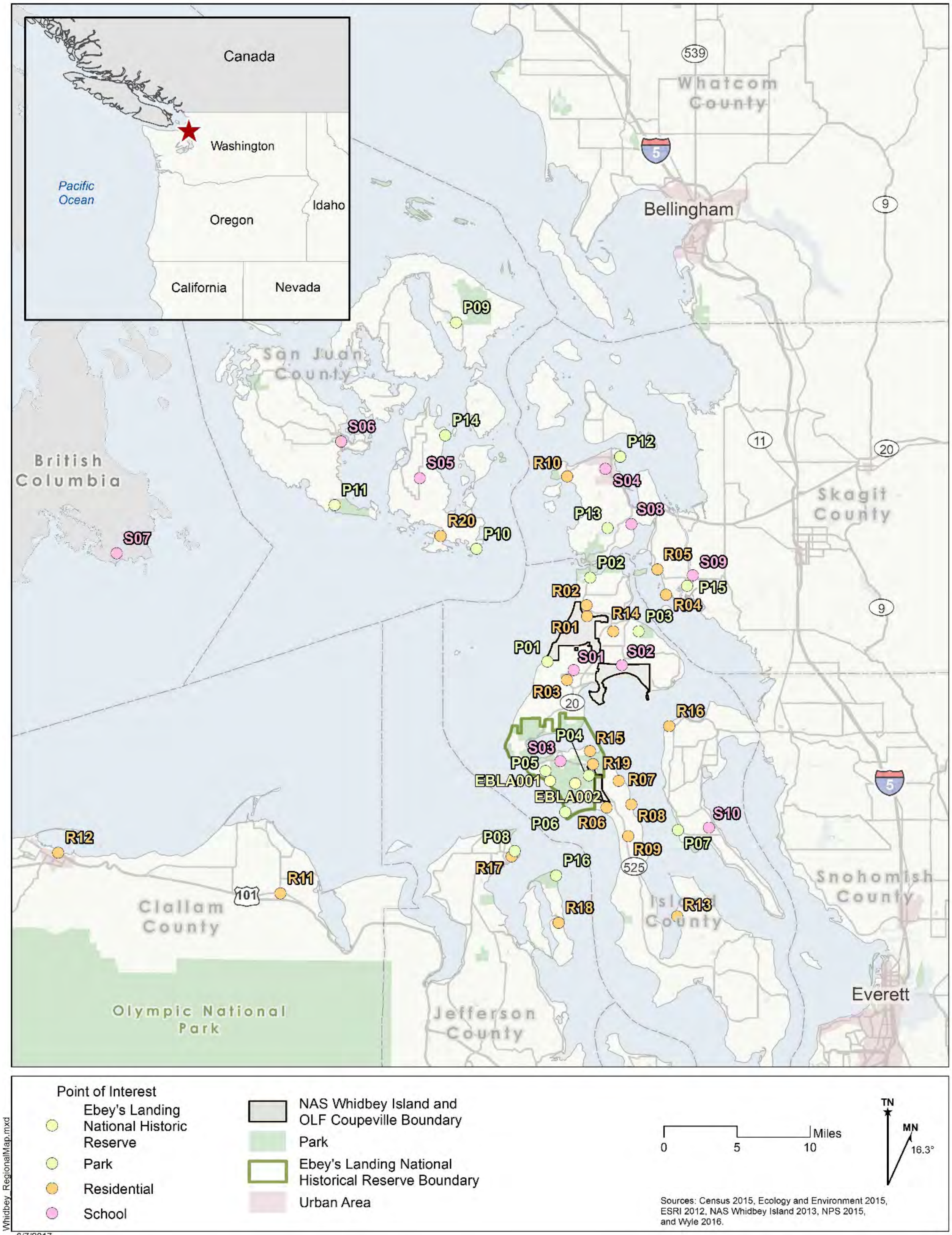


Figure 1-1 Regional Setting of the NAS Whidbey Island Complex and Points of Interest

Table 1-1 summarizes the results from each of the above-listed analyses for all of the average year action scenarios compared to the baseline scenario, describing:

1. Change in overall population exposed to at least 65 dB DNL (in percent),
2. Change in DNL at the POI,
3. Number of POIs exposed to 65 dB DNL in an alternative but exposed to less than 65 dB in the baseline scenario,
4. Change in risk of hearing loss, in terms of the population associated with a Noise Induced Permanent Threshold Shift (NIPTS) of at least 5 dB (in percent).
5. Change in PA with windows open at applicable POIs,
6. Change in daytime indoor speech interference (in events per hour) with windows open at applicable POIs,
7. Change in classroom learning interference (in events per hour) with windows open at applicable POIs, and
8. Change in recreational speech interference (in events per hour) at applicable POIs for both daytime and nighttime.

In terms of any of these metrics, the No Action Alternative would have the least amount of increase but would not likely serve the Navy's needs. The following paragraphs address the numbered alternatives only.

In terms of increases in affected population (item Number 1 above), at 12 to 13 percent, the A series of scenarios would have the least percentage increase. The C and E series of scenarios would have 15 to 17 percent increases in affected population, whereas the B and D series would have 15 to 16 percent increases in affected population.

In terms of change in DNL at the POIs (item Number 2 above), most alternatives and their scenarios would cause 1 to 3 dB increases in DNL at most POIs, but the A, B, and D series of scenarios would cause the highest increases in DNL at a handful of POIs.

From a newly affected perspective (item Number 3 above) among all 48 POIs, all alternatives would have two newly affected POI locations.

In terms of an Average NIPTS of at least 5 dB (item Number 4 above), the affected population would increase the most under the A series of scenarios while only increasing 42 to 53 percent under the B, C, D, and E series of scenarios.

From a change in PA perspective (item Number 5 above) among 30 residential-type POIs, all scenarios would cause increases of up to 20 percent at approximately two-thirds of POIs. An A series of scenarios would cause the greatest increase at a single POI, although the majority of increases under Scenario A would not exceed 10 percent. The C series of scenarios would cause the smallest increase, and 10 to 12 POIs would not change compared to the No Action Alternative.

Table 1-1 Summary of Noise Exposure Results for the Average Year

			Alternative 1					Alternative 2					Alternative 3				
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
Population Exposed to ≥65 dB DNL, Both Airfields	Population		12,576	12,989	13,021	12,935	13,050	12,487	12,876	12,814	12,817	12,889	12,483	12,880	12,824	12,817	12,884
	Change from No Action (10,344)		+1405	+1818	+1850	+1764	+1879	+1316	+1705	+1643	+1646	+1718	+1312	+1709	+1653	+1646	+1713
			13%	16%	17%	16%	17%	12%	15%	15%	15%	15%	12%	15%	15%	15%	15%
DNL at POI (Change from No Action)	Decrease of	5dB or more	-	-	2	-	-	-	-	2	-	-	-	-	2	-	-
		3-4dB	-	-	1	-	2	-	-	1	-	2	-	-	1	-	2
		1-2dB	-	2	4	-	1	-	2	4	-	2	-	2	4	-	1
	No Change		17	17	16	16	19	17	18	16	16	19	17	18	16	15	19
	Increase of	1dB	14	12	7	15	7	14	14	10	14	8	14	14	10	15	9
		2-3dB	8	12	15	9	15	8	10	12	9	14	8	10	12	9	13
		4-5dB	4	1	2	3	1	4	1	2	3	1	4	1	2	3	1
		6-10dB	3	3	1	3	2	3	3	1	3	3	3	3	1	3	3
		11-15dB	2	1	-	2	1	2	1	-	2	-	2	1	-	2	-
		>15dB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Newly ≥65 dB DNL		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Population of Average NIPTS ≥5 dB	Population		70	26	29	30	28	55	26	29	30	28	54	26	29	30	28
	Change from No Action (38)		+59	+15	+18	+19	+17	+44	+15	+18	+19	+17	+43	+15	+18	+19	+17
			164%	42%	50%	53%	47%	122%	42%	50%	53%	47%	119%	42%	50%	53%	47%
Annual Avg Nightly PA at Residential POI (Change from No Action in %PA)	Decrease of	1-10%	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
	No Change		7	8	10	9	9	8	7	12	8	10	8	8	10	8	9
	Increase of	1-10%	17	17	14	15	18	17	19	14	19	17	17	18	16	18	18
		11-20%	4	5	5	3	3	3	4	3	2	3	3	4	3	2	3
		21-30%	1	-	-	2	-	2	-	-	1	-	1	-	-	2	-
		31-40%	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-
		41-50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		51-60%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		61% or more	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1-1 Summary of Noise Exposure Results for the Average Year

			Alternative 1					Alternative 2					Alternative 3				
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
Daytime Indoor Speech Interference at Residential POI (Change from No Action)	Decrease of	1-2 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	No Change		19	16	21	16	19	19	16	21	16	19	18	16	21	16	19
	Increase of	1-2 events/hr	11	14	9	14	11	11	14	9	14	11	12	14	9	14	11
		3-4 events/hr															
Classroom Learning Interference at School POI (Change from No Action)	Decrease of	1-2 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	No Change		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	Increase of	1-2 events/hr	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		3-4 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5-6 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recreational Speech Interference at Outdoor/Park POI (Change from No Action)	Decrease of	1 events/hr	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
	No Change		13	15	20	11	16	11	14	21	10	15	10	13	20	10	16
	Increase of	1-2 events/hr	35	33	27	37	32	37	34	26	38	33	38	35	27	38	32
		3-4 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5-6 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

From a change in indoor speech interference perspective (item Number 6 above) among 30 residential-type POIs, the B and D series of scenarios would have the greatest number of POIs affected, with 14 experiencing increases of one or two events per hour on average. The C series of scenarios would have the least number of POIs affected, with only nine resulting in an increase of one or two events per hour on average; the remaining POIs would not experience a change in number of events per hour.

In terms of classroom learning interference (item Number 7 above) among nine school-type POIs, the results would be similar across all scenarios. No POI would experience increases greater than 1 or 2 events per hour on average, compared to the No Action Alternative.

Finally, in terms of recreational speech interference (item Number 8 above) among 48 park-type POIs, the A and D series of scenarios would contain the greatest number of POIs (35 to 38), with increases of 1 to 2 events per hour on average. The C series of scenarios would have the most POIs with no change in events per hour (20 to 21) on average and one location with a decrease of one event per hour.

Section 2 of this document describes the methodology for the noise study, including how the NASMOD study was utilized and all of the pertinent noise metrics. Section 3 introduces the locale and aviation users of the complex. Sections 4 and 5 address the baseline scenario and the No Action Alternative, respectively. Sections 6 through 8 address Alternatives 1 through 3. Section 9 discusses the effect of a considered “Hush House.” The References section contains the bibliographical information for the citations and sources cited in the text. Appendix A1 provides a discussion of noise and its effects, while Appendices 2 through 5 provide detailed modeling input data. Appendix A6 lists the single-event data for each POI for each scenario, and Appendix A7 provides the modeling output of the high-tempo FCLP year scenarios.

2 Study Methodology

This section describes the data collection procedures and provides an overview of the noise analysis methodology, noise metrics, and computerized noise models.

2.1 Data Collection and Validation

The Navy conducted a NASMOD study to determine the airfield capacity for each alternative (ATAC Corporation, 2015). The NASMOD study examined airfield operations[1] at NAS Whidbey Island and OLF Coupeville for sets of 3-year periods. The first set was 2014 through 2016 for baseline scenarios, and the second set was 2021 through 2023 for alternative scenarios. For each set of 3-year periods, NASMOD further examined two operating tempos, one called “maximum year” and one called “average year.” For the purposes of the EIS, the maximum year is herein after referred to as the “high-tempo FCLP year” and was defined by the NASMOD study as the calendar year (of the three years studied in each set) with the most FCLP operations. The average year was defined as the mean of total operations for the NAS Whidbey Island complex (Ault Field plus OLF Coupeville) in each 3-year set and is the primary focus of the EIS and this noise study. Chapters 4 through 8 address the noise results for the average year scenarios, while the noise results for the high-tempo FCLP year scenarios are contained in Appendix A2.

Table 2-1 lists the baseline and alternative scenarios, for either the high-tempo FCLP year or average year, in terms of number of squadrons and aircraft per squadron. Relative to baseline, the No Action Alternative removes the EP-3 and P-3 Orion aircraft. Relative to the No Action Alternative, the numbered alternatives would have the same number of Carrier Air Wing (CVW), Fleet Replacement Squadron (FRS), and Reserve (RES) squadrons at nine, one, and one, respectively, but the CVW would contain between five and eight aircraft per squadron, and the FRS would contain between 17 and 26 aircraft. The RES would always be comprised of five aircraft. Relative to the No Action Alternative, the numbered alternatives would contain between three and five Expeditionary (EXP) squadrons, each containing five aircraft per squadron except for Alternative 3, which would contain eight aircraft per squadron. P-8 Poseidon squadrons would remain at six aircraft for any of the alternatives. The H-60 Seahawk helicopter Search and Rescue (SAR) squadron would remain for any of the alternatives.

As shown in Table 2-1, each numbered alternative has five scenarios involving the distribution of total FCLP operations between Ault Field and OLF Coupeville[2]: A, B, C, D, and E. Scenario A would put 80 percent of the FCLP operations at Ault Field and 20 percent at the OLF. Scenario B would put half of the FCLP operations at Ault Field and half at the OLF. Scenario C is the opposite of A, as it would put 20 percent of the FCLP operations at Ault Field and 80 percent at the OLF. Scenario D places 30 percent of the FCLP operations at Ault Field and 70 percent at the OLF, while Scenario E is the opposite of D, with 70 percent of the FCLP operations at Ault Field and 30 percent at the OLF.

[1] A flight operation is defined as a takeoff or landing of one aircraft, with patterns counted as two operations per circuit. The counts in this report do not include transitions through the airspace above or near NAS Whidbey Island.

[2] For Ault Field, only FCLP operations are involved in the distribution calculation. For the OLF, FCLP operations and interfacility arrivals/departures are involved in the distribution calculation; interfacility operations are associated with the first/last legs of each FCLP pattern.

Table 2-1 Numbers of Squadrons and Primary Assigned Aircraft for each Modeled Condition

<table>
<tr><th rowspan="3">Aircraft Type</th><th rowspan="3">Type of Squadron</th><th rowspan="3">Baseline</th><th colspan="16">Alternative</th></tr>
<tr><th rowspan="2">No Action</th><th colspan="5">1</th><th colspan="5">2</th><th colspan="5">3</th></tr>
<tr><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th></tr>
<tr><td colspan="19">Number of Squadrons Based at Ault Field</td></tr>
<tr><td rowspan="4">EA-18G</td><td>CVW</td><td colspan="17">9 (1)</td></tr>
<tr><td>FRS</td><td colspan="17">1</td></tr>
<tr><td>RES</td><td colspan="17">1</td></tr>
<tr><td>EXP</td><td>3</td><td>3</td><td colspan="5">3</td><td colspan="5">5</td><td colspan="5">3</td></tr>
<tr><td>EP-3</td><td>All</td><td>1</td><td colspan="16">0</td></tr>
<tr><td>P-3</td><td>All</td><td>4</td><td colspan="16">0</td></tr>
<tr><td>P-8</td><td>Fleet</td><td>0</td><td colspan="16">6</td></tr>
<tr><td>H-60</td><td>SAR</td><td>1</td><td colspan="16">1</td></tr>
<tr><td colspan="19">Number of Primary Assigned Aircraft (Growler Only) Per Squadron</td></tr>
<tr><td rowspan="4">EA-18G</td><td>CVW</td><td>5</td><td>5</td><td colspan="5">8</td><td colspan="5">7</td><td colspan="5">7</td></tr>
<tr><td>FRS</td><td>17</td><td>17</td><td colspan="5">25</td><td colspan="5">25</td><td colspan="5">26</td></tr>
<tr><td>RES</td><td colspan="17">5</td></tr>
<tr><td>EXP</td><td colspan="12">5</td><td colspan="5">8</td></tr>
</table>

Source: ATAC 2015.

Notes:

[1] one less squadron would potentially utilize the OLF.

Key:
CVW = Carrier Air Wing
FRS = Fleet Replacement Squadron
RES = Reserve
EXP = Expeditionary

The NASMOD study operations data output was used as input to this noise study. The output of the NASMOD study consisted of Microsoft Excel workbooks containing modeled operations for each alternative and scenario. However, the NASMOD study was created using different groupings and designations of flight paths and operation types than those used in the noise modeling. Because of this, the operations data from the NASMOD study could not be directly imported into the model. Translation of the NASMOD operations data over to noise-modeled flight track and profile types was accomplished with the "RTE_ID_ACT_NAME" field from the NASMOD operations workbooks. This field contained the associated airfield, runway, operation type, and number of operations for a single traversal of each flight path from the NASMOD. Each unique route description from the NASMOD was identified and translated into equivalent modeled flight track and profile types through correspondence with the authors of the NASMOD study. Following the development of that translation key, a Microsoft Excel-based process was created to convert the NASMOD operations data to the format required for input into the noise model. These data were also used to derive runway utilization for each aircraft and operation type. The runway utilization was averaged across the scenarios to isolate the effects of the FCLP field assignments. Since the NASMOD study only included Scenarios A, B, and C, the FCLP operations splits had to be scaled for Scenarios D and E. Scenario D (30 percent FCLP at Ault Field) was calculated by scaling FCLP and interfacility operation counts from Scenario A (originally 20 percent FCLP at Ault Field). The same scaling was done for Scenario E (70 percent FCLP at Ault Field) utilizing Scenario C (originally 80 percent FCLP at Ault Field).

Although NASMOD output can provide flight operations and runway utilization, it cannot provide other noise modeling information such as flight tracks, track utilization, and flight profiles. During the week of October 26, 2014, Wyle conducted a site visit at NAS Whidbey Island to gather and confirm this information. Following the site visit, data sources and operational assumptions were validated by the Navy (Gaber, 2014; Fahey, 2014; Gaber, 2015).

2.2 Noise Metrics and Modeling

2.2.1 Noise Metrics

The DoD and the Federal Interagency Committee on Noise (FICON)[3] use three types of metrics to describe noise exposure:

1. A measure of the highest sound level occurring during an individual aircraft overflight (single event);
2. A combination of the maximum level of that single event with its duration; and
3. A description of the noise environment based on the cumulative flight and engine maintenance activity.

The DoD and the other FICON members primarily use Maximum Sound Level (L_{max}), Sound Exposure Level (SEL), and DNL, respectively, for the aforementioned three types of metrics.

In addition to the metrics listed above, supplemental metrics are also used to further describe noise exposure for representative POIs per the Defense Noise Working Group (DNWG) guidelines (DoD, 2009a): Number of Events at or above a Specified Threshold (NA) and Equivalent Sound Level (L_{eq}). The NA metric provides the total number of modeled noise events greater than or equal to the selected noise level threshold during a specified period of time. The period of time for NA or L_{eq} can be an average 24-hour day, daytime, nighttime, school day, or any other time period appropriate to the nature and application of the analysis. For this study, the metric of the NA threshold is expressed in L_{max}. Sections 2.3.3 through 2.3.8 explain how these metrics are used or applied for noise assessments.

The metrics in this study are presented in terms of A-weighted decibels, which approximate the response and sensitivity of the human ear. For brevity, decibels are abbreviated as “dB.”

See Appendix A1 for details and definitions of these metrics.

2.2.2 Noise Model

Analyses of aircraft noise exposure and compatible land uses around DoD airfield-like facilities are normally accomplished using a suite of computer-based programs, collectively called NOISEMAP (Czech and Plotkin, 1998; Wasmer and Maunsell, 2006a; Page et al., 2008; Wasmer and Maunsell, 2006b). NOISEMAP is the model for airbases and is most appropriate when the flight tracks are well defined, such as those near an airfield. NOISEMAP typically requires the entry of runway coordinates, airfield information, flight tracks, flight profiles along each flight track for each aircraft, numbers of daily flight operations, run-up coordinates, run-up profiles, and run-up operations. Flight and run-up profiles

[3] DoD is a member of FICON.

include the number of DNL daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) events.

The NOISEMAP suite of programs described below is most accurate and useful for comparing "before-and-after" noise levels that would result from alternative scenarios when calculations are made in a consistent manner. The program allows noise exposure prediction of such proposed actions without actual implementation and/or noise monitoring of those actions.

Table 2-2 lists the parameters used in the NOISEMAP process for this study. The core program of the NOISEMAP suite is called “NMAP.” This study utilized the most recent official version, Version 7.3, of NMAP for all noise computations.

The NOISEMAP process results in a “grid” file containing noise levels at different points of a user-specified rectangular area. As listed in Table 2-2, the spacing of the grid points for this study was 250 feet (ft). From the grid of points, lines of equal DNL (contours) of 60 dB through 95 dB (if applicable), in 5 dB increments, were plotted with the suite’s NMPlot program. NOISEMAP can also compute DNL and other noise metrics for specific POIs. See Section 2.3.4 for further discussion of POIs.

Table 2-2 Noise Modeling Parameters

Software	***Analysis***	***Version***
NMAP (Noisemap)	Fixed wing aircraft	7.3
Parameter	***Description***	
Receiver Grid Spacing	250 feet in x and y	
Metric	DNL (dBA)	
Basis	Maximum Year Daily Operations and Average Year Daily Operations	
Topography		
Elevation Data Source	1/3 arc-second NED	
Elevation and Impedance Grid spacing	250 feet in x and y	
Flow Resistivity of Water (hard)	100,000 kPa-s/m^2	
Flow Resistivity of Ground (soft)	200 kPa-s/m^2	
Modeled Weather (ave 1958-2007, April)		
Temperature	55 °F	
Relative Humidity	74%	
Barometric Pressure	29.94 in Hg	

2.3 Impact and Geospatial Analysis

2.3.1 Topographical Data

The NOISEMAP suite of programs includes the ability to account for atmospheric sound propagation effects over varying terrain, including hills and mountainous regions, as well as regions of varying acoustical impedance—for example, water around coastal regions. Even for flat terrain, the propagation algorithms are more robust than for excluding terrain. This feature is used in computing the noise levels presented in this analysis. By including terrain in the propagation calculations, the shielding effect of landforms can be included in the analysis. As noted in Table 2-2, elevation grid files with a grid-point spacing of 250 feet were created from the National Elevation Dataset one-third arc-second data (U.S. Geological Survey, 2017).

Acoustical impedance describes how sound is reflected or absorbed by the surface. Sound tends to travel farther over hard surfaces, such as pavement or water, than it does over soft surfaces, such as plowed earth or vegetation. This tendency was used for computing the noise levels presented in this analysis. As noted in Table 2-2, impedance grid files with a grid-point spacing of 250 feet were generated. "Soft" acoustical impedance (flow resistivity) of 200 kiloPascals-second per square meter (kPa-s/m^2) was applied to all modeled ground, and "hard" acoustical impedance (flow resistivity) of 100,000 kPa-s/m^2 was applied to all water bodies.

2.3.2 Exposure Calculation

Population counts of people residing within 5 dB bands of DNL from 55 dB to 95 dB were computed using 2010 U.S. Bureau of the Census block-level data. The population calculation assumes the census block's population is evenly distributed across each census block.

A geometric proportion method was used to generate the exposure estimates. In other words, the total population affected by a minimum value of DNL, e.g., 65 dB and greater or 70 dB and greater, is assigned based on the percentage of area covered by that DNL or range of DNL. For example, if the 65 dB DNL contour slices through a census block such that 50 percent of the census block's area is affected by 65 dB DNL or greater, then 50 percent of the block's population is assigned to the 65 dB DNL's population.

DNL population counts exclude the property of the NAS, the Seaplane Base, and the OLF.

2.3.3 Potential Hearing Loss

Potential Hearing Loss (PHL) applies to people living long term (40 or more years) outdoors in high-noise environments. The threshold for screening PHL is exposure to DNL greater than or equal to 80 dB (OSD, 2009). Per DoD guidelines (DoD, 2013) for populations exposed to at least 80 dB DNL, the population in 1-dB bands of 24-hour L_{eq} [$L_{eq(24)}$] are assigned to two categories of NIPTS. The first category is people with average hearing sensitivity--i.e., their hearing is within the 10th through 90th percentiles. Their NIPTS is called "Average NIPTS." The second category is people with the most sensitive of hearing--i.e., their hearing is within the 10th percentile. The NIPTS for this second category is called "10th percentile NIPTS." The U.S. Environmental Protection Agency's (USEPA's) Guidelines for Noise Impact Analysis quantifies hearing-loss risk in terms of NIPTS, a quantity that defines the permanent change in the ear's hearing threshold level below which a sound cannot be heard.

The PHL is also computed per the 2013 bulletin (DoD, 2013) as the population average value of NIPTS. PHL and NIPTS are expressed in dB, apply to several frequencies, and apply only to daily outdoor exposure to noise over 40 years. The NIPTS reported herein ranges from less than 1 dB to 19.5 dB; however, as stated in the DoD guidelines, "changes in hearing level of less than 5 dB are generally not considered noticeable or significant. Furthermore, there is no known evidence that a NIPTS of 5 dB is perceptible or has any practical significance for the individual. Lastly, the variability in audiometric testing is generally assumed to be ±5 dB (USEPA, 1974)." (DoD 2013). Furthermore, the Growler EIS focuses only on change in NIPTS, or change in population exposed to various levels of NIPTS for the scenario of interest, compared to the No Action Alternative.

PHL was assessed for on- and off-station population. The off-station population was computed in a manner identical to the methodology explained in 2.3.2. The Navy provided the locations (buildings) of on-station housing and the numbers of personnel assigned to them. The on-station estimates were generated using the same geometric proportion method as the off-station counts. As with the census blocks for the off-station counts, the on-station population is assumed to be uniformly distributed throughout each building depicted in Figure 2-1. The total population inside an $L_{eq(24h)}$ contour was assigned based on the portion of the building that partially or wholly falls within the $L_{eq(24h)}$ contour boundary. If a $L_{eq(24h)}$ contour contained a portion of a building, then only the geographically based proportion of that building's population within that contour was summed. If a building was contained completely by the $L_{eq(24h)}$ contour, then 100 percent of the building's population was included in the estimates.

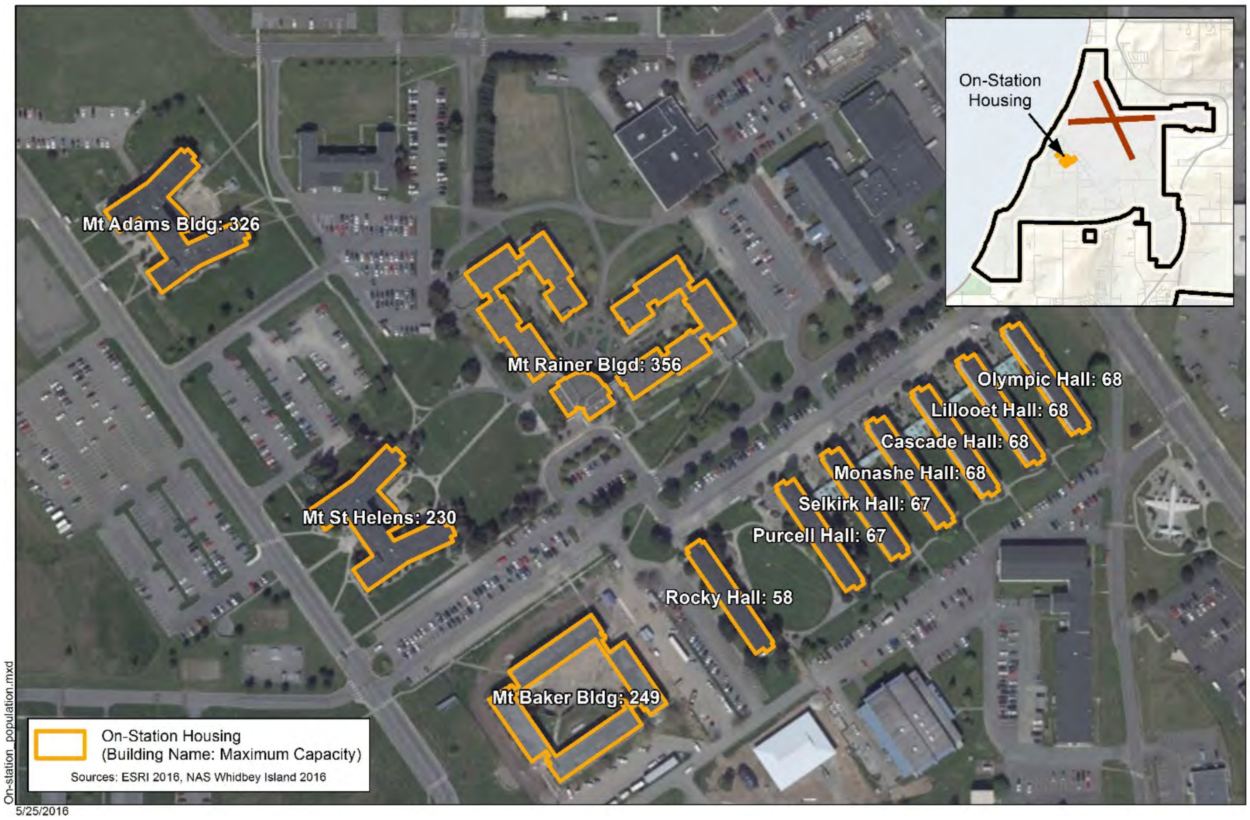


Figure 2-1 On-Station Buildings for PHL Counts

2.3.4 Points of Interest

Forty-eight POIs (including schools, residential areas, and public places) are included in the analysis; these POIs were provided by Ecology and Environment, Inc. (Ecology and Environment, 2017), are listed in Table 2-3, and are shown in Figure 1-1. Schools are representative of nearby residential areas because schools are typically located in residential areas.

Table 2-3 also presents the type of analyses performed for the POIs. For the purposes of the EIS's land use compatibility analysis, outdoor DNL was computed for every POI. Other types of analyses are described in the following sections but are summarized in Table 2-4. For outdoor DNL, it is noted for each alternative whether the POI is "newly impacted," meaning its DNL would be less than 65 dB in the No Action Alternative but greater than or equal to 65 dB for the numbered alternative.

Also computed was the SEL of the five modeled flight profiles whose SEL is greatest at each POI along with the corresponding L_{max}. These data are the subject of Appendix A6.

Table 2-3 Points of Interest and Applicable Analyses

ID	Type	Description	Short name (for tables)	Associated Airfield of Study	POI Analysis: DNL	POI Analysis: Daytime Indoor Speech Interference	POI Analysis: Classroom Learning Interference	POI Analysis: Residential Nighttime Sleep Disturbance	POI Analysis: Rec'l Speech Interference (daytime and nighttime)
P01	Park	Joseph Whidbey State Park – Parking near Swantown Road	Joseph Whidbey State Park	Ault Field	Yes	No	No	No	Yes
P02		Deception Pass State Park - Quarry Pond Loop Campground	Deception Pass State Park	Ault Field					
P03		Dugualla State Park	Dugualla State Park	Ault Field					
P04		Ebey's Landing National Historical Reserve - Baseball Diamond at Rhododendron Park	Ebey's Landing National Historical Reserve	OLF					
P05		Ebey’s Landing National Historical Reserve - Ebey's Prairie	Ebey's Prairie	OLF					
P06		Fort Casey State Park - Admiralty Head Lighthouse	Fort Casey State Park	OLF					
P07		Cama Beach State Park - Beach Information Office	Cama Beach State Park	OLF					
P08		Port Townsend National Historic Landmark District	Port Townsend	OLF					
P09		Moran State Park	Moran State Park	n/a					
P10		San Juan Islands National Monument - Point Colville	San Juan Islands National Monument	n/a					
P11		San Juan Island National Historical Park - American Camp Visitors Center	San Juan Island Visitors Center	n/a					
P12		Cap Sante Park	Cap Sante Park	Ault					
P13		Lake Campbell	Lake Campbell	Ault					
P14		Spencer Spit State Park	Spencer Spit State Park	None					
P15		Pioneer Park	Pioneer Park	Ault					
P16		Marrowstone Island (Fort Flagler)	Marrowstone Island	OLF					
P17		EBLA001 - Ferry House	Ferry House	OLF					
P18		EBLA002 - Reuble Farm	Reuble Farm	OLF					

Table 2-3 Points of Interest and Applicable Analyses

ID	Type	Description	Short name (for tables)	Associated Airfield of Study	POI Analysis: DNL	POI Analysis: Daytime Indoor Speech Interference	POI Analysis: Classroom Learning Interference	POI Analysis: Residential Nighttime Sleep Disturbance	POI Analysis: Rec'l Speech Interference (daytime and nighttime)
R01	Residential	W Sullivan Rd	Sullivan Rd	Ault Field	Yes	Yes	No	Yes	Yes
R02		Intersection of Salal St. and N. Northgate Dr	Salal St. and N. Northgate Dr	Ault Field			No		
R03		Central Whidbey	Central Whidbey	Ault Field			Yes		
R04		Pull and Be Damned Point	Pull and Be Damned Pt	Ault Field			No		
R05		Snee-Oosh Point	Snee-Oosh Point	Ault Field			No		
R06		Intersection of Admirals Dr and Byrd Dr	Admirals Dr and Byrd Dr	OLF			No		
R07		Race Lagoon	Race Lagoon	OLF			No		
R08		Pratts Bluff	Pratts Bluff	OLF			No		
R09		Intersection of Cox Rd and Island Ridge Way	Cox Rd and Island Ridge Way	OLF			No		
R10		Skyline	Skyline	n/a			No		
R11		Sequim	Sequim	n/a			Yes		
R12		Port Angeles	Port Angeles	n/a			No		
R13		Beverly Beach, Freeland	Beverly Beach	OLF			No		
R14		E Sleeper Rd & Slumber Ln	E Sleeper Rd	Ault					
R15		Long Point Manor	Long Point Manor	OLF					
R16		Rocky Point Heights	Rocky Pt Heights	OLF					
R17		Port Townsend	Port Townsend	None					
R18		Marrowstone Island (Nordland)	Marrowstone Is	None					
R19		Island Transit Offices, Coupeville	Island Transit	OLF					
R20		South Lopez Island (Agate Beach)	South Lopez Is	n/a					

Table 2-3 Points of Interest and Applicable Analyses

ID	Type	Description	Short name (for tables)	Associated Airfield of Study	POI Analysis: DNL	POI Analysis: Daytime Indoor Speech Interference	POI Analysis: Classroom Learning Interference	POI Analysis: Residential Nighttime Sleep Disturbance	POI Analysis: Rec'l Speech Interference (daytime and nighttime)
S01	School	Oak Harbor High School	Oak Harbor High School	Ault Field	Yes[2]	No	Yes	Yes[1]	Yes
S02		Crescent Harbor Elementary School	Crescent Harbor Elementary	Ault Field					
S03		Coupeville Elementary School and Whidbey General Hospital (2)	Coupeville Elementary	OLF					
S04		Anacortes High School	Anacortes High School	Ault Field					
S05		Lopez Island School	Lopez Island School	n/a					
S06		Friday Harbor Elementary School	Friday Harbor Elementary	n/a					
S07		Sir James Douglas Elementary School	Sir James Douglas Elementary	n/a					
S08		Fidalgo Elementary School	Fidalgo Elementary	Ault					
S09		La Conner Elementary School	La Conner Elementary	Ault					
S10		Elger Bay Elementary School	Elger Bay Elementary	OLF					

1 Schools typically represent residential areas

2 The Whidbey General Hospital is located within approximately 1,000 feet of the Coupeville Elementary School. Therefore, the hospital was not modeled individually, but similar results for indoor speech interference would apply.

Table 2-4 Summary of POI Analysis Parameters

Analysis for POI	*Noise Metric*	*Events or Operations Quantifier*	*Analysis Threshold(s)*	*Comment*
DNL	DNL	AAD	n/a	n/a
Daytime Indoor Speech Interference	NA ALM	AAD	50 dB (indoors*)	DNL daytime only
Classroom Learning Interference	$L_{eq(8h)}$	Average School-Day	35-40 $L_{eq(8h)}$ (indoors*)	assumes school hours are 8am-4pm
	NA ALM		50 dB L_{max} (indoors*)	
Residential Nighttime Sleep Disturbance	PA	AAD	n/a	indoors*; DNL nighttime only
Recreational Daytime and nighttime Outdoor Speech Interference	NA ALM	AAD	50 dB L_{max}	DNL daytime and nighttime

* assume outdoor-to-indoor Noise Level Reductions of 15 dB for open windows and 25 dB for closed windows.

Key:
AAD = Annual Average Daily
ALM = Maximum Sound Level
dB = decibel
DNL = Day Night Average Sound Level
$L_{eq(8h)}$ = Equivalent sound level over 8 hours
NA = Number of Events at or above a Selected Threshold
n/a = not applicable
PA = Probability of Awakening

2.3.5 Residential Nighttime Sleep Disturbance

For sleep disturbance, the DoD guidelines recommend the methodology and standard developed by the American National Standards Institute (ANSI) and the Acoustical Society of America (ASA) in 2008 to compute the PA adults associated with outdoor noise events heard in homes; this PA is a function of indoor SEL (ANSI, 2008; DoD, 2009b, FICAN, 2018). However, it is noted that this standard has been withdrawn, but it will be used until further recommendations are made by FICAN. SEL only pertains to flight events, so PA is only applied to flight events and not run-up events. The ANSI methodology is valid from an indoor SEL of 50 dBA to a maximum SEL of 100 dBA, and the resulting PA range for a single aircraft flight event is approximately 1 percent to 7.5 percent, respectively. Estimated PA accounting for indoor SELs above 100 dBA is also presented in the study based on extrapolation of the ANSI methodology. Only DNL nighttime (10:00 p.m. to 7:00 a.m.) flight events and POIs representing residential areas were considered. All school POIs were included because of their typical proximity to residential areas. PA was computed with AAD events.

NMAP computes outdoor noise levels that must be converted to interior noise levels by accounting for the noise attenuation provided by the structure (e.g., house or school) and dependent upon whether windows are open or closed. The noise attenuation is known as Noise Level Reduction (NLR). Per FICON guidance, NLRs of 15 dB and 25 dB, respectively, were used to account for the effect of a typical home with windows open and windows closed (FICON, 1992).

2.3.6 Daytime Indoor Speech Interference

Speech interference analysis determines the number of times speech would be interrupted. For the analysis of the potential for indoor speech interference at residential POIs, the NA metric was computed for AAD flight and run-up events during the DNL daytime (7:00 a.m. to 10:00 p.m.) period. All school POIs were included because of their typical proximity to residential areas. The selected noise threshold for NA was indoor 50 dB L_{max} (DoD, 2009a; Sharp et al., 2009). L_{max} pertains to flight and run-up events.

Consistent with the sleep disturbance analysis, NLRs of 15 dB and 25 dB were used to account for the noise attenuation effect of a typical home with its windows open or closed, respectively (FICON, 1992). The outdoor thresholds, equivalent to the indoor threshold of 50 dB L_{max}, are 65 dB L_{max} and 75 dB L_{max} for windows open and closed, respectively.

2.3.7 Classroom Learning Interference

To analyze the potential for indoor classroom learning interference, two noise metrics were computed for the representative school: L_{eq} and NA 50 dB L_{max}. Per the DoD guidelines, an appropriate set of criteria for speech interference in schools is an indoor L_{eq} of 35 dB for continuous noise and 40 dB for intermittent noise, with a single-event indoor noise level of 50 dB L_{max}. The DNWG set a screening level of 60 dB for outdoor equivalent sound level over 8 hours ($L_{eq[8h]}$) (DoD, 2009a; 2012; Sharp et al., 2009).

The school day is assumed to last 8 hours, from 8:00 a.m. to 4:00 p.m. (Ecology and Environment, Inc., 2015) and thus would be entirely contained within the DNL daytime period. Only those flight events occurring during the 8-hour school day are included in the analysis, as extracted from the NASMOD data. Runway utilization was also extracted from the NASMOD data for the school day period. The number of school days was assumed to be 230 (Ecology and Environment, Inc., 2015). DNL daytime static run-up events were scaled by the ratio of school-day flight operations to total daily flight operations for each scenario, and these ratios varied from 0.562 to 0.786. The result is classroom learning interference computed on an average school-day basis. Refer to Appendices A2 and A3, which contain the school-day operations and runway utilizations, respectively.

Classroom learning interference was estimated for all of the school POIs and for two of the residential POIs (R03 and R11) that have nearby schools.

NLRs of 15 dB and 25 dB were used to account for the effect of a typical school building with windows open and windows closed, respectively. These NLRs likely result in potential overestimates of learning interference because schools typically provide greater NLR than homes. The outdoor thresholds, equivalent to the indoor threshold of 50 dB L_{max}, are 65 dB L_{max} and 75 dB L_{max}, respectively, for windows open and closed.

The number of AAD events whose L_{max} would be greater than or equal to 65 dB and 75 dB serve as the measure of potential classroom learning interference and are presented as NA65 L_{max} and NA75 L_{max} for windows open and closed, respectively, on a per-hour basis.

2.3.8 Recreational Daytime and Nighttime Speech Interference

In recreational areas, other indicators of noise effects are outdoor daytime speech interference and nighttime events. All POIs were analyzed for these types of indicators to account for activities that may occur outdoors at residences, schools, and parks. Consistent with the indoor speech interference methodology, outdoor speech interference is measured by the number of average daily daytime events per hour subject to L_{max} of at least 50 dB. Since people are assumed to be outdoors, there is no adjustment for building attenuation. Thus, NMAP is used to compute the NA 50 dB L_{max} for AAD for the DNL daytime and nighttime hours.

3 NAS Whidbey Island Complex

The following three subsections discuss the region and vicinity of the NAS Whidbey Island complex, its aviation users, and its climatic conditions.

3.1 Regional and Local Settings

Figure 1-1 shows the regional context of NAS Whidbey Island and OLF Coupeville as they are located, approximately 50 miles north-northwest of Seattle, Washington. The boundaries of NAS Whidbey Island are depicted on the vicinity map in Figure 3-1. Ault Field borders the City of Oak Harbor to the south. OLF Coupeville, located nearly 10 miles south-southeast of Ault Field and 3 miles southeast of the Town of Coupeville, is used primarily for FCLP.

The layout and vicinity of Ault Field are depicted in Figure 3-1. The elevation is 47 feet above Mean Sea Level (MSL) (Navy, 2013). The magnetic declination, as of December 2015, is 16.3 degrees east (Federal Aviation Administration [FAA], 2016). Pertinent runway parameters are listed in Table 3-1. Ault Field has two intersecting runways, Runway 07/25 and Runway 14/32 (Navy, 2013).

Table 3-1 Runway Parameters

	Runway		
	Ault Field		*OLF*
Parameter	*07/25*	*14/32*	*14/32*
Length (ft)	8,000	8,000	5,400
Width (ft)	200	200	200
Elevation (ft)	47	47	199
Magnetic Heading (deg)	71/251	138/318	140/320
Overruns (ft)	1000/700	1000/1000	

Source: Airnav, 2016; FAA, 2016; Navy, 2013

The layout and vicinity of OLF Coupeville are also depicted in Figure 3-1. The field elevation is 199 feet above MSL. As listed in Table 3-1, the OLF has one concrete runway, Runway 14/32 (Navy, 2013).

Figure 3-1 Vicinity of the NAS Whidbey Island Complex

3.2 Aviation Users

The U.S. Navy is, and would continue to be, the primary user of Ault Field, OLF Coupeville, and their facilities and runways. There are 19 active-duty squadrons, one reserve squadron, and several other tenants at the NAS Whidbey Island complex. The aircraft types currently operating at the complex are:

- the EA-18G Growler, an electronic warfare jet
- P-3C Orion, a four-engine turbo-prop aircraft for maritime surveillance, and the similar EP-3 Aries II, used for signal reconnaissance
- SH-60 Seahawk helicopter for SAR missions
- various transient aircraft types, identified in the NASMOD study as the C-40 Clipper and/or large jets for transport purposes, modeled as the B-737-700
- For the No Action Alternative and the numbered alternatives, the P-3C Orion aircraft would be replaced with the P-8 Poseidon aircraft, also modeled as the B-737-700.

EA-18G

P-3C Orion

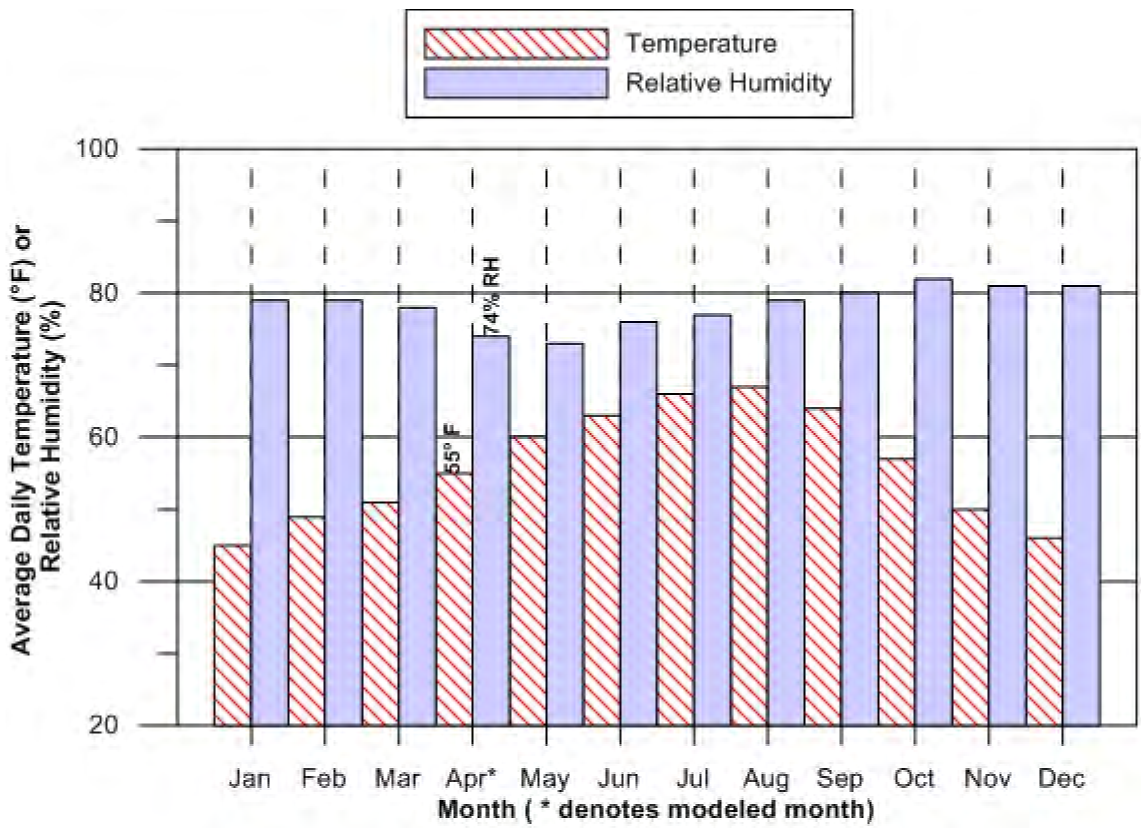
SH-60

C-40 Clipper

P-8 Poseidon

3.3 Climatic Data

Weather is an important factor in the propagation of noise, and the computer model requires input of the average daily temperatures in degrees Fahrenheit (F), percent relative humidity (RH), and station barometric pressure in inches of mercury (in Hg) for each month of a year. See Figure 3-2 for daily weather data for each month for the 50-year period from 1958 through 2007 (Baird, 2014). NOISEMAP's BaseOps program selects the month with the median sound absorption coefficient based on each month's average daily temperature, percent RH, and pressure. The weather conditions for the month of April, which had average daily conditions of 55 degrees F, 74 percent RH, and atmospheric pressure of 29.94 in Hg, were used for modeling.



Source: Baird 2014; data for 1958-2007

Figure 3-2 Average Daily Weather Data for NAS Whidbey Island and Modeled Conditions

4 Average Year Baseline Scenario

Section 4.1 details the flight operations. Section 4.2 presents the runway/flight track utilization, flight profiles, and derivation of AAD flight operations. Sections 4.3 and 4.4 contain the maintenance run-ups and resultant aircraft noise exposure.

4.1 Flight Operations

From the methodology described in Chapter 2, Tables 4-1 and 4-2 summarize and detail, respectively, the modeled flight operations for the average year baseline scenario. This scenario includes approximately 94,100 total annual flight operations for the complex. The EA-18G would dominate aircraft operations, with 79 percent of the complex's annual flight operations. Approximately two-thirds of the complex's annual FCLP operations would be conducted at Ault Field, while the remaining one-third would be conducted at the OLF. Consistent with the 2005 Environmental Assessment (EA), the OLF would have approximately 6,100 annual FCLP operations (Schmidt-Bremer, Jr. et al., 2004). As shown in Table 4-2, approximately 12 percent and 19 percent of the overall total flight operations and OLF FCLP operations, respectively, would be conducted during the DNL nighttime period. The numbers of annual nighttime FCLP operations at the OLF would be consistent with the 2005 EA (Schmidt-Bremer, Jr. et al., 2004).

The high-tempo FCLP year baseline scenario (Appendix A2) has 96,400 total annual flight operations for the complex, with the EA-18G having 79 percent of those annual flight operations. Approximately 70 percent of the complex's FCLP operations would be conducted at Ault Field. The OLF's FCLP operations would be consistent with the 2005 EA, as stated above.

Table 4-1 Summary of Annual Flight Operations for the Average Year Baseline Scenario

		Type of Flight Operation		
Airfield	***Aircraft Type or Category***	***FCLP[2]***	***Other[3]***	***Total***
Ault Field	EA-18G	15,500	52,500	68,000
	Other Based	-	17,300	17,300
	Transient	-	2,300	2,300
	Subtotal	15,500	72,100	87,600
OLF Coupeville[4]	EA-18G	6,100	-	6,100
	Other	-	400	400
	Subtotal	6,100	400	6,500
Total (both airfields)		**21,600**	**72,500**	**94,100**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.

2 Each closed pattern is counted as two operations.

3 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.

4 Excludes 900 interfacility Growler operations (FCLP related).

Table 4-2 Detailed Annual Flight Operations for the Average Year Baseline Scenario

Airfield	Aircraft	Squadron	Departure			Arrival												Interfacility														
						VFR SI/ Non-Break			Overhead Break				IFR			Departure to OLF				Break Arrival from OLF				Helo Departure to OLF			Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	4,834	254	5,088	1,732	54	1,786	2,876	-	105	2,980	310	7	317	142	-	32	174	84	42	48	174	-	-		-	-	
		FRS	6,172	409	6,581	2,372	340	2,712	2,626	346	677	3,650	183	36	219	167	-	25	192	98	55	39	192	-	-		-	-	
		RES	1,142	83	1,225	413	21	434	699	-	26	725	59	5	64	12	-	4	16	8	3	6	17	-	-		-	-	
		EXP	1,537	85	1,622	559	18	577	907	-	36	943	98	1	99	-	-	-	0	-	-	-	0	-	-		-	-	
	EP3	All	644	125	769	382	15	397	-	-	-	0	366	-	366									-	-		-	-	
	P3	All	1,516	95	1,611	1,207	134	1,341	-	-	-	-	261	9	270									-	-		-	-	
	P8	All	-	-	-	-	-	-	-	-	-	-	-	-	-									-	-		-	-	
	H60	SAR	384	-	384	384	-	384	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	396	115	511	372	103	475	-	-	-	-	24	10	34									-	-		-	-	
	JET_LRG	-	390	-	390	285	-	285	-	-	-	-	105	-	105									-	-		-	-	
Total			**17,015**	**1,166**	**18,181**	**7,706**	**685**	**8,391**	**7,108**	**346**	**843**	**8,297**	**1,406**	**68**	**1,474**	**321**	-	**61**	**382**	**190**	**100**	**93**	**383**	**90**	-	**90**	**90**	-	**90**

Airfield	Aircraft	Squadron	Interfacility													
			Break Arrival from Ault				Departure to Ault				Helo Arrival from Ault			Helo Departure to Ault		
			Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW	142	-	32	174	84	42	48	174						
		FRS	167	-	25	192	98	55	39	192						
		RES	12	-	4	16	8	3	6	17						
	H60	SAR								-	90	-	-	90	-	90
Total			**321**	-	**61**	**382**	**190**	**100**	**93**	**383**	**90**	-	**90**	**90**	-	**90**

Table 4-2 Detailed Annual Flight Operations for the Average Year Baseline Scenario

Airfield	Aircraft	Squadron	Closed Pattern[1]														Grand Totals			
			FCLP				T&G				ReEnter			GCA/CCA						
			Day (0700-2200)		Night (2200-0700)		Day (0700-2200)		Night (2200-0700)		Day (0700-2200)	Night (2200-0700)		Day (0700-2200)	Night (2200-0700)		Day (0700-2200)		Night (2200-0700)	
			DL	DK	DK	Total	DL	DK	DK	Total			Total			Total	DL	DK	DK	Total
Ault Field	EA18	CVW	3,742	2,138	1,691	7,571	2,165	326	390	2,881	1,637	64	1,701	2,647	1,161	3,808	20,169	2,506	3,806	26,481
		FRS	4,594	1,708	1,001	7,303	3,723	694	1,046	5,463	-	-	0	4,801	931	5,732	24,737	2,803	4,504	32,044
		RES	132	59	24	215	485	8	17	510	419	9	428	472	51	523	3,841	70	245	4,157
		EXP	-	-	-	0	563	-	29	593	511	18	529	557	27	584	4,732	-	214	4,946
	EP3	All					1,307	-	-	1,307	-	-		661	0	661	3,360	-	140	3,500
	P3	All					6,395	-	381	6,776	-	-		2,779	121	2,900	12,158	-	740	12,898
	P8	All					-	-	-	-	-	-		-	-	-	-	-	-	-
	H60	SAR					-	-	-	-	-	-		-	-	-	948	-	-	948
	C-40	-					-	-	-	-	-	-		-	-	-	792	-	228	1,020
	JET_LRG	-					333	-	-	333	-	-		167	-	167	1,280	-	-	1,280
Total			**8,468**	**3,905**	**2,716**	**15,089**	**14,972**	**1,028**	**1,863**	**17,863**	**2,567**	**91**	**2,658**	**12,084**	**2,291**	**14,375**	**72,017**	**5,379**	**9,877**	**87,274**
OLF	EA18	CVW	1,131	721	589	2,441											1,357	763	669	2,789
		FRS	1,310	976	399	2,685											1,575	1,031	463	3,069
		RES	111	46	72	229											131	49	82	262
	H60	SAR					180	-	-	180							360	-	-	360
Total			**2,552**	**1,743**	**1,060**	**5,355**	**180**	-	-	**180**							**3,423**	**1,843**	**1,214**	**6,480**
														Grand Totals (Ault+OLF)			**75,440**	**7,222**	**11,091**	**93,754**

Notes:

[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

4.2 Other Modeling Parameters

The next step in the noise modeling process is assignment of flight operations to runways and flight tracks via utilization percentages for each aircraft type, operation type, and DNL time period. Appendix A3 contains tables of runway utilization percentages as extracted from the NASMOD study output. Flight tracks and their utilization were initially based on the 2012 noise study (Kester and Czech, 2012) in support of the 2012 EA (Navy, 2012) and adjusted with guidance from NAS Whidbey Island personnel, as mentioned in Section 2.1. Modeled flight tracks are depicted in Appendix A4.

Fixed-wing flight profiles consist of a combination of power settings, airspeeds, and altitudes along each modeled flight track. These data define the vertical profiles (altitude) and performance profile (power setting and airspeed) for each modeled aircraft. The representative profiles for each modeled aircraft type are contained in Appendix A5.

The next step in the noise modeling process is the computation of the AAD day and night events for each profile. This is accomplished by dividing the track operations by 365 and further dividing closed-pattern operations (e.g., touch-and-go, depart and re-entry FCLP, and Ground-Controlled Approach [GCA] Box) by two[4]. There would be approximately 171 and 10 AAD flight events for the average year baseline scenario for Ault Field and the OLF, respectively. For the high-tempo FCLP year baseline scenario, Ault Field and the OLF would have 174 and 10 AAD flight events, respectively.

4.3 Run-up Operations

Squadron and maintenance personnel conduct various types of tests on aircraft engines at one or more power settings for certain lengths of time. These tests are termed maintenance “run-ups.” During these operations, engines remain in the airframe of the aircraft (i.e., an “in-frame” run-up) or are removed from the airframe (i.e., an “out-of-frame” run-up). Out-of-frame run-ups can only be conducted on apparatus designed to hold the engines, called “test stands.”

Table 4-3 lists the modeled run-ups for the average year baseline scenario, and their locations are depicted in Figure 4-1. As mentioned in Section 2.1, the EA-18G run-up operation counts were updated in this report to reflect new information provided by NAS Whidbey Island personnel. Approximately 32 percent of the EA-18G run-ups would occur during the DNL nighttime period; however, 97 percent of run-ups conducted during this period would be low power.

Baseline EA-18G high-power run-ups would be conducted at two different high-power pads, which are shown as the green squares in Figure 4-1. EA-18G low-power run-ups would be conducted on the EA-18G ramp in the southwest portion of NAS Whidbey Island, with aircraft oriented approximately perpendicular to Runway 32.

[4] The closed-pattern operations are divided by two for noise modeling purposes only. Air Traffic Control counts closed patterns as two distinct operations: one departure and one arrival. In NOISEMAP, the departure and arrival are represented by one event because both operations are connected (i.e., on a single flight track).

Table 4-3 Modeled Run-Up Operations and Profiles for the Average Year and High-Tempo FCLP Year Baseline Scenarios

Modeled Maintenance Run-up Operations at NAS Whidbey Island for Baseline Max Year and Average Year Scenarios

						Percentage During		*Power Setting*			
Aircraft Type	*Engine Type*	*Run-up Type*	*Pad ID*	*Magnetic Heading (degrees)*	*Annual Events*	*Day (0700 - 2200)*	*Night (2200 - 0700)*	*Reported*	*Modeled*	*Duration of Each Event (Minutes)*	*No. of Engines Running (each event)*
EA-18G	F414-GE-400	Water Wash	Lo-Pwr1 Lo-Pwr2 Lo-Pwr3 (1)	135/315	82	45%	55%	Ground Idle	65% NC	10	1
		Low power	Lo-Pwr1 Lo-Pwr2 Lo-Pwr3 (1)	135/315	1230	45%	55%	Ground Idle	65% NC	30	1
					2460			Ground Idle	65% NC	30	2
		High Power	50% Hi-Pwr1 / 50% Hi-Pwr2	311 (Hi-Pwr1) / 127 (Hi-Pwr2)	656	90%	10%	Ground Idle	65% NC	25	2
								80%NC	80% NC	10	2
								Mil	96% NC	3	2
								AB	A/B	3	2
P-3C	T56-A-14	Lo-Pwr	Lo-Pwr4	126	1604	100%	0%	1000 ESHP	1000 ESHP	15	1
		Out-Of-Phase	Lo-Pwr4	126	130			250 ESHP	250 ESHP	30	4
								450 ESHP	450 ESHP	10	4
								1000 ESHP	1000 ESHP	10	4
		Prop Dynamic Balance	Lo-Pwr4	126	123			1500 ESHP	1500 ESHP	15	1
		High-Power	Red Label Delta (RLD)	315	154			1500 ESHP	1500 ESHP	15	2
								2750 ESHP	2750 ESHP	15	2
								4300 ESHP	4300 ESHP	10	2
			Red Label Foxtrot (RLF)	-18	154			1500 ESHP	1500 ESHP	15	2
								2750 ESHP	2750 ESHP	15	2
								4300 ESHP	4300 ESHP	10	2
		Prop Dynamic Balancing	Hi-Pwr1	315	123			1500 ESHP	1500 ESHP	15	1

Notes:

1 Run-up events split 50% Lo-Pwr1, 30% Lo-Pwr2, 20% Lo-Pwr3

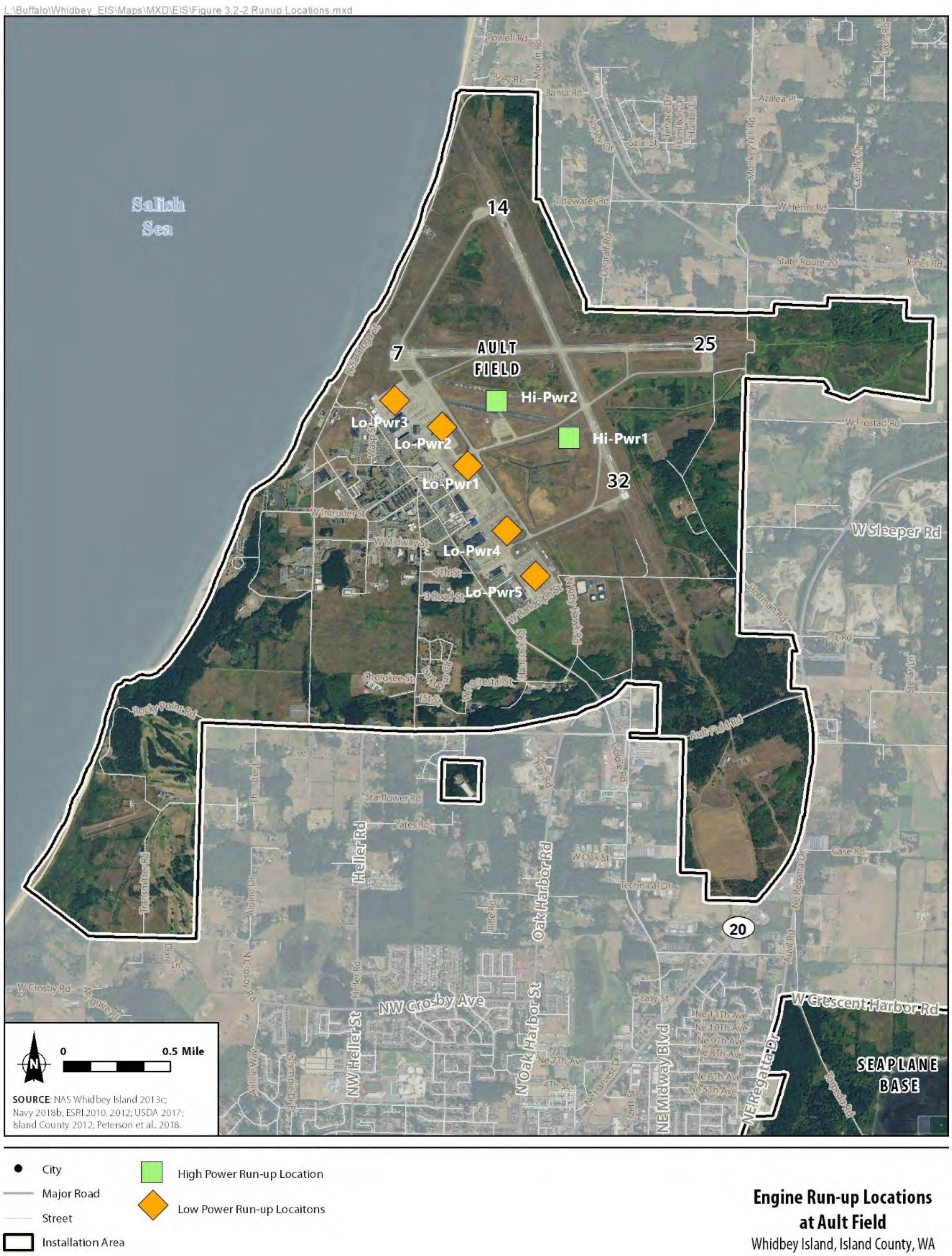


Figure 4-1 Modeled Run-Up Pads For Baseline Scenario

P-3C low-power run-ups would be conducted on the southwest ramp (south of the EA-18G ramp), while the high-power run-ups would be conducted on the active runway near the threshold at Red Label Foxtrot (RLF) and Red Label Delta (RLD), with the aircraft oriented along the runway heading.

For the high-tempo FCLP year baseline scenario, it was assumed the run-ups would not change compared to the average year scenario.

4.4 Aircraft Noise Exposure

Using the data described in Sections 4.1 through 4.3, NOISEMAP was used to calculate and plot the 60 dB through 90 dB DNL contours, in 5-dB increments, for AAD events for the average year baseline scenario. Figure 4-2 shows the resulting DNL contours.

The 65 dB contour surrounding Ault Field would extend approximately 7 to 11 miles from the runway endpoints. The locations of these lobes would be primarily attributable to the EA-18G on the approach portion of GCA patterns, where aircraft generally descend on a 3-degree glide slope through 3,000 feet AGL 10 miles from the runway. The 65 dB DNL contour would extend approximately 1 mile past the western shore of the mainland across Skagit Bay. The 80 dB DNL contour would extend approximately 2.5 miles to the east outside the station boundary, primarily due to EA-18G GCA and Visual Flight Rule (VFR) approaches descending from 1,800 feet AGL, and also due to the GCA patterns. The 90 dB contour would extend 1,300 feet to the east beyond the station boundary.

The DNL exposure at the OLF would be attributable to the FCLP operations. The 65 dB DNL contours would extend northward just short of the southern shore of Penn Cove and southward approximately 3 miles south of the OLF's runway. Appendix A7 shows the modeling output for the high-tempo FCLP year scenarios.

Table 4-4 presents the noise exposure in terms of estimated off-station population for each contour band. A total of 11,171 people are exposed to DNL of at least 65 dB among Ault Field and OLF Coupeville.

Under the high-tempo FCLP year baseline scenario (Appendix A7), the totals would increase by 6 percent at Ault Field, 4 percent at the OLF, and 6 percent overall compared to the average year baseline scenario.

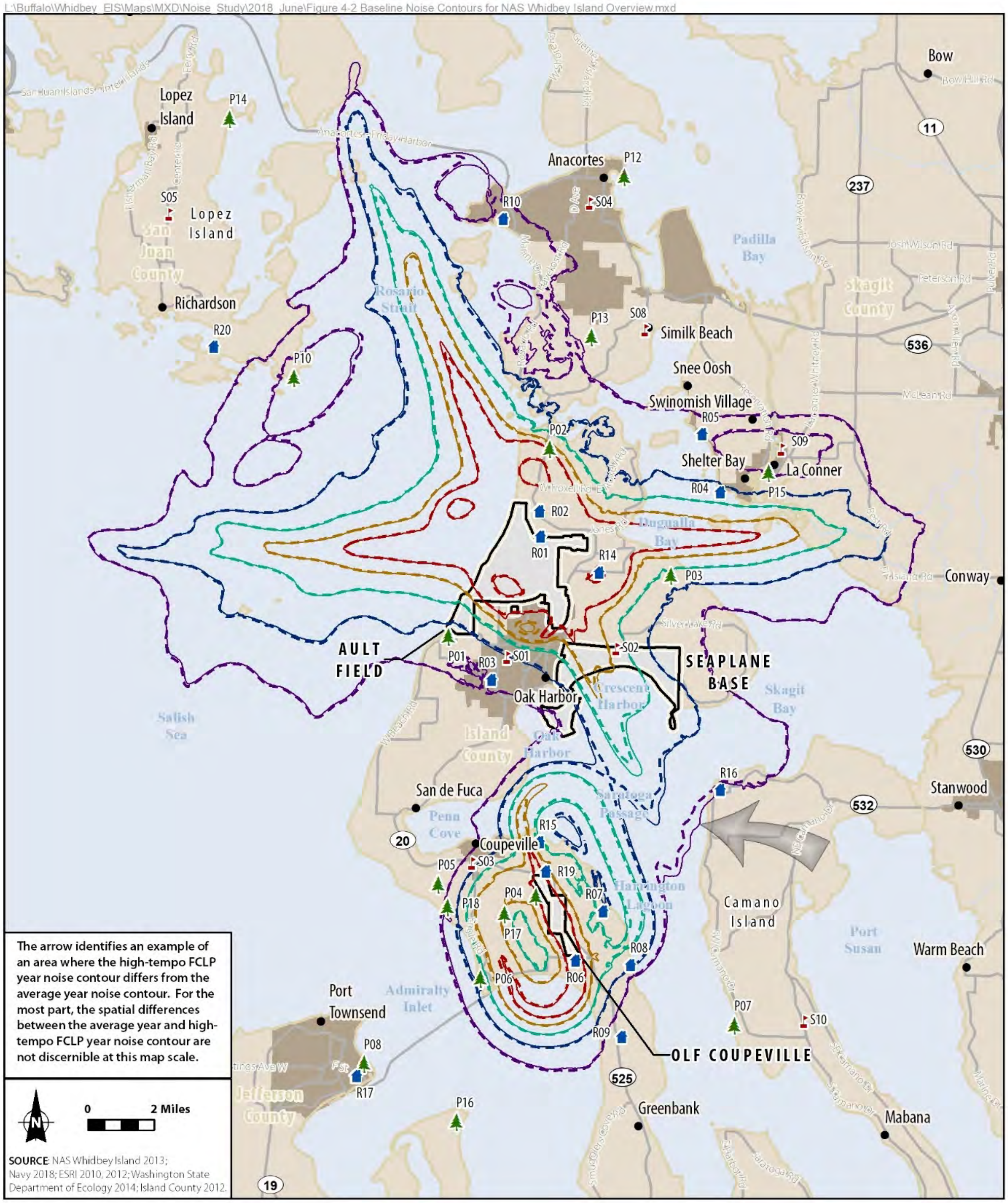


Figure 4-2
Baseline Environment for NAS Whidbey Island Overview
Whidbey Island, Island County, WA

Table 4-4 Estimated Acreage and Population within the DNL Contour Ranges[1] for the Average Year at the NAS Whidbey Island Complex (CY 21) for Baseline Scenario

	DNL Contour Ranges							
	65 to <70 dB DNL		70 to <75 dB DNL		Greater than or equal to 75 dB DNL		Total[3]	
DNL Contours	Area (acres)	Pop[2]	Area (acres)	Pop[2]	Area (acres)	Pop[2]	Area (acres)	Pop[2]
Ault Field	3,586	3,207	3,139	1,935	5,723	3,234	12,447	8,376
OLF Coupeville	3,735	817	3,222	782	811	577	7,768	2,176
Total[3]	**7,321**	**4,024**	**6,361**	**2,717**	**6,534**	**3,811**	**20,215**	**10,552**

Notes:

1 Acreage presented does not include areas over water or areas over the NAS Whidbey Island complex.

2 Population counts of people within the DNL contours were computed using 2010 census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block, and it excludes population on military properties within the DNL contours (NAS Whidbey Island [Ault Field], the Seaplane Base, and OLF Coupeville). All population estimates for areas under the dB DNL contours utilized 2010 U.S. Census Bureau data. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). To simplify the analysis, this growth factor was also used for areas of Skagit County that fall under the 65+ dB DNL contours. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

3 Numbers have been rounded to ensure totals sum.

Key:
dB = decibel
DNL = day-night average sound level

4.4.1 Points of Interest

Table 4-5 shows the DNL for each POI. Under the average year baseline scenario, 11 POIs would experience DNL greater than or equal to 65 dB, five of these being residential. Four POIs would experience DNL greater than or equal to 75 dB, all of which are residential. Three of the residential POIs would be near Ault Field (R01, R02, and R14), and one (R06) would be near the OLF. No school POI would experience DNL greater than or equal to 65 dB, except Crescent Harbor Elementary, with a DNL of 68 dB. See Appendix A6 for lists of the five flight profiles with the greatest SEL at each POI.

Under the high-tempo FCLP year baseline scenario (Appendix A7), the statistics cited above would not change.

Table 4-5 Estimated Aircraft DNL at POIs for the Average Year Baseline Scenario

Point of Interest				
Type	***ID***	***Description***	***Related Field***	***DNL (dB)***
Park	P01	Joseph Whidbey State Park	Ault	57
	P02	Deception Pass State Park	Ault	73
	P03	Dugualla State Park	Ault	65
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	OLF	74
	P05	Ebey's Landing State Park	OLF	52
	P06	Fort Casey State Park	OLF	62
	P07	Cama Beach State Park	OLF	<45
	P08	Port Townsend	None	<45
	P09	Moran State Park	None	<45
	P10	San Juan Islands National Monument	None	54
	P11	San Juan Island Visitors Center	None	<45
	P12	Cap Sante Park	Ault	<45
	P13	Lake Campbell	Ault	54
	P14	Spencer Spit State Park	None	<45
	P15	Pioneer Park	Ault	55
	P16	Marrowstone Island (Fort Flagler)	OLF	<45
	EBLA001	Ferry House	OLF	69
	EBLA002	Reuble Farm	OLF	56
Residential	R01	Sullivan Rd	Ault	90
	R02	Salal St. and N. Northgate Dr	Ault	78
	R03	Central Whidbey	Ault	57
	R04	Pull and Be Damned Point	Ault	62
	R05	Snee-Oosh Point	Ault	56
	R06	Admirals Dr and Byrd Dr	OLF	79
	R07	Race Lagoon	OLF	61
	R08	Pratts Bluff	OLF	62
	R09	Cox Rd and Island Ridge Way	OLF	51
	R10	Skyline	None	56
	R11	Sequim	None	<45
	R12	Port Angeles	None	<45
	R13	Beverly Beach, Freeland	OLF	<45
	R14	E Sleeper Rd & Slumber Ln	Ault	75
	R15	Long Point Manor	OLF	65
	R16	Rocky Point Heights	OLF	54
	R17	Port Townsend	None	<45
	R18	Marrowstone Island (Nordland)	None	<45
	R19	Island Transit Offices, Coupeville	OLF	73
	R20	South Lopez Island (Agate Beach)	None	48

Table 4-5 Estimated Aircraft DNL at POIs for the Average Year Baseline Scenario

Point of Interest				
Type	ID	Description	Related Field	DNL (dB)
School	S01	Oak Harbor High School	Ault	59
	S02	Crescent Harbor Elementary School	Ault	68
	S03	Coupeville Elementary School	OLF	58
	S04	Anacortes High School	Ault	48
	S05	Lopez Island School	None	<45
	S06	Friday Harbor Elementary School	None	<45
	S07	Sir James Douglas Elementary School	None	<45
	S08	Fidalgo Elementary School	Ault	51
	S09	La Conner Elementary School	Ault	53
	S10	Elger Bay Elementary School	OLF	<45

4.4.2 Potential Hearing Loss

Table 4-6 shows estimates of the population within 1-dB bands of $L_{eq(24h)}$ and their associated NIPTS. The level at which there may be a noticeable NIPTS would be at the 84 to 85 dB $L_{eq(24)}$ range and above. At this level and above, an estimated 32 individuals may be vulnerable to NIPTS, all of whom are off station but in the vicinity of Ault Field (there are no individuals around OLF Coupeville at these noise levels or above). The range of potential hearing loss could be up to 8.5 dB for those living around Ault Field.

The potential NIPTS values presented in Table 4-6 are only applicable in the extreme case of outdoor exposure at one's residence to all aircraft events occurring over a period of 40 years. As it is highly unlikely any individuals would meet all of those criteria, the actual potential NIPTS for most individuals would be much less than the values presented here.

Table 4-6 Estimated Potential Hearing Loss for the Average Year Baseline Scenario

Band of $L_{eq(24)}$ (dB)	*Average NIPTS (dB)[1]*	*10th Percentile NIPTS (dB)[1]*	*Estimated Population[2, 3,4]*		
			Ault Field	*OLF Coupeville*	*Total*
74-75	0.5	3.5	-	-	-
75-76	1.0	4.0	-	53	53
76-77	1.0	4.5	121	44	165
77-78	1.5	5.0	263	45	308
78-79	2.0	5.5	157	23	180
79-80	2.5	6.0	114	6	120
80-81	3.0	7.0	72	-	72
81-82	3.5	8.0	55	-	55
82-83	4.0	9.0	36	-	36
83-84	4.5	10.0	26	-	26
84-85	5.5	11.0	23	-	23
85-86	6.0	12.0	9	-	9
86-87	7.0	13.5	6	-	6
87-88	7.5	15.0	4	-	4
88-89	8.5	16.5	2	-	2
89-90	9.5	18.0	-	-	-
90-91	10.5	19.5	-	-	-
91-92	11.5	21.0	-	-	-

Notes:

1 NIPTS values rounded to nearest 0.5 dB.

2 This analysis assumes the population is outdoors and exposed to all aircraft noise events for 40 years. Given the amount of time spent indoors and the intermittent occurrence of aircraft noise events, it is highly unlikely that individuals would meet all the criteria, and the actual potential for hearing loss would be less than the values reported here.

3 Estimated population was determined by those living within the 80 dB DNL noise contour around each airfield, including those living on base at Ault Field (there is no on-base population at OLF Coupeville).

4 Population counts of people within the DNL contours were computed using 2010 census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block. All population estimates for areas under the dB DNL contours utilized 2010 U.S. Census Bureau data. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). In addition, per guidance on potential hearing loss, on-base populations at Ault Field have been included in the analysis. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

Key:

dB = decibel

$L_{eq(24)}$ = 24-hour Equivalent Sound Level

NIPTS = Noise Induced Permanent Threshold Shift

OLF = outlying landing field

4.4.3 Residential Nighttime Sleep Disturbance

Table 4-7 lists the PA for applicable POIs for average daily nighttime (10:00 p.m. to 7:00 a.m.) events. Under the average year baseline scenario, the PA would average 11 percent and 6 percent across the listed POIs, respectively, for windows open and closed. The most impacted POIs (R01 and R02) would have between 30 percent and 59 percent PA, depending whether windows are open or closed.

Under the high-tempo FCLP year baseline scenario (Appendix A7), the PA would average 11 percent and 6 percent across the listed POIs, respectively, for windows open and closed. The most impacted POIs (R01 and R02) would range between 31 percent and 62 percent PA, depending whether windows are open or closed.

Table 4-7 Average Indoor Nightly Probability of Awakening at Applicable POIs for the Average Year Baseline Scenario

Point of Interest				*Annual Average Nightly (2200-0700) Probability of Awakening (%)* [1]	
Type	*ID*	*Description*	*Related Field*	*Windows Open*	*Windows Closed*
Residential[2]	R01	Sullivan Rd	Ault	59%	44%
	R02	Salal St. and N. Northgate Dr	Ault	42%	30%
	R03	Central Whidbey	Ault	16%	8%
	R04	Pull and Be Damned Point	Ault	19%	9%
	R05	Snee-Oosh Point	Ault	15%	5%
	R06	Admirals Dr and Byrd Dr	OLF	10%	7%
	R07	Race Lagoon	OLF	5%	2%
	R08	Pratts Bluff	OLF	5%	3%
	R09	Cox Rd and Island Ridge Way	OLF	3%	2%
	R10	Skyline	None	6%	2%
	R11	Sequim	None	0%	0%
	R12	Port Angeles	None	0%	0%
	R13	Beverly Beach, Freeland	OLF	2%	0%
	R14	E Sleeper Rd & Slumber Ln	Ault	38%	26%
	R15	Long Point Manor	OLF	11%	4%
	R16	Rocky Point Heights	OLF	9%	3%
	R17	Port Townsend	None	1%	0%
	R18	Marrowstone Island (Nordland)	None	0%	0%
	R19	Island Transit Offices, Coupeville	OLF	10%	5%
	R20	South Lopez Island (Agate Beach)	None	2%	1%
School (near residential)	S01	Oak Harbor High School	Ault	21%	12%
	S02	Crescent Harbor Elementary School	Ault	22%	13%
	S03	Coupeville Elementary School	OLF	6%	3%
	S04	Anacortes High School	Ault	2%	1%
	S05	Lopez Island School	None	0%	0%
	S06	Friday Harbor Elementary School	None	0%	0%
	S07	Sir James Douglas Elementary School	None	0%	0%
	S08	Fidalgo Elementary School	Ault	6%	2%
	S09	La Conner Elementary School	Ault	7%	3%
	S10	Elger Bay Elementary School	OLF	0%	0%

[1] Assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

[2] R01 and R06 include interior SELs greater than 100 dB with windows open

4.4.4 Residential Daytime Indoor Speech Interference

Table 4-8 presents the average daily indoor daytime (7:00 a.m. to 10:00 p.m.) events per hour for the applicable POIs that would experience indoor maximum sound levels of at least 50 dB with windows closed and open, for the average year baseline scenario. Events per hour would be less than one at 14 of the 30 POIs and would range between one and 10 for the remaining POIs, regardless of the window status.

Table 4-8 Indoor Speech Interference for the Average Year Baseline Scenario

Point of Interest				*Annual Average Daily Indoor Daytime (0700-2200) Events per Hour* [1]	
Type	*ID*	*Description*	*Related Field*	*Windows Open*	*Windows Closed*
Residential	R01	Sullivan Rd	Ault	10	10
	R02	Salal St. and N. Northgate Dr	Ault	9	8
	R03	Central Whidbey	Ault	5	-
	R04	Pull and Be Damned Point	Ault	2	1
	R05	Snee-Oosh Point	Ault	2	1
	R06	Admirals Dr and Byrd Dr	OLF	-	-
	R07	Race Lagoon	OLF	-	-
	R08	Pratts Bluff	OLF	-	-
	R09	Cox Rd and Island Ridge Way	OLF	-	-
	R10	Skyline	None	-	-
	R11	Sequim	None	-	-
	R12	Port Angeles	None	-	-
	R13	Beverly Beach, Freeland	OLF	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	8	7
	R15	Long Point Manor	OLF	1	1
	R16	Rocky Point Heights	OLF	2	1
	R17	Port Townsend	None	-	-
	R18	Marrowstone Island (Nordland)	None	-	-
	R19	Island Transit Offices, Coupeville	OLF	1	1
	R20	South Lopez Island (Agate Beach)	None	-	-
School (near residential)	S01	Oak Harbor High School	Ault	6	2
	S02	Crescent Harbor Elementary School	Ault	5	2
	S03	Coupeville Elementary School	OLF	1	-
	S04	Anacortes High School	Ault	-	-
	S05	Lopez Island School	None	-	-
	S06	Friday Harbor Elementary School	None	-	-
	S07	Sir James Douglas Elementary School	None	-	-
	S08	Fidalgo Elementary School	Ault	-	-
	S09	La Conner Elementary School	Ault	1	-
	S10	Elger Bay Elementary School	OLF	-	-

1 With an indoor maximum sound level of at least 50 dB; assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

2 The Whidbey General Hospital is located within approximately 1,000 feet of the Coupeville Elementary School; therefore, this location was not modeled individually, but similar result for indoor speech interference for POI S03 would apply.

For the high-tempo FCLP year baseline scenario (Appendix A7), the above-cited statistics would not change compared to the average year baseline.

4.4.5 Classroom Learning Interference

Table 4-9 presents the potential learning interference for classrooms under the average year baseline scenario. One of the schools, S02 (Crescent Harbor Elementary), would have an outdoor $L_{eq(8h)}$ of 68 dB, which is greater than the screening threshold of 60 dB. Three of the POIs would have more than one event per hour with windows open (S01, S02, and R03), and two would have more than one event per hour with windows closed (S01 and S02). POI S01, Oak Harbor High School, would have the most events per hour, at six events with windows open and two with windows closed.

Under the high-tempo FCLP year baseline scenario (Appendix A7), the above-cited statistics would not change compared to the average year baseline.

Table 4-9 Classroom Learning Interference for the Average Year Baseline Scenario

Point of Interest					Indoor [1]			
					Windows Open		Windows Closed	
Type	ID	Description	Related Field	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour [2]	$L_{eq(8h)}$ (dB)	Events per Hour [2]
School Surrogate	R03	Central Whidbey	Ault	57	<45	5	<45	-
	R11	Sequim	None	<45	<45	-	<45	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2
	S02	Crescent Harbor Elementary School	Ault	68	53	5	<45	2
	S03	Coupeville Elementary School	OLF	52	<45	1	<45	-
	S04	Anacortes High School	Ault	46	<45	-	<45	-
	S05	Lopez Island School	None	<45	<45	-	<45	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-
	S08	Fidalgo Elementary School	Ault	49	<45	-	<45	-
	S09	La Conner Elementary School	Ault	51	<45	1	<45	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-
Number of Sites Exceeding 1 Intrusive Event per Hour						**3**		**2**
Minimum Number of Intrusive Events per Hour if Exceeding 1						**5**		**2**
Maximum Number of Intrusive Events per Hour if Exceeding 1						**6**		**2**

Notes:

1 Assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

2 Number of Average School-Day Events per hour during 8-hour school day (0800-1600) at or above an indoor maximum (single-event) sound level (L_{max}) of 50 dB;

4.4.6 Recreational Speech Interference

Table 4-10 lists the AAD daytime NA 50 L_{max} per hour for the recreational POIs. The average NA across the 48 POIs would be three events per daytime hour and less than one event per nighttime hour. POIs R01, R02, and R14 would have the most events per hour, at 10 during daytime hours. Thirteen POIs would have two events per nighttime hour.

Under the high-tempo FCLP year baseline scenario (Appendix A7), the above-cited statistics would not change compared to the average year baseline.

Table 4-10 Recreational Speech Interference for the Average Year Baseline Scenario

Representative Park Receptor				***Annual Average Outdoor Daily Daytime Events per Hour NA50 L_{max}***	
Type	***ID***	***Description***	***Related Field***	***Daytime***	***Nighttime***
Park	P01	Joseph Whidbey State Park	Ault	9	2
	P02	Deception Pass State Park	Ault	9	2
	P03	Dugualla State Park	Ault	9	2
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	OLF	3	1
	P05	Ebey's Landing State Park	OLF	2	-
	P06	Fort Casey State Park	OLF	1	-
	P07	Cama Beach State Park	OLF	3	-
	P08	Port Townsend	None	1	-
	P09	Moran State Park	None	-	-
	P10	San Juan Islands National Monument	None	7	2
	P11	San Juan Island Visitors Center	None	-	-
	P12	Cap Sante Park	Ault	-	-
	P13	Lake Campbell	Ault	4	1
	P14	Spencer Spit State Park	None	-	-
	P15	Pioneer Park	Ault	4	1
	P16	Marrowstone Island (Fort Flagler)	OLF	-	-
	EBLA001	Ferry House	OLF	2	-
	EBLA002	Reuble Farm	OLF	2	-

Table 4-10 Recreational Speech Interference for the Average Year Baseline Scenario

Representative Park Receptor				*Annual Average Outdoor Daily Daytime Events per Hour NA50 L_{max}*	
Type	***ID***	***Description***	***Related Field***	***Daytime***	***Nighttime***
Residential	R01	Sullivan Rd	Ault	10	2
	R02	Salal St. and N. Northgate Dr	Ault	10	2
	R03	Central Whidbey	Ault	8	2
	R04	Pull and Be Damned Point	Ault	8	2
	R05	Snee-Oosh Point	Ault	7	2
	R06	Admirals Dr and Byrd Dr	OLF	1	-
	R07	Race Lagoon	OLF	3	1
	R08	Pratts Bluff	OLF	1	-
	R09	Cox Rd and Island Ridge Way	OLF	1	-
	R10	Skyline	None	4	1
	R11	Sequim	None	1	-
	R12	Port Angeles	None	1	-
	R13	Beverly Beach, Freeland	OLF	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	10	2
	R15	Long Point Manor	OLF	7	2
	R16	Rocky Point Heights	OLF	5	1
	R17	Port Townsend	None	-	-
	R18	Marrowstone Island (Nordland)	None	-	-
	R19	Island Transit Offices, Coupeville	OLF	3	1
	R20	South Lopez Island (Agate Beach)	None	3	1
School	S01	Oak Harbor High School	Ault	9	2
	S02	Crescent Harbor Elementary School	Ault	8	2
	S03	Coupeville Elementary School	OLF	3	1
	S04	Anacortes High School	Ault	1	-
	S05	Lopez Island School	None	-	-
	S06	Friday Harbor Elementary School	None	-	-
	S07	Sir James Douglas Elementary School	None	-	-
	S08	Fidalgo Elementary School	Ault	4	1
	S09	La Conner Elementary School	Ault	3	1
	S10	Elger Bay Elementary School	OLF	1	-

Notes:

[1] Number of events at or above 50 dB L_{max}; reflects potential for outdoor speech interference

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5 Average Year No Action Alternative

As shown in Table 2-1, under the No Action Alternative, all of the EP-3 and P-3C aircraft would be gone from the complex, and six fleet squadrons of P-8 aircraft would be on station. The Navy's Precision Landing Mode (PLM) system, also known as Maritime Augmented Guidance with Integrated Controls for Carrier Approach and Recovery Precision Enabling Technologies (MAGIC CARPET), is expected to reduce the FCLP training requirement by 20 percent, which would also reduce the interfacility operations by the same ratio.

Section 5.1 details the flight operations. Section 5.2 presents the runway/flight track utilization, flight profiles, and derivation of AAD flight operations. Sections 5.3 and 5.4 contain the maintenance run-ups and resultant aircraft noise exposure.

5.1 Flight Operations

From the methodology described in Chapter 2, Tables 5-1 and 5-2 summarize and detail, respectively, the modeled flight operations for the average year No Action Alternative. This alternative has approximately 84,700 total annual flight operations for the complex. The EA-18G would dominate aircraft operations, with 83 percent of the complex's annual flight operations. Approximately 75 percent of the complex's annual FCLP operations would be conducted at Ault Field, while the remaining 35 percent would be conducted at the OLF. Consistent with the 2005 EA, the OLF would have approximately 6,100 annual FCLP pattern operations (Schmidt-Bremer, Jr. et al., 2004). As shown in Table 5-2, approximately 13 percent and 17 percent, respectively, of the overall total flight operations and OLF FCLP operations would be conducted during the DNL nighttime period. The numbers of annual nighttime FCLP operations at the OLF would be consistent with the 2005 EA (Schmidt-Bremer, Jr. et al., 2004).

Relative to the average year baseline scenario, Table 5-1 shows that overall FCLP operations would decrease by 4,200 annually for the average year No Action Alternative, and the total of the complex's annual flight operations would decrease by 9,400 due to changes associated with the P-3C replacement and reduction in EA-18G FCLP.

The high-tempo FCLP year No Action Alternative (Appendix A2) has approximately 90,000 total annual flight operations for the complex, with the EA-18G having 85 percent of the complex's annual flight operations. Nearly 73 percent of the complex's FCLP operations would be conducted at Ault Field. The OLF's FCLP operations would be consistent with the 2005 EA as stated above.

Table 5-1 Summary of Annual Flight Operations for the Average Year No Action Alternative

Airfield	Aircraft Type or Category	No Action Alternative (Average Year) Type of Flight Operation FCLP [2]	Other [3]	Total	Change from Baseline Type of Flight Operation FCLP [2]	Other	Total
Ault Field	EA-18G	11,300	53,000	64,300	-4,200	+500	-3,700
	Other Based	-	11,600	11,600	-	-5,700	-5,700
	Transient	-	2,300	2,300	-	-	-
	Subtotal	11,300	66,900	78,200	-4,200	-5,200	-9,400
OLF Coupeville [4]	EA-18G	6,100	-	6,100	-	-	-
	Other	-	400	400	-	-	-
	Subtotal	6,100	400	6,500	-	-	-
TOTAL (both airfields)		**17,400**	**67,300**	**84,700**	**-4,200**	**-5,200**	**-9,400**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.

2 Each closed pattern is counted as two operations.

3 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.

4 Excludes 900 interfacility Growler operations (Baseline and No Action).

Table 5-2 Detailed Annual Flight Operations for the Average Year No Action Alternative

Airfield	Aircraft	Squadron	Departure			Arrival										Interfacility													
						VFR SI/ Non-Break			Overhead Break				IFR			Departure to OLF				Break Arrival from OLF				Helo Departure to OLF			Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	4,803	289	5,092	1,744	46	1,790	2,914	-	95	3,009	283	4	287	162	-	35	197	98	49	49	197	-	-		-	-	
		FRS	6,187	400	6,587	2,355	343	2,698	2,652	339	668	3,659	199	30	229	180	-	26	206	107	59	42	208	-	-		-	-	
		RES	1,140	86	1,226	401	17	418	700	-	27	727	76	5	81	17	-	2	19	10	6	4	19	-	-		-	-	
		EXP	1,537	86	1,623	590	21	611	885	-	33	918	86	3	89	-	-	-	0	-	-	-	0	-	-		-	-	
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0	-	-	-		-	-	-		-	-		-	-	
	P3	All	-	-	0	-	-	0	-	-	-	-	-	-	-	-	-	-		-	-	-		-	-		-	-	
	P8	All	1,928	96	2,024	1,389	271	1,660	-	-	-	-	313	51	364	-	-	-		-	-	-		-	-		-	-	
	H60	SAR	384	-	384	384	0	384	-	-	-	-	-	-	-	-	-	-		-	-	-		90	-	90	90	-	90
	C-40	-	401	109	510	384	96	480	-	-	-	-	21	10	31	-	-	-		-	-	-		-	-		-	-	
	JET_LRG	-	391	-	391	282	-	282	-	-	-	-	109	0	109	-	-	-		-	-	-		-	-		-	-	
Total			**16,771**	**1,066**	**17,837**	**7,529**	**794**	**8,323**	**7,151**	**339**	**823**	**8,313**	**1,087**	**103**	**1,190**	**359**	**-**	**64**	**422**	**215**	**114**	**95**	**424**	**90**	**-**	**90**	**90**	**-**	**90**

Airfield	Aircraft	Squadron														Interfacility													
																Break Arrival from Ault				Departure to Ault				Helo Arrival from Ault			Helo Departure to Ault		
																Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW														162	-	35	197	98	49	49	197	-	-		-	-	
		FRS														180	-	26	206	107	59	42	208	-	-		-	-	
		RES														17	-	2	19	10	6	4	19	-	-		-	-	
	H60	SAR																						90	-	90	90	-	90
Total																**359**	**-**	**64**	**422**	**215**	**114**	**95**	**424**	**90**	**-**	**90**	**90**	**-**	**90**

Table 5-2 Detailed Annual Flight Operations for the Average Year No Action Alternative

Airfield	*Aircraft*	*Squadron*	*Closed Pattern*[1]														*Grand Totals*			
			FCLP				*T&G*				*ReEnter*			*GCA/CCA*						
			Day (0700-2200)		*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*								*Day (0700-2200)*		*Night (2200-0700)*	
			DL	*DK*	*DK*	*Total*	*DL*	*DK*	*DK*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*DL*	*DK*	*DK*	*Total*
Ault Field	EA18	CVW	2,519	1,656	1,435	5,609	2,237	349	425	3,011	1,681	57	1,738	2,792	1,227	4,019	19,233	2,054	3,662	24,949
		FRS	3,637	1,248	704	5,589	3,746	738	1,000	5,484	-	-	0	4,879	895	5,774	23,942	2,384	4,108	30,434
		RES	53	-	10	63	513	4	15	532	446	13	459	503	37	540	3,858	10	216	4,084
		EXP	-	-	-	0	506	-	21	527	517	20	537	499	21	520	4,620	-	205	4,825
	EP3	All	-	-	-		-	-	-	0	-	-		-	-	0	-	-	-	-
	P3	All	-	-	-		-	-	-	0	-	-		-	-	0	-	-	-	-
	P8	All	-	-	-		4,056	0	595	4,651	-	-		1,752	161	1,913	9,438	-	1,174	10,612
	H60	SAR	-	-	-		-	-	-	0	-	-		-	-	0	948	-	-	948
	C-40	-	-	-	-		-	-	-	0	-	-		-	-	0	806	-	215	1,021
	JET_LRG	-	-	-	-		332	0	0	332	-	-		167	-	167	1,281	-	-	1,281
Total			**6,208**	**2,904**	**2,149**	**11,261**	**11,390**	**1,091**	**2,056**	**14,537**	**2,644**	**90**	**2,734**	**10,592**	**2,341**	**12,933**	**64,126**	**4,448**	**9,580**	**78,154**
OLF	EA18	CVW	1,101	870	481	2,452	-	-	-								1,361	919	565	2,846
		FRS	1,198	1,029	356	2,583	-	-	-								1,485	1,088	424	2,997
		RES	113	88	38	239	-	-	-								139	94	44	277
	H60	SAR	-	-	-		181	-	-	181							361	-	-	361
Total			**2,412**	**1,987**	**875**	**5,274**	**181**	**-**	**-**	**181**							**3,347**	**2,101**	**1,033**	**6,481**
														Grand Totals (Ault+OLF)			**67,473**	**6,549**	**10,613**	**84,635**

Notes:

[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier

DK = Darkness

DL = Daylight

EXP = Expeditionary

FRS = Fleet Replacement

RES = Reserve

5.2 Other Modeling Parameters

Appendix A3 contains tables of runway utilization percentages as extracted from the NASMOD study output. Flight tracks and their utilization would be identical to the baseline scenario. Modeled flight tracks are depicted in Appendix A4.

Flight profiles would be identical to the baseline scenario except for the introduction of P-8 profiles. The representative profiles for each modeled aircraft type are contained in Appendix A5.

In terms of AAD events, the No Action Alternative would have approximately 157 and 10 AAD flight events for Ault Field and OLF Coupeville, respectively. For the high-tempo FCLP year No Action Alternative, Ault Field and the OLF would have 161 and 10 AAD flight events, respectively.

5.3 Run-up Operations

Table 5-3 lists the modeled run-ups, with their locations depicted in Figure 5-1. There would be no change to the modeled run-ups for the EA-18G aircraft for the average year No Action Alternative compared to the average year baseline scenario. P-8 run-ups (at their appropriate tempo) replace ones for the P-3. The P-8 has run-ups at Lo-Pwr4, Lo-Pwr5, and the runway hold positions.

For the high-tempo FCLP year No Action Alternative, it was assumed the run-ups would not change compared to the average year scenario.

Table 5-3 Modeled Run-Up Operations and Profiles for the No Action Alternatives

Aircraft Type	Engine Type	Run-up Type	Pad ID	Magnetic Heading (degrees)	Annual Events	Percentage During Day (0700 - 2200)	Percentage During Night (2200 - 0700)	Power Setting Reported	Power Setting Modeled (if different)	Duration of Each Event (Minutes)	No. of Engines Running (each event)
EA-18G	F414-GE-400	Water Wash	Lo-Pwr1 Lo-Pwr2 Lo-Pwr3 (1)	135/315	82	45%	55%	Ground Idle	65% NC	10	1
		Low power	Lo-Pwr1 Lo-Pwr2 Lo-Pwr3 1	135/315	1230	45%	55%	Ground Idle	65% NC	30	1
					2460			Ground Idle	65% NC	30	2
		High Power	50% Hi-Pwr1 / 50% Hi-Pwr2	311 (Hi-Pwr1) / 127 (Hi-Pwr2)	656	90%	10%	Ground Idle	65% NC	25	2
								80%NC	80% NC	10	2
								Mil	96% NC	3	2
								AB	A/B	3	2
P-8A	CFM56-7B-24	Leak Check	50% Lo-Pwr4 / 50% Lo-Pwr5	126	24	75%	25%	5400 Lbs		5	2
		Pressure Check		126	12			5400 Lbs		12	2
		Leak Check	Runway Hold 2	100 (Rwy14); 270 (Rwy25); 330 (Rwy32); 140 (Rwy07)	24			5400 Lbs		5	2
		Pressure Check			12			5400 Lbs		12	2

Notes:
[1] Run-up events split 50% Lo-Pwr1, 30% Lo-Pwr2, and 20% Lo-Pwr3
[2] Runway Hold Run-ups split 50% Runway 32, 40% Runway 25, 5% Runway 07, and 5% Runway 14

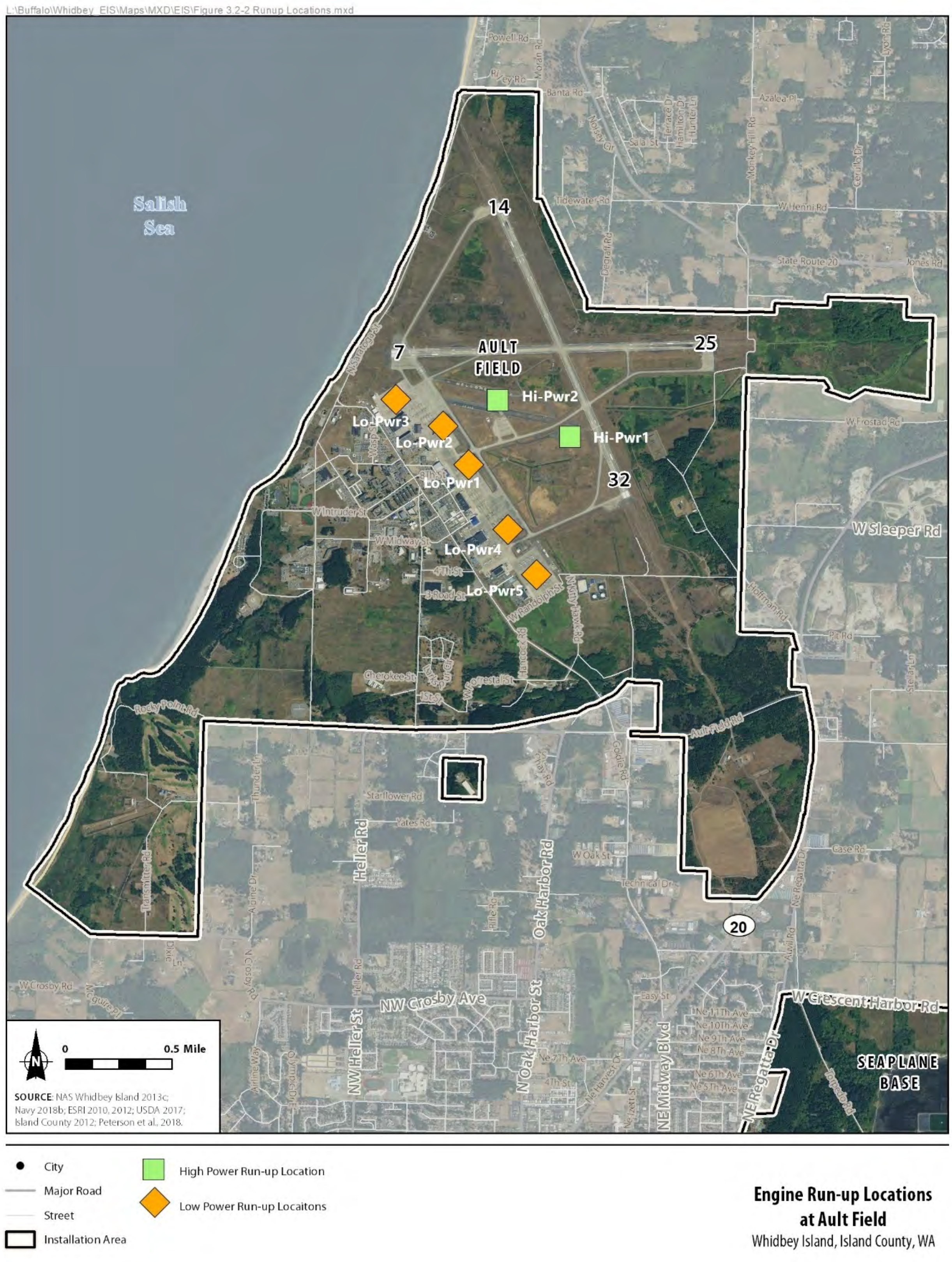

Figure 5-1 Modeled Run-up Pads for Alternatives

5.4 Aircraft Noise Exposure

Using the data described in Sections 5.1 through 5.3, NOISEMAP was used to calculate and plot the 60 dB through 90 dB DNL contours, in 5-dB increments, for AAD events for the average year No Action Alternative. Figure 5-2 shows the resulting DNL contours.

The 65 dB contour surrounding Ault Field would extend approximately 7 to 11 miles from the runway endpoints. The location of these lobes would be primarily attributable to the EA-18G on the approach portion of GCA patterns, where aircraft generally descend on a 3-degree glide slope through 3,000 feet AGL 10 miles from the runway. The 65 dB DNL contour would extend approximately 1.5 miles past the eastern shore of the mainland across Skagit Bay. The 80 dB DNL contour would extend approximately 2.7 miles to the east, outside the station boundary, primarily due to EA-18G GCA and VFR approaches descending from 1,800 feet AGL, as well as the GCA patterns. The 90 dB contour would extend 1,300 feet to the east beyond the station boundary.

The DNL exposure at the OLF would be attributable to the OLF's FCLP operations. The 65 dB DNL contour would extend northward to a point just south of the north shore of Penn Cove and southward approximately 3 miles south of the OLF's runway.

Table 5-4 presents the noise exposure in terms of estimated off-station population for each contour band. A total of 10,731 people would be exposed to DNL of at least 65 dB at Ault Field and OLF Coupeville. The total population exposed would be 384 greater than the average year baseline scenario's total population.

Under the high-tempo FCLP year No Action Alternative (Appendix A7), a total of 11,239 people would be exposed to DNL of at least 65 dB at Ault Field and OLF Coupeville. The total population exposed would be 245 greater than for the high-tempo FCLP year baseline scenario.

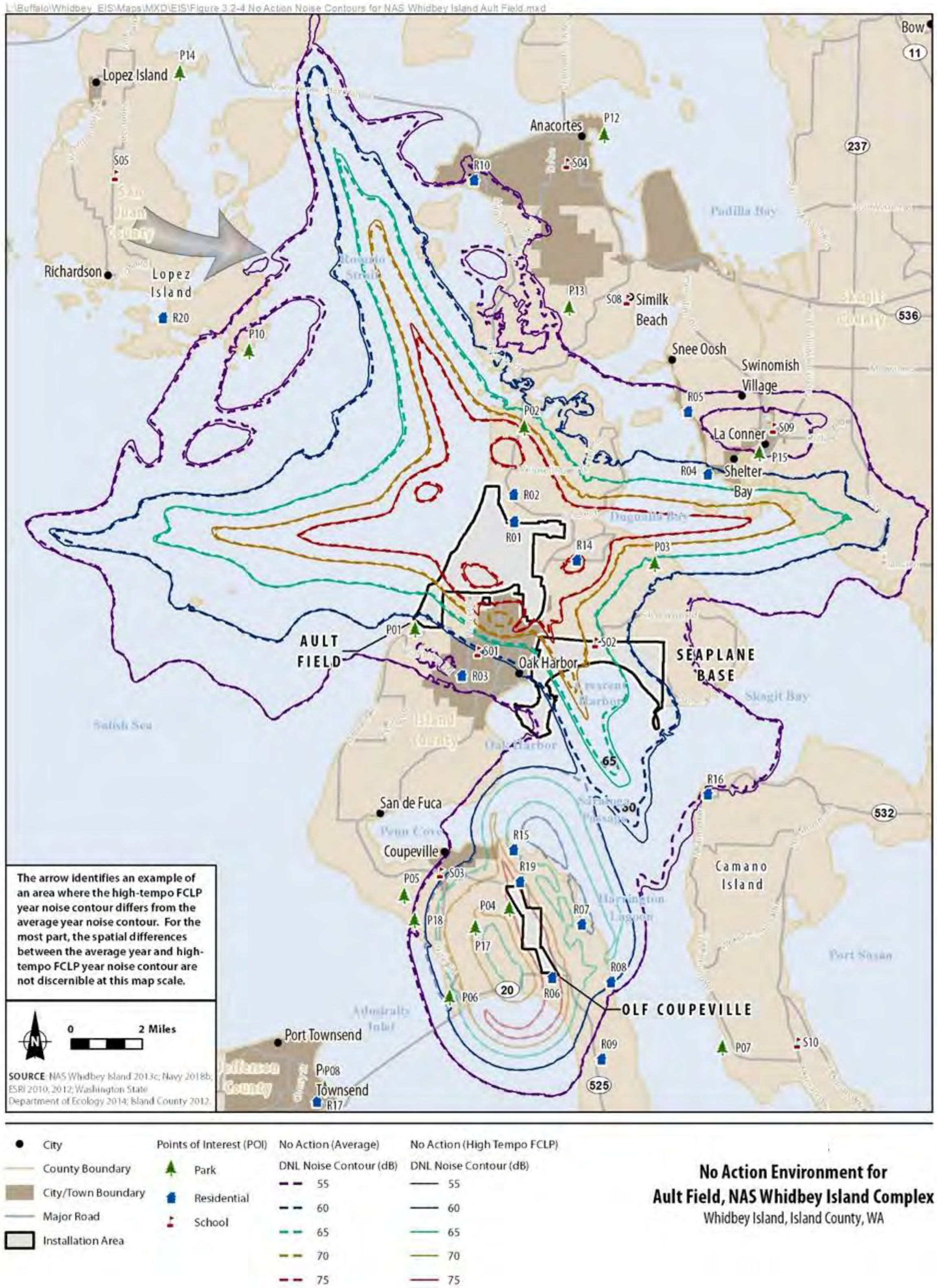

Figure 5-2 DNL Contours for AAD Aircraft Events for the Average Year No Action Alternative

Table 5-4 Estimated Acreage and Population within the DNL Contour Ranges[1] for the Average Year at the NAS Whidbey Island Complex for No Action Scenario

DNL Contours	*DNL Contour Ranges*							
	65 to <70 dB DNL		*70 to <75 dB DNL*		*Greater than or equal to 75 dB DNL*		*Total[3]*	
	Area (acres)	*Pop[2]*	*Area (acres)*	*Pop[2]*	*Area (acres)*	*Pop[2]*	*Area (acres)*	*Pop[2]*
Ault Field	3,596	3,279	3,269	2,283	5,549	3,379	**12,414**	**8,941**
OLF Coupeville	3,681	861	3,088	786	638	583	**7,407**	**2,230**
Total[3]	**7,277**	**4,140**	**6,357**	**3,069**	**6,187**	**3,962**	**19,821**	**11,171**

Notes:

1 Acreage presented does not include areas over water or areas over the NAS Whidbey Island complex.

2 Population counts of people within the DNL contours were computed using 2010 census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block, and it excludes population on military properties within the DNL contours (NAS Whidbey Island [Ault Field], the Seaplane Base, and OLF Coupeville). All population estimates for areas under the dB DNL contours utilized 2010 U.S. Census Bureau data. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). To simplify the analysis, this growth factor was also used for areas of Skagit County that fall under the 65+ dB DNL contours. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

3 Numbers have been rounded to ensure totals sum.

Key:
dB = decibel
DNL = day-night average sound level

5.4.1 Points of Interest

Table 5-5 shows the DNL for each POI. Under the average year No Action Alternative, 10 POIs would experience DNL greater than or equal to 65 dB, and three residential POIs would experience DNL greater than or equal to 75 dB. Two of the latter category would be near Ault Field (R01 and R02), and one would be near the OLF (R06). Crescent Harbor Elementary School would experience DNL of 67 dB. No other school POI would experience DNL greater than or equal to 65 dB.

Table 5-5 Estimated Aircraft DNL at POIs for the Average Year No Action Alternative

Point of Interest				DNL (dB)	
Type	ID	Description	Related Field	No Action	Increase re Baseline
Park	P01	Joseph Whidbey State Park	Ault	57	-
	P02	Deception Pass State Park	Ault	73	-
	P03	Dugualla State Park	Ault	65	-
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	OLF	74	-
	P05	Ebey's Landing State Park	OLF	52	-
	P06	Fort Casey State Park	OLF	62	-
	P07	Cama Beach State Park	OLF	<45	-
	P08	Port Townsend	None	<45	-
	P09	Moran State Park	None	<45	-
	P10	San Juan Islands National Monument	None	54	-
	P11	San Juan Island Visitors Center	None	<45	-
	P12	Cap Sante Park	Ault	<45	-
	P13	Lake Campbell	Ault	54	-
	P14	Spencer Spit State Park	None	<45	-
	P15	Pioneer Park	Ault	55	-
	P16	Marrowstone Island (Fort Flagler)	OLF	<45	-
	EBLA001	Ferry House	OLF	69	-
	EBLA002	Reuble Farm	OLF	56	-
Residential	R01	Sullivan Rd	Ault	90	-
	R02	Salal St. and N. Northgate Dr	Ault	78	-
	R03	Central Whidbey	Ault	57	-
	R04	Pull and Be Damned Point	Ault	62	-
	R05	Snee-Oosh Point	Ault	57	+1
	R06	Admirals Dr and Byrd Dr	OLF	79	-
	R07	Race Lagoon	OLF	61	-
	R08	Pratts Bluff	OLF	62	-
	R09	Cox Rd and Island Ridge Way	OLF	50	-1
	R10	Skyline	None	56	-
	R11	Sequim	None	<45	-
	R12	Port Angeles	None	<45	-
	R13	Beverly Beach, Freeland	OLF	<45	-
	R14	E Sleeper Rd & Slumber Ln	Ault	74	-1
	R15	Long Point Manor	OLF	64	-1
	R16	Rocky Point Heights	OLF	55	+1
	R17	Port Townsend	None	<45	-
	R18	Marrowstone Island (Nordland)	None	<45	-
	R19	Island Transit Offices, Coupeville	OLF	73	-
	R20	South Lopez Island (Agate Beach)	None	48	-

Table 5-5 Estimated Aircraft DNL at POIs for the Average Year No Action Alternative

Point of Interest				*DNL (dB)*	
Type	*ID*	*Description*	*Related Field*	*No Action*	*Increase re Baseline*
School	S01	Oak Harbor High School	Ault	59	-
	S02	Crescent Harbor Elementary School	Ault	67	-1
	S03	Coupeville Elementary School	OLF	57	-1
	S04	Anacortes High School	Ault	48	-
	S05	Lopez Island School	None	<45	-
	S06	Friday Harbor Elementary School	None	<45	-
	S07	Sir James Douglas Elementary School	None	<45	-
	S08	Fidalgo Elementary School	Ault	51	-
	S09	La Conner Elementary School	Ault	53	-
	S10	Elger Bay Elementary School	OLF	<45	-

All but seven of the POIs would experience less than a 0.5 dB change in DNL compared to the average year baseline scenario, and none would be newly impacted. POIs R09, R14, R15, S01, and S02 would experience a 1 dB decrease in DNL, while R05 and R16 would experience a 1 dB increase in DNL.

See Appendix A6 for lists of the five flight profiles with the greatest SEL at each POI.

Under the high-tempo FCLP year No Action Alternative (Appendix A7), all but five of the POIs would experience less than 0.5 dB change in DNL compared to the high-tempo FCLP year baseline scenario. POIs P06, R08, R10, R14, and R15 would experience a 1 dB decrease in DNL.

5.4.2 Potential Hearing Loss

Table 5-6 shows estimates of the population within 1-dB bands of $L_{eq(24)}$ and their associated NIPTS. For average and 10th percentile NIPTS categories, 41 and 849 people, respectively, would have the potential for NIPTS greater than or equal to 5 dB. All of the average NIPTS population would be associated with Ault Field (none with the OLF), whereas approximately 12 percent of the 10th percentile NIPTS population would be associated with the OLF.

Under the high-tempo FCLP year scenario (Appendix A7) average and 10th percentile NIPTS categories, 38 and 468 people, respectively, would have the potential for NIPTS greater than or equal to 5 dB. All of the average NIPTS population would be associated with Ault Field (none with the OLF), whereas approximately 6 percent of the 10th percentile NIPTS population would be associated with the OLF.

The potential NIPTS values presented in Table 5-6 are only applicable in the extreme case of outdoor exposure at one's residence to all aircraft events occurring over a period of 40 years. As it is highly unlikely any individuals would meet all of those criteria, the actual potential NIPTS for most individuals would be much less than the values presented here.

Table 5-6 Estimated Potential Hearing Loss for the Average Year No Action Alternative

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) [1]	10th Percentile NIPTS (dB) [1]	Estimated Population				Change in population re Baseline			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	(12)	(12)
75-76	1.0	4.0	-	-	30	30	-	-	(36)	(36)
76-77	1.0	4.5	-	119	42	161	-	56	(2)	54
77-78	1.5	5.0	-	208	43	251	-	(60)	1	(59)
78-79	2.0	5.5	-	139	23	162	-	(52)	3	(49)
79-80	2.5	6.0	-	84	7	91	-	(34)	1	(33)
80-81	3.0	7.0	-	68	1	69	-	(5)	-	(5)
81-82	3.5	8.0	-	47	-	47	-	(12)	-	(12)
82-83	4.0	9.0	-	36	-	36	-	(1)	-	(1)
83-84	4.5	10.0	-	25	-	25	-	(2)	-	(2)
84-85	5.5	11.0	-	15	-	15	-	(3)	-	(3)
85-86	6.0	12.0	-	11	-	11	-	(1)	-	(1)
86-87	7.0	13.5	-	6	-	6	-	(3)	-	(3)
87-88	7.5	15.0	-	4	-	4	-	(1)	-	(1)
88-89	8.5	16.5	-	2	-	2	-	-	-	-
89-90	9.5	18.0	-	-	-	-	-	-	-	-
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-
						468				

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB, are estimated based on extrapolating available data from USEPA guidance (USEPA, 1982).

[1] Rounded to nearest 0.5 dB

5.4.3 Residential Nighttime Sleep Disturbance

Table 5-7 lists the PA for applicable POIs for average daily nighttime (10:00 p.m. to 7:00 a.m.) events. Under the average year No Action Alternative, the PA would average 10 percent and 6 percent, respectively, across the listed POIs for windows open and closed. The two most impacted POIs (R01 and R02) would have between 29 percent and 58 percent PA, depending upon whether windows are open or closed. This PA would be identical to the PA for the average year baseline scenario except there would be 10 POIs with a 1 dB decrease in PA and two POIs with a 1 dB increase in PA.

Table 5-7 Average Indoor Nightly Probability of Awakening at Applicable POIs for the Average Year No Action Alternative

Point of Interest				*Annual Average Nightly (2200-0700) Probability of Awakening (%)* [1]			
				No Action		*Increase re Baseline*	
Type	*ID*	*Description*	*Related Field*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*
Residential	R01	Sullivan Rd	Ault	58%	43%	-1%	-1%
	R02	Salal St. and N. Northgate Dr	Ault	41%	29%	-1%	-1%
	R03	Central Whidbey	Ault	16%	8%	-	-
	R04	Pull and Be Damned Point	Ault	19%	9%	-	-
	R05	Snee-Oosh Point	Ault	15%	5%	-	-
	R06	Admirals Dr and Byrd Dr	OLF	9%	6%	-1%	-1%
	R07	Race Lagoon	OLF	5%	2%	-	-
	R08	Pratts Bluff	OLF	4%	2%	-1%	-1%
	R09	Cox Rd and Island Ridge Way	OLF	3%	2%	-	-
	R10	Skyline	None	5%	2%	-1%	-
	R11	Sequim	None	0%	0%	-	-
	R12	Port Angeles	None	0%	0%	-	-
	R13	Beverly Beach, Freeland	OLF	2%	0%	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	37%	25%	-1%	-1%
	R15	Long Point Manor	OLF	11%	4%	-	-
	R16	Rocky Point Heights	OLF	9%	3%	-	-
	R17	Port Townsend	None	1%	0%	-	-
	R18	Marrowstone Island (Nordland)	None	0%	0%	-	-
	R19	Island Transit Offices, Coupeville	OLF	9%	5%	-1%	-
	R20	South Lopez Island (Agate Beach)	None	3%	1%	1%	-
School (near residential)	S01	Oak Harbor High School	Ault	20%	12%	-1%	-
	S02	Crescent Harbor Elementary School	Ault	21%	12%	-1%	-1%
	S03	Coupeville Elementary School	OLF	5%	3%	-1%	-
	S04	Anacortes High School	Ault	2%	1%	-	-
	S05	Lopez Island School	None	0%	0%	-	-
	S06	Friday Harbor Elementary School	None	0%	0%	-	-
	S07	Sir James Douglas Elementary School	None	0%	0%	-	-
	S08	Fidalgo Elementary School	Ault	6%	2%	-	-
	S09	La Conner Elementary School	Ault	8%	3%	1%	-
	S10	Elger Bay Elementary School	OLF	0%	0%	-	-

1 Assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

2 R01 and R06 include interior SELs greater than 100 dB with windows open

Under the high-tempo FCLP year baseline scenario (Appendix A7), the PA would average 11 percent and 6 percent, respectively, across the listed POIs for windows open and closed. The two most impacted POIs (R01 and R02) would have between 31 percent and 62 percent PA, depending upon whether their windows are open or closed.

5.4.4 Residential Daytime Indoor Speech Interference

Table 5-8 presents the average daily indoor daytime (7:00 a.m. to 10:00 p.m.) events per hour for the applicable POIs that would experience indoor maximum sound levels of at least 50 dB with windows closed and open, for the average year No Action Alternative. Events per hour would be less than one at 17 of the 30 POIs and would range between one and eight for the remaining POIs, regardless of the window status. Relative to the average year baseline scenario, decreases of up to two events per hour would be experienced at one of the POIs (R01). No POI would experience increases in events per hour for either window status.

For the high-tempo FCLP year No Action Alternative (Appendix A7), the above-cited statistics would not change compared to the average year No Action Alterative.

Table 5-8 Indoor Speech Interference for the Average Year No Action Alternative

Point of Interest				Annual Average Daily Indoor Daytime (0700-2200) Events per Hour [1]			
				No Action		Increase re Baseline	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential	R01	Sullivan Rd	Ault	8	8	-2	-2
	R02	Salal St. and N. Northgate Dr	Ault	8	8	-1	0
	R03	Central Whidbey	Ault	5	-	0	0
	R04	Pull and Be Damned Point	Ault	2	1	0	0
	R05	Snee-Oosh Point	Ault	2	1	0	0
	R06	Admirals Dr and Byrd Dr	OLF	-	-	0	0
	R07	Race Lagoon	OLF	-	-	0	0
	R08	Pratts Bluff	OLF	-	-	0	0
	R09	Cox Rd and Island Ridge Way	OLF	-	-	0	0
	R10	Skyline	None	-	-	0	0
	R11	Sequim	None	-	-	0	0
	R12	Port Angeles	None	-	-	0	0
	R13	Beverly Beach, Freeland	OLF	-	-	0	0
	R14	E Sleeper Rd & Slumber Ln	Ault	8	7	0	0
	R15	Long Point Manor	OLF	1	1	0	0
	R16	Rocky Point Heights	OLF	2	1	0	0
	R17	Port Townsend	None	-	-	0	0
	R18	Marrowstone Island (Nordland)	None	-	-	0	0
	R19	Island Transit Offices, Coupeville	OLF	1	1	0	0
	R20	South Lopez Island (Agate Beach)	None	-	-	0	0
School	S01	Oak Harbor High School	Ault	6	2	0	0
	S02	Crescent Harbor Elementary School	Ault	5	2	0	0
	S03	Coupeville Elementary School	OLF	1	-	0	0
	S04	Anacortes High School	Ault	-	-	0	0
	S05	Lopez Island School	None	-	-	0	0
	S06	Friday Harbor Elementary School	None	-	-	0	0
	S07	Sir James Douglas Elementary School	None	-	-	0	0
	S08	Fidalgo Elementary School	Ault	-	-	0	0
	S09	La Conner Elementary School	Ault	1	-	0	0
	S10	Elger Bay Elementary School	OLF	-	-	0	0

1 With an indoor maximum sound level of at least 50 dB; assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

2 The Whidbey General Hospital is located within approximately 1,000 feet of the Coupeville Elementary School; therefore, this location was not modeled individually, but similar result for indoor speech interference for POI S03 would apply.

5.4.5 Classroom Learning Interference

Table 5-9 presents the potential learning interference for students in classrooms under the average year No Action Alternative. One of the schools, POI S02 (Crescent Harbor Elementary), would have an outdoor $L_{eq(8h)}$ of 67 dB, which is greater than or equal to the screening threshold of 60 dB. Three of the POIs would have more than one event per hour with windows open (S01, S02, and R03), and two POIs (S01 and S02) would have more than one event per hour with windows closed. POIs S01 (Oak Harbor High School) and S02 (Crescent Harbor Elementary School) would have the most events per hour: four to five with windows open and two with windows closed. Relative to the average year baseline scenario, four POIs (S01, S02, S03, and R03) would experience decreases in interference by one event per hour. $L_{eq(8h)}$ would decrease by 1 dB at S02 and S03 and would increase by 1 dB at S07.

Under the high-tempo FCLP year No Action Alternative (Appendix A7), the above statistics would be identical except that $L_{eq(8h)}$ would decrease by 1 dB at three additional POIs.

Table 5-9 Classroom Learning Interference for the Average Year No Action Alternative

Point of Interest					Indoor[1]				Increase re Baseline				
					Windows Open		Windows Closed			Indoor[1]			
										Windows Open		Windows Closed	
Type	ID	Description	Related Field	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour[2]	$L_{eq(8h)}$ (dB)	Events per Hour[2]	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB))	Events per Hour[2]	$L_{eq(8h)}$ (dB)	Events per Hour[2]
School	R03	Central Whidbey	Ault	57	<45	4	<45	-	-	-	-1	-	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	-	-	-	-	-
School	S01	Oak Harbor High School	Ault	57	<45	5	<45	2	-	-	-1	-	-
	S02	Crescent Harbor Elementary School	Ault	67	52	4	<45	2	-1	-1	-1	-1	-
	S03	Coupeville Elementary School	OLF	51	<45	-	<45	-	-1	-1	-1	-1	-
	S04	Anacortes High School	Ault	46	<45	-	<45	-	-	-	-	-	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S08	Fidalgo Elementary School	Ault	49	<45	-	<45	-	-	-	-	-	-
	S09	La Conner Elementary School	Ault	51	<45	1	<45	-	-	-	-	-	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	-	-	-	-	-
Number of Sites Exceeding 1 Intrusive Event per Hour						**3**		**2**			**-**		**-**
Minimum Number of Intrusive Events per Hour if Exceeding 1						**4**		**2**			**-**		**-**
Maximum Number of Intrusive Events per Hour if Exceeding 1						**5**		**2**			**-**		**-**

Notes:
1 Assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.
2 Number of average school-day events per hour during 8-hour school day (0800-1600) at or above an indoor maximum (single-event) sound level (L_{max}) of 50 dB.

5.4.6 Recreational Speech Interference

Table 5-10 lists the AAD daytime NA 50 L_{max} per hour for the recreational POIs. The average NA across the 48 POIs would be 3.2 events per daytime hour and less than one event per nighttime hour. Six POIs would have the most daytime events per hour, at eight. Nighttime events would vary from less than one up to two per hour. Relative to the average year baseline scenario, 13 POIs would experience a decrease of up to two events per daytime hour. Only one POI (R17) would experience an increase in events compared to the average year baseline scenario of one per hour. During nighttime hours, five POIs would experience a decrease of one event per hour.

Under the high-tempo FCLP year No Action Alternative (Appendix A7), the above-cited statistics would not change compared to the average year No Action Alternative except that one additional POI would experience eight events per hour, and 16 POIs would experience a decrease of up to two events per daytime hour. There would be no nighttime decreases of events compared to the high-tempo FCLP year baseline scenario.

Table 5-10 Recreational Speech Interference for the Average Year No Action Alternative

Representative Park Receptor				*Annual Average Outdoor Daily Daytime Events per Hour NA50 L_{max}*			
				No Action		*Increase re No Action*	
Type	*ID*	*Description*	*Related Field*	*Daytime*	*Nighttime*	*Daytime*	*Nighttime*
Park	P01	Joseph Whidbey State Park	8	2	-1	-	
	P02	Deception Pass State Park	8	2	-1	-	
	P03	Dugualla State Park	7	2	-2	-	
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	3	0	-	-1	
	P05	Ebey's Landing State Park	2	0	-	-	
	P06	Fort Casey State Park	1	0	-	-	
	P07	Cama Beach State Park	3	0	-	-	
	P08	Port Townsend	1	0	-	-	
	P09	Moran State Park	0	0	-	-	
	P10	San Juan Islands National Monument	7	1	-	-1	
	P11	San Juan Island Visitors Center	0	0	-	-	
	P12	Cap Sante Park	0	0	-	-	
	P13	Lake Campbell	4	1	-	-	
	P14	Spencer Spit State Park	0	0	-	-	
	P15	Pioneer Park	4	1	-	-	
	P16	Marrowstone Island (Fort Flagler)	0	0	-	-	
	EBLA001	Ferry House	2	0	-	-	
	EBLA002	Reuble Farm	2	0	-	-	

Table 5-10 Recreational Speech Interference for the Average Year No Action Alternative

Representative Park Receptor				Annual Average Outdoor Daily Daytime Events per Hour NA50 L_{max}			
				No Action		Increase re No Action	
Type	ID	Description	Related Field	Daytime	Nighttime	Daytime	Nighttime
Residential	R01	Sullivan Rd	8	2	-2	-	
	R02	Salal St. and N. Northgate Dr	8	2	-2	-	
	R03	Central Whidbey	7	2	-1	-	
	R04	Pull and Be Damned Point	7	2	-1	-	
	R05	Snee-Oosh Point	7	1	-	-1	
	R06	Admirals Dr and Byrd Dr	1	0	-	-	
	R07	Race Lagoon	3	0	-	-1	
	R08	Pratts Bluff	1	0	-	-	
	R09	Cox Rd and Island Ridge Way	1	0	-	-	
	R10	Skyline	4	1	-	-	
	R11	Sequim	0	0	-1	-	
	R12	Port Angeles	1	0	-	-	
	R13	Beverly Beach, Freeland	0	0	-	-	
	R14	E Sleeper Rd & Slumber Ln	8	2	-2	-	
	R15	Long Point Manor	7	1	-	-1	
	R16	Rocky Point Heights	4	1	-1	-	
	R17	Port Townsend	1	0	+1	-	
	R18	Marrowstone Island (Nordland)	0	0	-	-	
	R19	Island Transit Offices, Coupeville	3	1	-	-	
	R20	South Lopez Island (Agate Beach)	3	1	-	-	
School	S01	Oak Harbor High School	8	2	-1	-	
	S02	Crescent Harbor Elementary School	7	2	-1	-	
	S03	Coupeville Elementary School	3	0	-	-1	
	S04	Anacortes High School	1	0	-	-	
	S05	Lopez Island School	0	0	-	-	
	S06	Friday Harbor Elementary School	0	0	-	-	
	S07	Sir James Douglas Elementary School	0	0	-	-	
	S08	Fidalgo Elementary School	4	1	-	-	
	S09	La Conner Elementary School	3	1	-	-	
	S10	Elger Bay Elementary School	0	0	-1	-	

6 Average Year Alternative 1 Scenarios

Relative to the No Action Alternative, Alternative 1 would add three EA-18G aircraft to each Carrier Air Wing squadron and eight EA-18G aircraft to the FRS, as shown in Table 2-1. Section 6.1 details the flight operations. Section 6.2 presents the runway/flight track utilization, flight profiles, and derivation of AAD flight operations. Sections 6.3 and 6.4 contain the maintenance run-ups and resultant aircraft noise exposure.

6.1 Flight Operations

From the methodology described in Chapter 2, Tables 6-1 through 6-9 show the modeled flight operations for the average year for Alternative 1 under all scenarios. All of these five scenarios under Alternative 1 would have approximately 112,000 total annual flight operations for the complex. The EA-18G would dominate operations, with 87 percent of the complex's annual flight operations. Annual FCLP-related operations at the OLF would vary between 6,200 in Alternative 1, Scenario C, and 24,900 in Alternative 1, Scenario A. As shown in Tables 6-2, 6-4, and 6-10, approximately 15 percent and 21 percent, respectively, of the overall total flight operations and OLF FCLP operations would be conducted during the DNL nighttime period.

Relative to the average year No Action Alternative, Tables 6-1, 6-3, 6-5, 6-7, and 6-9 show that the complex's total annual flight operations would increase by approximately 26,000, with more than half due to increased FCLP operations.

The high-tempo FCLP year alternatives (Appendix A2) would have approximately 114,000 total annual flight operations for the complex, with the EA-18G generating 87 percent of the complex's annual flight operations.

Table 6-1 Summary of Annual Flight Operations for the Average Year Alternative 1A

		Alternative 1A (Average Year)			*Change from No Action*		
		Type of Flight Operation			*Type of Flight Operation*		
Airfield	*Aircraft Type or Category*	*FCLP [2, 3]*	*Other [4]*	*Total*	*FCLP [2, 5]*	*Other*	*Total*
Ault Field	EA-18G	6,100	67,000	73,100	-5,200	+14,000	+8,800
	Other Based	-	11,900	11,900	-	+300	+300
	Transient	-	2,300	2,300	-	-	-
	Subtotal	6,100	81,200	87,300	-5,200	+14,300	+9,100
OLF Coupeville [4]	EA-18G	24,900	-	24,900	+18,800	-	+18,800
	Other	-	400	400	-	-	-
	Subtotal	24,900	400	25,300	+18,800	-	+18,800
TOTAL (both airfields)		**31,000**	**81,600**	**112,600**	**+13,600**	**+14,300**	**+27,900**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.
2 Each closed pattern is counted as two operations.
3 For Growlers at the OLF, values include 3,102 interfacility (FCLP-related) operations; not shown separately.
4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.
5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 6-2 Detailed Annual Flight Operations for the Average Year Alternative 1A

Airfield	Aircraft	Squadron	Departure			Arrival										Interfacility													
						VFR SI/ Non-Break			Overhead Break				IFR			Departure to OLF				Break Arrival from OLF				Helo Departure to OLF			Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	7,592	419	8,011	2,751	86	2,837	4,463	0	184	4,647	517	11	528	483	212	279	974	787	0	187	974						
		FRS	5,627	384	6,011	2,158	315	2,473	2,376	320	594	3,290	218	31	249	291	154	119	564	489	0	77	566						
		RES	1,161	75	1,236	386	21	407	721	0	27	748	76	5	81	6	5	2	13	13	0	2	15						
		EXP	1,562	79	1,641	573	20	593	885	0	43	928	118	3	121	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,937	100	2,037	1,393	272	1,665	-	-	-	-	311	61	372														
	H60	SAR	388	-	388	388	-	388	-	-	-	-	-	-	-									91	-	91	91	-	91
	C-40	-	394	-	394	282	-	282	-	-	-	-	112	-	112														
	JET_LRG	-	413	102	515	382	99	481	-	-	-	-	25	9	34														
Total			**19,074**	**1,159**	**20,233**	**8,313**	**813**	**9,126**	**8,445**	**320**	**848**	**9,613**	**1,377**	**120**	**1,497**	**780**	**371**	**400**	**1,551**	**1,289**	**-**	**266**	**1,555**	**91**	**-**	**91**	**91**	**-**	**91**

Airfield	Aircraft	Squadron														Interfacility													
																Break Arrival from Ault				Departure to Ault				Helo Arrival from Ault			Helo Departure to Ault		
																Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW														787	-	187	974	483	212	279	974						
		FRS														489	-	77	566	291	154	119	564						
		RES														13	-	2	15	6	5	2	13						
	H60	SAR																						91	-	91	91	-	91
Total																**1,289**	**-**	**266**	**1,555**	**780**	**371**	**400**	**1,551**	**91**	**-**	**91**	**91**	**-**	**91**

Table 6-2 Detailed Annual Flight Operations for the Average Year Alternative 1A

Airfield	Aircraft	Squadron	Closed Pattern[1]															Grand Totals			
			FCLP				T&G				ReEnter			GCA/CCA						
			Day (0700-2200)		Night (2200-0700)		Day (0700-2200)		Night (2200-0700)		Day (0700-2200)	Night (2200-0700)		Day (0700-2200)	Night (2200-0700)		Day (0700-2200)		Night (2200-0700)	
			DL	DK	DK	Total	DL	DK	DK	Total			Total			Total	DL	DK	DK	Total
Ault Field	EA18	CVW	1,753	1,099	1,014	3,866	3,633	654	1,086	5,373	2,574	95	2,669	4,695	3,029	7,724	29,248	1,965	6,390	37,603
		FRS	1,358	462	320	2,140	3,641	731	1,016	5,388	-	-	0	4,716	1,028	5,744	20,874	1,667	3,884	26,425
		RES	94	25	20	139	532	10	19	561	435	13	448	522	43	565	3,946	40	227	4,213
		EXP	-	-	-	0	535	-	24	559	500	36	536	533	20	553	4,706	-	225	4,931
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,160	0	675	4,835	-	-	-	1,794	190	1,984	9,595	-	1,298	10,893
	H60	SAR					-	-	-	-	-	-	-	-	-	-	958	-	-	958
	C-40	-					328	-	-	328	-	-	-	164	-	164	1,280	-	-	1,280
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	820	-	210	1,030
Total			**3,205**	**1,586**	**1,354**	**6,145**	**12,829**	**1,395**	**2,820**	**17,044**	**3,509**	**144**	**3,653**	**12,424**	**4,310**	**16,734**	**71,427**	**3,672**	**12,234**	**87,333**
OLF	EA18	CVW	6,464	3,847	3,322	13,633											7,734	4,059	3,788	15,581
		FRS	3,879	2,701	1,329	7,909											4,659	2,855	1,525	9,039
		RES	91	88	28	207											110	93	32	235
	H60	SAR					184	-	-	184							366	-	-	366
Total			**10,434**	**6,636**	**4,679**	**21,749**	**184**	-	-	**184**							**12,869**	**7,007**	**5,345**	**25,221**
														Grand Totals (Ault+OLF)			**84,296**	**10,679**	**17,579**	**112,554**

Total Annual	**Ault =**	**6,145 (19.8%)**
EA-18G FCLP	**OLF =**	**24,855 (80.2%)**
Related Ops	**Total =**	**31,000**

Notes:

[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

Table 6-3 Summary of Annual Flight Operations for the Average Year Alternative 1B

		Alternative 1B (Average Year)			Change from No Action		
		Type of Flight Operation			Type of Flight Operation		
Airfield	Aircraft Type or Category	FCLP [2, 3]	Other [4]	Total	FCLP [2, 5]	Other	Total
Ault Field	EA-18G	15,500	65,600	81,100	+4,200	+12,600	+16,800
	Other Based	-	11,900	11,900	-	+300	+300
	Transient	-	2,300	2,300	-	-	-
	Subtotal	15,500	79,800	95,300	+4,200	+12,900	+17,100
OLF Coupeville [4]	EA-18G	15,500	-	15,500	+9,400	-	+9,400
	Other	-	400	400	-	-	-
	Subtotal	15,500	400	15,900	+9,400	-	+9,400
TOTAL (both airfields)		**31,000**	**80,200**	**111,200**	**+13,600**	**+12,900**	**+26,500**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.
2 Each closed pattern is counted as two operations.
3 For Growlers at the OLF, values include 1,944 interfacility (FCLP-related) operations; not shown separately.
4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.
5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 6-4 Detailed Annual Flight Operations for the Average Year Alternative 1B

Airfield	Aircraft	Squadron	Departure			Arrival											Interfacility													
						VFR SI/ Non-Break			Overhead Break				IFR			Departure to OLF				Break Arrival from OLF				Helo Departure to OLF			Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	7,502	438	7,940	2,695	82	2,777	4,459	-	176	4,635	516	12	528	306	146	160	612	500	-	112	612						
		FRS	5,590	374	5,964	2,134	307	2,441	2,369	322	596	3,287	205	31	236	178	94	75	347	298	-	48	346						
		RES	1,144	83	1,227	391	18	409	714	-	26	740	75	3	78	6	4	3	13	12	-	2	14						
		EXP	1,541	82	1,623	567	29	596	884	-	43	927	96	3	99	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,909	104	2,013	1,382	260	1,642	-	-	-	-	309	62	371														
	H60	SAR	385	-	385	385	-	385	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	390	-	390	280	-	280	-	-	-	-	110	-	110														
	JET_LRG	-	412	99	511	372	99	471	-	-	-	-	25	14	39														
Total			**18,873**	**1,180**	**20,053**	**8,206**	**795**	**9,001**	**8,426**	**322**	**841**	**9,589**	**1,336**	**125**	**1,461**	**490**	**244**	**238**	**972**	**810**	**-**	**162**	**972**	**90**	**-**	**90**	**90**	**-**	**90**

Airfield	Aircraft	Squadron															Interfacility													
																Break Arrival from Ault				Departure to Ault				Helo Arrival from Ault			Helo Departure to Ault		
																Day (700-2200) DL	DK	Night (2200-0700) DK	Total	Day (700-2200) DL	DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW														500	-	112	612	306	146	160	612						
		FRS														298	-	48	346	178	94	75	347						
		RES														12	-	2	14	6	4	3	13						
	H60	SAR																						90	-	90	90	-	90
Total																**1,289**	**-**	**810**	**-**	**162**	**972**	**490**	**244**	**238**	**972**	**90**	**-**	**90**	**90**

Table 6-4 Detailed Annual Flight Operations for the Average Year Alternative 1B

Airfield	*Aircraft*	*Squadron*	*Closed Pattern*[1]															*Grand Totals*			
			FCLP				*T&G*				*ReEnter*			*GCA/CCA*						
			Day (0700-2200)		*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*		*Day (0700-2200)*	*Night (2200-0700)*		*Day (0700-2200)*	*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*	
			DL	*DK*	*DK*	*Total*	*DL*	*DK*	*DK*	*Total*			*Total*			*Total*	*DL*	*DK*	*DK*	*Total*
Ault Field	EA18	CVW	4,427	2,776	2,559	9,762	3,633	654	1,086	5,373	2,574	95	2,669	4,695	3,029	7,724	31,307	3,576	7,749	42,632
		FRS	3,614	1,232	756	5,602	3,641	731	1,016	5,388	-	-	0	4,716	1,028	5,744	22,745	2,379	4,231	29,355
		RES	107	42	26	175	532	10	19	561	435	13	448	522	43	565	3,938	56	236	4,230
		EXP	-	-	-	0	535	-	24	559	500	36	536	533	20	553	4,656	-	237	4,893
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,271	-	634	4,905	-	-	-	1,849	173	2,022	9,720	-	1,233	10,953
	H60	SAR					-	-	-	-	-	-	-	-	-	-	950	-	-	950
	C-40	-					335	-	-	335	-	-	-	167	-	167	1,282	-	-	1,282
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	809	-	212	1,021
Total			**8,148**	**4,050**	**3,341**	**15,539**	**12,947**	**1,395**	**2,779**	**17,121**	**3,509**	**144**	**3,653**	**12,482**	**4,293**	**16,775**	**75,407**	**6,011**	**13,898**	**95,316**
OLF	EA18	CVW	4,082	2,551	1,926	8,559											4,888	2,697	2,198	9,783
		FRS	2,369	1,617	863	4,849											2,845	1,711	986	5,542
		RES	83	74	32	189											101	78	37	216
	H60	SAR					180	-	-	180							360	-	-	360
Total			**6,534**	**4,242**	**2,821**	**13,597**	**180**	**-**	**-**	**180**							**8,194**	**4,486**	**3,221**	**15,901**
														Grand Totals (Ault+OLF)			**83,601**	**10,497**	**17,119**	**111,217**

Total Annual	**Ault =**	**15,539 (50%)**
EA-18G FCLP	**OLF =**	**15,541 (50%)**
Related Ops	**Total =**	**31,080**

Notes:

[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

Table 6-5 Summary of Annual Flight Operations for the Average Year Alternative 1C

		Alternative 1C (Average Year)			*Change from No Action*		
		Type of Flight Operation			*Type of Flight Operation*		
Airfield	*Aircraft Type or Category*	*FCLP [2, 3]*	*Other [4]*	*Total*	*FCLP [2, 5]*	*Other*	*Total*
Ault Field	EA-18G	24,900	64,400	89,300	+13,600	+11,400	+25,000
	Other Based	-	11,600	11,600	-	-	-
	Transient	-	2,300	2,300	-	-	-
	Subtotal	24,900	78,300	103,200	+13,600	+11,400	+25,000
OLF Coupeville [4]	EA-18G	6,200	-	6,200	+100	-	+100
	Other	-	400	400	-	-	-
	Subtotal	6,200	400	6,600	+100	-	+100
TOTAL (both airfields)		**31,100**	**78,700**	**109,800**	**+13,700**	**+11,400**	**+25,100**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.

2 Each closed pattern is counted as two operations.

3 For Growlers at the OLF, values include 780 interfacility (FCLP-related) operations; not shown separately.

4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.

5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 6-6 Detailed Annual Flight Operations for the Average Year Alternative 1C

Airfield	Aircraft	Squadron	Departure			Arrival										Interfacility													
						VFR SI/ Non-Break			Overhead Break				IFR			Departure to OLF				Break Arrival from OLF				Helo Departure to OLF			Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)		Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)		Night (2200-0700)	Total	Day (0700-2200)		Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
									DL	DK	DK					DL	DK	DK		DL	DK	DK							
Ault Field	EA18	CVW	7,508	445	7,953	2,724	92	2,816	4,474	-	157	4,631	501	4	505	120	59	64	243	199	-	45	244						
		FRS	5,606	356	5,962	2,117	315	2,432	2,398	300	617	3,315	197	19	216	69	40	27	136	120	-	17	137						
		RES	1,139	89	1,228	392	21	413	707	-	30	737	77	1	78	6	3	2	11	9	-	2	11						
		EXP	1,543	81	1,624	565	25	590	888	-	47	935	97	3	100	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,929	95	2,024	1,397	267	1,664	-	-	-	-	306	54	360														
	H60	SAR	385	-	385	385	-	385	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	391	-	391	279	-	279	-	-	-	-	112	-	112														
	JET_LRG	-	407	104	511	372	100	472	-	-	-	-	23	14	37														
Total			**18,908**	**1,170**	**20,078**	**8,231**	**820**	**9,051**	**8,467**	**300**	**851**	**9,618**	**1,313**	**95**	**1,408**	**195**	**102**	**93**	**390**	**328**	**-**	**64**	**392**	**90**	**-**	**90**	**90**	**-**	**90**

Airfield	Aircraft	Squadron	Interfacility													
			Break Arrival from Ault				Departure to Ault				Helo Arrival from Ault			Helo Departure to Ault		
			Day (700-2200)		Night (2200-0700)	Total	Day (700-2200)		Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
			DL	DK	DK		DL	DK	DK							
OLF	EA18	CVW	199	-	45	244	120	59	64	243						
		FRS	120	-	17	137	69	40	27	136						
		RES	9	-	2	11	6	3	2	11						
	H60	SAR									90	-	90	90	-	90
Total			**328**	**-**	**64**	**392**	**195**	**102**	**93**	**390**	**90**	**-**	**90**	**90**	**-**	**90**

Table 6-6 Detailed Annual Flight Operations for the Average Year Alternative 1C

Airfield	Aircraft	Squadron	Closed Pattern[1]														Grand Totals			
			FCLP				T&G				ReEnter			GCA/CCA						
			Day (0700-2200)		Night (2200-0700)		Day (0700-2200)		Night (2200-0700)		Day (0700-2200)	Night (2200-0700)		Day (0700-2200)	Night (2200-0700)		Day (0700-2200)		Night (2200-0700)	
			DL	DK	DK	Total	DL	DK	DK	Total			Total			Total	DL	DK	DK	Total
Ault Field	EA18	CVW	7,067	3,828	4,714	15,609	3,633	654	1,086	5,373	2,574	95	2,669	4,695	3,029	7,724	33,495	4,541	9,731	47,767
		FRS	5,827	2,043	1,197	9,067	3,641	731	1,016	5,388	-	-	0	4,716	1,028	5,744	24,691	3,114	4,592	32,397
		RES	102	52	21	175	532	10	19	561	435	13	448	522	43	565	3,921	65	241	4,227
		EXP	-	-	-	0	535	-	24	559	500	36	536	533	20	553	4,661	-	236	4,897
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,069	-	600	4,669	-	-	-	1,761	160	1,921	9,462	-	1,176	10,638
	H60	SAR					-	-	-	-	-	-	-	-	-	-	950	-	-	950
	C-40	-					327	-	-	327	-	-	-	164	-	164	1,273	-	-	1,273
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	802	-	218	1,020
Total			**12,996**	**5,923**	**5,932**	**24,851**	**12,737**	**1,395**	**2,745**	**16,877**	**3,509**	**144**	**3,653**	**12,391**	**4,280**	**16,671**	**79,255**	**7,720**	**16,194**	**103,169**
OLF	EA18	CVW	1,609	1,026	769	3,404											1,928	1,085	878	3,891
		FRS	920	680	303	1,903											1,109	720	347	2,176
		RES	65	43	30	138											80	46	34	160
	H60	SAR					181	-	-	181							361	-	-	361
Total			**2,594**	**1,749**	**1,102**	**5,445**	**181**	**-**	**-**	**181**							**3,478**	**1,851**	**1,259**	**6,588**
														Grand Totals (Ault+OLF)			**82,733**	**9,571**	**17,453**	**109,757**

Total Annual EA-18G FCLP Related Ops
Ault = 24,851 (80%)
OLF = 6,227 (20%)
Total = 31,078

Notes:
1 Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:
CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

Table 6-7 Summary of Annual Flight Operations for the Average Year Alternative 1D

Airfield	Aircraft Type or Category	Alternative 1D (Average Year) Type of Flight Operation FCLP [2, 3]	Other [4]	Total	Change from No Action Type of Flight Operation FCLP [2, 5]	Other	Total
Ault Field	EA-18G	9,200	66,600	75,800	-2,100	+13,600	+11,500
	Other Based	-	11,900	11,900	-	+300	+300
	Transient	-	2,300	2,300	-	-	-
	Subtotal	9,200	80,800	90,000	-2,100	+13,900	+11,800
OLF Coupeville [4]	EA-18G	21,800	-	21,800	+15,700	-	+15,700
	Other	-	400	400	-	-	-
	Subtotal	21,800	400	22,200	+15,700	-	+15,700
TOTAL (both airfields)		**31,000**	**81,200**	**112,200**	**+13,600**	**+13,900**	**+27,500**

Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.

Each closed pattern is counted as two operations.

For Growlers at the OLF, values include 2,716 interfacility (FCLP-related) operations; not shown separately.

For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.

No Action excludes 900 interfacility Growler operations (FCLP related).

Table 6-8 Detailed Annual Flight Operations for the Average Year Alternative 1D

Airfield	Aircraft	Squadron	Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	Arrival VFR SI/ Non-Break Day (0700-2200)	Arrival VFR SI/ Non-Break Night (2200-0700)	Arrival VFR SI/ Non-Break Total	Arrival Overhead Break Day (0700-2200) DL	Arrival Overhead Break Day (0700-2200) DK	Arrival Overhead Break Night (2200-0700) DK	Arrival Overhead Break Total	Arrival IFR Day (0700-2200)	Arrival IFR Night (2200-0700)	Arrival IFR Total	Interfacility Departure to OLF Day (0700-2200) DL	Interfacility Departure to OLF Day (0700-2200) DK	Interfacility Departure to OLF Night (2200-0700) DK	Interfacility Departure to OLF Total	Interfacility Break Arrival from OLF Day (0700-2200) DL	Interfacility Break Arrival from OLF Day (0700-2200) DK	Interfacility Break Arrival from OLF Night (2200-0700) DK	Interfacility Break Arrival from OLF Total	Interfacility Helo Departure to OLF Day (0700-2200)	Interfacility Helo Departure to OLF Night (2200-0700)	Interfacility Helo Departure to OLF Total	Interfacility Helo Arrival from OLF Day (0700-2200)	Interfacility Helo Arrival from OLF Night (2200-0700)	Interfacility Helo Arrival from OLF Total
Ault Field	EA18	CVW	7,592	419	8,011	2,751	86	2,837	4,463	-	184	4,647	517	11	528	423	186	244	853	689	-	164	853						
		FRS	5,627	384	6,011	2,158	315	2,473	2,376	320	594	3,290	218	31	249	255	135	104	494	428	-	67	495						
		RES	1,161	75	1,236	386	21	407	721	-	27	748	76	5	81	5	4	2	11	11	-	2	13						
		EXP	1,562	79	1,641	573	20	593	885	-	43	928	118	3	121	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,937	100	2,037	1,393	272	1,665	-	-	-	-	311	61	372														
	H60	SAR	388	-	388	388	-	388	-	-	-	-	-	-	-									91	-	91	91	-	91
	C-40	-	394	-	394	282	-	282	-	-	-	-	112	-	112														
	JET_LRG	-	413	102	515	382	99	481	-	-	-	-	25	9	34														
Total			**19,074**	**1,159**	**20,233**	**8,313**	**813**	**9,126**	**8,445**	**320**	**848**	**9,613**	**1,377**	**120**	**1,497**	**683**	**325**	**350**	**1,358**	**1,128**	**-**	**233**	**1,361**	**91**	**-**	**91**	**91**	**-**	**91**

Airfield	Aircraft	Squadron	Interfacility Break Arrival from Ault Day (700-2200) DL	Interfacility Break Arrival from Ault Day (700-2200) DK	Interfacility Break Arrival from Ault Night (2200-0700) DK	Interfacility Break Arrival from Ault Total	Interfacility Departure to Ault Day (700-2200) DL	Interfacility Departure to Ault Day (700-2200) DK	Interfacility Departure to Ault Night (2200-0700) DK	Interfacility Departure to Ault Total	Interfacility Helo Arrival from Ault Day (0700-2200)	Interfacility Helo Arrival from Ault Night (2200-0700)	Interfacility Helo Arrival from Ault Total	Interfacility Helo Departure to Ault Day (0700-2200)	Interfacility Helo Departure to Ault Night (2200-0700)	Interfacility Helo Departure to Ault Total
OLF	EA18	CVW	689	-	164	853	423	186	244	853						
		FRS	428	-	67	495	255	135	104	494						
		RES	11	-	2	13	5	4	2	11						
	H60	SAR									91	-	91	91	-	91
Total			**1,128**	**-**	**233**	**1,361**	**683**	**325**	**350**	**1,358**	**91**	**-**	**91**	**91**	**-**	**91**

Table 6-8 Detailed Annual Flight Operations for the Average Year Alternative 1D

Airfield	Aircraft	Squadron	Closed Pattern[1]														Grand Totals			
			FCLP				T&G				ReEnter			GCA/CCA						
			Day (0700-2200)		Night (2200-0700)		Day (0700-2200)		Night (2200-0700)		Day (0700-2200)	Night (2200-0700)		Day (0700-2200)	Night (2200-0700)		Day (0700-2200)		Night (2200-0700)	
			DL	DK	DK	Total	DL	DK	DK	Total			Total			Total	DL	DK	DK	Total
Ault Field	EA18	CVW	2,630	1,649	1,521	5,800	3,633	654	1,086	5,373	2,574	95	2,669	4,695	3,029	7,724	29,967	2,489	6,839	39,295
		FRS	2,037	693	480	3,210	3,641	731	1,016	5,388	-	-	0	4,716	1,028	5,744	21,456	1,879	4,019	27,354
		RES	141	38	30	209	532	10	19	561	435	13	448	522	43	565	3,990	52	237	4,279
		EXP	-	-	-	0	535	-	24	559	500	36	536	533	20	553	4,706	-	225	4,931
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,160	-	675	4,835	-	-	-	1,794	190	1,984	9,595	-	1,298	10,893
	H60	SAR					-	-	-	-	-	-	-	-	-	-	958	-	-	958
	C-40	-					328	-	-	328	-	-	-	164	-	164	1,280	-	-	1,280
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	820	-	210	1,030
Total			**4,808**	**2,380**	**2,031**	**9,219**	**12,829**	**1,395**	**2,820**	**17,044**	**3,509**	**144**	**3,653**	**12,424**	**4,310**	**16,734**	**72,772**	**4,420**	**12,828**	**90,020**
OLF	EA18	CVW	5,656	3,366	2,907	11,929											6,768	3,552	3,315	13,635
		FRS	3,394	2,363	1,163	6,920											4,077	2,498	1,334	7,909
		RES	80	77	25	182											96	81	29	206
	H60	SAR					184	-	-	184							366	-	-	366
Total			**9,130**	**5,806**	**4,095**	**19,031**	**184**	**-**	**-**	**184**							**11,307**	**6,131**	**4,678**	**22,116**
														Grand Totals (Ault+OLF)			**84,079**	**10,551**	**17,506**	**112,136**

Total Annual	**Ault =**	**9,219 (29.8%)**
EA-18G FCLP	**OLF =**	**21,750 (70.2%)**
Related Ops	**Total =**	**30,969**

Notes:

[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

Table 6-9 Summary of Annual Flight Operations for the Average Year Alternative 1E

		Alternative 1E (Average Year)			*Change from No Action*		
		Type of Flight Operation			*Type of Flight Operation*		
Airfield	*Aircraft Type or Category*	*FCLP [2, 3]*	*Other [4]*	*Total*	*FCLP [2, 5]*	*Other*	*Total*
Ault Field	EA-18G	21,700	64,800	86,500	+10,400	+11,800	+22,200
	Other Based	-	11,600	11,600	-	-	-
	Transient	-	2,300	2,300	-	-	-
	Subtotal	21,700	78,700	100,400	+10,400	+11,800	+22,200
OLF Coupeville [4]	EA-18G	9,300	-	9,300	+3,200	-	+3,200
	Other	-	400	400	-	-	-
	Subtotal	9,300	400	9,700	+3,200	-	+3,200
TOTAL (both airfields)		**31,000**	**79,100**	**110,100**	**+13,600**	**+11,800**	**+25,400**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.

2 Each closed pattern is counted as two operations.

3 For Growlers at the OLF, values include 1,174 interfacility (FCLP-related) operations; not shown separately.

4 For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.

5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 6-10 Detailed Annual Flight Operations for the Average Year Alternative 1E

Airfield	Aircraft	Squadron	Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	Arrival VFR SI/ Non-Break Day (0700-2200)	Arrival VFR SI/ Non-Break Night (2200-0700)	Arrival VFR SI/ Non-Break Total	Arrival Overhead Break Day (0700-2200) DL	Arrival Overhead Break Day (0700-2200) DK	Arrival Overhead Break Night (2200-0700) DK	Arrival Overhead Break Total	Arrival IFR Day (0700-2200)	Arrival IFR Night (2200-0700)	Arrival IFR Total	Interfacility Departure to OLF Day (0700-2200) DL	Interfacility Departure to OLF Day (0700-2200) DK	Interfacility Departure to OLF Night (2200-0700) DK	Interfacility Departure to OLF Total	Interfacility Break Arrival from OLF Day (0700-2200) DL	Interfacility Break Arrival from OLF Day (0700-2200) DK	Interfacility Break Arrival from OLF Night (2200-0700) DK	Interfacility Break Arrival from OLF Total	Helo Departure to OLF Day (0700-2200)	Helo Departure to OLF Night (2200-0700)	Helo Departure to OLF Total	Helo Arrival from OLF Day (0700-2200)	Helo Arrival from OLF Night (2200-0700)	Helo Arrival from OLF Total
Ault Field	EA18	CVW	7,508	445	7,953	2,724	92	2,816	4,474	-	157	4,631	501	4	505	180	89	96	365	299	-	68	367						
		FRS	5,606	356	5,962	2,117	315	2,432	2,398	300	617	3,315	197	19	216	104	60	41	205	180	-	26	206						
		RES	1,139	89	1,228	392	21	413	707	-	30	737	77	1	78	9	5	3	17	14	-	3	17						
		EXP	1,543	81	1,624	565	25	590	888	-	47	935	97	3	100	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,929	95	2,024	1,397	267	1,664	-	-	-	-	306	54	360														
	H60	SAR	385	-	385	385	-	385	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	391	-	391	279	-	279	-	-	-	-	112	-	112														
	JET_LRG	-	407	104	511	372	100	472	-	-	-	-	23	14	37														
Total			**18,908**	**1,170**	**20,078**	**8,231**	**820**	**9,051**	**8,467**	**300**	**851**	**9,618**	**1,313**	**95**	**1,408**	**293**	**154**	**140**	**587**	**493**	**-**	**97**	**590**	**90**	**-**	**90**	**90**	**-**	**90**

Airfield	Aircraft	Squadron	Interfacility Break Arrival from Ault Day (700-2200) DL	Interfacility Break Arrival from Ault Day (700-2200) DK	Interfacility Break Arrival from Ault Night (2200-0700) DK	Interfacility Break Arrival from Ault Total	Interfacility Departure to Ault Day (700-2200) DL	Interfacility Departure to Ault Day (700-2200) DK	Interfacility Departure to Ault Night (2200-0700) DK	Interfacility Departure to Ault Total	Helo Arrival from Ault Day (0700-2200)	Helo Arrival from Ault Night (2200-0700)	Helo Arrival from Ault Total	Helo Departure to Ault Day (0700-2200)	Helo Departure to Ault Night (2200-0700)	Helo Departure to Ault Total
OLF	EA18	CVW	299	-	68	367	180	89	96	365						
		FRS	180	-	26	206	104	60	41	205						
		RES	14	-	3	17	9	5	3	17						
	H60	SAR									90	-	90	90	-	90
Total			**493**	**-**	**97**	**590**	**293**	**154**	**140**	**587**	**90**	**-**	**90**	**90**	**-**	**90**

Table 6-10 Detailed Annual Flight Operations for the Average Year Alternative 1E

Airfield	*Aircraft*	*Squadron*	*Closed Pattern[1]*														*Grand Totals*			
			FCLP				*T&G*				*ReEnter*			*GCA/CCA*						
			Day (0700-2200)		*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*								*Day (0700-2200)*		*Night (2200-0700)*	
			DL	*DK*	*DK*	*Total*	*DL*	*DK*	*DK*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*DL*	*DK*	*DK*	*Total*
Ault Field	EA18	CVW	6,184	3,350	4,125	13,659	3,633	654	1,086	5,373	2,574	95	2,669	4,695	3,029	7,724	32,772	4,093	9,197	46,062
		FRS	5,099	1,788	1,047	7,934	3,641	731	1,016	5,388	-	-	0	4,716	1,028	5,744	24,058	2,879	4,465	31,402
		RES	89	46	18	153	532	10	19	561	435	13	448	522	43	565	3,916	61	240	4,217
		EXP	-	-	-	0	535	-	24	559	500	36	536	533	20	553	4,661	-	236	4,897
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,069	-	600	4,669	-	-	-	1,761	160	1,921	9,462	-	1,176	10,638
	H60	SAR					-	-	-	-	-	-	-	-	-	-	950	-	-	950
	C-40	-					327	-	-	327	-	-	-	164	-	164	1,273	-	-	1,273
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	802	-	218	1,020
Total			**11,372**	**5,184**	**5,190**	**21,746**	**12,737**	**1,395**	**2,745**	**16,877**	**3,509**	**144**	**3,653**	**12,391**	**4,280**	**16,671**	**77,894**	**7,033**	**15,532**	**100,459**
OLF	EA18	CVW	2,414	1,539	1,154	5,107											2,893	1,628	1,318	5,839
		FRS	1,380	1,020	455	2,855											1,664	1,080	522	3,266
		RES	98	65	45	208											121	70	51	242
	H60	SAR					181	-	-	181							361	-	-	361
Total			**3,892**	**2,624**	**1,654**	**8,170**	**181**	**-**	**-**	**181**							**5,039**	**2,778**	**1,891**	**9,708**
														Grand Totals (Ault+OLF)			**82,933**	**9,811**	**17,424**	**110,167**

Total Annual	**Ault =**	**21,746 (69.9%)**
EA-18G FCLP	**OLF =**	**9,347 (30.1%)**
Related Ops	**Total =**	**31,093**

Notes:

1 Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

6.1.1 Standard Pattern

The Proposed Action involves modifications to the FCLP patterns at OLF Coupeville primarily due to the non-standard pattern on Runway 14. The narrower pattern on Runway 14 requires an unacceptably steep bank angle for the Growler due to its performance differences from the Prowler's flight capabilities, resulting in limited use of Runway 14. The modifications of the FCLP patterns will also maintain the same pattern for both day and night operations as opposed to the current operations, which change the pattern between day and night. A comparison of the current and proposed (for all alternatives) FCLP patterns is provided in Figure 6-1 for Runway 14 and Figure 6-2 for Runway 32. The proposed flight profile will be similar to the current one, with the downwind leg having a 600-foot altitude relative to the runway. These new patterns will be used to improve the standardization of training and enable greater use of Runway 14. The standard FCLP patterns will result in runway use percentages based on the prevailing winds rather than aircraft performance and quality of training.

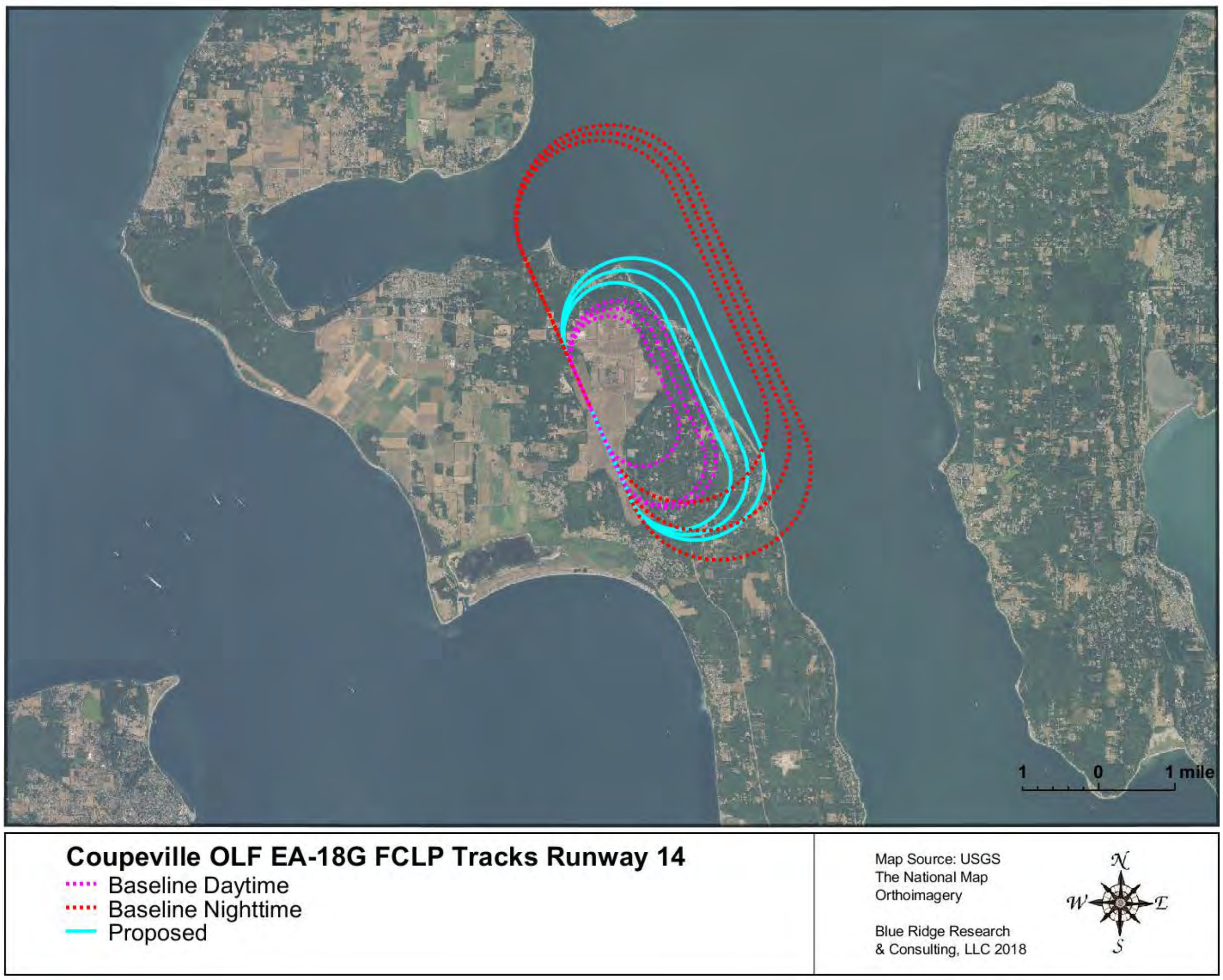

Figure 6-1 Comparison of Baseline and Proposed FCLP Pattern for Runway 14 at OLF Coupeville

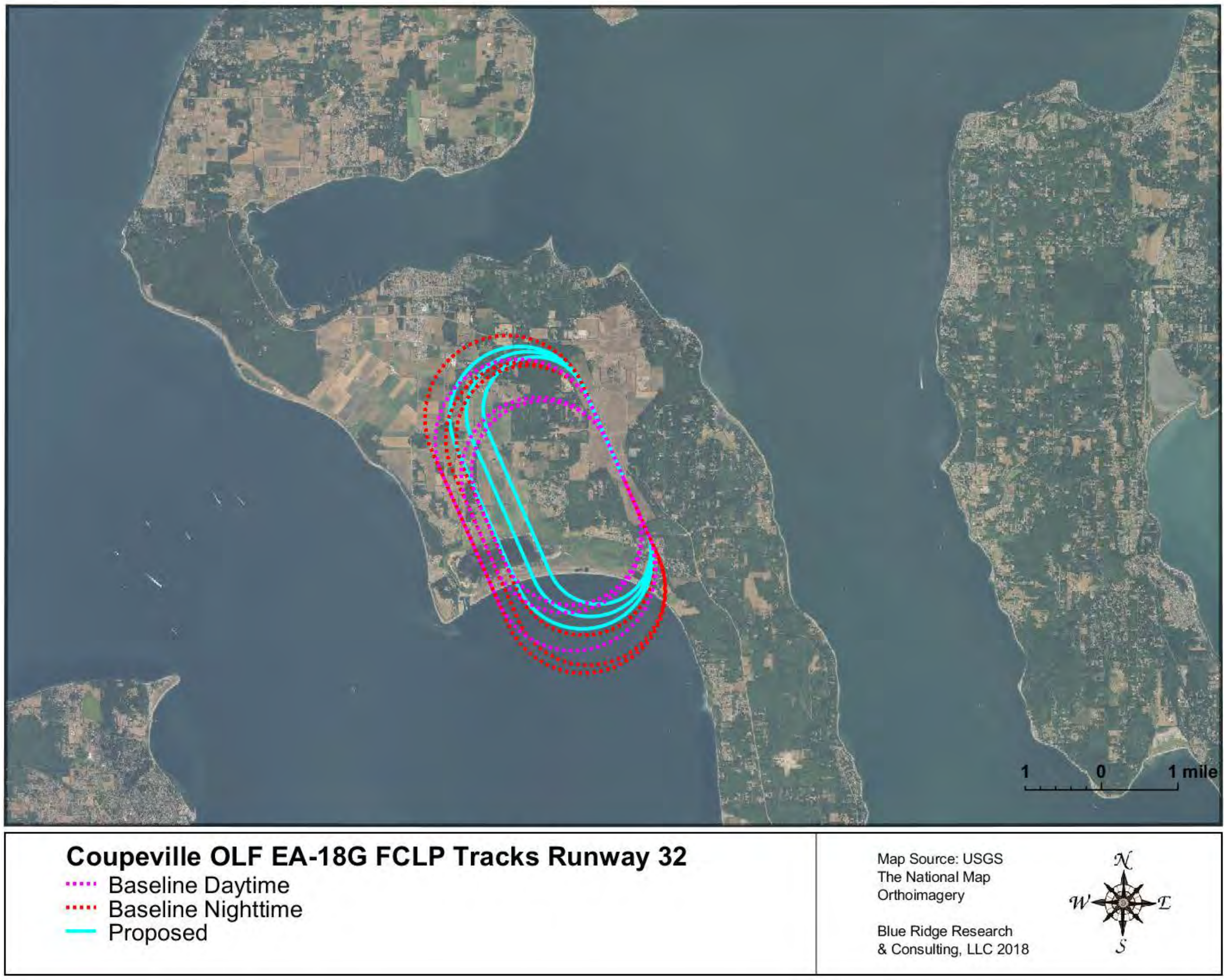

Figure 6-2 Comparison of Baseline and Proposed FCLP Pattern for Runway 32 at OLF Coupeville

6.2 Other Modeling Parameters

Appendix A3 contains tables of runway utilization percentages as extracted from the NASMOD study output. Flight tracks and their utilization would be identical to the No Action Alternative except for the overhead break/pattern portion of the interfacility arrival tracks to the OLF and the FCLPs at the OLF. The primary changes in these tracks are the abeam distances (shortened compared to the No Action Alternative). Modeled flight tracks are depicted in Appendix A4.

Flight profiles would be identical to those of the No Action Alternative except for the adjustments made to the aforementioned revised overhead break/pattern and FCLP flight tracks. The representative profiles for each modeled aircraft type are contained in Appendix A5.

Depending on whether scenario A, B, C, D, or E is selected, Alternative 1 would have between approximately 180 and 198 AAD flight events at Ault Field and between approximately 11 and 39 AAD flight events at the OLF. For the high-tempo FCLP year, Alternative 1 would have between approximately 181 and 201 AAD flight events at Ault Field and between approximately 12 and 43 AAD flight events at the OLF.

6.3 Run-up Operations

Table 6-11 lists the modeled run-ups with their locations depicted on Figure 5-1. For average year Alternative 1, numbers of annual run-up events for the EA-18G were scaled proportionally to the change in number of based aircraft compared to the average year No Action Alternative.

For the high-tempo FCLP year Alternative 1, it was assumed the run-ups would not change compared to those of average year Alternative 1.

Table 6-11 Modeled Run-Up Operations and Profiles for Alternatives 1 through 3

Modeled Maintenance Run-up Operations at NAS Whidbey Island for No Action Max Year and Average Year Scenario

					Alternative			*Percentage During*		*Power Setting*			
Aircraft Type	*Engine Type*	*Run-up Type*	*Pad ID*	*Magnetic Heading (degrees)*	*1*	*2*	*3*	*Day (0700 - 2200)*	*Night (2200 - 0700)*	*Reported*	*Modeled (if different)*	*Duration of Each Event (Minutes)*	*No. of Engines Running (each event)*
EA-18G	F414-GE-400	Water Wash	Lo-Pwr1 Lo-Pwr2 Lo-Pwr3 (2)	135/315	117	118	118	45%	55%	Ground Idle	65% NC	10	1
		Low power	Lo-Pwr1 Lo-Pwr2 Lo-Pwr3 (2)	135/315	1755	1770	1770	45%	55%	Ground Idle	65% NC	30	1
					3510	3540	3540			Ground Idle	65% NC	30	2
		High Power	50% Hi-Pwr1 / 50% Hi-Pwr2	311 (Hi-Pwr1) / 127 (Hi-Pwr2)	936	944	944	90%	10%	Ground Idle	65% NC	25	2
										80%NC	80% NC	10	2
										Mil	96% NC	3	2
										AB	A/B	3	2
P-8A	CFM56-7B-24	Leak Check	50% Lo-Pwr4 / 50% Lo-Pwr5	126	24			75%	25%	5400 Lbs		5	2
		Pressure Check		126	12					5400 Lbs		12	2
		Leak Check	Runway Hold (3)	100 (Rwy14); 270 (Rwy25); 330 (Rwy32); 140 (Rwy07)	24					5400 Lbs		5	2
		Pressure Check			12					5400 Lbs		12	2

Notes:

1 EA-18G events increase proportionally with number of aircraft for Alternatives

2 Run-up events split 50% Lo-Pwr1, 30% Lo-Pwr2, and 20% Lo-Pwr3

3 Runway Hold Run-ups split 50% Runway 32, 40% Runway 25, 5% Runway 07, and 5% Runway 14

6.4 Aircraft Noise Exposure

Using the data described in Sections 6.1 through 6.3, NOISEMAP was used to calculate and plot the 55 dB through 95 dB DNL contours, in 5-dB increments, for the AAD events for the average year for Alternative 1 under all scenarios. Figures 6-3 through 6-7 show the resulting DNL contours.

At Ault Field, the DNL contours for the average year for Alternatives 1 under all scenarios would vary by roughly 1,000 feet of each other. The 65 dB contour surrounding Ault Field would extend approximately 7 to 13 miles from the runway endpoints. The location of these lobes would be primarily attributable to the EA-18G on the approach portion of GCA patterns. The 65 dB DNL contour would extend approximately 2 miles past the eastern shore of the mainland across Skagit Bay, primarily due to EA-18G GCA and VFR approaches. The 80 dB DNL contour would extend approximately 4 miles to the east outside the station boundary, primarily due to EA-18G GCA and VFR approaches descending from 1,800 feet AGL, as well as the GCA patterns. The 90 dB contour would extend approximately a half mile to the east beyond the station boundary.

The DNL exposure at the OLF would be attributable to the OLF's FCLP operations. The 65 dB contours would extend 2.2 to 2.8 miles north of the OLF's runway. The 65 dB contours would extend 2.5 to 3.1 miles south of the OLF's runway.

As an overview comparison map, Figure 6-8 compares the 65 dB DNL contours of the average year Alternative 1 under all scenarios to the 65 dB DNL contours of the No Action Alternative. Because FCLPs comprise the majority of operations at the OLF, changes in location of FCLPs between Ault Field and OLF cause a larger difference in DNL contours at the OLF from one scenario to the next.

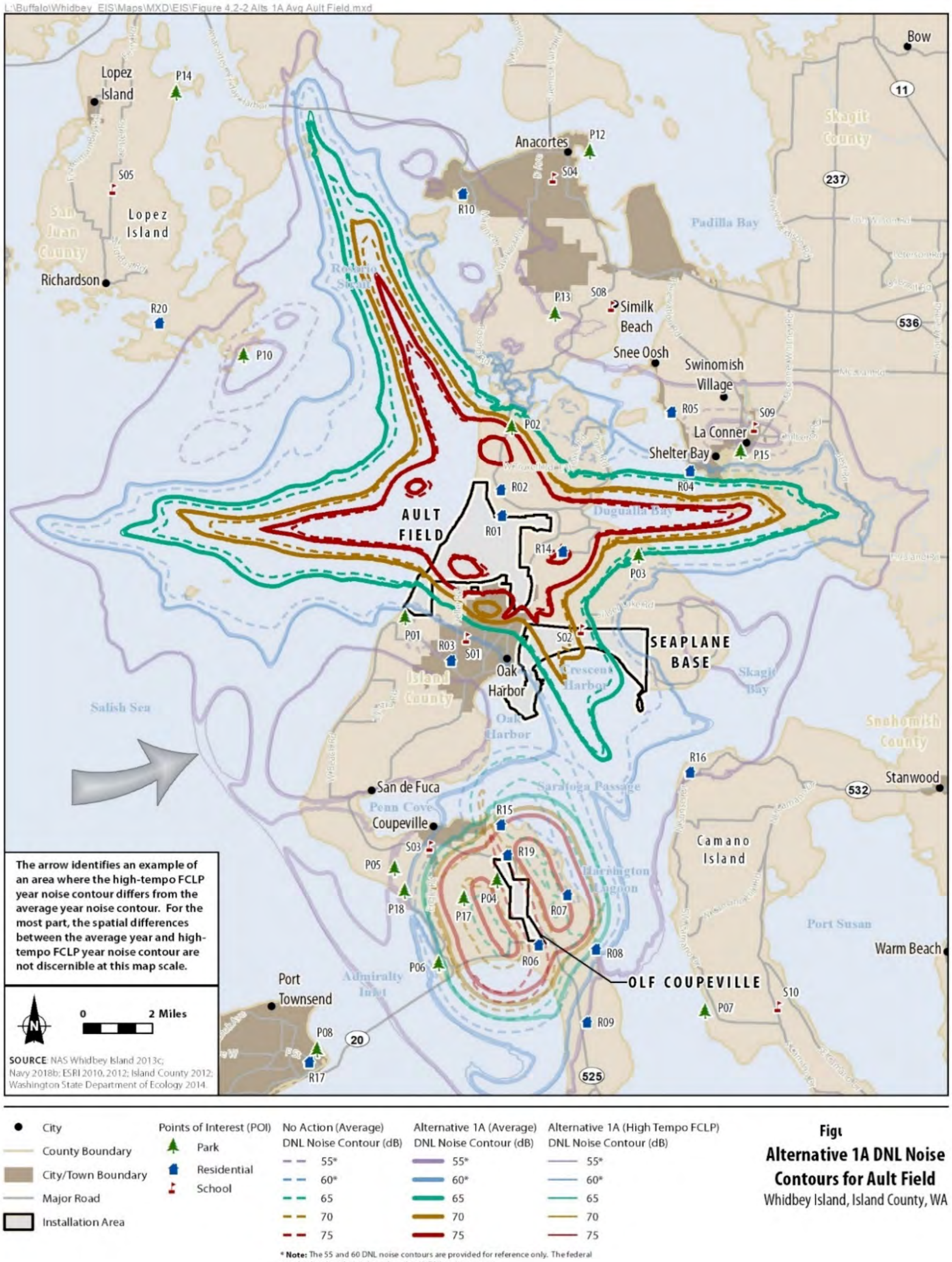

Figure 6-3 DNL Contours for AAD Aircraft Events for the Average Year Alternative 1A

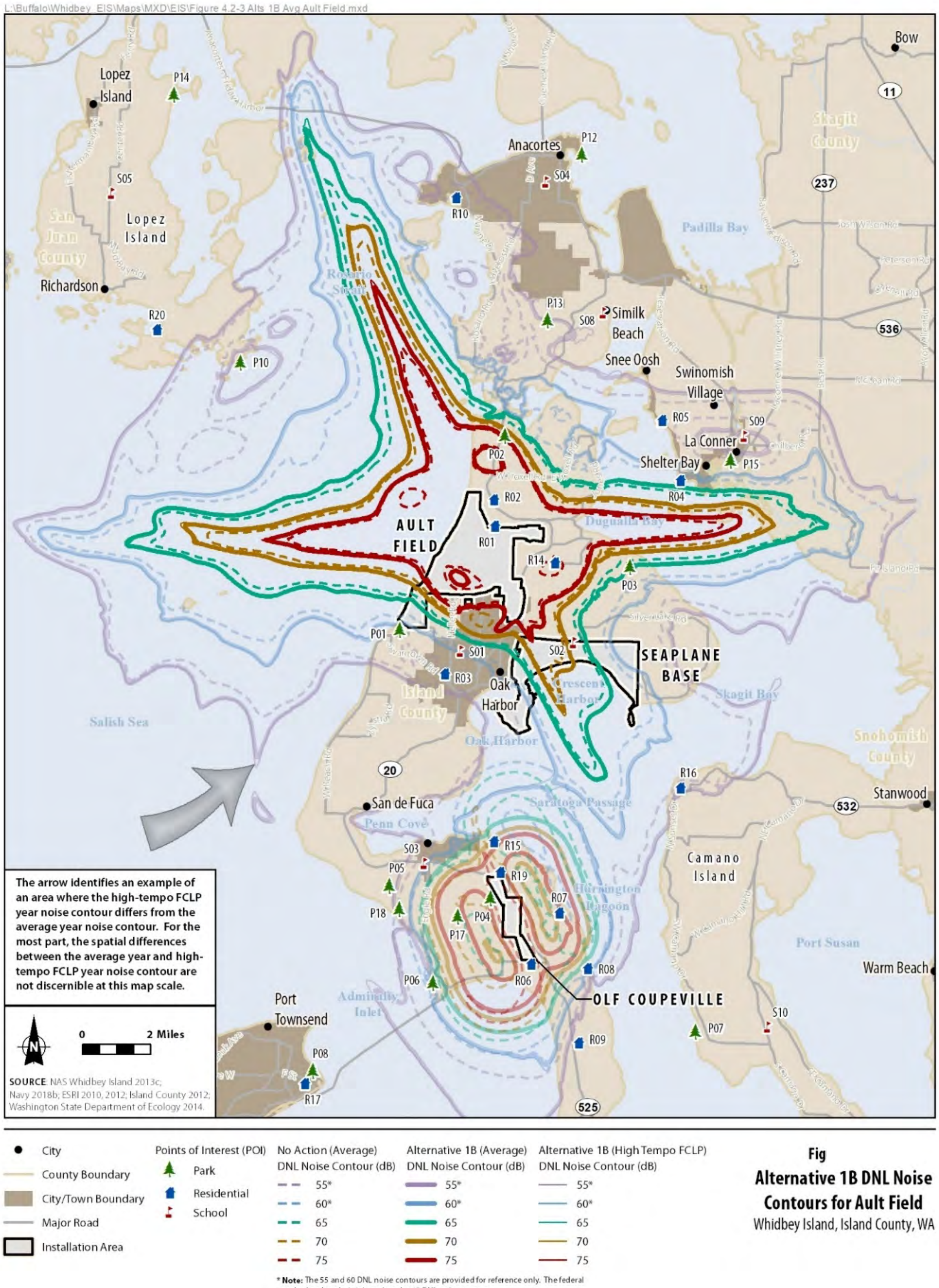

Figure 6-4 DNL Contours for AAD Aircraft Events for the Average Year Alternative 1B

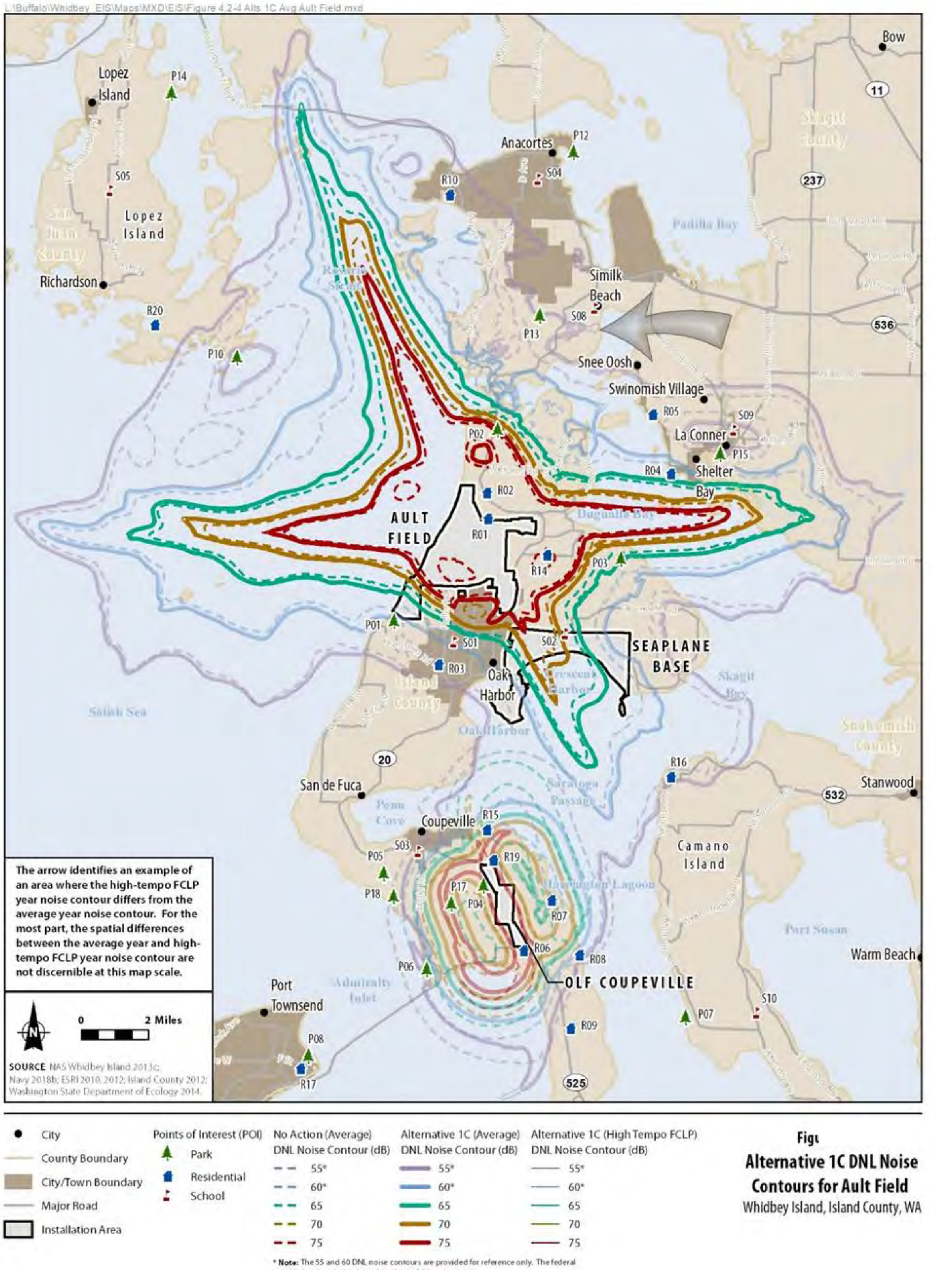

Figure 6-5 DNL Contours for AAD Aircraft Events for the Average Year Alternative 1C

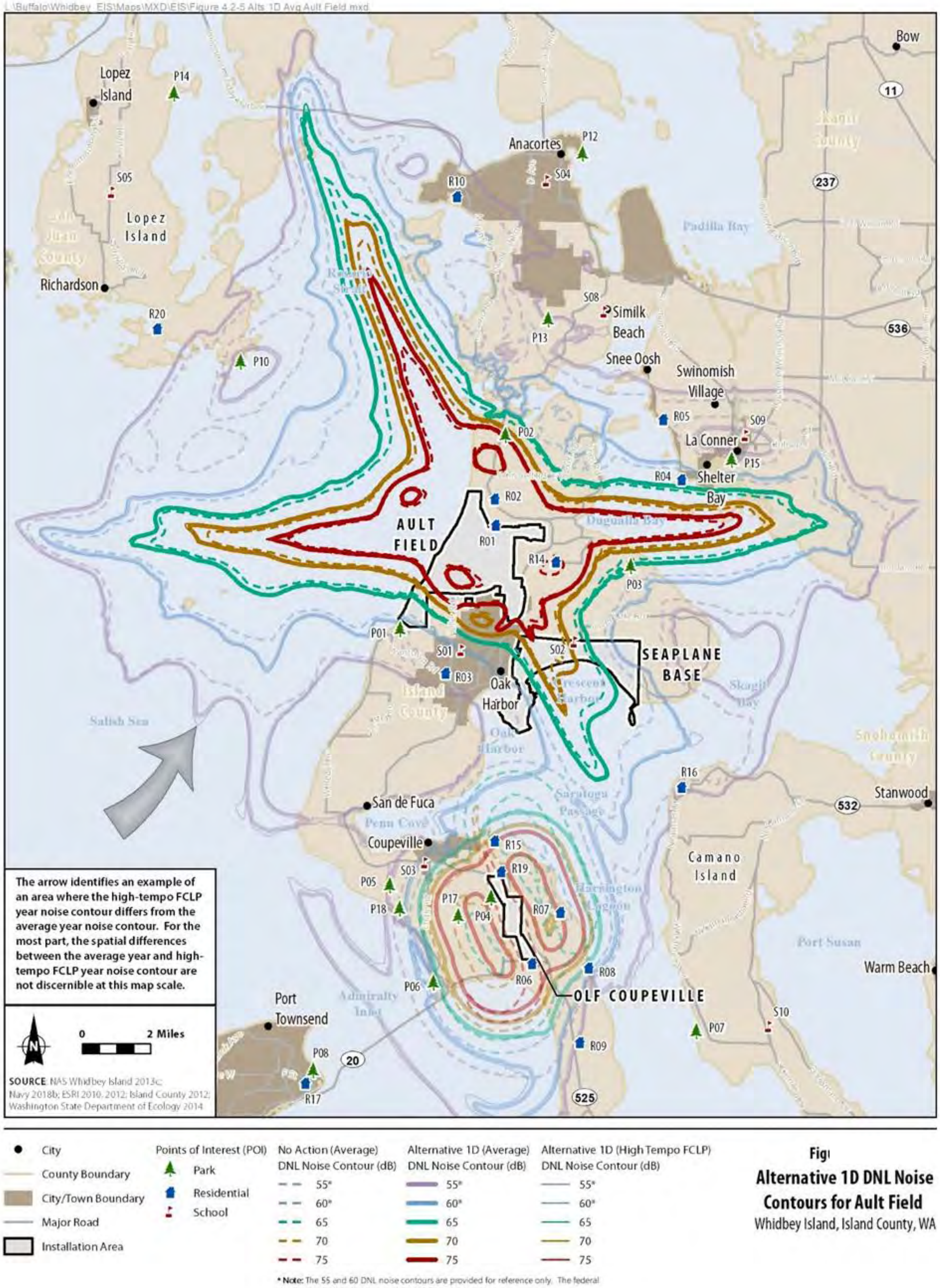

Figure 6-6 DNL Contours for AAD Aircraft Events for the Average Year Alternative 1D

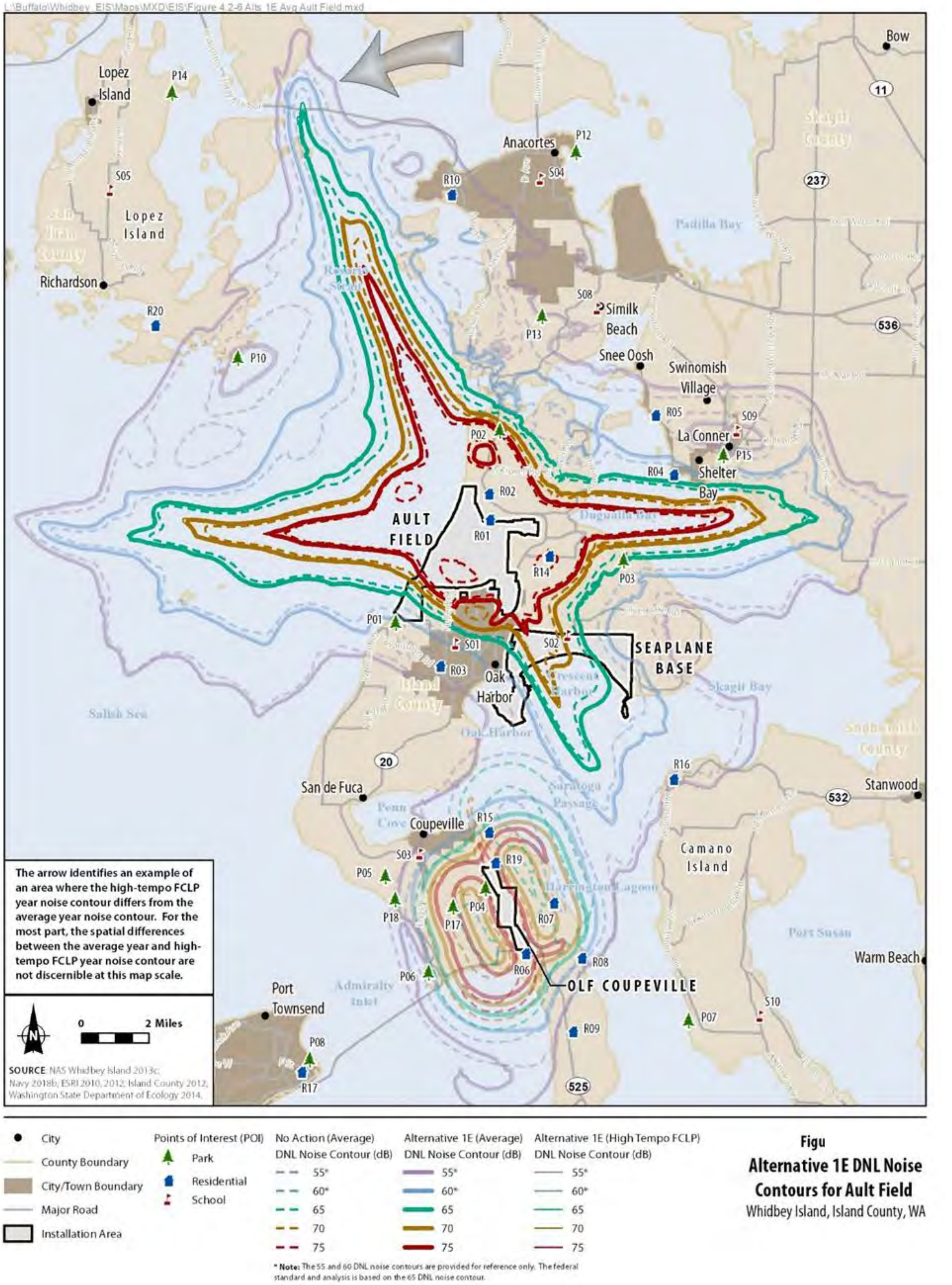

Figure 6-7 DNL Contours for AAD Aircraft Events for the Average Year Alternative 1E

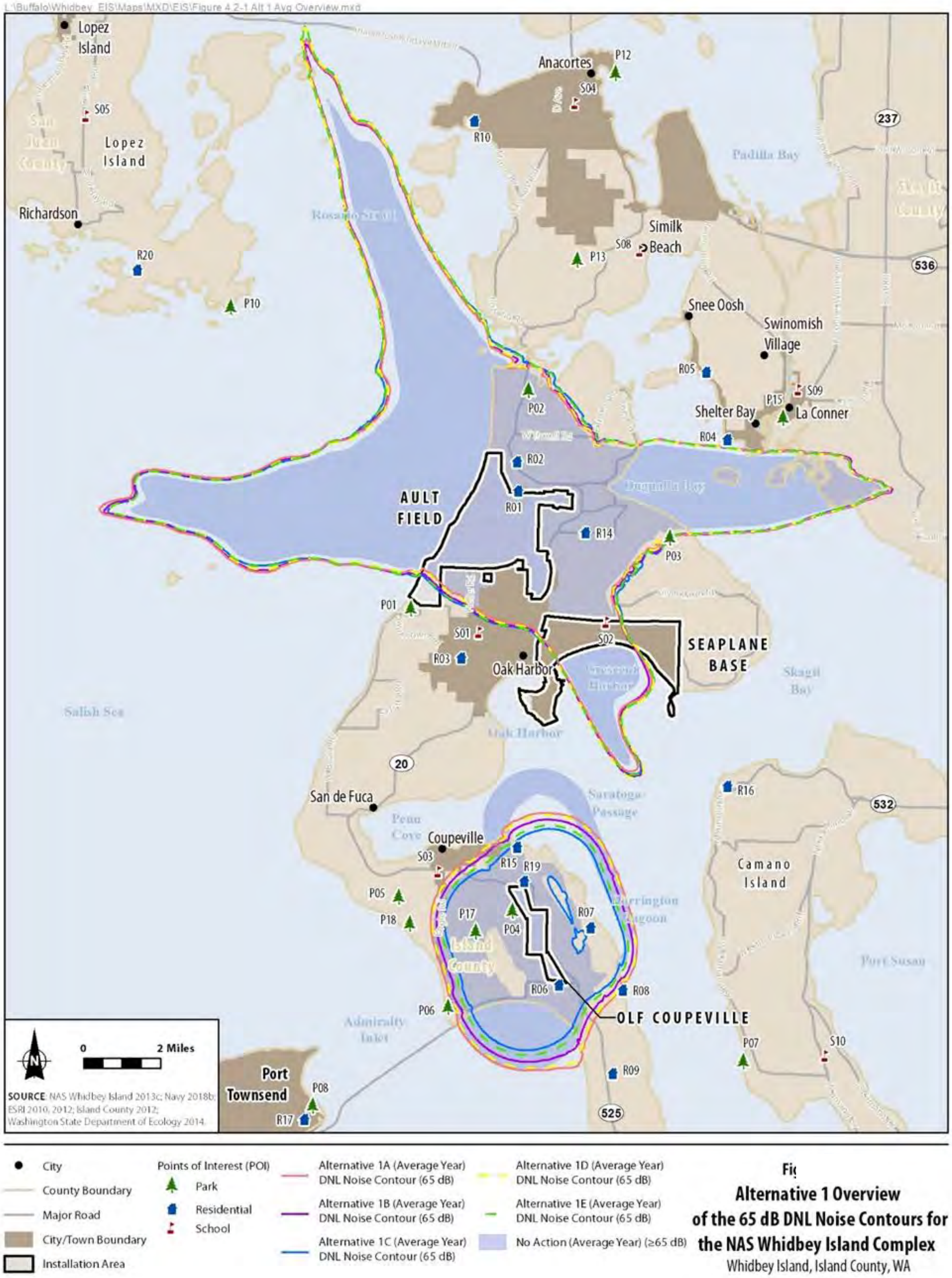

Figure 6-8 Comparison of 65 dB DNL Contours for Average Year Alternatives and the No Action Alternative

Table 6-12 depicts the estimated off-station population exposed to DNL greater than or equal to 65 dB and its change compared to the No Action Alternative. Overall, the affected population would increase by 13 percent to 17 percent, with the smallest increase occurring under Alternative 1, Scenario A, and the largest under Alternative 1, Scenarios B and E.

Under the high-tempo FCLP year Alternative 1 (Appendix A7), the population exposed to DNL greater than or equal to 65 dB would increase by 15 percent to 19 percent, with the smallest increase occurring under high-tempo FCLP year Alternative 1, Scenario A, and the largest attributable to high-tempo FCLP year Alternative 1, Scenarios C and E. As shown in Table 6-13, the population exposed to DNL greater than or equal to 65 dB would, on average, be 2 percent higher than the average year Alternative 1.

Table 6-12 Estimated Acreage and Population within the DNL Contour Ranges[1] for the NAS Whidbey Island Complex, Alternative 1 (Average Year)[2,3]

	DNL Contour Ranges							
	65 to <70 dB DNL		70 to <75 dB DNL		Greater than or equal to 75 dB DNL		Total	
	Area (acres)	Pop[4]	Area (acres)	Pop[4]	Area (acres)	Pop[4]	Area (acres)	Pop[4]
Ault Field								
No Action Alternative								
Average Year	3,596	3,279	3,269	2,283	5,549	3,379	12,414	8,941
Alternative 1								
Scenario A (20/80 FCLP split)	4,033 (+437)	3,684 (+405)	3,259 (-10)	1,908 (-375)	5,934 (+385)	3,518 (+139)	13,226 (+812)	9,110 (+169)
Scenario B (50/50 FCLP split)	3,922 (+326)	3,619 (+340)	3,271 (+2)	2,450 (+167)	6,423 (+874)	3,786 (+407)	13,616 (+1,202)	9,855 (+914)
Scenario C (80/20 FCLP split)	3,947 (+351)	3,761 (+482)	3,115 (-154)	2,515 (+232)	6,860 (+1,311)	3,977 (+598)	13,922 (+1,508)	10,253 (+1,312)
Scenario D (30/70 FCLP split)	3,976 (+380)	3,712 (+433)	3,184 (-85)	2,171 (-112)	6,235 (+686)	3,679 (+300)	13,395 (+981)	9,562 (+621)
Scenario E (70/30 FCLP split)	3,924 (+328)	3,713 (+434)	3,139 (-130)	2,487 (+204)	6,755 (+1,206)	3,919 (+540)	13,818 (+1,404)	10,119 (+1,178)
OLF Coupeville								
No Action Alternative								
Average Year	3,681	861	3,088	786	638	583	7,407	2,230
Alternative 1								
Scenario A (20/80 FCLP split)	1,562 (-2,119)	573 (-288)	3,248 (+160)	936 (+150)	5,387 (+4,749)	1,957 (+1,374)	10,197 (+2,790)	3,466 (+1,236)
Scenario B (50/50 FCLP split)	2,015 (-1,666)	542 (-319)	3,451 (+363)	1,061 (+275)	4,025 (+3,387)	1,531 (+948)	9,491 (+2,084)	3,134 (+904)
Scenario C (80/20 FCLP split)	3,447 (-234)	1,041 (+180)	3,180 (+92)	1,036 (+250)	1,465 (+827)	691 (+108)	8,092 (+685)	2,768 (+538)
Scenario D (30/70 FCLP split)	1,588 (-2,093)	531 (-330)	3,387 (+299)	992 (+206)	5,032 (+4,394)	1,850 (+1,267)	10,007 (+2,600)	3,373 (+1,143)
Scenario E (70/30 FCLP split)	3,014 (-667)	855 (-6)	3,198 (+110)	1,058 (+272)	2,580 (+1,942)	1,018 (+435)	8,792 (+1,385)	2,931 (+701)

Table 6-12 Estimated Acreage and Population within the DNL Contour Ranges[1] for the NAS Whidbey Island Complex, Alternative 1 (Average Year)[2,3]

	DNL Contour Ranges							
	65 to <70 dB DNL		70 to <75 dB DNL		Greater than or equal to 75 dB DNL		Total	
	Area (acres)	Pop[4]	Area (acres)	Pop[4]	Area (acres)	Pop[4]	Area (acres)	Pop[4]
NAS Whidbey Island Complex								
No Action Alternative								
Average Year	7,277	4,140	6,357	3,069	6,187	3,962	19,821	11,171
Alternative 1								
Scenario A (20/80 FCLP split)	5,595 (-1,682)	4,257 (+117)	6,507 (+150)	2,844 (-225)	11,321 (+5,134)	5,475 (+1,513)	23,423 (+3,602)	12,576 (+1,405)
Scenario B (50/50 FCLP split)	5,937 (-1,340)	4,161 (+21)	6,722 (+365)	3,511 (+442)	10,448 (+4,261)	5,317 (+1,355)	23,107 (+3,286)	12,989 (+1,818)
Scenario C (80/20 FCLP split)	7,394 (+117)	4,802 (+662)	6,295 (-62)	3,551 (+482)	8,325 (+2,138)	4,668 (+706)	22,014 (+2,193)	13,021 (+1,850)
Scenario D (30/70 FCLP split)	5,564 (-1,713)	4,243 (+103)	6,571 (+214)	3,163 (+94)	11,267 (+5,080)	5,529 (+1,567)	23,402 (+3,581)	12,935 (+1,764)
Scenario E (70/30 FCLP split)	6,938 (-339)	4,568 (+428)	6,337 (-20)	3,545 (+476)	9,335 (+3,148)	4,937 (+975)	22,610 (+2,789)	13,050 (+1,879)

Notes:

1 All five scenarios are outlined in Section 2.3.3, where the split represents the percent of FCLPs conducted at Ault Field and OLF Coupeville, respectively (i.e., 20/80 FCLP split = 20 percent of FCLPs at Ault Field and 80 percent of FCLPs at OLF Coupeville).

2 Acreage presented does not include areas over water or areas over the NAS Whidbey Island complex.

3 The difference between the No Action Alternative and Alternative 1 is noted in parentheses.

4 Population counts of people within the DNL contour ranges were computed using 2010 Census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour range, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block, and it excludes population on military properties within the DNL contour ranges (NAS Whidbey Island [Ault Field], the Seaplane Base, and OLF Coupeville). All population estimates for areas within the dB DNL contours utilized 2010 U.S. Census Bureau data. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). To simplify the analysis, this growth factor was also used for areas of Skagit County that fall within the 65+ dB DNL contours. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

5 Numbers have been rounded to ensure totals sum.

Key:

dB = decibel
DNL = day-night average sound level
FCLP = Field Carrier Landing Practice

Table 6-13 Percent Difference in the Estimated Acreage and Population within the Average and High-Tempo FCLP Year DNL Contour Ranges for the NAS Whidbey Island Complex, Alternative 1

DNL Contours	DNL Contour Ranges[1] 65 to <70 dB DNL Area (acres)	65 to <70 dB DNL Pop	70 to <75 dB DNL Area (acres)	70 to <75 dB DNL Pop	Greater than or equal to 75 dB DNL Area (acres)	Greater than or equal to 75 dB DNL Pop	Total Area (acres)	Total Pop
Ault Field								
Scenario A	0.8%	0.2%	0.6%	3.4%	1.2%	0.9%	0.9%	1.1%
Scenario B	1.3%	1.3%	0.1%	2.2%	1.6%	1.1%	1.2%	1.4%
Scenario C	1.3%	2.5%	<0.0%	2.0%	2.2%	2.2%	1.4%	2.2%
Scenario D	0.5%	0.6%	0.6%	2.6%	1.2%	1.0%	0.9%	1.2%
Scenario E	1.6%	2.1%	-0.1%	2.4%	2.1%	1.8%	1.4%	2.1%
OLF Coupeville								
Scenario A	1.3%	6.9%	-5.7%	-7.0%	6.0%	4.9%	1.5%	2.0%
Scenario B	-5.8%	-9.1%	0.5%	2.3%	4.7%	4.0%	0.9%	1.1%
Scenario C	0.2%	-0.2%	0.1%	0.2%	2.2%	1.3%	0.5%	0.4%
Scenario D	-2.0%	4.7%	-3.6%	-5.0%	6.1%	5.2%	1.6%	2.1%
Scenario E	-0.6%	-0.8%	-0.1%	-1.0%	1.4%	2.0%	0.2%	0.1%
NAS Whidbey Island Complex								
Scenario A	0.9%	1.1%	-2.5%	-<0.1%	3.5%	2.3%	1.2%	1.4%
Scenario B	-1.1%	-<0.1%	0.3%	2.2%	2.8%	1.9%	1.1%	1.4%
Scenario C	0.8%	1.9%	0.1%	1.5%	2.2%	2.1%	1.1%	1.8%
Scenario D	-0.2%	1.1%	-1.6%	0.3%	3.4%	2.4%	1.2%	1.5%
Scenario E	0.6%	1.6%	-0.1%	1.4%	1.9%	1.9%	1.0%	1.6%

Key:
dB = decibel
DNL = day-night average sound level
NAS = Naval Air Station
OLF = outlying landing field

6.4.1 Points of Interest

Figure 6-9 shows the DNL for each POI and compares the DNLs for this alternative's scenarios and the No Action Alternative. Under the average year for Alternative 1 under all scenarios, 12 POIs would experience DNL greater than or equal to 65 dB, and five to six residential POIs would experience DNL greater than or equal to 75 dB. Three of the latter category would be near Ault Field (R01, R02, and R14), and three would be near the OLF (R06, R07, and R19). One of the seven schools, POI S02, would experience DNL greater than or equal to 65 dB—i.e., 69 dB.

For all scenarios under Alternative 1, an increase in DNL would be greatest for Alternative 1, Scenario A, and smallest for Alternative 1, Scenario C. Increases in DNL would range from 1 to 16 dB compared to the No Action Alternative. POIs R06 and R07 would experience the greatest increases in DNL of up to 10 and 16 dB, respectively. POI R07 would be newly impacted, with DNL of 70 to 75 dB. POI R15 would also be newly impacted, with DNL of 67 to 73 dB.

See Appendix A6 for lists of the five flight profiles with the greatest SEL at each POI.

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
P01	Joseph Whidbey State Park	Ault	58	59	59	58	59
P02	Deception Pass State Park	Ault	73	74	76	74	75
P03	Dugualla State Park	Ault	66	66	66	66	66
P04	Baseball Field (Ebey's Landing National Historical Reserve)	OLF	79	77	73	79	75
P05	Ebey's Prairie	OLF	56	54	50	55	52
P06	Fort Casey State Park	OLF	63	61	57	62	59
P07	Cama Beach State Park	OLF	47	46	<45	47	<45
P08	Port Townsend	OLF	<45	<45	<45	<45	<45
P09	Moran State Park	Ault	<45	<45	<45	<45	<45
P10	San Juan Islands National Monument	Ault	55	55	55	55	55
P11	San Juan Island Visitors Center	Ault	<45	<45	<45	<45	<45
P12	Cap Sante Park	Ault	<45	<45	<45	<45	<45
P13	Lake Campbell	Ault	55	55	56	56	56

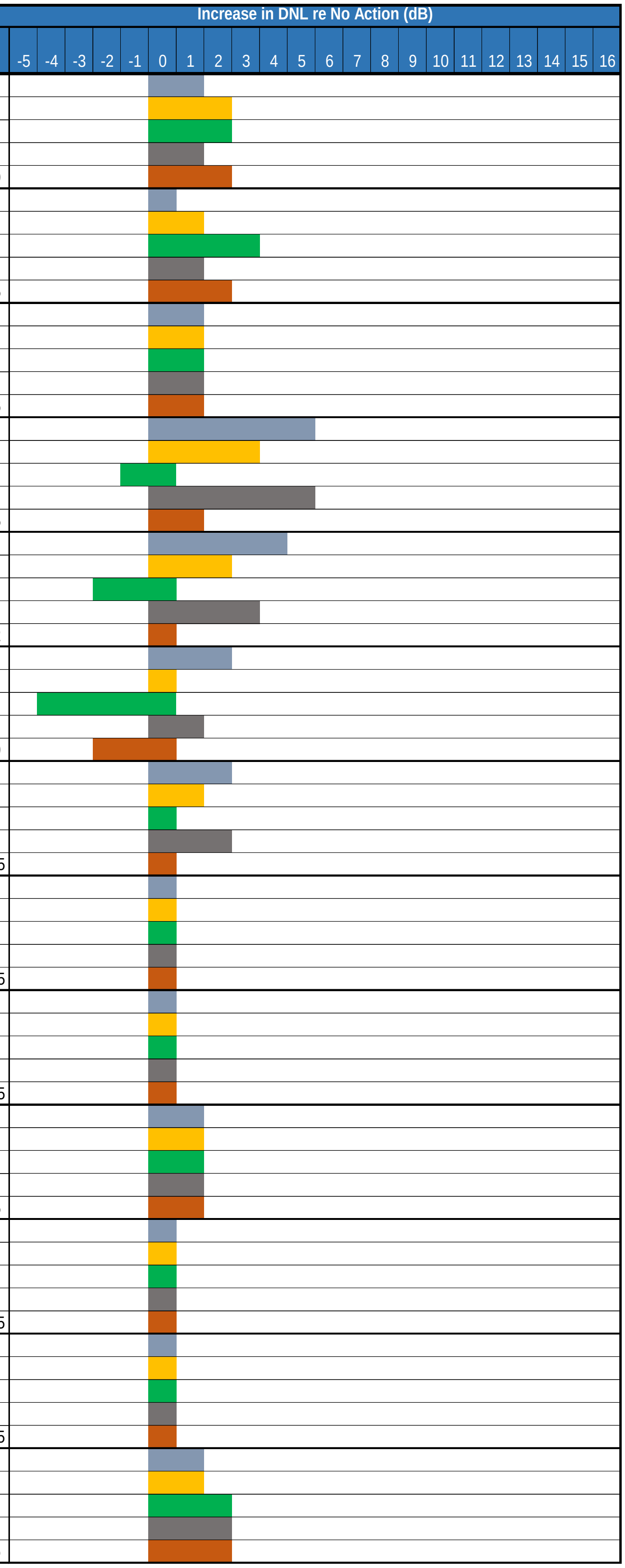

Figure 6-9 Estimated Aircraft DNL at POIs for the Average Year Alternative 1

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
P14	Spencer Spit State Park	None	<45				
				<45			
					<45		
						<45	
							<45
P15	Pioneer Park	Ault	57				
				57			
					57		
						57	
							57
P16	Marrowstone Island (Fort Flagler)	OLF	<45				
				<45			
					<45		
						<45	
							<45
EBLA001	Ferry House	OLF	81				
				78			
					74		
						80	
							76
EBLA002	Reuble Farm	OLF	59				
				57			
					53		
						58	
							54
R01	Sullivan Rd	Ault	91				
				91			
					92		
						91	
							92
R02	Salal St. and N. Northgate Dr	Ault	79				
				79			
					80		
						79	
							80
R03	Central Whidbey	Ault	58				
				59			
					59		
						58	
							59
R04	Pull and Be Damned Poin	Ault	63				
				63			
					63		
						63	
							63
R05	Snee-Oosh Point	Ault	59				
				59			
					58		
						58	
							58
R06	Admirals Dr and Byrd Dr	OLF	89				
				87			
					83		
						89	
							85
R07	Race Lagoon	OLF	76				
				74			
					70		
						75	
							72
R08	Pratts Bluff	OLF	63				
				61			
					57		
						63	
							59

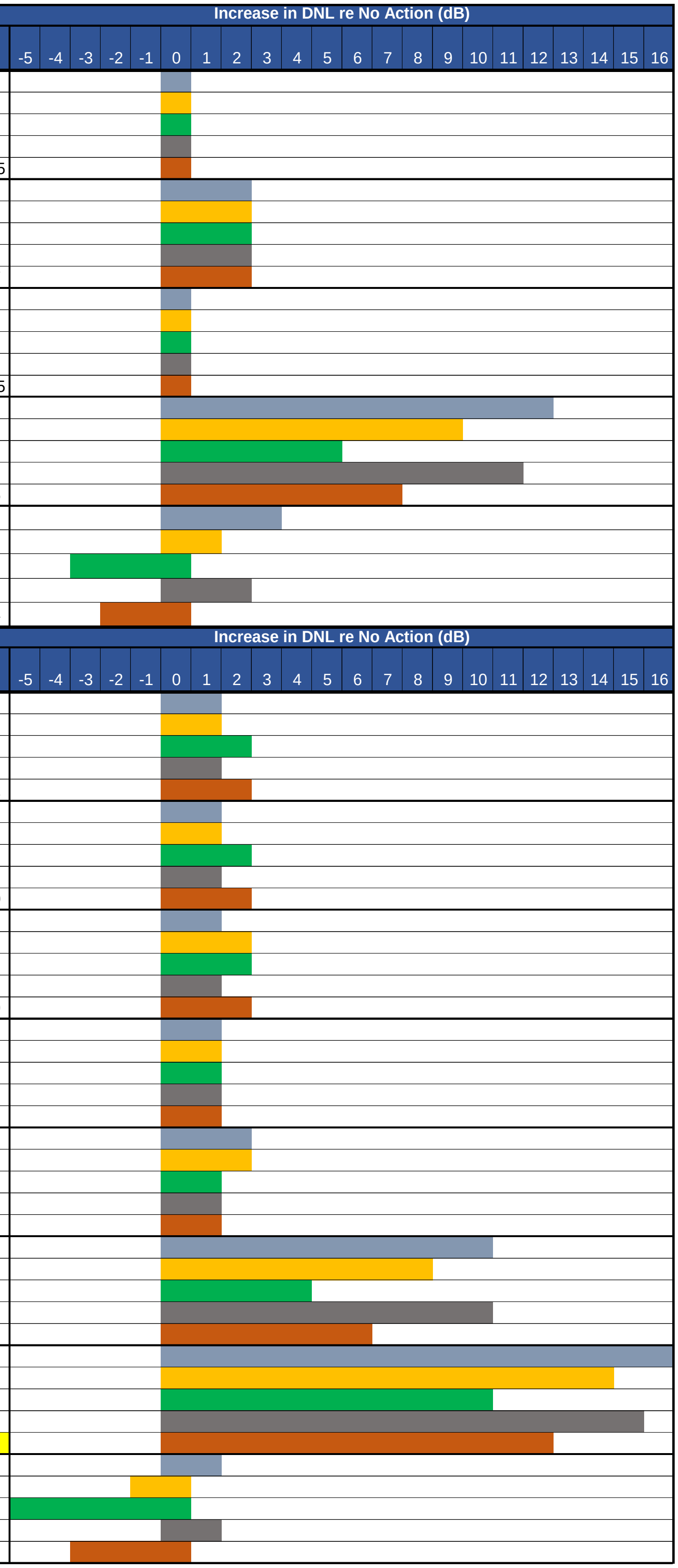

Figure 6-9 Estimated Aircraft DNL at POIs for the Average Year Alternative 1 (continued)

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
R09	Cox Rd and Island Ridge Way	OLF	55	52	48	54	50
R10	Skyline	None	58	57	58	58	58
R11	Sequim	None	<45	<45	<45	<45	<45
R12	Port Angeles	None	<45	<45	<45	<45	<45
R13	Beverly Beach, Freeland	OLF	<45	<45	<45	<45	<45
R14	Sleeper Rd & Slumber L	Ault	75	76	76	75	76
R15	Long Point Manor	OLF	73	71	67	72	69
R16	Rocky Point Heights	OLF	56	55	56	56	56
R17	Port Townsend	None	<45	<45	<45	<45	<45
R18	Marrowstone Island (Nordland)	None	<45	<45	<45	<45	<45
R19	Island Transit Offices, Coupeville	OLF	80	78	74	80	76
R20	South Lopez Island (Agate Beach)	None	49	48	49	49	49

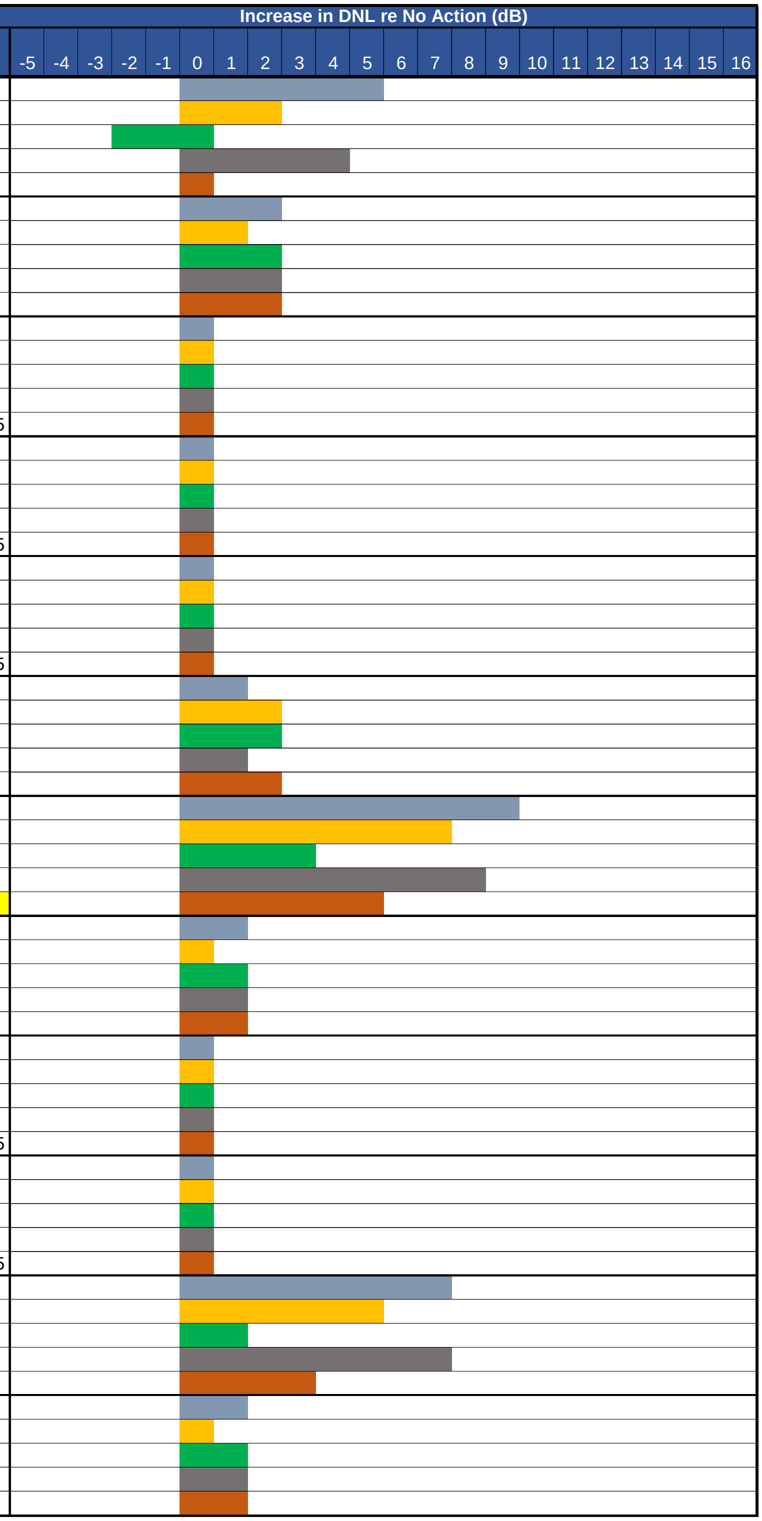

Figure 6-9 Estimated Aircraft DNL at POIs for the Average Year Alternative 1 (continued)

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
S01	Oak Harbor High School	Ault	59				
				60			
					61		
						60	
							61
S02	Crescent Harbor Elementary School	Ault	68				
				68			
					69		
						69	
							69
S03	Coupeville Elementary School	OLF	62				
				60			
					56		
						61	
							57
S04	Anacortes High School	Ault	50				
				50			
					50		
						50	
							50
S05	Lopez Island School	None	<45				
				<45			
					<45		
						<45	
							<45
S06	Friday Harbor Elementary School	None	<45				
				<45			
					<45		
						<45	
							<45
S07	Sir James Douglas Elementary School	None	<45				
				<45			
					<45		
						<45	
							<45
S08	Fidalgo Elementary School	Ault	53				
				53			
					53		
						53	
							53
S09	La Conner Elementary School	Ault	55				
				55			
					55		
						55	
							55
S10	Elger Bay Elementary School	OLF	<45				
				<45			
					<45		
						<45	
							<45

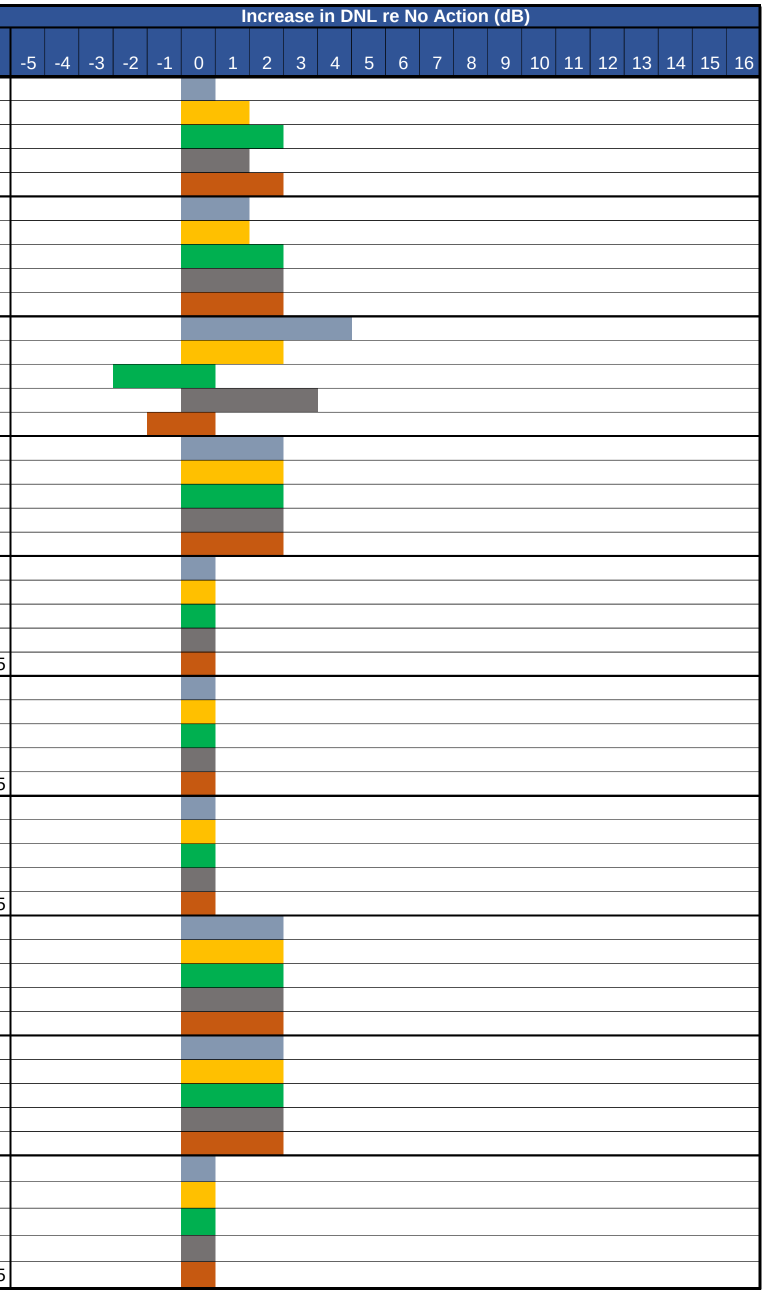

Figure 6-9 Estimated Aircraft DNL at POIs for the Average Year Alternative 1 (concluded)

Under the high-tempo FCLP year Alternative 1 for all scenarios (Appendix A7), 12 POIs would experience DNL greater than or equal to 65 dB, and five or six residential POIs would experience DNL greater than or equal to 75 dB. Three of the latter category would be near Ault Field (POIs R01, R02, and R14), and three would be near the OLF (POIs R06, R07, and R19). One of the seven schools, POI S02, would experience DNL greater than or equal to 65 dB--i.e., 69 dB.

Under the high-tempo FCLP year Alternative for all scenarios, the increase in DNL would be greatest for Alternative 1, Scenario A, and least for Alternative 1, Scenario C. Increases in DNL would range from 1 to 15 dB compared to the high-tempo FCLP year No Action Alternative. POIs R06 and R07 would experience the greatest increases in DNL, up to 11 and 15 dB, respectively. POI R07 would be newly impacted, with DNL of 70 to 76 dB.

6.4.2 Potential Hearing Loss

Table 6-14 shows estimates of the populations within 1-dB bands of $L_{eq(24h)}$ and their associated NIPTS for the average year Alternative 1. The level at which there may be a noticeable NIPTS would be at the 84 to 85 dB $L_{eq(24)}$ range and above. There is an increase in the population within the 80 dB DNL noise contour (i.e., potential at-risk population) under Alternative 1 at both Ault Field and OLF Coupeville. The largest increase in the potential at-risk population in the vicinity of Ault Field would be under Scenario C (47 additional people) and in the vicinity of OLF Coupeville would be under Scenario A (45 additional people). The range of potential NIPTS could be up to 9.5 dB at Ault Field and 6.0 dB at OLF Coupeville. The potential NIPTS values presented in Table 6-14 are only applicable in the extreme case of continuous outdoor exposure at one's residence to all aircraft events occurring over a period of 40 years. Because it is highly unlikely for any individuals to meet all those criteria, the actual potential NIPTS for individuals would be far less than the values reported here.

The USEPA guidelines provided information on the estimated NIPTS exceeded by the 10 percent of the population most sensitive to noise. Using the same 1 dB incremental data in Tables 4-2 through 4-9 and the column identified as the 10th Percentile NIPTS, those individuals are vulnerable to noticeable NIPTS at the 77 to 78 dB $L_{eq(24)}$ range and above. Using this even more conservative estimate, the range of potential NIPTS could be up to 18.0 dB for the most noise-sensitive population around Ault Field and up to 12.0 dB for the most noise-sensitive population around OLF Coupeville.

Table 6-14 Average and 10th Percentile Noise Induced Permanent Threshold Shifts as a Function of Equivalent Sound Level (L_{eq}) under Alternative 1 at NAS Whidbey Island Complex (Average Year)

Band of $L_{eq(24)}$ (dB)[1]	Avg NIPTS (dB)[2,3]	10th Pct NIPTS (dB)[2,]	Estimated Population[4,5,6]											
			Ault Field						OLF Coupeville					
			No Action	Alt 1A	Alt 1B	Alt 1C	Alt 1D	Alt 1E	No Action	Alt 1A	Alt 1B	Alt 1C	Alt 1D	Alt 1E
75-76	1.0	4.0	0	0 (0)	3 (+3)	38 (+38)	0 (0)	30 (+30)	31	141 (+110)	73 (+42)	32 (+1)	125 (+94)	39 (+8)
76-77	1.0	4.5	123	176 (+53)	393[7] (+270)	561[8] (+438)	214 (+91)	507[9] (+384)	45	168 (+123)	94 (+49)	57 (+12)	167 (+122)	65 (+20)
77-78	1.5	5.0	233	262 (+29)	337 (+104)	434 (+201)	310 (+77)	357 (+124)	47	144 (+97)	77 (+30)	66 (+19)	102 (+55)	58 (+11)
78-79	2.0	5.5	145	147 (+2)	246 (+101)	296 (+151)	174 (+29)	294 (+149)	24	96 (+72)	67 (+43)	39 (+15)	85 (+61)	59 (+35)
79-80	2.5	6.0	92	132 (+40)	165 (+73)	250 (+158)	142 (+50)	221 (+129)	7	76 (+69)	60 (+53)	1 (-6)	72 (+65)	86 (+79)
80-81	3.0	7.0	73	78 (+5)	94 (+21)	130 (+57)	81 (+8)	117 (+44)	0	68 (+60)	58 (+58)	0 (0)	64 (+64)	4 (+4)
81-82	3.5	8.0	51	62 (+11)	72 (+21)	80 (+29)	67 (+16)	76 (+25)	0	60 (+60)	67 (+67)	0 (0)	54 (+54)	0 (0)
82-83	4.0	9.0	37	48 (+11)	58 (+21)	64 (+27)	48 (+11)	61 (+24)	0	56 (+56)	32 (+32)	0 (0)	62 (+62)	0 (0)
83-84	4.5	10.0	34	33 (-1)	35 (+1)	38 (+4)	35 (+1)	36 (+2)	0	65 (+65)	1 (+1)	0 (0)	69 (+69)	0 (0)
84-85	5.5	11.0	11	26 (+15)	26 (+15)	29 (+18)	28 (+17)	28 (+17)	0	44 (+44)	0 (0)	0 (0)	2 (+2)	0 (0)
85-86	6.0	12.0	9	9 (0)	22 (+13)	26 (+17)	10 (+1)	24 (+15)	0	1 (+1)	0 (0)	0 (0)	0 (0)	0 (0)
86-87	7.0	13.5	6	8 (+2)	9 (+3)	10 (+4)	9 (+3)	10 (+4)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
87-88	7.5	15.0	4	6 (+2)	6 (+2)	7 (+3)	6 (+2)	7 (+3)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
88-89	8.5	16.5	2	4 (+2)	4 (+2)	5 (+3)	4 (+2)	4 (+2)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
89-90	9.5	18.0	0	1 (+1)	2 (+2)	2 (+2)	1 (+1)	2 (+2)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Table 6-14 Average and 10th Percentile Noise Induced Permanent Threshold Shifts as a Function of Equivalent Sound Level (L_{eq}) under Alternative 1 at NAS Whidbey Island Complex (Average Year)

Band of $L_{eq(24)}$ (dB)[1]	Avg NIPTS (dB)[2,3]	10th Pct NIPTS (dB)[2,]	Estimated Population[4,5,6]											
			Ault Field						OLF Coupeville					
			No Action	Alt 1A	Alt 1B	Alt 1C	Alt 1D	Alt 1E	No Action	Alt 1A	Alt 1B	Alt 1C	Alt 1D	Alt 1E
90-91	10.5	19.5	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Notes:

1 L_{eq} bands with no population were omitted from table.

2 NIPTS values rounded to nearest 0.5 dB.

3 NIPTS below 5 dB are generally not considered noticeable.

4 This analysis assumes the population is outdoors at one's residence and exposed to all aircraft noise events for 40 years. Given the amount of time spent indoors and the intermittent occurrence of aircraft noise events, it is highly unlikely that individuals would meet all those criteria, and the actual potential for hearing loss would be far less than the values reported here.

5 Estimated Population was determined by those living within the 80 dB DNL noise contour around each airfield, including those living on base at Ault Field (there is no on-base population at OLF Coupeville).

6 Population counts of people within the DNL contours were computed using 2010 census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). In addition, per guidance on potential hearing loss, on-base populations at Ault Field have been included in the analysis. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

7 Of this estimated population, 58 are military personnel living on base at Ault Field.

8 Of this estimated population, 195 are military personnel living on base at Ault Field.

9 Of this estimated population, 96 are military personnel living on base at Ault Field.

Key:

dB = decibel

$L_{eq(24)}$ = 24-hour Equivalent Sound Level

NIPTS = Noise Induced Permanent Threshold Shift

6.4.3 Residential Nighttime Sleep Disturbance

Table 6-15 lists the PA for applicable POIs for average daily nighttime (10:00 p.m. to 7:00 a.m.) events for the average year Alternatives 1 under all scenarios. Average PA would range from 5 percent to 16 percent across the listed POIs for either window condition. POIs R01 and R02 would have the greatest PA, 36 percent to 77 percent, depending upon whether windows are open or closed. At five of the POIs, there would be no change in PA compared to the No Action Alternative, but at the remaining 25 POIs, increases in PA would range from 1 percent at several POIs to 32 percent (R06 under Alternative 1, Scenario A).

Under the high-tempo FCLP year Alternative 1 (Appendix A7), the statistics cited above would be 1 percent to 3 percent greater than those listed for the average year Alternative 1, except for the change statistics. At six of the POIs, there would be no change in PA compared to the high-tempo FCLP year No Action Alternative, but at the remaining 24 POIs, increases in PA would range from 1 percent at several POIs to 36 percent (R06 under Alternative 1, Scenario A).

Table 6-15 Average Indoor Nightly Probability of Awakening at Applicable POIs for the Average Year Alternative 1

Point of Interest				*Annual Average Nightly (2200-0700) Probability of Awakening (%)* [1]																			
				Alt 1A		*Change from No Action*		*Alt 1B*		*Change from No Action*		*Alt 1C*		*Change from No Action*		*Alt 1D*		*Change from No Action*		*Alt 1E*		*Change from No Action*	
Type	*ID*	*Description*	*Related Field*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*
Residential[2]	R01	Sullivan Rd	Ault	68%	52%	10%	9%	72%	56%	14%	13%	77%	61%	19%	18%	69%	53%	11%	10%	75%	60%	17%	17%
	R02	Salal St. and N. Northgate Dr	Ault	50%	36%	9%	7%	53%	39%	12%	10%	58%	43%	17%	14%	51%	37%	10%	8%	57%	42%	16%	13%
	R03	Central Whidbey	Ault	20%	11%	4%	3%	22%	12%	6%	4%	25%	13%	9%	5%	21%	11%	5%	3%	24%	13%	8%	5%
	R04	Pull and Be Damned Point	Ault	25%	12%	6%	3%	27%	13%	8%	4%	29%	13%	10%	4%	26%	12%	7%	3%	28%	13%	9%	4%
	R05	Snee-Oosh Point	Ault	21%	8%	6%	3%	22%	8%	7%	3%	24%	8%	9%	3%	21%	8%	6%	3%	23%	8%	8%	3%
	R06	Admirals Dr and Byrd Dr	OLF	41%	29%	32%	23%	27%	19%	18%	13%	12%	8%	3%	2%	37%	26%	28%	20%	17%	11%	8%	5%
	R07	Race Lagoon	OLF	19%	9%	14%	7%	14%	6%	9%	4%	7%	2%	2%	-	18%	8%	13%	6%	9%	3%	4%	1%
	R08	Pratts Bluff	OLF	15%	9%	11%	7%	10%	6%	6%	4%	4%	2%	-	-	13%	8%	9%	6%	6%	4%	2%	2%
	R09	Cox Rd and Island Ridge Way	OLF	12%	8%	9%	6%	7%	5%	4%	3%	3%	2%	-	-	11%	7%	8%	5%	5%	3%	2%	1%
	R10	Skyline	None	8%	3%	3%	1%	8%	3%	3%	1%	10%	3%	5%	1%	9%	3%	4%	1%	10%	3%	5%	1%
	R11	Sequim	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R12	Port Angeles	None	1%	0%	1%	-	1%	0%	1%	-	1%	0%	1%	-	0%	0%	-	-	1%	0%	1%	-
	R13	Beverly Beach, Freeland	OLF	6%	-	4%	-	4%	-	2%	-	2%	-	-	-	5%	-	3%	-	2%	-	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	45%	32%	8%	7%	49%	35%	12%	10%	53%	39%	16%	14%	46%	33%	9%	8%	52%	37%	15%	12%
	R15	Long Point Manor	OLF	24%	13%	13%	9%	19%	8%	8%	4%	14%	4%	3%	-	22%	11%	11%	7%	16%	5%	5%	1%
	R16	Rocky Point Heights	OLF	11%	4%	2%	1%	12%	4%	3%	1%	14%	4%	5%	1%	12%	4%	3%	1%	13%	4%	4%	1%
	R17	Port Townsend	None	1%	-	-	-	1%	-	-	-	0%	-	-1%	-	1%	-	-	-	1%	-	-	-
	R18	Marrowstone Island (Nordland)	None	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	0%	-	-	-
	R19	Island Transit Offices, Coupeville	OLF	34%	22%	25%	17%	23%	14%	14%	9%	12%	6%	3%	1%	31%	19%	22%	14%	16%	9%	7%	4%

Table 6-15 Average Indoor Nightly Probability of Awakening at Applicable POIs for the Average Year Alternative 1

Point of Interest				Annual Average Nightly (2200-0700) Probability of Awakening (%) [1]																			
				Alt 1A		Change from No Action		Alt 1B		Change from No Action		Alt 1C		Change from No Action		Alt 1D		Change from No Action		Alt 1E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
	R20	South Lopez Island (Agate Beach)	None	4%	1%	1%	-	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-
School (near residential)	S01	Oak Harbor High School	Ault	26%	15%	6%	3%	28%	17%	8%	5%	31%	19%	11%	7%	27%	16%	7%	4%	30%	19%	10%	7%
	S02	Crescent Harbor Elementary School	Ault	27%	16%	6%	4%	29%	18%	8%	6%	32%	20%	11%	8%	28%	17%	7%	5%	31%	19%	10%	7%
	S03	Coupeville Elementary School	OLF	17%	11%	12%	8%	11%	7%	6%	4%	6%	3%	1%	-	16%	10%	11%	7%	8%	4%	3%	1%
	S04	Anacortes High School	Ault	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-
	S05	Lopez Island School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	9%	3%	3%	1%	9%	3%	3%	1%	10%	3%	4%	1%	10%	3%	4%	1%	10%	3%	4%	1%
	S09	La Conner Elementary School	Ault	11%	5%	3%	2%	11%	5%	3%	2%	10%	5%	2%	2%	11%	5%	3%	2%	10%	5%	2%	2%
	S10	Elger Bay Elementary School	OLF	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-

1 Assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

2 R01 and R06 include interior SELs greater than 100 dB with windows open.

6.4.4 Residential Daytime Indoor Speech Interference

Table 6-16 presents the average daily indoor daytime (7:00 a.m. to 10:00 p.m.) events per hour for the applicable POIs that would experience indoor maximum sound levels of at least 50 dB with windows closed and open, for the average year Alternative 1. Events per hour would be less than one at 12 of the 30 POIs and would range between one and 10 for the remaining 18 POIs, regardless of the window status. Relative to the average year No Action Alternative, increases of one or two events per hour would be experienced by 16 of the POIs.

For the high-tempo FCLP year Alternative 1 (Appendix A7), the above-cited statistics would not change compared to the high-tempo FCLP year No Action Alternative, except that the change statistics would vary but remain within the range of one or two additional events per hour.

Table 6-16 Indoor Speech Interference for the Average Year Alternative 1

Point of Interest				Annual Average Daily Indoor Daytime (0700-2200) Events per Hour [1]																			
				Alt 1A		Change from No Action		Alt 1B		Change from No Action		Alt 1C		Change from No Action		Alt 1D		Change from No Action		Alt 1E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential[2]	R01	Sullivan Rd	Ault	9	9	+1	+1	10	10	+2	+2	10	10	+2	+2	9	9	+1	+1	10	10	+2	+2
	R02	Salal St. and N. Northgate Dr	Ault	9	9	+1	+1	9	9	+1	+1	10	10	+2	+2	9	9	+1	+1	10	10	+2	+2
	R03	Central Whidbey	Ault	5	-	-	-	6	-	+1	-	6	-	+1	-	5	-	-	-	6	-	+1	-
	R04	Pull and Be Damned Point	Ault	3	1	+1	-	3	1	+1	-	3	1	+1	-	3	1	+1	-	3	1	+1	-
	R05	Snee-Oosh Point	Ault	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-
	R06	Admirals Dr and Byrd Dr	OLF	2	2	+2	+2	1	1	+1	+1	-	-	-	-	2	2	+2	+2	1	1	+1	+1
	R07	Race Lagoon	OLF	2	1	+2	+1	1	-	+1	-	1	-	+1	-	2	1	+2	+1	1	-	+1	-
	R08	Pratts Bluff	OLF	2	1	+2	+1	1	-	+1	-	-	-	-	-	2	1	+2	+1	1	-	+1	-
	R09	Cox Rd and Island Ridge Way	OLF	1	-	+1	-	1	-	+1	-	-	-	-	-	1	-	+1	-	-	-	-	-
	R10	Skyline	None	-	-	-	-	-	-	-	-	1	-	+1	-	1	-	+1	-	1	-	+1	-
	R11	Sequim	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R12	Port Angeles	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R13	Beverly Beach, Freeland	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	9	8	+1	+1	9	8	+1	+1	10	9	+2	+2	9	8	+1	+1	10	9	+2	+2
	R15	Long Point Manor	OLF	3	2	+2	+1	2	1	+1	-	1	1	-	-	2	2	+1	+1	1	1	-	-
	R16	Rocky Point Heights	OLF	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-
	R17	Port Townsend	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R18	Marrowstone Island (Nordland)	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R19	Island Transit Offices, Coupeville	OLF	2	2	+1	+1	1	1	-	-	1	1	-	-	2	2	+1	+1	1	1	-	-

Table 6-16 Indoor Speech Interference for the Average Year Alternative 1

Point of Interest				*Annual Average Daily Indoor Daytime (0700-2200) Events per Hour* [1]																			
				Alt 1A		*Change from No Action*		*Alt 1B*		*Change from No Action*		*Alt 1C*		*Change from No Action*		*Alt 1D*		*Change from No Action*		*Alt 1E*		*Change from No Action*	
Type	*ID*	*Description*	*Related Field*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*
	R20	South Lopez Island (Agate Beach)	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School (near residential)	S01	Oak Harbor High School	Ault	6	2	-	-	7	3	+1	+1	7	3	+1	+1	6	3	-	+1	7	3	+1	+1
	S02	Crescent Harbor Elementary School	Ault	5	2	-	-	6	2	+1	-	6	3	+1	+1	6	2	+1	-	6	3	+1	+1
	S03	Coupeville Elementary School	OLF	2	1	+1	+1	1	1	-	+1	1	-	-	-	2	1	+1	+1	1	-	-	-
	S04	Anacortes High School	Ault	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S05	Lopez Island School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S09	La Conner Elementary School	Ault	1	-	-	-	1	1	-	+1	1	-	-	-	1	-	-	-	1	-	-	-
	S10	Elger Bay Elementary School	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[1] With an indoor maximum sound level of at least 50 dB; assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

[2] The Whidbey General Hospital is located within approximately 1,000 feet of the Coupeville Elementary School; therefore, this location was not modeled individually, but similar results for indoor speech interference for POI S03 would apply.

6.4.5 Classroom Learning Interference

Table 6-17 presents the potential learning interference data for classrooms under the average year Alternative 1. With an $L_{eq(8h)}$ of 69 dB, S02 (Crescent Harbor Elementary) would experience the greatest outdoor $L_{eq(8h)}$. No other locations would experience $L_{eq(8h)}$ greater than or equal to the screening threshold of 60 dB under any of the three alternatives. With windows open, three or four of the POIs would have more than one event per hour. With windows closed, two of the POIs would have more than one event per hour. POI S01, Oak Harbor High School, would have the most events per hour, with up to seven with windows open. POIs S01 and S02 would have the most events per hour (three) with windows closed.

All POIs would experience between 1 and 6 dB increases in $L_{eq(8h)}$ and increases in one or two events per hour.

Under the high-tempo FCLP year Alternative 1 (Appendix A7), S02 (Crescent Harbor Elementary) would have an outdoor $L_{eq(8h)}$ of 68 dB. Four of the POIs would have more than one event per hour with windows open (S01, S02, S03, and R03), and two would have more than one event per hour with windows closed (S01 and S02). POI S01, Oak Harbor High School, would have the most events per hour, with seven with windows open and three with windows closed. Relative to the high-tempo FCLP year No Action Alternative, four POIs would experience increases up to two events per hour. Three POIs would experience a change in outdoor $L_{eq(8h)}$ of 2 dB or greater.

Table 6-17 Classroom Learning Interference for Average Year Alternative 1

Point of Interest				***Alt 1A***					***Change from No Action***				
				Outdoor	***Indoor[1]***				***Outdoor***	***Indoor[1]***			
					Windows Open		***Windows Closed***			***Windows Open***		***Windows Closed***	
Type	***ID***	***Description***	***Related Field***	***$L_{eq (8h)}$ (dB)***	***$L_{eq(8h)}$ (dB)***	***Events per Hour [2]***	***$L_{eq(8h)}$ (dB)***	***Events per Hour [2]***	***$L_{eq (8h)}$ (dB)***	***$L_{eq(8h)}$ (dB)***	***Events per Hour [2]***	***$L_{eq(8h)}$ (dB)***	***Events per Hour [2]***
School	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2	-	-	+1	-	-
	S02	Crescent Harbor Elementary School	Ault	68	53	5	<45	2	+1	+1	+1	+1	-
	S03	Coupeville Elementary School	OLF	57	<45	2	<45	1	+6	+6	+2	+6	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	51	<45	1	<45	-	-	-	-	-	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						**4**		**2**			**1**		
Minimum Number of Intrusive Events per Hour if Exceeding 1						**2**		**2**			**+2**		
Maximum Number of Intrusive Events per Hour if Exceeding 1						**6**		**2**			**+2**		

Table 6-17 Classroom Learning Interference for Average Year Alternative 1

Point of Interest				***Alt 1B***					***Change from No Action***				
School	R03	Central Whidbey	Ault	59	<45	5	<45	-	+2	+2	+1	+2	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	2	+1	+1	+2	+1	-
	S02	Crescent Harbor Elementary School	Ault	68	53	6	<45	2	+1	+1	+2	+1	-
	S03	Coupeville Elementary School	OLF	55	<45	1	<45	1	+4	+4	+1	+4	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						**3**		**2**			**2**		
Minimum Number of Intrusive Events per Hour if Exceeding 1						**5**		**2**			**+2**		
Maximum Number of Intrusive Events per Hour if Exceeding 1						**7**		**2**			**+2**		

Table 6-17 Classroom Learning Interference for Average Year Alternative 1

Point of Interest				*Alt 1C*					*Change from No Action*				
School	R03	Central Whidbey	Ault	58	<45	6	<45	-	+1	+1	+2	+1	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
	S02	Crescent Harbor Elementary School	Ault	69	54	6	<45	3	+2	+2	+2	+2	+1
	S03	Coupeville Elementary School	OLF	51	<45	1	<45	-	-	-	+1	-	-
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	51	<45	1	<45	-	-	-	-	-	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						**3**		**2**			**3**		
Minimum Number of Intrusive Events per Hour if Exceeding 1						**6**		**3**			**+2**		
Maximum Number of Intrusive Events per Hour if Exceeding 1						**7**		**3**			**+2**		

Table 6-17 Classroom Learning Interference for Average Year Alternative 1

Point of Interest				***Alt 1D***					***Change from No Action***				
School	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2	-	-	+1	-	-
	S02	Crescent Harbor Elementary School	Ault	68	53	5	<45	2	+1	+1	+1	+1	-
	S03	Coupeville Elementary School	OLF	56	<45	2	<45	1	+5	+5	+2	+5	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	51	<45	1	<45	-	-	-	-	-	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						**4**		**2**			**1**		
Minimum Number of Intrusive Events per Hour if Exceeding 1						**2**		**2**			**2**		
Maximum Number of Intrusive Events per Hour if Exceeding 1						**6**		**2**			**2**		

Table 6-17 Classroom Learning Interference for Average Year Alternative 1

Point of Interest				*Alt 1E*					*Change from No Action*				
School	R03	Central Whidbey	Ault	58	<45	6	<45	-	+1	+1	+2	+1	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
	S02	Crescent Harbor Elementary School	Ault	69	54	6	<45	2	+2	+2	+2	+2	-
	S03	Coupeville Elementary School	OLF	53	<45	1	<45	-	+2	+2	+1	+2	-
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	51	<45	1	<45	-	-	-	-	-	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						**3**		**2**			**3**		
Minimum Number of Intrusive Events per Hour if Exceeding 1						**6**		**2**			**+2**		
Maximum Number of Intrusive Events per Hour if Exceeding 1						**7**		**3**			**+2**		

Notes:

[1] Assumes 15 dB and 25 dB of noise level reductions for windows open and closed, respectively.

[2] Number of average school-day events per hour during 8-hour school day (0800-1600) at or above an indoor maximum (single-event) sound level (L_{max}) of 50 dB.

6.4.6 Recreational Speech Interference

Table 6-18 lists the AAD daytime NA 50 L_{max} per hour for the recreational POIs. The average NA across the 48 POIs would be four events per daytime hour and one event per nighttime hour. Six POIs would be exposed to less than one event per hour. POIs R01, R02, and R14 would have the most events per hour, at 10, under Alternative 1, Scenario C. Relative to the average year No Action Alternative, increases of up to two events per hour would be experienced at all but 10 of the POIs. The latter 10 POIs would experience no change.

Under the high-tempo FCLP year Alternative 1 (Appendix A7), the average year statistics above would apply.

Table 6-18 Recreational Speech Interference for Average Year Alternative 1

Representative Park Receptor			Annual Average Outdoor Daily Daytime Events per Hour, NA 50 L_{max}																			
			Alt1A		Increase re No Action		Alt1B		Increase re No Action		Alt1C		Increase re No Action		Alt1D		Increase re No Action		Alt1E		Increase re No Action	
Type	ID	Description	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Park	P01	Joseph Whidbey State Park	9	2	+1	-	9	2	+1	-	10	3	+2	+1	9	2	+1	-	9	3	+1	+1
	P02	Deception Pass State Park	9	2	+1	-	9	2	+1	-	10	3	+2	+1	9	2	+1	-	10	3	+2	+1
	P03	Dugualla State Park	8	2	+1	-	9	2	+2	-	9	3	+2	+1	9	2	+2	-	9	3	+2	+1
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	4	1	+1	+1	3	1	-	+1
	P05	Ebey's Landing State Park	4	1	+2	+1	3	1	+1	+1	3	1	+1	+1	4	1	+2	+1	3	1	+1	+1
	P06	Fort Casey State Park	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2	0	+1	-
	P07	Cama Beach State Park	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	5	1	+2	+1	4	1	+1	+1
	P08	Port Townsend	2	1	+1	+1	1	1	-	+1	1	-	-	-	2	1	+1	+1	1	0	-	-
	P09	Moran State Park	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	0	0	-	-
	P10	San Juan Islands National Monument	8	2	+1	+1	8	2	+1	+1	9	3	+2	+2	8	2	+1	+1	9	2	+2	+1
	P11	San Juan Island Visitors Center	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	0	0	-	-
	P12	Cap Sante Park	0	-	-	-	0	-	-	-	1	-	+1	-	1	0	+1	-	1	0	+1	-
	P13	Lake Campbell	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-
	P14	Spencer Spit State Park	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	0	0	-	-
	P15	Pioneer Park	4	1	-	-	4	1	-	-	4	1	-	-	4	1	-	-	4	1	-	-
	P16	Marrowstone Island (Fort Flagler)	1	1	+1	+1	1	0	+1	-	0	-	-	-	1	1	+1	+1	1	0	+1	-
	EBLA001	Ferry House	4	1	+2	+1	3	1	+1	+1	2	0	-	-	4	1	+2	+1	3	1	+1	+1
	EBLA002	Reuble Farm	4	1	+2	+1	3	1	+1	+1	2	0	-	-	4	1	+2	+1	3	1	+1	+1

Table 6-18 Recreational Speech Interference for Average Year Alternative 1

Representative Park Receptor			*Annual Average Outdoor Daily Daytime Events per Hour, NA 50 L_{max}*																			
			Alt1A		*Increase re No Action*		*Alt1B*		*Increase re No Action*		*Alt1C*		*Increase re No Action*		*Alt1D*		*Increase re No Action*		*Alt1E*		*Increase re No Action*	
Type	*ID*	*Description*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*
Residential	R01	Sullivan Rd	9	2	+1	-	10	2	+2	-	10	3	+2	+1	9	2	+1	-	10	3	+2	+1
	R02	Salal St. and N. Northgate Dr	9	2	+1	-	10	2	+2	-	10	3	+2	+1	9	2	+1	-	10	3	+2	+1
	R03	Central Whidbey	8	2	+1	-	9	2	+2	-	9	3	+2	+1	8	2	+1	-	9	2	+2	-
	R04	Pull and Be Damned Point	8	2	+1	-	9	2	+2	-	9	3	+2	+1	9	2	+2	-	9	2	+2	-
	R05	Snee-Oosh Point	8	2	+1	+1	8	2	+1	+1	9	3	+2	+2	8	2	+1	+1	9	2	+2	+1
	R06	Admirals Dr and Byrd Dr	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2	0	+1	-
	R07	Race Lagoon	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	4	1	+1	+1	3	1	-	+1
	R08	Pratts Bluff	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2	0	+1	-
	R09	Cox Rd and Island Ridge Way	2	1	+1	+1	2	1	+1	+1	1	-	-	-	2	1	+1	+1	1	0	-	-
	R10	Skyline	4	1	-	-	4	1	-	-	5	1	+1	-	4	1	-	-	4	1	-	-
	R11	Sequim	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	0	+1	-	1	0	+1	-
	R12	Port Angeles	1	-	-	-	1	-	-	-	1	-	-	-	1	0	-	-	1	0	-	-
	R13	Beverly Beach, Freeland	1	-	+1	-	0	-	-	-	-	-	-	-	1	0	+1	-	0	0	-	-
	R14	E Sleeper Rd & Slumber Ln	9	2	+1	-	10	2	+2	-	10	3	+2	+1	9	2	+1	-	10	3	+2	+1
	R15	Long Point Manor	8	3	+1	+2	8	2	+1	+1	8	3	+1	+2	8	2	+1	+1	8	3	+1	+2
	R16	Rocky Point Heights	5	1	+1	-	5	2	+1	+1	5	2	+1	+1	5	1	+1	-	5	2	+1	+1
	R17	Port Townsend	2	1	+1	+1	1	0	-	-	0	-	-1	-	1	1	-	+1	1	0	-	-
	R18	Marrowstone Island (Nordland)	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	0	0	-	-
	R19	Island Transit Offices, Coupeville	5	1	+2	-	4	1	+1	-	3	1	-	-	4	1	+1	-	3	1	-	-
	R20	South Lopez Island (Agate Beach)	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-

Table 6-18 Recreational Speech Interference for Average Year Alternative 1

Representative Park Receptor			*Annual Average Outdoor Daily Daytime Events per Hour, NA 50 L_{max}*																			
			Alt1A		*Increase re No Action*		*Alt1B*		*Increase re No Action*		*Alt1C*		*Increase re No Action*		*Alt1D*		*Increase re No Action*		*Alt1E*		*Increase re No Action*	
Type	*ID*	*Description*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*	*Day*	*Night*
School	S01	Oak Harbor High School	9	2	+1	-	9	2	+1	-	10	3	+2	+1	9	2	+1	-	9	3	+1	+1
	S02	Crescent Harbor Elementary School	8	2	+1	-	9	2	+2	-	9	3	+2	+1	8	2	+1	-	9	2	+2	-
	S03	Coupeville Elementary School	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	4	1	+1	+1	3	1	-	+1
	S04	Anacortes High School	1	-	-	-	1	-	-	-	1	-	-	-	1	0	-	-	1	0	-	-
	S05	Lopez Island School	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	0	0	-	-
	S06	Friday Harbor Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	0	0	-	-
	S07	Sir James Douglas Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	0	0	-	-
	S08	Fidalgo Elementary School	4	1	-	-	4	1	-	-	5	1	+1	-	5	1	+1	-	5	1	+1	-
	S09	La Conner Elementary School	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-
	S10	Elger Bay Elementary School	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	0	+1	-	1	0	+1	-

7 Average Year Alternative 2 Scenarios

Relative to the No Action Alternative, Alternative 2 would add two EA-18G aircraft to each CVW squadron, add eight EA-18G aircraft to the FRS, and increase the number of Expeditionary Squadrons from three to five, with five aircraft in each, as shown in Table 2-1. Section 7.1 details the flight operations. Section 7.2 presents the runway/flight track utilization, flight profiles, and derivation of AAD flight operations. Sections 7.3 and 7.4 contain the maintenance run-ups and resultant aircraft noise exposure.

7.1 Flight Operations

From the methodology described in Chapter 2, Tables 7-1 through 7-9 show the modeled flight operations for the average year Alternative 2 under all scenarios. Any of these five scenarios would have approximately 110,000 total annual flight operations for the complex. The EA-18G would dominate operations, with 87 percent of the complex's annual flight operations. Annual FCLP-related operations at the OLF would vary between 6,200 under Alternative 2, Scenario C, to 24,900 under Alternative 2, Scenario A. As shown in Tables 7-2, 7-4, and 7-10, approximately 15 percent and 20 percent of the overall total flight operations and the OLF FCLP operations, respectively, would occur during the DNL nighttime period.

Relative to the average year No Action Alternative, Tables 7-1, 7-3, 7-5, 7-7, and 7-9 show that the complex's total annual flight operations would increase by approximately 26,000, with most of the increase attributable to increased FCLP operations.

The high-tempo FCLP year Alternative 2, Scenario A (Appendix A2), has approximately 114,000 total annual flight operations for the complex, with the EA-18G having 89 percent of the complex's annual flight operations.

Table 7-1 Summary of Annual Flight Operations for the Average Year Alternative 2A

		Alternative 2A (Average Year)			*Change from No Action*		
		Type of Flight Operation			*Type of Flight Operation*		
Airfield	*Aircraft Type or Category*	*FCLP [2,3]*	*Other [4]*	*Total*	*FCLP [2,5]*	*Other*	*Total*
Ault Field	EA-18G	5,900	67,900	73,800	-5,400	+14,900	+9,500
	Other Based	-	11,900	11,900	-	+300	+300
	Transient	-	2,300	2,300	-	-	-
	Subtotal	5,900	67,900	73,800	-5,400	+14,900	+9,500
OLF Coupeville	EA-18G	23,700	-	23,700	+17,600	-	+17,600
	Other	-	400	400	-	-	-
	Subtotal	23,700	400	24,100	+17,600	-	+17,600
TOTAL (both airfields)		**29,600**	**82,500**	**112,100**	**+12,200**	**+15,200**	**+27,400**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.
2 Each closed pattern is counted as two operations.
3 For Growlers at the OLF, values include 2,962 interfacility (FCLP-related) operations; not shown separately.
4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.
5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 7-2 Detailed Annual Flight Operations for the Average Year Alternative 2A

Airfield	*Aircraft*	*Squadron*	*Departure*			*Arrival*											*Interfacility*													
						VFR SI/ Non-Break			*Overhead Break*				*IFR*			*Departure to OLF*				*Break Arrival from OLF*				*Helo Departure to OLF*			*Helo Arrival from OLF*		
			Day (0700-2200)	*Night (2200-0700)*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*Day (0700-2200) DL*	*Day (0700-2200) DK*	*Night (2200-0700) DK*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*Day (0700-2200) DL*	*Day (0700-2200) DK*	*Night (2200-0700) DK*	*Total*	*Day (0700-2200) DL*	*Day (0700-2200) DK*	*Night (2200-0700) DK*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*
Ault Field	EA18	CVW	7,020	404	7,424	2,577	85	2,662	4,134	-	164	4,298	453	10	463	453	212	236	901	741	-	162	903						
		FRS	5,655	389	6,044	2,153	316	2,469	2,423	317	620	3,360	188	28	216	290	151	125	566	486	-	80	566						
		RES	1,146	90	1,236	416	17	433	697	-	24	721	75	7	82	6	4	4	14	12	-	2	14						
		EXP	2,569	142	2,711	931	35	966	1,514	-	70	1,584	157	4	161	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,941	97	2,038	1,415	264	1,679	-	-	-	-	300	59	359														
	H60	SAR	388	-	388	388	-	388	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	394	-	394	283	-	283	-	-	-	-	111	-	111														
	JET_LRG	-	415	100	515	377	99	476	-	-	-	-	26	13	39														
Total			**19,528**	**1,222**	**20,750**	**8,540**	**816**	**9,356**	**8,768**	**317**	**878**	**9,963**	**1,310**	**121**	**1,431**	**749**	**367**	**365**	**1,481**	**1,239**	**-**	**244**	**1,483**	**90**	**-**	**90**	**90**	**-**	**90**

Airfield	*Aircraft*	*Squadron*	*Interfacility*													
			Break Arrival from Ault				*Departure to Ault*				*Helo Arrival from Ault*			*Helo Departure to Ault*		
			Day (700-2200) DL	*Day (700-2200) DK*	*Night (2200-0700) DK*	*Total*	*Day (700-2200) DL*	*Day (700-2200) DK*	*Night (2200-0700) DK*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*
OLF	EA18	CVW	741	-	162	903	453	212	236	901						
		FRS	486	-	80	566	290	151	125	566						
		RES	12	-	2	14	6	4	4	14						
	H60	SAR									90	-	90	90	-	90
Total			**1,239**	**-**	**244**	**1,483**	**749**	**367**	**365**	**1,481**	**90**	**-**	**90**	**90**	**-**	**90**

Table 7-2 Detailed Annual Flight Operations for the Average Year Alternative 2A

Airfield	*Aircraft*	*Squadron*	*Closed Pattern[1]*														*Grand Totals*			
			FCLP				*T&G*				*ReEnter*			*GCA/CCA*						
			Day (0700-2200)		*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*		*Day (0700-2200)*	*Night (2200-0700)*		*Day (0700-2200)*	*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*	
			DL	*DK*	*DK*	*Total*	*DL*	*DK*	*DK*	*Total*			*Total*			*Total*	*DL*	*DK*	*DK*	*Total*
Ault Field	EA18	CVW	1,639	1,084	908	3,631	3,437	655	960	5,052	2,379	77	2,456	4,436	2,778	7,214	27,269	1,951	5,784	35,004
		FRS	1,377	500	281	2,158	3,683	768	981	5,432	-	-	0	4,781	1,014	5,795	21,036	1,736	3,834	26,606
		RES	94	33	20	147	458	10	21	489	444	9	453	458	49	507	3,806	47	243	4,096
		EXP	-	-	-	0	838	-	44	882	913	37	950	840	35	875	7,762	-	367	8,129
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,165	-	661	4,826	-	-	-	1,800	192	1,992	9,621	-	1,273	10,894
	H60	SAR					-	-	-	-	-	-	-	-	-	-	956	-	-	956
	C-40	-					334	-	-	334	-	-	-	168	-	168	1,290	-	-	1,290
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	818	-	212	1,030
Total			**3,110**	**1,617**	**1,209**	**5,936**	**12,915**	**1,433**	**2,667**	**17,015**	**3,736**	**123**	**3,859**	**12,483**	**4,068**	**16,551**	**72,558**	**3,734**	**11,713**	**88,005**
OLF	EA18	CVW	6,076	3,763	2,802	12,641											7,270	3,975	3,200	14,445
		FRS	3,868	2,701	1,350	7,919											4,644	2,852	1,555	9,051
		RES	91	73	41	205											109	77	47	233
	H60	SAR					181	-	-	181							361	-	-	361
Total			**10,035**	**6,537**	**4,193**	**20,765**	**181**	**-**	**-**	**181**							**12,384**	**6,904**	**4,802**	**24,090**
														Grand Totals (Ault+OLF)			**84,942**	**10,638**	**16,515**	**112,095**

Total Annual	**Ault =**	**5,936 (20%)**
EA-18G FCLP	**OLF =**	**23,729 (80%)**
Related Ops	**Total =**	**29,665**

Notes:

[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

Table 7-3 Summary of Annual Flight Operations for the Average Year Alternative 2B

		Alternative 2B (Average Year)			*Change from No Action*		
		Type of Flight Operation			*Type of Flight Operation*		
Airfield	*Aircraft Type or Category*	*FCLP [2, 3]*	*Other [4]*	*Total*	*FCLP [2, 5]*	*Other*	*Total*
Ault Field	EA-18G	66,500	81,300	+3,500	+13,500	+17,000	66,500
	Other Based	11,900	11,900	-	+300	+300	11,900
	Transient	2,300	2,300	-	-	-	2,300
	Subtotal	80,700	95,500	+3,500	+13,800	+17,300	80,700
OLF Coupeville	EA-18G	-	14,800	+8,700	-	+8,700	-
	Other	400	400	-	-	-	400
	Subtotal	400	15,200	+8,700	-	+8,700	400
TOTAL (both airfields)		**29,600**	**81,100**	**110,700**	**+12,200**	**+13,800**	**+26,000**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.

2 Each closed pattern is counted as two operations.

3 For Growlers at the OLF, values include 1,854 interfacility (FCLP-related) operations; not shown separately.

4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.

5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 7-4 Detailed Annual Flight Operations for the Average Year Alternative 2B

Airfield	Aircraft	Squadron	Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	Arrival VFR SI/ Non-Break Day (0700-2200)	Arrival VFR SI/ Non-Break Night (2200-0700)	Arrival VFR SI/ Non-Break Total	Arrival Overhead Break Day (0700-2200) DL	Arrival Overhead Break Day (0700-2200) DK	Arrival Overhead Break Night (2200-0700) DK	Arrival Overhead Break Total	Arrival IFR Day (0700-2200)	Arrival IFR Night (2200-0700)	Arrival IFR Total	Interfacility Departure to OLF Day (0700-2200) DL	Interfacility Departure to OLF Day (0700-2200) DK	Interfacility Departure to OLF Night (2200-0700) DK	Interfacility Departure to OLF Total	Interfacility Break Arrival from OLF Day (0700-2200) DL	Interfacility Break Arrival from OLF Day (0700-2200) DK	Interfacility Break Arrival from OLF Night (2200-0700) DK	Interfacility Break Arrival from OLF Total	Helo Departure to OLF Day (0700-2200)	Helo Departure to OLF Night (2200-0700)	Helo Departure to OLF Total	Helo Arrival from OLF Day (0700-2200)	Helo Arrival from OLF Night (2200-0700)	Helo Arrival from OLF Total
Ault Field	EA18	CVW	6,975	385	7,360	2,552	75	2,627	4,173	-	149	4,322	406	4	410	285	136	143	564	468	-	96	564						
		FRS	5,605	387	5,992	2,165	300	2,465	2,389	305	634	3,328	174	24	198	181	96	73	350	304	-	46	350						
		RES	1,141	83	1,224	405	20	425	706	-	23	729	66	5	71	6	5	2	13	13	-	1	14						
		EXP	2,540	147	2,687	912	30	942	1,509	-	79	1,588	154	4	158	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,912	93	2,005	1,397	270	1,667	-	-	-	-	282	57	339														
	H60	SAR	384	-	384	384	-	384	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	391	-	391	286	-	286	-	-	-	-	105	-	105														
	JET_LRG	-	404	107	511	376	97	473	-	-	-	-	24	13	37														
Total			**19,352**	**1,202**	**20,554**	**8,477**	**792**	**9,269**	**8,777**	**305**	**885**	**9,967**	**1,211**	**107**	**1,318**	**472**	**237**	**218**	**927**	**785**	**-**	**143**	**928**	**90**	**-**	**90**	**90**	**-**	**90**

Airfield	Aircraft	Squadron	Interfacility Break Arrival from Ault Day (700-2200) DL	Interfacility Break Arrival from Ault Day (700-2200) DK	Interfacility Break Arrival from Ault Night (2200-0700) DK	Interfacility Break Arrival from Ault Total	Interfacility Departure to Ault Day (700-2200) DL	Interfacility Departure to Ault Day (700-2200) DK	Interfacility Departure to Ault Night (2200-0700) DK	Interfacility Departure to Ault Total	Helo Arrival from Ault Day (0700-2200)	Helo Arrival from Ault Night (2200-0700)	Helo Arrival from Ault Total	Helo Departure to Ault Day (0700-2200)	Helo Departure to Ault Night (2200-0700)	Helo Departure to Ault Total
OLF	EA18	CVW	468	-	96	564	285	136	143	564						
		FRS	304	-	46	350	181	96	73	350						
		RES	13	-	1	14	6	5	2	13						
	H60	SAR									90	-	90	90	-	90
Total			**785**	**-**	**143**	**928**	**472**	**237**	**218**	**927**	**90**	**-**	**90**	**90**	**-**	**90**

Table 7-4 Detailed Annual Flight Operations for the Average Year Alternative 2B

Airfield	*Aircraft*	*Squadron*	*Closed Pattern*[1]															*Grand Totals*			
			FCLP				*T&G*				*ReEnter*			*GCA/CCA*							
			Day (0700-2200)		*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*									*Day (0700-2200)*		*Night (2200-0700)*	
			DL	*DK*	*DK*	*Total*	*DL*	*DK*	*DK*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*		*DL*	*DK*	*DK*	*Total*
Ault Field	EA18	CVW	4,068	2,622	2,357	9,047	3,437	655	960	5,052	2,379	77	2,456	4,436	2,778	7,214		29,179	3,413	7,024	39,616
		FRS	3,599	1,236	777	5,612	3,683	768	981	5,432	-	-	0	4,781	1,014	5,795		22,881	2,405	4,236	29,522
		RES	108	42	26	176	458	10	21	489	444	9	453	458	49	507		3,805	57	239	4,101
		EXP	-	-	-	0	838	-	44	882	913	37	950	840	35	875		7,706	-	376	8,082
	EP3	All					-	-	-	-	-	-	-	-	-	-		-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-		-	-	-	-
	P8	All					4,233	-	668	4,901	-	-	-	1,832	193	2,025		9,656	-	1,281	10,937
	H60	SAR					-	-	-	-	-	-	-	-	-	-		948	-	-	948
	C-40	-					333	-	-	333	-	-	-	167	-	167		1,282	-	-	1,282
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-		804	-	217	1,021
Total			**7,775**	**3,900**	**3,160**	**14,835**	**12,982**	**1,433**	**2,674**	**17,089**	**3,736**	**123**	**3,859**	**12,514**	**4,069**	**16,583**		**76,261**	**5,875**	**13,373**	**95,509**
OLF	EA18	CVW	3,815	2,387	1,687	7,889												4,568	2,523	1,926	9,017
		FRS	2,417	1,661	829	4,907												2,902	1,757	948	5,607
		RES	82	75	30	187												101	80	33	214
	H60	SAR					180	-	-	180								360	-	-	360
Total			**6,314**	**4,123**	**2,546**	**12,983**	**180**	**-**	**-**	**180**								**7,931**	**4,360**	**2,907**	**15,198**
														Grand Totals (Ault+OLF)				**84,192**	**10,235**	**16,280**	**110,707**

Total Annual	**Ault =**	**14,835 (50%)**
EA-18G FCLP	**OLF =**	**14,838 (50%)**
Related Ops	**Total =**	**29,673**

Notes:

[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

Table 7-5 Summary of Annual Flight Operations for the Average Year Alternative 2C

Airfield	Aircraft Type or Category	Alternative 2C (Average Year) Type of Flight Operation			Change from No Action Type of Flight Operation		
		FCLP [2, 3]	Other [4]	Total	FCLP [2, 5]	Other	Total
Ault Field	EA-18G	23,700	65,400	89,100	+12,400	+12,400	+24,800
	Other Based	-	11,800	11,800	-	+200	+200
	Transient	-	2,300	2,300	-	-	-
	Subtotal	23,700	79,500	103,200	+12,400	+12,600	+25,000
OLF Coupeville	EA-18G	5,900	-	5,900	-200	-	-200
	Other	-	400	400	-	-	-
	Subtotal	5,900	400	6,300	-200	-	-200
TOTAL (both airfields)		**29,600**	**79,900**	**109,500**	**+12,200**	**+12,600**	**+24,800**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.
2 Each closed pattern is counted as two operations.
3 For Growlers at the OLF, values include 742 interfacility (FCLP-related) operations; not shown separately.
4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.
5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 7-6 Detailed Annual Flight Operations for the Average Year Alternative 2C

Airfield	Aircraft	Squadron	Departure			Arrival										Interfacility													
						VFR SI/ Non-Break			Overhead Break				IFR			Departure to OLF				Break Arrival from OLF				Helo Departure to OLF			Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	6,984	376	7,360	2,558	81	2,639	4,165	-	142	4,307	406	9	415	113	49	63	225	184	-	42	226						
		FRS	5,638	355	5,993	2,153	312	2,465	2,411	311	616	3,338	161	28	189	69	40	27	136	119	-	17	136						
		RES	1,141	82	1,223	392	25	417	702	-	27	729	73	4	77	6	2	2	10	9	-	2	11						
		EXP	2,560	133	2,693	934	38	972	1,509	-	61	1,570	148	3	151	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,917	98	2,015	1,388	261	1,649	-	-	-	-	305	61	366														
	H60	SAR	384	-	384	384	-	384	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	390	-	390	288	-	288	-	-	-	-	102	-	102														
	JET_LRG	-	411	100	511	381	95	476	-	-	-	-	23	12	35														
Total			**19,425**	**1,144**	**20,569**	**8,478**	**812**	**9,290**	**8,787**	**311**	**846**	**9,944**	**1,218**	**117**	**1,335**	**188**	**91**	**92**	**371**	**312**	**-**	**61**	**373**	**90**	**-**	**90**	**90**	**-**	**90**

Airfield	Aircraft	Squadron														Interfacility													
																Break Arrival from Ault				Departure to Ault				Helo Arrival from Ault			Helo Departure to Ault		
																Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW														184	-	42	226	113	49	63	225						
		FRS														119	-	17	136	69	40	27	136						
		RES														9	-	2	11	6	2	2	10						
	H60	SAR																						90	-	90	90	-	90
Total																**312**	**-**	**61**	**373**	**188**	**91**	**92**	**371**	**90**	**-**	**90**	**90**	**-**	**90**

Table 7-6 Detailed Annual Flight Operations for the Average Year Alternative 2C

Airfield	*Aircraft*	*Squadron*	*Closed Pattern[1]*														*Grand Totals*			
			FCLP				*T&G*				*ReEnter*			*GCA/CCA*						
			Day (0700-2200)		*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*		*Day (0700-2200)*	*Night (2200-0700)*		*Day (0700-2200)*	*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*	
			DL	*DK*	*DK*	*Total*	*DL*	*DK*	*DK*	*Total*			*Total*			*Total*	*DL*	*DK*	*DK*	*Total*
Ault Field	EA18	CVW	6,469	3,890	4,025	14,384	3,437	655	960	5,052	2,379	77	2,456	4,436	2,778	7,214	31,131	4,594	8,553	44,278
		FRS	5,855	2,056	1,237	9,148	3,683	768	981	5,432	-	-	0	4,781	1,014	5,795	24,870	3,175	4,587	32,632
		RES	117	63	21	201	458	10	21	489	444	9	453	458	49	507	3,800	75	242	4,117
		EXP	-	-	-	0	838	-	44	882	913	37	950	840	35	875	7,742	-	351	8,093
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,221	-	610	4,831	-	-	-	1,820	177	1,997	9,651	-	1,207	10,858
	H60	SAR					-	-	-	-	-	-	-	-	-	-	948	-	-	948
	C-40	-					331	-	-	331	-	-	-	167	-	167	1,278	-	-	1,278
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	815	-	207	1,022
Total			**12,441**	**6,009**	**5,283**	**23,733**	**12,968**	**1,433**	**2,616**	**17,017**	**3,736**	**123**	**3,859**	**12,502**	**4,053**	**16,555**	**80,235**	**7,844**	**15,147**	**103,226**
OLF	EA18	CVW	1,516	929	715	3,160											1,813	978	820	3,611
		FRS	913	716	266	1,895											1,101	756	310	2,167
		RES	74	52	20	146											89	54	24	167
	H60	SAR					181	-	-	181							361	-	-	361
Total			**2,503**	**1,697**	**1,001**	**5,201**	**181**	**-**	**-**	**181**							**3,364**	**1,788**	**1,154**	**6,306**
														Grand Totals (Ault+OLF)			**83,599**	**9,632**	**16,301**	**109,532**

Total Annual	**Ault =**	**23,733 (80%)**
EA-18G FCLP	**OLF =**	**5,945 (20%)**
Related Ops	**Total =**	**29,678**

Notes:

[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

Table 7-7 Summary of Annual Flight Operations for the Average Year Alternative 2D

Airfield	Aircraft Type or Category	Alternative 2D (Average Year) Type of Flight Operation			Change from No Action Type of Flight Operation		
		FCLP [2, 3]	Other [4]	Total	FCLP [2, 5]	Other	Total
Ault Field	EA-18G	8,900	67,500	76,400	-2,400	+14,500	+12,100
	Other Based	-	11,900	11,900	-	+300	+300
	Transient	-	2,300	2,300	-	-	-
	Subtotal	8,900	81,700	90,600	-2,400	+14,800	+12,400
OLF Coupeville	EA-18G	20,800	-	20,800	+14,700	-	+14,700
	Other	-	400	400	-	-	-
	Subtotal	20,800	400	21,200	+14,700	-	+14,700
TOTAL (both airfields)		**29,700**	**82,100**	**111,800**	**+12,300**	**+14,800**	**+27,100**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.

2 Each closed pattern is counted as two operations.

3 For Growlers at the OLF, values include 2,594 interfacility (FCLP-related) operations; not shown separately.

4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.

5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 7-8 Detailed Annual Flight Operations for the Average Year Alternative 2D

Airfield	Aircraft	Squadron	Departure			Arrival: VFR SI/ Non-Break			Arrival: Overhead Break				Arrival: IFR			Interfacility: Departure to OLF				Interfacility: Break Arrival from OLF				Interfacility: Helo Departure to OLF			Interfacility: Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	7,020	404	7,424	2,577	85	2,662	4,134	-	164	4,298	453	10	463	396	186	207	789	648	-	142	790						
		FRS	5,655	389	6,044	2,153	316	2,469	2,423	317	620	3,360	188	28	216	254	132	109	495	425	-	70	495						
		RES	1,146	90	1,236	416	17	433	697	-	24	721	75	7	82	5	4	4	13	11	-	2	13						
		EXP	2,569	142	2,711	931	35	966	1,514	-	70	1,584	157	4	161	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,941	97	2,038	1,415	264	1,679	-	-	-	-	300	59	359														
	H60	SAR	388	-	388	388	-	388	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	394	-	394	283	-	283	-	-	-	-	111	-	111														
	JET_LRG	-	415	100	515	377	99	476	-	-	-	-	26	13	39														
Total			**19,528**	**1,222**	**20,750**	**8,540**	**816**	**9,356**	**8,768**	**317**	**878**	**9,963**	**1,310**	**121**	**1,431**	**655**	**322**	**320**	**1,297**	**1,084**	**-**	**214**	**1,298**	**90**	**-**	**90**	**90**	**-**	**90**

Airfield	Aircraft	Squadron	Interfacility: Break Arrival from Ault				Interfacility: Departure to Ault				Interfacility: Helo Arrival from Ault			Interfacility: Helo Departure to Ault		
			Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW	648	-	142	790	396	186	207	789						
		FRS	425	-	70	495	254	132	109	495						
		RES	11	-	2	13	5	4	4	13						
	H60	SAR									90	-	90	90	-	90
Total			**1,084**	**-**	**214**	**1,298**	**655**	**322**	**320**	**1,297**	**90**	**-**	**90**	**90**	**-**	**90**

Table 7-8 Detailed Annual Flight Operations for the Average Year Alternative 2D

Airfield	Aircraft	Squadron	*Closed Pattern[1]*														*Grand Totals*			
			FCLP				*T&G*				*ReEnter*			*GCA/CCA*						
			Day (0700-2200)		*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*		*Day (0700-2200)*	*Night (2200-0700)*		*Day (0700-2200)*	*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*	
			DL	*DK*	*DK*	*Total*	*DL*	*DK*	*DK*	*Total*			*Total*			*Total*	*DL*	*DK*	*DK*	*Total*
Ault Field	EA18	CVW	2,459	1,626	1,362	5,447	3,437	655	960	5,052	2,379	77	2,456	4,436	2,778	7,214	27,939	2,467	6,189	36,595
		FRS	2,066	750	422	3,238	3,683	768	981	5,432	-	-	0	4,781	1,014	5,795	21,628	1,967	3,949	27,544
		RES	141	50	30	221	458	10	21	489	444	9	453	458	49	507	3,851	64	253	4,168
		EXP	-	-	-	0	838	-	44	882	913	37	950	840	35	875	7,762	-	367	8,129
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,165	-	661	4,826	-	-	-	1,800	192	1,992	9,621	-	1,273	10,894
	H60	SAR					-	-	-	-	-	-	-	-	-	-	956	-	-	956
	C-40	-					334	-	-	334	-	-	-	168	-	168	1,290	-	-	1,290
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	818	-	212	1,030
Total			**4,666**	**2,426**	**1,814**	**8,906**	**12,915**	**1,433**	**2,667**	**17,015**	**3,736**	**123**	**3,859**	**12,483**	**4,068**	**16,551**	**73,865**	**4,498**	**12,243**	**90,606**
OLF	EA18	CVW	5,317	3,293	2,452	11,062											6,361	3,479	2,801	12,641
		FRS	3,385	2,363	1,181	6,929											4,064	2,495	1,360	7,919
		RES	80	64	36	180											96	68	42	206
	H60	SAR					181	-	-	181							361	-	-	361
Total			**8,782**	**5,720**	**3,669**	**18,171**	**181**	**-**	**-**	**181**							**10,882**	**6,042**	**4,203**	**21,127**
														Grand Totals (Ault+OLF)			**84,747**	**10,540**	**16,446**	**111,733**

Total Annual	**Ault =**	**8,906 (30%)**
EA-18G FCLP	**OLF =**	**20,766 (70%)**
Related Ops	**Total =**	**29,672**

Notes:

1 Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

Table 7-9 Summary of Annual Flight Operations for the Average Year Alternative 2E

		Alternative 2E (Average Year) Type of Flight Operation			Change from No Action Type of Flight Operation		
Airfield	Aircraft Type or Category	FCLP [2, 3]	Other [4]	Total	FCLP [2, 5]	Other	Total
Ault Field	EA-18G	20,800	65,800	86,600	+9,500	+12,800	+22,300
	Other Based	-	11,800	11,800	-	+200	+200
	Transient	-	2,300	2,300	-	-	-
	Subtotal	20,800	79,900	100,700	+9,500	+13,000	+22,500
OLF Coupeville	EA-18G	8,900	-	8,900	+2,800	-	+2,800
	Other	-	400	400	-	-	-
	Subtotal	8,900	400	9,300	+2,800	-	+2,800
TOTAL (both airfields)		**29,700**	**80,300**	**110,000**	**+12,300**	**+13,000**	**+25,300**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.

2 Each closed pattern is counted as two operations.

3 For Growlers at the OLF, values include 1,118 interfacility (FCLP-related) operations; not shown separately.

4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.

5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 7-10 Detailed Annual Flight Operations for the Average Year Alternative 2E

Airfield	Aircraft	Squadron	Departure			Arrival										Interfacility													
						VFR SI/ Non-Break			Overhead Break				IFR			Departure to OLF				Break Arrival from OLF				Helo Departure to OLF			Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	6,984	376	7,360	2,558	81	2,639	4,165	-	142	4,307	406	9	415	170	74	95	339	276	-	63	339						
		FRS	5,638	355	5,993	2,153	312	2,465	2,411	311	616	3,338	161	28	189	104	60	41	205	179	-	26	205						
		RES	1,141	82	1,223	392	25	417	702	-	27	729	73	4	77	9	3	3	15	14	-	3	17						
		EXP	2,560	133	2,693	934	38	972	1,509	-	61	1,570	148	3	151	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,917	98	2,015	1,388	261	1,649	-	-	-	-	305	61	366														
	H60	SAR	384	-	384	384	-	384	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	390	-	390	288	-	288	-	-	-	-	102	-	102														
	JET_LRG	-	411	100	511	381	95	476	-	-	-	-	23	12	35														
Total			**19,425**	**1,144**	**20,569**	**8,478**	**812**	**9,290**	**8,787**	**311**	**846**	**9,944**	**1,218**	**117**	**1,335**	**283**	**137**	**139**	**559**	**469**	**-**	**92**	**561**	**90**	**-**	**90**	**90**	**-**	**90**

Airfield	Aircraft	Squadron	Interfacility													
			Break Arrival from Ault				Departure to Ault				Helo Arrival from Ault			Helo Departure to Ault		
			Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW	276	-	63	339	170	74	95	339						
		FRS	179	-	26	205	104	60	41	205						
		RES	14	-	3	17	9	3	3	15						
	H60	SAR									90	-	90	90	-	90
Total			**469**	**-**	**92**	**561**	**283**	**137**	**139**	**559**	**90**	**-**	**90**	**90**	**-**	**90**

Table 7-10 Detailed Annual Flight Operations for the Average Year Alternative 2E

Airfield	Aircraft	Squadron	Closed Pattern[1]														Grand Totals			
			FCLP				T&G				ReEnter			GCA/CCA						
			Day (0700-2200)		Night (2200-0700)		Day (0700-2200)		Night (2200-0700)		Day (0700-2200)	Night (2200-0700)		Day (0700-2200)	Night (2200-0700)		Day (0700-2200)		Night (2200-0700)	
			DL	DK	DK	Total	DL	DK	DK	Total			Total			Total	DL	DK	DK	Total
Ault Field	EA18	CVW	5,660	3,404	3,522	12,586	3,437	655	960	5,052	2,379	77	2,456	4,436	2,778	7,214	30,471	4,133	8,103	42,707
		FRS	5,123	1,799	1,082	8,004	3,683	768	981	5,432	-	-	0	4,781	1,014	5,795	24,233	2,938	4,455	31,626
		RES	102	55	18	175	458	10	21	489	444	9	453	458	49	507	3,793	68	241	4,102
		EXP	-	-	-	0	838	-	44	882	913	37	950	840	35	875	7,742	-	351	8,093
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,221	-	610	4,831	-	-	-	1,820	177	1,997	9,651	-	1,207	10,858
	H60	SAR					-	-	-	-	-	-	-	-	-	-	948	-	-	948
	C-40	-					331	-	-	331	-	-	-	167	-	167	1,278	-	-	1,278
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	815	-	207	1,022
Total			**10,885**	**5,258**	**4,622**	**20,765**	**12,968**	**1,433**	**2,616**	**17,017**	**3,736**	**123**	**3,859**	**12,502**	**4,053**	**16,555**	**78,931**	**7,139**	**14,564**	**100,634**
OLF	EA18	CVW	2,274	1,394	1,073	4,741											2,720	1,468	1,231	5,419
		FRS	1,370	1,074	399	2,843											1,653	1,134	466	3,253
		RES	111	78	30	219											134	81	36	251
	H60	SAR					181	-	-	181							361	-	-	361
Total			2,274	1,394	1,073	4,741											2,720	1,468	1,231	5,419
														Grand Totals (Ault+OLF)			**83,799**	**9,822**	**16,297**	**109,918**

Total Annual	**Ault =**	**20,765 (69.9%)**
EA-18G FCLP	**OLF =**	**8,923 (30.1%)**
Related Ops	**Total =**	**29,688**

Notes:
[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:
CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

7.2 Other Modeling Parameters

Appendix A3 contains tables of runway utilization percentages as extracted from the NASMOD study output. Flight tracks and their utilization would be identical to those of the No Action Alternative except for the overhead break/pattern portion of the interfacility arrival tracks to the OLF and the FCLPs at the OLF. The primary changes in these tracks are the abeam distances (shortened compared to the No Action Alternative). Modeled flight tracks are depicted in Appendix A4.

Flight profiles would be identical to the No Action Alternative except for the adjustments made to the aforementioned revised overhead break/pattern and FCLP flight tracks. The representative profiles for each modeled aircraft type are contained in Appendix A5.

Depending on whether Scenario A, B, C, D, or E is selected, Alternative 2 would have between approximately 181 and 200 AAD flight events at Ault Field and between approximately 12 and 40 AAD flight events at the OLF. For the high-tempo FCLP year, Alternative 2 would have between approximately 182 and 204 AAD flight events at Ault Field and between approximately 12 and 43 AAD flight events at the OLF.

7.3 Run-up Operations

Table 6-11 lists the modeled run-ups, with their locations depicted in Figure 5-1. For average year Alternative 2, numbers of annual run-up events for the EA-18G were scaled proportionally to that alternative's change in number of based aircraft compared to the average year No Action Alternative.

For the high-tempo FCLP year Alternative 2, it was assumed the run-ups would not change compared to those of the average year Alternative 2.

7.4 Aircraft Noise Exposure

Using the data described in Sections 7.1 through 7.3, NOISEMAP was used to calculate and plot the 60 dB through 95 dB DNL contours, in 5-dB increments, for the AAD events for average year Alternative 2 under all scenarios. Figures 7-1 through 7-5 show the resulting DNL contours.

At Ault Field, the DNL contours for average year Alternative 2 under all scenarios would be up to roughly 1,000 feet of each other on average. The 65 dB contour surrounding Ault Field would extend approximately 7 to 13 miles from the runway endpoints. These lobes would be primarily attributable to EA-18G aircraft flying on the approach portion of GCA patterns. The 65 dB DNL contour would extend approximately 2 miles past the eastern shore of the mainland across Skagit Bay, primarily due to EA-18G GCA and VFR approaches. The 80 dB DNL contour would extend approximately 4 miles to the east outside the station boundary, primarily due to EA-18G GCA and VFR approaches descending from 1,800 feet AGL, as well as the GCA patterns. The 90 dB contour would extend approximately 0.5 mile to the east beyond the station boundary.

The DNL exposure at the OLF would be attributable to the OLF's FCLP operations. The 65 dB contours would extend 2.2 to 2.8 miles north of the OLF's runway. The 65 dB contours would extend 2.5 to 3.1 miles south of the OLF's runway.

As an overview comparison map, Figure 7-6 compares the 65 dB DNL contours of average year Alternative 2 under all scenarios to the 65 dB DNL contours of the No Action Alternative. Because FCLPs comprise the majority of operations at the OLF, changes in location of FCLPs between Ault Field and the OLF cause a larger difference in DNL contours at the OLF from one scenario to the next.

Table 7-11 depicts the estimated off-station population exposed to DNL greater than or equal to 65 dB and its change compared to the No Action Alternative. Overall, the affected population would increase by 12 percent to 16 percent, with the smallest increase occurring under Alternative 2, Scenario A, and the largest under Alternative 2, Scenarios B and E.

Under the high-tempo FCLP year Alternative 2 (Appendix A7), the population exposed to DNL greater than or equal to 65 dB would increase by 14 percent to 17 percent, with the smallest increase occurring under high-tempo FCLP year Alternative 2, Scenario A, and the largest increase attributable to high-tempo FCLP year Alternative 2, Scenarios B and E. As shown in Table 7-12, the population exposed to DNL greater than or equal to 65 dB would, on average, be 2 percent greater than that exposed under the average year Alternative 2.

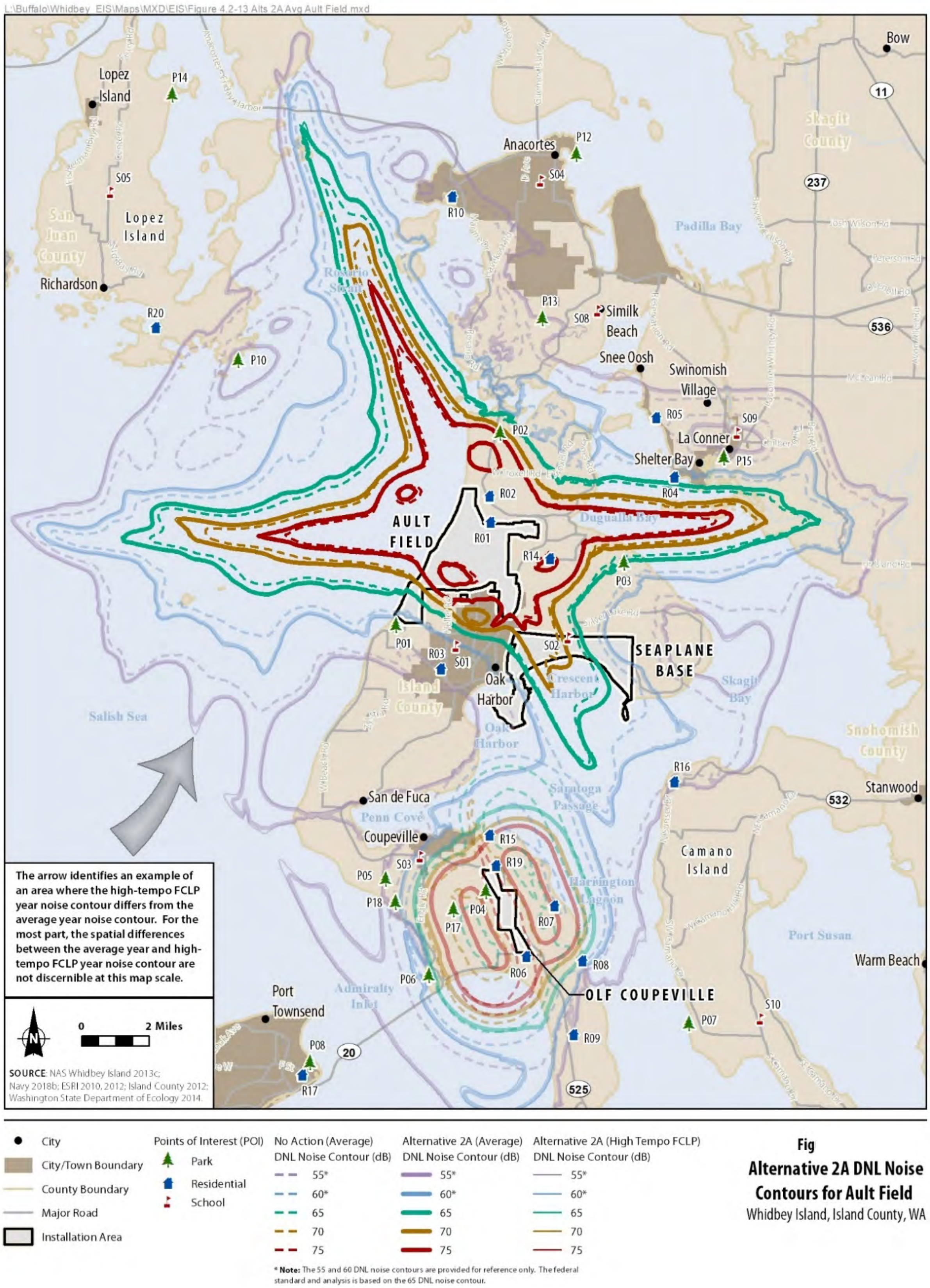

Figure 7-1 DNL Contours for AAD Aircraft Events for the Average Year Alternative 2A

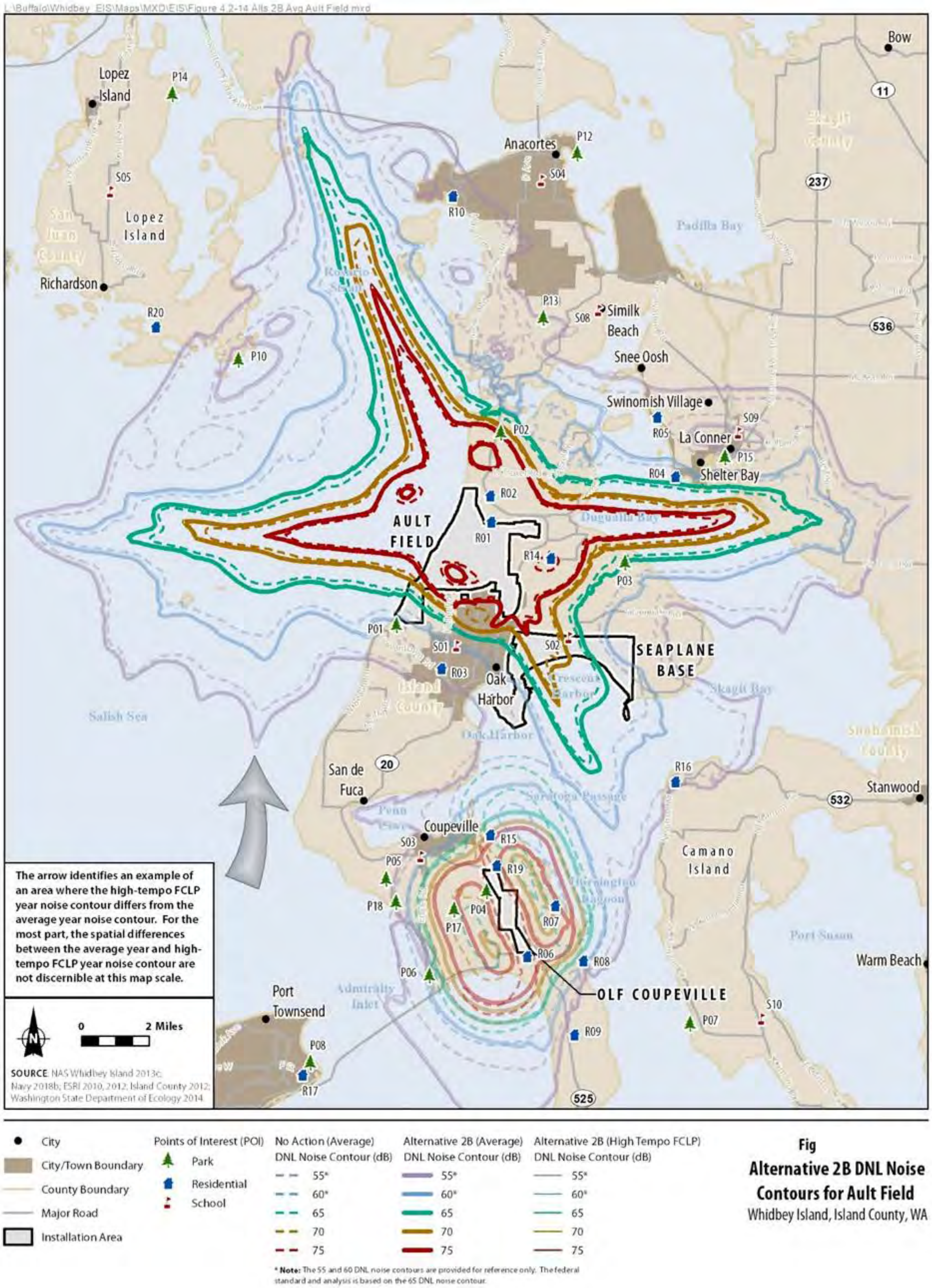

Figure 7-2 DNL Contours for AAD Aircraft Events for the Average Year Alternative 2B

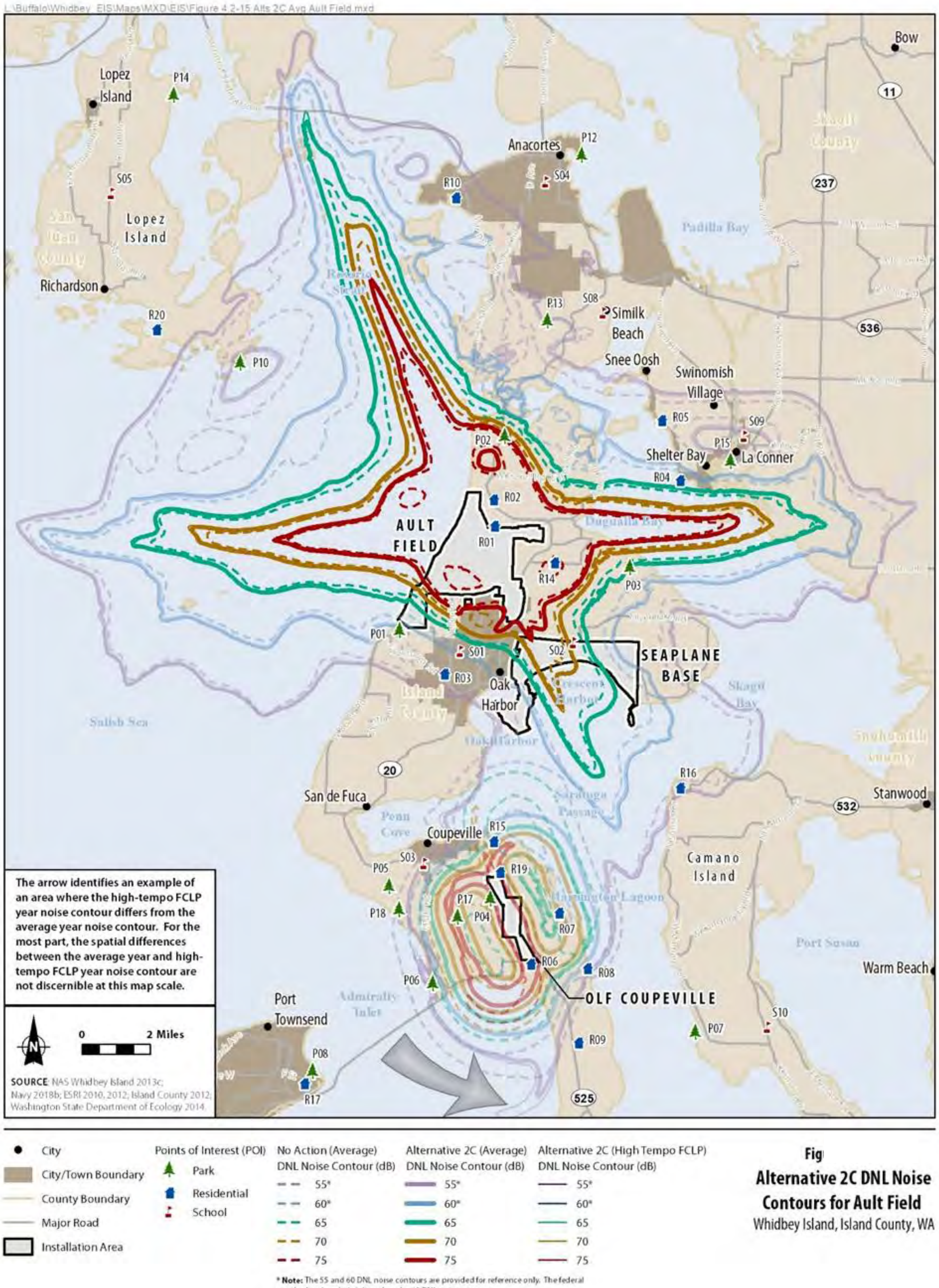

Figure 7-3 DNL Contours for AAD Aircraft Events for the Average Year Alternative 2C

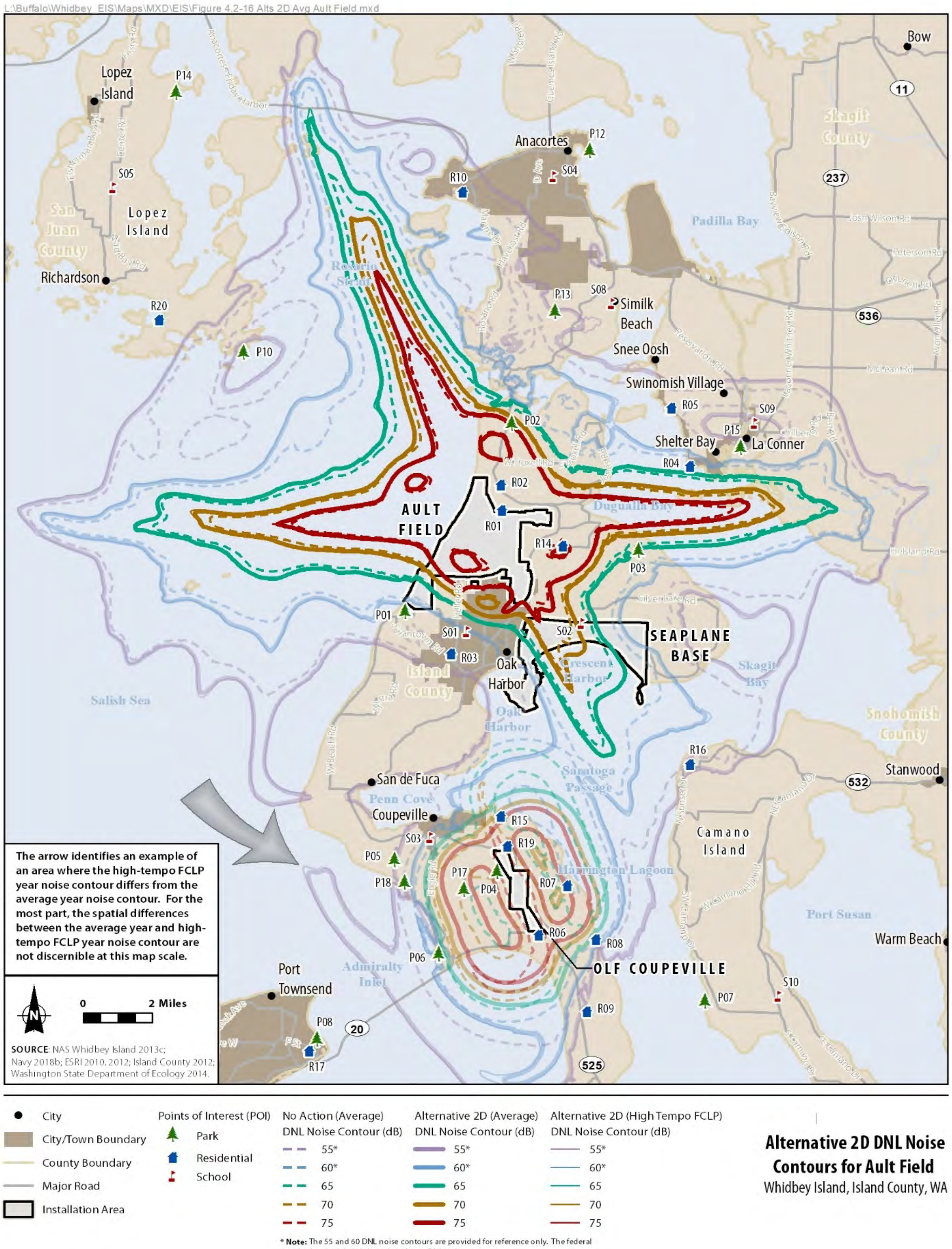

Figure 7-4 DNL Contours for AAD Aircraft Events for the Average Year Alternative 2D

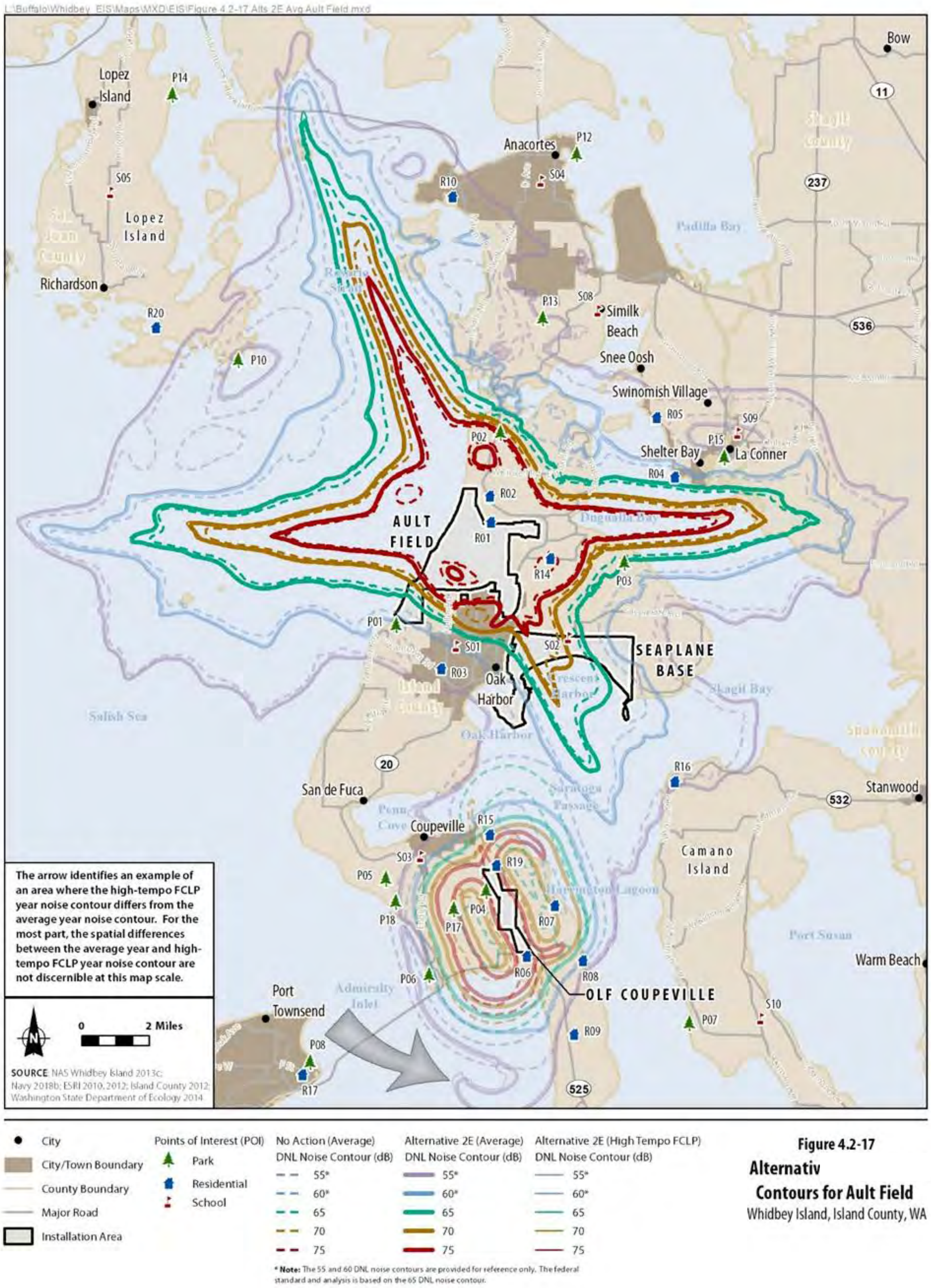

Figure 7-5 DNL Contours for AAD Aircraft Events for the Average Year Alternative 2E

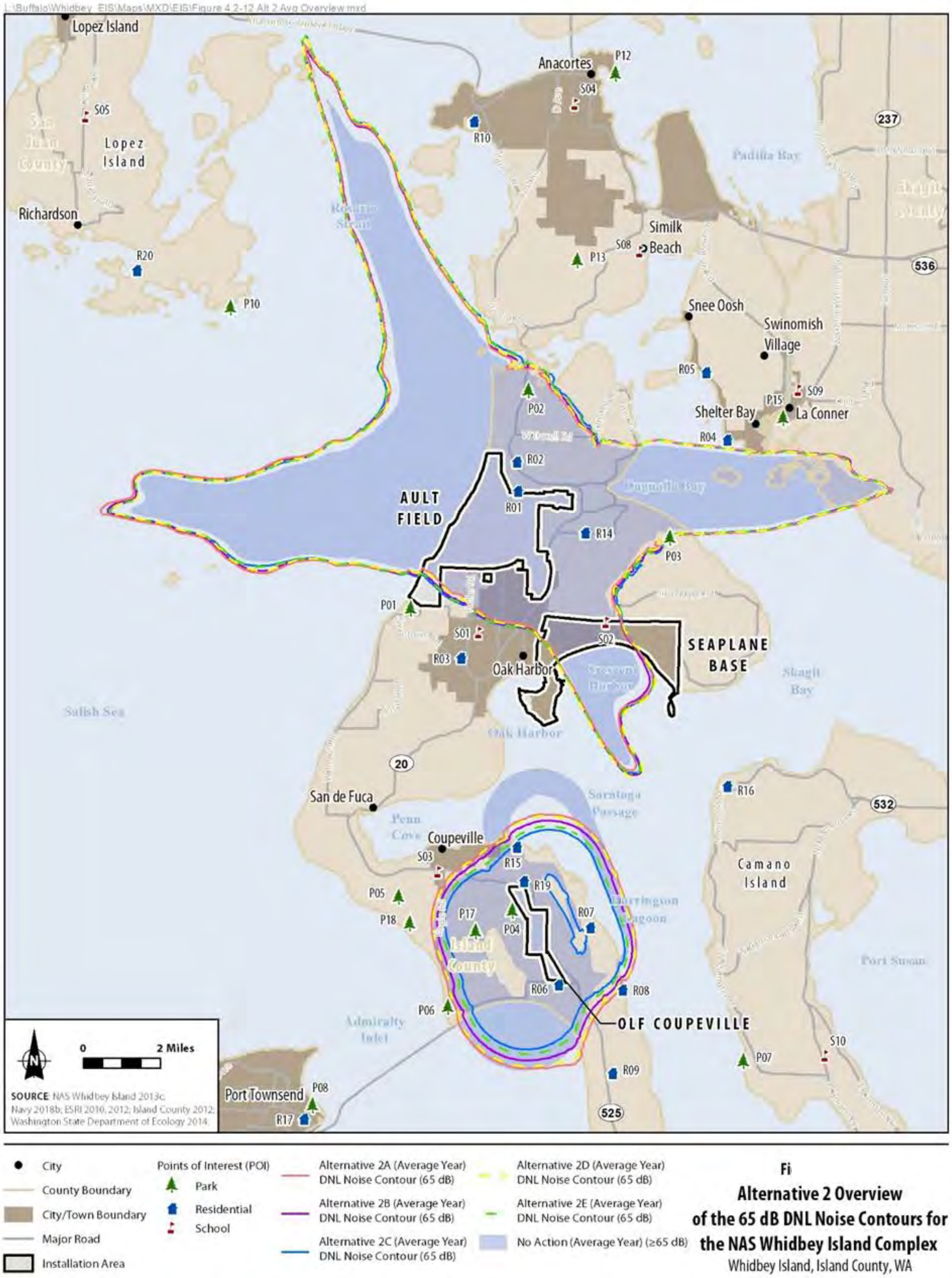

Figure 7-6 Comparison of 65 dB DNL Contours for Average Year Alternative 2 and the No Action Alternative

Table 7-11 Estimated Acreage and Population within the DNL Contour Ranges[1] for the NAS Whidbey Island Complex, Alternative 2 (Average Year)[2,3]

	DNL Contour Ranges							
	65 to <70 dB DNL		70 to <75 dB DNL		Greater than or equal to 75 dB DNL		Total	
	Area (acres)	Pop[4]	Area (acres)	Pop[4]	Area (acres)	Pop[4]	Area (acres)	Pop[4]
Ault Field								
No Action Alternative								
Average Year	3,596	3,279	3,269	2,283	5,549	3,379	12,414	8,941
Alternative 2								
Scenario A (20/80 FCLP split)	4,015 (+419)	3,699 (+420)	3,263 (-6)	1,886 (-397)	5,886 (+337)	3,493 (+114)	13,164 (+750)	9,078 (+137)
Scenario B (50/50 FCLP split)	3,899 (+303)	3,595 (+316)	3,266 (-3)	2,423 (+140)	6,370 (+821)	3,763 (+384)	13,535 (+1,121)	9,781 (+840)
Scenario C (80/20 FCLP split)	3,903 (+307)	3,701 (+422)	3,130 (-139)	2,472 (+189)	6,755 (+1,206)	3,922 (+543)	13,788 (+1,374)	10,095 (+1,154)
Scenario D (30/70 FCLP split)	3,966 (+370)	3,703 (+424)	3,234 (-35)	2,189 (-94)	6,129 (+580)	3,606 (+227)	13,329 (+915)	9,498 (+557)
Scenario E (70/30 FCLP split)	3,898 (+302)	3,667 (+388)	3,152 (-117)	2,435 (+152)	6,657 (+1,108)	3,876 (+497)	13,707 (+1,293)	9,978 (+1,037)
OLF Coupeville								
No Action Alternative								
Average Year	3,681	861	3,088	786	638	583	7,407	2,230
Alternative 2								
Scenario A (20/80 FCLP split)	1,553 (-2,128)	539 (-322)	3,380 (+292)	987 (+201)	5,149 (+4,511)	1,883 (+1,300)	10,082 (+2,675)	3,409 (+1,179)
Scenario B (50/50 FCLP split)	2,124 (-1,557)	583 (-278)	3,470 (+382)	1,065 (+279)	3,784 (+3,146)	1,447 (+864)	9,378 (+1,971)	3,095 (+865)
Scenario C (80/20 FCLP split)	3,442 (-239)	1,059 (+198)	3,148 (+60)	1,018 (+232)	1,287 (+649)	642 (+59)	7,877 (+470)	2,719 (+489)
Scenario D (30/70 FCLP split)	1,651 (-2,030)	518 (-343)	3,443 (+355)	1,027 (+241)	4,793 (+4,155)	1,774 (+1,191)	9,887 (+2,480)	3,319 (+1,089)
Scenario E (70/30 FCLP split)	3,136 (-545)	896 (+35)	3,157 (+69)	1,047 (+261)	2,413 (+1,775)	968 (+385)	8,706 (+1,299)	2,911 (+681)
NAS Whidbey Island Complex								
No Action Alternative								
Average Year	7,277	4,140	6,357	3,069	6,187	3,962	19,821	11,171
Alternative 2								
Scenario A (20/80 FCLP split)	5,568 (-1,709)	4,238 (+98)	6,643 (+286)	2,873 (-196)	11,035 (+4,848)	5,376 (+1,414)	23,246 (+3,425)	12,487 (+1,316)
Scenario B (50/50 FCLP split)	6,023 (-1,254)	4,178 (+38)	6,736 (+379)	3,488 (+419)	10,154 (+3,967)	5,210 (+1,248)	22,913 (+3,092)	12,876 (+1,705)
Scenario C (80/20 FCLP split)	7,345 (+68)	4,760 (+620)	6,278 (-79)	3,490 (+421)	8,042 (+1,855)	4,564 (+602)	21,665 (+1,844)	12,814 (+1,643)

Table 7-11 Estimated Acreage and Population within the DNL Contour Ranges[1] for the NAS Whidbey Island Complex, Alternative 2 (Average Year)[2,3]

	DNL Contour Ranges							
	65 to <70 dB DNL		***70 to <75 dB DNL***		***Greater than or equal to 75 dB DNL***		***Total***	
	Area (acres)	***Pop[4]***	***Area (acres)***	***Pop[4]***	***Area (acres)***	***Pop[4]***	***Area (acres)***	***Pop[4]***
Scenario D (30/70 FCLP split)	5,617 (-1,660)	4,221 (+81)	6,677 (+320)	3,216 (+147)	10,922 (+4,735)	5,380 (+1,418)	23,216 (+3,395)	12,817 (+1,646)
Scenario E (70/30 FCLP split)	7,034 (-243)	4,563 (+423)	6,309 (-48)	3,482 (+413)	9,070 (+2,883)	4,844 (+882)	22,413 (+2,592)	12,889 (+1,718)

Notes:

1 All five scenarios are outlined in Section 2.3.3, where the split represents the percent of FCLPs conducted at Ault Field and OLF Coupeville, respectively (i.e., 20/80 FCLP split = 20 percent of FCLPs at Ault Field and 80 percent of FCLPs at OLF Coupeville).

2 Acreage presented does not include areas over water or areas over the NAS Whidbey Island complex.

3 The difference between the No Action Alternative and Alternative 1 is noted in parentheses.

4 Population counts of people within the DNL contour ranges were computed using 2010 Census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour range, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block, and it excludes population on military properties within the DNL contour ranges (NAS Whidbey Island [Ault Field], the Seaplane Base, and OLF Coupeville). A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

5 Numbers have been rounded to ensure totals sum.

Key:

dB = decibel
DNL = day-night average sound level
FCLP = Field Carrier Landing Practice

Table 7-12 Percent Difference in the Estimated Acreage and Population within the Average and High-Tempo FCLP Year DNL Contour Ranges for the NAS Whidbey Island Complex, Alternative 2

	DNL Contour Ranges[1]							
	65 to <70 dB DNL		*70 to <75 dB DNL*		*Greater than or equal to 75 dB DNL*		*Total*	
DNL Contours	*Area (acres)*	*Pop*	*Area (acres)*	*Pop*	*Area (acres)*	*Pop*	*Area (acres)*	*Pop*
Ault Field								
Scenario A	1.7%	1.1%	0.3%	2.3%	1.1%	0.6%	1.1%	1.2%
Scenario B	1.4%	1.8%	0.0%	2.8%	1.9%	1.4%	1.3%	1.9%
Scenario C	2.3%	1.8%	0.3%	1.8%	1.3%	1.0%	1.4%	1.5%
Scenario D	1.5%	1.4%	0.3%	1.6%	1.0%	0.7%	1.0%	1.2%
Scenario E	1.8%	1.5%	0.3%	2.1%	1.3%	0.8%	1.2%	1.4%
OLF Coupeville								
Scenario A	0.6%	4.3%	-2.9%	-3.9%	3.4%	2.9%	0.9%	1.2%
Scenario B	-2.9%	-3.7%	-0.3%	-0.5%	3.6%	3.4%	0.7%	0.7%
Scenario C	0.1%	-3.1%	0.9%	2.4%	26.6%	14.6%	4.8%	3.1%
Scenario D	-3.9%	1.8%	-0.5%	-2.0%	3.6%	3.2%	0.9%	1.3%
Scenario E	-6.8%	-7.9%	2.1%	0.4%	12.6%	10.9%	1.8%	1.3%
NAS Whidbey Island Complex								
Scenario A	1.4%	1.5%	-1.3%	0.2%	2.2%	1.4%	1.0%	1.2%
Scenario B	-0.1%	1.1%	-0.1%	1.8%	2.5%	1.9%	1.1%	1.6%
Scenario C	1.3%	0.7%	0.6%	2.0%	5.4%	2.9%	2.6%	1.8%
Scenario D	-0.1%	1.4%	-0.1%	0.5%	2.2%	1.5%	1.0%	1.2%
Scenario E	-2.0%	-0.4%	1.2%	1.6%	4.3%	2.8%	1.4%	1.4%

Key:
dB = decibel
DNL = day-night average sound level
NAS = Naval Air Station
OLF = outlying landing field

7.4.1 Points of Interest

Figure 7-7 shows the DNL for each POI and comparisons of the DNLs for this alternative's scenarios to those for the No Action Alternative. The average year Alternative 2 under all scenarios would have 12 POIs experience DNL greater than or equal to 65 dB, and five residential POIs would experience DNL greater than or equal to 75 dB. Three of the latter category would be near Ault Field (POIs R01, R02, and R14), and three would be near the OLF (POIs R06, R07, and R19). One of the seven schools, POI S02, would experience DNL greater than or equal to 65 dB--i.e., 69 dB.

Among alternatives under all scenarios, the increase in DNL would be greatest for Alternative 2, Scenario A, and smallest for Alternative 2, Scenario C. Increases in DNL would range from 1 to 15 dB compared to the No Action Alternative. POIs R06, R07, and EBLA001 would experience the greatest increases in DNL, 11 to 15 dB. POI R07 would be newly impacted, with DNL of 71 to 76 dB.

See Appendix A6 for lists of the five flight profiles that generate the greatest SEL at each POI.

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
P01	Joseph Whidbey State Park	Ault	58				
				59			
					59		
						58	
							59
P02	Deception Pass State Park	Ault	73				
				74			
					75		
						74	
							75
P03	Dugualla State Park	Ault	66				
				66			
					66		
						66	
							66
P04	Baseball Field (Ebey's Landing National Historical Reserve)	OLF	79				
				77			
					73		
						78	
							74
P05	Ebey's Prairie	OLF	56				
				54			
					50		
						55	
							51
P06	Fort Casey State Park	OLF	63				
				60			
					57		
						62	
							58
P07	Cama Beach State Park	OLF	47				
				46			
					<45		
						47	
							<45
P08	Port Townsend	OLF	<45				
				<45			
					<45		
						<45	
							<45
P09	Moran State Park	Ault	<45				
				<45			
					<45		
						<45	
							<45
P10	San Juan Islands National Monument	Ault	55				
				55			
					55		
						55	
							55
P11	San Juan Island Visitors Center	Ault	<45				
				<45			
					<45		
						<45	
							<45
P12	Cap Sante Park	Ault	<45				
				<45			
					<45		
						<45	
							<45
P13	Lake Campbell	Ault	55				
				55			
					56		
						56	
							56

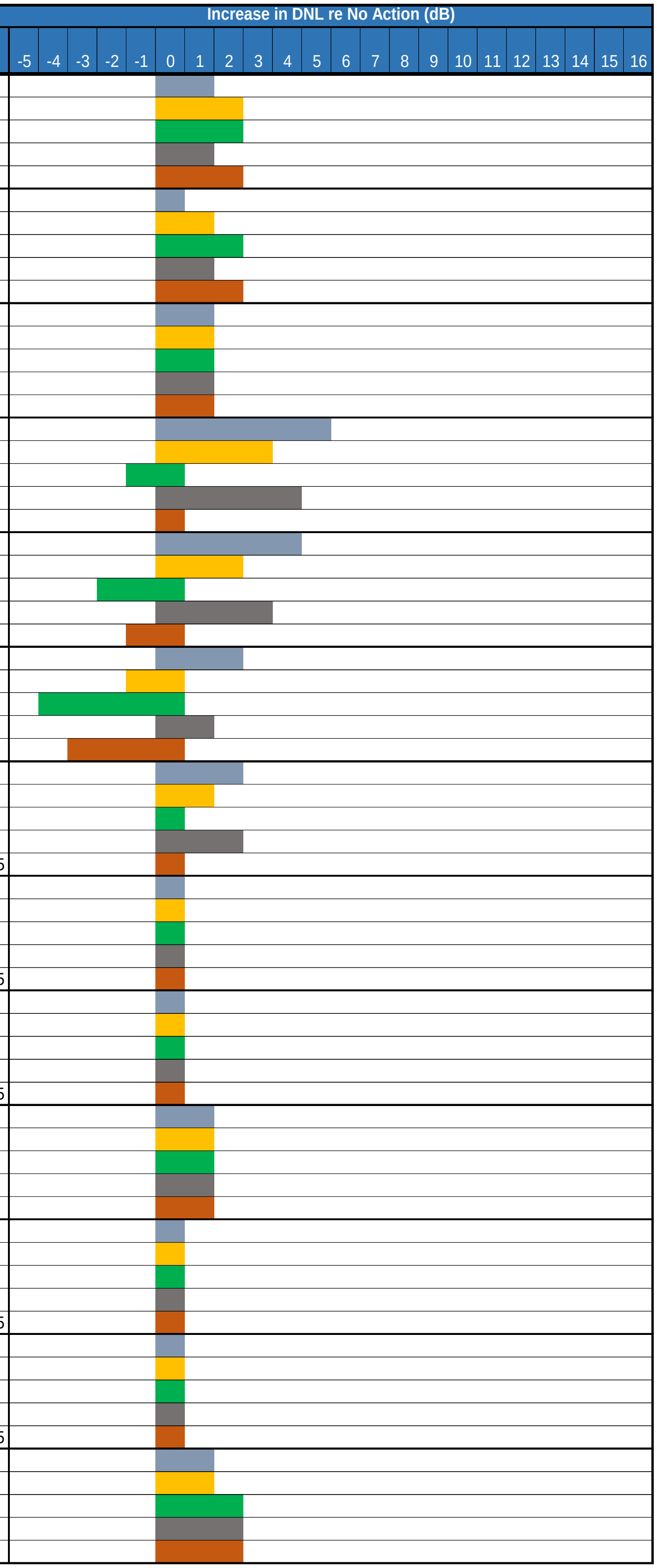

Figure 7-7 Estimated Aircraft DNL at POIs for the Average Year Alternative 2

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
P14	Spencer Spit State Park	None	<45	<45	<45	<45	<45
P15	Pioneer Park	Ault	57	57	56	57	57
P16	Marrowstone Island (Fort Flagler)	OLF	<45	<45	<45	<45	<45
EBLA001	Ferry House	OLF	80	78	74	80	76
EBLA002	Reuble Farm	OLF	58	56	52	58	54
R01	Sullivan Rd	Ault	91	91	91	91	91
R02	Salal St. and N. Northgate Dr	Ault	79	79	80	79	80
R03	Central Whidbey	Ault	58	59	59	58	59
R04	Pull and Be Damned Point	Ault	63	63	63	63	63
R05	Snee-Oosh Point	Ault	58	58	58	58	58
R06	Admirals Dr and Byrd Dr	OLF	89	87	83	88	85
R07	Race Lagoon	OLF	76	74	70	75	71
R08	Pratts Bluff	OLF	63	61	57	62	59

Increase in DNL re No Action (dB): -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Figure 7-7 Estimated Aircraft DNL at POIs for the Average Year Alternative 2 (continued)

Point of Interest			DNL (dB)					Increase in DNL re No Action (dB)
ID	Description	Related Field	A	B	C	D	E	-5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
R09	Cox Rd and Island Ridge Way	OLF	54	52	48	54	50	
R10	Skyline	None	58	57	58	58	58	
R11	Sequim	None	<45	<45	<45	<45	<45	
R12	Port Angeles	None	<45	<45	<45	<45	<45	
R13	Beverly Beach, Freeland	OLF	<45	<45	<45	<45	<45	
R14	Sleeper Rd & Slumber L	Ault	75	76	76	75	76	
R15	Long Point Manor	OLF	73	71	67	72	68	
R16	Rocky Point Heights	OLF	56	56	56	56	56	
R17	Port Townsend	None	<45	<45	<45	<45	<45	
R18	Marrowstone Island (Nordland)	None	<45	<45	<45	<45	<45	
R19	Island Transit Offices, Coupeville	OLF	80	78	74	79	76	
R20	South Lopez Island (Agate Beach)	None	49	48	49	49	49	

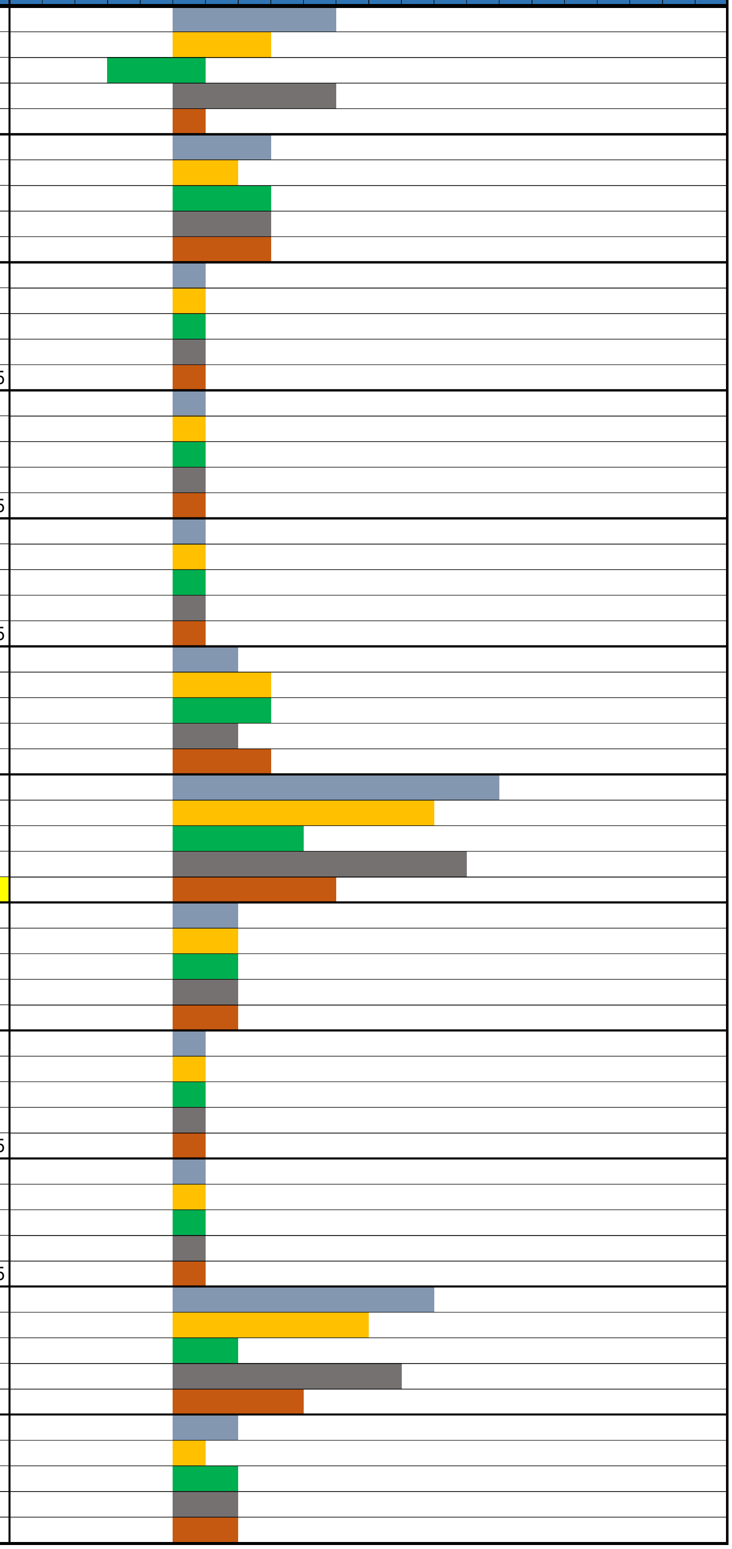

Figure 7-7 Estimated Aircraft DNL at POIs for the Average Year Alternative 2 (continued)

Point of Interest			DNL (dB)					Increase in DNL re No Action (dB)
ID	Description	Related Field	A	B	C	D	E	-5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
S01	Oak Harbor High School	Ault	59					
				60				
					61			
						60		
							61	
S02	Crescent Harbor Elementary School	Ault	69					
				68				
					69			
						69		
							69	
S03	Coupeville Elementary School	OLF	61					
				59				
					55			
						61		
							57	
S04	Anacortes High School	Ault	50					
				49				
					50			
						50		
							50	
S05	Lopez Island School	None	<45					
				<45				
					<45			
						<45		
							<45	
S06	Friday Harbor Elementary School	None	<45					
				<45				
					<45			
						<45		
							<45	
S07	Sir James Douglas Elementary School	None	<45					
				<45				
					<45			
						<45		
							<45	
S08	Fidalgo Elementary School	Ault	53					
				53				
					53			
						53		
							53	
S09	La Conner Elementary School	Ault	55					
				55				
					54			
						54		
							54	
S10	Elger Bay Elementary School	OLF	<45					
				<45				
					<45			
						<45		
							<45	

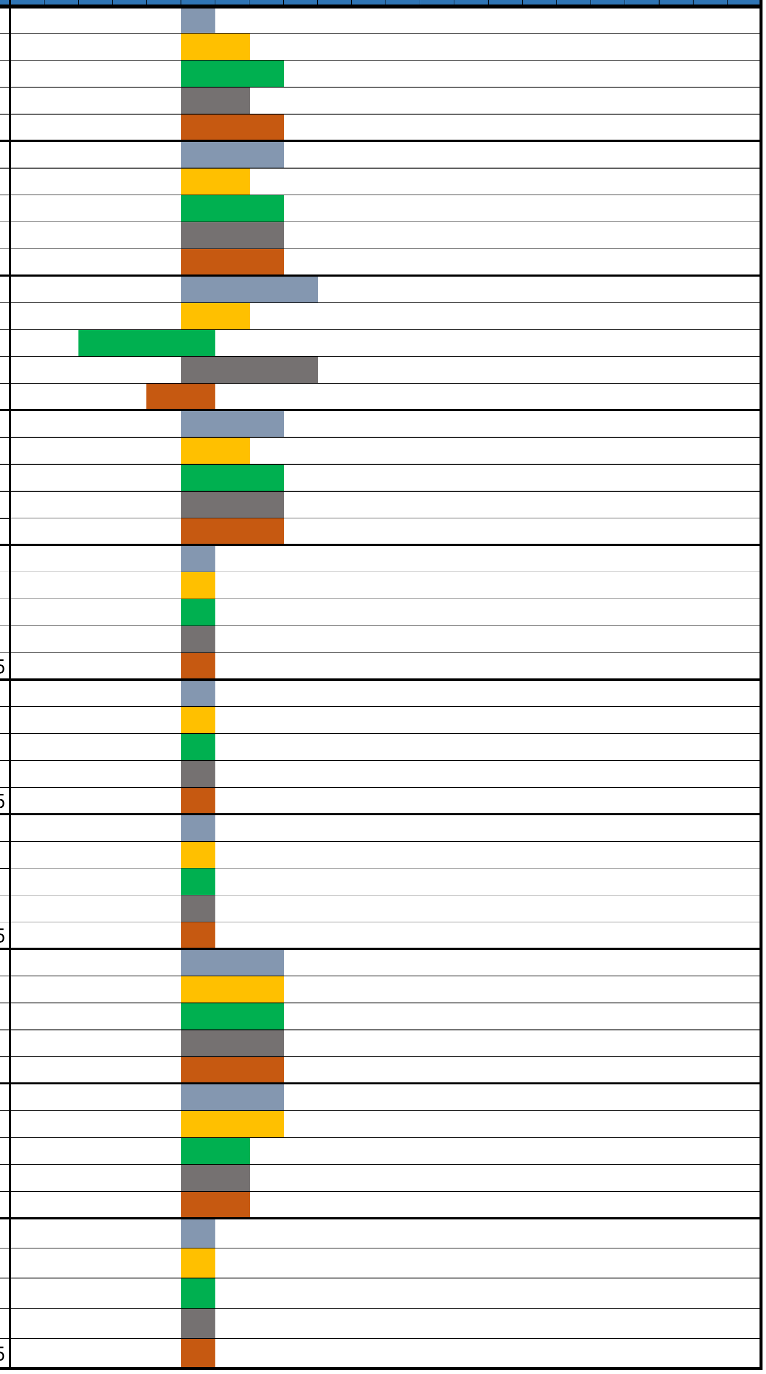

Figure 7-7 Estimated Aircraft DNL at POIs for the Average Year Alternative 2 (concluded)

The high-tempo FCLP year Alternative 2 under all scenarios (Appendix A7) would have 12 POIs experience DNL greater than or equal to 65 dB, and five or six residential POIs would experience DNL greater than or equal to 75 dB. Three of the latter category would be near Ault Field (POIs R01, R02, and R14), and three would be near the OLF (POIs R06, R07, and R19). One of the seven schools, POI S02, would experience DNL greater than or equal to 65 dB--i.e., 69 dB.

Among high-tempo FCLP year Alternative 2 under all scenarios, the increase in DNL would be greatest for Alternative 2, Scenario A, and smallest for Alternative 2, Scenario C. Increases in DNL would range from 1 to 15 dB, compared to the high-tempo FCLP year No Action Alternative. POIs R07 and R06 would experience increases in DNL, respectively, of up to 15 and 10 dB. POI R07 would be newly impacted, with DNL of 70 to 76 dB.

7.4.2 Potential Hearing Loss

Table 7-13 shows estimates of the population within 1-dB bands of $L_{eq(24h)}$ and their associated NIPTS for the average year Alternative 2. The level at which there may be a noticeable NIPTS would be at the 84 to 85 dB $L_{eq(24)}$ range and above. There is an increase in the population within the 80 dB DNL noise contour (i.e., potential at-risk population) under Alternative 2 at both Ault Field and OLF Coupeville. The largest increase in the potential at-risk population in the vicinity of Ault Field would be under Scenario C (48 additional people) and in the vicinity of OLF Coupeville would be under Scenario A (29 additional people). The range of potential NIPTS could be up to 9.5 dB at Ault Field and 6.0 dB at OLF Coupeville. The potential NIPTS values presented in Table 7-13 are only applicable in the extreme case of continuous outdoor exposure at one's residence to all aircraft events occurring over a period of 40 years. Because it is highly unlikely for any individuals to meet all those criteria, the actual potential NIPTS for individuals would be far less than the values reported here.

The USEPA guidelines provided information on the estimated NIPTS exceeded by the 10 percent of the population most sensitive to noise. Using the same 1 dB incremental data in Table 7-13 and the column identified as the 10th Percentile NIPTS, those individuals are vulnerable to noticeable NIPTS at the 77 to 78 dB $L_{eq(24)}$ range and above. Using this even more conservative estimate, the range of potential NIPTS could be up to 18.0 dB for the population most sensitive to noise around Ault Field and up to 12.0 dB for the population most sensitive to noise around OLF Coupeville.

Table 7-13 Average and 10th Percentile Noise Induced Permanent Threshold Shifts as a Function of Equivalent Sound Level under Alternative 2 at the NAS Whidbey Island Complex (Average Year)

Band of $L_{eq(24)}$ (dB)[1]	Avg NIPTS (dB)[2,3]	10^{th} Pct NIPTS (dB)[2,]	Estimated Population[4,5,6]											
			Ault Field						OLF Coupeville					
			No Action	Alt 2A	Alt 2B	Alt 2C	Alt 2D	Alt 2E	No Action	Alt 2A	Alt 2B	Alt 2C	Alt 2D	Alt 2E
75-76	1.0	4.0	0	0 (0)	1 (+1)	9 (+9)	0 (0)	5 (+5)	31	102 (+71)	47 (+16)	24 (-7)	83 (+52)	31 (0)
76-77	1.0	4.5	123	127 (+4)	319[7] (+196)	411[8] (+288)	165[9] (+42)	355 (+232)	45	164 (+119)	90 (+45)	58 (+13)	160 (+115)	63 (+18)
77-78	1.5	5.0	233	263 (+30)	336 (+103)	402 (+169)	310 (+77)	354 (+121)	47	127 (+80)	75 (+28)	88 (+41)	100 (+53)	57 (+10)
78-79	2.0	5.5	145	148 (+3)	243 (+98)	296 (+151)	175 (+30)	295 (+150)	24	92 (+68)	65 (+41)	5 (-19)	78 (+54)	61 (+37)
79-80	2.5	6.0	92	135 (+43)	163 (+71)	241 (+149)	141 (+49)	211 (+119)	7	75 (+68)	59 (+52)	0 (-7)	70 (+63)	76 (+69)
80-81	3.0	7.0	73	78 (+5)	97 (+24)	130 (+57)	85 (+12)	119 (+46)	0	66 (+66)	59 (+59)	0 (0)	62 (+62)	3 (+3)
81-82	3.5	8.0	51	63 (+12)	72 (+21)	80 (+29)	68 (+17)	77 (+26)	0	58 (+58)	84 (+84)	0 (0)	55 (+55)	0 (0)
82-83	4.0	9.0	37	48 (+11)	58 (+21)	63 (+26)	48 (+11)	61 (+24)	0	58 (+58)	4 (+4)	0 (0)	64 (+64)	0 (0)
83-84	4.5	10.0	34	35 (+1)	36 (+2)	38 (+4)	35 (+1)	37 (+3)	0	69 (+69)	0 (0)	0 (0)	56 (+56)	0 (0)
84-85	5.5	11.0	11	27 (+16)	26 (+15)	29 (+18)	29 (+18)	28 (+17)	0	28 (+28)	0 (0)	0 (0)	1 (+1)	0 (0)
85-86	6.0	12.0	9	10 (+1)	22 (+13)	26 (+17)	10 (+1)	24 (+15)	0	1 (+1)	0 (0)	0 (0)	0 (0)	0 (0)
86-87	7.0	13.5	6	9 (+3)	9 (+3)	10 (+4)	9 (+3)	10 (+4)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
87-88	7.5	15.0	4	6 (+2)	6 (+2)	8 (+4)	6 (+2)	7 (+3)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
88-89	8.5	16.5	2	4 (+2)	4 (+2)	5 (+3)	4 (+2)	5 (+3)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
89-90	9.5	18.0	0	1 (+1)	2 (+2)	2 (+2)	1 (+1)	2 (+2)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Table 7-13 Average and 10th Percentile Noise Induced Permanent Threshold Shifts as a Function of Equivalent Sound Level under Alternative 2 at the NAS Whidbey Island Complex (Average Year)

			Estimated Population[4,5,6]											
			Ault Field						OLF Coupeville					
Band of $L_{eq(24)}$ (dB)[1]	Avg NIPTS (dB)[2,3]	10th Pct NIPTS (dB)[2,]	No Action	Alt 2A	Alt 2B	Alt 2C	Alt 2D	Alt 2E	No Action	Alt 2A	Alt 2B	Alt 2C	Alt 2D	Alt 2E
90-91	10.5	19.5	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Notes:

1 L_{eq} bands with no population were omitted from table.

2 NIPTS values rounded to nearest 0.5 dB.

3 NIPTS below 5 dB are generally not considered noticeable.

4 This analysis assumes the population is outdoors at one's residence and exposed to all aircraft noise events for 40 years. Given the amount of time spent indoors and the intermittent occurrence of aircraft noise events, it is highly unlikely that individuals would meet all those criteria, and the actual potential for hearing loss would be far less than the values reported here.

5 Estimated Population was determined by those living within the 80 dB DNL noise contour around each airfield, including those living on-base at Ault Field (there is no on-base population at OLF Coupeville).

6 Population counts of people within the DNL contours were computed using 2010 census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). In addition, per guidance on potential hearing loss, on-base populations at Ault Field have been included in the analysis. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

7 Of this estimated population, 25 are military personnel living on base at Ault Field.

8 Of this estimated population, 70 are military personnel living on base at Ault Field.

9 Of this estimated population, 24 are military personnel living on base at Ault Field.

Key:

dB = decibel

$L_{eq(24)}$ = 24-hour Equivalent Sound Level

NIPTS = Noise Induced Permanent Threshold Shift

7.4.3 Residential Nighttime Sleep Disturbance

Table 7-14 lists the PA for applicable POIs for average daily nighttime (10:00 p.m. to 7:00 a.m.) events for average year Alternative 2 under all scenarios. Average PA would range from 8 percent to 16 percent across the listed POIs for either window condition. POIs R01 and R02 would have the greatest PA, 35 percent to 74 percent, depending upon whether windows are open or closed. At eight of the POIs, there would be no change in PA compared to the No Action Alternative, but at the remaining 22 POIs, increases in PA would range from 1 percent at several POIs to 29 percent (at POI R06 under Alternative 2, Scenario A).

Under the high-tempo FCLP year Alternative 2 (Appendix A7), the statistics cited above would be 1 percent to 2 percent greater than those listed for the average year Alternative 2, except for the change statistics. At six of the POIs, there would be no change in PA compared to the No Action Alternative, but at the remaining 24 POIs, increases in PA would range from 1 percent at several POIs to 39 percent (at POI R06 under Alternative 2, Scenario A).

Table 7-14 Average Indoor Nightly Probability of Awakening at Applicable POIs for the Average Year Alternative 2

Point of Interest				Annual Average Nightly (2200-0700) Probability of Awakening (%) [1]																			
				Alt2A		Change from No Action		Alt2B		Change from No Action		Alt2C		Change from No Action		Alt2D		Change from No Action		Alt2E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential[2]	R01	Sullivan Rd	Ault	67%	51%	9%	8%	71%	55%	13%	12%	74%	58%	16%	15%	68%	52%	10%	9%	73%	57%	15%	14%
	R02	Salal St. and N. Northgate Dr	Ault	49%	35%	8%	6%	52%	38%	11%	9%	56%	41%	15%	12%	50%	36%	9%	7%	55%	40%	14%	11%
	R03	Central Whidbey	Ault	19%	10%	3%	2%	21%	11%	5%	3%	23%	12%	7%	4%	20%	11%	4%	3%	23%	12%	7%	4%
	R04	Pull and Be Damned Point	Ault	25%	12%	6%	3%	26%	12%	7%	3%	27%	12%	8%	3%	25%	12%	6%	3%	27%	12%	8%	3%
	R05	Snee-Oosh Point	Ault	20%	7%	5%	2%	21%	7%	6%	2%	22%	7%	7%	2%	20%	7%	5%	2%	22%	7%	7%	2%
	R06	Admirals Dr and Byrd Dr	OLF	38%	27%	29%	21%	25%	17%	16%	11%	11%	7%	2%	1%	34%	24%	25%	18%	16%	11%	7%	5%
	R07	Race Lagoon	OLF	18%	8%	13%	6%	13%	5%	8%	3%	7%	2%	2%	-	17%	7%	12%	5%	9%	3%	4%	1%
	R08	Pratts Bluff	OLF	13%	8%	9%	6%	9%	5%	5%	3%	4%	2%	-	-	12%	8%	8%	6%	6%	3%	2%	1%
	R09	Cox Rd and Island Ridge Way	OLF	11%	7%	8%	5%	7%	4%	4%	2%	3%	2%	-	-	10%	6%	7%	4%	4%	3%	1%	1%
	R10	Skyline	None	8%	3%	3%	1%	8%	3%	3%	1%	9%	3%	4%	1%	8%	3%	3%	1%	9%	3%	4%	1%
	R11	Sequim	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R12	Port Angeles	None	1%	0%	1%	-	1%	0%	1%	-	0%	0%	-	-	1%	0%	1%	-	0%	0%	-	-
	R13	Beverly Beach, Freeland	OLF	5%	-	3%	-	3%	-	1%	-	2%	-	-	-	5%	-	3%	-	2%	-	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	44%	31%	7%	6%	47%	34%	10%	9%	51%	37%	14%	12%	45%	32%	8%	7%	50%	36%	13%	11%
	R15	Long Point Manor	OLF	22%	12%	11%	8%	18%	8%	7%	4%	14%	4%	3%	-	21%	10%	10%	6%	15%	5%	4%	1%
	R16	Rocky Point Heights	OLF	11%	4%	2%	1%	12%	4%	3%	1%	13%	3%	4%	-	12%	4%	3%	1%	13%	3%	4%	-
	R17	Port Townsend	None	1%	-	-	-	1%	-	-	-	0%	-	-1%	-	1%	-	-	-	1%	-	-	-
	R18	Marrowstone Island (Nordland)	None	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	0%	-	-	-
	R19	Island Transit Offices, Coupeville	OLF	31%	20%	22%	15%	22%	13%	13%	8%	11%	5%	2%	-	28%	18%	19%	13%	15%	8%	6%	3%

Table 7-14 Average Indoor Nightly Probability of Awakening at Applicable POIs for the Average Year Alternative 2

Point of Interest				*Annual Average Nightly (2200-0700) Probability of Awakening (%)* [1]																			
				Alt2A		*Change from No Action*		*Alt2B*		*Change from No Action*		*Alt2C*		*Change from No Action*		*Alt2D*		*Change from No Action*		*Alt2E*		*Change from No Action*	
Type	*ID*	*Description*	*Related Field*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*	*Windows Open*	*Windows Closed*
	R20	South Lopez Island (Agate Beach)	None	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-
School (near residential)	S01	Oak Harbor High School	Ault	25%	14%	5%	2%	27%	16%	7%	4%	29%	18%	9%	6%	26%	15%	6%	3%	29%	17%	9%	5%
	S02	Crescent Harbor Elementary School	Ault	26%	15%	5%	3%	28%	17%	7%	5%	30%	19%	9%	7%	27%	16%	6%	4%	30%	18%	9%	6%
	S03	Coupeville Elementary School	OLF	16%	10%	11%	7%	11%	6%	6%	3%	5%	3%	-	-	14%	9%	9%	6%	7%	4%	2%	1%
	S04	Anacortes High School	Ault	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-
	S05	Lopez Island School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	9%	3%	3%	1%	9%	3%	3%	1%	10%	3%	4%	1%	9%	3%	3%	1%	10%	3%	4%	1%
	S09	La Conner Elementary School	Ault	11%	5%	3%	2%	10%	5%	2%	2%	10%	5%	2%	2%	10%	5%	2%	2%	10%	5%	2%	2%
	S10	Elger Bay Elementary School	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[1] Assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

[2] R01 and R06 include interior SELs greater than 100 dB with windows open

7.4.4 Residential Daytime Indoor Speech Interference

Table 7-15 presents the average daily indoor daytime (7:00 a.m. to 10:00 p.m.) events per hour for the applicable POIs that would experience indoor maximum sound levels of at least 50 dB with windows closed and open, for average year Alternative 2. Events per hour would be less than one at 12 of the 30 POIs and would range between one and 10 for the remaining 18 POIs, regardless of the window status. Relative to the average year No Action Alternative, increases of one or two events per hour would be experienced by 15 of the POIs.

For the high-tempo FCLP year Alternative 2 (Appendix A7), the above statistics would be the same.

Table 7-15 Indoor Speech Interference for the Average Year Alternative 2

Point of Interest				Annual Average Daily Indoor Daytime (0700-2200) Events per Hour [1]																			
				Alt2A		Change from No Action		Alt2B		Change from No Action		Alt2C		Change from No Action		Alt2D		Change from No Action		Alt2E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential[2]	R01	Sullivan Rd	Ault	9	9	+1	+1	10	10	+2	+2	10	10	+2	+2	9	9	+1	+1	10	10	+2	+2
	R02	Salal St. and N. Northgate Dr	Ault	9	9	+1	+1	10	9	+2	+1	10	10	+2	+2	9	9	+1	+1	10	10	+2	+2
	R03	Central Whidbey	Ault	5	-	-	-	6	-	+1	-	6	-	+1	-	5	-	-	-	6	-	+1	-
	R04	Pull and Be Damned Point	Ault	3	1	+1	-	3	1	+1	-	3	1	+1	-	3	1	+1	-	3	1	+1	-
	R05	Snee-Oosh Point	Ault	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-
	R06	Admirals Dr and Byrd Dr	OLF	2	2	+2	+2	1	1	+1	+1	-	-	-	-	2	2	+2	+2	1	1	+1	+1
	R07	Race Lagoon	OLF	2	1	+2	+1	1	-	+1	-	1	-	+1	-	2	1	+2	+1	1	-	+1	-
	R08	Pratts Bluff	OLF	2	1	+2	+1	1	-	+1	-	-	-	-	-	2	1	+2	+1	1	-	+1	-
	R09	Cox Rd and Island Ridge Way	OLF	1	-	+1	-	1	-	+1	-	-	-	-	-	1	-	+1	-	-	-	-	-
	R10	Skyline	None	-	-	-	-	-	-	-	-	1	-	+1	-	1	-	+1	-	1	-	+1	-
	R11	Sequim	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R12	Port Angeles	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R13	Beverly Beach, Freeland	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	9	8	+1	+1	9	9	+1	+2	10	9	+2	+2	9	8	+1	+1	10	9	+2	+2
	R15	Long Point Manor	OLF	3	2	+2	+1	2	1	+1	-	1	1	-	-	2	2	+1	+1	1	1	-	-
	R16	Rocky Point Heights	OLF	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-
	R17	Port Townsend	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R18	Marrowstone Island (Nordland)	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R19	Island Transit Offices, Coupeville	OLF	2	2	+1	+1	1	1	-	-	1	1	-	-	2	2	+1	+1	1	1	-	-

Table 7-15 Indoor Speech Interference for the Average Year Alternative 2

Point of Interest				Annual Average Daily Indoor Daytime (0700-2200) Events per Hour [1]																			
				Alt2A		Change from No Action		Alt2B		Change from No Action		Alt2C		Change from No Action		Alt2D		Change from No Action		Alt2E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
	R20	South Lopez Island (Agate Beach)	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School (near residential)	S01	Oak Harbor High School	Ault	6	2	-	-	7	3	+1	+1	7	3	+1	+1	7	3	+1	+1	7	3	+1	+1
	S02	Crescent Harbor Elementary School	Ault	5	2	-	-	6	2	+1	-	6	3	+1	+1	6	2	+1	-	6	3	+1	+1
	S03	Coupeville Elementary School	OLF	2	1	+1	+1	1	1	-	+1	1	-	-	-	2	1	+1	+1	1	-	-	-
	S04	Anacortes High School	Ault	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S05	Lopez Island School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S09	La Conner Elementary School	Ault	1		-	-	1	1	-	+1	1		-	-	1		-	-	1		-	-
	S10	Elger Bay Elementary School	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[1] With an indoor maximum sound level of at least 50 dB; assumes 15 dB and 25 dB of noise level reductions for windows open and closed, respectively.

[2] The Whidbey General Hospital is located within approximately 1,000 feet of the Coupeville Elementary School; therefore, this location was not modeled individually, but similar result for indoor speech interference for POI S03 would apply

7.4.5 Classroom Learning Interference

Table 7-16 presents the potential learning interference for classrooms under the average year Alternative 2. With an $L_{eq(8h)}$ of 69 dB, POI S02 (Crescent Harbor Elementary School) would experience the greatest outdoor $L_{eq(8h)}$. No other locations would experience $L_{eq(8h)}$ greater than or equal to the screening threshold of 60 dB under any of the three alternatives. With windows open, three or four of the POIs would have more than one event per hour. With windows closed, two of the POIs would have more than one event per hour. POI S01, Oak Harbor High School, would have the most events per hour, with up to seven with windows open. POIs S01 and S02 would have the most events per hour (two or three) with windows closed.

All POIs would experience between 1 and 6 dB increases in $L_{eq(8h)}$ and increases of one or two events per hour.

Under the high-tempo FCLP year Alternative 2 (Appendix A7), POI S02 (Crescent Harbor Elementary School) would have an outdoor $L_{eq(8h)}$ of 69 dB. Up to four of the POIs would have more than one event per hour with windows open (S01, S02, S03, and R03), and up to two POIs would have more than one event per hour with windows closed (S01 and S02). POI S01, Oak Harbor High School, would have the most events per hour, with up to seven with windows open and three with windows closed. Relative to the high-tempo FCLP year No Action Alternative, POIs would experience increases of up to two events per hour. Only one POI would experience a change in indoor $L_{eq(8h)}$ of greater than 2 dB (POI S03.)

Table 7-16 Classroom Learning Interference for Average Year Alternative 2

Point of Interest				Alt 2A					Change from No Action				
				Outdoor	Indoor[1]				Outdoor	Indoor[1]			
					Windows Open		Windows Closed			Windows Open		Windows Closed	
Type	ID	Description	Related Field	$L_{eq\,(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour [2]	$L_{eq(8h)}$ (dB)	Events per Hour [2]	$L_{eq\,(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour [2]	$L_{eq(8h)}$ (dB)	Events per Hour [2]
School	R03	Central Whidbey	Ault	59	<45	5	<45	-	+2	+2	+1	+2	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2	-	-	+1	-	-
	S02	Crescent Harbor Elementary School	Ault	69	54	5	<45	2	+2	+2	+1	+2	-
	S03	Coupeville Elementary School	OLF	57	<45	2	<45	1	+6	+6	+2	+6	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding One Intrusive Event per Hour						**4**		**2**			**1**		-
Minimum Number of Intrusive Events per Hour if Exceeding One						**5**		**2**			**+2**		-
Maximum Number of Intrusive Events per Hour if Exceeding One						**6**		**2**			**+2**		-

Table 7-16 Classroom Learning Interference for Average Year Alternative 2

Point of Interest				*Alt 2B*					*Change from No Action*				
School	R03	Central Whidbey	Ault	59	<45	5	<45	-	+2	+2	+1	+2	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	2	+1	+1	+2	+1	-
	S02	Crescent Harbor Elementary School	Ault	68	53	6	<45	2	+1	+1	+2	+1	-
	S03	Coupeville Elementary School	OLF	55	<45	1	<45	1	+4	+4	+1	+4	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding One Intrusive Event per Hour						**3**		**2**			**2**		**-**
Minimum Number of Intrusive Events per Hour if Exceeding One						**5**		**2**			**+2**		**-**
Maximum Number of Intrusive Events per Hour if Exceeding One						**7**		**2**			**+2**		**-**

Table 7-16 Classroom Learning Interference for Average Year Alternative 2

Point of Interest				*Alt 2C*					*Change from No Action*				
School	R03	Central Whidbey	Ault	59	<45	6	<45	-	+2	+2	+2	+2	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
	S02	Crescent Harbor Elementary School	Ault	69	54	6	<45	3	+2	+2	+2	+2	+1
	S03	Coupeville Elementary School	OLF	51	<45	1	<45	-	-	-	+1	-	-
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding One Intrusive Event per Hour						**3**		**2**			**3**		**-**
Minimum Number of Intrusive Events per Hour if Exceeding One						**6**		**3**			**+2**		**-**
Maximum Number of Intrusive Events per Hour if Exceeding One						**7**		**3**			**+2**		**-**

Table 7-16 Classroom Learning Interference for Average Year Alternative 2

Point of Interest				*Alt 2D*					*Change from No Action*				
School	R03	Central Whidbey	Ault	59	<45	5	<45	-	+2	+2	+1	+2	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2	-	-	+1	-	-
	S02	Crescent Harbor Elementary School	Ault	69	54	5	<45	2	+2	+2	+1	+2	-
	S03	Coupeville Elementary School	OLF	56	<45	1	<45	1	+5	+5	+1	+5	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding One Intrusive Event per Hour						**3**		**2**			**-**		**-**
Minimum Number of Intrusive Events per Hour if Exceeding One						**5**		**2**			**-**		**-**
Maximum Number of Intrusive Events per Hour if Exceeding One						**6**		**2**			**-**		**-**

Table 7-16 Classroom Learning Interference for Average Year Alternative 2

Point of Interest				*Alt 2E*					*Change from No Action*				
School	R03	Central Whidbey	Ault	59	<45	6	<45	-	+2	+2	+2	+2	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
	S02	Crescent Harbor Elementary School	Ault	69	54	6	<45	2	+2	+2	+2	+2	-
	S03	Coupeville Elementary School	OLF	53	<45	1	<45	-	+2	+2	+1	+2	-
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding One Intrusive Event per Hour						**3**		**2**			**3**		**-**
Minimum Number of Intrusive Events per Hour if Exceeding One						**6**		**2**			**+2**		**-**
Maximum Number of Intrusive Events per Hour if Exceeding One						**7**		**3**			**+2**		**-**

Notes:

1 Assumes 15 dB and 25 dB of noise level reductions for windows open and closed, respectively.

2 Number of average school-day events per hour during 8-hour school day (0800-1600) at or above an indoor maximum (single-event) sound level (L_{max}) of 50 dB.

7.4.6 Recreational Speech Interference

Table 7-17 lists the AAD daytime NA 50 L_{max} per hour for the recreational POIs. The average NA across the 11 POIs would be four events per daytime hour and one event per nighttime hour. Seven POIs would be exposed to less than one event per hour. Seven POIs would have the most events per hour, at 10 under Alternative 2, Scenario C. Relative to the average year No Action Alternative, increases of up to two events per hour would be experienced at all but nine of the POIs. These latter nine POIs would experience no change.

For the high-tempo FCLP year Alternative 2 (Appendix A7), the above statistics would be the same.

Table 7-17 Recreational Speech Interference for Average Year Alternative 2

Representative Park Receptor			***Annual Average Outdoor Daily Daytime Events per Hour, NA 65 L_{max}***																			
			Alt2A		***Increase re No Action***		***Alt2B***		***Increase re No Action***		***Alt2C***		***Increase re No Action***		***Alt2D***		***Increase re No Action***		***Alt2E***		***Increase re No Action***	
Type	***ID***	***Description***	***Day***	***Night***	***Day***	***Night***	***Day***	***Night***	***Day***	***Night***	***Day***	***Night***	***Day***	***Night***	***Day***	***Night***	***Day***	***Night***	***Day***	***Night***	***Day***	***Night***
Park	P01	Joseph Whidbey State Park	9	2	+1	-	9	2	+1	-	10	2	+2	-	9	2	+1	-	10	2	+2	-
	P02	Deception Pass State Park	9	2	+1	-	9	2	+1	-	10	2	+2	-	9	2	+1	-	10	2	+2	-
	P03	Dugualla State Park	9	2	+2	-	9	2	+2	-	10	2	+3	-	9	2	+2	-	9	2	+2	-
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	4	1	+1	+1	3	1	-	+1
	P05	Ebey's Landing State Park	4	1	+2	+1	3	1	+1	+1	3	1	+1	+1	4	1	+2	+1	3	1	+1	+1
	P06	Fort Casey State Park	3	1	+2	+1	2	1	+1	+1	1	-	-	-	2	1	+1	+1	2		+1	-
	P07	Cama Beach State Park	5	1	+2	+1	4	1	+1	+1	3		-	-	5	1	+2	+1	4	1	+1	+1
	P08	Port Townsend	2	1	+1	+1	1	1	-	+1	1	-	-	-	2	1	+1	+1	1		-	-
	P09	Moran State Park	-	-	-	-	-	-	-	-	-	-	-	-			-	-			-	-
	P10	San Juan Islands National Monument	8	2	+1	+1	9	2	+2	+1	9	2	+2	+1	8	2	+1	+1	9	2	+2	+1
	P11	San Juan Island Visitors Center	-	-	-	-	-	-	-	-	-	-	-	-			-	-			-	-
	P12	Cap Sante Park		-	-	-		-	-	-	1	-	+1	-	1		+1	-	1		+1	-
	P13	Lake Campbell	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-
	P14	Spencer Spit State Park	-	-	-	-	-	-	-	-	-	-	-	-			-	-			-	-
	P15	Pioneer Park	5	1	+1	-	4	1	-	-	4	1	-	-	5	1	+1	-	4	1	-	-
	P16	Marrowstone Island (Fort Flagler)	1	1	+1	+1	1		+1	-		-	-	-	1	1	+1	+1	1		+1	-
	EBLA001	Ferry House	4	1	+2	+1	3	1	+1	+1	2		-	-	4	1	+2	+1	3	1	+1	+1
	EBLA002	Reuble Farm	4	1	+2	+1	3	1	+1	+1	2	-	-	-	4	1	+2	+1	3		+1	-

Table 7-17 Recreational Speech Interference for Average Year Alternative 2

Representative Park Receptor			Annual Average Outdoor Daily Daytime Events per Hour, NA 65 L_{max}																			
			Alt2A		Increase re No Action		Alt2B		Increase re No Action		Alt2C		Increase re No Action		Alt2D		Increase re No Action		Alt2E		Increase re No Action	
Type	ID	Description	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Residential	R01	Sullivan Rd	9	2	+1	-	10	2	+2	-	10	3	+2	+1	10	2	+2	-	10	2	+2	-
	R02	Salal St. and N. Northgate Dr	9	2	+1	-	10	2	+2	-	10	3	+2	+1	10	2	+2	-	10	2	+2	-
	R03	Central Whidbey	8	2	+1	-	9	2	+2	-	9	2	+2	-	9	2	+2	-	9	2	+2	-
	R04	Pull and Be Damned Point	8	2	+1	-	9	2	+2	-	9	2	+2	-	9	2	+2	-	9	2	+2	-
	R05	Snee-Oosh Point	8	2	+1	+1	8	2	+1	+1	9	2	+2	+1	8	2	+1	+1	9	2	+2	+1
	R06	Admirals Dr and Byrd Dr	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2		+1	-
	R07	Race Lagoon	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	4	1	+1	+1	3	1	-	+1
	R08	Pratts Bluff	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2		+1	-
	R09	Cox Rd and Island Ridge Way	2	1	+1	+1	2	1	+1	+1	1	-	-	-	2	1	+1	+1	1		-	-
	R10	Skyline	4	1	-	-	4	1	-	-	5	1	+1	-	4	1	-	-	4	1	-	-
	R11	Sequim	1	-	+1	-	1	-	+1	-	1	-	+1	-	1		+1	-	1		+1	-
	R12	Port Angeles	1	-	-	-	1	-	-	-	1	-	-	-	1		-	-	1		-	-
	R13	Beverly Beach, Freeland	1	-	+1	-		-	-	-	-	-	-	-	1		+1	-			-	-
	R14	E Sleeper Rd & Slumber Ln	9	2	+1	-	10	2	+2	-	10	3	+2	+1	10	2	+2	-	10	2	+2	-
	R15	Long Point Manor	9	2	+2	+1	9	2	+2	+1	8	2	+1	+1	9	2	+2	+1	8	2	+1	+1
	R16	Rocky Point Heights	5	1	+1	-	5	1	+1	-	5	2	+1	+1	5	1	+1	-	5	2	+1	+1
	R17	Port Townsend	2	1	+1	+1	1		-	-		-	-1	-	1	1	-	+1	1		-	-
	R18	Marrowstone Island (Nordland)	-	-	-	-	-	-	-	-	-	-	-	-			-	-			-	-
	R19	Island Transit Offices, Coupeville	5	1	+2	-	4	1	+1	-	3	1	-	-	4	1	+1	-	4	1	+1	-
	R20	South Lopez Island (Agate Beach)	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-

Table 7-17 Recreational Speech Interference for Average Year Alternative 2

Representative Park Receptor			Annual Average Outdoor Daily Daytime Events per Hour, NA 65 L_{max}																			
			Alt2A		Increase re No Action		Alt2B		Increase re No Action		Alt2C		Increase re No Action		Alt2D		Increase re No Action		Alt2E		Increase re No Action	
Type	ID	Description	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
School	S01	Oak Harbor High School	9	2	+1	-	9	2	+1	-	10	2	+2	-	9	2	+1	-	10	2	+2	-
	S02	Crescent Harbor Elementary School	9	2	+2	-	9	2	+2	-	9	2	+2	-	9	2	+2	-	9	2	+2	-
	S03	Coupeville Elementary School	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	4	1	+1	+1	3	1	-	+1
	S04	Anacortes High School	1	-	-	-	1	-	-	-	1	-	-	-	1		-	-	1		-	-
	S05	Lopez Island School	-	-	-	-	-	-	-	-	-	-	-	-			-	-			-	-
	S06	Friday Harbor Elementary School	-	-	-	-	-	-	-	-	-	-	-	-			-	-			-	-
	S07	Sir James Douglas Elementary School	-	-	-	-	-	-	-	-	-	-	-	-			-	-			-	-
	S08	Fidalgo Elementary School	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-
	S09	La Conner Elementary School	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-
	S10	Elger Bay Elementary School	1	-	+1	-	1	-	+1	-	1	-	+1	-	1		+1	-	1		+1	-

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8 Average Year Alternative 3 Scenarios

Relative to the No Action Alternative, Alternative 3 would add two EA-18G aircraft to each CVW squadron, add nine EA-18G aircraft to the FRS, and increase the number of aircraft in each Expeditionary squadron from five to eight, as summarized in Table 2-1. Section 8.1 details the flight operations. Section 8.2 presents the runway/flight track utilization, flight profiles, and derivation of AAD flight operations. Sections 8.3 and 8.4 contain the maintenance run-ups and resultant aircraft noise exposure.

8.1 Flight Operations

From the methodology described in Chapter 2, Tables 8-1 through 8-10 show the modeled flight operations for the average year Alternatives 3 under all scenarios. Any of these five scenarios would have approximately 112,000 total annual flight operations for the complex. The EA-18G would dominate operations, with 88 percent of the complex's annual flight operations. Annual FCLP-related operations at the OLF would vary between 6,300 in Alternative 3, Scenario C, to 25,000 in Alternative 3, Scenario A. As shown in Tables 8-2, 8-4, and 8-6, approximately 15 percent and 21 percent of the overall total flight operations and OLF FCLP operations, respectively, would be conducted during the DNL nighttime period.

Relative to the average year No Action Alternative, Tables 8-1, 8-3, 8-5, 8-7, and 8-9 show that the complex's total annual flight operations would increase by approximately 36,000, with most of the increase attributable to increased FCLP operations.

The high-tempo FCLP year Alternative 3, Scenario A (Appendix A2), has approximately 115,000 total annual flight operations for the complex, with the EA-18G having 88 percent of the complex's annual flight operations.

Table 8-1 Summary of Annual Flight Operations for the Average Year Alternative 3A

		Alternative 3A (Average Year)			*Change from No Action*		
		Type of Flight Operation			*Type of Flight Operation*		
Airfield	*Aircraft Type or Category*	*FCLP [2, 3]*	*Other [4]*	*Total*	*FCLP [2, 5]*	*Other*	*Total*
Ault Field	EA-18G	5,900	67,700	73,600	-5,400	+14,700	+9,300
	Other Based	-	11,800	11,800	-	+200	+200
	Transient	-	2,300	2,300	-	-	-
	Subtotal	5,900	81,800	87,700	-5,400	+14,900	+9,500
OLF Coupeville	EA-18G	23,700	-	23,700	+17,600	-	+17,600
	Other	-	400	400	-	-	-
	Subtotal	23,700	400	24,100	+17,600	-	+17,600
TOTAL (both airfields)		**29,600**	**82,200**	**111,800**	**+12,200**	**+14,900**	**+27,100**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.

2 Each closed pattern is counted as two operations.

3 For Growlers at the OLF, values include 2,958 interfacility (FCLP-related) operations; not shown separately.

4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.

5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 8-2 Detailed Annual Flight Operations for the Average Year Alternative 3A

Airfield	Aircraft	Squadron	Departure			Arrival													Interfacility													
						VFR SI/ Non-Break			Overhead Break				IFR			Departure to OLF				Break Arrival from OLF				Helo Departure to OLF			Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	7,059	383	7,442	2,582	68	2,650	4,178	-	140	4,318	465	10	475	445	193	261	899	721	-	177	898						
		FRS	5,668	379	6,047	2,148	323	2,471	2,436	322	601	3,359	190	28	218	292	156	120	568	492	-	76	568						
		RES	1,148	91	1,239	419	18	437	702	-	29	731	66	4	70	6	4	2	12	11	-	2	13						
		EXP	2,482	146	2,628	913	35	948	1,445	-	66	1,511	168	1	169	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,951	95	2,046	1,390	285	1,675	-	-	-	-	307	63	370														
	H60	SAR	388	-	388	388	-	388	-	-	-	-	-	-	-									91	-	91	91	-	91
	C-40	-	394	-	394	283	-	283	-	-	-	-	111	-	111														
	JET_LRG	-	405	111	516	370	103	473	-	-	-	-	29	13	42														
Total			**19,495**	**1,205**	**20,700**	**8,493**	**832**	**9,325**	**8,761**	**322**	**836**	**9,919**	**1,336**	**119**	**1,455**	**743**	**353**	**383**	**1,479**	**1,224**	**-**	**255**	**1,479**	**91**	**-**	**91**	**91**	**-**	**91**

Airfield	Aircraft	Squadron	Interfacility													
			Break Arrival from Ault				Departure to Ault				Helo Arrival from Ault			Helo Departure to Ault		
			Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW	721	-	177	898	445	193	261	899						
		FRS	492	-	76	568	292	156	120	568						
		RES	11	-	2	13	6	4	2	12						
	H60	SAR									91	-	91	91	-	91
Total			**1,224**	**-**	**255**	**1,479**	**743**	**353**	**383**	**1,479**	**91**	**-**	**91**	**91**	**-**	**91**

Table 8-2 Detailed Annual Flight Operations for the Average Year Alternative 3A

Airfield	Aircraft	Squadron	Closed Pattern[1]														Grand Totals			
			FCLP				T&G				ReEnter			GCA/CCA						
			Day (0700-2200)		Night (2200-0700)		Day (0700-2200)		Night (2200-0700)		Day (0700-2200)	Night (2200-0700)		Day (0700-2200)	Night (2200-0700)		Day (0700-2200)		Night (2200-0700)	
			DL	DK	DK	Total	DL	DK	DK	Total			Total			Total	DL	DK	DK	Total
Ault Field	EA18	CVW	1,646	1,105	896	3,647	3,318	690	927	4,935	2,401	90	2,491	4,383	2,706	7,089	27,198	1,988	5,658	34,844
		FRS	1,373	485	274	2,132	3,659	723	1,024	5,406	-	-	0	4,855	1,046	5,901	21,113	1,686	3,871	26,670
		RES	94	30	22	146	510	10	15	535	419	15	434	507	45	552	3,882	44	243	4,169
		EXP	-	-	-	0	896	-	55	951	773	31	804	890	48	938	7,567	-	382	7,949
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,105	-	655	4,760	-	-	-	1,750	198	1,948	9,503	-	1,296	10,799
	H60	SAR					-	-	-	-	-	-	-	-	-	-	958	-	-	958
	C-40	-					334	-	-	334	-	-	-	167	-	167	1,289	-	-	1,289
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	804	-	227	1,031
Total			**3,113**	**1,620**	**1,192**	**5,925**	**12,822**	**1,423**	**2,676**	**16,921**	**3,593**	**136**	**3,729**	**12,552**	**4,043**	**16,595**	**72,314**	**3,718**	**11,677**	**87,709**
OLF	EA18	CVW	5,984	3,489	3,110	12,583											7,150	3,682	3,548	14,380
		FRS	3,902	2,750	1,297	7,949											4,686	2,906	1,493	9,085
		RES	79	74	29	182											96	78	33	207
	H60	SAR					181	-	-	181							363	-	-	363
Total			**9,965**	**6,313**	**4,436**	**20,714**	**181**	**-**	**-**	**181**							**12,295**	**6,666**	**5,074**	**24,035**
														Grand Totals (Ault+OLF)			**84,609**	**10,384**	**16,751**	**111,744**

Total Annual	**Ault =**	**5,925 (20%)**
EA-18G FCLP	**OLF =**	**23,672 (80%)**
Related Ops	**Total =**	**29,597**

Notes:

[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

Table 8-3 Summary of Annual Flight Operations for the Average Year Alternative 3B

Airfield	Aircraft Type or Category	Alternative 3B (Average Year) Type of Flight Operation FCLP [2, 3]	Other [4]	Total	Change from No Action Type of Flight Operation FCLP [2, 5]	Other	Total
Ault Field	EA-18G	14,800	66,600	81,400	+3,500	+13,600	+17,100
	Other Based	-	11,600	11,600	-	-	-
	Transient	-	2,300	2,300	-	-	-
	Subtotal	14,800	80,500	95,300	+3,500	+13,600	+17,100
OLF Coupeville	EA-18G	14,800	-	14,800	+8,700	-	+8,700
	Other	-	400	400	-	-	-
	Subtotal	14,800	400	15,200	+8,700	-	+8,700
TOTAL (both airfields)		**29,600**	**80,900**	**110,500**	**+12,200**	**+13,600**	**+25,800**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.
2 Each closed pattern is counted as two operations.
3 For Growlers at the OLF, values include 1,850 interfacility (FCLP-related) operations; not shown separately.
4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.
5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 8-4 Detailed Annual Flight Operations for the Average Year Alternative 3B

Airfield	Aircraft	Squadron	Departure			Arrival										Interfacility													
						VFR SI/ Non-Break			Overhead Break				IFR			Departure to OLF				Break Arrival from OLF				Helo Departure to OLF			Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)		Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)		Night (2200-0700)	Total	Day (0700-2200)		Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
									DL	DK	DK					DL	DK	DK		DL	DK	DK							
Ault Field	EA18	CVW	7,057	393	7,450	2,574	69	2,643	4,178	-	149	4,327	471	9	480	281	124	156	561	453	-	108	561						
		FRS	5,674	379	6,053	2,162	312	2,474	2,406	308	605	3,319	220	40	260	180	96	75	351	305	-	46	351						
		RES	1,154	86	1,240	405	19	424	717	-	26	743	70	3	73	6	5	2	13	11	-	2	13						
		EXP	2,493	138	2,631	899	30	929	1,456	-	62	1,518	182	2	184	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,953	93	2,046	1,411	272	1,683	-	-	-	-	307	57	364														
	H60	SAR	389	-	389	389	-	389	-	-	-	-	-	-	-									91	-	91	91	-	91
	C-40	-	395	-	395	285	-	285	-	-	-	-	110	-	110														
	JET_LRG	-	412	104	516	381	98	479	-	-	-	-	25	12	37														
Total			**19,527**	**1,193**	**20,720**	**8,506**	**800**	**9,306**	**8,757**	**308**	**842**	**9,907**	**1,385**	**123**	**1,508**	**467**	**225**	**233**	**925**	**769**	**-**	**156**	**925**	**91**	**-**	**91**	**91**	**-**	**91**

Airfield	Aircraft	Squadron														Interfacility													
																Break Arrival from Ault				Departure to Ault				Helo Arrival from Ault			Helo Departure to Ault		
																Day (700-2200)		Night (2200-0700)	Total	Day (700-2200)		Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
																DL	DK	DK		DL	DK	DK							
OLF	EA18	CVW														453	-	108	561	281	124	156	561						
		FRS														305	-	46	351	180	96	75	351						
		RES														11	-	2	13	6	5	2	13						
	H60	SAR																						91	-	91	91	-	91
Total																**769**	**-**	**156**	**925**	**467**	**225**	**233**	**925**	**91**	**-**	**91**	**91**	**-**	**91**

Table 8-4 Detailed Annual Flight Operations for the Average Year Alternative 3B

Airfield	Aircraft	Squadron	Closed Pattern[1]														Grand Totals			
			FCLP				T&G				ReEnter			GCA/CCA						
			Day (0700-2200)		Night (2200-0700)		Day (0700-2200)		Night (2200-0700)		Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)		Night (2200-0700)	
			DL	DK	DK	Total	DL	DK	DK	Total							DL	DK	DK	Total
Ault Field	EA18	CVW	4,100	2,584	2,350	9,034	3,318	690	927	4,935	2,401	90	2,491	4,383	2,706	7,089	29,216	3,398	6,957	39,571
		FRS	3,593	1,306	688	5,587	3,659	723	1,024	5,406	-	-	0	4,855	1,046	5,901	23,054	2,433	4,215	29,702
		RES	107	42	26	175	510	10	15	535	419	15	434	507	45	552	3,906	57	239	4,202
		EXP	-	-	-	0	896	-	55	951	773	31	804	890	48	938	7,589	-	366	7,955
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,021	-	620	4,641	-	-	-	1,736	177	1,913	9,428	-	1,219	10,647
	H60	SAR					-	-	-	-	-	-	-	-	-	-	960	-	-	960
	C-40	-					329	-	-	329	-	-	-	165	-	165	1,284	-	-	1,284
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	818	-	214	1,032
Total			**7,800**	**3,932**	**3,064**	**14,796**	**12,733**	**1,423**	**2,641**	**16,797**	**3,593**	**136**	**3,729**	**12,536**	**4,022**	**16,558**	**76,255**	**5,888**	**13,210**	**95,353**
OLF	EA18	CVW	3,777	2,176	1,905	7,858											4,511	2,300	2,169	8,980
		FRS	2,388	1,694	832	4,914											2,873	1,790	953	5,616
		RES	73	85	22	180											90	90	26	206
	H60	SAR					182	-	-	182							364	-	-	364
Total			**6,238**	**3,955**	**2,759**	**12,952**	**182**	**-**	**-**	**182**							**7,838**	**4,180**	**3,148**	**15,166**
														Grand Totals (Ault+OLF)			**84,093**	**10,068**	**16,358**	**110,519**

Total Annual EA-18G FCLP Related Ops
Ault = 14,796 (50%)
OLF = 14,802 (50%)
Total = 29,598

Notes:
[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:
CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

Table 8-5 Summary of Annual Flight Operations for the Average Year Alternative 3C

		Alternative 3C (Average Year)			*Change from No Action*		
		Type of Flight Operation			*Type of Flight Operation*		
Airfield	*Aircraft Type or Category*	*FCLP [2, 3]*	*Other [4]*	*Total*	*FCLP [2, 5]*	*Other*	*Total*
Ault Field	EA-18G	23,700	65,200	88,900	+12,400	+12,200	+24,600
	Other Based	-	11,700	11,700	-	+100	+100
	Transient	-	2,300	2,300	-	-	-
	Subtotal	23,700	79,200	102,900	+12,400	+12,300	+24,700
OLF Coupeville	EA-18G	5,900	-	5,900	-200	-	-200
	Other	-	400	400	-	-	-
	Subtotal	5,900	400	6,300	-200	-	-200
TOTAL (both airfields)		**29,600**	**79,600**	**109,200**	**+12,200**	**+12,300**	**+24,500**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.

2 Each closed pattern is counted as two operations.

3 For Growlers at the OLF, values include 740 interfacility (FCLP-related) operations; not shown separately.

4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.

5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 8-6 Detailed Annual Flight Operations for the Average Year Alternative 3C

Airfield	Aircraft	Squadron	Departure			Arrival										Interfacility													
						VFR SI/ Non-Break			Overhead Break				IFR			Departure to OLF				Break Arrival from OLF				Helo Departure to OLF			Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	7,012	378	7,390	2,584	68	2,652	4,153	-	144	4,297	434	6	440	114	46	65	225	182	-	44	226						
		FRS	5,603	400	6,003	2,171	316	2,487	2,382	298	626	3,306	183	27	210	68	41	26	135	119	-	16	135						
		RES	1,143	88	1,231	392	20	412	698	-	30	728	85	6	91	4	4	2	10	9	-	1	10						
		EXP	2,483	125	2,608	908	32	940	1,441	-	57	1,498	167	3	170	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,918	101	2,019	1,401	267	1,668	-	-	-	-	291	60	351														
	H60	SAR	385	-	385	385	-	385	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	391	-	391	286	-	286	-	-	-	-	106	-	106														
	JET_LRG	-	401	111	512	364	104	468	-	-	-	-	30	13	43														
Total			**19,336**	**1,203**	**20,539**	**8,491**	**807**	**9,298**	**8,674**	**298**	**857**	**9,829**	**1,296**	**115**	**1,411**	**186**	**91**	**93**	**370**	**310**	**-**	**61**	**371**	**90**	**-**	**90**	**90**	**-**	**90**

Airfield	Aircraft	Squadron														Interfacility													
																Break Arrival from Ault				Departure to Ault				Helo Arrival from Ault			Helo Departure to Ault		
																Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW														182	-	44	226	114	46	65	225						
		FRS														119	-	16	135	68	41	26	135						
		RES														9	-	1	10	4	4	2	10						
	H60	SAR																						90	-	90	90	-	90
Total																**310**	**-**	**61**	**371**	**186**	**91**	**93**	**370**	**90**	**-**	**90**	**90**	**-**	**90**

Table 8-6 Detailed Annual Flight Operations for the Average Year Alternative 3C

Airfield	Aircraft	Squadron	Closed Pattern[1] FCLP Day (0700-2200) DL	FCLP Day (0700-2200) DK	FCLP Night (2200-0700) DK	FCLP Total	T&G Day (0700-2200) DL	T&G Day (0700-2200) DK	T&G Night (2200-0700) DK	T&G Total	ReEnter Day (0700-2200)	ReEnter Night (2200-0700)	ReEnter Total	GCA/CCA Day (0700-2200)	GCA/CCA Night (2200-0700)	GCA/CCA Total	Grand Totals Day (0700-2200) DL	Grand Totals Day (0700-2200) DK	Grand Totals Night (2200-0700) DK	Grand Totals Total
Ault Field	EA18	CVW	6,521	4,028	3,792	14,341	3,318	690	927	4,935	2,401	90	2,491	4,383	2,706	7,089	31,102	4,764	8,220	44,086
		FRS	5,844	2,025	1,263	9,132	3,659	723	1,024	5,406	-	-	0	4,855	1,046	5,901	24,884	3,087	4,744	32,715
		RES	116	53	30	199	510	10	15	535	419	15	434	507	45	552	3,883	67	252	4,202
		EXP	-	-	-	0	896	-	55	951	773	31	804	890	48	938	7,558	-	351	7,909
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,067	-	710	4,777	-	-	-	1,781	193	1,974	9,458	-	1,331	10,789
	H60	SAR					-	-	-	-	-	-	-	-	-	-	950	-	-	950
	C-40	-					324	-	-	324	-	-	-	163	-	163	1,270	-	-	1,270
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	795	-	228	1,023
Total			**12,481**	**6,106**	**5,085**	**23,672**	**12,774**	**1,423**	**2,731**	**16,928**	**3,593**	**136**	**3,729**	**12,579**	**4,038**	**16,617**	**79,900**	**7,918**	**15,126**	**102,944**
OLF	EA18	CVW	1,533	844	780	3,157											1,829	890	889	3,608
		FRS	912	693	287	1,892											1,099	734	329	2,162
		RES	55	63	18	136											68	67	21	156
	H60	SAR					181	-	-	181							361	-	-	361
Total			**2,500**	**1,600**	**1,085**	**5,185**	**181**	**-**	**-**	**181**							**3,357**	**1,691**	**1,239**	**6,287**
														Grand Totals (Ault+OLF)			**83,257**	**9,609**	**16,365**	**109,231**

Total Annual EA-18G FCLP Related Ops

Total Annual	**Ault =**	**23,672 (80%)**
EA-18G FCLP	**OLF =**	**5,926 (20%)**
Related Ops	**Total =**	**29,598**

Notes:

[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

Table 8-7 Summary of Annual Flight Operations for the Average Year Alternative 3D

Airfield	Aircraft Type or Category	Alternative 3D (Average Year) Type of Flight Operation FCLP [2,3]	Other [4]	Total	Change from No Action Type of Flight Operation FCLP [2,5]	Other	Total
Ault Field	EA-18G	8,900	67,300	76,200	-2,400	+14,300	+11,900
	Other Based	-	11,800	11,800	-	+200	+200
	Transient	-	2,300	2,300	-	-	-
	Subtotal	8,900	81,400	90,300	-2,400	+14,500	+12,100
OLF Coupeville	EA-18G	20,700	-	20,700	+14,600	-	+14,600
	Other	-	400	400	-	-	-
	Subtotal	20,700	400	21,100	+14,600	-	+14,600
TOTAL (both airfields)		**29,600**	**81,800**	**111,400**	**+12,200**	**+14,500**	**+26,700**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.

2 Each closed pattern is counted as two operations.

3 For Growlers at the OLF, values include 2,590 interfacility (FCLP-related) operations; not shown separately.

4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.

5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 8-8 Detailed Annual Flight Operations for the Average Year Alternative 3D

Airfield	Aircraft	Squadron	Departure			Arrival: VFR SI/ Non-Break			Arrival: Overhead Break				Arrival: IFR			Interfacility: Departure to OLF				Interfacility: Break Arrival from OLF				Interfacility: Helo Departure to OLF			Interfacility: Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	7,059	383	7,442	2,582	68	2,650	4,178	-	140	4,318	465	10	475	389	169	228	786	631	-	155	786						
		FRS	5,668	379	6,047	2,148	323	2,471	2,436	322	601	3,359	190	28	218	256	137	105	498	431	-	67	498						
		RES	1,148	91	1,239	419	18	437	702	-	29	731	66	4	70	5	4	2	11	10	-	2	12						
		EXP	2,482	146	2,628	913	35	948	1,445	-	66	1,511	168	1	169	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,951	95	2,046	1,390	285	1,675	-	-	-	-	307	63	370														
	H60	SAR	388	-	388	388	-	388	-	-	-	-	-	-	-									91	-	91	91	-	91
	C-40	-	394	-	394	283	-	283	-	-	-	-	111	-	111														
	JET_LRG	-	405	111	516	370	103	473	-	-	-	-	29	13	42														
Total			**19,495**	**1,205**	**20,700**	**8,493**	**832**	**9,325**	**8,761**	**322**	**836**	**9,919**	**1,336**	**119**	**1,455**	**650**	**310**	**335**	**1,295**	**1,072**	**-**	**224**	**1,296**	**91**	**-**	**91**	**91**	**-**	**91**

Airfield	Aircraft	Squadron														Interfacility: Break Arrival from Ault				Interfacility: Departure to Ault				Interfacility: Helo Arrival from Ault			Interfacility: Helo Departure to Ault		
																Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW														631	-	155	786	389	169	228	786						
		FRS														431	-	67	498	256	137	105	498						
		RES														10	-	2	12	5	4	2	11						
	H60	SAR																						91	-	91	91	-	91
Total																**1,072**	**-**	**224**	**1,296**	**650**	**310**	**335**	**1,295**	**91**	**-**	**91**	**91**	**-**	**91**

Table 8-8 Detailed Annual Flight Operations for the Average Year Alternative 3D

Airfield	*Aircraft*	*Squadron*	*Closed Pattern*[1]														*Grand Totals*			
			FCLP				*T&G*				*ReEnter*			*GCA/CCA*						
			Day (0700-2200)		*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*								*Day (0700-2200)*		*Night (2200-0700)*	
			DL	*DK*	*DK*	*Total*	*DL*	*DK*	*DK*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*DL*	*DK*	*DK*	*Total*
Ault Field	EA18	CVW	2,469	1,658	1,344	5,471	3,318	690	927	4,935	2,401	90	2,491	4,383	2,706	7,089	27,875	2,517	6,051	36,443
		FRS	2,060	728	411	3,199	3,659	723	1,024	5,406	-	-	0	4,855	1,046	5,901	21,703	1,910	3,984	27,597
		RES	141	45	33	219	510	10	15	535	419	15	434	507	45	552	3,927	59	254	4,240
		EXP	-	-	-	0	896	-	55	951	773	31	804	890	48	938	7,567	-	382	7,949
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,105	-	655	4,760	-	-	-	1,750	198	1,948	9,503	-	1,296	10,799
	H60	SAR					-	-	-	-	-	-	-	-	-	-	958	-	-	958
	C-40	-					334	-	-	334	-	-	-	167	-	167	1,289	-	-	1,289
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	804	-	227	1,031
Total			**4,670**	**2,431**	**1,788**	**8,889**	**12,822**	**1,423**	**2,676**	**16,921**	**3,593**	**136**	**3,729**	**12,552**	**4,043**	**16,595**	**73,626**	**4,486**	**12,194**	**90,306**
OLF	EA18	CVW	5,236	3,053	2,721	11,010											6,256	3,222	3,104	12,582
		FRS	3,414	2,406	1,135	6,955											4,101	2,543	1,307	7,951
		RES	69	65	25	159											84	69	29	182
	H60	SAR					181	-	-	181							363	-	-	363
Total			**8,719**	**5,524**	**3,881**	**18,124**	**181**	**-**	**-**	**181**							**10,804**	**5,834**	**4,440**	**21,078**
														Grand Totals (Ault+OLF)			**84,430**	**10,320**	**16,634**	**111,384**

Total Annual	**Ault =**	**8,889 (30%)**
EA-18G FCLP	**OLF =**	**20,715 (70%)**
Related Ops	**Total =**	**29,604**

Notes:

[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:

CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

Table 8-9 Summary of Annual Flight Operations for the Average Year Alternative 3E

		Alternative 3E (Average Year)			*Change from No Action*		
		Type of Flight Operation			*Type of Flight Operation*		
Airfield	*Aircraft Type or Category*	*FCLP [2, 3]*	*Other [4]*	*Total*	*FCLP [2, 5]*	*Other*	*Total*
Ault Field	EA-18G	20,700	65,600	86,300	+9,400	+12,600	+22,000
	Other Based	-	11,700	11,700	-	+100	+100
	Transient	-	2,300	2,300	-	-	-
	Subtotal	20,700	79,600	100,300	+9,400	+12,700	+22,100
OLF Coupeville	EA-18G	8,900	-	8,900	+2,800	-	+2,800
	Other	-	400	400	-	-	-
	Subtotal	8,900	400	9,300	+2,800	-	+2,800
TOTAL (both airfields)		**29,600**	**80,000**	**109,600**	**+12,200**	**+12,700**	**+24,900**

1 Rounded to nearest 100 if greater than or equal to 100; rounded to nearest 10 if greater than or equal to 10 (and less than 100); set to 10 if between 1 and 9.

2 Each closed pattern is counted as two operations.

3 For Growlers at the OLF, values include 1,112 interfacility (FCLP-related) operations; not shown separately.

4 For Ault Field, includes departures, arrivals, pattern operations, and interfacility operations; for the OLF, includes HH-60 interfacility departures, arrivals, and pattern work.

5 No Action excludes 900 interfacility Growler operations (FCLP related).

Table 8-10 Detailed Annual Flight Operations for the Average Year Alternative 3E

Airfield	Aircraft	Squadron	Departure			Arrival: VFR SI/ Non-Break			Arrival: Overhead Break				Arrival: IFR			Interfacility: Departure to OLF				Interfacility: Break Arrival from OLF				Interfacility: Helo Departure to OLF			Interfacility: Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	7,012	378	7,390	2,584	68	2,652	4,153	-	144	4,297	434	6	440	171	69	98	338	273	-	66	339						
		FRS	5,603	400	6,003	2,171	316	2,487	2,382	298	626	3,306	183	27	210	102	62	39	203	179	-	24	203						
		RES	1,143	88	1,231	392	20	412	698	-	30	728	85	6	91	6	6	3	15	14	-	2	16						
		EXP	2,483	125	2,608	908	32	940	1,441	-	57	1,498	167	3	170	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,918	101	2,019	1,401	267	1,668	-	-	-	-	291	60	351														
	H60	SAR	385	-	385	385	-	385	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	391	-	391	286	-	286	-	-	-	-	106	-	106														
	JET_LRG	-	401	111	512	364	104	468	-	-	-	-	30	13	43														
Total			**19,336**	**1,203**	**20,539**	**8,491**	**807**	**9,298**	**8,674**	**298**	**857**	**9,829**	**1,296**	**115**	**1,411**	**279**	**137**	**140**	**556**	**466**	**-**	**92**	**558**	**90**	**-**	**90**	**90**	**-**	**90**

Airfield	Aircraft	Squadron	Interfacility: Break Arrival from Ault				Interfacility: Departure to Ault				Interfacility: Helo Arrival from Ault			Interfacility: Helo Departure to Ault		
			Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (700-2200) DL	Day (700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW	273	-	66	339	171	69	98	338						
		FRS	179	-	24	203	102	62	39	203						
		RES	14	-	2	16	6	6	3	15						
	H60	SAR									90	-	90	90	-	90
Total			**466**	**-**	**92**	**558**	**279**	**137**	**140**	**556**	**90**	**-**	**90**	**90**	**-**	**90**

Table 8-10 Detailed Annual Flight Operations for the Average Year Alternative 3E

Airfield	*Aircraft*	*Squadron*	*Closed Pattern[1]*														*Grand Totals*			
			FCLP				*T&G*				*ReEnter*			*GCA/CCA*						
			Day (0700-2200)		*Night (2200-0700)*		*Day (0700-2200)*		*Night (2200-0700)*		*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*Day (0700-2200)*	*Night (2200-0700)*	*Total*	*Day (0700-2200)*		*Night (2200-0700)*	
			DL	*DK*	*DK*	*Total*	*DL*	*DK*	*DK*	*Total*							*DL*	*DK*	*DK*	*Total*
Ault Field	EA18	CVW	5,706	3,525	3,318	12,549	3,318	690	927	4,935	2,401	90	2,491	4,383	2,706	7,089	30,435	4,284	7,801	42,520
		FRS	5,114	1,772	1,105	7,991	3,659	723	1,024	5,406	-	-	0	4,855	1,046	5,901	24,248	2,855	4,607	31,710
		RES	102	46	26	174	510	10	15	535	419	15	434	507	45	552	3,876	62	250	4,188
		EXP	-	-	-	0	896	-	55	951	773	31	804	890	48	938	7,558	-	351	7,909
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,067	-	710	4,777	-	-	-	1,781	193	1,974	9,458	-	1,331	10,789
	H60	SAR					-	-	-	-	-	-	-	-	-	-	950	-	-	950
	C-40	-					324	-	-	324	-	-	-	163	-	163	1,270	-	-	1,270
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	795	-	228	1,023
Total			**10,922**	**5,343**	**4,449**	**20,714**	**12,774**	**1,423**	**2,731**	**16,928**	**3,593**	**136**	**3,729**	**12,579**	**4,038**	**16,617**	**78,590**	**7,201**	**14,568**	**100,359**
OLF	EA18	CVW	2,300	1,266	1,170	4,736											2,744	1,335	1,334	5,413
		FRS	1,368	1,040	431	2,839											1,649	1,102	494	3,245
		RES	83	95	27	205											103	101	32	236
	H60	SAR					181	-	-	181							361	-	-	361
Total			**3,751**	**2,401**	**1,628**	**7,780**	**181**	**-**	**-**	**181**							**4,857**	**2,538**	**1,860**	**9,255**
														Grand Totals (Ault+OLF)			**83,447**	**9,739**	**16,428**	**109,614**

Total Annual	**Ault =**	**20,714 (70%)**
EA-18G FCLP	**OLF =**	**8,894 (30%)**
Related Ops	**Total =**	**29,608**

Notes:

[1] Closed-pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed-pattern departure and arrival operation counts.

Key:
CVW = Carrier
DK = Darkness
DL = Daylight
EXP = Expeditionary
FRS = Fleet Replacement
RES = Reserve

8.2 Other Modeling Parameters

Appendix A3 contains tables of runway utilization percentages as extracted from the NASMOD study output. Flight tracks and their utilization would be identical to the baseline scenario except for the overhead break/pattern portion of the interfacility arrival tracks to the OLF and the FCLPs at the OLF. The primary changes in these tracks are the abeam distances (shortened compared to the No Action Alternative). Modeled flight tracks are depicted in Appendix A4.

Flight profiles would be identical to the No Action Alternative except for the adjustments made to the aforementioned revised overhead break/pattern and FCLP flight track. The representative profiles for each modeled aircraft type are contained in Appendix A5.

Depending on whether Scenario A, B, C, D, or E is selected, Alternative 3 would have between approximately 184 and 205 AAD flight events at Ault Field and between approximately 11 and 39 AAD flight events at the OLF. For the high-tempo FCLP year, Alternative 3 would have between approximately 183 and 203 AAD flight events at Ault Field and between approximately 12 and 43 AAD flight events at the OLF.

8.3 Run-up Operations

Table 6-7 lists the modeled run-ups, with the locations depicted in Figure 5-1. For average year Alternative 3, numbers of annual run-up events for the EA-18G were scaled proportionally to the alternative's change in number of based aircraft compared to the average year No Action Alternative. P-8 run-ups (at their appropriate tempo) replace those for the P-3 at the same locations and headings except the P-8 would not utilize the Red Label Delta or Foxtrot locations. For the high-tempo FCLP year Alternative 3, it was assumed the run-ups would not change compared to average year Alternative 3.

8.4 Aircraft Noise Exposure

Using the data described in Sections 8.1 through 8.3, NOISEMAP was used to calculate and plot the 60 dB through 95 dB DNL contours, in 5-dB increments, for the AAD events for average year Alternative 3 under all scenarios. Figures 8-1 through 8-5 show the resulting DNL contours.

At Ault Field, the DNL contours for average year Alternative 3 under all scenarios would be within up to roughly 1,000 feet of each other on average. The 65 dB contour surrounding Ault Field would extend approximately 7 to 13 miles from the runway endpoints. These lobes would be primarily attributable to EA-18G aircraft flying on the approach portion of GCA patterns. The 65 dB DNL contour would extend approximately 2 miles past the eastern shore of the mainland across Skagit Bay, primarily due to EA-18G GCA and VFR approaches. The 80 dB DNL contour would extend approximately 4 miles to the east outside the station boundary, primarily due to EA-18G GCA and VFR approaches descending from 1,800 feet AGL, as well as the GCA patterns. The 90 dB contour would extend approximately 0.5 mile to the east beyond the station boundary.

The DNL exposure at the OLF would be attributable to the OLF's FCLP operations. The 65 dB contours would extend 2.2 to 2.8 miles north of the OLF's runway. The 65 dB contours would extend 2.5 to 3.1 miles south of the OLF's runway.

As an overview comparison map, Figure 8-6 compares the 65 dB DNL contours of average year Alternative 3 under all scenarios to the 65 dB DNL contours of the No Action Alternative. Because FCLPs comprise the majority of operations at the OLF, changes in location of FCLPs between Ault Field and OLF cause a larger difference in DNL contours at the OLF from one scenario to the next.

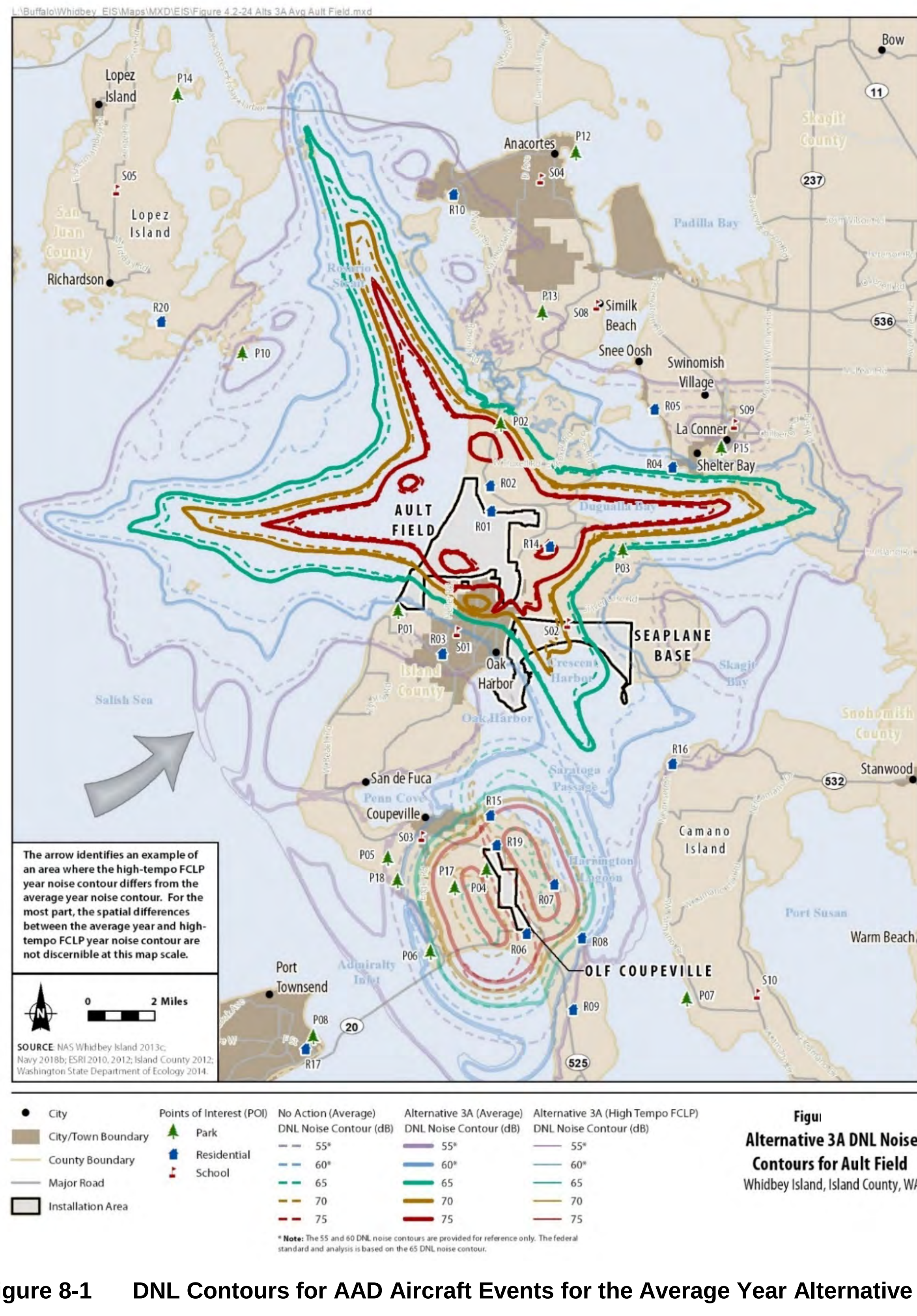

Figure 8-1 DNL Contours for AAD Aircraft Events for the Average Year Alternative 3A

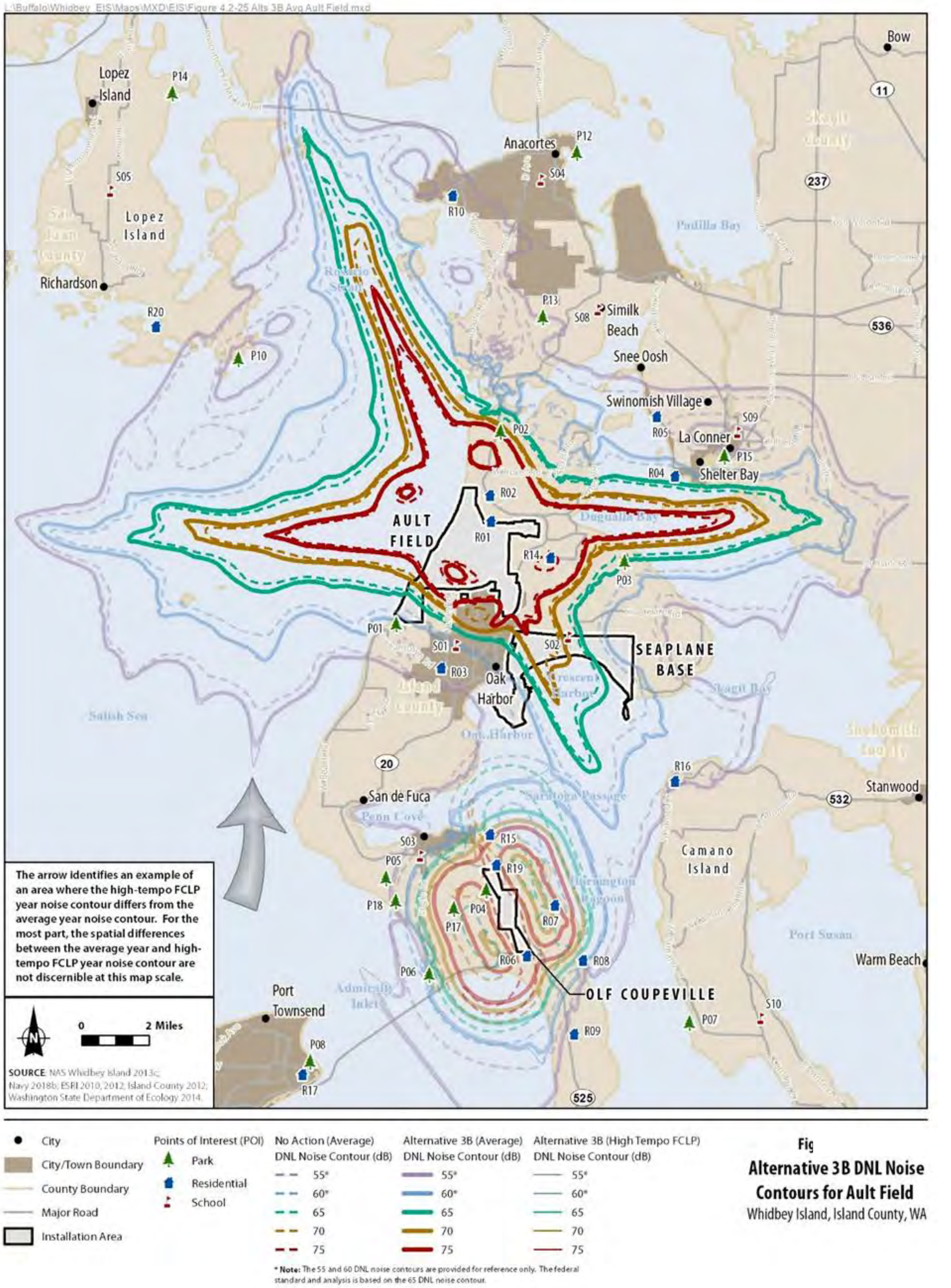

Figure 8-2 DNL Contours for AAD Aircraft Events for the Average Year Alternative 3B

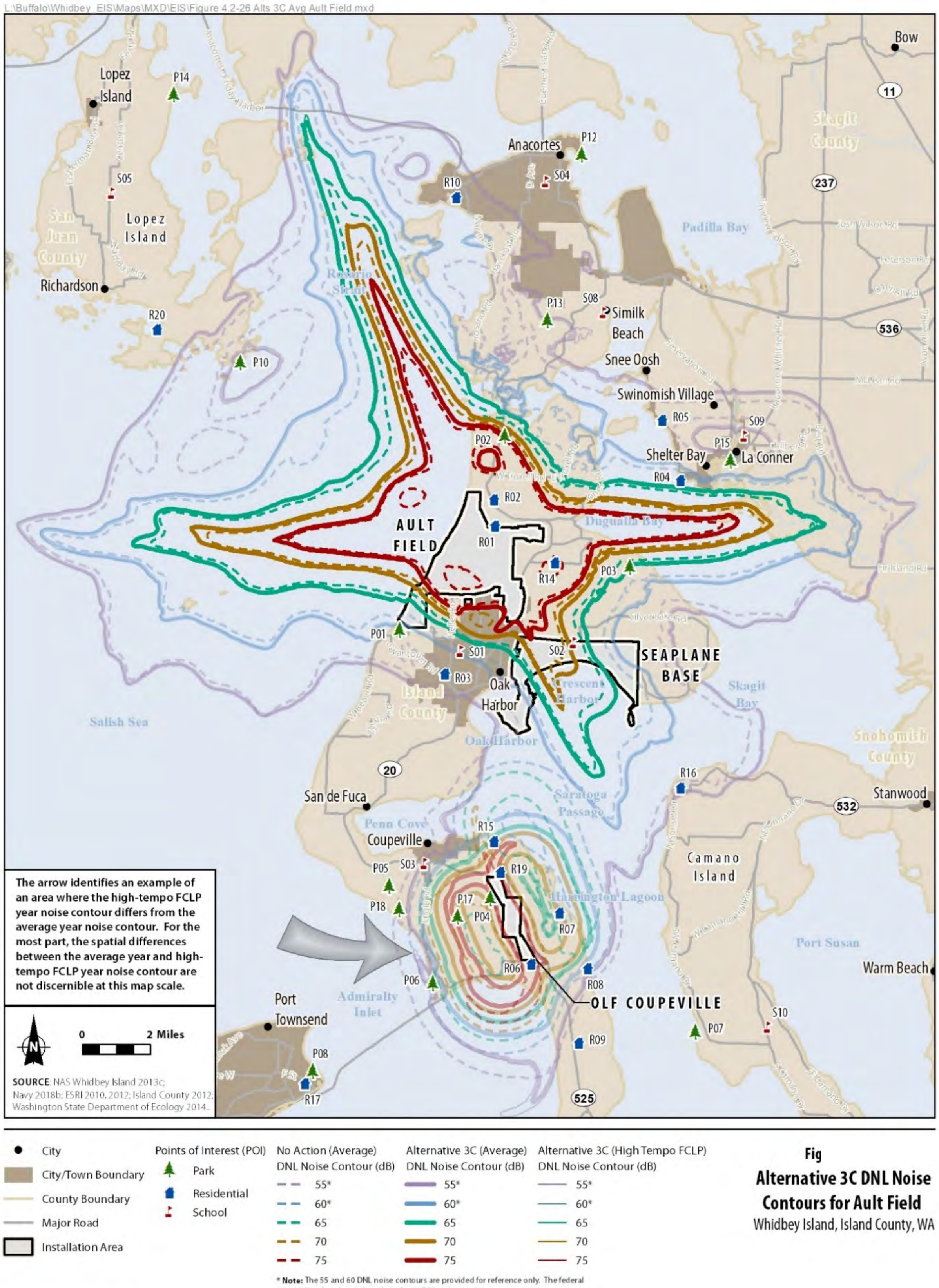

Figure 8-3 DNL Contours for AAD Aircraft Events for the Average Year Alternative 3C

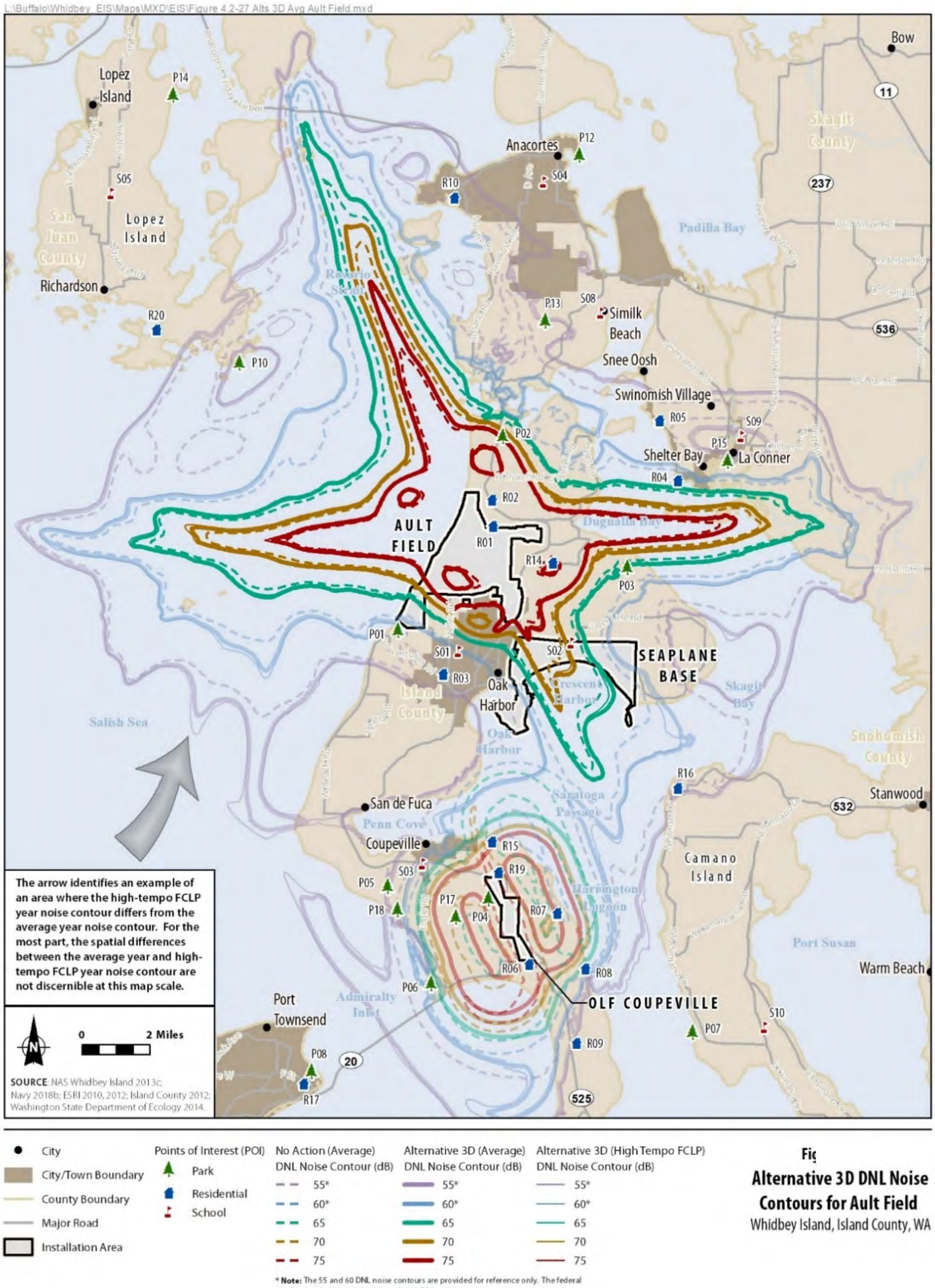

Figure 8-4 DNL Contours for AAD Aircraft Events for the Average Year Alternative 3D

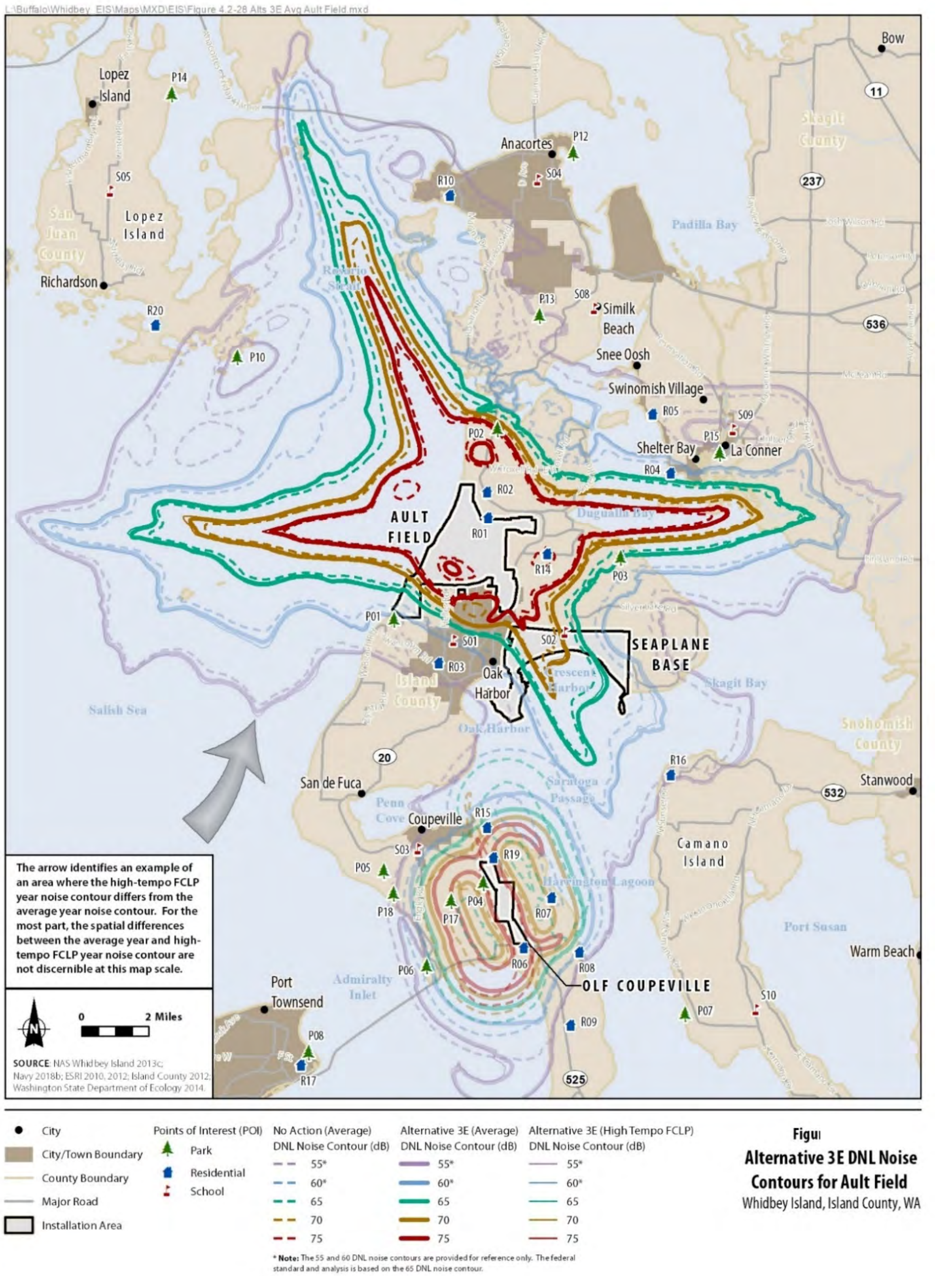

Figure 8-5 DNL Contours for AAD Aircraft Events for the Average Year Alternative 3E

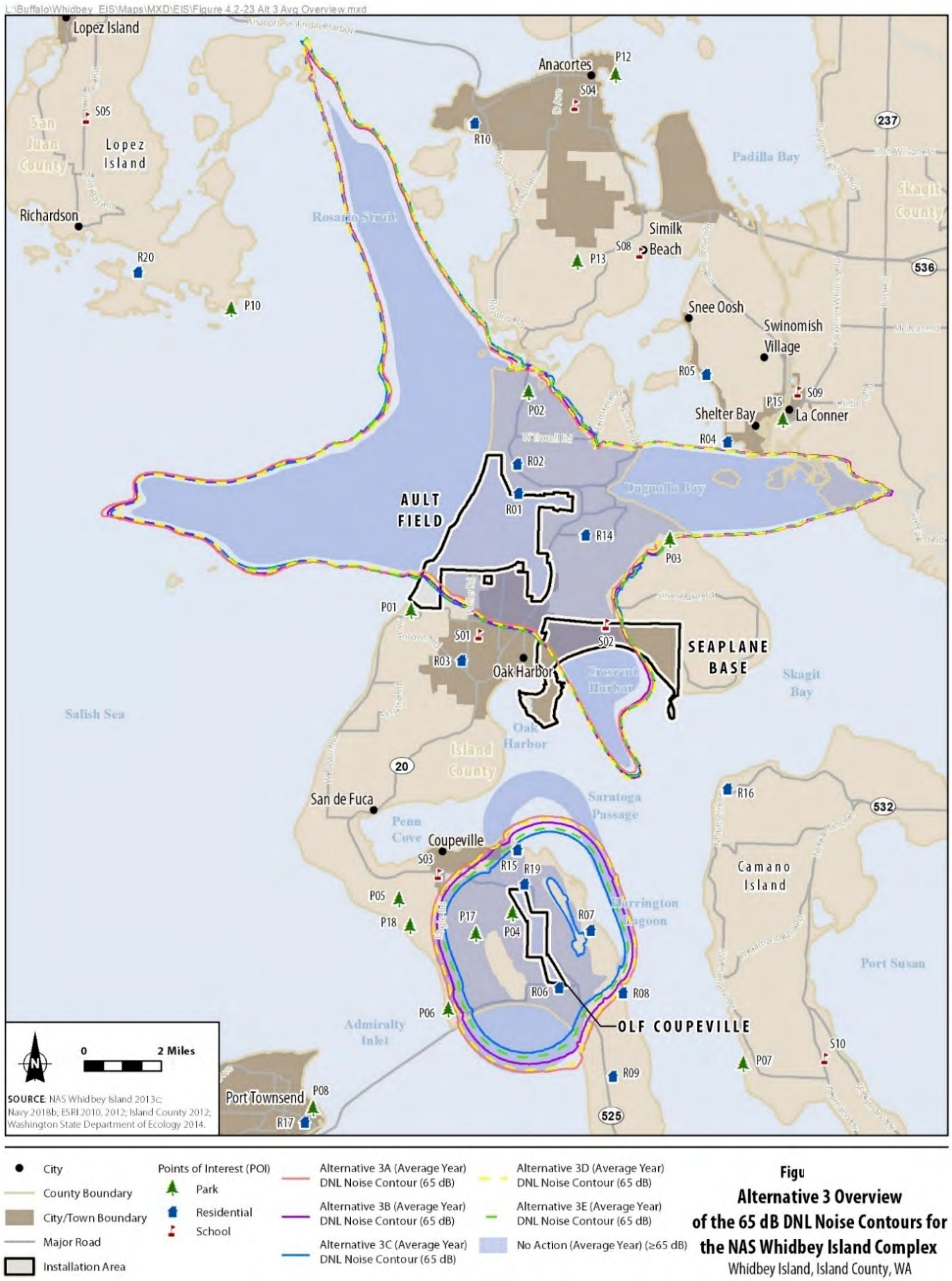

Figure 8-6 Comparison of 65 dB DNL Contours for Average Year Alternative 3 and the No Action Alternative

Table 8-11 depicts the estimated off-station population exposed to DNL greater than or equal to 65 dB and its percent change compared to the No Action Alternative. Overall, the affected population would increase by 12 to 16 percent, with the smallest increase attributable to Alternative 3, Scenario A, and the largest attributable to Alternative 3, Scenarios B and E.

Under the high-tempo FCLP year Alternative 3 (Appendix A7), the population exposed to DNL greater than or equal to 65 dB would increase by 14 percent to 18 percent, with the smallest increase occurring under high-tempo FCLP year Alternative 2, Scenario A, and the largest occurring under high-tempo FCLP year Alternative 3, Scenarios C and E. As shown in Table 8-12, the population exposed to DNL greater than or equal to 65 dB would, on average, be 2 percent higher than the average year Alternative 3.

Table 8-11 Estimated Acreage and Population within the DNL Contour Ranges[1] for the NAS Whidbey Island Complex, Alternative 3 (Average Year)[2,3]

	DNL Contour Ranges							
	65 to <70 dB DNL		*70 to <75 dB DNL*		*Greater than or equal to 75 dB DNL*		*Total*	
	Area (acres)	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*
Ault Field								
No Action Alternative								
Average Year	3,596	3,279	3,269	2,283	5,549	3,379	12,414	8,941
Alternative 3								
Scenario A (20/80 FCLP split)	4,005 (+409)	3,690 (+411)	3,262 (-7)	1,874 (-409)	5,866 (+317)	3,486 (+107)	13,133 (+719)	9,050 (+109)
Scenario B (50/50 FCLP split)	3,907 (+311)	3,591 (+312)	3,271 (+2)	2,415 (+132)	6,357 (+808)	3,756 (+377)	13,535 (+1,121)	9,762 (+821)
Scenario C (80/20 FCLP split)	3,897 (+301)	3,698 (+419)	3,129 (-140)	2,466 (+183)	6,740 (+1,191)	3,913 (+534)	13,766 (+1,352)	10,077 (+1,136)
Scenario D (30/70 FCLP split)	3,958 (+362)	3,695 (+416)	3,233 (-36)	2,182 (-101)	6,109 (+560)	3,597 (+218)	13,300 (+886)	9,474 (+533)
Scenario E (70/30 FCLP split)	3,875 (+279)	3,661 (+382)	3,151 (-118)	2,430 (+147)	6,643 (+1,094)	3,869 (+490)	13,669 (+1,255)	9,960 (+1,019)
OLF Coupeville								
No Action Alternative								
Average Year	3,681	861	3,088	786	638	583	7,407	2,230
Alternative 3								
Scenario A (20/80 FCLP split)	1,563 (-2,118)	554 (-307)	3,323 (+235)	965 (+179)	5,246 (+4,608)	1,914 (+1,331)	10,132 (+2,725)	3,433 (+1,203)
Scenario B (50/50 FCLP split)	2,058 (-1,623)	559 (-302)	3,458 (+370)	1,059 (+273)	3,931 (+3,293)	1,500 (+917)	9,447 (+2,040)	3,118 (+888)
Scenario C (80/20 FCLP split)	3,432 (-249)	1,045 (+184)	3,168 (+80)	1,030 (+244)	1,398 (+760)	672 (+89)	7,998 (+591)	2,747 (+517)
Scenario D (30/70 FCLP split)	1,582 (-2,099)	515 (-346)	3,467 (+379)	1,023 (+237)	4,890 (+4,252)	1,805 (+1,222)	9,939 (+2,532)	3,343 (+1,113)
Scenario E (70/30 FCLP split)	3,063 (-618)	871 (+10)	3,178 (+90)	1,053 (+267)	2,518 (+1,880)	1,000 (+417)	8,759 (+1,352)	2,924 (+694)

Table 8-11 Estimated Acreage and Population within the DNL Contour Ranges[1] for the NAS Whidbey Island Complex, Alternative 3 (Average Year)[2,3]

	DNL Contour Ranges							
	65 to <70 dB DNL		*70 to <75 dB DNL*		*Greater than or equal to 75 dB DNL*		*Total*	
	Area (acres)	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*
NAS Whidbey Island Complex								
No Action Alternative								
Average Year	7,277	4,140	6,357	3,069	6,187	3,962	19,821	11,171
Alternative 3								
Scenario A (20/80 FCLP split)	5,568 (-1,709)	4,244 (+104)	6,585 (+228)	2,839 (-230)	11,112 (+4,925)	5,400 (+1,438)	23,265 (+3,444)	12,483 (+1,312)
Scenario B (50/50 FCLP split)	5,965 (-1,312)	4,150 (+10)	6,729 (+372)	3,474 (+405)	10,288 (+4,101)	5,256 (+1,294)	22,982 (+3,161)	12,880 (+1,709)
Scenario C (80/20 FCLP split)	7,329 (+52)	4,743 (+603)	6,297 (-60)	3,496 (+427)	8,138 (+1,951)	4,585 (+623)	21,764 (+1,943)	12,824 (+1,653)
Scenario D (30/70 FCLP split)	5,540 (-1,737)	4,210 (+70)	6,700 (+343)	3,205 (+136)	10,999 (+4,812)	5,402 (+1,440)	23,239 (+3,418)	12,817 (+1,646)
Scenario E (70/30 FCLP split)	6,938 (-339)	4,532 (+392)	6,329 (-28)	3,483 (+414)	9,161 (+2,974)	4,869 (+907)	22,428 (+2,607)	12,884 (+1,713)

Notes:

1 All five scenarios are outlined in Section 2.3.3, where the split represents the percent of FCLPs conducted at Ault Field and OLF Coupeville, respectively (i.e., 20/80 FCLP split = 20 percent of FCLPs at Ault Field and 80 percent of FCLPs at OLF Coupeville).

2 Acreage presented does not include areas over water or areas over the NAS Whidbey Island complex.

3 The difference between the No Action Alternative and Alternative 1 is noted in parentheses.

4 Population counts of people within the DNL contour ranges were computed using 2010 Census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour range, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block, and it excludes population on military properties within the DNL contour ranges (NAS Whidbey Island [Ault Field], the Seaplane Base, and OLF Coupeville). A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

5 Numbers have been rounded to ensure totals sum.

Key:

dB = decibel
DNL = day-night average sound level
FCLP = Field Carrier Landing Practice

Table 8-12 Percent Difference in the Estimated Acreage and Population within the Average and High-Tempo FCLP Year DNL Contour Ranges for the NAS Whidbey Island Complex, Alternative 3

DNL Contours	DNL Contour Ranges[1] 65 to <70 dB DNL Area (acres)	Pop	70 to <75 dB DNL Area (acres)	Pop	Greater than or equal to 75 dB DNL Area (acres)	Pop	Total Area (acres)	Pop
Ault Field								
Scenario A	0.5%	-0.1%	0.0%	2.5%	1.0%	0.8%	0.6%	0.8%
Scenario B	0.7%	1.1%	0.0%	1.9%	1.4%	1.0%	0.8%	1.3%
Scenario C	1.3%	1.1%	0.0%	1.3%	1.0%	0.8%	0.9%	1.0%
Scenario D	1.0%	-0.6%	0.8%	1.9%	0.9%	1.8%	0.9%	0.9%
Scenario E	1.7%	1.3%	2.1%	4.6%	0.3%	1.1%	1.1%	2.0%
OLF Coupeville								
Scenario A	0.6%	7.8%	-5.8%	-7.4%	6.6%	5.5%	1.6%	2.2%
Scenario B	-8.3%	-11.8%	0.1%	2.0%	8.0%	6.9%	1.6%	1.9%
Scenario C	0.5%	-1.4%	0.8%	1.5%	13.5%	7.8%	2.9%	1.9%
Scenario D	-2.0%	4.3%	-4.5%	-6.1%	7.1%	6.3%	1.6%	2.2%
Scenario E	-4.6%	-5.2%	1.1%	-0.5%	7.7%	7.5%	1.0%	0.8%
NAS Whidbey Island Complex								
Scenario A	0.6%	0.9%	-2.9%	-0.8%	3.6%	2.4%	1.0%	1.2%
Scenario B	-2.4%	-0.6%	0.0%	1.9%	3.9%	2.7%	1.1%	1.4%
Scenario C	0.9%	0.5%	0.4%	1.4%	3.2%	1.9%	1.6%	1.2%
Scenario D	0.1%	0.0%	-2.0%	-0.7%	3.7%	3.3%	1.2%	1.2%
Scenario E	-1.1%	0.1%	1.6%	3.1%	2.4%	2.4%	1.1%	1.8%

Key:
dB = decibel
DNL = day-night average sound level
NAS = Naval Air Station
OLF = outlying landing field

8.4.1 Points of Interest

Figure 8-7 shows the DNL for each POI and comparisons of the DNLs for this alternative's scenarios to those for the No Action Alternative. The average year Alternative 3 under all scenarios would have 12 POIs experience DNL greater than or equal to 65 dB, and five or six residential POIs would experience DNL greater than or equal to 75 dB. Three of the latter category would be near Ault Field (POIs R01, R02, and R14), and three would be near the OLF (POIs R06, R07, and R19). One of the seven schools, POI S02, would experience DNL greater than or equal to 65 dB--i.e., 69 dB.

Among all scenarios for Alternative 3, the increase in DNL would be greatest for Alternative 3, Scenario A, and smallest for Alternative 3, Scenario C. Increases in DNL would range from 1 to 15 dB compared to the No Action Alternative. POIs R06, R07, and EBLA001 would experience the greatest increases in DNL of 10 to 15 dB. POI R07 would be newly impacted, with DNL of 70 to 76 dB.

See Appendix A6 for lists of the five flight profiles with the greatest SEL at each POI.

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
P01	Joseph Whidbey State Park	Ault	58	59	59	58	59
P02	Deception Pass State Park	Ault	73	74	75	74	75
P03	Dugualla State Park	Ault	66	66	66	66	66
P04	Baseball Field (Ebey's Landing National Historical Reserve)	OLF	79	77	73	78	75
P05	Ebey's Prairie	OLF	56	54	50	55	52
P06	Fort Casey State Park	OLF	63	61	57	62	58
P07	Cama Beach State Park	OLF	47	46	<45	47	<45
P08	Port Townsend	OLF	<45	<45	<45	<45	<45
P09	Moran State Park	Ault	<45	<45	<45	<45	<45
P10	San Juan Islands National Monument	Ault	55	55	55	55	55
P11	San Juan Island Visitors Center	Ault	<45	<45	<45	<45	<45
P12	Cap Sante Park	Ault	<45	<45	<45	<45	<45
P13	Lake Campbell	Ault	55	55	56	56	56

Increase in DNL re No Action (dB)

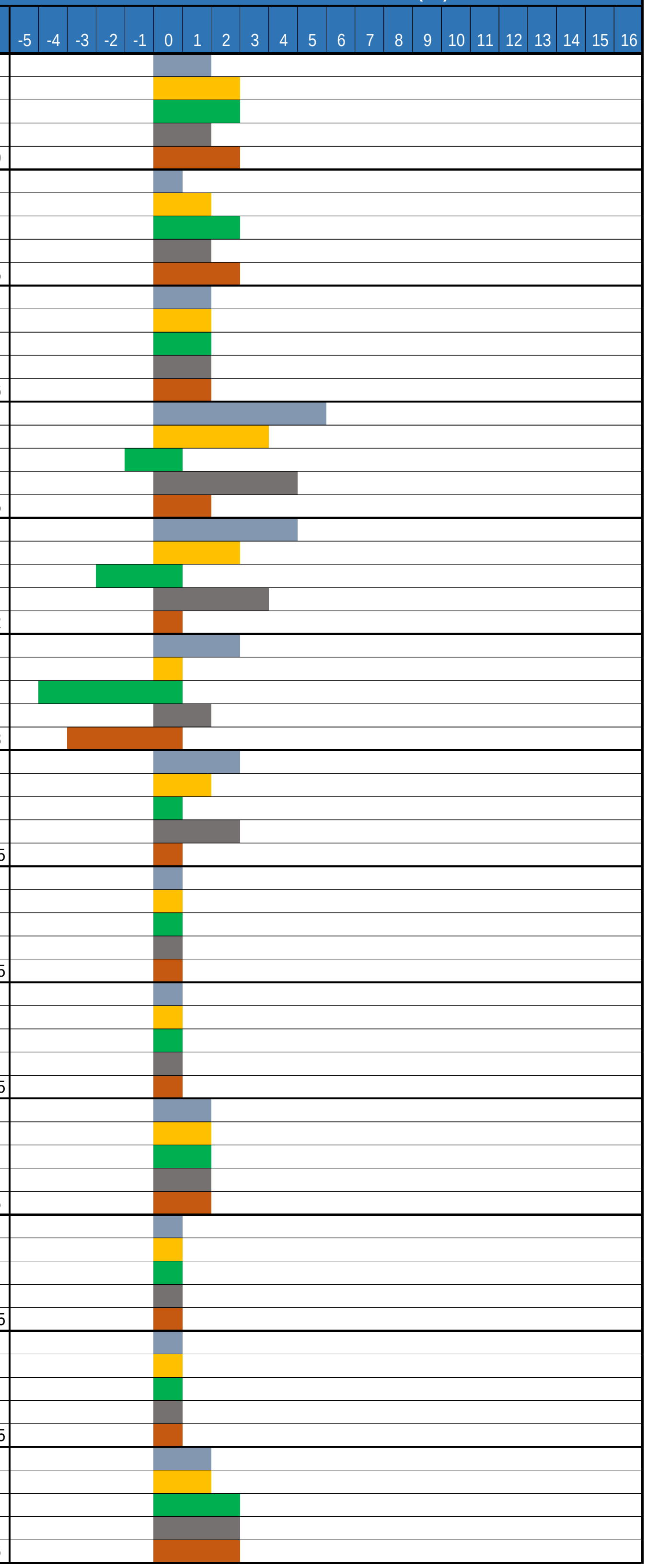

Figure 8-7 Estimated Aircraft DNL at POIs for the Average Year Alternative 3

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
P14	Spencer Spit State Park	None	<45				
				<45			
					<45		
						<45	
							<45
P15	Pioneer Park	Ault	57				
				57			
					56		
						57	
							57
P16	Marrowstone Island (Fort Flagler)	OLF	<45				
				<45			
					<45		
						<45	
							<45
EBLA001	Ferry House	OLF	80				
				78			
					74		
						80	
							76
EBLA002	Reuble Farm	OLF	59				
				56			
					52		
						58	
							54
R01	Sullivan Rd	Ault	91				
				91			
					91		
						91	
							91
R02	Salal St. and N. Northgate Dr	Ault	79				
				79			
					80		
						79	
							80
R03	Central Whidbey	Ault	58				
				59			
					59		
						58	
							59
R04	Pull and Be Damned Poin	Ault	63				
				63			
					63		
						63	
							63
R05	Snee-Oosh Point	Ault	58				
				58			
					58		
						58	
							58
R06	Admirals Dr and Byrd Dr	OLF	89				
				87			
					83		
						88	
							85
R07	Race Lagoon	OLF	76				
				74			
					70		
						75	
							71
R08	Pratts Bluff	OLF	63				
				61			
					57		
						63	
							59

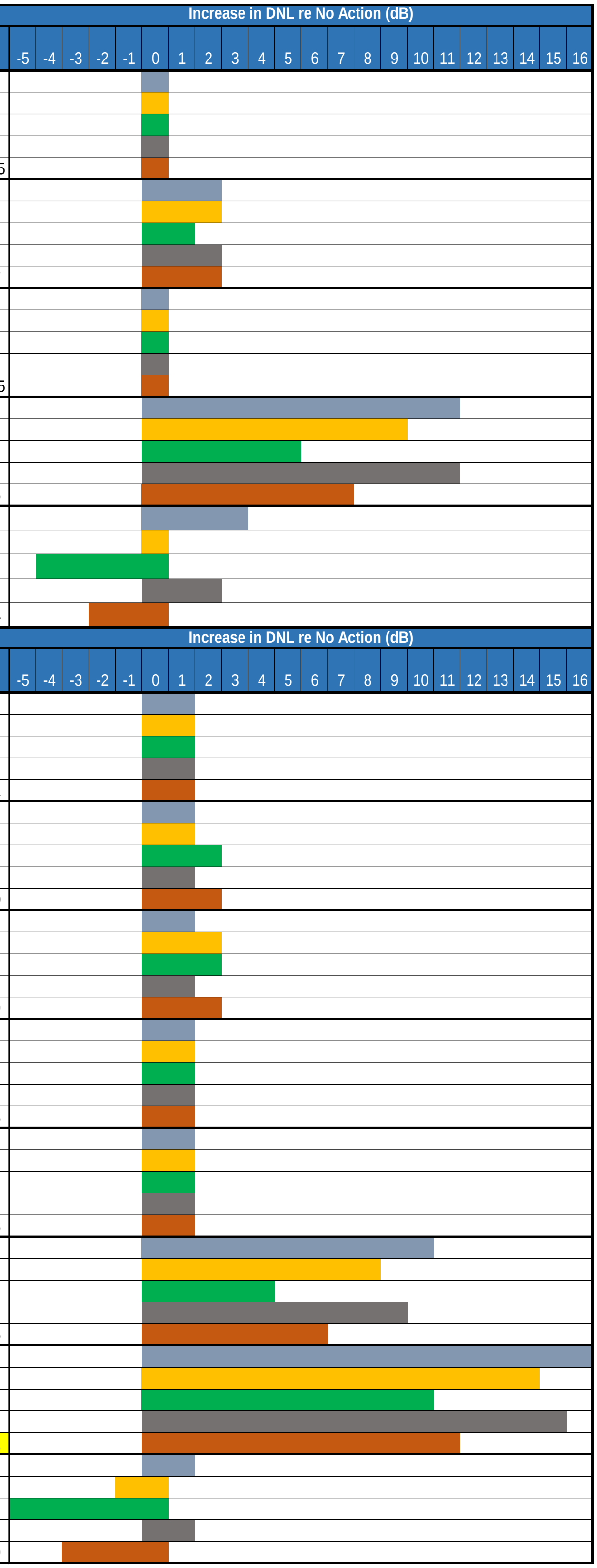

Figure 8-7 Estimated Aircraft DNL at POIs for the Average Year Alternative 3 (continued)

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
R09	Cox Rd and Island Ridge Way	OLF	54				
				52			
					48		
						54	
							50
R10	Skyline	None	58				
				57			
					58		
						58	
							58
R11	Sequim	None	<45				
				<45			
					<45		
						<45	
							<45
R12	Port Angeles	None	<45				
				<45			
					<45		
						<45	
							<45
R13	Beverly Beach, Freeland	OLF	<45				
				<45			
					<45		
						<45	
							<45
R14	Sleeper Rd & Slumber L	Ault	75				
				76			
					76		
						75	
							76
R15	Long Point Manor	OLF	73				
				71			
					67		
						72	
							69
R16	Rocky Point Heights	OLF	56				
				56			
					56		
						56	
							56
R17	Port Townsend	None	<45				
				<45			
					<45		
						<45	
							<45
R18	Marrowstone Island (Nordland)	None	<45				
				<45			
					<45		
						<45	
							<45
R19	Island Transit Offices, Coupeville	OLF	80				
				78			
					74		
						80	
							76
R20	South Lopez Island (Agate Beach)	None	49				
				48			
					49		
						49	
							49

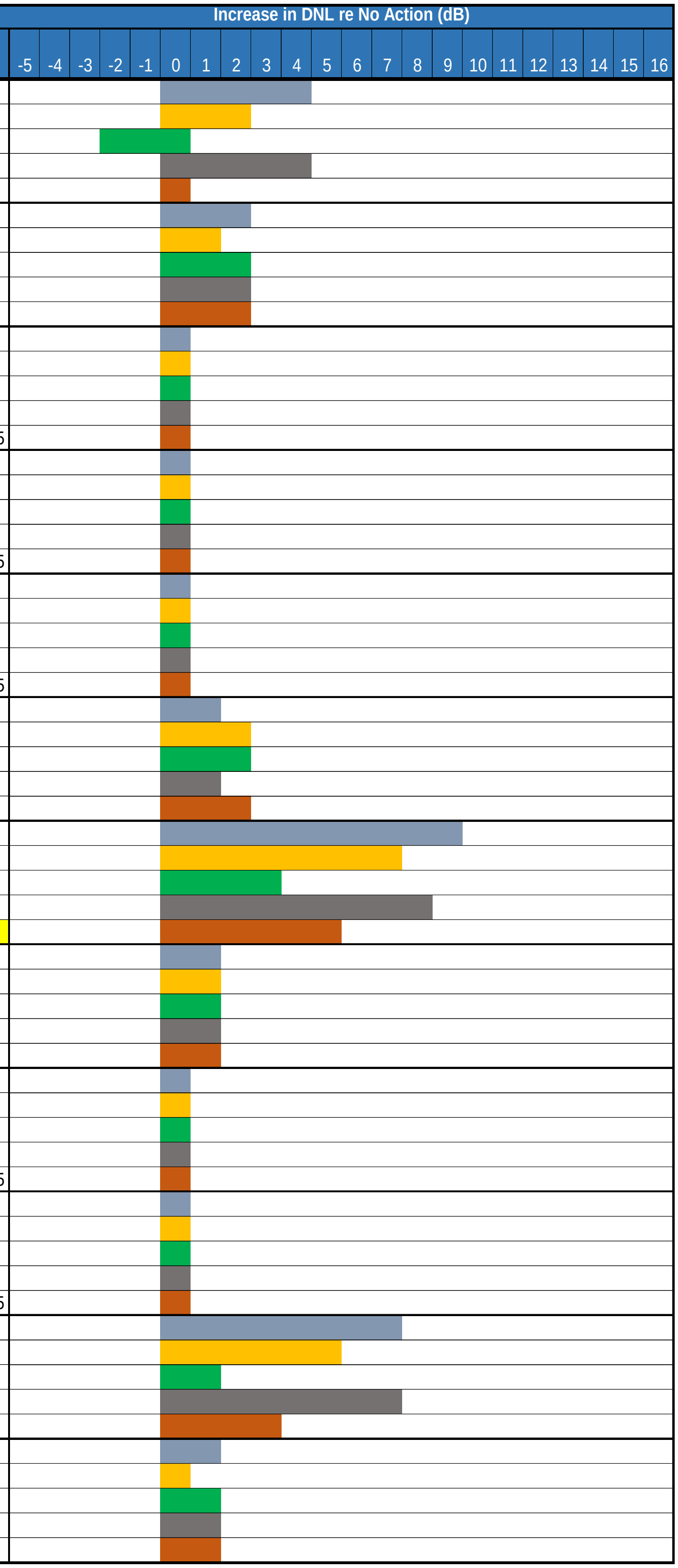

Figure 8-7 Estimated Aircraft DNL at POIs for the Average Year Alternative 3 (continued)

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
S01	Oak Harbor High School	Ault	59				
				60			
					61		
						60	
							61
S02	Crescent Harbor Elementary School	Ault	69				
				68			
					69		
						69	
							69
S03	Coupeville Elementary School	OLF	62				
				59			
					56		
						61	
							57
S04	Anacortes High School	Ault	50				
				49			
					50		
						50	
							50
S05	Lopez Island School	None	<45				
				<45			
					<45		
						<45	
							<45
S06	Friday Harbor Elementary School	None	<45				
				<45			
					<45		
						<45	
							<45
S07	Sir James Douglas Elementary School	None	<45				
				<45			
					<45		
						<45	
							<45
S08	Fidalgo Elementary School	Ault	53				
				53			
					53		
						53	
							53
S09	La Conner Elementary School	Ault	55				
				55			
					54		
						54	
							54
S10	Elger Bay Elementary School	OLF	<45				
				<45			
					<45		
						<45	
							<45

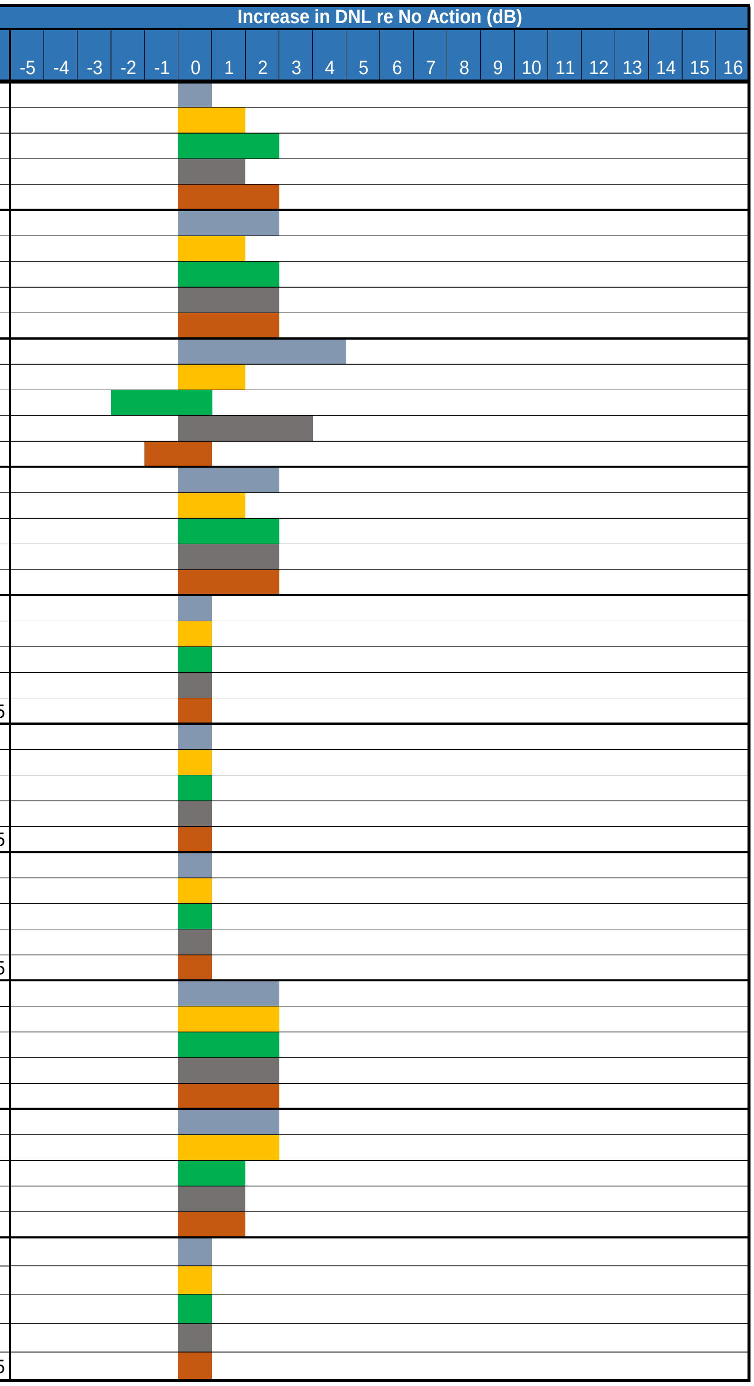

Figure 8-7 Estimated Aircraft DNL at POIs for the Average Year Alternative 3 (concluded)

Under the high-tempo FCLP year Alternative 3 under all scenarios (Appendix A7), 12 POIs would experience DNL greater than or equal to 65 dB, and five or six residential POIs would experience DNL greater than or equal to 75 dB. Three of the latter category would be near Ault Field (POIs R01, R02, and R14), and four would be near the OLF (POIs R06, R07, and R19). Crescent Harbor Elementary, with a DNL of 69 dB under Alternative 3, Scenario C, and 68 dB under Alternative 3, Scenarios A, B, D, and E, would be the only school exposed to DNL of at least 65 dB.

Among high-tempo FCLP year Alternative 3 under all scenarios, the increase in DNL would be greatest for Alternative 2, Scenario A, and smallest for Alternative 3, Scenario C. Increases in DNL would range from 1 to 15 dB compared to the high-tempo FCLP year No Action Alternative. POIs R07 and R06 would experience increases in DNL of up to 15 and 11 dB, respectively. POI R07 would be newly impacted, with DNL of 70 to 76 dB.

8.4.2 Potential Hearing Loss

Table 8-13 shows estimates of the population within 1-dB bands of $L_{eq(24h)}$ and their associated NIPTS for the average year Alternative 3. The level at which there may be a noticeable NIPTS would be at the 84 to 85 dB $L_{eq(24)}$ range and above. There is an increase in the population within the 80 dB DNL noise contour (i.e., potential at-risk population) under Alternative 3 at both Ault Field and OLF Coupeville. The largest increase in the potential at-risk population in the vicinity of Ault Field would be under Scenario C (47 additional people) and in the vicinity of OLF Coupeville would be under Scenario A (28 additional people). The range of potential NIPTS could be up to 9.5 dB at Ault Field and 6.0 dB at OLF Coupeville. The potential NIPTS values presented in Table 8-13 are only applicable in the extreme case of continuous outdoor exposure at one’s residence to all aircraft events occurring over a period of 40 years. Because it is highly unlikely for any individuals to meet all those criteria, the actual potential NIPTS for individuals would be far less than the values reported here.

The USEPA guidelines provided information on the estimated NIPTS exceeded by the 10 percent of the population most sensitive to noise. Using the same 1 dB incremental data in Table 8-13 and the column identified as the 10th Percentile NIPTS, those individuals are vulnerable to noticeable NIPTS at the 77 to 78 dB $L_{eq(24)}$ range and above. Using this even more conservative estimate, the range of potential NIPTS could be up to 18.0 dB for the population most sensitive to noise around Ault Field and up to 12.0 dB for the population most sensitive to noise around OLF Coupeville.

Table 8-13 Average and 10th Percentile Noise Induced Permanent Threshold Shifts as a Function of Equivalent Sound Level under Alternative 3 at NAS Whidbey Island Complex (Average Year)

Band of $L_{eq(24)}$ (dB)[1]	Avg NIPTS (dB)[2,3]	10th Pct NIPTS (dB)[2,]	Estimated Population[4,5,6]											
			Ault Field						OLF Coupeville					
			No Action	Alt 3A	Alt 3B	Alt 3C	Alt 3D	Alt 3E	No Action	Alt 3A	Alt 3B	Alt 3C	Alt 3D	Alt 3E
75-76	1.0	4.0	0	0 (0)	0 (0)	6 (+6)	0 (0)	3 (+3)	31	143 (+112)	74 (+43)	35 (+4)	116 (+85)	46 (+15)
76-77	1.0	4.5	123	126 (+3)	308[7] (+185)	406[8] (+283)	140 (+17)	371[9] (+248)	45	164 (+119)	90 (+45)	59 (+14)	159 (+114)	63 (+18)
77-78	1.5	5.0	233	259 (+26)	337 (+104)	398 (+165)	307 (+74)	352 (+119)	47	126 (+79)	75 (+28)	87 (+40)	100 (+53)	56 (+9)
78-79	2.0	5.5	145	147 (+2)	241 (+96)	296 (+151)	173 (+28)	295 (+150)	24	92 (+68)	65 (+41)	4 (-20)	78 (+45)	61 (+37)
79-80	2.5	6.0	92	134 (+42)	162 (+70)	239 (+147)	141 (+49)	209 (+117)	7	75 (+68)	58 (+51)	0 (0)	70 (+63)	75 (+68)
80-81	3.0	7.0	73	78 (+5)	97 (+24)	129 (+56)	84 (+11)	118 (+45)	0	66 (+66)	59 (+59)	0 (0)	62 (+62)	3 (+3)
81-82	3.5	8.0	51	62 (+11)	72 (+21)	79 (+28)	67 (+16)	76 (+25)	0	58 (+58)	83 (+83)	0 (0)	55 (+55)	0 (0)
82-83	4.0	9.0	37	48 (+11)	58 (+21)	63 (+26)	48 (+11)	60 (+23)	0	58 (+58)	4 (+4)	0 (0)	64 (+64)	0 (0)
83-84	4.5	10.0	34	35 (+1)	37 (+3)	38 (+4)	35 (+1)	37 (+3)	0	69 (+69)	0 (0)	0 (0)	55 (+55)	0 (0)
84-85	5.5	11.0	11	27 (+16)	26 (+15)	29 (+18)	29 (+18)	28 (+17)	0	27 (+27)	0 (0)	0 (0)	1 (+1)	0 (0)
85-86	6.0	12.0	9	9 (0)	22 (+13)	26 (+17)	10 (+1)	24 (+15)	0	1 (+1)	0 (0)	0 (0)	0 (0)	0 (0)
86-87	7.0	13.5	6	9 (+3)	9 (+3)	10 (+4)	9 (+3)	10 (+4)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
87-88	7.5	15.0	4	6 (+2)	7 (+3)	7 (+3)	6 (+2)	7 (+3)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
88-89	8.5	16.5	2	4 (+2)	4 (+2)	5 (+3)	4 (+2)	4 (+2)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
89-90	9.5	18.0	0	1 (+1)	2 (+2)	2 (+2)	1 (+1)	2 (+2)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Table 8-13 Average and 10th Percentile Noise Induced Permanent Threshold Shifts as a Function of Equivalent Sound Level under Alternative 3 at NAS Whidbey Island Complex (Average Year)

			Estimated Population[4,5,6]											
			Ault Field						OLF Coupeville					
Band of $L_{eq(24)}$ (dB)[1]	Avg NIPTS (dB)[2,3]	10th Pct NIPTS (dB)[2,]	No Action	Alt 3A	Alt 3B	Alt 3C	Alt 3D	Alt 3E	No Action	Alt 3A	Alt 3B	Alt 3C	Alt 3D	Alt 3E
90-91	10.5	19.5	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Notes:

1 L_{eq} bands with no population were omitted from table.

2 NIPTS values rounded to nearest 0.5 dB.

3 NIPTS below 5 dB are generally not considered noticeable.

4 This analysis assumes the population is outdoors at one's residence and exposed to all aircraft noise events for 40 years. Given the amount of time spent indoors and the intermittent occurrence of aircraft noise events, it is highly unlikely that individuals would meet all those criteria, and the actual potential for hearing loss would be far less than the values reported here.

5 Estimated population was determined by those living within the 80 dB DNL noise contour around each airfield, including those living on base at Ault Field (there is no on-base population at OLF Coupeville).

6 Population counts of people within the DNL contours were computed using 2010 Census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). In addition, per guidance on potential hearing loss, on-base populations at Ault Field have been included in the analysis. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

7 Of this estimated population, 23 are a military service member living on base at Ault Field.

8 Of this estimated population, 68 are military personnel living on base at Ault Field.

9 Of this estimated population, 23 are military personnel living on base at Ault Field.

Key:

dB = decibel

$L_{eq(24)}$ = 24-hour Equivalent Sound Level

NIPTS = Noise Induced Permanent Threshold Shift

8.4.3 Residential Nighttime Sleep Disturbance

Table 8-14 lists the PA for applicable POIs for average daily nighttime (10:00 p.m. to 7:00 a.m.) events for average year Alternative 3 under all scenarios. Average PA would range from 8 percent to 16 percent across the listed POIs for either window condition. POIs R01 and R02 would have the greatest PA, 35 percent to 74 percent, depending upon whether windows are open or closed. At six of the POIs, there would be no change in PA compared to the No Action Alternative, but at the remaining 24 POIs, increases in PA would range from 1 percent at several POIs to 31 percent (at POI R06 under Alternative 3, Scenario A).

Under the high-tempo FCLP year Alternative 3 (Appendix A7), the statistics cited above would be 0 percent to 3 percent greater than those listed for the average year Alternative 3, except for the change statistics. At six of the POIs, there would be no change in PA compared to the No Action Alternative, but at the remaining 24 POIs, increases in PA would range from 1 percent at several POIs to 35 percent (at POI R06 under Alternative 3, Scenario A).

Table 8-14 Average Indoor Nightly Probability of Awakening at Applicable POIs for the Average Year Alternative 3

Point of Interest				Annual Average Nightly (2200-0700) Probability of Awakening (%) [1]																			
				Alt3A		Change from No Action		Alt3B		Change from No Action		Alt3C		Change from No Action		Alt3D		Change from No Action		Alt3E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential[2]	R01	Sullivan Rd	Ault	67%	51%	9%	8%	70%	54%	12%	11%	74%	58%	16%	15%	68%	52%	10%	9%	73%	57%	15%	14%
	R02	Salal St. and N. Northgate Dr	Ault	49%	35%	8%	6%	52%	37%	11%	8%	56%	41%	15%	12%	50%	36%	9%	7%	55%	40%	14%	11%
	R03	Central Whidbey	Ault	19%	10%	3%	2%	21%	11%	5%	3%	23%	12%	7%	4%	20%	11%	4%	3%	23%	12%	7%	4%
	R04	Pull and Be Damned Point	Ault	25%	12%	6%	3%	26%	12%	7%	3%	27%	12%	8%	3%	25%	12%	6%	3%	27%	12%	8%	3%
	R05	Snee-Oosh Point	Ault	20%	7%	5%	2%	21%	7%	6%	2%	22%	7%	7%	2%	20%	7%	5%	2%	22%	7%	7%	2%
	R06	Admirals Dr and Byrd Dr	OLF	40%	28%	31%	22%	27%	18%	18%	12%	12%	8%	3%	2%	36%	25%	27%	19%	17%	11%	8%	5%
	R07	Race Lagoon	OLF	19%	8%	14%	6%	13%	6%	8%	4%	7%	2%	2%	-	17%	8%	12%	6%	9%	3%	4%	1%
	R08	Pratts Bluff	OLF	14%	9%	10%	7%	9%	6%	5%	4%	4%	2%	-	-	13%	8%	9%	6%	6%	3%	2%	1%
	R09	Cox Rd and Island Ridge Way	OLF	12%	8%	9%	6%	7%	5%	4%	3%	3%	2%	-	-	10%	7%	7%	5%	4%	3%	1%	1%
	R10	Skyline	None	7%	3%	2%	1%	8%	3%	3%	1%	9%	3%	4%	1%	8%	3%	3%	1%	9%	3%	4%	1%
	R11	Sequim	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R12	Port Angeles	None	1%	0%	1%	-	1%	0%	1%	-	1%	0%	1%	-	1%	0%	1%	-	1%	0%	1%	-
	R13	Beverly Beach, Freeland	OLF	6%	-	4%	-	4%	-	2%	-	2%	-	-	-	5%	-	3%	-	2%	-	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	43%	30%	6%	5%	47%	33%	10%	8%	51%	37%	14%	12%	44%	31%	7%	6%	50%	36%	13%	11%
	R15	Long Point Manor	OLF	23%	12%	12%	8%	18%	8%	7%	4%	14%	4%	3%	-	22%	11%	11%	7%	15%	5%	4%	1%
	R16	Rocky Point Heights	OLF	11%	4%	2%	1%	12%	4%	3%	1%	13%	4%	4%	1%	12%	4%	3%	1%	13%	4%	4%	1%
	R17	Port Townsend	None	1%	-	-	-	1%	-	-	-	0%	-	-1%	-	1%	-	-	-	1%	-	-	-
	R18	Marrowstone Island (Nordland)	None	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	0%	-	-	-
	R19	Island Transit Offices, Coupeville	OLF	32%	21%	23%	16%	23%	14%	14%	9%	12%	6%	3%	1%	30%	18%	21%	13%	16%	8%	7%	3%

Table 8-14 Average Indoor Nightly Probability of Awakening at Applicable POIs for the Average Year Alternative 3

Point of Interest				Annual Average Nightly (2200-0700) Probability of Awakening (%) [1]																			
				Alt3A		Change from No Action		Alt3B		Change from No Action		Alt3C		Change from No Action		Alt3D		Change from No Action		Alt3E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
	R20	South Lopez Island (Agate Beach)	None	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-
School (near residential)	S01	Oak Harbor High School	Ault	25%	14%	5%	2%	27%	16%	7%	4%	29%	18%	9%	6%	26%	15%	6%	3%	29%	17%	9%	5%
	S02	Crescent Harbor Elementary School	Ault	26%	15%	5%	3%	28%	17%	7%	5%	31%	19%	10%	7%	27%	16%	6%	4%	30%	18%	9%	6%
	S03	Coupeville Elementary School	OLF	17%	10%	12%	7%	11%	7%	6%	4%	6%	3%	1%	-	15%	9%	10%	6%	7%	4%	2%	1%
	S04	Anacortes High School	Ault	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-
	S05	Lopez Island School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	9%	3%	3%	1%	9%	3%	3%	1%	10%	3%	4%	1%	9%	3%	3%	1%	10%	3%	4%	1%
	S09	La Conner Elementary School	Ault	11%	5%	3%	2%	10%	5%	2%	2%	10%	5%	2%	2%	10%	5%	2%	2%	10%	5%	2%	2%
	S10	Elger Bay Elementary School	OLF	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-

1 Assumes 15 dB and 25 dB of noise level reductions for windows open and closed, respectively.
2 R01 and R06 include interior SELs greater than 100 dB with windows open

8.4.4 Residential Daytime Indoor Speech Interference

Table 8-15 presents the average daily indoor daytime (7:00 a.m. to 10:00 p.m.) events per hour for the applicable POIs that would experience indoor maximum sound levels of at least 50 dB with windows closed and open for average year Alternative 3. Events per hour would be less than one at 12 of the 30 POIs and would range between one and 10 for the remaining 18 POIs, regardless of the window status. Relative to the average year No Action Alternative, increases of one or two events per hour would be experienced by 16 of the POIs.

For the high-tempo FCLP year Alternative 3 (Appendix A7), the statistics cited above would be unchanged.

Table 8-15 Indoor Speech Interference for the Average Year Alternative 3

Point of Interest				Annual Average Daily Indoor Daytime (0700-2200) Events per Hour [1]																			
				Alt3A		Change from No Action		Alt3B		Change from No Action		Alt3C		Change from No Action		Alt3D		Change from No Action		Alt3E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential[2]	R01	Sullivan Rd	Ault	9	9	10	10	2	2	2	2	9	9	10	10	2	2	+1	+1	10	10	+2	+2
	R02	Salal St. and N. Northgate Dr	Ault	9	9	10	10	2	2	2	2	9	9	10	10	2	2	+1	+1	10	10	+2	+2
	R03	Central Whidbey	Ault	5	-	6	-	1	-	1	-	5	-	6	-	1	-	-	-	6	-	+1	-
	R04	Pull and Be Damned Point	Ault	3	1	3	2	1	1	1	-	3	1	3	1	1	-	+1	-	3	1	+1	-
	R05	Snee-Oosh Point	Ault	2	1	2	1	-	-	-	-	2	1	2	1	-	-	-	-	2	1	-	-
	R06	Admirals Dr and Byrd Dr	OLF	2	2	1	1	1	1	-	-	2	2	1	1	1	1	+2	+2	1	1	+1	+1
	R07	Race Lagoon	OLF	2	1	1	-	1	-	1	-	2	1	1	-	1	-	+2	+1	1	-	+1	-
	R08	Pratts Bluff	OLF	2	1	1	-	1	-	-	-	2	1	1	-	1	-	+2	+1	1	-	+1	-
	R09	Cox Rd and Island Ridge Way	OLF	1	-	1	-	1	-	-	-	1	-	-	-	-	-	+1	-	-	-	-	-
	R10	Skyline	None	-	-	-	-	-	-	1	-	1	-	1	-	1	-	+1	-	1	-	+1	-
	R11	Sequim	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R12	Port Angeles	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R13	Beverly Beach, Freeland	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	9	8	9	9	1	2	2	2	9	8	10	9	2	2	+1	+1	10	9	+2	+2
	R15	Long Point Manor	OLF	3	2	2	1	1	-	-	-	2	2	1	1	-	-	+1	+1	1	1	-	-
	R16	Rocky Point Heights	OLF	2	1	2	1	-	-	-	-	2	1	2	1	-	-	-	-	2	1	-	-
	R17	Port Townsend	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R18	Marrowstone Island (Nordland)	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R19	Island Transit Offices, Coupeville	OLF	2	2	1	1	-	-	-	-	2	2	1	1	-	-	+1	+1	1	1	-	-

Table 8-15 Indoor Speech Interference for the Average Year Alternative 3

Point of Interest				Annual Average Daily Indoor Daytime (0700-2200) Events per Hour [1]																			
				Alt3A		Change from No Action		Alt3B		Change from No Action		Alt3C		Change from No Action		Alt3D		Change from No Action		Alt3E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
	R20	South Lopez Island (Agate Beach)	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School (near residential)	S01	Oak Harbor High School	Ault	6	2	7	3	1	1	1	1	7	3	7	3	1	1	+1	+1	7	3	+1	+1
	S02	Crescent Harbor Elementary School	Ault	5	2	6	2	1	-	1	1	6	2	6	3	1	1	+1	-	6	3	+1	+1
	S03	Coupeville Elementary School	OLF	2	1	1	1	-	1	-	-	2	1	1	-	-	-	+1	+1	1	-	-	-
	S04	Anacortes High School	Ault	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S05	Lopez Island School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S09	La Conner Elementary School	Ault	1	1	1	1	-	1	-	-	1	-	1	-	-	-	-	-	1	-	-	-
	S10	Elger Bay Elementary School	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1 With an indoor maximum sound level of at least 50 dB; assumes 15 dB and 25 dB of noise level reductions for windows open and closed, respectively.

2 The Whidbey General Hospital is located within approximately 1,000 feet of the Coupeville Elementary School; therefore, this location was not modeled individually, but a similar result for indoor speech interference for POI S03 would apply

8.4.5 Classroom Learning Interference

Table 8-16 presents the potential learning interference for classrooms under the average year Alternative 3. With an $L_{eq(8h)}$ of 69 dB (Alternative 3, Scenarios C and E), POI S02 (Crescent Harbor Elementary) would experience the greatest outdoor $L_{eq(8h)}$. No other locations would experience $L_{eq(8h)}$ greater than or equal to the screening threshold of 60 dB under any of the three alternatives. With windows open, three or four of the POIs would have more than one event per hour. With windows closed, two of the POIs would have more than one event per hour. POI S01, Oak Harbor High School, would have the most events per hour, with up to seven with windows open. POIs S01 and S02 would have the most events per hour (two or three) with windows closed.

Relative to the No Action Alternative, POIs would experience between a 1 and 6 dB increase in $L_{eq(8h)}$ and increases in events per hour of one or two.

Under the high-tempo FCLP year Alternative 3 (Appendix A7), the statistics cited above would be unchanged.

Table 8-16 Classroom Learning Interference for Average Year Alternative 3

Point of Interest				Alt 3A					Change from No Action				
				Outdoor	Indoor[1]				Outdoor	Indoor[1]			
					Windows Open		Windows Closed			Windows Open		Windows Closed	
Type	ID	Description	Related Field	$L_{eq\,(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour [2]	$L_{eq(8h)}$ (dB)	Events per Hour [2]	$L_{eq\,(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour [2]	$L_{eq(8h)}$ (dB)	Events per Hour [2]
School	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2	-	-	+1	-	-
	S02	Crescent Harbor Elementary School	Ault	68	53	5	<45	2	+1	+1	+1	+1	-
	S03	Coupeville Elementary School	OLF	57	<45	2	<45	1	+6	+6	+2	+6	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding One Intrusive Event per Hour						**4**		**2**			**1**		**-**
Minimum Number of Intrusive Events per Hour if Exceeding One						**2**		**2**			**+2**		**-**
Maximum Number of Intrusive Events per Hour if Exceeding One						**6**		**2**			**+2**		**-**

Table 8-16 Classroom Learning Interference for Average Year Alternative 3

Point of Interest				*Alt 3B*					*Change from No Action*				
School	R03	Central Whidbey	Ault	59	<45	5	<45	-	+2	+2	+1	+2	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
	S02	Crescent Harbor Elementary School	Ault	68	53	6	<45	2	+1	+1	+2	+1	-
	S03	Coupeville Elementary School	OLF	55	<45	1	<45	1	+4	+4	+1	+4	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding One Intrusive Event per Hour						**3**		**2**			**2**		**-**
Minimum Number of Intrusive Events per Hour if Exceeding One						**5**		**2**			**+2**		**-**
Maximum Number of Intrusive Events per Hour if Exceeding One						**7**		**3**			**+2**		**-**

Table 8-16 Classroom Learning Interference for Average Year Alternative 3

Point of Interest				*Alt 3C*					*Change from No Action*				
School	R03	Central Whidbey	Ault	59	<45	6	<45	-	+2	+2	+2	+2	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
	S02	Crescent Harbor Elementary School	Ault	69	54	6	<45	3	+2	+2	+2	+2	+1
	S03	Coupeville Elementary School	OLF	51	<45	1	<45	-	-	-	+1	-	-
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding One Intrusive Event per Hour						**3**		**2**			**3**		**-**
Minimum Number of Intrusive Events per Hour if Exceeding One						**6**		**3**			**+2**		**-**
Maximum Number of Intrusive Events per Hour if Exceeding One						**7**		**3**			**+2**		**-**

Table 8-16 Classroom Learning Interference for Average Year Alternative 3

Point of Interest				*Alt 3D*					*Change from No Action*				
School	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2	-	-	+1	-	-
	S02	Crescent Harbor Elementary School	Ault	68	53	5	<45	2	+1	+1	+1	+1	-
	S03	Coupeville Elementary School	OLF	56	<45	2	<45	1	+5	+5	+2	+5	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding One Intrusive Event per Hour						**4**		**2**			**1**		**-**
Minimum Number of Intrusive Events per Hour if Exceeding One						**5**		**2**			**+2**		**-**
Maximum Number of Intrusive Events per Hour if Exceeding One						**6**		**2**			**+2**		**-**

Table 8-16 Classroom Learning Interference for Average Year Alternative 3

Point of Interest				*Alt 3E*					*Change from No Action*				
School	R03	Central Whidbey	Ault	59	<45	6	<45	-	+2	+2	+2	+2	-
Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
	S02	Crescent Harbor Elementary School	Ault	69	54	6	<45	2	+2	+2	+2	+2	-
	S03	Coupeville Elementary School	OLF	53	<45	1	<45	-	+2	+2	+1	+2	-
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding One Intrusive Event per Hour						**3**		**2**			**3**		**-**
Minimum Number of Intrusive Events per Hour if Exceeding One						**6**		**2**			**+2**		**-**
Maximum Number of Intrusive Events per Hour if Exceeding One						**7**		**3**			**+2**		**-**

Notes:

[1] Assumes 15 dB and 25 dB of noise level reductions for windows open and closed, respectively.

[2] Number of average school-day events per hour during 8-hour school day (0800-1600) at or above an indoor maximum (single-event) sound level (L_{max}) of 50 dB.

8.4.6 Recreational Speech Interference

Table 8-17 lists the AAD daytime NA 50 L_{max} per hour for the recreational POIs. The average NA across the 11 POIs would be five events per daytime hour and one event per nighttime hour. Six POIs would be exposed to less than one event per hour. POIs P01, P02, R01, R02, R14, and S01 would have the most events per hour, at 10 under Alternative 3, Scenarios C and E. Relative to the average year No Action Alternative, increases of up to two events per hour would be experienced at all but nine of the POIs. The latter nine POIs would experience no change.

Under the high-tempo FCLP year Alternative 3 (Appendix A7), the statistics cited above would be the same.

Table 8-17 Recreational Speech Interference for Average Year Alternative 3

Representative Park Receptor			Annual Average Outdoor Daily Daytime Events per Hour, NA 65 L_{max}																			
			Alt3A		Increase re No Action		Alt3B		Increase re No Action		Alt3C		Increase re No Action		Alt3D		Increase re No Action		Alt3E		Increase re No Action	
Type	ID	Description	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Park	P01	Joseph Whidbey State Park	9	2	+1	-	9	2	+1	-	10	2	+2	-	9	2	+1	-	10	2	+2	-
	P02	Deception Pass State Park	9	2	+1	-	9	2	+1	-	10	2	+2	-	9	2	+1	-	10	2	+2	-
	P03	Dugualla State Park	9	2	+2	-	9	2	+2	-	9	2	+2	-	9	2	+2	-	9	2	+2	-
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	4	1	+1	+1	3	1	-	+1
	P05	Ebey's Landing State Park	4	1	+2	+1	3	1	+1	+1	3	1	+1	+1	4	1	+2	+1	3	1	+1	+1
	P06	Fort Casey State Park	3	1	+2	+1	2	1	+1	+1	1	-	-	-	2	1	+1	+1	2	-	+1	-
	P07	Cama Beach State Park	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	5	1	+2	+1	4	1	+1	+1
	P08	Port Townsend	2	1	+1	+1	1	1	-	+1	1	-	-	-	2	1	+1	+1	1	-	-	-
	P09	Moran State Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P10	San Juan Islands National Monument	8	2	+1	+1	9	2	+2	+1	9	2	+2	+1	8	2	+1	+1	9	2	+2	+1
	P11	San Juan Island Visitors Center	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P12	Cap Sante Park	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-
	P13	Lake Campbell	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-
	P14	Spencer Spit State Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P15	Pioneer Park	5	1	+1	-	4	1	-	-	4	1	-	-	5	1	+1	-	4	1	-	-
	P16	Marrowstone Island (Fort Flagler)	1	1	+1	+1	1	0	+1	-	0	-	-	-	1	1	+1	+1	1	-	+1	-
	EBLA001	Ferry House	4	1	+2	+1	3	1	+1	+1	2	0	-	-	4	1	+2	+1	3	1	+1	+1
	EBLA002	Reuble Farm	4	1	+2	+1	3	1	+1	+1	2	0	-	-	4	1	+2	+1	3	1	+1	+1

Table 8-17 Recreational Speech Interference for Average Year Alternative 3

Representative Park Receptor			Annual Average Outdoor Daily Daytime Events per Hour, NA 65 L_{max}																			
			Alt3A		Increase re No Action		Alt3B		Increase re No Action		Alt3C		Increase re No Action		Alt3D		Increase re No Action		Alt3E		Increase re No Action	
Type	ID	Description	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Residential	R01	Sullivan Rd	9	2	+1	-	10	2	+2	-	10	3	+2	+1	10	2	+2	-	10	2	+2	-
	R02	Salal St. and N. Northgate Dr	9	2	+1	-	10	2	+2	-	10	3	+2	+1	10	2	+2	-	10	2	+2	-
	R03	Central Whidbey	8	2	+1	-	9	2	+2	-	9	2	+2	-	9	2	+2	-	9	2	+2	-
	R04	Pull and Be Damned Point	8	2	+1	-	9	2	+2	-	9	2	+2	-	9	2	+2	-	9	2	+2	-
	R05	Snee-Oosh Point	8	2	+1	+1	9	2	+2	+1	9	2	+2	+1	8	2	+1	+1	9	2	+2	+1
	R06	Admirals Dr and Byrd Dr	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2	-	+1	-
	R07	Race Lagoon	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	4	1	+1	+1	3	1	-	+1
	R08	Pratts Bluff	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2	-	+1	-
	R09	Cox Rd and Island Ridge Way	2	1	+1	+1	1	1	-	+1	1	-	-	-	2	1	+1	+1	1	-	-	-
	R10	Skyline	4	1	-	-	4	1	-	-	5	1	+1	-	4	1	-	-	4	1	-	-
	R11	Sequim	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-
	R12	Port Angeles	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-
	R13	Beverly Beach, Freeland	1	-	+1	-	0	-	-	-	-	-	-	-	1	-	+1	-	-	-	-	-
	R14	E Sleeper Rd & Slumber Ln	9	2	+1	-	10	2	+2	-	10	3	+2	+1	10	2	+2	-	10	2	+2	-
	R15	Long Point Manor	9	2	+2	+1	9	2	+2	+1	8	2	+1	+1	8	2	+1	+1	8	2	+1	+1
	R16	Rocky Point Heights	5	1	+1	-	5	1	+1	-	5	2	+1	+1	5	1	+1	-	5	2	+1	+1
	R17	Port Townsend	1	1	-	+1	1	0	-	-	0	-	-1	-	1	1	-	+1	1	-	-	-
	R18	Marrowstone Island (Nordland)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R19	Island Transit Offices, Coupeville	5	1	+2	-	4	1	+1	-	3	1	-	-	4	1	+1	-	3	1	-	-
	R20	South Lopez Island (Agate Beach)	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-

Table 8-17 Recreational Speech Interference for Average Year Alternative 3

Representative Park Receptor			Annual Average Outdoor Daily Daytime Events per Hour, NA 65 L_{max}																			
			Alt3A		Increase re No Action		Alt3B		Increase re No Action		Alt3C		Increase re No Action		Alt3D		Increase re No Action		Alt3E		Increase re No Action	
Type	ID	Description	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
School	S01	Oak Harbor High School	9	2	+1	-	9	2	+1	-	10	2	+2	-	9	2	+1	-	10	2	+2	-
	S02	Crescent Harbor Elementary School	8	2	+1	-	9	2	+2	-	9	2	+2	-	9	2	+2	-	9	2	+2	-
	S03	Coupeville Elementary School	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	4	1	+1	+1	3	1	-	+1
	S04	Anacortes High School	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-
	S05	Lopez Island School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-
	S09	La Conner Elementary School	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-
	S10	Elger Bay Elementary School	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-

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9 Effect of Considered Hush House

The Navy may consider building and operating a noise suppression facility (also known as a "hush house") for engine maintenance. The purpose of the hush house is to substantially reduce the sound levels associated with high-power run-up operations. The hush house would be capable of conducting in-frame engine run-ups for the Growler during daytime and nighttime periods. Exact specifications of the hush house are unknown at this time, but the facility is anticipated to be similar to other hush houses currently operated by the DoD at other facilities.

The purpose of this chapter is to describe the considered hush house operations and demonstrate the effect the hush house would have on noise from high-power run-ups by the Growler in terms of single-event (L_{max}) noise level and DNL.

The location of the considered hush house in relation to other modeled run-up locations is shown in Figure 9-1. It would be located 2,200 feet northwest of the existing modeled outdoor high power run-up location (Hi-Pwr1) between Taxiways J and G. It would be oriented parallel to Taxiway J with the aircraft facing east. It is assumed the orientation of the exhaust of the considered hush house would be consistent with most hush houses, where the exhaust is pointed skyward. The nozzle of the Growler and the exhaust of the hush house, respectively, were estimated to be at elevations of 26 feet MSL (6 feet above ground level [AGL]) and 60 feet MSL (40 feet AGL).

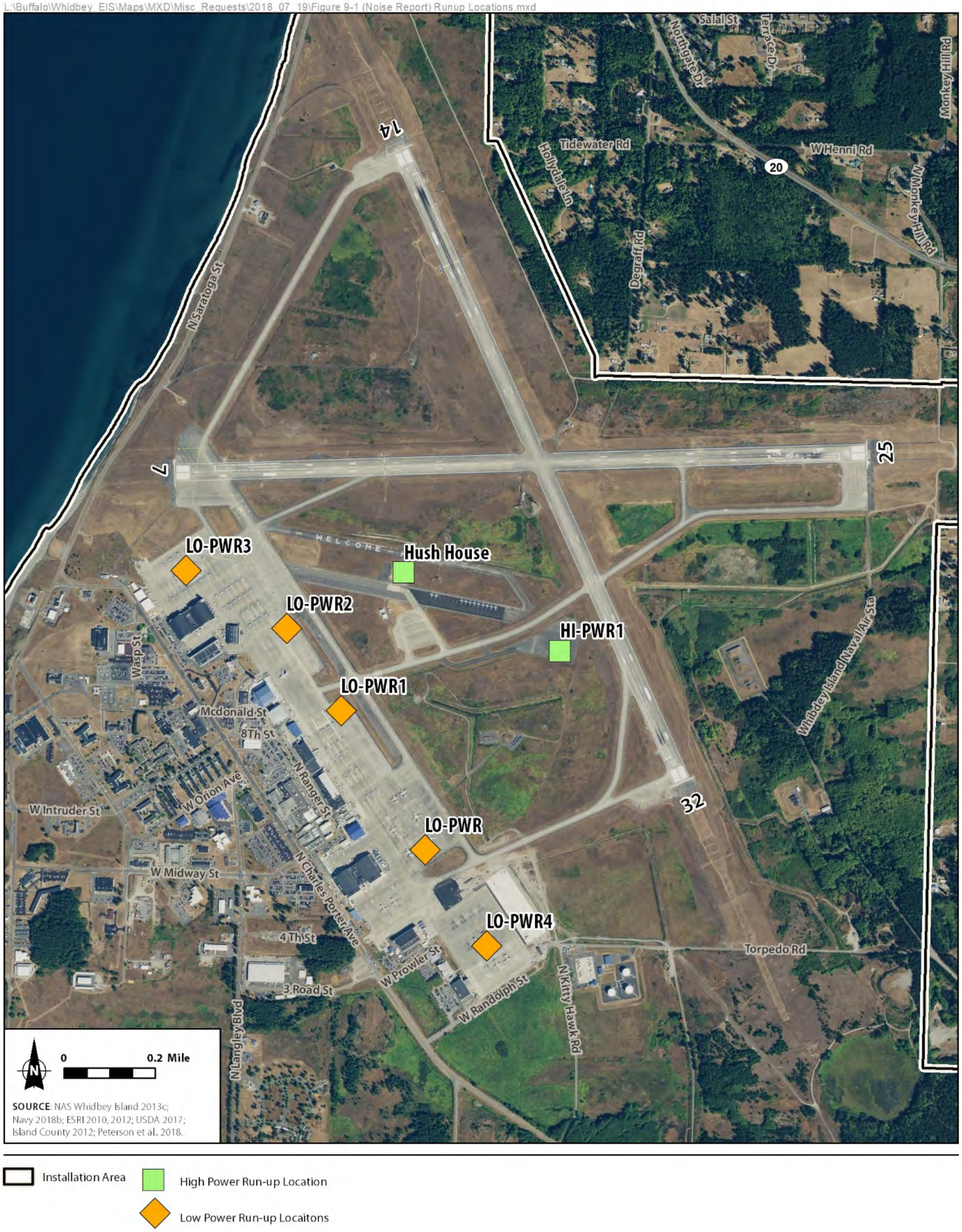

Figure 9-1 Modeled Run-up Locations and Considered Hush House

Table 9-1 lists the run-ups examined for this chapter. The outdoor high-power run-ups are identical to those modeled for the DNL cases from Table 5-3. To demonstrate the effect of the hush house, the average year No Action Alternative and the high-tempo FCLP year Alternative 2, Scenario B, were chosen because these cases represent the least and most flight operations, respectively. Recall from Section 4.3 that it was assumed the run-up operations from the average year and the high-tempo FCLP year would be identical; however, as the flight operations tend to dominate the overall noise exposure, the cases with the least and most flight operations would show the extremes of the effect of the hush house.

Table 9-1 shows that all of the outdoor high-power run-ups would be transferred to the hush house with no change to the nighttime percentages, event durations, or numbers of engines.

NOISEMAP's database does not contain reference acoustic data for a Growler in a hush house. Therefore, for the purposes of this study, surrogate data were developed. The database contains data for an F-15A Eagle aircraft (with F100-PW-100 engines) in and out of a hush house. The difference between these two datasets was applied to the Growler (outdoor) run-up data, creating the surrogate. This methodology estimates the noise-suppressing effect of a hush house and the change in direction of the noise pattern around the facility compared to unsuppressed outdoor run-ups. In Table 9-1, this method was applied to noise data for each of the four power settings in the run-up cycle.

Figure 9-2 compares L_{max} contours of 60 to 90 dBA, in 10-dB increments, for the Growler at minimum afterburner power at the (unsuppressed) outdoor high-power location/orientation and at the considered hush house location/orientation. The unsuppressed run-up's 60 dB L_{max} contour extends as far as 3.3 miles from the NAS Whidbey Island boundary whereas the hush house's 60 dB L_{max} contour remains wholly within the station's boundary. The L_{max} contours result from the noise generated while the aircraft engine is at afterburner power, typically for 3 minutes per maintenance event. The average year analysis includes 665 annual events, which equates to 5 minutes at afterburner power per average day during Growler maintenance run-ups.

Figure 9-3 shows the maximum effect the hush house would have on cumulative noise exposure, as it compares the DNL contours of 60 to 90 dBA, in 5-dB increments, for the Growler high-power run-up cycle at the (unsuppressed) outdoor high-power location/orientation and at the considered hush house location/orientation, if each were involved with the average year No Action Alternative. As seen in the figure's inset, the hush house's effect would mostly be on station with the 85 and 90 dB DNL contours. A maximum of a 1.1 dB reduction is estimated to occur off station. The largest reductions would occur directly south of West Ault Field Road between Heller Road and North Oak Harbor Road. There would also be reductions east of the station along West Sleeper Road.

Figure 9-4 shows the (near) minimum effect the hush house would have on cumulative noise exposure, as it compares the DNL contours of 60 to 90 dBA, in 5-dB increments, for the Growler high-power run-up cycle at the (unsuppressed) outdoor high-power location/orientation and at the considered hush house location/orientation, if each were involved with the high-tempo FCLP year Alternative 2, Scenario B. As seen in the figure's inset, the hush house's effect would mostly be on station with the 85 and 90 dB DNL contours. A maximum of a 0.9 dB reduction is estimated to occur off station. The largest reductions would occur directly south of West Ault Field Road between Heller Road and North Oak Harbor Road. There would also be reductions east of the station along West Sleeper Road.

Table 9-1 EA-18G High Power Run-Ups for Hush House Analysis

Aircraft Type	Engine Type	Run-up Type	Pad ID	Magnetic Heading (degrees)	Annual Events: Average Year No Action Alternative: no Hush House	Annual Events: Average Year No Action Alternative: with Hush House	Annual Events: High Tempo Year Alternative 2C: no Hush House	Annual Events: High Tempo Year Alternative 2C: with Hush House	Percentage During: Day (0700 - 2200)	Percentage During: Night (2200 - 0700)	Power Setting: Reported	Power Setting: Modeled (if different)	Duration of Each Event (Minutes)	No. of Engines Running (each event)
EA-18G	F414-GE-400	High Power	Hi-Pwr1	315	656	0	944	0	90%	10%	Ground Idle	65% NC	25	2
											80%NC	80% NC	10	2
											Mil	96% NC	3	2
											AB	A/B	3	2
EA-18G	F414-GE-400	High Power, In-frame	Proposed Hush House[1]	85	0	656	0	944	90%	10%	Same as above			

[1] EA-18G modeled with surrogate noise data from the NOISEFILE database (because reference acoustic data for "EA-18G in a hush house" do not exist in NOISEFILE)

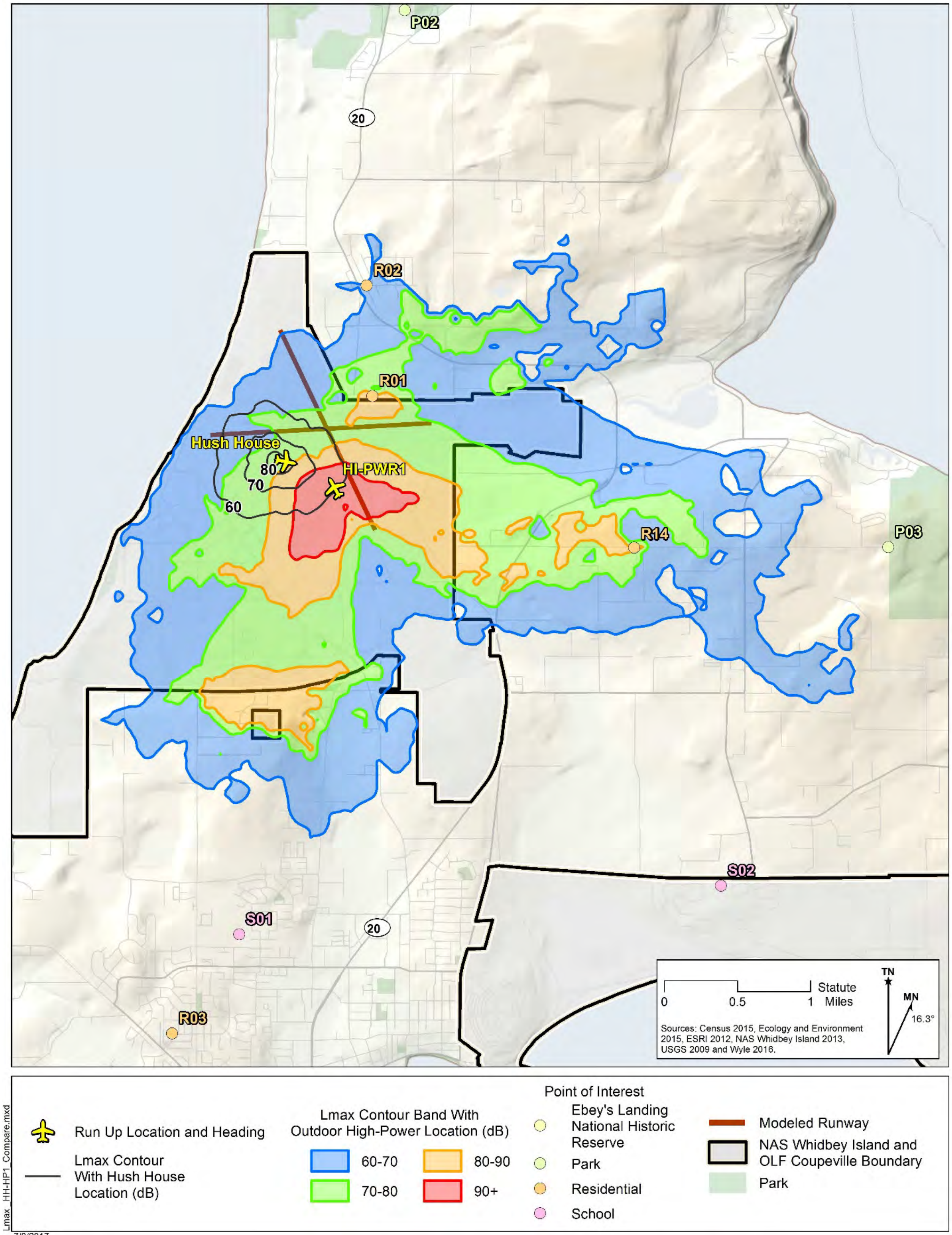

Figure 9-2 Comparison of Single-Event Maximum Sound Level Contours for the High Power and Considered Hush House Locations

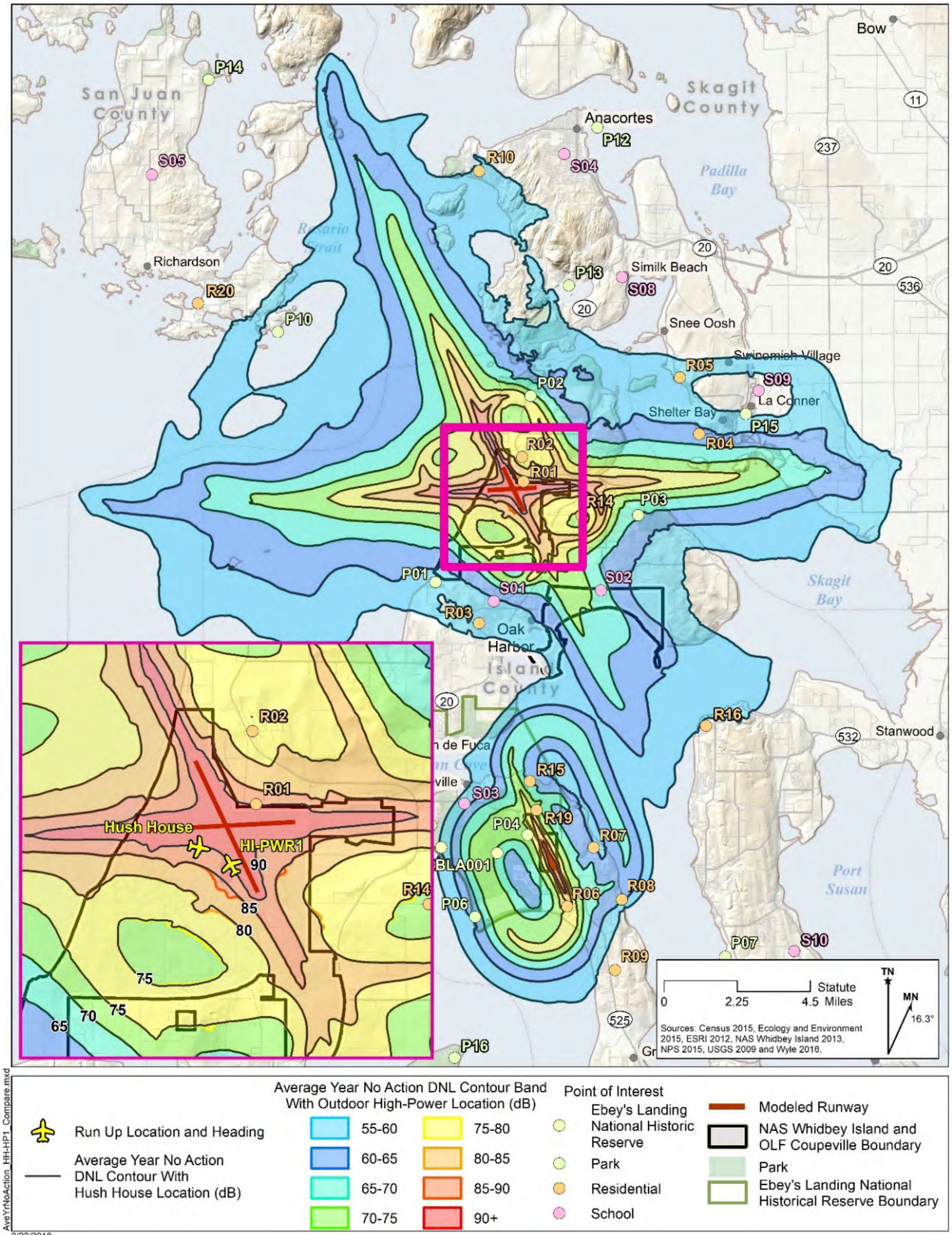

Figure 9-3 Comparison of DNL Contours for the Average Year No Action Alternative for the High Power and Considered Hush House Locations

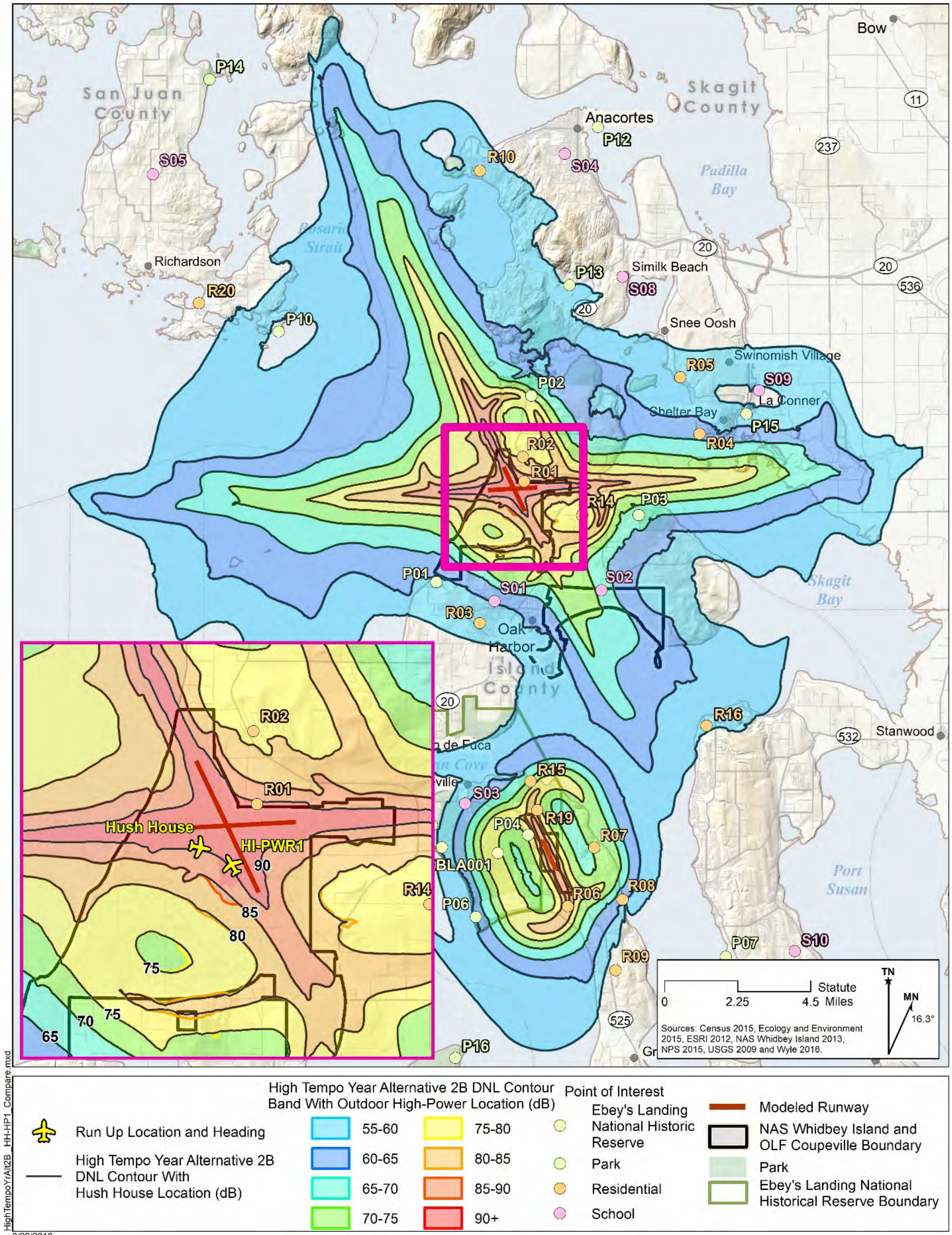

Figure 9-4 Comparison of DNL Contours for the High-Tempo FCLP Year Alternative 2B for the High Power and Considered Hush House Locations

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10 Low-Frequency Noise

Tactical military jets such as the EA-18G Growler can generate noticeable low-frequency noise compared to other aircraft types. The following paragraphs describe the low-frequency noise content of the EA-18G and compares it to that of the EA-6B Prowler, which is another aircraft residents surrounding Ault Field and OLF Coupeville have experienced. Two aspects of low-frequency noise are of concern to the public: 1) the potential for structural damage, and 2) increased annoyance. For structural damage, the components of a structure most sensitive to airborne noise are the windows and, infrequently, the plastered walls and ceilings. An evaluation of the sound pressures impinging on the structure may be used to assess the risk for damage. In general, sound levels below 130 dB (unweighted) are unlikely to pose a risk to structures. While certain frequencies (such as 30 Hertz [Hz] for window breakage) may be of more concern than others, conservatively, only sounds lasting more than 1 second above a sound level of 130 dB (unweighted) are potentially damaging to structural components (Committee on Hearing, Bioacoustics, and Biomechanics, 1977).

Noise-induced structural vibration may result from aircraft operating at low altitudes, which would occur during takeoff and landing operations. Such vibrations are likely to cause annoyance to dwelling occupants because of induced secondary vibrations or rattling of objects, such as dishes and hanging pictures, within the dwelling. Window panes may also vibrate noticeably when exposed to high levels of airborne noise. In general, such noise-induced vibrations occur at sound levels of 110 dB (unweighted) or greater.

Aside from structural concerns of low-frequency noise, the perception of low-frequency sound may differ considerably when compared with mid- or high-frequency sound. Laboratory measurements of annoyance by low-frequency noise each use different spectra and levels, making comparisons difficult, but the majority share the same conclusion that annoyance caused by low frequencies increases rapidly with level and that measurements of A-weighted sound level alone can underestimate the effects of low-frequency noises (Leventhall, 2004).

Figures 10-1 through 10-3 show comparisons of the unweighted one-third octave band (OTOB) spectra at lower frequencies from the acoustic reference database (Noisefile) for the Growler and Prowler. The comparisons are for MIL, approach, and traffic pattern engine power settings, respectively. It is important to note that the flyover database contains OTOB spectra at the maximum Perceived Noise Level (PNL) for each measured engine power setting. These spectra are normalized to a distance of 1,000 feet and acoustical standard atmospheric conditions of 59° F and 70 percent relative humidity. For MIL power, the Growler's unweighted spectral levels at 50 Hz and below are, on average, 11 dB greater than the Prowler's. For approach power, the Growler is 5 dB greater, on average, at 50 Hz and below, and for cruise power, the Growler and Prowler are similar, with an average difference of 2 dB. Even with its increased low-frequency content, the Growler's takeoff noise events do not appear to approach the 110 dB threshold for noise-induced vibration for receiver distances 1,000 feet and greater.

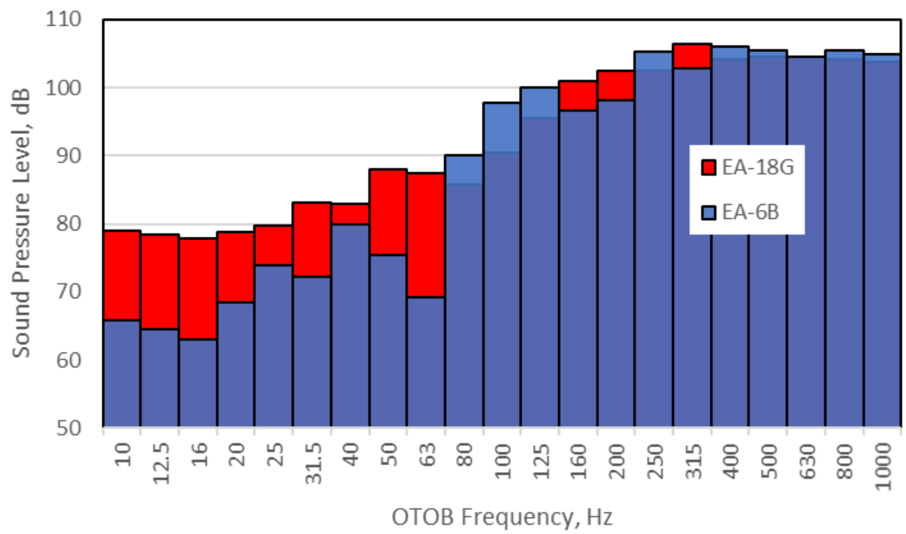

Figure 10-1 Low Frequency One-Third Octave Band Spectral Comparison for the EA-18G and EA-6B for MIL Engine Power

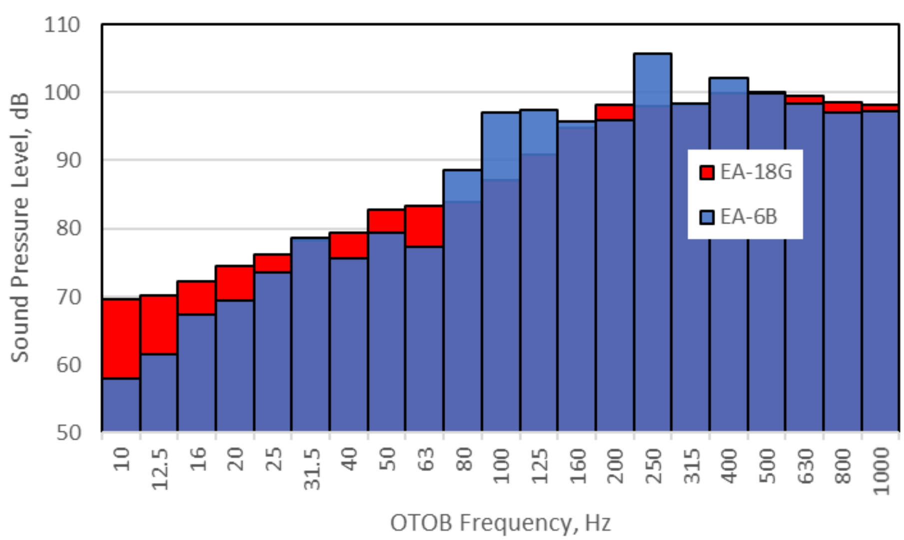

Figure 10-2 Low Frequency One-Third Octave Band Spectral Comparison for the EA-18G and EA-6B for Approach Engine Power

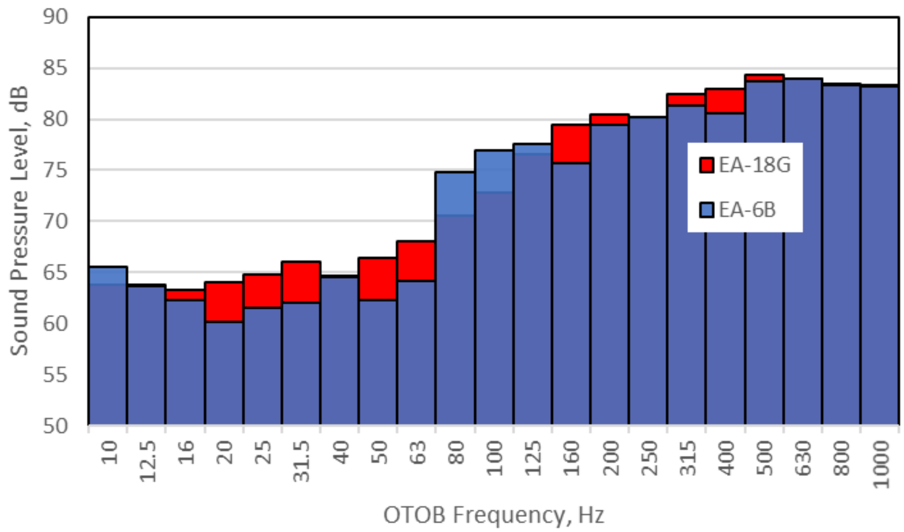

Figure 10-3 Low Frequency One-Third Octave Band Spectral Comparison for the EA-18G and EA-6B for Traffic Pattern Engine Power

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Appendix A1
Discussion of Noise and Its Effects on the Environment

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Acknowledgements

This review of noise and its effects on the environment was prepared by Wyle Laboratories, Inc., with contributions from Blue Ridge Research and Consulting LLC and Ecology and Environment, Inc.

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Abbreviations and Acronyms

Acronym	Definition
AGL	Above Ground Level
ANSI	American National Standards Institute
CHABA	Committee on Hearing, Bioacoustics, and Biomechanics
CNEL	Community Noise Equivalent Level
dB	Decibel
dBA or dB(A)	A-Weighted Decibel
DLR	German Aerospace Center (*Deutsches Zentrum für Luft- und Raumfahrt e.V.*)
DNL	Day-Night Average Sound Level
DNWG	Defense Noise Working Group
DoD	Department of Defense
EU	European Union
FAA	(U.S.) Federal Aviation Administration
FICAN	Federal Interagency Committee on Aviation Noise
FICON	Federal Interagency Committee on Noise
HYENA	Hypertension and Exposure to Noise near Airports
Hz	Hertz
IHD	Ischemic heart disease
IRR	Incidence Rate Ratio
ISO	International Organization for Standardization
L	Sound Level
LAX	Los Angeles International Airport
L_{ct}	Community Tolerance Level
L_{dn}	Day-Night Average Sound Level
L_{dnmr}	Onset-Rate Adjusted Monthly Day-Night Average Sound Level
L_{eq}	Equivalent Sound Level
$L_{eq(24)}$	Equivalent Sound Level over 24 hours
$L_{eq(30min)}$	Equivalent Sound Level over 30 minutes
$L_{eq(8)}$	Equivalent Sound Level over 8 hours
$L_{eq(h)}$	Hourly Equivalent Sound Level
L_{max}	Maximum Sound Level
L_{pk}	Peak Sound Pressure Level
mmHg	millimeters of mercury
NA	Number of Events Above
NAL	Number of Events Above a Threshold Level
NDI	Noise Depreciation Index
NIPTS	Noise-induced Permanent Threshold Shift
NORAH	Noise-Related Annoyance, Cognition, and Health
OSHA	United States Occupational Safety and Health Administration
PHL	Potential Hearing Loss
PTS	Permanent Threshold Shift
RANCH	Road Traffic and Aircraft Noise Exposure and Children's Cognition and Health
SEL	Sound Exposure Level
SIL	Speech Interference Level
SUA	Special Use Airspace
TA	Time Above
TTS	Temporary Threshold Shift

Acronym	Definition
U.S.	United States
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
WHO	World Health Organization

A1 Discussion of Noise and its Effects on the Environment

This appendix discusses sound and noise, and the potential effects of noise, particularly aircraft noise, on the human and natural environment. Section A1.1 provides an overview of the basics of sound and noise. Section A1.2 defines and describes the various metrics used to describe noise. Section A1.3 reviews the potential effects of aircraft noise, focusing on effects on humans but also addressing effects on property values, terrain, structures, and animals. Section A1.4 contains the list of references cited.

A1.1 Basics of Sound

Section A1.1 describes sound waves and decibels, and Section A1.2 describes sound levels and types of sounds.

A1.1.1 Sound Waves and Decibels

Sound consists of minute vibrations that travel through the air and are sensed by the human ear. Figure A-1 depicts how sound waves emanate from a tuning fork. As shown, the waves move outward as a series of crests, in which the air is compressed, and troughs, in which the air is expanded. The height of the crests and the depth of the troughs determines the *amplitude* of the wave. The sound *pressure* determines the sound wave's energy, or intensity. The number of crests or troughs that pass a given point each second is called the *frequency* of the sound wave.

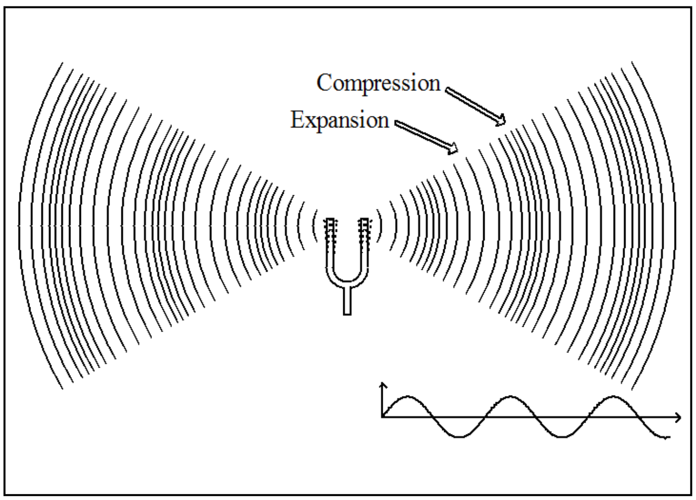


Figure A-1 Sound Waves from a Vibrating Tuning Fork

The measurement and human perception of sound involves three basic physical characteristics: intensity, frequency, and duration.

- *Intensity* is a measure of the acoustic energy of a sound and is related to sound pressure. The greater the sound pressure, the more energy is carried by the sound and the louder the perception of that sound will be.
- *Frequency* determines how the pitch of a sound is perceived. Low-frequency sounds are characterized as rumbles or roars, while high-frequency sounds are often described as sounding like sirens or screeches.

- *Duration* is the length of time a sound can be detected.

The loudest sounds that can be comfortably heard by the human ear have intensities a trillion times higher than those of sounds barely heard. Because of this vast range, it is unwieldy to use a linear scale to represent the intensity of sound. As a result, a logarithmic unit known as the decibel (dB) is used to represent the intensity of a sound. Such a representation is called a sound level and is abbreviated as L. A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dB. Sound levels above 120 dB would be uncomfortable for the average person, and levels of 130 to 140 dB would start to be felt as pain (Berglund and Lindvall, 1995). It is important to realize some people will be more sensitive to sound and some less sensitive; therefore, the level at which sound becomes uncomfortable or painful will vary across the population.

As shown in Figure A-1, the sound from a tuning fork spreads out uniformly as it travels from its source. This spreading causes the sound's intensity to decrease with distance from the source. For a point source of a sound, such as an air conditioning unit, the sound level will decrease by about 6 dB for every doubling of its distance from a receptor. For a busy highway, which creates a linear distribution of noise sources, the sound level will decrease by 3 to 4.5 dB for every doubling of distance.

As sound travels from its source, it is also absorbed by the air. The amount of absorption depends on the frequency composition of the sound and the temperature and humidity of the air. Sound with high-frequency content, such as a human voice, gets absorbed by the air more readily than sound with low-frequency content, such as a military jet. More sound is absorbed in colder and drier air than in hot and wet air. Sound is also affected by wind and temperature gradients, terrain (elevation and ground cover), and structures.

Because of the logarithmic nature of the dB unit, sound levels cannot simply be added or subtracted and are somewhat cumbersome to handle mathematically. However, some simple rules are useful in understanding sound levels.

First, if a sound's intensity is doubled, the sound level increases by 3 dB, regardless of the initial sound level. For example:

60 dB + 60 dB = 63 dB, and

80 dB + 80 dB = 83 dB.

Second, the total sound level produced by two sounds of different levels is usually only slightly greater than the higher of the two. For example:

60.0 dB + 70.0 dB = 70.4 dB.

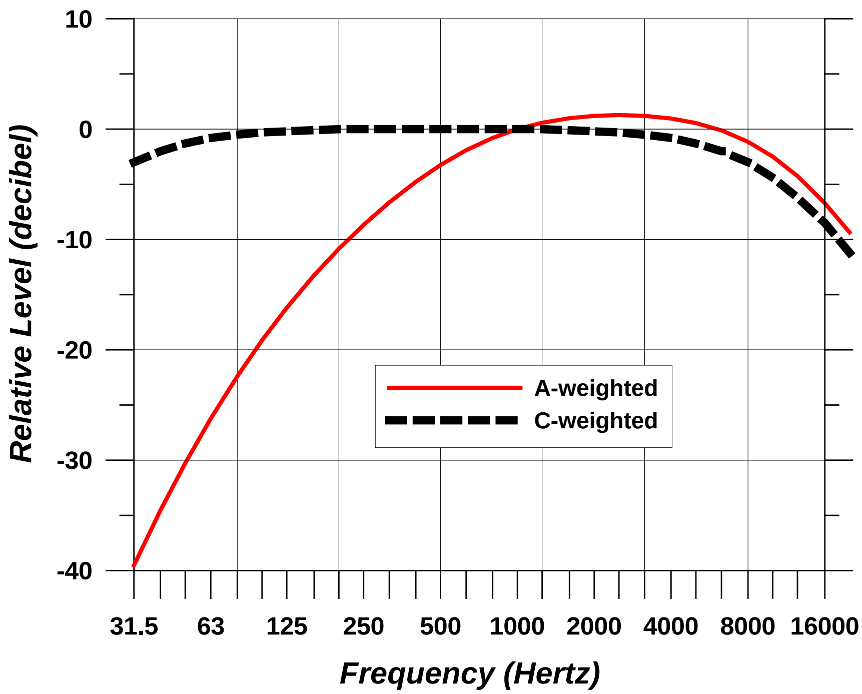
Because the addition of sounds of differing levels is different than that of simply adding numbers, this process is often referred to as "decibel addition."

The minimum change in the sound level of individual events that an average human ear can detect is about 3 dB. On average, a person perceives a change in sound level of about 10 dB as a doubling (or halving) of that sound's loudness. This relation holds true for both loud and quiet sounds. A decrease in sound level of 10 dB actually represents a 90-percent decrease in sound intensity but only a 50-percent decrease in perceived loudness because the human ear does not respond to sound linearly. Intensity of a sound is the physical measure of the stimulus, and loudness of a sound is the perceptual measure of a listener's response to it.

Sound frequency is measured in terms of cycles per second, or hertz (Hz). The normal ear of a young person can detect sounds that range in frequency from about 20 Hz to 20,000 Hz. Not all sounds in this wide range of frequencies are heard equally. Human hearing is most sensitive to frequencies in the 1,000 to 4,000 Hz range, and as we get older, we lose the ability to hear high-frequency sounds. The notes on a piano range in frequency from just over 27 Hz to 4,186 Hz, with middle C equal to 261.6 Hz. Most sounds (including a single note on a piano) are not simply pure tones like those produced by the tuning fork in Figure A-1 but instead contain a mix, or spectrum, of many frequencies.

Sounds with different frequency spectra are perceived differently even if the sound levels are the same. Weighting curves have been developed to correspond to the sensitivity and perception of different frequencies of sound. A-weighting and C-weighting are the two most common frequency weightings. These two curves, shown in Figure A-2, are adequate to quantify most environmental sounds. A-weighting puts emphasis on the 1,000 to 4,000 Hz frequency range.

Very loud or impulsive sounds, such as explosions or sonic booms, can sometimes be felt and can cause secondary effects, such as shaking of a structure or rattling of windows. These types of sounds can add to annoyance and are best measured by C-weighted sound levels, denoted dBC. C-weighting is nearly flat throughout the audible frequency range and includes low frequencies that may not be heard but cause shaking or rattling. C-weighting approximates the human ear’s sensitivity to higher intensity sounds. For example, using the A-weighted curve, a 125 Hz tone at moderate sound levels (around 50 dB) is perceived to be about 17 dB lower than a 1,000 Hz tone. However, using the C-weighted curve, if the sound level is increased to 100 dB, the two tones are perceived to be the same level.



Source: ANSI S1.4A -1985 “Specification of Sound Level Meters”

Figure A-2 Frequency Characteristics of A- and C-Weighting

A1.1.2 Sound Levels and Types of Sounds

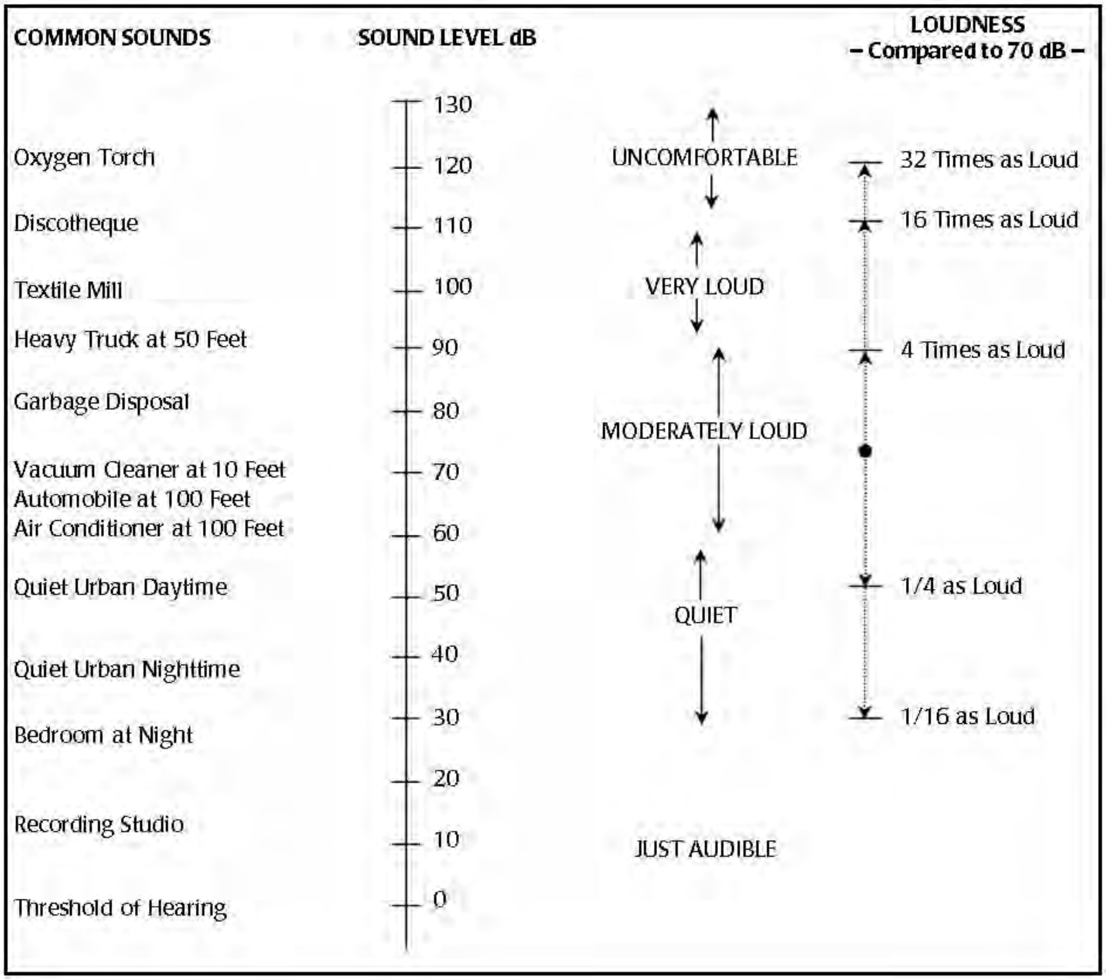
Most environmental sounds are measured and described as A-weighted sound levels, and they may be labeled as dBA or dB(A) rather than dB. When the use of A-weighting is understood, the term "A-weighted" is often omitted, and the unit dB is used. Unless otherwise stated, dB units refer to A-weighted sound levels.

Sound becomes noise when it is unwelcome and interferes with normal activities, such as sleep or conversation. Noise is unwanted sound and can become an issue when its level exceeds the ambient or background sound level. Ambient sound levels in urban areas typically vary from 60 to 70 dB but can be as high as 80 dB in the center of a large city. Quiet suburban neighborhoods experience ambient sound levels around 45 to 50 dB (USEPA [U.S. Environmental Protection Agency], 1978).

Figure A-3 is a chart of dBA sound levels emitted from common sources. For some sources depicted on the figure, such as the air conditioner and vacuum cleaner, the sound levels shown are continuous sounds, and these sound levels are constant for some time. For other sources depicted on the figure, such as the automobile and heavy truck, the sound levels shown are the maximum sound level emitted during an intermittent event such as a vehicle pass-by. Some sound levels shown, for sources such as "urban daytime" and "urban nighttime," are average sound levels over extended periods. A variety of noise metrics have been developed to describe noise over different time periods. These are discussed in detail in Section A1.2.

Aircraft noise consists of two major types of sound events: flight (including takeoffs, landings, and flyovers) and stationary, such as engine maintenance run-ups. The former are intermittent and the latter primarily continuous. Noise from aircraft overflights typically occurs beneath main approach and departure paths at an airfield, in local air traffic patterns around the airfield, and in areas near aircraft parking ramps and staging areas. As aircraft climb, the noise received on the ground drops to lower levels, eventually fading into the background or ambient levels.

Impulsive noises are generally short, loud events, with a single-event duration that is usually less than 1 second. Examples of impulsive noises are small-arms gunfire, hammering, pile driving, metal impacts during rail-yard shunting operations, and riveting. Examples of high-energy impulsive sounds are explosions associated with quarrying or mining operations; sonic booms; demolition explosions; and industrial processes that use high explosives; military ordnance use (e.g., armor, artillery, and mortar fire, and bomb detonation); explosive ignition of rockets and missiles; and any other explosive source where the equivalent mass of dynamite exceeds 25 grams (ANSI [American National Standards Institute], 1996).



Source: Harris 1979.

Figure A-3 Typical A-weighted Sound Levels of Common Sounds

A1.1.3 Low-Frequency Noise

Normally, the components of a structure most sensitive to airborne noise are the windows and, infrequently, the plastered walls and ceilings. An evaluation of the sound pressures impinging on the structure may be used to assess the risk for damage. In general, sound pressure levels below 130 dB (unweighted) are unlikely to pose a risk to structures. While certain frequencies (such as 30 Hz for window breakage) may be of more concern than other frequencies, conservatively, only sounds lasting more than one second and at a sound pressure level above 130 dB (unweighted) are potentially damaging to structural components (CHABA [Committee on Hearing, Bioacoustics, and Biomechanics] 1977).

Noise-induced structural vibration may result from aircraft operating at low altitudes, which would occur during takeoff and landing operations. Such vibrations are likely to cause annoyance to dwelling occupants because of induced secondary vibrations or rattling of objects within the dwelling such as hanging pictures, dishes, plaques, and bric-a-brac. Window panes may also vibrate noticeably when exposed to high levels of airborne noise. In general, such noise-induced vibrations occur at sound pressure levels of 110 dB (unweighted) or greater.

Aside from concerns about potential structural damage from low-frequency noise, the perception of low-frequency sound may differ considerably when compared with mid- or high-frequency sound. Laboratory measurements of annoyance from low-frequency noise each use different spectra and levels, making comparisons difficult, but the majority share the same conclusion that annoyance caused by low-frequency sound increases rapidly with level and that dBA sound level alone can underestimate the effects of low-frequency noises (Leventhall, 2004). The most recent update to the International Organization for Standardization (ISO) standard (ISO 1996:1 [2016]) describes the main causes for these differences as:

- a weakening of pitch sensation as the frequency of the sound decreases below 60 Hz;
- a perception of sounds as pulsations and fluctuations;
- a much more rapid increase in loudness and annoyance with increasing sound pressure levels at low frequencies than at middle or high frequencies;
- complaints about feelings of ear pressure;
- an annoyance caused by secondary effects such as rattling of buildings elements, windows, and doors, or the tinkling of bric-a-brac;
- less building sound-transmission loss at low frequencies than at middle or high frequencies.

While the Federal Interagency Committee of Noise (FICON) recommends the use of the dBA Day-Night Average Sound Level (DNL) metric as the primary basis of both commercial and military aircraft noise impacts (FICON, 1992), in a recent update to a research needs statement, the Federal Interagency Committee on Aviation Noise (FICAN) stated the following for low-frequency noise concerns:

> FICAN finds that additional research needs to be conducted before a [low-frequency noise] metric and an associated dose-response relationship can be recommended. For airports with low-frequency noise concerns, supplemental noise analysis--possibly including vibration measurements--should be considered (FICAN, 2018).

A1.2 Noise Metrics

Noise metrics quantify sounds so they can be compared with each other, and with their effects, in a standard way. The simplest metric is the overall dBA sound level, which is appropriate by itself for quantifying constant noise such as that generated by an air conditioner. However, unlike noise from an air conditioning unit, aircraft flyover noise varies with time. During an aircraft overflight, noise starts at the background level, rises to a maximum level as the aircraft flies close to the receptor, and then returns to the background as the aircraft recedes into the distance. An example graph of the resulting sound levels from a flyover is provided in Figure A-4, which also indicates two metrics (Maximum Sound Level [L_{max}] and Sound Exposure Level [SEL]), that are described in Section A1.2.1 below.

A number of metrics can be used to describe a range of situations--from the effect of a particular individual noise event to the cumulative effect of all noise events over a long time. This section describes the metrics relevant to environmental noise analysis of aircraft operations.

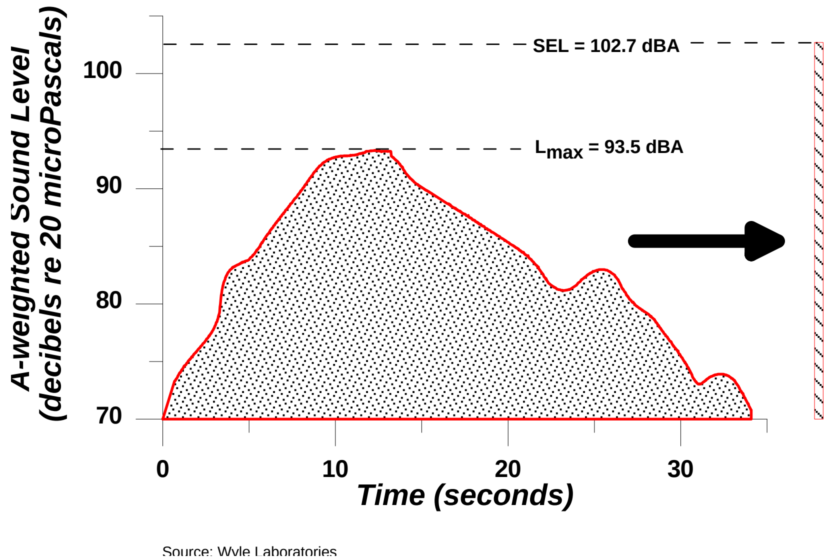


Figure A-4 Sample Time History of Noise Generated by an Aircraft Flyover Event

A1.2.1 Single Events

Maximum Sound Level

The highest dBA sound level measured during a single event in which the sound changes with time, such as a flyover, is called the maximum dBA sound level, or Maximum Sound Level, and is abbreviated L_{max}. The L_{max} is depicted for a sample event in Figure A-4.

L_{max} is the maximum sound level that occurs over a fraction of a second. For aircraft noise, this "fraction of a second" is one-eighth of a second, denoted as "fast" response on a sound-level measurement meter (ANSI, 1988). Slowly varying or steady sounds are generally measured over 1 second and denoted as "slow" response. L_{max} is important in determining whether a noise event will interfere with conversation, television or radio listening, or other common activities. Although L_{max} provides some measure of a given sound event, it does not fully describe the noise because it does not account for how long the sound is heard.

Peak Sound Pressure Level

The Peak Sound Pressure Level (L_{pk}) is the highest instantaneous level measured by a sound-level measurement meter. L_{pk} is typically measured every 20 microseconds, and it is usually based on unweighted or linear response of the meter. L_{pk} is used to describe individual impulsive events, such as blast noise. Because blast noise varies from explosion to explosion and with meteorological (weather) conditions, the United States (U.S.) Department of Defense (DoD) usually characterizes L_{pk} by the metric PK 15(met), which is the L_{pk} that is exceeded 15 percent of the time. The "met" notation refers to the metric accounting for varied meteorological or weather conditions.

Sound Exposure Level

SEL combines both the intensity of a sound and its duration. For an aircraft flyover, SEL includes the maximum and all lower noise levels produced as part of the overflight, together with how long each part lasts. SEL represents the total sound energy in the event. Figure A-4 indicates the SEL for a sample flyover event, representing it as if all the sound energy were contained within 1 second.

Because aircraft noise events last more than a few seconds, the SEL value is larger than L_{max}. SEL does not directly represent the sound level heard at any given time during the event but rather during the entire event. SEL provides a much better measure of aircraft flyover noise exposure than L_{max} alone.

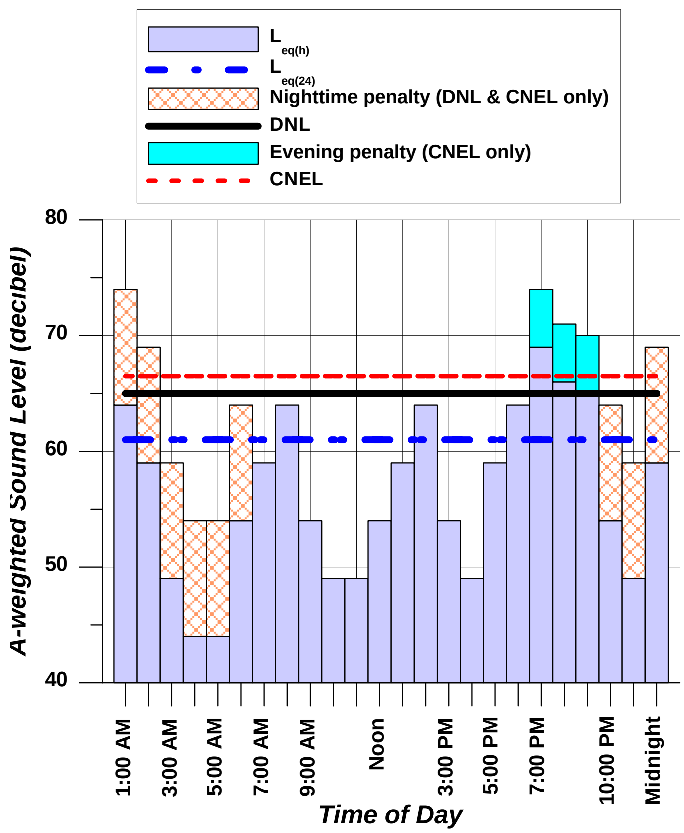
A1.2.2 Cumulative Events

Equivalent Sound Level

Equivalent Sound Level (L_{eq}) is a "cumulative" metric that combines a series of noise events, such as aircraft operations, over a period of time. L_{eq} is the sound level that represents the dB average SEL of all sounds in a specific time period. Just as SEL has proven to be a good measure of a single event, L_{eq} has proven to be a good measure of a series of events during a given time period.

The time period of an L_{eq} measurement is usually related to some activity and is given along with the value. The time period is often shown in parenthesis (e.g., $L_{eq(24)}$, or the equivalent sound level for 24 hours). The L_{eq} from 7:00 A.M. to 3:00 P.M. may give exposure of noise for a school day and would be represented as $L_{eq(8)}$, or the equivalent sound level for 8 hours.

Figure A-5 provides an example of $L_{eq(24)}$ using notional hourly equivalent sound levels ($L_{eq(h)}$) for each hour of the day as an example. The $L_{eq(24)}$ for this example is 61 dB.



Source: Wyle Laboratories, Inc.

Figure A-5 Example of $L_{eq(24)}$, DNL, and CNEL Computed from Hourly Equivalent Sound Levels

Day-Night Average Sound Level and Community Noise Equivalent Level

DNL, or L_{dn}, is a cumulative metric that accounts for all noise events, such as aircraft operations, in a 24-hour period. However, unlike $L_{eq(24)}$, DNL contains a nighttime noise adjustment. To account for humans' increased sensitivity to noise at night, DNL applies a 10 dB adjustment to noise events that occur during the nighttime period, defined as 10:00 P.M. to 7:00 A.M. The notations DNL and L_{dn} are both used for Day-Night Average Sound Level and are equivalent.

Community Noise Equivalent Level (CNEL) is a variation of DNL specified by law in California (California Code of Regulations Title 21, *Public Works*) (Wyle Laboratories, 1970). CNEL has the 10 dB nighttime adjustment for noise events that occur between 10:00 P.M. and 7:00 A.M. but also includes a 4.8 dB adjustment for events occurring during the evening period of 7:00 P.M. to 10:00 P.M. This evening adjustment included in CNEL accounts for the added intrusiveness of sounds occurring during that period.

For airports and military airfields, DNL and CNEL represent the average sound level for an average annual day.

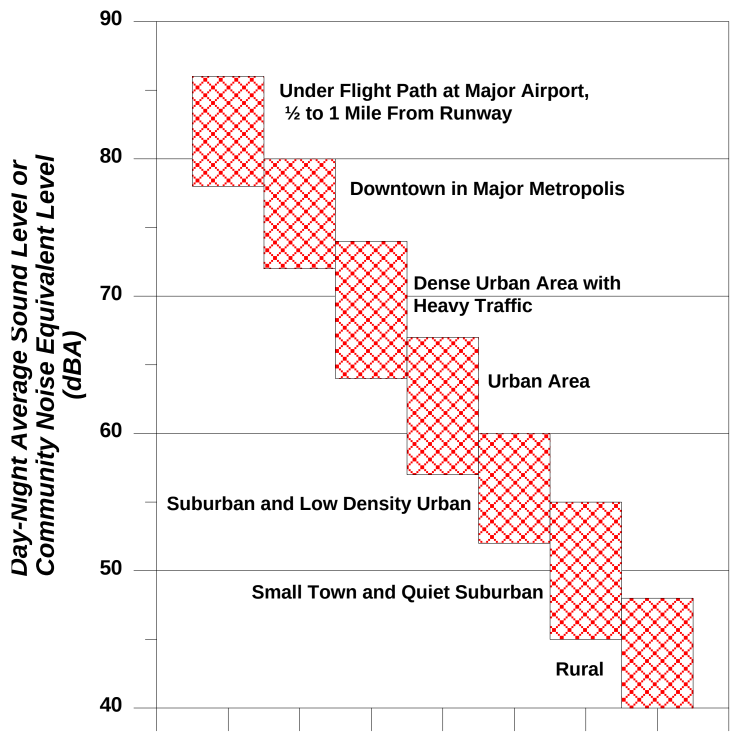
Figure A-5 provides an example of DNL and CNEL using notional $L_{eq(h)}$ for each hour of the day. Note the $L_{eq(h)}$ for the hours between 10:00 P.M. and 7:00 A.M. have a 10 dB adjustment assigned. For CNEL, the hours between 7:00 P.M. and 10:00 P.M. have a 4.8 dB adjustment assigned. The DNL for this example is 65 dB and the CNEL is 66 dB.

The dB summation nature of these metrics causes the noise levels of the loudest events to control the 24-hour average. As a simple example, consider a case in which only one aircraft overflight occurs during the daytime over a 24-hour period, creating a sound level of 100 dB for 30 seconds. During the remaining 23 hours, 59 minutes, and 30 seconds of that day, the ambient sound level is 50 dB. The DNL for this 24-hour period is 65.9 dB. Assume, as a second example, that 10 such 30-second overflights occur during daytime hours during the next 24-hour period and with the same ambient sound level of 50 dB during the remaining 23 hours and 55 minutes of the day. The DNL for this 24-hour period is 75.5 dB. Clearly, the averaging of noise over a 24-hour period does not ignore the louder single events and tends to emphasize both the sound levels and number of those events.

A feature of the DNL metric is that a given DNL value could result from a very few noisy events or a large number of quieter events. For example, a single overflight at 90 dB creates the same DNL as 10 overflights at 80 dB.

DNL or CNEL do not represent a sound level heard at any given time, but they represent long-term sound exposure. Scientific studies have found good correlation between the percentages of groups of people highly annoyed by noise and their level of average noise exposure measured in DNL (Schultz, 1978; USEPA, 1978).

DNL or CNEL can be used to measure sound levels in a variety of types of communities. Figure A-6 shows the ranges of DNL or CNEL that occur in various types of communities. For example, under a flight path at a major airport, the DNL may exceed 80 dB, while rural areas not near a major airport may experience DNL less than 45 dB. Sound levels in a downtown area of a major metropolis may be equivalent to the sound levels under a flight path of a major airport.



Source: DOD 1978.

Figure A-6 Typical DNL or CNEL Ranges in Various Types of Communities

Onset-Rate Adjusted Monthly Day-Night Average Sound Level (L_{dnmr}) and Onset-Rate Adjusted Monthly Community Noise Equivalent Level

Military aircraft utilizing Special Use Airspace (SUA), such as Military Training Routes, Military Operations Areas, and Restricted Areas/Ranges, generate a noise environment that is somewhat different from that generated around airfields. Rather than regularly occurring operations such as those conducted at airfields, activity in SUAs is highly sporadic. SUA activity is often seasonal, ranging from 10 operations per hour to less than one per week. Individual military overflight events also differ from typical community noise events in that noise from a low-altitude, high-airspeed flyover can have a rather sudden onset, with rates of up to 150 dB per second.

The cumulative daily noise metric devised to account for the "surprise" effect of the sudden onset of aircraft noise events on humans and the sporadic nature of SUA activity is L_{dnmr}. Onset rates between 15 and 150 dB per second require an adjustment of 0 to 11 dB to the event's SEL, while onset rates below 15 dB per second require no adjustment to the event's SEL (Stusnick et al., 1992). The term "monthly" in L_{dnmr} refers to the noise assessment being conducted for the month with the most operations or sorties--the so-called "busiest month."

In California, a variant of L_{dnmr} includes an adjustment for evening operations (7:00 P.M. to 10:00 P.M.) and is referred to as the Onset-Rate Adjusted Monthly CNEL.

A1.2.3 Supplemental Metrics

Number of Events Above a Threshold Level

The Number of Events Above (NA) metric gives the total number of events that exceed a noise threshold level (L) during a specified period of time. Combined with the selected threshold, the metric is denoted NAL. The threshold can be either SEL or L_{max}, and it is important that this selection is shown in the nomenclature. When labeling a contour line or point of interest, NAL is followed by the number of events in parentheses. For example, where 10 events exceed an SEL of 90 dB over a given period of time, the nomenclature would be NA90SEL(10). Similarly, for L_{max} it would be NA90L_{max}(10). The period of time can be an average 24-hour day, daytime, nighttime, school day, or any other time period appropriate to the nature and application of the analysis.

NA is a supplemental metric. It is not supported by the amount of science behind DNL or CNEL, but it is valuable in helping to describe the number of noise events the community may hear. A threshold level and metric are selected that best meet the need for each situation. An L_{max} threshold is normally selected to analyze speech interference, while an SEL threshold is normally selected for analysis of sleep disturbance.

The NA metric is the only supplemental metric that combines single-event noise levels with the number of aircraft operations. In essence, it answers the question of how many aircraft (or range of aircraft) flyover events will occur on average at a given location or area at or above a selected threshold noise level.

Time Above a Specified Level

The Time Above (TA) metric is the total time, in minutes, that the dBA noise level is at or above a threshold. Combined with the threshold L, it is denoted TAL. TA can be calculated over a full 24-hour average annual day, the 15-hour daytime and 9-hour nighttime periods, a school day, or any other time period of interest, provided there are operational data for that time.

TA is a supplemental metric, used to help understand noise exposure. It is useful for describing the noise environment in schools, particularly when assessing classroom or other noise-sensitive areas for various scenarios.

TA helps describe the noise exposure of an individual event or many events occurring over a given time period. When computed for a full day, the TA can be compared alongside the DNL in order to determine the sound levels and total duration of events that contribute to the DNL. TA analysis is usually conducted along with NA analysis so the results show not only how many events occur but also the total duration of those events above the threshold.

A1.3 Noise Effects

Noise is of concern because of potential adverse effects. The following subsections describe how noise can affect communities and the environment, and how those effects are quantified. The specific topics discussed are:

- annoyance
- speech interference
- sleep disturbance

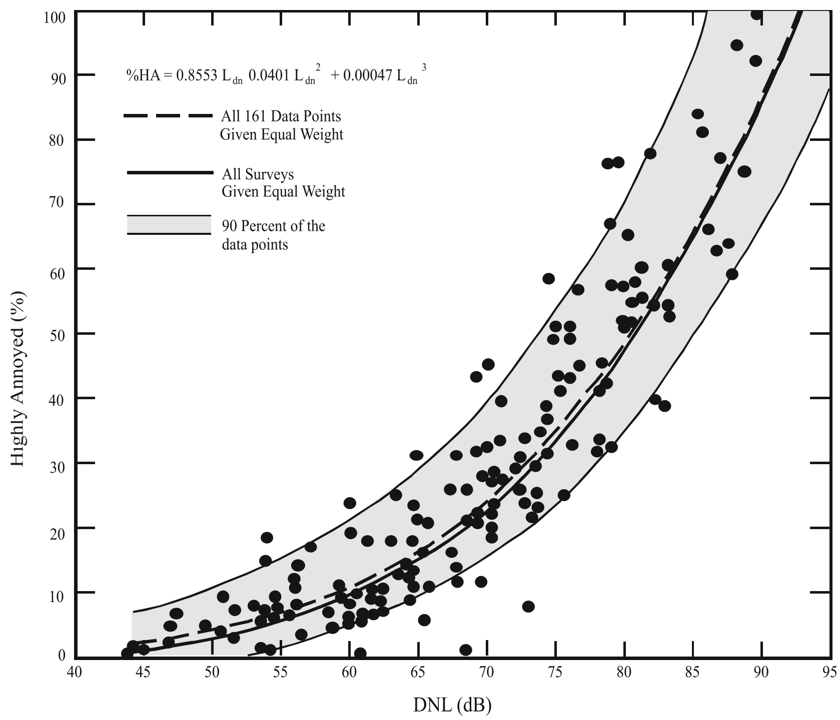
- noise-induced hearing impairment
- non-auditory health effects
- performance effects
- noise effects on children
- property values
- noise-induced vibration effects on structures and humans
- noise effects on terrain
- noise effects on historical and archaeological sites
- noise effects on domestic animals and wildlife

A1.3.1 Annoyance

With the introduction of jet aircraft in the 1950s, it became clear that aircraft noise annoyed people and was a significant problem around airports. Early studies, such as those of Rosenblith et al. (1953) and Stevens et al. (1953), showed that effects depended on the quality of the sound, its level, and the number of flights. Over the next 20 years, considerable research was performed refining this understanding and setting guidelines for noise exposure. In the early 1970s, the USEPA published its "Levels Document" (USEPA, 1974), which reviewed the noise factors that affected communities. DNL (or L_{dn}) was identified as an appropriate noise metric, and threshold criteria were recommended.

Threshold criteria for annoyance were identified from social surveys, in which people exposed to noise were asked how noise affected them. Surveys provide direct real-world data on how noise affects actual residents.

Surveys in the early years had a range of designs and formats, and they needed some interpretation to find common ground. In 1978, Schultz showed that the common ground was the number of people "highly annoyed," defined as the upper 28-percent range of whatever response scale a survey used (Schultz, 1978). With that definition, Schultz was able to show a remarkable consistency among the majority of the surveys for which data were available. Figure A-7 shows the result of his study relating DNL to individual annoyance as measured by percent highly annoyed.



Source: Schultz 1978

Figure A-7 Schultz Curve Relating Noise Annoyance to DNL

Schultz's original synthesis included 161 data points. Figure A-8 compares revised fits of the Schultz data set with an expanded set of 400 data points collected through 1989 (Finegold et al., 1994). The new form of the curve is the preferred form in the U.S., endorsed by FICAN (1997). Other forms have been proposed, such as that of Fidell and Silvati (2004), but these have not gained widespread acceptance.

When the goodness of fit of the Schultz curve is examined, the correlation between groups of people is high, in the range of 85 to 90 percent. However, the correlation between individuals is much lower, at 50 percent or less. This finding is not surprising, given the personal differences between individuals, with some people more sensitive to noise than others. The surveys underlying the Schultz curve include results that show that annoyance from noise is also affected by non-acoustical factors. The influence of non-acoustical factors is a complex interaction influencing an individual's annoyance response to noise (Brisbane Airport Corporation, 2007). Newman and Beattie (1985) divided the non-acoustic factors into the emotional and physical variables shown in Table A-1.

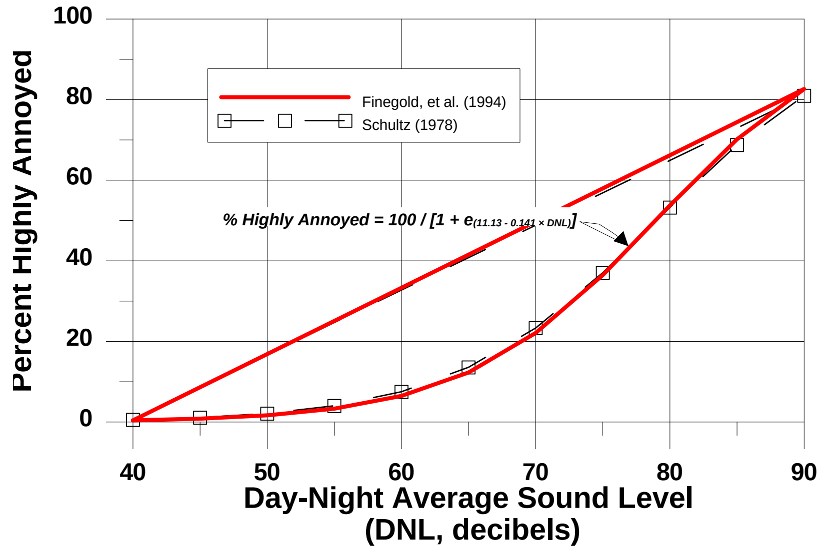


Figure A-8 Response of Communities to Noise: A Comparison of Original Schultz (1978) Curve to Finegold et al (1994) Curve

Table A-1 Non-Acoustic Variables Influencing Aircraft Noise Annoyance

Emotional Variables	*Physical Variables*
Feeling about the necessity or preventability of the noise	Type of neighborhood
Judgement of the importance and value of the activity that is producing the noise	Time of day
Activity at the time an individual hears the noise	Season
Attitude about the environment	Predictability of the noise
General sensitivity to noise	Control over the noise source
Belief about the effect of noise on one's health	Length of time an individual is exposed to a noise
Feeling of fear associated with the noise	

Schreckenberg and Schuemer (2010) and Laszlo et al. (2012) examined the importance of some of these factors on short-term annoyance. Attitudinal factors were identified as having an effect on annoyance. In formal regression analysis, however, L_{eq} was found to be more important than attitude. Similarly, a series of studies conducted by Marki (2013) at three European airports showed that less than 20 percent of the variance in annoyance can be explained by noise alone (Marki, 2013). Miedema and Voss (1998) found that fear and noise sensitivity have a significant influence on an individual annoyance response. Moreover, in another study, they demonstrated that noise sensitivity is not a function of noise exposure and that noise-sensitive individuals have a steeper annoyance response to increasing noise levels compared to people who are not noise sensitive (Miedema and Vos, 2003).

A study by Plotkin et al. (2011) examined updating DNL to account for these non-acoustic variables. Plotkin et al. (2011) concluded that the data requirements for a general analysis were much greater than are available from most existing studies. It was noted that the most significant issue with DNL is that the metric is not readily understood by the public and that supplemental metrics such as TA and NA were valuable in addressing attitude when communicating noise analysis to communities (DoD, 2009a).

A factor that is partially non-acoustical is the source of the noise. Miedema and Vos (1998) presented synthesis curves for the relationship between DNL and percentage "annoyed" and percentage "highly annoyed" for three transportation-noise sources. Different curves were found for aircraft, road traffic, and railway noise. Table A-2 summarizes their results. Comparing the updated Schultz curve to these results suggests that the percentage of people highly annoyed by aircraft noise may be higher than previously thought. Authors Miedema and Oudshoorn (2001) supplemented that investigation with further derivation of percentage of population highly annoyed as a function of either DNL or DENL[1], along with the corresponding 95-percent confidence intervals, and obtained similar results.

Table A-2 Percent Highly Annoyed by Different Transportation-Noise Sources

DNL (dB)	Percent Highly Annoyed (%HA) Miedema and Vos Air	Road	Rail	Schultz Combined
55	12	7	4	3
60	19	12	7	6
65	28	18	11	12
70	37	29	16	22
75	48	40	22	36

Source: Miedema and Vos, 1998.

As noted by the World Health Organization (WHO), however, even though aircraft noise seems to produce a stronger annoyance response than road traffic noise, caution should be exercised when interpreting synthesized data from different studies (WHO, 1999).

Consistent with the WHO's recommendations, FICON considered the Schultz curve to be the best source of dose information to predict community response to noise but recommended further research to investigate the differences in perception of noise from different sources (FICON, 1992).

The ISO update (ISO 1996-1 [2016]) introduced the concept of Community Tolerance Level (L_{ct}) as the DNL at which 50 percent of the people in a particular community are predicted to be highly annoyed by noise exposure. L_{ct} accounts for differences between sources and/or communities when predicting the percentage highly annoyed by noise exposure. ISO also recommended a change to the adjustment range used when comparing aircraft noise to road traffic noise. The previous edition suggested a +3 dB to +6 dB adjustment range for aircraft noise relative to road traffic noise, while the latest edition recommends an adjustment range of +5 dB to +8 dB. This adjustment range allows DNL to be correlated to consistent annoyance rates when originating from different noise sources (i.e. road traffic, aircraft, or railroad). This change to the adjustment range would increase the calculated percent highly annoyed at 65 dB DNL by approximately 2 percent to 5 percent greater than the previous ISO definition. Figure A-9 depicts the estimated percentage of people highly annoyed for a given DNL using both the ISO 1996-1 estimation

[1] DENL is the Day-Evening-Night Average Sound Level, which is similar to CNEL except it has a 5.0 dB adjustment to the evening period. DENL is not used in the U.S.

and the older FICON 1992 method. The results suggest that the percentage of people highly annoyed may be greater for aircraft noise than previously thought.

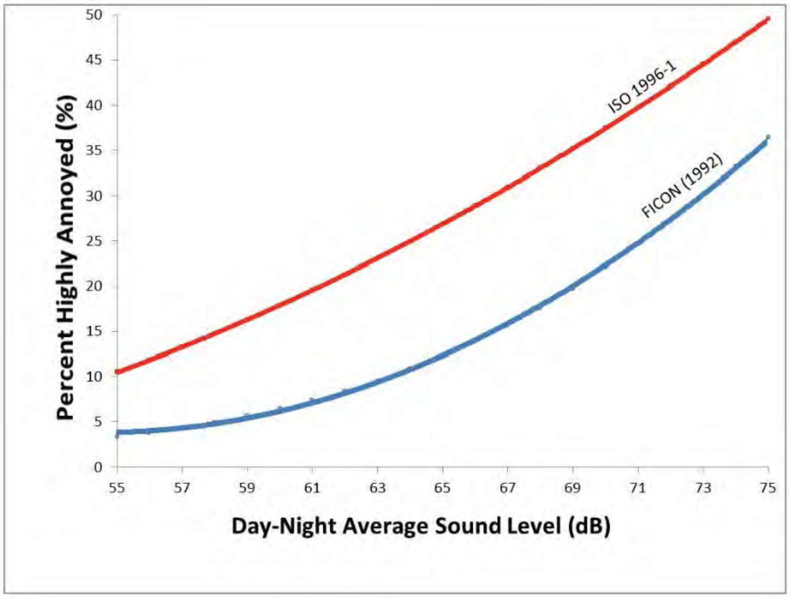


Figure A-9 Percent Highly Annoyed: A Comparison of ISO 1996-1 to FICON 1992

In the 2008 Hypertension and Exposure to Noise near Airports (HYENA) study, annoyance levels due to aircraft noise and road traffic noise were assessed in subjects who lived in the vicinity of six major European airports using the 11-point International Commission on Biological Effects of Noise scale. Exposure-response curves for road noise were congruent with the European Union (EU) standard curves used for predicting the number of highly noise-annoyed subjects, but ratings of annoyance due to aircraft noise were higher than predicted. The study supports findings that people's attitude toward aircraft noise has changed over the years and that the EU standard curve for aircraft noise should be modified (Babisch et al., 2009).

The U.S. Federal Aviation Administration (FAA) is currently conducting a major airport community noise survey at approximately 20 U.S. airports in order to update the relationship between aircraft noise and annoyance (Miller et al., 2014). Results from this study are expected to be released in late 2018.

In a study related to assessing aircraft noise exposure for people in the surrounding community, the Brisbane Airport in Queensland, Australia, assembled a Health Impact Assessment (Volume D7), which discussed, among other noise effects, annoyance and human response to changes in noise exposure versus steady-state response (Section 7.9 of the report) (Brisbane Airport Corporation, 2007). The authors suggest there is a difference between the gradual increase in noise exposure and the additive property of increasing noise levels from a particular event. The latter is called a "step change." The Brisbane Health Impact Assessment references Brown and Kamp (2005), who have reviewed the literature available on human response to such changes. They observe:

> "Most information on the relationship between transport noise exposure and subjective reaction (annoyance/dissatisfaction) comes from steady state surveys at sites where there have not been step changes in noise exposure. Environmental appraisals often need to assess the

> effects of such step changes in exposure and there is growing evidence that when noise exposure is changed, annoyance-ratings may change more than would be predicted from steady state relationships.
>
> "Conventional wisdom is that human response to a step change in exposure to transport noise can be predicted from exposure-response curves that have been derived from studies where human response has been assessed over a range of steady-state noise conditions. However, in situations where a step change in transport noise exposure has occurred, various surveys suggest that human response may be different, usually greater, as a result of the increase/decrease in noise, to what would be predicted from exposure-response curves derived under steady-state conditions. Further, there are suggestions that such (over)reaction may be more than a short-term effect. (Brown and Kamp, 2005)."

Guski (2004) describes this change effect in a hypothetical model and also notes that where the noise situation is permanently changed, the annoyance of residents usually changes in a way that cannot be predicted by steady-state dose/response relationships. Most studies show an "over reaction" of the residents: with increasing noise levels, people are much more annoyed than would be predicted by steady-state curves, and, with a decrease of noise levels, people are much less annoyed. Guski also notes that the annoyance may change prematurely before the change of levels, with residents expecting an increase in noise levels reacting more annoyed, and residents expecting a decrease in noise levels less annoyed than would be predicted in the steady-state condition.

Brown and Kamp (2005) conclude:

> "Our review of the literature on response to changes in noise leads us to the conclusion that we cannot discount the possibility that overreaction to a step change in transport noise may occur, and that this effect may not attenuate over time. However, evidence is still inconclusive and based on limited studies that tend not to be comparable in terms of method, size, design and context. Further, our view is that most explanations given in the literature for an overreaction are only partly supported, in some cases not at all, and generally there is conflicting evidence for them. There is still also no accepted view on the mechanism by which annoyance changes in response to a change in exposure. In particular, most explanations are usually post-hoc and the noise change studies have not been designed to test them. (Brown and Kamp, 2005)."

The Brisbane Airport Corporation Health Impact Assessment suggests that the potential for "over-reaction" to stepped changes in noise exists and needs to be recognized; people subject to an increase in noise may experience more annoyance than predicted, while people subject to a decrease in noise may experience less annoyance than predicted. Further, any such over-reaction should not necessarily be assumed to be a temporary phenomenon; evidence from existing studies suggests that it could persist for years after the exposure changes (Brisbane Airport Corporation, 2007).

An individual with an increased sensitivity to sounds may have hyperacusis, which results in a lower tolerance of everyday sound (Aazh et al., 2018). A person with hyperacusis reacts differently to sounds due to reactions of increased distress and discomfort from everyday sounds. This condition arises from a problem with the auditory processes within an afflicted individual's brain. The causes and diagnosis are not well understood (Aazh et al., 2018). Physical causes of hyperacusis may range from head injury, ear damage, or viral diseases, to temporomandibular joint disorders (TMJ). Neurologic causes may range from Post-Traumatic Stress Disorder (PTSD), chronic fatigue syndrome, depression, to migraine headaches (American Academy of Otolaryngology--Head and Neck Surgery, 2018). An individual with hyperacusis will also likely have tinnitus, which may lead to further discomfort. Hyperacusis can lead to misophonia, which may cause an individual to react with abnormally strong emotions and behaviors to specific sounds, but hyperacusis does not cause this reaction. Studies of misphonia are very limited at this time.

Another condition that falls under the condition of hyperacusis is noise sensitivity (Aazh et al., 2018). A noise-sensitive individual is characteristically more prone to being annoyed by environmental noise compared to a non-noise-sensitive person regardless of the overall noise exposure (Kishikawa et al., 2006). This result indicates that the annoyance response for noise-sensitive people is not a direct function of noise exposure levels.

A1.3.2 Speech Interference

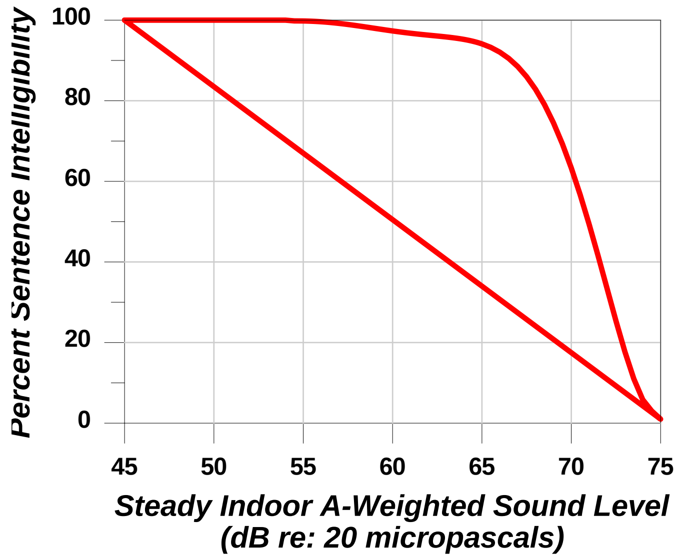
Speech interference from noise is a primary cause of annoyance for communities. Disruption of routine activities such as radio or television listening, telephone use, or conversation leads to frustration and annoyance. The quality of speech communication is also important in classrooms and offices. In the workplace, speech interference from noise can cause fatigue and vocal strain in those who attempt to talk over the noise. In schools it can impair learning.

Speech comprehension is measured in two ways:

1. *Word Intelligibility,* or the percentage of words spoken and understood. This might be especially important for students in the lower grades who are learning the English language and particularly important for students who are studying English as a Second Language.
2. *Sentence Intelligibility*, or the percentage of sentences spoken and understood. This might be especially important for high-school students and adults who are familiar with the language and who do not necessarily have to understand each word spoken in order to understand sentences.

U.S. Federal Criteria for Interior Noise

In 1974, the USEPA identified a goal of an indoor $L_{eq(24)}$ of 45 dB to minimize speech interference based on sentence intelligibility and the presence of steady noise (USEPA, 1974). Figure A-10 shows the effect of steady indoor background sound levels on sentence intelligibility. For an average adult with normal hearing and fluency in the language, steady background indoor sound levels of less than 45 dB L_{eq} are expected to allow 100-percent sentence intelligibility.



Source: USEPA, 1974

Figure A-10 Speech Intelligibility Curve

The curve in Figure A-10 shows 99-percent intelligibility at L_{eq} below 54 dB and less than 10 percent above 73 dB. Recalling that L_{eq} is dominated by louder noise events, the USEPA $L_{eq(24)}$ goal of 45 dB generally ensures that sentence intelligibility will be high most of the time.

Classroom Criteria

For teachers to be understood, their regular voice must be clear and uninterrupted. Background noise must be below the teacher's voice level. Intermittent noise events that momentarily drown out the teacher's voice need to be kept to a minimum. It is therefore important to evaluate the steady background noise level, the level of voice communication, and the single-event noise level from aircraft overflights that might interfere with speech.

Lazarus (1990) found that for listeners with normal hearing and fluency in the language, complete sentence intelligibility can be achieved when the signal-to-noise ratio (i.e., a comparison of the level of the sound to the level of background noise) is in the range of 15 to 18 dB. The initial American National Standards Institute (ANSI) classroom noise standard (ANSI, 2010) and American Speech-Language-Hearing Association (American Speech-Language-Hearing Association, 2005) guidelines concur, recommending at least a 15 dB signal-to-noise ratio in classrooms. If the teacher's voice level is at least 50 dB, the background noise level must not exceed an average of 35 dB. The National Research Council of Canada (Bradley, 1993) and the WHO (1999) agree with this criterion for background noise.

For eligibility for noise insulation funding, the FAA guidelines state that the design objective for a classroom environment is 45 dB L_{eq} during normal school hours (FAA, 1985).

Most aircraft noise is not continuous. Instead, it consists of individual events like the one depicted by the graph in Figure A-4. Since speech interference in the presence of aircraft noise is caused by individual aircraft flyover events, a time-averaged metric alone, such as L_{eq}, is not necessarily appropriate. In addition to the background level criteria described above, single-event criteria that account for those noisy events are also needed.

A 1984 study for the Port Authority of New York and New Jersey recommended using Speech Interference Level (SIL) for classroom noise criteria (Sharp and Plotkin, 1984). SIL is based on the maximum sound levels in the frequency range that most affects speech communication (500 to 2,000 Hz). The study identified an SIL of 45 dB as the goal, a level that would provide 90-percent word intelligibility for the short time periods during aircraft overflights. While SIL is technically the best metric for measuring speech interference, it can be approximated by an L_{max} value. An SIL of 45 dB is equivalent to an L_{max} of 50 dBA for aircraft noise (Wesler, 1986).

Lind et al. (1998) also concluded that an L_{max} criterion of 50 dB would result in 90-percent word intelligibility. Bradley (1985) recommends SEL as a better indicator. His work indicates that 95-percent word intelligibility would be achieved when indoor SEL did not exceed 60 dB. For a typical single aircraft overflight, this corresponds to an L_{max} of 50 dB. While the WHO (1999) only specifies a background L_{max} criterion, the organization also notes the SIL frequencies and that interference can begin at around 50 dB.

The Airport Cooperative Research Program (ACRP) conducted a study to assess aircraft noise conditions affecting student learning by analyzing the interior and exterior sound levels while observing students and teachers at 11 schools surrounding Los Angeles International Airport (LAX). The five schools located under the LAX flight paths experienced frequent overflight events, while the six schools further south of the airport experienced minimal LAX aircraft noise exposure events. The study found a positive correlation between teacher voice-masking or voice-raising and fluctuations in interior noise events. A majority of teachers reported that they felt aircraft noise interfered with teacher-student communication and caused students to lose concentration. However, the student observations were unable to identify any aircraft-noise-related events that caused a distraction in a child. Other students caused the majority of distractions while playing with various items and daydreaming, and were found to be the significant sources of distractions. The authors, as well as the teachers' opinions gathered in the teacher surveys, concluded that even moderate levels of aircraft noise exposure can impact children's learning due to the correlation between voice-masking events and measured interior sound events (National Academies of Sciences, Engineering, and Medicine, 2017).

The United Kingdom Department for Education and Skills established in its classroom acoustics guide a 30-minute time-averaged metric of $L_{eq(30min)}$ for background levels and the metric of $L_{A1,30min}$ for intermittent noises, at thresholds of 30 to 35 dB and 55 dB, respectively. $L_{A1,30min}$ represents the dBA sound level that is exceeded 1 percent of the time (in this case, during a 30-minute teaching session) and is generally equivalent to the L_{max} metric (United Kingdom Department for Education and Skills, 2003).

Table A-3 summarizes the criteria discussed. Other than the FAA (1985) 45 dB L_{max} criterion, the criteria are consistent with a limit on indoor background noise of 35 to 40 dB L_{eq} and a single-event limit of 50 dB L_{max}. It should be noted that the limits listed in Table A-3 were set based on students with normal hearing capability and no special needs. At-risk students may be adversely affected at lower sound levels.

Table A-3 Indoor Noise Level Criteria Based on Speech Intelligibility

Source	Metric/Level (dB)	Effects and Notes
U.S. FAA (1985)	$L_{eq(during\ school\ hours)}$ = 45 dB	Federal assistance criteria for school sound insulation; supplemental single-event criteria may be used.
Lind et al. (1998), Sharp and Plotkin (1984), Wesler (1986)	L_{max} = 50 dB / SIL 45	Single-event level permissible in the classroom.
WHO (1999)	L_{eq} = 35 dB L_{max} = 50 dB	Assumes average speech level of 50 dB and recommends signal-to-noise ratio of 15 dB.
U.S. ANSI (2010)	L_{eq} = 35 dB, based on Room Volume (e.g., cubic feet)	Acceptable background level for continuous and intermittent noise.
United Kingdom Department for Education and Skills (2003)	$L_{eq(30min)}$ = 30-35 dB L_{max} = 55 dB	Minimum acceptable in classroom and most other learning environs.

A1.3.3 Sleep Disturbance

Sleep disturbance is a major concern for communities exposed to aircraft noise at night. A large amount of research developed in the laboratory during the past 30 years has produced variable results, suggesting a complex interaction of factors including the noise characteristics and individual sensitivity, rather than a clear dose-effect relationship (Muzet, 2007; Kwak et al., 2016). Sleep disorders may cause negative health effects such as cardiovascular problems, neuroendocrine abnormalities, and changes in cognition, mood, and memory. The causal relationships between noise exposure, effects on sleep, and contribution to health disturbances, both behavioral and physical, are not yet firmly established (Zaharna, 2010; Perron et al., 2012). A number of studies have attempted to quantify the effects of noise on sleep. This section provides an overview of the major noise-induced sleep disturbance studies. Emphasis is on studies that have influenced U.S. federal noise policy. The studies have been separated into two groups:

1. Initial studies, conducted in the 1960s and 1970s, in which the research was focused on sleep observations performed under laboratory conditions.
2. Later studies, conducted from the 1990s up to the present, in which the research was focused on field observations.

Initial Studies

The relationship between noise and sleep disturbance is complex and not fully understood. The disturbance depends not only on the depth of sleep and the noise level but also on the non-acoustic factors cited for annoyance. The easiest effect to measure is the number of arousals or awakenings caused by noise events. Much of the literature has therefore focused on predicting the percentage of the population that will be awakened at various noise levels.

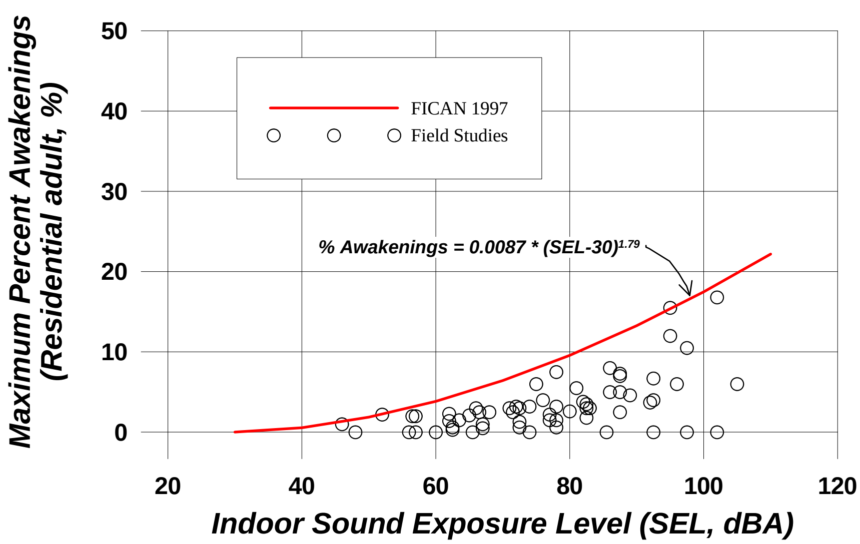
FICON's 1992 review of airport noise issues (FICON, 1992) included an overview of relevant research conducted through the 1970s. Literature reviews and analyses were conducted from 1978 through 1989 using existing data (Griefahn, 1978; Griefahn and Muzet, 1978; Lukas, 1978; Pearsons et. al., 1989). Because of large variability in the data, FICON did not endorse the reliability of those results.

FICON did, however, recommend an interim dose-response curve, awaiting future research. That curve predicted the percentage of the population expected to be awakened as a function of the exposure to SEL. This curve was based on research conducted for the U.S. Air Force (Finegold et al., 1994). The data included most of the research performed up to that point and predicted a 10-percent probability of awakening when exposed to an interior SEL of 58 dB. The data used to derive this curve were primarily from controlled laboratory studies.

Recent Sleep Disturbance Research: Field and Laboratory Studies

As noted above, early sleep laboratory studies did not account for some important factors, including habituation to the laboratory, previous exposure to noise, and awakenings from noise other than aircraft. In the early 1990s, field studies in people's homes were conducted to validate the earlier laboratory work conducted in the 1960s and 1970s. The field studies of the 1990s (e.g., Horne et al., 1994) found that 80 to 90 percent of sleep disturbances were not related to outdoor noise events but rather to indoor noises and non-noise factors. The results showed that, in real life conditions, noise had less of an effect on sleep than had been previously reported from laboratory studies. Laboratory sleep studies tend to show more sleep disturbance than field studies show because people who sleep in their own homes are accustomed to their environment and, therefore, do not wake up as easily (FICAN, 1997).

Based on this new information, FICAN in 1997 recommended a dose-response curve to use instead of the earlier 1992 FICON curve (FICAN, 1997). Figure A-11 shows FICAN's curve, the red line, which is based on the results of three field studies, which are also shown in the figure (Ollerhead et al., 1992; Fidell et al., 1994; Fidell et al., 1995a; Fidell et al., 1995b) along with the data from six previous field studies.



Source: FICAN 1997

Figure A-11 FICAN 1997 Recommended Sleep Disturbance Dose-Response Relationship

Number of Events and Awakenings

It is reasonable to expect that sleep disturbance is affected by the number of events. The German Aerospace Center (DLR) conducted an extensive study focused on the effects of nighttime aircraft noise on sleep and related factors (Basner et al., 2004). The DLR study was one of the largest studies to examine the link between aircraft noise and sleep disturbance, and it involved both laboratory and in-home field research phases. The DLR investigators developed a dose-response curve that predicts the number of aircraft events at various values of L_{max} expected to produce one additional awakening over the course of a night. The dose-effect curve was based on the relationships found in the field studies.

Later studies by DLR conducted in the laboratory comparing the probability of awakenings from noise generated by different modes of transportation showed that aircraft noise led to significantly lower awakening probabilities than either road traffic or rail noise (Basner et al., 2011). Furthermore, it was noted that the probability of awakening, per noise event, decreased as the number of noise events increased. The authors concluded that by far the majority of awakenings from noise events merely replaced awakenings that would have occurred spontaneously anyway.

A different approach was taken by an ANSI standards committee (ANSI, 2008), which used the average of the data on field studies shown in Figure A-11 rather than the upper envelope (i.e., the red line), to predict average probability of awakening from one event. Probability theory is then used to project the awakening from multiple noise events.

Currently, there are no established criteria for evaluating sleep disturbance from aircraft noise, although recent studies have suggested a benchmark of an outdoor SEL of 90 dB as an appropriate tentative criterion when comparing the effects of different operational alternatives. The corresponding indoor SEL would be approximately 25 dB lower (at 65 dB) with doors and windows closed, and approximately 15 dB lower (at 75 dB) with doors and windows open. According to the ANSI (2008) standard, the probability of awakening from a single aircraft event at this level is between 1 and 2 percent for people habituated to the noise and sleeping in bedrooms with their windows closed, and 2 to 3 percent for those sleeping in bedrooms with their windows open. The probability of the exposed population awakening at least once from multiple aircraft events at noise levels of 90 dB SEL is shown in Table A-4.

Table A-4 Probability of Awakening from NA90SEL

Number of Aircraft Events at 90 dB SEL for Average 9-Hour Night	*Minimum Probability of Awakening at Least Once*	
	Windows Closed	*Windows Open*
1	1%	2%
3	4%	6%
5	7%	10%
9 (1 per hour)	12%	18%
18 (2 per hour)	22%	33%
27 (3 per hour)	32%	45%

Source: DoD, 2009b

In December 2008, FICAN recommended the use of this standard. FICAN also recognized that more research is underway by various organizations and that work may result in changes to FICAN's position.

FICAN reaffirmed its recommendation for the use of the ANSI (2008) standard (FICAN, 2008). However, it is noted that this standard has been withdrawn, but it will be used until further recommendations are made by FICAN.

A recent study further examined the relationship between self-reported sleep insufficiency and airport noise using the U.S. Behavioral Risk Factor Surveillance System data and DNL contours generated by the FAA's Integrated Noise Model software for 95 airports (Holt et al., 2015). The survey data comprise the results of a random-digit-dialed telephone survey of non-institutionalized U.S. civilians 18 years or older covering all 50 states. Responses that included sleep insufficiency questions were included in this study totaling more than 700,000 respondents for 2008 and 2009 year datasets. The authors found that, once controlled for individual sociodemographic characteristics and ZIP Code-level socioeconomic status, there were no significant associations between airport noise exposure levels and self-reported sleep insufficiency. These results are consistent with a study that found aircraft-noise-induced awakening are more reasonably predicted from relative rather than absolute SELs (Fidell et al., 2013). However, Kim et al. (2014) found a response relationship between aircraft noise and sleep quality in a community-based cross-sectional study when controlling for a mental health condition (Kim et al., 2014).

The WHO recommends the use of the dBA long-term average sound level L_{night}, measured outside the home, for sleep disturbance and related effects, with an interim target of 55 dB $L_{night,\ outside}$ and a night noise guideline of 40 dB (WHO, 2009).

The choice of a noise metric for policy-making purposes depends on both the particular type of noise source and the particular effect being studied. Even for sleep disturbance caused by aircraft noise, there is no single noise exposure metric or measurement approach that is generally agreed upon (Finegold, 2010).

Summary

Sleep disturbance research still lacks the details to accurately estimate the population awakened for a given noise exposure. The procedure described in the ANSI (2008) standard and endorsed by FICAN is based on probability calculations that have not yet been scientifically validated. While this procedure certainly provides a much better method for evaluating sleep awakenings from multiple aircraft noise events, the estimated probability of awakenings can only be considered approximate.

A1.3.4 Noise-Induced Hearing Impairment

Residents in communities surrounding airfields express concerns regarding the effects of aircraft noise on hearing. This section provides a brief overview of hearing loss caused by noise exposure. The goal is to provide a sense of perspective as to how aircraft noise (as experienced on the ground) compares to other activities that are often linked with hearing loss.

The *Noise-Induced Hearing Impairment* bulletin is one of a series of technical bulletins issued by the DoD Defense Noise Working Group (DNWG) under the initiative to educate and train DoD military, civilian, and contractor personnel, and the public on noise issues. "The ability to convey the effects of military aircraft noise exposure should facilitate both the public discussions and the environmental assessment process," according to DNWG (2013). In its background discussion on the topic of noise-induced hearing impairment, DNWG (2013) states:

> "Considerable data have been collected and analyzed by the scientific/medical community on the effects of noise on workers in industrial settings, and it has been well established that

> continuous exposure to high noise levels from any source will damage human hearing and result in noise induced hearing loss (USEPA, 1974). The scientific community has concluded that there is little likelihood of hearing damage resulting from exposure to aircraft noise at commercial airports. Until recently, the same was thought true for military airbases, but the introduction of new generation fighter aircraft with high thrust to weight ratio and correspondingly high noise levels has required a re-analysis of the risk of hearing damage for those communities close to military airbases. Residents in surrounding communities are expressing concerns regarding the effects of these new aircraft on hearing."

DNWG goes on to define the major components of hearing loss, temporary versus permanent loss, and threshold shift in hearing, and how they can be differentiated:

> "Hearing loss is generally interpreted as a decrease in the ear's sensitivity or acuity to perceive sound, i.e. a shift in the hearing threshold to a higher level. This change can either be a Temporary Threshold Shift or a Permanent Threshold Shift.
>
> "A Temporary Threshold Shift (TTS) can result from exposure to loud noise over a given amount of time, yet the hearing loss is not necessarily permanent. An example of TTS might be a person attending a loud music concert. After the concert is over, the person may experience a threshold shift that may last several hours, depending upon the level and duration of exposure. While experiencing TTS, the person becomes less sensitive to low-level sounds, particularly at certain frequencies in the speech range (typically near 2,000 and 4,000 Hertz). Normal hearing ability eventually returns, as long as the person has enough time to recover in a relatively quiet environment.
>
> "A Permanent Threshold Shift (PTS) usually results from repeated exposure to high noise levels, where the ears are not given adequate time to recover from the strain and fatigue of exposure. A common example of PTS is the result of working in a very noisy environment such as a factory. It is important to note that TTS can eventually become PTS over time. Thus, even if the ear is given time to recover from TTS, repeated occurrence of TTS may eventually lead to permanent hearing loss. The point at which a Temporary Threshold Shift results in a Permanent Threshold Shift is difficult to identify and varies with a person's sensitivity. In general, hearing loss (be it TTS or PTS) is determined by the duration and level of the sound exposure (DNWG, 2013)."

On the topic of noise-induced hearing loss and its specific components, DNWG (2013) provides the following overview:

> "The 1982 EPA Guidelines for Noise Impact Analysis presents the risk of hearing loss from exposure to noise in the workplace in terms of the Noise-Induced Permanent Threshold Shift (NIPTS), a quantity that defines the permanent change in hearing level, or threshold, caused by exposure to noise (USEPA, 1982). It represents the difference in PTS between workers exposed to noise and those who are not exposed. Numerically, the NIPTS is the change in threshold averaged over the frequencies 0.5, 1, 2, and 4 kHz that can be expected from daily exposure to noise over a normal working lifetime of 40 years, with the exposure beginning at an age of 20 years. A grand average of the NIPTS over time (40 years) and hearing sensitivity (10 to 90 percentiles of the exposed population) is termed the Average NIPTS, or Ave. NIPTS for short. The Ave. NIPTS that can be expected for noise exposure as measured by the 24-hour average noise level, Leq24, is given in Table A-5 (USEPA, 1982).

Table A-5 Average (Ave.) NIPTS and 10th Percentile NIPTS as a Function of $L_{eq(24)}$

$L_{eq(24)}$	*Ave. NIPTS (dB)**	*10th Percentile NIPTS (dB)**
75-76	1.0	4.0
76-77	1.0	4.5
77-78	1.6	5.0
78-79	2.0	5.5
79-80	2.5	6.0
80-81	3.0	7.0
81-82	3.5	8.0
82-83	4.0	9.0
83-84	4.5	10.0
84-85	5.5	11.0
85-86	6.0	12.0
86-87	7.0	13.5
87-88	7.5	15.0
88-89	8.5	16.5
89-90	9.5	18.0

Source: DoD, 2012

* rounded to the nearest 0.5 dB

"Thus, for a noise exposure of 80 Leq24, the expected lifetime average value of NIPTS is 3 dB. The Ave. NIPTS is estimated as an average over all people exposed to the noise. The actual value of NIPTS for any given person will depend on their physical sensitivity to noise – some will experience more hearing loss than others. The EPA Guidelines provide information on this variation in sensitivity in the form of the NIPTS exceeded by 10 percent of the population, which is included in Table A-5 in the '10th Percentile NIPTS' column (USEPA, 1982). As in the example above, for individuals exposed to 80 Leq24, the most sensitive of the population would be expected to show a degradation to their hearing of 7 dB over time. To put these numbers in perspective, changes in hearing level of less than 5 dB are generally not considered noticeable or significant. Furthermore, there is no known evidence that a NIPTS of 5 dB is perceptible or has any practical significance for the individual. Lastly, the variability in audiometric testing is generally assumed to be ±5 dB (USEPA, 1974). (DNWG, 2013)."

According to DNWG, applying these measurement tools for NIPTS to a specific population is the next step in the process of fully understanding noise impacts on a community (DNWG, 2013):

"In order to quantify the overall impact of noise on a community it is necessary to include the numbers of people who are exposed. This is accomplished by calculating the population average value of Ave. NIPTS, known as the Potential Hearing Loss (PHL), using the following equation:

$$\mathrm{PHL} = \frac{\sum_i NIPTS_i \times P_i}{\sum_i P_i} \qquad (1)$$

where NIPTSi is the Ave. NIPTS for people within the *ith* noise level band (see Table A-5), and Pi is the total population living within the *ith* noise level band. The quantity PHL represents the average change in hearing threshold, or the average hearing loss, for the local community exposed to the noise.

The actual noise exposure is determined by the portion of the time the population is outdoors and the outdoor noise levels to which they are exposed. The EPA Guidelines allows for calculating the exposure taking into account the length of time the population is indoors and exposed to lower levels. If the outdoor exposure exceeds 3 hours per day, the contribution of the indoor levels can usually be neglected. (DNWG, 2013)."

The criteria for measuring permanent hearing loss in the workplace are similar but more complex, according to DNWG (2013):

"The database from which the risk of hearing loss in Table A-5 was developed is based almost entirely on extensive audiometric measurements of workers in industrial settings. A considerable amount of hearing loss data have been collected and analyzed, including measurements of hearing loss in people with known histories of noise exposure. The available evidence consists of statistical distributions of hearing levels for populations at various exposure levels. Much of the analysis consists of grouping these measurements into populations of the same age with the same history of noise exposure and determining the percentile distribution of hearing loss for populations with the same noise exposure. Thus, the evidence for noise-induced permanent threshold shift can be clearly seen by comparing the distribution of a noise-exposed population with that of a relatively non-noise-exposed population (USEPA, 1974).

"Most of these data are drawn from cross-sectional rather than longitudinal studies. That is, individuals or populations have been tested at only one point in time. Because complete noise exposure histories do not exist, many conclusions are limited by the need to make certain assumptions about the onset and progression of noise-induced hearing loss. (DNWG, 2013)."

The USEPA , National Academy of Sciences, WHO, the Occupational Safety and Health Administration (OSHA), National Institute for Occupational Safety and Health, and DoD have each established their own criteria for measuring hearing loss within the workplace, according to DNWG (2013):

"Using this database, the EPA established 75 dB for an 8-hour exposure and 70 dB for a 24-hour exposure as the average noise level standard requisite to protect the most sensitive (approximately 1 percent) of the population from greater than a 5 dB permanent threshold shift in hearing. The EPA document explains that the requirement for an adequate margin of safety necessitates a highly conservative approach which dictates the prevention of any effect on hearing, defined here as an essentially insignificant and not measurable NIPTS of less than 5 dB. (USEPA, 1974).

"The National Academy of Sciences Committee on Hearing, Bioacoustics, and Biomechanics (CHABA) identified 75 dB as the minimum level at which hearing loss may occur from continuous, long-term (40 years) exposure (CHABA, 1965).

"The World Health Organization has concluded that environmental and leisure-time noise below a Leq24 value of 70 dB 'will not cause hearing loss in the large majority of the population, even after a lifetime of exposure (WHO, 2000).'

> "The OSHA regulation of 1971 standardizes the limits on workplace noise exposure for protection from hearing loss as an average level of 90 dB over an 8-hour work period, or 85 dB over a 16-hour period (U.S. Department of Labor, 1971). The standard is based on a 5 dB decrease in allowable noise level per doubling of exposure time. Exposure at levels greater than this require a hearing conservation program to be implemented. The maximum level for workplace exposure to continuous noise is 115 dB, and exposure to this level is limited to 15 minutes. A maximum level of 140 dB is specified for impulsive noise.
>
> "The National Institute for Occupational Safety and Health recommends a maximum exposure of 85 dB for a period of 8 hours, with a recommended exchange rate of 3 dB per doubling of exposure time (NIOSH, 1998). The maximum allowable exposure level is 140 dB for both continuous and impulsive noise.
>
> "The Department of Defense requirements for hearing conservation specify that a hearing conservation program should be implemented if the 8-hour average noise level (Leq8) is greater than 85 decibels (DoD, 2004). The recommended exchange rate is a decrease of 3 dB per doubling of exposure time, although an alternative rate of 4 dB is allowed. (DNWG, 2013)."

The DoD has issued guidelines for hearing risk assessment in local communities, according to DNWG (2013):

> "The current DoD policy for assessing hearing loss risk as part of the EIS process is stated in the June 16, 2009 memorandum "Methodology for Assessing Hearing Loss Risk and Impacts in DoD Environmental Impact Analysis" issued by the Under Secretary of Defense (DoD, 2009c). The memorandum defines the conditions under which assessments are required, references the methodology from the 1982 EPA report, and describes how the assessments are to be calculated.
>
>> 'Current and future high performance aircraft create a noise environment in which the current impact analysis based primarily on annoyance may be insufficient to capture the full range of impacts on humans. As part of the noise analysis in all future environmental impact statements, DoD components will use the 80 Day-Night A-Weighted (DNL) noise contour to identify populations at the most risk of potential hearing loss. DoD components will use as part of the analysis, as appropriate, a calculation of the Potential Hearing Loss (PHL) of the at risk population. The PHL (sometimes referred to as Population Hearing Loss) methodology is defined in EPA Report No. 550/9-82-105, *Guidelines for Noise Impact Analysis* (USEPA, 1982).' (DoD, 2009c).
>
> "The 2009 DoD policy directive requires that hearing loss risk be estimated for the population most at risk, defined as the population exposed to a Day-Night Average Noise Level (DNL) greater than or equal to 80 dB, including residents of on-base housing. Limiting the analysis to the 80 DNL contour area does not necessarily imply that populations outside this contour, i.e. at lower exposure levels, are not at some degree of risk of hearing loss, but it is generally considered that this risk is small. The exposure of workers inside the base boundary area should be considered occupational and evaluated using the appropriate DoD component regulations for occupational noise exposure.
>
> "Environmental noise assessments normally estimate the number of people exposed to noise expressed in terms of the DNL noise metric, which contains a 10 dB weighting factor for aircraft

operations occurring between the hours of 2200 and 0700 to account for people's increased sensitivity to noise during the normal sleeping period. However, the mechanism by which high noise levels may cause hearing impairment is physical in nature (by damaging the hair cells in the cochlear) and has no such temporal effects – noise is noise as far as the potential for hearing loss is concerned, regardless of the time of day the exposure occurs. Thus, even though the population most at risk is identified in terms of the 80 DNL contour, it is not appropriate to estimate risk using the DNL metric. The actual assessment of hearing loss risk should be conducted using 24-hour average noise levels (Leq24). (DNWG, 2013)."

Regarding community hearing loss and aircraft noise, DNWG (2013) provides this overview:

"The preponderance of available information on hearing loss risk upon which Table A-5 is based is from the workplace with continuous exposure throughout the day for many years. Community exposure to aircraft noise is not continuous but consists of individual events where the sound level exceeds the background level for a limited time period as the aircraft flies past the observer. The maximum noise levels experienced from military aircraft may be very high, and the exposure could result in a temporary threshold shift (TTS). But unless the flights are continuous, the ear may have adequate time to recover from the strain and fatigue of individual exposures, and normal hearing ability may eventually return.

"There is very limited data on the effect of aircraft noise on hearing. From a civilian airport perspective, the scientific community has concluded that there is little likelihood that the resulting noise exposure from aircraft noise could result in either a temporary or permanent hearing loss (Newman and Beattie, 1985). The EPA criterion (Leq24 = 70 dB) can be exceeded in some areas located near airports, but that is only the case outdoors. Inside a building, where people are more likely to spend most of their time, the average noise level will be much less than 70 dB (Eldred and von Gierke, 1993). Eldred and von Gierke (1993) also report that 'several studies in the U.S., Japan, and the U.K. have confirmed the predictions that the possibility for permanent hearing loss in communities, even under the most intense commercial take-off and landing patterns, is remote.' (DNWG, 2013)."

DNWG (2013) then provides a closer look at military aircraft noise specifically:

"Military aircraft are in general much noisier than their civilian counterparts, but the available data, while sometimes contradictory, appears to indicate a similar lack of significant effects of noise on hearing. A laboratory study (Nixon et al., 1993) measured changes in human hearing from noise representative of low-flying aircraft on Military Training Routes (MTRs). The potential effects of aircraft flying along MTRs are of particular concern as the maximum overflight noise levels can exceed 115 dB, with a rapid increase in noise level exceeding 30 dB/sec. In this study, participants were first subjected to four overflight noise exposures at A-weighted levels of 115 dB to 130 dB. One-half of the subjects showed no change in hearing levels, one-fourth had a temporary 5 dB increase in sensitivity, and one-fourth had a temporary 5 dB decrease in sensitivity. In the next phase, participants were subjected to up to eight successive overflights, separated by 90 second intervals, at a maximum level of 130 dB until a temporary shift in hearing was observed. The temporary hearing threshold shift showed a decrease in sensitivity of up to 10 dB.

"In another study of 115 test subjects between 18 and 50 years old, TTSs were measured after laboratory exposure to military low-altitude flight (MLAF) noise (Ising et al., 1999). The results indicate that repeated exposure to MLAF noise with maximum noise levels greater than 114 dB, may have the potential to cause permanent noise induced hearing loss, especially if the noise level increases rapidly (Ising et al., 1999).

“A report prepared by researchers at the University of Southampton (Lawton and Robinson, 1991) summarized the state of knowledge as of 1991. Their review of the literature indicated that the main body of information with which comparisons can be made of the hearing damage risk from military overflight noise is to be found in standards and regulatory documents published by various organizations. It was concluded that the risk of hearing loss due to a single event of 125 dB maximum level and equivalent duration of the order 0.5 seconds is small, even after repeated daily occurrences over several years. Supplementary experimental evidence, involving TTS, showed that a small amount of TTS might be engendered by military overflight noise at the levels in question, but that this would have no significant long-term effect even on the more susceptible ears. The literature search did uncover a small number of population surveys of hearing loss related to noise, but the quantitative results were rare and only one investigation produced audiometric results linked to noise measurements.

“The report concluded that there is little evidence of hearing loss risk from military overflights, either for adults or children. ‘Whether in the case of TTS or PTS, laboratory or field studies, adults or children, there appear to be no reports of significant hearing damage attributable to the noise of aircraft overflights (Lawton and Robinson, 1991).’

“In Japan, audiological tests were conducted on a sample of residents who had lived near Kadena Air Base for periods ranging from 19 to 43 years (Yamamoto, 1999). The sample had been exposed (not necessarily continuously) to noise levels ranging from DNL 75 to 88 dB. Examinations showed that there was a one in ten chance of a NIPTS of 20 dB at 4 kHz. However, the NIPTS at 2 kHz and lower was much less, so that the value of Ave. NIPTS was on the order of 10 dB or so. These results are consistent with the ‘10th Percentile NIPTS’ figures in Table A-5.

“Ludlow and Sixsmith (Ludlow and Sixsmith, 1999) conducted a cross-sectional pilot study to examine the hypothesis that military jet noise exposure early in life is associated with raised hearing thresholds. The authors concluded that there were no significant differences in audiometric test results between military personnel who as children had lived in or near stations where fast jet operations were based, and a similar group who had no such exposure as children. (DNWG, 2013).”

According to DNWG’s (2013) conclusions, noise levels at commercial and military airfields have important distinguishing characteristics:

“Aviation noise levels near commercial airports are not comparable to the occupational or recreational noise exposures associated with hearing loss, and studies of aircraft noise levels have not definitively correlated permanent hearing impairment with aircraft activity. It is unlikely that airport neighbors will remain outside their homes 24 hours per day, so there is little likelihood of hearing loss below an average sound level of 75 dB.

“Near military airbases, average noise levels above 75 dB may occur, and while new DoD policy dictates that NIPTS should be evaluated, research results to date have not found a definitive relationship between significant permanent hearing impairment (greater than 10 dB) and prolonged exposure to aviation noise. (DNWG, 2013).”

A1.3.5 Nonauditory Health Effects

The general understanding of the possible effects of aircraft noise has been hindered by the publication of overly sensational and misleading articles in the popular press and by similarly sensational statements from reputed scientists, who are calling attention to their work. These statements have proven less than useful in the research and understanding of potential health effects from aircraft noise exposures. Moreover, the sensational statements have disturbing consequences because they provide misleading information, create unfounded worry and negative bias, distort certain facts, and add to a growing mistrust of science. These sensational statements have been firmly criticized by other researchers as lacking in rigor because they do not consider other known factors that cause health problems and because they analyze only a selection of the available data (ANR, 2010). The following discussion attempts to summarize the research into the possible nonauditory effects of aircraft noise based on a review of peer-reviewed research. The research reviewed ranges from general stress-related effects on health to specific individual studies on effects such as heart disease and stroke. In addition to these individual studies, there are summaries of meta-analyses of pooled results from individual studies addressing the same issue. The meta-analyses evaluate the studies for consistent results among the smaller individual studies, and they derive effect estimates from the different studies for a quantitative risk assessment (Babisch, 2013). Meta-analysis is an analytical technique designed to summarize the results of multiple smaller studies in order to increase the sample size and to identify patterns among the several smaller studies. The validity of meta-analysis is highly dependent on the quality of the included smaller studies because it cannot correct the poor design and/or bias of the original studies. Because of these limitations, a meta-analysis of several smaller studies cannot predict the results of a single large study and may result in misleading information for the general public.

A1.3.5.1 Overview

The potential for aircraft noise to impair one's health deserves special attention and accordingly has been the subject of numerous epidemiological studies and meta-analyses of the gathered data. The basic premise is that noise can cause annoyance, annoyance can cause stress, and prolonged stress is known to be a contributor to a number of health disorders, such as hypertension, myocardial infarction (heart attack), cardiovascular disease, and stroke (Munzel et al., 2014). According to Kryter and Poza (1980), "It is more likely that noise-related general ill-health effects are due to the psychological annoyance from the noise interfering with normal everyday behavior than it is from the noise eliciting, because of its intensity, reflexive response in the autonomic or other physiological systems of the body."

The connection between annoyance and stress and health issues requires careful experimental design because of the large number of confounding issues, such as heredity, medical history, smoking, diet, lack of exercise, and air pollution. Some highly publicized reports on health effects have, in fact, been rooted in poor science. Meecham and Shaw (1979) apparently found a relation between noise levels and mortality rates in neighborhoods located under the approach path to LAX. When the same data were analyzed by others (Frerichs et al., 1980), no relationship was found. Jones and Tauscher (1978) found a high rate of birth defects for the same neighborhoods. But when the Centers for Disease Control performed a more thorough study near Atlanta's Hartsfield International Airport, no relationships were found for DNL greater than 65 dB (Edmonds et al., 1979).

An early study by Cantrell (1974) confirmed that noise can provoke stress, but it noted that results on its effect on cardiovascular health were contradictory. Some studies in the 1990s found a connection between aircraft noise and increased blood pressure (Michalak et al., 1990; Ising et al., 1990; Rosenlund et al., 2001), while others did not (Pulles et al., 1990). This inconsistency in results led the WHO in 2000 to conclude that there was only a weak association between long-term noise exposure and hypertension and cardiovascular effects, and that a dose-response relationship could not be established (WHO, 2000). Later, van Kempen concluded that "Whereas noise exposure can contribute to the prevalence of cardiovascular disease, the evidence for a relation between noise exposure and ischemic heart disease is still inconclusive" (van Kempen et al., 2002).

To put the Odds Ratio (OR) number in context, an OR of 1.5 would be considered a weak relationship between noise and health; 3.5 would be a moderate relationship; 9.0 would be a strong relationship; and 32 a very strong relationship (Cohen, 1988).

More recently, major studies have been conducted in an attempt to identify an association between noise and health effects, develop a dose-response relationship, and identify a threshold below which the effects are minimal. The most important of these are briefly described below. In these studies, researchers usually present their results in terms of the Odds Ratio, which is the ratio of the odds that health will be impaired by an increase in noise level of 10 dB to the odds that health would be impaired without any noise exposure. An OR of 1.25 means that there is a 25-percent increase in likelihood that noise will impair health. To put the OR number in context, an OR of 1.5 would be considered a weak relationship between noise and health; 3.5 would be a moderate relationship; 9.0 would be a strong relationship; and 32 a very strong relationship (Cohen, 1988). For examples, the OR for the relationship between obesity and hypertension is 3.4 (Pikilidou et al., 2013), and the OR for the relationship between smoking and coronary heart disease is 4.4 (Rosengren et al., 1992). The summary of these studies shows that the relationship between noise and impaired health is a very weak one because none of the statistically significant ORs were greater than 1.5. Most of the ORs were less than 1.2.

A1.3.5.2 Blood Pressure and Hypertension

- The carefully designed HYENA study was conducted around six European airports from 2002 through 2006 (Jarup et al., 2005, 2007, 2008; Babisch et al., 2008). The study covered 4,861 subjects, aged between 45 and 70. Blood pressure was measured, and questionnaires were administered for health, socioeconomic, and lifestyle factors, including diet and physical exercise. Noise from aircraft and highways was predicted from models.

  HYENA study results showed an OR less than 1 for the association between daytime aircraft noise and hypertension, which was not statistically significant[2] and indicated no positive association. The OR for the relationship between nighttime aircraft noise and hypertension was 1.14--a result that was marginally significant statistically. For daytime road traffic noise, the OR

[2] In many of the studies reported above, the researchers use the word "significant" to describe a relationship between noise and health, conjuring up the idea that the relationship is strong and that the effect is large. But this is an inappropriate and misleading use of the word in statistical analysis. What the researchers really mean is that the relationship is "statistically significant" in that they are sure that it is real. It does not mean that the effect is large or important, or that it has any decision-making utility. A relationship can be statistically significant, i.e. real, while being weak, or small and insignificant.

was 1.1 and not significant. The measured effects were small and not necessarily distinct from other events. A close review of the data for nighttime aircraft noise raised some questions about the data and the methods employed (ACRP, 2008). Using data from the HYENA study, Haralabidis et al. (2008) reported an increase in systolic blood pressure of 6.2 millimeters of mercury (mmHg) for aircraft noise events (about 6 percent) and an increase of 7.4 mmHg (about 7 percent) for other indoor noises, such as snoring; a snoring partner and road traffic had similar impacts on blood pressure.

- Ancona et al. (2010) reported a study on a randomly selected sample of subjects aged 45 to 70 years who had lived in the study area for at least 5 years. Personal data were collected via interview, and blood pressure measurements were taken for a study population of 578 subjects. No statistically significant association was found between aircraft noise levels and hypertension for noise levels above 75 dB $L_{eq(24)}$ compared to levels below 65 dB. However, there was an increase in nocturnal systolic pressure of 5.4 mmHg (about 5 percent) for subjects in the highest exposure category (greater than or equal to 75 dB).
- Eriksson et al. (2007) found that for subjects exposed to energy-averaged levels above 50 dBA, the adjusted relative risk for hypertension was 1.19 (95-percent CI = 1.03 to 1.37). Maximum aircraft noise levels presented similar results, with a relative risk of 1.20 (1.03 to 1.40) for those exposed above 70 dBA. Stronger associations were suggested among older subjects, those with a normal glucose tolerance, nonsmokers, and subjects not annoyed by noise from other sources. The study comprised a cohort of 2,754 men in four municipalities around Stockholm Arlanda airport who were followed from 1992 to 1994 and 2002 to 2004.
- Matsui et al. (2008) reported higher OR for noise levels greater than L_{den} 70 dB, but not altogether statistically significant, for hypertension from the effects of military aircraft noise at Kadena Air Base in Okinawa, Japan. The study was conducted in 1995 and 1996 but used older noise data that were not necessarily appropriate for the same time period.
- A study of Noise-Related Annoyance, Cognition and Health (NORAH), designed to identify transportation noise effects in communities around German airports, has reported results of self-monitoring of blood pressure of approximately 2,000 residents near Frankfurt Airport exposed to aircraft $L_{eq(24)}$ in the range of 40 to 65 dB during the period 2012 to 2014 after the opening of a new runway (Shreckenberg and Guski, 2015). The results showed small positive effects of noise on blood pressure without statistical significance. No statistically significant effect was determined between aircraft noise and hypertension as defined by the WHO.
- A meta-analysis of Huang el al. (2015) examined four research studies comprising a total of 16,784 residents. The overall OR for hypertension in residents with aircraft noise exposure was 1.36 for men and statistically significant, and 1.31 and not statistically significant for women. No account was taken for any confounding factors. The meta-analysis suggests that aircraft noise could contribute to the prevalence of hypertension, but the evidence for a relationship between aircraft noise exposure and hypertension is still inconclusive because of limitations in study populations, exposure characterization, and adjustment for important confounders.
  - o The four studies in Huang's meta-analysis include one by Black et al. (2007) that purports to show relatively high OR values for self-reported hypertension, but these results only applied to a select subset of those surveyed that reported high noise stress. When this data set is excluded, Huang's meta-analysis yields results similar to those obtained in the HYENA and NORAH studies. Furthermore, the longitudinal

study included in the analysis that followed 4,721 people for 8 years (Eriksson et al., 2010) reported an OR of 1.02, which was not statistically significant.

- Rhee et al. (2008) found that subjects exposed to helicopter noise had a significantly higher prevalence of hypertension than the unexposed control group. Although a source-specific difference in the risk of cardiovascular disease by environmental noise exposure is suggested, no other study has evaluated whether or not exposure to noise from helicopters differs from exposure to noise from fighter jets in their influence on the prevalence of hypertension.
- Hwang et al. (2012) conducted a 20-year prospective cohort study of 1,301 aviation workers in Taiwan to follow AGT genotypes (TT, TM, and MM) across four exposure categories according to the levels of noise representing high (>80 dBA), medium (80-65 dBA), and low exposure (64-50 dBA) and the reference level (49-40 dBA). AGT (TT vs MM adjusted incidence rate ratio [IRR] 1.77, 95-percent CI 1.24 to 2.51) and noise exposure (high and medium combined) during 3 to 15 years (adjusted IRR 2.35, 95-percent CI 1.42 to 3.88) were independent determinants of hypertension. Furthermore, the risk of hypertension increased with noise exposure (adjusted IRR 3.73, 95-percent CI 1.84 to 7.56) among TT homozygotes but not among those with at least one M allele (Rothman synergy index = 1.05).
- Haralabidis et al. (2011) studied the association between exposure to transportation noise and blood pressure reduction during nighttime sleep utilizing 24-hour ambulatory blood pressure measurements at 15-minute intervals carried out on 149 persons living near four major European airports. Although road traffic noise exposure was found to decrease blood pressure dipping in diastolic blood pressure, no associated decrease in dipping was found for aircraft noise exposure.

A1.3.5.3 Heart Disease and Stroke

- Huss et al. (2010) examined the risk of mortality from myocardial infarction (heart attack) resulting from exposure to aircraft noise using the Swiss National database of mortality records for the period 2000 to 2005. The analysis was conducted on a total of 4.6 million people, with 15,500 deaths from acute myocardial infarction. The results showed that the risk of death from all circulatory diseases combined was not associated with aircraft noise, and there was not any association between noise and the risk of death from stroke. The overall risk of death from myocardial infarction alone was 1.07 and not statistically significant, but it was higher (OR = 1.3 and not statistically significant) in people exposed to aircraft noise of 60 dB DNL or greater for 15 years or more. The risk of death from myocardial infarction was also higher (OR = 1.10), and statistically significant, for those living near a major road. Cardiovascular risk factors, such as smoking, were not directly taken into account in this study.
- Floud (2013) used the HYENA data to examine the relationship between noise levels and self-reported heart disease and stroke. There was no association for daytime noise and no statistically significant association for nighttime noise. However, for those exposed to nighttime aircraft noise for more than 20 years, the OR was 1.25 per 10 dB increase in noise (L_{night}) and marginally significant.
- Correia et al. (2013) evaluated the risk of hospitalization for cardiovascular diseases in older people (65 years of age and older) residing in areas exposed to a DNL of at least 45 dB around U.S. airports. Health insurance data from 2009 Medicare records were examined for approximately 6 million people living in neighborhoods around 89 airports in the U.S. The

potential confounding effect of socioeconomic status was extracted from several zip-code-level variables from the 2000 U.S. Census. No controls were included for smoking or diet, both of which are strong risk factors for cardiovascular disease. Noise levels were calculated at census block centroids. Taking into account the potential effects of air pollution, they report an OR of 1.035, which was marginally significant statistically. While the overall results show a link between increased noise and increased health risk, some of the individual airport data show a decreased health risk with increased aircraft noise exposure.

- Hansell et al. (2013) investigated the association of aircraft noise with risk of hospital admission for, and mortality from, stroke, coronary heart disease, and cardiovascular disease in neighborhoods around London's Heathrow airport exposed to an equivalent sound level over 16 hours of at least 50 dB. The data were adjusted for age, sex, ethnicity, deprivation, and a smoking proxy (lung cancer mortality) at the census area level but not at the individual level. It was important to consider the effect of ethnicity (in particular, South Asian ethnicity, which is itself strongly associated with risk of coronary heart disease). The reported ORs for stroke, heart disease, and cardiovascular disease were 1.24, 1.21, and 1.14, respectively. Similar results were reported for mortality. The results suggest a higher risk of mortality from coronary heart disease than cardiovascular disease, which seems counter-intuitive given that cardiovascular disease encompasses all the diseases of the heart and circulation, including coronary heart disease and stroke along with heart failure and congenital heart disease (ERCD, 2014).
- Evrard et al. (2015) studied mortality rates for 1.9 million residents living in 161 communes near three major French airports (Paris-Charles de Gaulle, Lyon Saint-Exupéry, and Toulouse-Blagnac) for the period 2007 to 2010. Noise levels in the communes ranged from 42 to 64 dB L_{den}. Lung cancer mortality at the commune level was used as a proxy measure for smoking because data on individual smoking or smoking prevalence were not available. Noise exposure was expressed in terms of a population-weighted level for each commune. After adjustment for concentration of nitrogen dioxide, Risk Ratios (similar to Odds Ratios) per 10 dB increase in noise were found to be 1.18 for mortality from cardiovascular disease, 1.23 for mortality from coronary heart disease, and 1.31 for mortality from myocardial infarction. There was no association between mortality from stroke and aircraft noise. As the author notes, results at the commune level may not be applicable to the individual level.
- Seidler et al. (2016) found a statistically significant linear exposure-risk relationship with heart failure or hypertensive heart disease for aircraft traffic noise (1.6-percent risk increase per 10 dB increase in the 24-hour continuous noise level; 95-percent CI 0.3 to 3.0 percent), road traffic noise (2.4 percent per 10 dB; 95-percent CI 1.6 to 3.2 percent), and railway noise (3.1 percent per 10 dB; 95-percent CI 2.2 to 4.1 percent). For individuals with 24-hour continuous aircraft noise levels less than 40 dB and nightly maximum aircraft noise levels exceeding 50 dB six or more times, a significantly increased risk was observed. In general, risks of hypertensive heart disease were considerably higher than the risks of heart failure.
- The NORAH study also included an examination of the effect of aircraft noise on cardiovascular disease (heart attack and stroke) based on examination of health insurance data between 2006 and 2010 for approximately 1 million people over the age of 40 exposed to aircraft $L_{eq(24)}$ in the range of 40 to 65 dB (Shreckenberg and Guski, 2015). A questionnaire was used to obtain information on confounding factors. The results showed a non-statistically significant increase in risk for heart attack and stroke, and there was no apparent linear relationship between noise

level and either effect. There was, however, a marginally significant but small increase in risk for heart failure (OR of 1.016). The risk of cardiovascular disease was found to be greater for road and rail noise than for aircraft noise.

- Meta-analyses from Babisch and Kamp (2009), Babisch et al. (2013), and Babisch (2013) focused on epidemiological studies or surveys directly related to associations between aircraft noise and cardiovascular disease outcomes. Considering studies at 10 airports covering over 45,000 people, the pooled effect estimate of the relative risk for hypertension was 1.13 per 10 dBA and only marginally significant (WHO, 2011). One of the studies included in the analysis was for military aircraft noise at Okinawa (see Matsui et al., 2008) for which the OR was 1.27 but not statistically significant. The authors conclude that "No single, generalized and empirically supported exposure-response relationship can be established yet for the association between aircraft noise and cardiovascular risk due to methodological differences between studies." The pooled results show different slopes from different studies with different noise level ranges and methods being used.
- A meta-analysis of 11 studies on road and aircraft noise exposure in relation to incident cases of ischemic heart disease (IHD) was transformed into risk estimates per 10 dB increase in exposure by Vienneau et al. (2013). Pooled relative risk for IHD was 1.08 (1.03 to 1.14) per 10 dB increase in noise exposure, with the linear exposure-response starting at 50 dB.
- Passchier-Vermeer and Passchier (2000) reviewed studies on noise exposure and health effects and found sufficient evidence to support observation thresholds for hearing impairment, hypertension, IHD, annoyance, performance, and sleep disturbance due to noise exposure. The intent of the article was not to quantify impacts necessarily but instead to show that noise exposure can have a major effect in industrial societies in general, and it should be up to policy-makers and regulators to address this potential public health problem. In addition, the article recommended prioritizing additional study in two topic areas: 1) cardiovascular effects, and 2) the underlying mechanisms and the study of the effects of noise on children.
- Seidler et al. (2016) studied myocardial infarction risk due to aircraft, rail, and road noise by investigating patients of the Rhine-Main region of Germany who were diagnosed with myocardial infarction in the years 2006 through 2010. The linear model revealed a statistically significant risk increase due to road noise (2.8 percent per 10 dB rise, 95-percent CI [1.2; 4.5]) and railroad noise (2.3 percent per 10 dB rise [0.5; 4.2]) but not airplane noise. Airplane noise levels of 60 dB and above were associated with a higher risk of myocardial infarction (OR 1.42 [0.62; 3.25]). This higher risk is statistically significant if the analysis is restricted to patients who had died of myocardial infarction by 2014/2015 (OR 2.70 [1.08; 6.74]. In this subgroup, the risk estimators for all three types of traffic noise were of comparable magnitude (3.2 percent to 3.9 percent per 10 dB rise in noise level).
- Floud et al. (2011) examined the health effects of aircraft and road traffic noise exposure and the association with medication use. The cross-sectional study measured the use of prescribed antihypertensives, antacids, anxiolytics, hypnotics, antidepressants, and antiasthmatics in 4,861 persons living near seven airports in six European countries. Differences were found between countries in the effect of aircraft noise on antihypertensive use; for nighttime aircraft noise, a 10 dB increase in exposure was associated with ORs of 1.34 (95-percent CI, 1.14 to 1.57) for the UK and 1.19 (1.02 to 1.38) for the Netherlands, but no significant associations were found for other countries. For daytime aircraft noise, excess risks were found for the UK (OR 1.35; CI: 1.13 to

1.60), but a risk deficit was found for Italy (OR 0.82; CI: 0.71 to 0.96). There was an excess risk of taking anxiolytic medication in relation to aircraft noise (OR 1.28; CI: 1.04 to 1.57 for daytime and OR 1.27; CI: 1.01 to 1.59 for nighttime) that held across countries. The authors also found an association between exposure to 24-hour road traffic noise and the use of antacids by men (OR 1.39; CI 1.11 to 1.74).

A1.3.5.4 Mental Health Issues

- The NORAH study found a risk for unipolar depression to increase with exposure to aircraft noise (OR of 1.09), but the relationship was not linear, with the risk decreasing at the higher noise levels, so this result was not considered reliable (Schreckenberg and Guski, 2015).
- A survey study around Frankfurt Airport explored the relationship between aircraft, road traffic, and railway noise with Quality-of-Life (QoL) concerns for both health and environmental views (Schreckenberg et al., 2010). Aircraft noise affected environmental QoL and, to a lesser extent, health QoL. However, one of the study's observations concerned vulnerable groups, such as people with pre-existing illness and/or high noise sensitivities. This group may have limited resources to deal with noise, which can result in increased health problems.
- A study of the effect of aircraft noise around a large international airport, Schiphol Airport, near Amsterdam, found an association between the use of non-prescribed sleep medication or sedatives with aircraft noise during the late evening (10:00 P.M. to 11:00 P.M.). However, the correlation between L_{den} and L_{eq} (10:00 P.M. to 11:00 P.M.) to sleep aids (ORs 1.25 and 1.26, respectively) was not statistically significant (Franssen et al., 2004).
- Beutel et al. (2016) assessed the association of day and night noise annoyance from road traffic, aircraft, railways, industrial, and neighborhood indoor and outdoor noise to anxiety and depression in 15,000 people ages 35 to 74 living in the Rhein-Main Region of Germany. The source and magnitude of noise annoyance was measured by a self-administered questionnaire. Depression and anxiety were also assessed based on established questionnaires. In this study, aircraft noise was the most commonly reported source of annoyance, followed by road noise annoyance. Depression and anxiety increased with the degree of overall noise annoyance. Compared to no annoyance, prevalence ratios for depression and anxiety, respectively, increased from moderate (PR depression 1.20; 95-percent CI 1.00 to 1.45; PR anxiety 1.42; 95-percent CI 1.15 to 1.74) to extreme annoyance (PR depression 1.97; 95-percent CI 1.62 to 2.39; PR anxiety 2.14; 95-percent CI 1.71 to 2.67). Compared to other sources, aircraft noise annoyance was prominent, affecting almost 60 percent of the population. More simply stated, strong noise annoyance was associated with a two-fold higher prevalence of depression and anxiety in the general population. The authors admit that the identified association of annoyance, particularly with aircraft noise, to depression and anxiety is suggestive of a cause but that more study is needed to identify causal relationships. The authors recognized that pre-existing anxiety and depression could contribute to increased susceptibility to noise annoyance. Also, the focus of this paper was on subjective annoyance, which is not related to objective measures of noise exposition.
- Van den Berg et al. (2015) conducted a study that explored the suggested limitation in the Beutel (2016) study: the relationship between pre-existing concern and annoyance. More specifically, they sought insight in the relation between worry about a noise source and annoyance from that source. The motivation for the study was the longstanding important

public concern for noise at a political level in Amsterdam, despite implementation of several measures to reduce noise exposure, and the desire to find other variables such as reducing fear and worry that might also help the situation. Using questionnaires from 1,968 respondents and modeling flight-related noise levels in a greater cosmopolitan area around Amsterdam, the researchers found that respondents with a high risk of anxiety/depression are significantly more likely to be highly worried about living close to the airport or an air route compared to those with a low risk (all $p < 0.05$). Also, respondents who report to have bad/moderate health are significantly more likely to be highly worried about living close to the airport or an air route compared to those with good/excellent health. More generally, the results show there is a strong correlation between annoyance from aircraft or airport noise and worry about the risk for health and/or safety associated with living close to an air route or airport. Also, for aircraft noise, worry increases with both the subjective exposure (annoyance) and the objective exposure (sound level). The authors conclude “that more noise or odor is related to more worry, and this has more effect on persons that have a higher personal risk for being worried and annoyed.” When considered within the context of other studies, such as Beutel (2016), it would seem that those who are predisposed to worry are more susceptible to both annoyance and the negative health effects associated with anxiety and depression.

An individual with an increased sensitivity to sounds may have hyperacusis, which results in a lower tolerance of everyday sound (Aazh et al., 2018). A person with hyperacusis reacts differently to sounds due to reactions of increased distress and discomfort from everyday sounds. This condition arises from a problem with the auditory processes within an afflicted individual’s brain. The causes and diagnosis are not well understood (Aazh et al., 2018). Physical causes of hyperacusis may range from head injury, ear damage, or viral diseases, to TMJ. Neurologic causes may range from PTSD, chronic fatigue syndrome, depression, to migraine headaches (American Academy of Otolaryngology--Head and Neck Surgery, 2018). An individual with hyperacusis will also likely have tinnitus, which may lead to further discomfort. Hyperacusis can lead to misophonia, which may cause an individual to react with abnormally strong emotions and behaviors to specific sounds, but hyperacusis does not cause this reaction. Studies of misphonia are very limited at this time. Another condition that falls under the condition of hyperacusis is noise sensitivity (Aazh et al., 2018). A noise-sensitive individual is characteristically more prone to being annoyed by environmental noise compared to a non-noise-sensitive person regardless of the overall noise exposure (Kishikawa et al., 2006). This result indicates that the annoyance response for noise-sensitive people is not a direct function of noise exposure levels.

A1.3.5.5 Hospital and Care Facilities

The ACRP (ACRP, 2008) reviewed the literature available at that time to draw the following conclusions regarding noise impacts on patients in hospitals and care facilities:

> “A careful search of recent research regarding aviation noise and hospitals and care facilities identified no studies that addressed this specific issue. It is common for airport noise/land-use compatibility guidelines to list hospitals and care facilities as noise-sensitive uses, although there are no studies that have identified health effects associated with aviation noise. There are numerous studies that identify problems with internal hospital noises such as warning alarms,

> pagers, gurney collisions with doors, talking, etc.; however, none that addressed aviation or roadway noise."

The WHO (2000), in its Guidelines for Community Noise (Section 4.3.3), applies available information on noise to derive the following general guidance. However, the guidance is not informed by research on hospital and care facility effects from aircraft noise.

> "For most spaces in hospitals, the critical effects of noise are on sleep disturbance, annoyance and communication interference, including interference with warning signals. The L_{Amax} of sound events during the night should not exceed 40 dB indoors. For wardrooms in hospitals, the guideline values indoors are 30 dB L_{Aeq}, together with 40 dB L_{Amax} during the night. During the day and evening the guideline value indoors is 30 dB L_{Aeq}. The maximum level should be measured with the instrument set at '*fast*'.
>
> Since patients have less ability to cope with stress, the equivalent sound pressure level should not exceed 35 dB L_{Aeq} in most rooms in which patients are being treated or observed. Particular attention should be given to the sound pressure levels in intensive care units and operating theatres. Sound inside incubators may result in health problems, including sleep disturbance, and may lead to hearing impairment in neonates. Guideline values for sound pressure levels in incubators must await future research."

A1.3.5.6 Summary of Nonauditory Effects

Research studies seem to indicate that aircraft noise may contribute to the risk of health disorders, along with other factors such as heredity, medical history, smoking, alcohol use, diet, lack of exercise, and air pollution, but that the measured effect is small compared to these other factors and often not statistically significant--i.e., not necessarily real. Despite some sensational articles purporting otherwise and the intuitive feeling that noise in some way must impair health, there are no studies that definitively show a causal and significant relationship between aircraft noise and health. Such studies are notoriously difficult to conduct and interpret because of the large number of confounding factors that have to be considered for their effects to be excluded from the analysis. The WHO notes that there is still considerable variation among studies (WHO, 2011). And, almost without exception, research studies conclude that additional research is needed to determine whether such a causal relationship exists. The European Network on Noise and Health (ENNAH, 2013), in its summary report of 2013, concludes that "…..while the literature on non-auditory health effects of environmental noise is extensive, the scientific evidence of the relationship between noise and non-auditory effects is still contradictory."

As a result, it is not possible to state that there is sound scientific evidence that aircraft noise is a significant contributor to health disorders.

A1.3.6 Performance Effects

The effect of noise on the performance of activities or tasks has been the subject of many studies. Some of these studies have found links between continuous high noise levels and performance loss. Noise-induced performance losses are most frequently reported in studies where noise levels are above 85 dB. Moderate noise levels appear to act as a stressor for more sensitive individuals performing a difficult psychomotor task. Little change has typically been found in low-noise cases; however, cognitive learning differences were measured in subjects exposed to noise of passing aircraft with maximum amplitudes of 48 dBA, presented once per minute, while performing text learning compared to a control group exposed to 35 dBA (Trimmel et al., 2012). The findings suggest that background noise below 50 dBA results in impaired and changed structures of learning, as indicated by reproduction scores, because test persons are less able to switch between strategies

While the results of research on the general effect of periodic aircraft noise on performance have yet to yield definitive criteria, several general trends have been noted, including:

- A periodic intermittent noise is more likely to disrupt performance than a steady-state continuous noise of the same level. Flyover noise, due to its intermittent nature, might be more likely to disrupt performance than a steady-state noise of equal level.
- Noise is more inclined to affect the quality than the quantity of work.
- Noise is more likely to impair the performance of tasks that place extreme physical and/or mental demands on workers.

A1.3.7 Noise Effects on Children

Recent studies on school children indicate a potential link between aircraft noise and both reading comprehension and learning motivation. The effects may be small but of particular concern for children who are already scholastically challenged.

A1.3.7.1 Effects on Learning and Cognitive Abilities

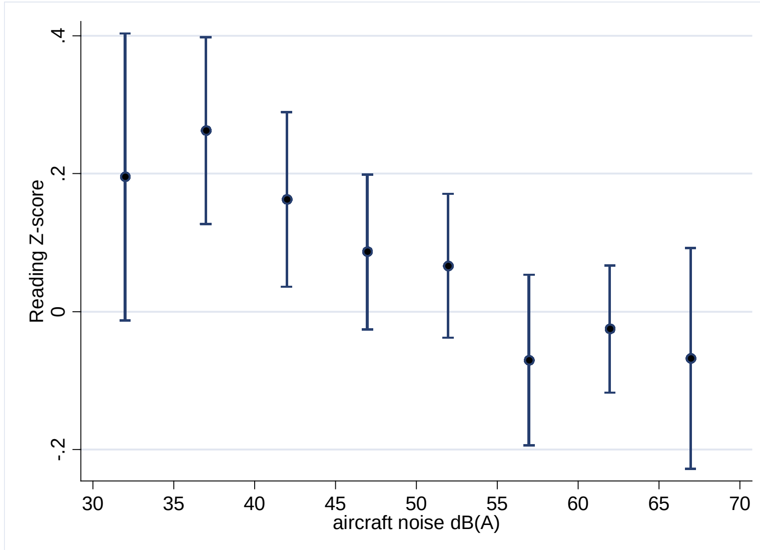
Early studies in several countries (Cohen et al., 1973, 1980, 1981; Bronzaft and McCarthy, 1975; Green et al., 1982; Evans et al., 1998; Haines et al., 2002; Lercher et al., 2003) showed lower reading scores for children living or attending school in noisy areas than for children away from those areas. In some studies, noise-exposed children were less likely to solve difficult puzzles or more likely to give up while attempting to do so.

A longitudinal study reported by Evans et al. (1998) conducted prior to relocation of the old Munich Airport in 1992, reported that high noise exposure was associated with deficits in long-term memory and reading comprehension in children with a mean age of 10.8 years. Two years after the closure of the airport, these deficits disappeared, indicating that noise effects on cognition may be reversible if exposure to the noise ceases. Most convincing was the finding that deficits in memory and reading comprehension developed over the two-year follow-up for children who became newly noise exposed near the new airport.

More recently, the Road Traffic and Aircraft Noise Exposure and Children's Cognition and Health (RANCH) study (Stansfeld et al., 2005; Clark et al., 2005) compared the effect of aircraft and road traffic noise on over 2,000 children in three countries. This was the first study to derive exposure-effect associations for a range of cognitive and health effects and the first to compare effects across countries.

The study found a linear relation between chronic aircraft noise exposure and impaired reading comprehension and recognition memory. No associations were found between chronic road traffic noise exposure and cognition. Conceptual recall and information recall surprisingly showed better performance in high road-traffic-noise areas. Neither aircraft noise nor road traffic noise affected attention or working memory (Stansfeld et al., 2005; Clark et al., 2005).

Figure A-12 shows RANCH's result relating noise to reading comprehension. It shows that reading falls below average (a z-score of 0) at L_{eq} greater than 55 dB. Because the relationship is linear, reducing exposure at any level should lead to improvements in reading comprehension.



Sources: Stansfeld et al. 2005; Clark et al. 2005

Figure A-12 RANCH Study Reading Scores Varying with L_{eq}

The RANCH study observed that children may be exposed to aircraft noise for many of their childhood years and the consequences of long-term noise exposure were unknown. A follow-up study of the children in the RANCH project is being analyzed to examine the long-term effects on children's reading comprehension (Clark et al., 2009). Preliminary analysis indicated a trend for reading comprehension to be poorer at 15 to 16 years of age for children who attended noise-exposed primary schools. An additional study utilizing the same data set (Clark et al., 2012) investigated the effects of traffic-related air pollution and found little evidence that air pollution moderated the association of noise exposure on children's cognition.

There was also a trend for reading comprehension to be poorer in aircraft-noise-exposed secondary schools. Significant differences in reading scores were found between primary school children in the two different classrooms at the same school (Bronzaft and McCarthy, 1975). One classroom was exposed to high levels of railway noise, while the other classroom was quiet. The mean reading age of the noise-exposed children was 3 to 4 months behind that of the control children. Studies suggest that the evidence of the effects of noise on children's cognition has grown stronger over recent years (Stansfeld and Clark, 2015), but further analysis adjusting for confounding factors is ongoing and is needed to confirm these initial conclusions.

Studies identified a range of linguistic and cognitive factors to be responsible for children´s unique difficulties with speech perception in noise. Children have lower stored phonological knowledge to reconstruct degraded speech, reducing the probability of successfully matching incomplete speech input when compared with adults. Additionally, young children are less able than older children and adults to make use of contextual cues to reconstruct noise-masked words presented in sentential context (Klatte et al., 2013).

FICAN funded a pilot study to assess the relationship between aircraft noise reduction and standardized test scores (Eagan et al., 2004; FICAN, 2007). The study evaluated whether abrupt aircraft noise reduction within classrooms, from either airport closure or sound insulation, was associated with improvements in test scores. Data were collected in 35 public schools near three airports in Illinois and Texas. The study used several noise metrics. These were, however, all computed indoor levels, which makes it hard to compare with the outdoor levels used in most other studies.

The FICAN study found a significant association between noise reduction and a decrease in failure rates for high school students, but not middle or elementary school students. There were some weaker associations between noise reduction and an increase in failure rates for middle and elementary schools. Overall, the study found that the associations observed were similar for children with or without learning difficulties and between verbal and math/science tests. As a pilot study, the FICAN study was not expected to obtain final answers, but it provided useful indications (FICAN, 2007).

A recent study of the effect of aircraft noise on student learning (Sharp et al., 2013) examined student test scores at a total of 6,198 U.S. elementary schools, 917 of which were exposed to aircraft noise at 46 airports and with noise exposures exceeding 55 dB DNL. The study found small but statistically significant associations between airport noise and student mathematics and reading test scores, after taking demographic and school factors into account. Associations were also observed for ambient noise and total noise on student mathematics and reading test scores, suggesting that noise levels per se, as well as from aircraft, might play a role in student achievement. Recent evidence suggests that potential negative effects on classroom performance can be due to chronic ambient noise exposure. A study of French 8- and 9-year-old children found a significant association between ambient noise levels in urban environments due primarily to road noise (Pujol et al., 2014). The study estimated noise levels at children's bedrooms (L_{den}) and found a modest effect of lower scores on French tests, and these lower scores were associated with higher L_{den} at children's homes. Once adjusted for classroom $L_{Aeq,day}$, the association between L_{den} and math test scores became borderline significant.

As part of the NORAH study conducted at Frankfurt Airport, reading tests were conducted on 1,209 school children at 29 primary schools. It was found that there was a small decrease in reading performance that corresponded to a 1-month reading delay. However, a recent study observing children at 11 schools surrounding LAX found that the majority of distractions to elementary age students were other students, followed by themselves, which includes playing with various items and daydreaming. Less than 1 percent of distractions were caused by traffic noise (National Academies of Sciences, Engineering, and Medicine, 2017).

While there are many factors that can contribute to learning deficits in school-aged children, there is increasing awareness that chronic exposure to high aircraft noise levels may impair learning. This awareness has led the WHO and a North Atlantic Treaty Organization working group to conclude that daycare centers and schools should not be located near major sources of noise, such as highways, airports, and industrial sites (North Atlantic Treaty Organization, 2000; WHO, 1999). The awareness has also led to the classroom noise standard discussed earlier (ANSI, 2010).

A1.3.7.2 Health Effects on Children

A number of studies, including some of the cognitive studies discussed above, have examined the potential for effects on children's health. Health effects include annoyance, psychological health impacts, coronary risk, stress hormones, sleep disturbance, and hearing loss.

Annoyance. Chronic noise exposure causes annoyance in children (Bronzaft and McCarthy, 1975; Evans et al., 1995). Annoyance among children tends to be higher than among adults, and there is little habituation (Haines et al., 2001a). The RANCH study found annoyance may play a role in how noise affects reading comprehension (Clark et al., 2005).

Psychological Health. The available literature on psychological health impacts of noise exposure reveals inconsistent findings that are perhaps suggestive of highly situational-specific factors. Lercher et al. (2002) found an association between noise and teacher ratings of psychological health, but only for children with biological risk defined by low birth weight and/or premature birth. Haines et al. (2001b) found that children exposed to aircraft noise had higher levels of psychological distress and hyperactivity. Stansfeld et al. (2009) replicated the hyperactivity result, but not the result for distress. Crombie et al. (2011) found similar hyperactivity results but no significant associations between aircraft noise at school and later mental health issues in children at risk at birth--i.e., those with low birth weight.

Dreger et al. (2015) investigated the influence of different environmental noise sources at children's homes on the incidence of mental health problems in school-aged children. Using a survey of reported level of day and night annoyance by parents as the metric of noise level, the study identified an association between exposure to noise at home and mental health problems such as emotional symptoms, conduct problems, and hyperactivity. Road noise was the most common exposure and was significantly associated with the total difficulties score, emotional symptoms, and conduct problems. Noise by neighbors was associated with conduct problems and hyperactivity. However, aircraft noise (by day) and construction work (by day) were not associated with any of the SDQ categories at a significant level. More generally, and perhaps more importantly, the study found that children who were in the group of constant high exposure, and therefore were continuously exposed for a long time, had higher risk for mental health problems. The authors recognized the lack of quantitative noise measurements as an important study limitation but provide evidence from prior studies indicating reported annoyance as a good proxy.

Hjortebjerg et al. (2016) used noise models to determine average time-weighted road and railroad noise exposure for 46,940 children from birth to age 7 years. Airfield noise was similarly determined but only evaluated as a confounding variable, as was air pollution. A 10 dB increase in average time-weighted road traffic noise exposure from birth to 7 years of age was associated with a 7-percent increase in abnormal versus normal total difficulties scores; 5-percent increases in borderline and abnormal hyperactivity/inattention subscale scores, respectively; and 5-percent and 6-percent increases in abnormal conduct problem and peer relationship problem subscale scores, respectively. Exposure to road traffic noise during pregnancy was not associated with child behavioral problems at 7 years of age. While this study is quantitative, its application to airfield noise is limited due to the different nature of road versus airfield noise.

As with studies of adults, the available evidence suggests that chronic noise exposure is probably not associated with serious psychological illness, but there may be effects on well-being and quality of life. Further research is needed.

Coronary Risk. The HYENA study discussed earlier indicated a possible relation between noise and hypertension in older adults. Cohen et al. (1980, 1981) found some increase in blood pressure among school children, but this increase was within the normal range and not indicating hypertension. Hygge et al. (2002) found mixed effects. The RANCH study found some effect for children at home and at night but not at school (van Kempen, 2006). In the Munich study (Evans et al., 1998), chronic noise exposure was found to be associated with both baseline systolic blood pressure and lower reactivity of systolic blood pressure to a cognitive task presented under acute noise. After the new airport opened, a significant increase in systolic blood pressure was observed, providing evidence for a causal link between chronic noise exposure and raised blood pressure. No association was found between noise and diastolic blood pressure or reactivity (Stansfeld and Crombie, 2011; Stansfeld, 2015).

However, the relationship between aircraft noise and blood pressure was not fully consistent between surveys in different countries. These findings, taken together with those from previous studies, suggest that no unequivocal conclusions can be drawn about the association between aircraft noise exposure and blood pressure. Overall, the evidence for noise effects on children's blood pressure is mixed and less certain than for noise effects on older adults.

Stress Hormones. Some studies investigated hormonal levels between groups of children exposed to aircraft noise and those in a control group. Two studies analyzed cortisol and urinary catecholamine levels in school children as measurements of stress response to aircraft noise (Haines et al., 2001a, 2001b, 2001c). In both instances, there were no differences between the aircraft-noise-exposed children and the control groups.

Sleep Disturbance. A sub-study of RANCH in a Swedish sample used sleep logs and the monitoring of rest/activity cycles to compare the effect of road traffic noise on child and parent sleep (Ohrstrom et al., 2006). An exposure-response relationship was found for sleep quality and daytime sleepiness for children. While this suggests effects of noise on children's sleep disturbance, it is difficult to generalize from one study. Davies (2012) discusses how a study in France among 10-year-old schoolchildren showed that school noise exposure was associated with higher cortisol levels, indicative of a stress reaction; these finding are supported by a Swedish study that found increased prevalence of reduced diurnal cortisol variability in relation with classroom L_{eq} during school day noise levels of between 59 and 87 dBA.

A1.3.8 Property Values

Noise, along with many other conditions, (i.e. location, number of rooms, crime rate, school district) can affect the value of homes. Economic studies of property values based on selling prices and noise have been conducted to find a direct relation. Studies of the effects of aviation noise on property values are highly complex due to differing community environments, market conditions, and methodological approaches, so study results generally range from some negative impacts to significant negative impacts. However, studies that considered positive aspects of airport accessibility have found net positive impacts on property values, while others found poorly informed buyers often bid higher prices in noise-impacted areas, only to potentially be disappointed after purchase (ACRP, 2008). The value-noise relation is usually presented as the Noise Depreciation Index (NDI), or Noise Sensitivity Depreciation Index, for the percent loss of value per dB (measured by the DNL metric). An early study by Nelson (1978) at three airports found an NDI of 1.8 to 2.3 percent per dB. Nelson also noted a decline in NDI over time, which he theorized could be due to either a change in population or the increase in commercial value of the property near airports. Crowley (1973) reached a similar conclusion. A larger study by Nelson (1980) studying property values near 18 airports found an NDI from 0.5 to 0.6 percent per dB.

In a review of property value studies, Newman and Beattie (1985) found a range of NDI from 0.2 to 2 percent per dB. They noted that many factors other than noise affected values. These socioeconomic factors include size of house, number of rooms per house, repair of the house, distance from amenities and business districts, and demographics.

Frankel (1991) conducted surveys of 200 realtors and 70 appraisers in 35 suburban communities near Chicago O'Hare International Airport and found that a significant segment of buyers lacked adequate information about the noise environment and often overbid, only to be disappointed after purchase. Frankel classified noise-affected property owners into two groups: one that moved to the location while the environment was quiet but later became noise-impacted and another that purchased from a previous owner while the property was already noise impacted. Frankel concluded that the former group members bore the true financial burden of airport noise.

Fidell et al. (1996) studied the influence of aircraft noise on actual sale prices of residential properties in the vicinity of a military base in Virginia and one in Arizona. They found no meaningful effect on home values. Their results may have been affected by non-noise factors, especially the wide differences in homes between the two study areas.

Tomkins (1998) conducted a study of the residential areas near Manchester Airport, England, and showed that when using the Noise and Number Index (no longer used but similar to DNL), there was no significant negative relationship between noise and property values. When L_{eq} measure was analyzed, fewer properties are included, but the most noise-blighted are identified. Ultimately, the proximity to the airport had a significant impact and was found to be a more important factor of property values than noise. This could be that potential buyers were more likely to be aware of potentially negative noise impacts when properties were closest to airports and much less aware at further distances.

Lipscomb (2003) analyzed the City of College Park, Georgia, and found that noise did not significantly affect the values of residential properties. Lipscomb concluded that local residents were more accepting of noise because many were employed in airport-related occupations, so the proximity provided offsetting benefits, such as short work commutes.

Recent studies of noise effects on property values have recognized the need to account for non-noise factors. Nelson (2004) analyzed data from 33 airports and discussed the need to account for those factors and the need for careful statistics. His analysis showed NDI from 0.3 to 1.5 percent per dB, with an average of about 0.65 percent per dB. Nelson (2007) and Andersson et al. (2013) discuss statistical modeling in more detail.

Enough data are available to conclude that aircraft noise has a real effect on property values. This effect falls in the range of 0.2 to 2.0 percent per dB, with the average on the order of 0.5 percent per dB. The actual value varies from location to location, and it is very often small compared to non-noise factors such as location, market conditions, neighborhood characteristics, and property age, size, and amenities.

A1.3.9 Noise-Induced Vibration Effects on Structures and Humans

The sound from an aircraft overflight travels from the exterior to the interior of a house in one of two ways: through the solid structural elements or directly through the air. Figure A-13 illustrates the sound transmission through a wall constructed with a brick exterior, stud framing, interior finished wall, and absorbent material in the cavity. The sound transmission starts with noise impinging on the wall exterior. Some of this sound energy will be reflected away, and some will make the wall vibrate. The vibrating wall radiates sound into the airspace, which in turn sets the interior finished surface vibrating, with some energy lost in the airspace. This surface then radiates sound into the dwelling interior. As the figure shows, vibrational energy also bypasses the air cavity by traveling through the studs and edge connections.

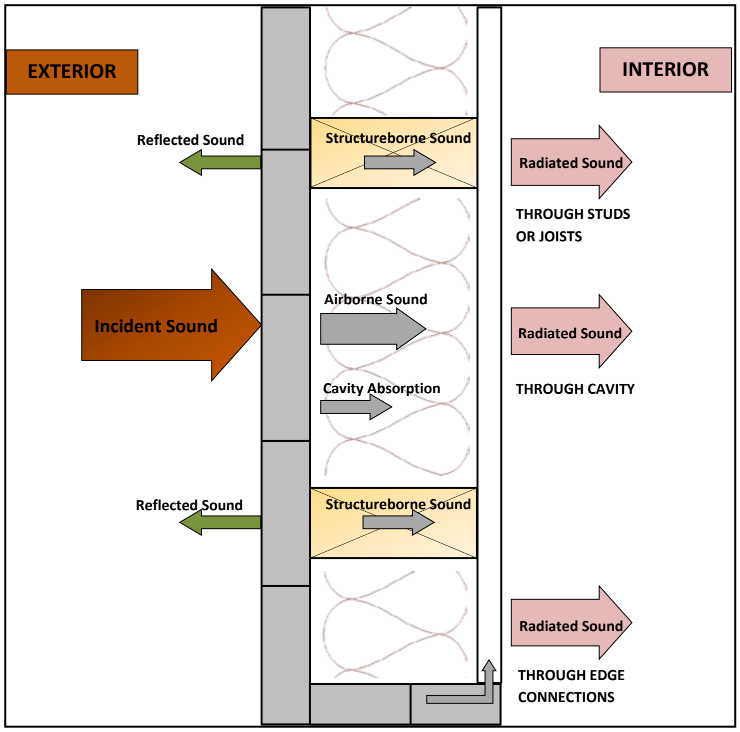


Figure A-13 Depiction of Sound Transmission through Built Construction

High noise levels can cause buildings to vibrate. If noise levels are high enough, building components can be damaged. The most sensitive components of a building are the windows, followed by plaster walls and ceilings. Possibility of damage depends on the sound pressures levels and the resonances of the building. While certain frequencies (such as 30 Hz for window breakage) may be of more concern than other frequencies, in general, only sounds lasting more than one second at greater than an unweighted sound level of 130 dB in the 1 Hz to 1,000 Hz frequency range are potentially damaging to structural components (CHABA, 1977; von Gierke and Ward, 1991). Sound levels from normal aircraft operations are typically much less than 130 dB. Even sounds from low-altitude flyovers of heavy aircraft do not reach the potential for damage (Sutherland, 1990).

Noise-induced structural vibration may cause annoyance to dwelling occupants because of induced secondary vibrations, or "rattle," of objects--hanging pictures, dishes, plaques, and bric-a-brac--within the dwelling. Loose window panes may also vibrate noticeably when exposed to high levels of airborne noise, causing homeowners to fear breakage. In general, rattling occurs at unweighted sound levels that last for several seconds at greater than 110 dB.

A field study conducted by Schomer and Neathammer (1985, 1987) examined the role of structural vibration and rattle in human response to helicopter noise. It showed that human response is strongly and negatively influenced when the noise induces noticeable vibration and rattles in the house structure. The A-frequency weighting was adequate to assess community response to helicopter noise when no vibration or rattle was induced. When rattle or vibrations were induced by the helicopter noise, however, A-weighting alone did not assess the community response adequately, such that significant corrections from 12 dB (for little vibration or rattles) to 20 dB (high level of vibration or rattles) needed to be applied for subjects indoors. It was also found that the presence or absence of high-level noise-induced vibration and rattles was strongly dependent on the helicopter's slant distance. It was recommended that no housing or noise-sensitive land uses be located in zones where high levels of vibration or rattle are induced by helicopter noise.

Community reactions to conventional helicopter noise from low numbers of operations for two helicopter types were studied by Fields and Powell (1987). Using resident interviews in combination with controlled helicopter operations, the authors obtained relations between the annoyance score and noise exposure for short-term (9-hour daytime) periods. It was determined that annoyance increased steadily with noise exposure measured in L_{eq} from 45 to 60 dBA for that period. Annoyance response in terms of percentage annoyed was also presented on this scale for various annoyance rating values. The shape of these curves is similar to the well-known dose-response relationship (Schultz curve) for general transportation noise but relates to only the 9-hour daytime period and with no direct comparison with long-term noise exposure.

In a later review of human response to aircraft noise and induced building vibration, Powell and Shepherd (1989) also indicate that in aircraft noise surveys, the annoyance scores are on average greater when vibration is detected than with no vibration detected. Based on the results of the study by Fields and Powell (1987), they conclude, however, that no effect of increased annoyance was found for cases where the helicopter noise level and slant distance were such that appreciable rattle was expected to occur, in contrast to the results of Schomer and Neathammer (1987). Powell and Shepherd (1989) also quote a laboratory study (Cawthorn et al., 1978) in which the sound of rattling glassware added to the aircraft flyover noises but did not increase the level of annoyance.

Community annoyance in the vicinity of airports due to noise-induced vibration and rattle resulting from aircraft ground operations was studied by Fidell et al. (1999) and summarized in the Minneapolis-St. Paul International Airport Low Frequency Noise (LFN) Expert Panel Report (Sutherland et al., 2000). These field surveys of operations in the vicinity of a major international airport indicated that low-frequency aircraft noise can lead to secondary vibration and rattle in residential structures, which may significantly increase annoyance. These studies, however, have been criticized (FICAN, 2002) due to the absence of direct measurements of vibration in support of the findings on the presence of perceptible vibration and rattle. These issues were further addressed by Hodgdon et al. (2007). It was confirmed that the highest levels of noise near the runway during start-of-takeoff-roll and acceleration and during thrust reversal are at frequencies below 200 Hz. It was also found that aircraft noise exposures that contained audible rattling were not the most annoying, likely because the rattle content was audible but not loud compared to the overall noise content. This result is consistent with an earlier study of human response to aircraft noise and induced building vibration (Powell and Shepherd, 1989).

In the assessment of vibration on humans, the following factors determine whether a person will perceive and possibly react to building vibrations:

1. Type of excitation: steady state, intermittent, or impulsive vibration.
2. Frequency of the excitation. ISO standard 2631-2 (ISO, 1989) recommends a frequency range of 1 to 80 Hz for the assessment of vibration on humans.
3. Orientation of the body with respect to the vibration.

4. The use of the occupied space (i.e., residential, workshop, hospital).
5. Time of day.

Table A-6 lists the whole-body vibration criteria from ISO 2631-2 for one-third octave frequency bands from 1 to 80 Hz.

Table A-6 Vibration Criteria for the Evaluation of Human Exposure to Whole-Body Vibration

Frequency (Hz)	*RMS Acceleration (m/s/s)* Combined Criteria Base Curve	*Residential Night*	*Residential Day*
1.00	0.0036	0.0050	0.0072
1.25	0.0036	0.0050	0.0072
1.60	0.0036	0.0050	0.0072
2.00	0.0036	0.0050	0.0072
2.50	0.0037	0.0052	0.0074
3.15	0.0039	0.0054	0.0077
4.00	0.0041	0.0057	0.0081
5.00	0.0043	0.0060	0.0086
6.30	0.0046	0.0064	0.0092
8.00	0.0050	0.0070	0.0100
10.00	0.0063	0.0088	0.0126
12.50	0.0078	0.0109	0.0156
16.00	0.0100	0.0140	0.0200
20.00	0.0125	0.0175	0.0250
25.00	0.0156	0.0218	0.0312
31.50	0.0197	0.0276	0.0394
40.00	0.0250	0.0350	0.0500
50.00	0.0313	0.0438	0.0626
63.00	0.0394	0.0552	0.0788
80.00	0.0500	0.0700	0.1000

Source: ISO, 1989

A1.3.10 Noise Effects on Terrain

It has been suggested that noise levels associated with low-flying aircraft may affect the terrain under the flight path by disturbing fragile soil or snow, especially in mountainous areas, thereby causing landslides or avalanches. There are no known instances of such events. It is improbable that such effects would result from routine subsonic aircraft operations.

A1.3.11 Noise Effects on Historical and Archaeological Sites

Historic buildings and sites can have elements that are more structurally fragile than conventional buildings. Aircraft noise may affect such sites more severely than newer, modern structures. In older structures, seemingly insignificant surface cracks caused by vibrations from aircraft noise may lead to greater damage from natural forces (Hanson et al., 1991). There are few scientific studies of such effects to provide guidance for their assessment.

One study involved measurements of noise and vibration in a restored plantation house, originally built in 1795. It is located 1,500 feet from the centerline at the departure end of Runway 19L at Washington

Dulles International Airport. The aircraft generating the sound measured was the Concorde. There was special concern for the building's windows because roughly half of the house's 324 panes were original. No instances of structural damage were found. Interestingly, despite the high levels of noise during Concorde takeoffs, the induced structural vibration levels were actually less than those induced by touring groups and vacuum cleaning (Wesler, 1977).

As for conventional structures, noise exposure levels for normally compatible land uses should also be protective of historic and archaeological sites. Unique sites should, of course, be analyzed for specific exposure.

A1.3.12 Effects on Domestic Animals and Wildlife

Hearing is critical to an animal's ability to react, compete, reproduce, hunt, forage, and survive in its environment. While the existing literature does include studies on possible effects of jet aircraft noise and sonic booms on wildlife, there appears to have been little concerted effort in developing quantitative comparisons of aircraft noise effects on normal auditory characteristics. Behavioral effects have been relatively well described, but the larger ecological context issues, and the potential for drawing conclusions regarding effects on populations, has not been well developed.

The relationships between potential auditory/physiological effects and species interactions with their environments are not well understood. Manci et al. (1988) assert that the consequences that physiological effects may have on behavioral patterns are vital to understanding the long-term effects of noise on wildlife. Questions regarding the effects (if any) on predator-prey interactions, reproductive success, and intra-inter specific behavior patterns remain.

The following discussion provides an overview of the existing literature on noise effects (particularly jet aircraft noise) on animal species. The literature reviewed here involves those studies that have focused on the observations of the behavioral effects that jet aircraft and sonic booms have on animals.

A great deal of research was conducted in the 1960s and 1970s on the effects of aircraft noise on the public and the potential for adverse ecological impacts. These studies were largely completed in response to the increase in air travel and as a result of the introduction of supersonic jet aircraft. According to Manci et al. (1988), the foundation of information created from that focus does not necessarily correlate or provide information specific to the impacts to wildlife in areas overflown by aircraft at supersonic speed or at low altitudes.

The abilities to hear sounds and noise and to communicate assist wildlife in maintaining group cohesiveness and survivorship. Social species communicate by transmitting calls of warning, introduction, and other types that are subsequently related to an individual's or group's responsiveness.

Animal species differ greatly in their responses to noise. Noise effects on domestic animals and wildlife are classified as primary, secondary, and tertiary. Primary effects are direct, physiological changes to the auditory system, and these most likely include the masking of auditory signals. Masking is defined as the inability of an individual to hear important environmental signals that may arise from mates, predators, or prey. There is some potential that noise could disrupt a species' ability to communicate or could interfere with behavioral patterns (Manci et al., 1988). Although the effects are likely temporary, aircraft noise may cause masking of auditory signals within exposed faunal communities. Animals rely on hearing to avoid predators, obtain food, and communicate with, and attract, other members of their species. Aircraft noise may mask or interfere with these functions. Other primary effects, such as ear drum rupture or temporary and permanent hearing threshold shifts, are not as likely, given the subsonic noise levels produced by aircraft overflights.

Secondary effects may include non-auditory effects such as stress and hypertension; behavioral modifications; interference with mating or reproduction; and impaired ability to obtain adequate food, cover, or water. Tertiary effects are the direct result of primary and secondary effects, and these include population decline and habitat loss. Most of the effects of noise are mild enough that they may never be detectable as variables of change in population size or population growth against the background of normal variation (Bowles, 1995). Other environmental variables (e.g., predators, weather, changing prey base, ground-based disturbance) also influence secondary and tertiary effects, and confound the ability to identify the ultimate factor in limiting productivity of a certain nest, area, or region (Smith et al., 1988). Overall, the literature suggests that species differ in their response to various types, durations, and sources of noise (Manci et al., 1988).

Many scientific studies have investigated the effects of aircraft noise on wildlife, and some have focused on wildlife “flight” due to noise. Animal responses to aircraft are influenced by many variables, including size, speed, proximity (both height above the ground and lateral distance), engine noise, color, flight profile, and radiated noise. The type of aircraft (e.g., fixed wing versus rotor-wing [helicopter]) and type of flight mission may also produce different levels of disturbance, with varying animal responses (Smith et al., 1988). Consequently, it is difficult to generalize animal responses to noise disturbances across species, especially with respect to habituation and ability to adapt to change.

One result of the Manci et al. (1988) literature review was the conclusion that, while behavioral observation studies were relatively limited, a general behavioral reaction in animals from exposure to aircraft noise is the startle response. The intensity and duration of the startle response appears to be dependent on which species is exposed, whether a group or an individual is exposed, and whether there have been some previous exposures. Responses range from flight, trampling, stampeding, jumping, or running, to movement of the head in the apparent direction of the noise source. Manci et al. (1988) reported that the literature indicated that avian species may be more sensitive to aircraft noise than mammals.

A1.3.12.1 Domestic Animals

Although some studies report that the effects of aircraft noise on domestic animals is inconclusive, a majority of the literature reviewed indicates that domestic animals exhibit some behavioral responses to military overflights but generally seem to habituate to the disturbances over a period of time. Mammals in particular appear to react to noise at sound levels higher than 90 dB, with responses including the startle response, freezing (i.e., becoming temporarily stationary), and fleeing from the sound source. Many studies on domestic animals suggest that some species appear to acclimate to some forms of sound disturbance (Manci et al., 1988). Some studies have reported such primary and secondary effects as reduced milk production and rate of milk release, increased glucose concentrations, decreased levels of hemoglobin, increased heart rate, and a reduction in thyroid activity. These latter effects appear to represent a small percentage of the findings occurring in the existing literature.

Some reviewers have indicated that earlier studies, and claims by farmers linking adverse effects of aircraft noise on livestock, did not necessarily provide clear-cut evidence of cause and effect (Cottereau, 1978). In contrast, many studies conclude that there is no evidence that aircraft overflights affect feed intake, growth, or production rates in domestic animals.

Cattle

In response to concerns about overflight effects on pregnant cattle, milk production, and cattle safety, the U.S. Air Force prepared a handbook for environmental protection that summarized the literature on the impacts of low-altitude flights on livestock (and poultry) and includes specific case studies conducted in numerous airspaces across the country. Adverse effects have been found in a few studies but have not been reproduced in other similar studies. One such study, conducted in 1983, suggested that two of 10 cows in late pregnancy aborted after showing rising estrogen and falling progesterone levels. These increased hormonal levels were reported as being linked to 59 aircraft overflights. The remaining eight cows showed no changes in their blood concentrations and calved normally. A similar study reported abortions occurred in three out of five pregnant cattle after exposing them to flyovers by six different aircraft. Another study suggested that feedlot cattle could stampede and injure themselves when exposed to low-level overflights (U.S. Air Force, 1994a).

A majority of the studies reviewed suggest that there is little or no effect of aircraft noise on cattle. Studies presenting adverse effects to domestic animals have been limited. A number of studies (Parker and Bayley, 1960; Casady and Lehmann, 1967; Kovalcik and Sottnik, 1971) investigated the effects of jet aircraft noise and sonic booms on the milk production of dairy cows. Through the compilation and examination of milk production data from areas exposed to jet aircraft noise and sonic boom events, it was determined that milk yields were not affected. This was particularly evident in those cows that had been previously exposed to jet aircraft noise.

A study examined the causes of 1,763 abortions in Wisconsin dairy cattle over a 1-year time period, and none were associated with aircraft disturbances (U.S. Air Force, 1993). In 1987, researchers contacted seven livestock operators for production data, and no effects of low-altitude and supersonic flights were noted. Of the 43 cattle previously exposed to low-altitude flights, three showed a startle response to an F/A-18 aircraft flying overhead at 500 feet above ground level (AGL) and 400 knots by running less than 10 meters. They resumed normal activity within 1 minute (U.S. Air Force, 1994a). Beyer (1983) found that helicopters caused more reaction than other low-aircraft overflights and that helicopters at 30 to 60 feet overhead did not affect milk production and pregnancies of 44 cows in a 1964 study (U.S. Air Force, 1994a).

Additionally, Beyer (1983) reported that five pregnant dairy cows in a pasture did not exhibit fright-flight tendencies or disturb their pregnancies after being overflown by 79 low-altitude helicopter flights and four low-altitude, subsonic jet aircraft flights. A 1956 study found that the reactions of dairy and beef cattle to noise from low-altitude, subsonic aircraft were similar to those caused by paper blowing about, unfamiliar persons, or other moving objects (U.S. Air Force, 1994a).

In a report to Congress, the U. S. Forest Service concluded that "evidence both from field studies of wild ungulates and laboratory studies of domestic stock indicate that the risks of damage are small (from aircraft approaches of 50-100 m), as animals take care not to damage themselves (U.S. Forest Service, 1992). If animals are overflown by aircraft at altitudes of 50-100 m, there is no evidence that mothers and young are separated, that animals collide with obstructions (unless confined) or that they traverse dangerous ground at too high a rate." These varied study results suggest that, although the confining of cattle could magnify animal response to aircraft overflight, there is no proven cause-and-effect link between startling cattle from aircraft overflights and abortion rates or lower milk production.

Horses

Horses have also been observed to react to overflights of jet aircraft. Several of the studies reviewed reported a varied response of horses to low-altitude aircraft overflights. Observations made in 1966 and 1968 noted that horses galloped in response to jet flyovers (U.S. Air Force, 1993). Bowles (1995) cites Kruger and Erath as observing horses exhibiting intensive flight reactions, random movements, and biting/kicking behavior. However, no injuries or abortions occurred, and there was evidence that the mares adapted somewhat to the flyovers over the course of a month (U.S. Air Force, 1994a). Although horses were observed noticing the overflights, it did not appear to affect either survivability or reproductive success. There was also some indication that habituation to these types of disturbances was occurring.

LeBlanc et al. (1991) studied the effects of F-14 jet aircraft noise on pregnant mares. They specifically focused on any changes in pregnancy success, behavior, cardiac function, hormone production, and rate of habituation. Their findings reported observations of “flight-fright” reactions, which caused increases in heart rates and serum cortisol concentrations. The mares, however, did habituate to the noise. Levels of anxiety and mass body movements were the highest after initial exposure, with intensities of responses decreasing thereafter. There were no differences in pregnancy success when compared to a control group.

Swine

Generally, the literature findings for swine appear to be similar to those reported for cows and horses. While there are some effects from aircraft noise reported in the literature, these effects are minor. Studies of continuous noise exposure (i.e., 6 hours and 72 hours of constant exposure) reported influences on short-term hormonal production and release. Additional constant exposure studies indicated the observation of stress reactions, hypertension, and electrolyte imbalances (Dufour, 1980). A study by Bond et al. (1963) demonstrated no adverse effects on the feeding efficiency, weight gain, ear physiology, or thyroid and adrenal gland condition of pigs subjected to observed aircraft noise. Observations of heart rate increase were recorded, noting that cessation of the noise resulted in the return to normal heart rates. Conception rates and offspring survivorship did not appear to be influenced by exposure to aircraft noise.

Similarly, simulated aircraft noise at levels of 100 to 135 dB had only minor effects on the rate of feed utilization, weight gain, food intake, or reproduction rates of boars and sows exposed, and there were no injuries or inner ear changes observed (Gladwin et al., 1988; Manci et al., 1988).

Domestic Fowl

According to a 1994 position paper by the U.S. Air Force on effects of low-altitude overflights (below 1,000 feet) on domestic fowl, overflight activity has negligible effects (U.S. Air Force, 1994b). The paper did recognize that given certain circumstances, adverse effects can be serious. Some of the effects can be panic reactions, reduced productivity, and effects on marketability (e.g., bruising of the meat caused during “pile-up” situations).

The typical reaction of domestic fowl after exposure to sudden, intense noise is a short-term startle response. The reaction ceases as soon as the stimulus is ended, and within a few minutes all activity returns to normal. More severe responses are possible depending on the number of birds, the frequency of exposure, and environmental conditions. Large flocks of birds, and birds not previously exposed, are more likely to pile up in response to a noise stimulus (U.S. Air Force, 1994b). According to studies and interviews with growers, it is typically the previously unexposed birds that incite panic crowding, and the tendency to do so is markedly reduced within five exposures to the stimulus (U.S. Air Force, 1994b). This suggests that the birds habituate relatively quickly. Egg productivity was not adversely affected by infrequent noise bursts, even at exposure levels as high as 120 to 130 dB.

Between 1956 and 1988, there were 100 recorded claims against the Navy for alleged damage to domestic fowl. The number of claims averaged three per year, with peak numbers of claims following publications of studies on the topic in the early 1960s. Many of the claims were disproved or did not have sufficient supporting evidence. The claims were filed for the following alleged damages: 55 percent for panic reactions, 31 percent for decreased production, 6 percent for reduced hatchability, 6 percent for weight loss, and less than 1 percent for reduced fertility (U.S. Air Force, 1994b).

The review of the existing literature suggests that there has not been a concerted or widespread effort to study the effects of aircraft noise on commercial turkeys. One study involving turkeys examined the differences between simulated versus actual overflight aircraft noise, turkey responses to the noise, weight gain, and evidence of habituation (Bowles et al., 1990). Findings from the study suggested that turkeys habituated to jet aircraft noise quickly, that there were no growth-rate differences between the experimental and control groups, and that there were some behavioral differences that increased the difficulty in handling individuals within the experimental group.

Low-altitude overflights were shown to cause turkey flocks that were kept inside turkey houses to occasionally pile up and experience high mortality rates due to the aircraft noise and a variety of disturbances unrelated to aircraft (U.S. Air Force, 1994b).

A1.3.12.2 Wildlife

Studies on the effects of overflights and sonic booms on wildlife have been focused mostly on avian species and on ungulates such as caribou (*Rangifer tarandus*) and bighorn sheep (*Ovis canadensis*). Few studies have been conducted on marine mammals, small terrestrial mammals, reptiles, amphibians, and carnivorous mammals. Generally, species that live entirely below the surface of the water have also been ignored due to the fact they do not experience the same level of sound as terrestrial species (National Park Service, 1994). Wild ungulates appear to be much more sensitive to noise disturbance than domestic livestock. This may be due to previous exposure to disturbances. One common factor appears to be that low-altitude flyovers seem to be more disruptive in terrain where there is little cover (Manci et al., 1988).

Mammals

<u>Terrestrial Mammals</u>

Studies of terrestrial mammals have shown that noise levels of 120 dB can damage mammals' ears, and levels at 95 dB can cause temporary loss of hearing acuity. Noise from aircraft has affected other large carnivores by causing changes in home ranges, foraging patterns, and breeding behavior. One study recommended that aircraft not be allowed to fly at altitudes below 2,000 feet AGL over important grizzly bear (*Ursus arctos horribilis*) and polar bear (*Ursus maritimus*) habitat. Wolves (*Canis lupus*) have been frightened by low-altitude flights that were 25 to 1,000 feet AGL. However, wolves have been found to adapt to aircraft overflights and noise as long as they were not being hunted from aircraft (Dufour, 1980).

Wild ungulates (American bison [*Bison bison*], caribou, bighorn sheep) appear to be much more sensitive to noise disturbance than domestic livestock (Weisenberger et al., 1996). Behavioral reactions may be related to the past history of disturbances by humans and aircraft. Common reactions of reindeer kept in an enclosure exposed to aircraft noise disturbance were a slight startle response, rising of the head, pricking ears, and scenting of the air. Panic reactions and extensive changes in behavior of individual animals were not observed. Caribou in Alaska exposed to fixed-wing aircraft and helicopters exhibited running and panic reactions when overflights were at an altitude of 200 feet or less. The reactions decreased with increased altitude of overflights, and, with more than 500 feet in altitude, the panic reactions stopped. Also, smaller groups reacted less strongly than larger groups. One negative effect of the running and avoidance behavior is increased expenditure of energy. For a 90-kilogram animal, the calculated expenditure due to aircraft harassment is 64 kilocalories per minute when running and 20 kilocalories per minute when walking. When conditions are favorable, this expenditure can be counteracted with increased feeding; however, during harsh winter conditions, this may not be possible. Incidental observations of wolves and bears exposed to fixed-wing aircraft and helicopters in the northern regions suggested that wolves are less disturbed than wild ungulates, while grizzly bears showed the greatest response of any animal species observed (Weisenberger et al., 1996).

It has been proven that low-altitude overflights do induce stress in animals. Increased heart rates, an indicator of excitement or stress, have been found in pronghorn antelope (*Antilocapra Americana*), elk (*Cervus Canadensis*), and bighorn sheep. As such reactions occur naturally as a response to predation, infrequent overflights may not, in and of themselves, be detrimental. However, flights at high frequencies over a long period of time may cause harmful effects. The consequences of this disturbance, while cumulative, are not additive. It may be that aircraft disturbance may not cause obvious and serious health effects, but coupled with a harsh winter, it may have an adverse impact. Research has shown that stress induced by other types of disturbances produces long-term decreases in metabolism and hormone balances in wild ungulates.

Behavioral responses can range from mild to severe. Mild responses include head raising, body shifting, or turning to orient toward the aircraft. Moderate disturbance may be nervous behaviors, such as trotting a short distance. Escape is the typical severe response.

<u>Marine Mammals</u>

The physiological composition of the ear in aquatic and marine mammals exhibits adaptation to the aqueous environment. These differences (relative to terrestrial species) manifest themselves in the auricle and middle ear (Manci et al., 1988). Some mammals use echolocation to perceive objects in their surroundings and to determine the directions and locations of sound sources (Simmons, 1983 in Manci et al. 1988).

In 1980, the Acoustical Society of America held a workshop to assess the potential hazard of manmade noise associated with proposed Alaska arctic (North Slope-Outer Continental Shelf) petroleum operations on marine wildlife and to prepare a research plan to secure the knowledge necessary for proper assessment of noise impacts (Acoustical Society of America, 1980). Since 1980, it appears that research on responses of aquatic mammals to aircraft noise and sonic booms has been limited. Research conducted on northern fur seals (*Callorhinus ursinus*), sea lions, and ringed seals (*Pusa hispida*) indicated that there are some differences in how various animal groups receive frequencies of sound. It was observed that these species exhibited varying intensities of a startle response to airborne noise, and this response was habituated over time. The rates of habituation appeared to vary with species, populations, and demographics (age, sex). Time of day of exposure was also a factor (Myrberg, 1978 in Manci et al., 1988).

Studies were conducted near the Channel Islands near the area where the space shuttle launches occur. It was found that there were some response differences between species relative to the loudness of sonic booms. Those booms that were between 80 and 89 dB caused a greater intensity of startle reactions than lower-intensity booms at 72 to 79 dB. However, the duration of the startle responses to louder sonic booms was shorter (Jehl and Cooper, 1980).

Jehl and Cooper (1980) indicated that low-flying helicopters, loud boat noises, and humans were the most disturbing to pinnipeds. According to the research, while the space shuttle launch and associated operational activity noises have not had a measurable effect on the pinniped population, it also suggests that there was a greater "disturbance level" exhibited during launch activities. There was a recommendation to continue observations for behavioral effects and to perform long-term population monitoring (Jehl and Cooper, 1980).

The continued presence of single or multiple noise sources could cause marine mammals to leave a preferred habitat. However, it does not appear likely that overflights could cause migration from suitable habitats because aircraft noise over water is mobile and would not persist over any particular area. Aircraft noise, including supersonic noise, currently occurs in the overwater airspace of Eglin, Tyndall, and Langley Air Force bases from sorties predominantly involving jet aircraft. Survey results reported in Davis et al. (2000) indicate that cetaceans (i.e., dolphins) occur under all of the Eglin and Tyndall marine airspace. The continuing presence of dolphins (family Delphinidae) indicates that aircraft noise does not discourage use of the area and apparently does not harm the locally occurring population.

In a summary by the National Park Service (1994) on the effects of noise on marine mammals, it was determined that gray whales (*Eschrichtius robustus*) and harbor porpoises (*Phocoena phocoena*) showed no outward behavioral response to aircraft noise or overflights. Bottlenose dolphins (*Tursiops truncatus*) showed no obvious reaction in a study involving helicopter overflights at 1,200 to 1,800 feet above the water. Neither did they show any reaction to survey aircraft unless the shadow of the aircraft passed over them, at which point there was some observed tendency to dive (Richardson et al., 1995). Other anthropogenic noises in the marine environment from ships and pleasure craft may have more of an effect on marine mammals than aircraft noise (U.S. Air Force, 2000). The noise effects on cetaceans appear to be somewhat attenuated by the air/water interface. The cetacean fauna along the coast of California have been subjected to sonic booms from military aircraft for many years without apparent adverse effects (Tetra Tech, Inc., 1997).

Manatees (*Trichechus spp.*) appear relatively unresponsive to human-generated noise to the point that they are often suspected of being deaf to oncoming boats (although their hearing is actually similar to that of pinnipeds [Bullock et al., 1980]). Little is known about the importance of acoustic communication to manatees, although they are known to produce at least 10 different types of sounds and are thought to have sensitive hearing (Richardson et al., 1995). Manatees continue to occupy canals near Miami International Airport, which suggests they have become habituated to human disturbance and noise (Metro-Dade County, 1995). Since manatees spend most of their time below the surface and do not startle readily, no effect of aircraft overflights on manatees would be expected (Bowles et al., 1993).

Birds

Auditory research conducted on birds indicates that they fall between reptiles and mammals relative to hearing sensitivity. According to Dooling (1978), within the range of 1,000 to 5,000 Hz, birds show a level of hearing sensitivity similar to that of the more sensitive mammals. In contrast to mammals, bird sensitivity falls off at a greater rate with increasing and decreasing frequencies. Passive observations and studies examining aircraft bird strikes indicate that birds nest and forage near airports. Aircraft noise in the vicinity of commercial airports apparently does not inhibit bird presence and use.

High-noise events (like a low-altitude aircraft overflight) may cause birds to engage in escape or avoidance behaviors, such as flushing from perches or nests (Ellis et al., 1991). These activities impose an energy cost on the birds that, over the long term, may affect survival or growth. In addition, the birds may spend less time engaged in necessary activities like feeding, preening, or caring for their young because they spend time in noise-avoidance activity. However, the long-term significance of noise-related impacts is less clear. Several studies on nesting raptors have indicated that birds become habituated to aircraft overflights and that long-term reproductive success is not affected (Ellis et al., 1991; Grubb and King, 1991). Threshold noise levels for significant responses range from 62 dB for the Pacific black brant (*Branta bernicla nigricans*) to 85 dB for the crested tern (*Thalasseus bergii*) (Brown, 1990; Ward and Stehn, 1990).

Songbirds were observed to become silent prior to the onset of a sonic boom event (F-111 jets), followed by "raucous discordant cries." There was a return to normal singing within 10 seconds after the boom (Higgins, 1974 in Manci et al., 1988). Ravens (*Corvus corax*) responded by emitting protestation calls, flapping their wings, and soaring.

Manci et al. (1988) reported a reduction in reproductive success in some small territorial passerines (i.e., perching birds or songbirds) after exposure to low-altitude overflights. However, it has been observed that passerines are not driven any great distance from a favored food source by a nonspecific disturbance, such as aircraft overflights (U.S. Forest Service, 1992). Further study may be warranted.

A cooperative study between the DoD and the U.S. Fish and Wildlife Service (USFWS) assessed the response of the red-cockaded woodpecker (*Leuconotopicus borealis*) to a range of military training noise events, including artillery, small arms, helicopter, and maneuver noise (Pater et al., 1999). The project findings show that the red-cockaded woodpecker successfully acclimates to military noise events. Depending on the noise level that ranged from innocuous to very loud, the birds responded by flushing from their nest cavities. When the noise source was closer and the noise level was higher, the number of flushes increased proportionately. In all cases, however, the birds returned to their nests within a relatively short period of time (usually within 12 minutes). Additionally, the noise exposure did not result in any mortality or statistically detectable changes in reproductive success (Pater et al., 1999). Red-cockaded woodpeckers did not flush when artillery simulators were more than 122 meters away and SELs were 70 dB.

Lynch and Speake (1978) studied the effects of both real and simulated sonic booms on the nesting and brooding eastern wild turkey (*Meleagris gallopavo silvestris*) in Alabama. Hens at four nest sites were subjected to between eight and 11 combined real and simulated sonic booms. All tests elicited similar responses, including quick lifting of the head and apparent alertness for 10 to 20 seconds. No apparent nest failure occurred as a result of the sonic booms. Twenty-one brood groups were also subjected to simulated sonic booms. Reactions varied slightly between groups, but the largest percentage of groups reacted by standing motionless after the initial blast. Upon the sound of the boom, the hens and poults fled until reaching the edge of the woods (approximately 4 to 8 meters). Afterward, the poults resumed feeding activities while the hens remained alert for a short period of time (approximately 15 to 20 seconds). In no instances were poults abandoned, and they did not scatter and become lost. Every observation group returned to normal activities within a maximum of 30 seconds after a blast.

Bald Eagle

A study by Grubb and King (1991) on the reactions of the bald eagle (*Haliaeetus leucocephalus*) to human disturbances showed that terrestrial disturbances elicited the greatest response, followed by aquatic (i.e., boats) and aerial disturbances. The disturbance regime of the area where the study occurred was predominantly characterized by aircraft noise. The study found that pedestrians consistently caused responses that were greater in both frequency and duration. Helicopters elicited the highest level of aircraft-related responses. Aircraft disturbances, although the most common form of disturbance, resulted in the lowest levels of response. This low response level may have been due to habituation; however, flights less than 170 meters away caused reactions similar to other disturbance types. Ellis et al. (1991) showed that eagles typically respond to the proximity of a disturbance, such as a pedestrian or aircraft within 100 meters, rather than the noise level. Fleischner and Weisberg (1986) stated that reactions of bald eagles to commercial jet flights, although minor (e.g., looking), were twice as likely to occur when the jets passed at a distance of 0.5 mile or less. They also noted that helicopters were four times more likely to cause a reaction than a commercial jet and 20 times more likely to cause a reaction than a propeller plane.

The USFWS advised Cannon Air Force Base that flights at or below 2,000 feet AGL from October 1 through March 1 could result in adverse impacts to wintering bald eagles (USFWS, 1998). However, Fraser et al. (1985) suggested that raptors habituate to overflights rapidly, sometimes tolerating aircraft approaches of 65 feet or less.

Golden Eagle

In its guidelines for aerial surveys, USFWS (Pagel et al., 2010) summarized past studies by stating that most golden eagles (*Aquila chrysaetos*) respond to survey aircraft (fixed- and rotary-wing) by remaining on their nests and continuing to incubate or roost. Surveys take place generally as close as 10 to 20 meters from cliffs (including hovering less than 30 seconds if necessary to count eggs) and no farther than 200 meters from cliffs, depending on safety considerations (Pagel et al., 2010).

Grubb et al. (2007) experimented with multiple exposure to two helicopter types and concluded that flights with a variety of approach distances (800, 400, 200, and 100 meters) had no effect on golden eagle nesting success or productivity rates within the same year or on rates of renewed nesting activity the following year when compared to the corresponding data for the larger population of non-manipulated nest sites (Grubb et al., 2007). They found no significant, detrimental, or disruptive responses in 303 helicopter passes near eagles. In 227 AH-64 Apache helicopter experimental passes (considered twice as loud as a civilian helicopter also tested) at test distances of 0 to 800 meters from nesting golden eagles, 96 percent resulted in no more response than watching the helicopter pass. No greater reactions occurred until after hatching, when individual golden eagles exhibited five flatten and three fly behaviors at three nest sites. The flight responses occurred at approach distances of 200 meters or less. No evidence was found of an effect on subsequent nesting activity or success, despite many of the helicopter flights occurring during early courtship and nest repair. None of these responding pairs failed to successfully fledge young, except for one nest that fell later in the season. Excited, startled, or avoidance reactions were never observed. Non-attending eagles or those perched away from the nests were more likely to fly than attending eagles but also with less potential consequence to nesting success (Grubb et al., 2007). Golden eagles appeared to become less responsive with successive exposures. Much of helicopter sound energy may be at a lower frequency than golden eagles can hear, thus reducing expected impacts. Grubb et al. (2007) found no relationship between helicopter sound levels and corresponding eagle ambient behaviors or limited responses, which occurred throughout recorded test levels (76.7 to 108.8 dB, unweighted). The authors thought that the lower than expected behavioral responses may be partially due to the fact that the golden eagles in the area appear acclimated to the current high levels of outdoor recreational, including aviation, activities. Based on the results of this study, the authors recommended reduction of existing buffers around nest sites to 100 meters (325 feet) for helicopter activity.

Richardson and Miller (1997) reviewed buffers as protection for raptors against disturbance from ground-based human activities. No consideration of aircraft activity was included. They stressed a clear line of sight as an important factor in a raptor's response to a particular disturbance, with visual screening allowing a closer approach of humans without disturbing a raptor. A Geographical Information Systems (GIS)-assisted viewshed approach combined with a designated buffer zone distance was found to be an effective tool for reducing potential disturbance to golden eagles from ground-based activities (Richardson and Miller, 1997). They summarized recommendations that included a median 0.5-mile (800-meter) buffer (range = 200 to 1,600 m, n = 3) to reduce human disturbances (from ground-based activities such as rock climbing, shooting, vehicular activity) around active golden eagle nests from February 1 to August 1 based on an extensive review of other studies (Richardson and Miller, 1997). Physical characteristics (i.e., screening by topography or vegetation) are important variables to consider when establishing buffer zones based on raptors' visual- and auditory-detection distances (Richardson and Miller, 1997).

Osprey

A study by Trimper et al. (1998), in Goose Bay, Labrador, Canada, focused on the reactions of nesting osprey (*Pandion haliaetus*) to military overflights by CF-18 Hornets. Reactions varied from increased alertness and focused observation of planes to adjustments in incubation posture. No overt reactions (e.g., startle response, rapid nest departure) were observed as a result of an overflight. Young nestlings crouched as a result of any disturbance until 1 to 2 weeks prior to fledging. Helicopters, human presence, float planes, and other ospreys elicited the strongest reactions from nesting ospreys. These responses included flushing, agitation, and aggressive displays. Adult osprey showed high nest occupancy rates during incubation regardless of external influences. The osprey observed occasionally stared in the direction of the flight before the flight was audible to the observers. The birds may have been habituated to the noise of the flights; however, overflights were strictly controlled during the experimental period. Strong reactions to float planes and helicopters may have been due to the slower flight and therefore longer duration of visual rather than noise-related stimuli.

Red-tailed Hawk

Anderson et al. (1989) conducted a study that investigated the effects of low-level helicopter overflights on 35 red-tailed hawk (*Buteo jamaicensis*) nests. Some of the nests had not been flown over prior to the study. The hawks that were naïve (i.e., not previously exposed) to helicopter flights exhibited stronger avoidance behavior (nine of 17 birds flushed from their nests) than those that had experienced prior overflights. The overflights did not appear to affect nesting success in either study group. These findings were consistent with the belief that red-tailed hawks habituate to low-level air traffic, even during the nesting period.

Upland Game Birds

Greater Sage-grouse

The greater sage-grouse (*Centrocercus urophasianus*) was recently designated as a candidate species for protection under the Endangered Species Act after many years of scrutiny and research (USFWS, 2010). This species is a widespread and characteristic species of the sagebrush ecosystems in the Intermountain West. Greater sage-grouse, like most bird species, rely on auditory signals as part of mating. Sage-grouse are known to select their leks based on acoustic properties and depend on auditory communication for mating behavior (Braun, 2006). Although little specific research has been completed to determine what, if any, effects aircraft overflight and sonic booms would have on the breeding behavior of this species, factors that may be important include season and time of day, altitude, frequency and duration of overflights, and frequency and loudness of sonic booms.

Booth et al. (2009) found, while attempting to count sage-grouse at leks (breeding grounds) using light sport aircraft at 150 meters (492 feet) to 200 meters (650 feet) AGL, that sage-grouse flushed from leks on 12 of 14 approaches when the airplane was within 656 to 984 feet (200 to 300 meters) of the lek. In the other two instances, male grouse stopped exhibiting breeding behavior and crouched but stayed on the lek. The time to resumption of normal behavior after disturbance was not provided in this study. Strutting ceased around the time when observers on the ground heard the aircraft. The light sport aircraft could be safely operated at very low speed (68 kilometers per hour or 37 nautical miles per hour) and was powered by either a two-stroke or a four-stroke engine. It is unclear how the response to the slow-flying light sport aircraft used in the study would compare to overflight by military jets, operating at speeds 10 to 12 times as great as the aircraft used in the study. It is possible that response of the birds was related to the slow speed of the light sport aircraft causing it to resemble an aerial predator.

Other studies have found disturbance from energy operations, and other nearby development have adversely affected breeding behavior of greater sage-grouse (Holloran, 2005; Doherty, 2008; Walker et al., 2007; Harju et al., 2010). These studies do not specifically address overflights, do not isolate noise disturbance from other types of disturbance (e.g., visual, human presence), and do not generally provide noise levels or qualification of the noise source (e.g., continuous or intermittent, frequency, duration).

Because so few studies have been done on greater sage-grouse response to overflights or sonic booms, research on related species may be applicable. Observations on other upland game bird species include those on the behavior of four wild turkey (*Meleagris gallapavo*) hens on their nests during real and simulated sonic booms (Manci et al., 1988). Simulated sonic booms were produced by firing 5-centimeter mortar shells from a location 300 to 500 feet from the nest of each hen. Recordings of pressure for both types of booms measured 0.4 to 1.0 pounds per square foot at the observer's location.

Turkey hens exhibited only a few seconds of head alert behavior at the sound of the sonic boom. No hens were flushed off the nests, and productivity estimates revealed no effect from the booms. Twenty brood groups were also subjected to simulated sonic booms. In no instance did the hens desert any poults (young birds), and the poults did not scatter or desert the rest of the brood group. In every observation, the brood group returned to normal activity within 30 seconds after a simulated sonic boom. Similarly, researchers cited in Manci et al. (1988) observed no difference in hatching success of bobwhite quail (*Colinus virginianus*) exposed to simulated sonic booms of 100 to 250 micronewtons per square meter.

Migratory Waterfowl

Fleming et al. (1996) conducted a study of caged American black ducks (*Anas rubripes*) and found that noise had negligible energetic and physiologic effects on adult waterfowl. Measurements included body weight, behavior, heart rate, and enzymatic activity. Experiments also showed that adult ducks exposed to high noise events acclimated rapidly and showed no effects.

The study also investigated the reproductive success of captive ducks and indicated that duckling growth and survival rates at Piney Island, North Carolina, were lower than those at a background location. In contrast, observations of several other reproductive indices (i.e., pair formation, nesting, egg production, and hatching success) showed no difference between Piney Island and the background location. Potential effects on wild duck populations may vary because wild ducks at Piney Island have presumably acclimated to aircraft overflights. It was not demonstrated that noise was the cause of adverse impacts. A variety of other factors, such as weather conditions, drinking water and food availability and variability, disease, and natural variability in reproduction, could explain the observed effects. Fleming noted that drinking water conditions (particularly at Piney Island) deteriorated during the study, which could have affected the growth of young ducks. Further research would be necessary to determine the cause of any reproductive effects (Fleming et al., 1996).

Another study by Conomy et al. (1998) exposed previously unexposed ducks to 71 noise events per day that equaled or exceeded 80 dB. It was determined that the proportion of time black ducks reacted to aircraft activity and noise decreased from 38 percent to 6 percent in 17 days and remained stable at 5.8 percent thereafter. In the same study, the wood duck did not appear to habituate to aircraft disturbance. This supports the notion that animal response to aircraft noise is species-specific. Because a startle response to aircraft noise can result in flushing from nests, migrants and animals living in areas with high concentrations of predators would be the most vulnerable to experiencing effects of lowered birth rates and recruitment over time. Species that are subjected to infrequent overflights do not appear to habituate to overflight disturbance as readily.

Black brant (*Branta bernicla nigricans*) studied in the Alaska Peninsula were exposed to jets and propeller aircraft, helicopters, gunshots, people, boats, and various raptors. Jets accounted for 65 percent of all the disturbances. Humans, eagles, and boats caused a greater percentage of brant to take flight. Brant demonstrated a markedly greater reaction to Bell-206-B helicopter flights than fixed wing, single-engine aircraft flights (Ward et al., 1986).

The presence of humans and low-flying helicopters in the Mackenzie Valley North Slope area did not appear to affect the population density of Lapland longspurs (*Calcarius lapponicus*), but the experimental group was shown to have reduced hatching and fledging success and higher nest abandonment. Human presence appeared to have a greater impact than fixed-wing aircraft on the incubating behavior of the black brant, common eider (*Somateria mollissima*), and Arctic tern (*Sterna paradisaea*) (Gunn and Livingston, 1974).

Gunn and Livingston (1974) found that waterfowl and seabirds in the Mackenzie Valley and North Slope of Alaska and Canada became acclimated to float plane disturbance over the course of three days. Additionally, it was observed that potential predators (e.g., the bald eagle) caused a number of birds to leave their nests. Non-breeding birds were observed to be more reactive than breeding birds. Waterfowl were affected by helicopter flights, while snow geese (*Chen caerulescens*) were disturbed by Cessna 185 flights. The geese flushed when the planes were less than 1,000 feet AGL compared to higher flight elevations. An overall reduction in flock sizes was observed. It was recommended that aircraft flights be reduced in the vicinity of premigratory staging areas.

Manci et al. (1988) reported that waterfowl were particularly disturbed by aircraft noise. The most sensitive appeared to be snow geese. Canada geese (*Branta Canadensis*) and snow geese were thought to be more sensitive to aircraft noise than other animals such as turkey vultures (*Cathartes aura*), coyotes (*Canis latrans*), and raptors (Edwards et al., 1979).

Wading and Shorebirds

Black et al. (1984) studied the effects of low-altitude (less than 500 feet AGL) military training flights with sound levels from 55 to 100 dB on wading bird colonies (i.e., the great egret [*Ardea alba*], snowy egret [*Egretta thula*] tricolored heron [*Egretta tricolor*], and little blue heron [*Egretta caerulea*]). The training flights involved three or four aircraft and occurred once or twice per day. This study concluded that the reproductive activity--including nest success, nestling survival, and nestling chronology--was independent of F-16 overflights. Dependent variables were more strongly related to ecological factors, including location and physical characteristics of the colony and climatology.

Another study on the effects of circling fixed-wing aircraft and helicopter overflights on wading bird colonies found that at altitudes of 195 to 390 feet, there was no reaction in nearly 75 percent of the 220 observations. Approximately 90 percent displayed no reaction or merely looked toward the direction of the noise source. Another 6 percent stood up, 3 percent walked from the nest, and 2 percent flushed (but were without active nests) and returned within 5 minutes (Kushlan, 1978). Apparently, non-nesting wading birds had a slightly higher incidence of reacting to overflights than nesting birds. Seagulls observed roosting near a colony of wading birds in another study remained at their roosts when subsonic aircraft flew overhead (Burger, 1981). Colony distribution appeared to be most directly correlated to available wetland community types and was found to be distributed randomly with respect to military training routes. These results suggest that wading bird species' presence was most closely linked to habitat availability and that they were not affected by low-level military overflights (U.S. Air Force, 2000).

Burger (1986) studied the response of migrating shorebirds to human disturbance and found that shorebirds did not fly in response to aircraft overflights but did flush in response to more localized intrusions (i.e., humans and dogs on the beach). Burger (1981) studied the effects of noise from JFK Airport in New York on herring gulls (*Larus argentatus*) that nested less than 1 kilometer from the airport. Noise levels over the nesting colony were 85 to 100 dB on approach and 94 to 105 dB on takeoff. Generally, there did not appear to be any prominent adverse effects of subsonic aircraft on nesting, although some birds flushed when the Concorde flew overhead and, when they returned, engaged in aggressive behavior. Groups of gulls tended to loaf in the area of the nesting colony, and these birds remained at the roost when the Concorde flew overhead. Up to 208 of the loafing gulls flew when supersonic aircraft flew overhead. These birds would circle around and immediately land in the loafing flock (U.S. Air Force, 2000).

In 1970, sonic booms were potentially linked to a mass hatch failure of sooty terns (*Onychoprion fuscatus*) on the Dry Tortugas (Austin et al., 1970). The cause of the failure was not certain, but it was conjectured that sonic booms from military aircraft or an overgrowth of vegetation were factors. In the previous season, sooty terns were observed to have reacted to sonic booms by rising in a "panic flight," circling over the island, then usually settling down on their eggs again. Hatching that year was normal. Following the 1969 hatch failure, excess vegetation was cleared, and measures were taken to reduce supersonic activity. The 1970 hatch appeared to proceed normally. A colony of noddies (*Anous* spp.) on the same island hatched successfully in 1969, the year of the sooty tern hatch failure.

Subsequent laboratory tests of exposure of eggs to sonic booms and other impulsive noises (Cottereau, 1972; Cogger and Zegarra, 1980; Bowles et al., 1991, 1994) failed to show adverse effects on hatching of eggs. A structural analysis by Ting et al. (2002) showed that, even under extraordinary circumstances, sonic booms would not damage an avian egg.

Burger (1981) observed no effects of subsonic aircraft on herring gulls in the vicinity of JFK International Airport. The Concorde aircraft did cause more nesting gulls to leave their nests (especially in areas of higher density of nests), causing the breakage of eggs and the scavenging of eggs by intruder prey. Clutch sizes were observed to be smaller in areas of higher-density nesting (presumably due to the greater tendency for panic flight) than in areas where there were fewer nests.

Raptors

In a literature review of raptor responses to aircraft noise, Manci et al. (1988) found that most raptors did not show a negative response to overflights. When negative responses were observed, they were predominantly associated with rotor-winged aircraft or jet aircraft that were repeatedly passing within 0.5 mile of a nest.

Ellis et al. (1991) performed a study to estimate the effects of low-level military jet aircraft and mid- to high-altitude sonic booms (both actual and simulated) on nesting peregrine falcons (*Falco peregrinus*) and seven other raptors (common black-hawk [*Buteogallus anthracinus*], Harris' hawk [*Parabuteo unicinctus*], zone-tailed hawk [*Buteo albonotatus*], red-tailed hawk, golden eagle, prairie falcon [*Falco mexicanus*], and bald eagle). They observed responses to test stimuli, determined nest success for the year of the testing, and evaluated site occupancy the following year. Both long- and short-term effects were noted in the study. The results reported the successful fledging of young in 34 of 38 nest sites (including all eight species) subjected to low-level flight and/or simulated sonic booms. Twenty-two of the test sites were revisited in the following year, and observations of pairs or lone birds were made at all but one nest. Nesting attempts were underway at 19 of 20 sites that were observed long enough to be certain of breeding activity. Reoccupancy and productivity rates were within or above expected values for self-sustaining populations.

Short-term behavior responses were also noted. Overflights at a distance of 150 meters or less produced few significant responses and no severe responses. Typical responses consisted of crouching or, very rarely, flushing from the perch site. Significant responses were most evident before egg laying and after young were "well grown." Incubating or brooding adults never burst from the nest, thus preventing egg breaking or knocking chicks out of the nest. Jet passes and sonic booms often caused noticeable alarm; however, significant negative responses were rare and did not appear to limit productivity or re-occupancy. Due to the locations of some of the nests, some birds may have been habituated to aircraft noise. There were some test sites located at distances far from zones of frequent military aircraft usage, and the test stimuli were often closer, louder, and more frequent than would be likely for a normal training situation (Ellis et al., 1991).

Manci et al. (1988) noted that a female northern harrier (*Circus hudsonius*) was observed hunting on a bombing range in Mississippi during bombing exercises. The harrier was apparently unfazed by the exercises, even when a bomb exploded within 200 feet. In a similar case of habituation/non-disturbance, a study on the Florida snail-kite (*Rostrhamus sociabilis*) stated that the greatest reaction by that species to overflights (approximately 98 dB) was "watching the aircraft fly by." No detrimental impacts to distribution, breeding success, or behavior were noted.

Fish and Amphibians

The effects of overflight noise on fish and amphibians have not been well studied, but conclusions regarding their expected responses have involved speculation based upon known physiologies and behavioral traits of these taxa (Gladwin et al., 1988). Although fish do startle in response to noise from low-flying aircraft, and probably to the shadows of aircraft, they have been found to habituate to the sound and overflights. Amphibians that respond to low frequencies and those that respond to ground vibration, such as spadefoot toads, may be affected by noise.

Summary

Some physiological/behavioral responses such as increased hormonal production, increased heart rate, and reduction in milk production have been described in a small percentage of studies. A majority of the studies focusing on these types of effects have reported short-term or no effects.

The relationships between physiological effects and how species interact with their environments have not been thoroughly studied. Therefore, the larger ecological context issues regarding physiological effects of jet aircraft noise (if any) and resulting behavioral pattern changes are not well understood.

Animal species exhibit a wide variety of responses to noise. It is therefore difficult to generalize animal responses to noise disturbances or to draw inferences across species because reactions to jet aircraft noise appear to be species-specific. Consequently, some animal species may be more sensitive than other species and/or may exhibit different forms or intensities of behavioral responses. For instance, wood ducks appear to be more sensitive and more resistant to acclimation to jet aircraft noise than Canada geese in one study. Similarly, wild ungulates seem to be more easily disturbed than domestic animals.

The literature does suggest that common responses include the "startle" or "fright" response and, ultimately, habituation. It has been reported that the intensities and durations of the startle response decrease with the number and frequency of exposures, suggesting no long-term adverse effects. The majority of the literature suggests that domestic animal species (e.g., cows, horses, chickens) and wildlife species exhibit adaptation, acclimation, and habituation after repeated exposure to jet aircraft noise and sonic booms.

Animal responses to aircraft noise appear to be somewhat dependent on, or influenced by, the size, shape, speed, proximity (vertical and horizontal), engine noise, color, and flight profile of the aircraft. Helicopters also appear to induce greater intensities and durations of disturbance behavior as compared to fixed-wing aircraft. Some studies showed that animals that had been previously exposed to jet aircraft noise exhibited greater degrees of alarm and disturbance to other objects creating noise, such as boats, people, and objects blowing across the landscape. Other factors influencing response to jet aircraft noise may include wind direction, speed, and local air turbulence; landscape structures (i.e., amount and type of vegetative cover); and, in the case of bird species, whether the animals are in the incubation/nesting phase.

A1.4 References

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Appendix A2

Annual Flight Operations for School Cases (Average Year) and High-Tempo FCLP Year Cases

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List of Tables

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Table A2-1 Detailed Annual School Day Flight Operations for the Average Year Baseline Scenario

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	2,941	1,097	1,756	217	56	46	-	-	2,089	1,255	1,005	1,224	11,686
		FRS	3,056	1,361	1,672	119	55	44	-	-	2,904	2,353	-	2,646	14,210
		RES	693	268	416	37	2	1	-	-	28	277	233	261	2,216
		EXP	919	333	539	71	-	-	-	-	-	325	302	335	2,824
	EP3	All	365	204	-	213	-	-	-	-	-	648	-	337	1,767
	P3	All	938	362	-	136	-	-	-	-	-	2,919	-	1,261	5,616
	P8	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	H60	SAR	290	303	-	-	-	-	73	73	-	-	-	-	739
	C-40	-	299	224	-	81	-	-	-	-	-	255	-	133	992
	JET_LRG	-	116	112	-	7	-	-	-	-	-	-	-	-	235
Total			9,617	4,264	4,383	881	113	91	73	73	5,021	8,032	1,540	6,197	40,285

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					56	46	-	-	712	-			814
		FRS					55	44	-	-	701	-			800
		RES					2	1	-	-	26	-			29
	H60	SAR					-	-	73	73	-	146			292
Total							113	91	73	73	1,439	146			1,935

Total Annual EA-18G FCLP-Related Ops			
	Ault =	5,021	75%
	NOLF =	1,643	25%
	Total =	6,664	

Grand Total (Ault+NOLF)	42,220

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-2 Detailed Annual School Day Flight Operations for the Average Year No Action Alternative

Airfield	Aircraft	Squadrons	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	2,958	1,109	1,785	192	63	58	-	-	2,087	1,348	1,035	1,347	11,982
		FRS	3,121	1,368	1,641	130	64	59	-	-	3,199	2,343	-	2,689	14,614
		RES	698	247	427	56	3	3	-	-	100	306	275	291	2,406
		EXP	932	366	531	59	-	-	-	-	-	309	309	319	2,825
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,189	411	-	108	-	-	-	-	-	1,301	-	652	3,661
	H60	SAR	292	300	-	-	-	-	74	74	-	-	-	-	740
	C-40	-	301	226	-	86	-	-	-	-	-	255	-	136	1,004
	JET_LRG	-	125	111	-	9	-	-	-	-	-	-	-	-	245
Total			9,616	4,138	4,384	640	130	120	74	74	5,386	5,862	1,619	5,434	37,477

Airfield	Aircraft	Squadrons	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					63	58	-	-	856	-			977
		FRS					64	59	-	-	873	-			996
		RES					3	3	-	-	42	-			48
	H60	SAR					-	-	74	74	-	148			296
Total			-	-	-	-	130	120	74	74	1,771	148	-	-	2,317

Total Annual EA-18G FCLP-Related Ops			
	Ault =	5,386	73%
	NOLF =	2,021	27%
	Total =	7,407	

Grand Total (Ault+NOLF)	39,794

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-3 Detailed Annual School Day Flight Operations for the Average Year Alternative 1A

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,540	1,585	2,579	376	317	317	-	-	893	1,762	1,560	1,998	15,927
		FRS	2,712	1,173	1,393	146	197	197	-	-	656	1,867	-	2,350	10,691
		RES	609	202	361	46	4	4	-	-	41	259	237	249	2,012
		EXP	817	298	441	78	-	-	-	-	-	284	241	291	2,450
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,164	933	-	231	-	-	-	-	-	1,283	-	631	4,242
	H60	SAR	291	291	-	-	-	-	73	73	-	-	-	-	728
	C-40	-	302	216	-	87	-	-	-	-	-	251	-	130	986
	JET_LRG	-	137	125	-	12	-	-	-	-	-	-	-	-	274
Total			10,572	4,823	4,774	976	518	518	73	73	1,590	5,706	2,038	5,649	37,310

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					317	317	-	-	4,147	-			4,781
		FRS					197	197	-	-	2,580	-			2,974
		RES					4	4	-	-	60	-			68
	H60	SAR					-	-	73	73	-	146			292
Total			-	-	-	-	518	518	73	73	6,787	146	-	-	8,115

Total Annual EA-18G FCLP-Related Ops		
Ault =	1,590	17%
NOLF =	7,823	83%
Total =	9,413	

Grand Total (Ault+NOLF)	45,425

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-4 Detailed Annual School Day Flight Operations for the Average Year Alternative 1B

Airfield	Aircraft	Squadron	Departure	Arrival: VFR SI/ Non-Break	Arrival: Overhead Break	Arrival: IFR	Interfacility: Departure to OLF	Interfacility: Break Arrival from OLF	Interfacility: Helo Departure to OLF	Interfacility: Helo Arrival from OLF	Closed Pattern*: FCLP	Closed Pattern*: T&G	Closed Pattern*: ReEnter	Closed Pattern*: GCA/CCA	Total
Ault Field	EA18	CVW	4,554	1,579	2,597	379	209	209			2,764	1,973	1,633	2,069	17,966
		FRS	2,700	1,163	1,407	130	116	116			2,025	1,997	-	2,402	12,056
		RES	620	203	372	45	2	2			56	279	228	261	2,068
		EXP	792	285	445	60	-	-			-	263	248	275	2,368
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,171	942	-	229	-	-	-	-	-	1,238	-	634	4,214
	H60	SAR	297	297	-	-	-	-	72	72	-	-	-	-	738
	C-40	-	298	214	-	83	-	-	-	-	-	251	-	134	980
	JET_LRG	-	136	128	-	8	-	-	-	-	-	-	-	-	272
Total			10,568	4,811	4,821	934	327	327	72	72	4,845	6,001	2,109	5,775	40,662

Airfield	Aircraft	Squadron	Departure	Arrival: VFR SI/ Non-Break	Arrival: Overhead Break	Arrival: IFR	Interfacility: FCLP Break Arrival from Ault	Interfacility: FCLP Departure to Ault	Interfacility: Helo Arrival from Ault	Interfacility: Helo Departure to Ault	Closed Pattern*: FCLP	Closed Pattern*: T&G	Closed Pattern*: ReEnter	Closed Pattern*: GCA/CCA	Total
NOLF	EA18	CVW					209	209	-	-	2,703	-			3,121
		FRS					116	116	-	-	1,506	-			1,738
		RES					2	2	-	-	32	-			36
	H60	SAR					-	-	72	72	-	143			287
Total			-	-	-	-	327	327	72	72	4,241	143	-	-	5,182

Total Annual EA-18G FCLP-Related Ops			
	Ault =	4,845	50%
	NOLF =	4,895	50%
	Total =	9,740	

Grand Total (Ault+NOLF)	45,844

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-5 Detailed Annual School Day Flight Operations for the Average Year Alternative 1C

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,557	1,600	2,600	357	75	75			4,409	2,162	1,560	2,048	19,443
		FRS	2,737	1,180	1,423	134	53	53			3,335	2,167	-	2,428	13,510
		RES	601	199	355	47	4	4			8	265	236	259	1,978
		EXP	819	294	461	64	-	-			-	288	259	295	2,480
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,171	962	-	209	-	-	-	-	-	1,253	-	613	4,208
	H60	SAR	294	294	-	-	-	-	73	73	-	-	-	-	734
	C-40	-	302	215	-	87	-	-	-	-	-	256	-	133	993
	JET_LRG	-	131	120	-	11	-	-	-	-	-	-	-	-	262
Total			10,612	4,864	4,839	909	132	132	73	73	7,752	6,391	2,055	5,776	43,608

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					75	75	-	-	940	-			1,090
		FRS					53	53	-	-	705	-			811
		RES					4	4	-	-	49	-			57
	H60	SAR					-	-	73	73	-	146			292
Total			-	-	-	-	132	132	73	73	1,694	146	-	-	2,250

Total Annual EA-18G FCLP-Related Ops			
	Ault =	7,752	80%
	NOLF =	1,958	20%
	Total =	9,710	

Grand Total (Ault+NOLF)	45,858

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-6 Detailed Annual School Day Flight Operations for the Average Year Alternative 1D

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,540	1,585	2,579	376	277	277	-	-	1,340	1,762	1,560	1,998	16,294
		FRS	2,712	1,173	1,393	146	172	172	-	-	984	1,867	-	2,350	10,969
		RES	609	202	361	46	4	4	-	-	62	259	237	249	2,033
		EXP	817	298	441	78	-	-	-	-	-	284	241	291	2,450
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,164	933	-	231	-	-	-	-	-	1,283	-	631	4,242
	H60	SAR	291	291	-	-	-	-	73	73	-	-	-	-	728
	C-40	-	302	216	-	87	-	-	-	-	-	251	-	130	986
	JET_LRG	-	137	125	-	12	-	-	-	-	-	-	-	-	274
Total			10,572	4,823	4,774	976	453	453	73	73	2,386	5,706	2,038	5,649	37,976

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					277	277	-	-	3,629	-			4,183
		FRS					172	172	-	-	2,258	-			2,602
		RES					4	4	-	-	53	-			61
	H60	SAR					-	-	73	73	-	146			292
Total			-	-	-	-	453	453	73	73	5,940	146	-	-	7,138

Total Annual EA-18G FCLP-Related Ops			
	Ault =	2,386	26%
	NOLF =	6,846	74%
	Total =	9,232	

Grand Total (Ault+NOLF)	45,114

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-7 Detailed Annual School Day Flight Operations for the Average Year Alternative 1E

Airfield	Aircraft	Squadron	Departure	Arrival: VFR SI/ Non-Break	Arrival: Overhead Break	Arrival: IFR	Interfacility: Departure to OLF	Interfacility: Break Arrival from OLF	Interfacility: Helo Departure to OLF	Interfacility: Helo Arrival from OLF	Closed Pattern*: FCLP	Closed Pattern*: T&G	Closed Pattern*: ReEnter	Closed Pattern*: GCA/CCA	Total
Ault Field	EA18	CVW	4,557	1,600	2,600	357	113	113			3,858	2,162	1,560	2,048	18,968
		FRS	2,737	1,180	1,423	134	80	80			2,918	2,167	-	2,428	13,147
		RES	601	199	355	47	6	6			7	265	236	259	1,981
		EXP	819	294	461	64	-	-			-	288	259	295	2,480
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,171	962	-	209	-	-	-	-	-	1,253	-	613	4,208
	H60	SAR	294	294	-	-	-	-	73	73	-	-	-	-	734
	C-40	-	302	215	-	87	-	-	-	-	-	256	-	133	993
	JET_LRG	-	131	120	-	11	-	-	-	-	-	-	-	-	262
Total			10,612	4,864	4,839	909	199	199	73	73	6,783	6,391	2,055	5,776	42,773

Airfield	Aircraft	Squadron	Departure	Arrival: VFR SI/ Non-Break	Arrival: Overhead Break	Arrival: IFR	Interfacility: FCLP Break Arrival from Ault	Interfacility: FCLP Departure to Ault	Interfacility: Helo Arrival from Ault	Interfacility: Helo Departure to Ault	Closed Pattern*: FCLP	Closed Pattern*: T&G	Closed Pattern*: ReEnter	Closed Pattern*: GCA/CCA	Total
NOLF	EA18	CVW					113	113	-	-	1,410	-			1,636
		FRS					80	80	-	-	1,058	-			1,218
		RES					6	6	-	-	74	-			86
	H60	SAR					-	-	73	73	-	146			292
Total			-	-	-	-	199	199	73	73	2,542	146	-	-	3,232

Total Annual EA-18G FCLP-Related Ops			
	Ault =	6,783	70%
	NOLF =	2,940	30%
	Total =	9,723	

Grand Total (Ault+NOLF)	46,005

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-8 Detailed Annual School Day Flight Operations for the Average Year Alternative 2A

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,274	1,534	2,407	334	291	291	-	-	996	1,731	1,416	1,982	15,256
		FRS	2,735	1,183	1,431	122	199	199	-	-	733	1,848	-	2,389	10,839
		RES	611	214	349	47	2	2	-	-	49	238	229	214	1,955
		EXP	1,382	485	793	104	-	-	-	-	-	445	495	452	4,156
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,188	974	-	214	-	-	-	-	-	1,090	-	586	4,052
	H60	SAR	298	298	-	-	-	-	72	72	-	-	-	-	740
	C-40	-	300	218	-	82	-	-	-	-	-	247	-	130	977
	JET_LRG	-	133	124	-	9	-	-	-	-	-	-	-	-	266
Total			10,921	5,030	4,980	912	492	492	72	72	1,778	5,599	2,140	5,753	38,241

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					291	291	-	-	3,811	-			4,393
		FRS					199	199	-	-	2,572	-			2,970
		RES					2	2	-	-	14	-			18
	H60	SAR					-	-	72	72	-	145			289
Total			-	-	-	-	492	492	72	72	6,397	145	-	-	7,670

Total Annual EA-18G FCLP-Related Ops			
	Ault =	1,778	19%
	NOLF =	7,381	81%
	Total =	9,159	

Grand Total (Ault+NOLF)	45,911
Equivalent Annual	42,224

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-9 Detailed Annual School Day Flight Operations for the Average Year Alternative 2B

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,225	1,526	2,440	258	192	192	-	-	2,554	1,896	1,503	1,958	16,744
		FRS	2,685	1,182	1,403	100	116	116	-	-	1,952	2,035	-	2,428	12,017
		RES	596	201	355	39	2	2	-	-	66	255	220	249	1,985
		EXP	1,333	467	775	90	-	-	-	-	-	445	472	461	4,043
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,154	948	-	206	-	-	-	-	-	1,312	-	665	4,285
	H60	SAR	293	293	-	-	-	-	72	72	-	-	-	-	730
	C-40	-	299	220	-	79	-	-	-	-	-	251	-	133	982
	JET_LRG	-	123	116	-	7	-	-	-	-	-	-	-	-	246
Total			10,708	4,953	4,973	779	310	310	72	72	4,572	6,194	2,195	5,894	41,032

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					274	274	-	-	2,472	-			3,020
		FRS					165	165	-	-	1,491	-			1,821
		RES					3	3	-	-	33	-			39
	H60	SAR					-	-	72	72	-	144			288
Total			-	-	-	-	442	442	72	72	3,996	144	-	-	5,168

Total Annual EA-18G FCLP-Related Ops			
	Ault =	4,572	48%
	NOLF =	4,880	52%
	Total =	9,452	

Grand Total (Ault+NOLF)	46,200

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-10 Detailed Annual School Day Flight Operations for the Average Year Alternative 2C

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,314	1,534	2,488	292	78	78	-	-	3,811	2,039	1,432	1,978	18,044
		FRS	2,722	1,177	1,435	109	42	42	-	-	3,466	2,202	-	2,420	13,615
		RES	615	207	360	48	4	4	-	-	38	222	241	221	1,960
		EXP	1,408	519	795	95	-	-	-	-	-	427	481	450	4,175
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,168	966	-	203	-	-	-	-	-	1,238	-	638	4,213
	H60	SAR	288	288	-	-	-	-	74	74	-	-	-	-	724
	C-40	-	299	222	-	77	-	-	-	-	-	247	-	131	976
	JET_LRG	-	135	125	-	9	-	-	-	-	-	-	-	-	269
Total			10,949	5,038	5,078	833	124	124	74	74	7,315	6,375	2,154	5,838	43,976

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					78	78	-	-	1,007	-			1,163
		FRS					42	42	-	-	548	-			632
		RES					4	4	-	-	46	-			54
	H60	SAR					-	-	74	74	-	149			297
Total			-	-	-	-	124	124	74	74	1,601	149	-	-	2,146

Total Annual EA-18G FCLP-Related Ops			
	Ault =	7,315	80%
	NOLF =	1,849	20%
	Total =	9,164	

Grand Total (Ault+NOLF)	46,122

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-11 Detailed Annual School Day Flight Operations for the Average Year Alternative 2D

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,274	1,534	2,407	334	255	255	-	-	1,494	1,731	1,416	1,982	15,682
		FRS	2,735	1,183	1,431	122	174	174	-	-	1,100	1,848	-	2,389	11,156
		RES	611	214	349	47	2	2	-	-	74	238	229	214	1,980
		EXP	1,382	485	793	104	-	-	-	-	-	445	495	452	4,156
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,188	974	-	214	-	-	-	-	-	1,090	-	586	4,052
	H60	SAR	298	298	-	-	-	-	72	72	-	-	-	-	740
	C-40	-	300	218	-	82	-	-	-	-	-	247	-	130	977
	JET_LRG	-	133	124	-	9	-	-	-	-	-	-	-	-	266
Total			10,921	5,030	4,980	912	431	431	72	72	2,668	5,599	2,140	5,753	39,009

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					255	255	-	-	3,335	-			3,845
		FRS					174	174	-	-	2,251	-			2,599
		RES					2	2	-	-	12	-			16
	H60	SAR					-	-	72	72	-	145			289
Total			-	-	-	-	431	431	72	72	5,598	145	-	-	6,749

Total Annual EA-18G FCLP-Related Ops			
	Ault =	2,668	29%
	NOLF =	6,460	71%
	Total =	9,128	

Grand Total (Ault+NOLF)	45,758

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-12 Detailed Annual School Day Flight Operations for the Average Year Alternative 2E

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,314	1,534	2,488	292	117	117	-	-	3,335	2,039	1,432	1,978	17,646
		FRS	2,722	1,177	1,435	109	63	63	-	-	3,033	2,202	-	2,420	13,224
		RES	615	207	360	48	6	6	-	-	33	222	241	221	1,959
		EXP	1,408	519	795	95	-	-	-	-	-	427	481	450	4,175
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,168	966	-	203	-	-	-	-	-	1,238	-	638	4,213
	H60	SAR	288	288	-	-	-	-	74	74	-	-	-	-	724
	C-40	-	299	222	-	77	-	-	-	-	-	247	-	131	976
	JET_LRG	-	135	125	-	9	-	-	-	-	-	-	-	-	269
Total			10,949	5,038	5,078	833	186	186	74	74	6,401	6,375	2,154	5,838	43,186

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					117	117	-	-	1,511	-			1,745
		FRS					63	63	-	-	822	-			948
		RES					6	6	-	-	69	-			81
	H60	SAR					-	-	74	74	-	149			297
Total			-	-	-	-	186	186	74	74	2,402	149	-	-	3,071

Total Annual EA-18G FCLP-Related Ops			
	Ault =	6,401	70%
	NOLF =	2,774	30%
	Total =	9,175	

Grand Total (Ault+NOLF)	46,257

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-13 Detailed Annual School Day Flight Operations for the Average Year Alternative 3A

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,234	1,469	2,411	354	311	311	-	-	1,081	1,710	1,447	1,953	15,281
		FRS	2,673	1,138	1,402	134	210	210	-	-	680	1,825	-	2,328	10,600
		RES	589	205	342	43	1	1	-	-	24	241	216	228	1,890
		EXP	1,299	467	731	102	-	-	-	-	-	461	445	482	3,987
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,165	909	-	255	-	-	-	-	-	1,244	-	639	4,212
	H60	SAR	288	288	-	-	-	-	71	71	-	-	-	-	718
	C-40	-	295	210	-	85	-	-	-	-	-	247	-	130	967
	JET_LRG	-	118	108	-	9	-	-	-	-	-	-	-	-	235
Total			10,661	4,794	4,886	982	522	522	71	71	1,785	5,728	2,108	5,760	37,890

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					311	311	-	-	4,051	-			4,673
		FRS					210	210	-	-	2,760	-			3,180
		RES					1	1	-	-	25	-			27
	H60	SAR					-	-	71	71	-	141			283
Total			-	-	-	-	522	522	71	71	6,836	141	-	-	8,163

Total Annual EA-18G FCLP-Related Ops			
	Ault =	1,785	18%
	NOLF =	7,880	82%
	Total =	9,665	

Grand Total (Ault+NOLF)	46,053

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-14 Detailed Annual School Day Flight Operations for the Average Year Alternative 3B

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,265	1,501	2,438	326	212	212	-	-	2,822	1,805	1,497	1,906	16,984
		FRS	2,713	1,164	1,410	140	116	116	-	-	2,003	1,995	-	2,350	12,007
		RES	603	204	357	42	2	2	-	-	59	251	226	235	1,981
		EXP	1,306	466	731	109	-	-	-	-	-	431	466	455	3,964
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,177	960	-	217	-	-	-	-	-	1,264	-	633	4,251
	H60	SAR	291	291	-	-	-	-	72	72	-	-	-	-	726
	C-40	-	298	218	-	79	-	-	-	-	-	241	-	127	963
	JET_LRG	-	122	112	-	10	-	-	-	-	-	-	-	-	244
Total			10,775	4,916	4,936	923	330	330	72	72	4,884	5,987	2,189	5,706	41,120

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					212	212	-	-	2,751	-			3,175
		FRS					116	116	-	-	1,488	-			1,720
		RES					2	2	-	-	30	-			34
	H60	SAR					-	-	72	72	-	145			289
Total			-	-	-	-	330	330	72	72	4,269	145	-	-	5,218

Total Annual EA-18G FCLP-Related Ops			
	Ault =	4,884	50%
	NOLF =	4,929	50%
	Total =	9,813	

Grand Total (Ault+NOLF)	46,338

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-15 Detailed Annual School Day Flight Operations for the Average Year Alternative 3C

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,322	1,555	2,441	326	81	81	-	-	4,079	1,964	1,474	1,883	18,206
		FRS	2,693	1,186	1,381	127	47	47	-	-	3,695	2,173	-	2,451	13,800
		RES	610	200	353	57	2	2	-	-	42	258	229	245	1,998
		EXP	1,355	487	758	111	-	-	-	-	-	462	422	473	4,068
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,169	943	-	226	-	-	-	-	-	1,220	-	622	4,180
	H60	SAR	292	292	-	-	-	-	74	74	-	-	-	-	732
	C-40	-	298	216	-	82	-	-	-	-	-	244	-	126	966
	JET_LRG	-	125	110	-	15	-	-	-	-	-	-	-	-	250
Total			10,864	4,989	4,933	944	130	130	74	74	7,816	6,321	2,125	5,800	44,200

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					81	81	-	-	1,058	-			1,220
		FRS					47	47	-	-	624	-			718
		RES					2	2	-	-	26	-			30
	H60	SAR					-	-	74	74	-	149			297
Total			-	-	-	-	130	130	74	74	1,708	149	-	-	2,265

Total Annual EA-18G FCLP-Related Ops			
	Ault =	7,816	80%
	NOLF =	1,968	20%
	Total =	9,784	

Grand Total (Ault+NOLF)	46,465

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-16 Detailed Annual School Day Flight Operations for the Average Year Alternative 3D

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,234	1,469	2,411	354	272	272	-	-	1,622	1,710	1,447	1,953	15,744
		FRS	2,673	1,138	1,402	134	184	184	-	-	1,020	1,825	-	2,328	10,888
		RES	589	205	342	43	1	1	-	-	36	241	216	228	1,902
		EXP	1,299	467	731	102	-	-	-	-	-	461	445	482	3,987
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,165	909	-	255	-	-	-	-	-	1,244	-	639	4,212
	H60	SAR	288	288	-	-	-	-	71	71	-	-	-	-	718
	C-40	-	295	210	-	85	-	-	-	-	-	247	-	130	967
	JET_LRG	-	118	108	-	9	-	-	-	-	-	-	-	-	235
Total			10,661	4,794	4,886	982	457	457	71	71	2,678	5,728	2,108	5,760	38,653

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					272	272	-	-	3,545	-			4,089
		FRS					184	184	-	-	2,415	-			2,783
		RES					1	1	-	-	22	-			24
	H60	SAR					-	-	71	71	-	141			283
Total			-	-	-	-	457	457	71	71	5,982	141	-	-	7,179

Total Annual EA-18G FCLP-Related Ops			
	Ault =	2,678	28%
	NOLF =	6,896	72%
	Total =	9,574	

Grand Total (Ault+NOLF)	45,832

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-17 Detailed Annual School Day Flight Operations for the Average Year Alternative 3E

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,322	1,555	2,441	326	122	122	-	-	3,569	1,964	1,474	1,883	17,778
		FRS	2,693	1,186	1,381	127	71	71			3,233	2,173	-	2,451	13,386
		RES	610	200	353	57	3	3			37	258	229	245	1,995
		EXP	1,355	487	758	111	-	-			-	462	422	473	4,068
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,169	943	-	226	-	-	-	-	-	1,220	-	622	4,180
	H60	SAR	292	292	-	-	-	-	74	74	-	-	-	-	732
	C-40	-	298	216	-	82	-	-	-	-	-	244	-	126	966
	JET_LRG	-	125	110	-	15	-	-	-	-	-	-	-	-	250
Total			10,864	4,989	4,933	944	196	196	74	74	6,839	6,321	2,125	5,800	43,355

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					122	122	-	-	1,587	-			1,831
		FRS					71	71	-	-	936	-			1,078
		RES					3	3	-	-	39	-			45
	H60	SAR					-	-	74	74	-	149			297
Total			-	-	-	-	196	196	74	74	2,562	149	-	-	3,251

Total Annual EA-18G FCLP-Related Ops			
	Ault =	6,839	70%
	NOLF =	2,954	30%
	Total =	9,793	

Grand Total (Ault+NOLF)	46,606

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-18 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Year Baseline Alternative

Airfield	Aircraft	Squadrons	Departure	Arrival: VFR SI/ Non-Break	Arrival: Overhead Break	Arrival: IFR	Interfacility: Departure to OLF	Interfacility: Break Arrival from OLF	Interfacility: Helo Departure to OLF	Interfacility: Helo Arrival from OLF	Closed Pattern*: FCLP	Closed Pattern*: T&G	Closed Pattern*: ReEnter	Closed Pattern*: GCA/CCA	Total
Ault Field	EA18	CVW	2,556	882	1,423	204	45	39	-	-	2,370	1,088	765	1,016	10,388
		FRS	1,064	387	551	91	-	-	-	-	-	336	300	356	3,085
		RES	2,817	1,197	1,416	152	28	20	-	-	3,424	2,062	-	2,374	13,490
		EXP	563	193	314	34	3	-	-	-	48	232	183	202	1,772
	EP3	All	313	186	-	184	-	-	-	-	-	590	-	288	1,561
	P3	All	921	292	-	118	-	-	-	-	-	2,766	-	1,196	5,293
	P8	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	H60	SAR	287	256	-	-	-	-	67	67	-	-	-	-	677
	C-40	-	95	103	-	13	-	-	-	-	-	-	-	-	211
	JET_LR(	-	287	190	-	66	-	-	-	-	-	210	-	116	869
Total			8,903	3,686	3,704	862	76	59	67	67	5,842	7,284	1,248	5,548	37,346

Airfield	Aircraft	Squadrons	Departure	Arrival: VFR SI/ Non-Break	Arrival: Overhead Break	Arrival: IFR	Interfacility: FCLP Break Arrival from Ault	Interfacility: FCLP Departure to Ault	Interfacility: Helo Arrival from Ault	Interfacility: Helo Departure to Ault	Closed Pattern*: FCLP	Closed Pattern*: T&G	Closed Pattern*: ReEnter	Closed Pattern*: GCA/CCA	Total
NOLF	EA18	CVW	-	-	-	-	45	39	-	-	570	-	-	-	654
		FRS	-	-	-	-	-	-	-	-	380	-	-	-	380
		RES	-	-	-	-	28	20	-	-	12	-	-	-	60
	H60	SAR	-	-	-	-	-	-	67	67	-	133	-	-	267
Total			-	-	-	-	73	59	67	67	962	133	-	-	1,361

Total Annual EA-18G FCLP-Related Ops			
	Ault =	5,842	84%
	NOLF =	1,094	16%
	Total =	6,936	

Grand Total (Ault+NOLF)	38,707

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-19 Detailed Annual School Day Flight Operations for the High Tempo FCLP Year Year No Action Alternative

Airfield	Aircraft	Squadrons	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	2,443	950	1,463	170	43	42	-	-	1,561	1,136	783	1,117	9,708
		FRS	2,728	1,232	1,442	117	39	34	-	-	1,938	1,988	-	2,307	11,825
		RES	539	180	331	51	6	6	-	-	105	238	220	243	1,919
		EXP	995	401	563	77	-	-	-	-	-	350	340	375	3,101
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,224	392	-	101	-	-	-	-	-	1,266	-	630	3,613
	H60	SAR	293	305	-	-	-	-	75	75	-	-	-	-	748
	C-40	-	300	222	-	87	-	-	-	-	-	254	-	132	995
	JET_LRG	-	122	98	-	11	-	-	-	-	-	-	-	-	231
Total			8,644	3,780	3,799	614	88	82	75	75	3,604	5,232	1,343	4,804	32,140

Airfield	Aircraft	Squadrons	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					43	42	-	-	598	-			683
		FRS					39	34	-	-	517	-			590
		RES					6	6	-	-	88	-			100
	H60	SAR					-	-	75	75	-	149			299
Total			-	-	-	-	88	82	75	75	1,203	149	-	-	1,672

Total Annual EA-18G FCLP-Related Ops			
	Ault =	3,604	72%
	NOLF =	1,373	28%
	Total =	4,977	

Grand Total (Ault+NOLF)	33,812

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-20 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Year Alternative 1A

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,183	1,489	2,364	329	375	375	-	-	1,107	1,654	1,470	1,920	15,266
		FRS	2,712	1,155	1,404	153	182	182	-	-	722	1,866	-	2,247	10,623
		RES	532	179	334	20	8	8	-	-	77	264	228	245	1,895
		EXP	1,012	372	544	96	-	-	-	-	-	352	308	362	3,046
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,178	918	-	260	-	-	-	-	-	1,288	-	644	4,288
	H60	SAR	284	284	-	-	-	-	73	73	-	-	-	-	714
	C-40	-	307	224	-	83	-	-	-	-	-	242	-	124	980
		-	147	133	-	14	-	-	-	-	-	-	-	-	294
Total			10,355	4,754	4,646	955	565	565	73	73	1,906	5,666	2,006	5,542	37,106

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					375	375	-	-	4,883	-			5,633
		FRS					182	182	-	-	2,381	-			2,745
		RES					8	8	-	-	110	-			126
	H60	SAR					-	-	73	73	-	146			292
Total			-	-	-	-	565	565	73	73	7,374	146	-	-	8,796

Total Annual EA-18G FCLP-Related Ops			
	Ault =	1,906	18%
	NOLF =	8,504	82%
	Total =	10,410	

Grand Total (Ault+NOLF)	45,902

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-21 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 1B

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,142	1,464	2,335	343	221	221	-	-	2,991	1,908	1,501	2,006	17,132
		FRS	2,750	1,197	1,418	134	126	126	-	-	2,169	1,998	-	2,408	12,326
		RES	544	179	328	37	6	6	-	-	106	279	198	263	1,946
		EXP	980	362	544	74	-	-	-	-	-	304	312	318	2,894
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,179	956	-	223	-	-	-	-	-	1,303	-	651	4,312
	H60	SAR	294	294	-	-	-	-	72	72	-	-	-	-	732
	C-40	-	299	219	-	80	-	-	-	-	-	244	-	129	971
	JET_LRG	-	131	122	-	9	-	-	-	-	-	-	-	-	262
Total			10,319	4,793	4,625	900	353	353	72	72	5,266	6,036	2,011	5,775	40,575

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					221	221	-	-	2,825	-			3,267
		FRS					126	126	-	-	1,688	-			1,940
		RES					6	6	-	-	92	-			104
	H60	SAR					-	-	72	72	-	145			289
Total			-	-	-	-	353	353	72	72	4,605	145	-	-	5,600

Total Annual EA-18G FCLP-Related Ops			
	Ault =	5,266	50%
	NOLF =	5,311	50%
	Total =	10,577	

Grand Total (Ault+NOLF)	46,175

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-22 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 1C

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,190	1,465	2,340	385	82	82	-	-	5,067	2,133	1,450	1,983	19,177
		FRS	2,744	1,178	1,411	156	57	57	-	-	3,336	2,155	-	2,439	13,533
		RES	543	181	319	44	5	5	-	-	24	228	208	224	1,781
		EXP	1,026	387	542	99	-	-	-	-	-	351	316	356	3,077
	EP3	All													-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,174	948	-	226	-	-	-	-	-	1,232	-	591	4,171
	H60	SAR	298	298	-	-	-	-	71	71	-	-	-	-	738
	C-40	-	299	213	-	86	-	-	-	-	-	273	-	136	1,007
	JET_LRG	-	136	123	-	13	-	-	-	-	-	-	-	-	272
Total			10,410	4,793	4,612	1,009	144	144	71	71	8,427	6,372	1,974	5,729	43,756

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					82	82	-	-	990	-			1,154
		FRS					57	57	-	-	779	-			893
		RES					5	5	-	-	69	-			79
	H60	SAR					-	-	71	71	-	142			284
Total			-	-	-	-	144	144	71	71	1,838	142	-	-	2,410

Total Annual EA-18G FCLP-Related Ops			
	Ault =	8,427	80%
	NOLF =	2,126	20%
	Total =	10,553	

Grand Total (Ault+NOLF)	46,166

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-23 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 1D

Airfield	Aircraft	Squadron	Departure	Arrival: VFR SI/ Non-Break	Arrival: Overhead Break	Arrival: IFR	Interfacility: Departure to OLF	Interfacility: Break Arrival from OLF	Interfacility: Helo Departure to OLF	Interfacility: Helo Arrival from OLF	Closed Pattern*: FCLP	Closed Pattern*: T&G	Closed Pattern*: ReEnter	Closed Pattern*: GCA/CCA	Total
Ault Field	EA18	CVW	4,183	1,489	2,364	329	328	328	-	-	1,661	1,654	1,470	1,920	15,726
		FRS	2,712	1,155	1,404	153	159	159	-	-	1,083	1,866	-	2,247	10,938
		RES	532	179	334	20	7	7	-	-	116	264	228	245	1,932
		EXP	1,012	372	544	96	-	-	-	-	-	352	308	362	3,046
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,178	918	-	260	-	-	-	-	-	1,288	-	644	4,288
	H60	SAR	284	284	-	-	-	-	73	73	-	-	-	-	714
	C-40	-	307	224	-	83	-	-	-	-	-	242	-	124	980
		-	147	133	-	14	-	-	-	-	-	-	-	-	294
Total			10,355	4,754	4,646	955	494	494	73	73	2,860	5,666	2,006	5,542	37,918

Airfield	Aircraft	Squadron	Departure	Arrival: VFR SI/ Non-Break	Arrival: Overhead Break	Arrival: IFR	Interfacility: FCLP Break Arrival from Ault	Interfacility: FCLP Departure to Ault	Interfacility: Helo Arrival from Ault	Interfacility: Helo Departure to Ault	Closed Pattern*: FCLP	Closed Pattern*: T&G	Closed Pattern*: ReEnter	Closed Pattern*: GCA/CCA	Total
NOLF	EA18	CVW					328	328	-	-	4,273	-			4,929
		FRS					159	159	-	-	2,083	-			2,401
		RES					7	7	-	-	96	-			110
	H60	SAR					-	-	73	73	-	146			292
Total			-	-	-	-	494	494	73	73	6,452	146	-	-	7,732

Total Annual EA-18G FCLP-Related Ops			
	Ault =	2,860	28%
	NOLF =	7,440	72%
	Total =	10,300	

Grand Total (Ault+NOLF)	45,650

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-24 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 1E

Airfield	Aircraft	Squadron	Departure	Arrival: VFR SI/ Non-Break	Arrival: Overhead Break	Arrival: IFR	Interfacility: Departure to OLF	Interfacility: Break Arrival from OLF	Interfacility: Helo Departure to OLF	Interfacility: Helo Arrival from OLF	Closed Pattern*: FCLP	Closed Pattern*: T&G	Closed Pattern*: ReEnter	Closed Pattern*: GCA/CCA	Total
Ault Field	EA18	CVW	4,190	1,465	2,340	385	123	123	-	-	4,434	2,133	1,450	1,983	18,626
		FRS	2,744	1,178	1,411	156	86	86	-	-	2,919	2,155	-	2,439	13,174
		RES	543	181	319	44	8	8	-	-	21	228	208	224	1,784
		EXP	1,026	387	542	99	-	-	-	-	-	351	316	356	3,077
	EP3	All													-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,174	948	-	226	-	-	-	-	-	1,232	-	591	4,171
	H60	SAR	298	298	-	-	-	-	71	71	-	-	-	-	738
	C-40	-	299	213	-	86	-	-	-	-	-	273	-	136	1,007
	JET_LRG	-	136	123	-	13	-	-	-	-	-	-	-	-	272
Total			10,410	4,793	4,612	1,009	217	217	71	71	7,374	6,372	1,974	5,729	42,849

Airfield	Aircraft	Squadron	Departure	Arrival: VFR SI/ Non-Break	Arrival: Overhead Break	Arrival: IFR	Interfacility: FCLP Break Arrival from Ault	Interfacility: FCLP Departure to Ault	Interfacility: Helo Arrival from Ault	Interfacility: Helo Departure to Ault	Closed Pattern*: FCLP	Closed Pattern*: T&G	Closed Pattern*: ReEnter	Closed Pattern*: GCA/CCA	Total
NOLF	EA18	CVW					123	123	-	-	1,485	-			1,731
		FRS					86	86	-	-	1,169	-			1,341
		RES					8	8	-	-	104	-			120
	H60	SAR					-	-	71	71	-	142			284
Total			-	-	-	-	217	217	71	71	2,758	142	-	-	3,476

Total Annual EA-18G FCLP-Related Ops			
	Ault =	7,374	70%
	NOLF =	3,192	30%
	Total =	10,566	

Grand Total (Ault+NOLF)	46,325

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-25 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 2A

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	**EA18**	**CVW**	3,910	1,429	2,196	284	423	423	-	-	1,295	1,566	1,332	1,861	14,719
		FRS	2,719	1,187	1,428	102	261	261	-	-	948	1,861	-	2,358	11,125
		RES	550	200	302	48	4	4	-	-	95	209	213	185	1,810
		EXP	1,628	578	935	115	-	-	-	-	-	516	574	520	4,866
	EP3	**All**	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	**All**	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	**All**	1,190	976	-	214	-	-	-	-	-	1,068	-	568	4,016
	H60	**SAR**	297	297	-	-	-	-	71	71	-	-	-	-	736
	C-40	-	298	216	-	82	-	-	-	-	-	251	-	132	979
	JET_LRG	-	125	116	-	8	-	-	-	-	-	-	-	-	249
Total			**10,717**	**4,999**	**4,861**	**853**	**688**	**688**	**71**	**71**	**2,338**	**5,471**	**2,119**	**5,624**	**38,500**

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	**EA18**	**CVW**					423	423	-	-	4,394	-			5,240
		FRS					261	261	-	-	2,646	-			3,168
		RES					4	4	-	-	46	-			54
	H60	**SAR**					-	-	71	71	-	143			285
Total			**-**	**-**	**-**	**-**	**688**	**688**	**71**	**71**	**7,086**	**143**	**-**	**-**	**8,747**

Total Annual EA-18G FCLP-Related Ops			
	Ault =	2,338	22%
	NOLF =	8,462	78%
	Total =	10,800	

Grand Total (Ault+NOLF)	47,247

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-26 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 2B

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	3,914	1,384	2,206	325	221	221	-	-	3,036	1,851	1,310	1,920	16,388
		FRS	2,696	1,187	1,380	130	114	114	-	-	1,934	1,999	-	2,334	11,888
		RES	544	187	310	47	7	7	-	-	99	204	204	206	1,815
		EXP	1,601	563	886	153	-	-	-	-	-	536	506	549	4,794
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,143	911	-	233	-	-	-	-	-	1,316	-	639	4,242
	H60	SAR	294	294	-	-	-	-	73	73	-	-	-	-	734
	C-40	-	294	216	-	78	-	-	-	-	-	253	-	137	978
	JET_LRG	-	114	105	-	9	-	-	-	-	-	-	-	-	228
Total			10,600	4,847	4,782	975	342	342	73	73	5,069	6,159	2,020	5,785	41,067

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					221	221	-	-	2,876	-			3,318
		FRS					114	114	-	-	1,455	-			1,683
		RES					7	7	-	-	99	-			113
	H60	SAR					-	-	73	73	-	145			291
Total			-	-	-	-	342	342	73	73	4,430	145	-	-	5,405

Total Annual EA-18G FCLP-Related Ops			
	Ault =	5,069	50%
	NOLF =	5,114	50%
	Total =	10,183	

Grand Total (Ault+NOLF)	46,472

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-27 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 2C

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	3,991	1,404	2,268	319	88	88	-	-	4,353	1,986	1,272	1,894	17,663
		FRS	2,721	1,179	1,419	123	43	43	-	-	3,641	2,150	-	2,380	13,699
		RES	574	193	319	62	5	5	-	-	114	205	208	201	1,886
		EXP	1,673	611	931	131	-	-	-	-	-	489	584	524	4,943
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,193	976	-	218	-	-	-	-	-	1,146	-	585	4,118
	H60	SAR	293	293	-	-	-	-	75	75	-	-	-	-	736
	C-40	-	297	223	-	74	-	-	-	-	-	236	-	127	957
	JET_LRG	-	133	122	-	11	-	-	-	-	-	-	-	-	266
Total			10,875	5,001	4,937	938	136	136	75	75	8,108	6,212	2,064	5,711	44,268

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					88	88	-	-	1,132	-			1,308
		FRS					43	43	-	-	574	-			660
		RES					5	5	-	-	67	-			77
	H60	SAR					-	-	75	75	-	149			299
Total			-	-	-	-	136	136	75	75	1,773	149	-	-	2,344

Total Annual EA-18G FCLP-Related Ops			
	Ault =	8,108	80%
	NOLF =	2,045	20%
	Total =	10,153	

Grand Total (Ault+NOLF)	46,612

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-28 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 2D

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	3,910	1,429	2,196	284	370	370	-	-	1,943	1,566	1,332	1,861	15,261
		FRS	2,719	1,187	1,428	102	228	228	-	-	1,422	1,861	-	2,358	11,533
		RES	550	200	302	48	4	4	-	-	143	209	213	185	1,858
		EXP	1,628	578	935	115	-	-	-	-	-	516	574	520	4,866
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,190	976	-	214	-	-	-	-	-	1,068	-	568	4,016
	H60	SAR	297	297	-	-	-	-	71	71	-	-	-	-	736
	C-40	-	298	216	-	82	-	-	-	-	-	251	-	132	979
	JET_LRG	-	125	116	-	8	-	-	-	-	-	-	-	-	249
Total			10,717	4,999	4,861	853	602	602	71	71	3,508	5,471	2,119	5,624	39,498

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departur e to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					370	370	-	-	3,845	-			4,585
		FRS					228	228	-	-	2,133	-			2,589
		RES					4	4	-	-	215	-			223
	H60	SAR					-	-	71	71	-	143			285
Total			-	-	-	-	602	602	71	71	6,193	143	-	-	7,682

Total Annual EA-18G FCLP-Related Ops	Ault =	3,508	32%
	NOLF =	7,397	68%
	Total =	10,905	

Grand Total (Ault+NOLF)	47,180

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-29 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 2E

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	3,991	1,404	2,268	319	132	132	-	-	3,809	1,986	1,272	1,894	17,207
		FRS	2,721	1,179	1,419	123	65	65	-	-	3,186	2,150	-	2,380	13,288
		RES	574	193	319	62	8	8	-	-	100	205	208	201	1,878
		EXP	1,673	611	931	131	-	-	-	-	-	489	584	524	4,943
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,193	976	-	218	-	-	-	-	-	1,146	-	585	4,118
	H60	SAR	293	293	-	-	-	-	75	75	-	-	-	-	736
	C-40	-	297	223	-	74	-	-	-	-	-	236	-	127	957
	JET_LRG	-	133	122	-	11	-	-	-	-	-	-	-	-	266
Total			10,875	5,001	4,937	938	205	205	75	75	7,095	6,212	2,064	5,711	43,393

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					132	132	-	-	1,698	-			1,962
		FRS					65	65	-	-	861	-			991
		RES					8	8	-	-	101	-			117
	H60	SAR					-	-	75	75	-	149			299
Total			-	-	-	-	205	205	75	75	2,660	149	-	-	3,369

Total Annual EA-18G FCLP-Related Ops			
	Ault =	7,095	70%
	NOLF =	3,070	30%
	Total =	10,165	

Grand Total (Ault+NOLF)	46,762

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-30 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 3A

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,027	1,416	2,158	452	327	327	-	-	1,121	1,575	1,312	1,870	14,585
		FRS	2,678	1,139	1,337	202	200	200	-	-	787	1,753	-	2,325	10,621
		RES	537	181	312	46	5	5	-	-	75	241	187	227	1,816
		EXP	1,598	541	879	177	-	-	-	-	-	571	582	597	4,945
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,195	906	-	289	-	-	-	-	-	1,161	-	589	4,140
	H60	SAR	283	283	-	-	-	-	73	73	-	-	-	-	712
	C-40	-	298	204	-	94	-	-	-	-	-	255	-	132	983
	JET_LRG	-	119	111	-	8	-	-	-	-	-	-	-	-	238
Total			10,735	4,781	4,686	1,268	532	532	73	73	1,983	5,556	2,081	5,740	38,040

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					327	327	-	-	4,325	-			4,979
		FRS					200	200	-	-	2,710	-			3,110
		RES					5	5	-	-	67	-			77
	H60	SAR					-	-	73	73	-	146			292
Total			-	-	-	-	532	532	73	73	7,102	146	-	-	8,458

Total Annual EA-18G FCLP-Related Ops			
	Ault =	1,983	20%
	NOLF =	8,166	80%
	Total =	10,149	

Grand Total (Ault+NOLF)	46,498

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-31 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 3B

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	3,988	1,460	2,166	364	215	215	-	-	3,089	1,735	1,264	1,784	16,280
		FRS	2,748	1,183	1,397	168	130	130	-	-	1,910	2,034	-	2,374	12,074
		RES	554	187	327	39	4	4	-	-	65	225	199	216	1,820
		EXP	1,625	564	900	160	-	-	-	-	-	548	618	574	4,989
	EP3	All													-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,182	941	-	241	-	-	-	-	-	1,294	-	626	4,284
	H60	SAR	291	291	-	-	-	-	73	73	-	-	-	-	728
	C-40	-	297	216	-	81	-	-	-	-	-	237	-	130	961
	JET_LRG	-	125	116	-	8	-	-	-	-	-	-	-	-	249
Total			10,810	4,958	4,790	1,061	349	349	73	73	5,064	6,073	2,081	5,704	41,385

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					215	215	-	-	2,664	-			3,094
		FRS					130	130	-	-	1,691	-			1,951
		RES					4	4	-	-	62	-			70
	H60	SAR					-	-	73	73	-	146			292
Total			-	-	-	-	349	349	73	73	4,417	146	-	-	5,407

Total Annual EA-18G FCLP-Related Ops			
	Ault =	5,064	50%
	NOLF =	5,115	50%
	Total =	10,179	

Grand Total (Ault+NOLF)	46,792

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-32 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 3C

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,020	1,431	2,238	352	92	92	-	-	4,676	1,967	1,394	1,795	18,057
		FRS	2,693	1,204	1,354	135	39	39	-	-	3,396	2,080	-	2,415	13,355
		RES	565	199	318	49	3	3	-	-	29	234	214	225	1,839
		EXP	1,681	602	938	141	-	-	-	-	-	552	580	563	5,057
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,198	953	-	245	-	-	-	-	-	1,260	-	661	4,317
	H60	SAR	285	285	-	-	-	-	74	74	-	-	-	-	718
	C-40	-	296	211	-	85	-	-	-	-	-	251	-	131	974
	JET_LRG	-	126	110	-	15	-	-	-	-	-	-	-	-	251
Total			10,864	4,995	4,848	1,022	134	134	74	74	8,101	6,344	2,188	5,790	44,568

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					92	92	-	-	1,206	-			1,390
		FRS					39	39	-	-	536	-			614
		RES					3	3	-	-	33	-			39
	H60	SAR					-	-	74	74	-	148			296
Total			-	-	-	-	134	134	74	74	1,775	148	-	-	2,339

Total Annual EA-18G FCLP-Related Ops			
	Ault =	8,101	80%
	NOLF =	2,043	20%
	Total =	10,144	

Grand Total (Ault+NOLF)	46,907

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-33 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 3D

Airfield	Aircraft	Squadron	Departure	Arrival: VFR SI/ Non-Break	Arrival: Overhead Break	Arrival: IFR	Interfacility: Departure to OLF	Interfacility: Break Arrival from OLF	Interfacility: Helo Departure to OLF	Interfacility: Helo Arrival from OLF	Closed Pattern*: FCLP	Closed Pattern*: T&G	Closed Pattern*: ReEnter	Closed Pattern*: GCA/CCA	Total
Ault Field	EA18	CVW	4,027	1,416	2,158	452	286	286	-	-	1,682	1,575	1,312	1,870	15,064
		FRS	2,678	1,139	1,337	202	175	175	-	-	1,181	1,753	-	2,325	10,965
		RES	537	181	312	46	4	4	-	-	113	241	187	227	1,852
		EXP	1,598	541	879	177	-	-	-	-	-	571	582	597	4,945
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,195	906	-	289	-	-	-	-	-	1,161	-	589	4,140
	H60	SAR	283	283	-	-	-	-	73	73	-	-	-	-	712
	C-40	-	298	204	-	94	-	-	-	-	-	255	-	132	983
	JET_LRG	-	119	111	-	8	-	-	-	-	-	-	-	-	238
Total			10,735	4,781	4,686	1,268	465	465	73	73	2,976	5,556	2,081	5,740	38,899

Airfield	Aircraft	Squadron	Departure	Arrival: VFR SI/ Non-Break	Arrival: Overhead Break	Arrival: IFR	Interfacility: FCLP Break Arrival from Ault	Interfacility: FCLP Departure to Ault	Interfacility: Helo Arrival from Ault	Interfacility: Helo Departure to Ault	Closed Pattern*: FCLP	Closed Pattern*: T&G	Closed Pattern*: ReEnter	Closed Pattern*: GCA/CCA	Total
NOLF	EA18	CVW					286	286	-	-	3,784	-			4,356
		FRS					175	175	-	-	2,371	-			2,721
		RES					4	4	-	-	59	-			67
	H60	SAR					-	-	73	73	-	146			292
Total			-	-	-	-	465	465	73	73	6,214	146	-	-	7,436

Total Annual EA-18G FCLP-Related Ops			
	Ault =	2,976	29%
	NOLF =	7,144	71%
	Total =	10,120	

Grand Total (Ault+NOLF)	46,335

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

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Table A2-34 Detailed Annual School Day Flight Operations for the High-Tempo FCLP Year Alternative 3E

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	Departure to OLF	Break Arrival from OLF	Helo Departure to OLF	Helo Arrival from OLF	FCLP	T&G	ReEnter	GCA/CCA	
Ault Field	EA18	CVW	4,020	1,431	2,238	352	138	138	-	-	4,092	1,967	1,394	1,795	17,565
		FRS	2,693	1,204	1,354	135	59	59	-	-	2,972	2,080	-	2,415	12,971
		RES	565	199	318	49	5	5	-	-	25	234	214	225	1,839
		EXP	1,681	602	938	141	-	-	-	-	-	552	580	563	5,057
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,198	953	-	245	-	-	-	-	-	1,260	-	661	4,317
	H60	SAR	285	285	-	-	-	-	74	74	-	-	-	-	718
	C-40	-	296	211	-	85	-	-	-	-	-	251	-	131	974
	JET_LRG	-	126	110	-	15	-	-	-	-	-	-	-	-	251
Total			10,864	4,995	4,848	1,022	202	202	74	74	7,089	6,344	2,188	5,790	43,692

Airfield	Aircraft	Squadron	Departure	Arrival			Interfacility				Closed Pattern*				Total
				VFR SI/ Non-Break	Overhead Break	IFR	FCLP Break Arrival from Ault	FCLP Departure to Ault	Helo Arrival from Ault	Helo Departure to Ault	FCLP	T&G	ReEnter	GCA/CCA	
NOLF	EA18	CVW					138	138	-	-	1,809	-			2,085
		FRS					59	59	-	-	804	-			922
		RES					5	5	-	-	50	-			60
	H60	SAR					-	-	74	74	-	148			296
Total			-	-	-	-	202	202	74	74	2,663	148	-	-	3,363

Total Annual EA-18G FCLP-Related Ops			
	Ault =	7,089	70%
	NOLF =	3,067	30%
	Total =	10,156	

Grand Total (Ault+NOLF)	47,055

* Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-35 Summary of Annual Flight Operations for the High-Tempo FCLP Year Baseline Scenario

Airfield	Aircraft Type or Category	Type of Flight Operation		Total
		FCLP (2)	Other (3)	
Ault Field	EA-18G	17,300	52,800	70,100
	Other Based	-	17,500	17,500
	Transient	-	2,300	2,300
	Subtotal	17,300	72,600	89,900
OLF Coupeville (4)	EA-18G	6,100	-	6,100
	HH-60	-	400	400
	Subtotal	6,100	400	6,500
Total (both airfields)		**23,400**	**73,000**	**98,400**

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Ault Field, includes departures, arrivals, pattern operations and interfac
For the OLF, includes HH-60 interfacility departures, arrivals and pattern wo
(4) excludes 900 interfacility Growler operations (FCLP-related).

Table A2-36 Detailed Annual Flight Operations for the High-Tempo FCLP Year Baseline Scenario

Airfield	Aircraft	Squadrons	Departure			Arrival: VFR SI/ Non-Break			Arrival: Overhead Break				Arrival: IFR		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	4,522	244	4,766	1,592	63	1,655	1,496	1,160	110	2,766	332	6	338
		FRS	6,151	405	6,556	2,333	319	2,652	1,506	1,439	690	3,635	230	39	269
		RES	1,122	85	1,207	393	25	418	435	251	26	712	72	2	74
		EXP	1,843	90	1,933	694	22	716	605	430	40	1,075	136	4	140
	EP3	All	644	126	770	398	17	415	-	-	-	-	349	-	349
	P3	All	1,601	103	1,704	1,306	129	1,435	-	-	-	-	261	7	268
	P8	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	H60	SAR	382	-	382	382	-	382	-	-	-	-	-	-	-
	C-40	-	390	-	390	284	-	284	-	-	-	-	106	-	106
	JET_LRG	-	392	115	507	361	100	461	-	-	-	-	32	14	46
Total			17,047	1,168	18,215	7,743	675	8,418	4,042	3,280	866	8,188	1,518	72	1,590

Airfield	Aircraft	Squadrons	Interfacility: Departure to OLF				Interfacility: Break Arrival from OLF				Interfacility: Helo Departure to OLF			Interfacility: Helo Arrival from OLF		
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	126	-	40	166	74	39	53	166	-	-		-	-	
		FRS	173	-	25	198	99	62	37	198	-	-		-	-	
		RES	19	-	-	19	9	9	-	18	-	-		-	-	
		EXP	-	-	-	0	-	-	-	0	-	-		-	-	
	EP3	All									-	-		-	-	
	P3	All									-	-		-	-	
	P8	All									-	-		-	-	
	H60	SAR									90	-	90	90	-	90
	C-40	-									-	-		-	-	
	JET_LRG	-									-	-		-	-	
Total			318	-	65	383	182	110	90	382	90	-	90	90	-	90

Airfield	Aircraft	Squadrons	Interfacility: Break Arrival from Ault				Interfacility: Departure to Ault				Interfacility: Helo Arrival from Ault			Interfacility: Helo Departure to Ault		
			Day (0700-2200) Daylight	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) Daylight	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW	126	-	40	166	74	39	53	166						
		FRS	173	-	25	198	99	62	37	198						
		RES	19	-	-	19	9	9	-	18						
	H60	SAR									90	-	90	90	-	90
Total			318	-	65	383	182	110	90	382	90	-	90	90	-	90

Airfield	Aircraft	Squadrons	Closed Pattern*: FCLP				Closed Pattern*: T&G			
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total
Ault Field	EA18	CVW	2,541	4,793	2,210	9,544	584	1,958	488	3,030
		FRS	1,519	5,086	905	7,510	866	3,514	1,042	5,422
		RES	71	99	-	170	16	518	8	542
		EXP	-	-	-	0	-	632	12	644
	EP3	All					-	1,260	-	1,260
	P3	All					-	6,438	332	6,770
	P8	All					-	-	-	-
	H60	SAR					-	-	-	-
	C-40	-					-	324	-	324
	JET_LRG	-					-	-	-	-
Total			4,131	9,978	3,115	17,224	1,466	14,644	1,882	17,992
OLF	EA18	CVW	984	724	624	2,332				
		FRS	1,308	1,063	393	2,764				
		RES	120	139	-	259				
	H60	SAR					180	-	-	180
Total			2,412	1,926	1,017	5,355	180	-	-	180

Airfield	Aircraft	Squadrons	Closed Pattern*: ReEnter			Closed Pattern*: GCA/CCA			TOTAL		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	1,448	56	1,504	2,616	1,446	4,062	23,281	4,716	27,997
		FRS	-	-	0	4,718	938	5,656	27,696	4,400	32,096
		RES	406	4	410	544	8	552	3,964	158	4,122
		EXP	588	36	624	622	12	634	5,550	216	5,766
	EP3	All	-	-		636	-	636	3,287	143	3,430
	P3	All	-	-		2,840	124	2,964	12,446	695	13,141
	P8	All	-	-		-	-	-	-	-	-
	H60	SAR	-	-		-	-	-	944	-	944
	C-40	-	-	-		162	-	162	1,266	-	1,266
	JET_LRG	-	-	-		-	-	-	785	229	1,014
Total			2,442	96	2,538	12,138	2,528	14,666	79,219	10,557	89,776
OLF	EA18	CVW							1,947	717	2,664
		FRS							2,705	455	3,160
		RES							296	-	296
	H60	SAR							360	-	360
Total									5,308	1,172	6,480

Total Annual EA-18G FCLP-Related Ops			
	Ault =	17,224	(73.8%)
	OLF =	6,120	(26.2%)
	Total =	23,344	

	Day	Night	Total
Grand Total (Ault+Coupeville)	84,527	11,729	96,256

Notes:

** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

DL = Daylight, DK = Darkness

Table A2-37 Summary of Annual Flight Operations for the High-Tempo FCLP Year No Action Alternative

Airfield	Aircraft Type or Category	No Action Alternative (High Tempo Year)			Change from Baseline		
		Type of Flight Operation			Type of Flight Operation		
		FCLP (2)	Other (3)	Total	FCLP (2)	Other	Total
Ault Field	EA-18G	14,000	53,600	67,600	-3,300	+800	-2,500
	Other Based	-	11,400	11,400	-	-6,100	-6,100
	Transient	-	2,300	2,300	-	-	-
	Subtotal	14,000	67,300	81,300	-3,300	-5,300	-8,600
OLF Coupeville (4)	EA-18G	6,100	-	6,100	-	-	-
	HH-60	-	400	400	-	-	-
	Subtotal	6,100	400	6,500	-	-	-
TOTAL (both airfields)		20,100	67,700	87,800	-3,300	-5,300	-8,600

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations;
For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(4) Excludes 900 interfacility Growler operations (Baseline and No Action).

Table A2-38 Detailed Annual Flight Operations for the High-Tempo FCLP Year No Action Alternative

Airfield	Aircraft	Squadrons	Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	Arrival VFR SI/Non-Break Day (0700-2200)	Arrival VFR SI/Non-Break Night (2200-0700)	Arrival VFR SI/Non-Break Total	Arrival Overhead Break Day (0700-2200) DL	Arrival Overhead Break Day (0700-2200) DK	Arrival Overhead Break Night (2200-0700) DK	Arrival Overhead Break Total	Arrival IFR Day (0700-2200)	Arrival IFR Night (2200-0700)	Arrival IFR Total
Ault Field	EA18	CVW	4,478	305	4,783	1,686	44	1,730	1,575	1,131	69	2,775	271	4	275
		FRS	6,163	401	6,564	2,342	345	2,687	1,523	1,464	663	3,650	205	22	227
		RES	1,135	72	1,207	385	19	404	454	233	33	720	76	5	81
		EXP	1,822	116	1,938	697	25	722	648	413	39	1,100	107	4	111
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,918	104	2,022	1,408	255	1,663	-	-	-	-	304	55	359
	H60	SAR	383	-	383	383	-	383	-	-	-	-	-	-	-
	C-40	-	390	-	390	279	-	279	-	-	-	-	111	-	111
	JET_LRG	-	392	115	507	390	86	476	-	-	-	-	23	8	31
Total			16,681	1,113	17,794	7,570	774	8,344	4,200	3,241	804	8,245	1,097	98	1,195

Airfield	Aircraft	Squadrons	Interfacility Departure to OLF Day (0700-2200) DL	Departure to OLF Day (0700-2200) DK	Departure to OLF Night (2200-0700) DK	Departure to OLF Total	Break Arrival from OLF Day (0700-2200) DL	Break Arrival from OLF Day (0700-2200) DK	Break Arrival from OLF Night (2200-0700) DK	Break Arrival from OLF Total	Helo Departure to OLF Day (0700-2200)	Helo Departure to OLF Night (2200-0700)	Helo Departure to OLF Total	Helo Arrival from OLF Day (0700-2200)	Helo Arrival from OLF Night (2200-0700)	Helo Arrival from OLF Total
Ault Field	EA18	CVW	162	-	35	197	98	49	49	197	-	-		-	-	
		FRS	180	-	26	206	107	59	42	208	-	-		-	-	
		RES	17	-	2	19	10	6	4	19	-	-		-	-	
		EXP	-	-	-	0	-	-	-	0	-	-		-	-	
	EP3	All	-	-	-		-	-	-		-	-		-	-	
	P3	All	-	-	-		-	-	-		-	-		-	-	
	P8	All	-	-	-		-	-	-		-	-		-	-	
	H60	SAR	-	-	-		-	-	-		90	-	90	90	-	90
	C-40	-	-	-	-		-	-	-		-	-		-	-	
	JET_LRG	-	-	-	-		-	-	-		-	-		-	-	
Total			359	-	64	422	215	114	95	424	90	-	90	90	-	90

Airfield	Aircraft	Squadrons	Interfacility Break Arrival from Ault Day (0700-2200) Daylight	Break Arrival from Ault Day (0700-2200) DK	Break Arrival from Ault Night (2200-0700) DK	Break Arrival from Ault Total	Departure to Ault Day (0700-2200) Daylight	Departure to Ault Day (0700-2200) DK	Departure to Ault Night (2200-0700) DK	Departure to Ault Total	Helo Arrival from Ault Day (0700-2200)	Helo Arrival from Ault Night (2200-0700)	Helo Arrival from Ault Total	Helo Departure to Ault Day (0700-2200)	Helo Departure to Ault Night (2200-0700)	Helo Departure to Ault Total
OLF	EA18	CVW	162	-	35	201	98	49	49	203						
		FRS	180	-	26	215	107	59	42	216						
		RES	17	-	2	21	10	6	4	22						
	H60	SAR									90	-	90	90	-	90
Total			359	-	64	437	215	114	95	441	90	-	90	90	-	90

Airfield	Aircraft	Squadrons	Closed Pattern* FCLP Day (0700-2200) DL	FCLP Day (0700-2200) DK	FCLP Night (2200-0700) DK	FCLP Total	T&G Day (0700-2200) DL	T&G Day (0700-2200) DK	T&G Night (2200-0700) DK	T&G Total	ReEnter Day (0700-2200)	ReEnter Night (2200-0700)	ReEnter Total	GCA/CCA Day (0700-2200)	GCA/CCA Night (2200-0700)	GCA/CCA Total	TOTAL Day (0700-2200)	TOTAL Night (2200-0700)	TOTAL Total
Ault Field	EA18	CVW	3,080	2,123	2,053	7,256	554	1,996	506	3,056	1,484	40	1,524	2,802	1,412	4,214	21,490	4,517	26,007
		FRS	4,147	1,576	843	6,566	972	3,586	1,000	5,558	-	-	0	4,908	922	5,830	27,232	4,264	31,496
		RES	120	58	-	178	18	492	20	530	448	20	468	548	16	564	3,999	191	4,190
		EXP	-	-	-	0	-	656	20	676	644	20	664	650	20	670	5,637	244	5,881
	EP3	All	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-
	P3	All	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-
	P8	All	-	-	-		-	3,894	662	4,556	-	-		1,686	182	1,868	9,210	1,258	10,468
	H60	SAR	-	-	-		-	-	-	-	-	-		-	-	-	946	-	946
	C-40	-	-	-	-		-	326	-	326	-	-		164	-	164	1,270	-	1,270
	JET_LRG	-	-	-	-		-	-	-	-	-	-		-	-	-	805	209	1,014
Total			7,347	3,757	2,896	14,000	1,544	10,950	2,208	14,702	2,576	80	2,656	10,758	2,552	13,310	70,589	10,683	81,272
OLF	EA18	CVW	1,101	870	481	2,452											2,281	565	2,846
		FRS	1,198	1,029	356	2,583											2,573	424	2,997
		RES	113	88	38	239											233	44	277
	H60	SAR					181	-	-	181							361	-	361
Total			2,412	1,987	875	5,274	181	-	-	181							5,448	1,033	6,481

Total Annual EA-18G FCLP-Related Ops			
	Ault =	14,000	(69.6%)
	OLF =	6,120	(30.4%)
	Total =	20,120	

Grand Total (Ault+Coupeville)	76,036	11,717	87,753

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

Table A2-39 Summary of Annual Flight Operations for the High-Tempo FCLP Year Alternative 1A

Airfield	Aircraft Type or Category	Alternative 1A (High Tempo Year) Type of Flight Operation FCLP (2, 3)	Other (4)	Total	Change from No Action Type of Flight Operation FCLP (2, 5)	Other	Total
Ault Field	EA-18G	6,800	67,500	74,300	-7,200	+13,900	+6,700
	Other Based	-	11,800	11,800	-	+400	+400
	Transient	-	2,300	2,300	-	-	-
	Subtotal	6,800	81,600	88,400	-7,200	+14,300	+7,100
OLF Coupeville	EA-18G	27,300	-	27,300	+21,200	-	+21,200
	Other	-	400	400	-	-	-
	Subtotal	27,300	400	27,700	+21,200	-	+21,200
TOTAL (both airfields)		34,100	82,000	116,100	+14,000	+14,300	+28,300

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 4800 interfacility (FCLP-related) operations; not shown separately.
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-40 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 1A

Airfield	Aircraft	Squadron	Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	Arrival VFR SI/ Non-Break Day (0700-2200)	Arrival VFR SI/ Non-Break Night (2200-0700)	Arrival VFR SI/ Non-Break Total	Arrival Overhead Break Day (0700-2200) DL	Arrival Overhead Break Day (0700-2200) DK	Arrival Overhead Break Night (2200-0700) DK	Arrival Overhead Break Total	Arrival IFR Day (0700-2200)	Arrival IFR Night (2200-0700)	Arrival IFR Total	Interfacility Departure to OLF Day (0700-2200) DL	Interfacility Departure to OLF Day (0700-2200) DK	Interfacility Departure to OLF Night (2200-0700) DK	Interfacility Departure to OLF Total	Interfacility Break Arrival from OLF Day (0700-2200) DL	Interfacility Break Arrival from OLF Day (0700-2200) DK	Interfacility Break Arrival from OLF Night (2200-0700) DK	Interfacility Break Arrival from OLF Total	Helo Departure to OLF Day (0700-2200)	Helo Departure to OLF Night (2200-0700)	Helo Departure to OLF Total	Helo Arrival from OLF Day (0700-2200)	Helo Arrival from OLF Night (2200-0700)	Helo Arrival from OLF Total
Ault Field	EA18	CVW	7,076	440	7,516	2,589	81	2,670	4,198	-	190	4,388	454	5	459	569	231	337	1,137	914	-	223	1,137						
		FRS	5,614	347	5,961	2,135	304	2,439	2,394	316	599	3,309	188	25	213	287	146	123	556	477	-	79	556						
		RES	1,140	72	1,212	370	29	399	732	-	27	759	54	-	54	8	8	-	16	15	-	-	15						
		EXP	1,858	88	1,946	694	27	721	1,039	-	49	1,088	135	2	137	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,934	84	2,018	1,375	285	1,660	-	-	-	-	289	68	357														
	H60	SAR	385	-	385	385	-	385	-	-	-	-	-	-	-									89	-	89	89	-	89
	C-40	-	392	-	392	282	-	282	-	-	-	-	110	-	110														
	JET_LRG	-	399	111	510	384	98	482	-	-	-	-	24	3	27														
Total			18,798	1,142	19,940	8,214	824	9,038	8,363	316	865	9,544	1,254	103	1,357	864	385	460	1,709	1,406	-	302	1,708	89	-	89	89	-	89

Airfield	Aircraft	Squadron	Interfacility Break Arrival from Ault Day (0700-2200) DL	Interfacility Break Arrival from Ault Day (0700-2200) DK	Interfacility Break Arrival from Ault Night (2200-0700) DK	Interfacility Break Arrival from Ault Total	Interfacility Departure to Ault Day (0700-2200) DL	Interfacility Departure to Ault Day (0700-2200) DK	Interfacility Departure to Ault Night (2200-0700) DK	Interfacility Departure to Ault Total	Helo Arrival from Ault Day (0700-2200)	Helo Arrival from Ault Night (2200-0700)	Helo Arrival from Ault Total	Helo Departure to Ault Day (0700-2200)	Helo Departure to Ault Night (2200-0700)	Helo Departure to Ault Total
OLF	EA18	CVW	914	-	223	1,137	569	231	337	1,137						
		FRS	477	-	79	556	287	146	123	556						
		RES	15	-	-	15	8	8	-	16						
	H60	SAR									89	-	89	89	-	89
Total			1,406	-	302	1,708	864	385	460	1,709	89	-	89	89	-	89

Airfield	Aircraft	Squadrons	Closed Pattern* FCLP Day (0700-2200) DL	FCLP Day (0700-2200) DK	FCLP Night (2200-0700) DK	FCLP Total	T&G Day (0700-2200) DL	T&G Day (0700-2200) DK	T&G Night (2200-0700) DK	T&G Total	ReEnter Day (0700-2200)	ReEnter Night (2200-0700)	ReEnter Total	GCA/CCA Day (0700-2200)	GCA/CCA Night (2200-0700)	GCA/CCA Total	TOTAL Day (0700-2200) DL	TOTAL Day (0700-2200) DK	TOTAL Night (2200-0700) DK	TOTAL Total
Ault Field	EA18	CVW	2,029	1,414	1,107	4,550	3,598	753	1,225	5,576	2,447	78	2,525	4,855	3,371	8,226	28,729	2,398	7,057	38,184
		FRS	1,321	524	302	2,147	3,601	722	1,008	5,331	-	-	0	4,651	1,071	5,722	20,668	1,708	3,858	26,234
		RES	95	46	-	141	558	12	12	582	401	6	407	568	12	580	3,941	66	158	4,165
		EXP	-	-	-	0	632	-	24	656	574	28	602	626	20	646	5,558	-	238	5,796
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,119	-	673	4,792	-	-	-	1,780	199	1,979	9,497	-	1,309	10,806
	H60	SAR					-	-	-	-	-	-	-	-	-	-	948	-	-	948
	C-40	-					321	-	-	321	-	-	-	161	-	161	1,266	-	-	1,266
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	807	-	212	1,019
Total			3,445	1,984	1,409	6,838	12,829	1,487	2,942	17,258	3,422	112	3,534	12,641	4,673	17,314	71,414	4,172	12,832	88,418
OLF	EA18	CVW	7,644	4,271	3,993	15,908											9,127	4,502	4,553	18,182
		FRS	3,830	2,662	1,288	7,780											4,594	2,808	1,490	8,892
		RES	100	115	-	215											123	123	-	246
	H60	SAR					179	-	-	179							357	-	-	357
Total			11,574	7,048	5,281	23,903	179	-	-	179							14,201	7,433	6,043	27,677

Total Annual EA-18G FCLP-Related Ops	Ault =	6,838	(20%)
	NOLF =	27,320	(80%)
	Total =	34,158	

Grand Totals (Ault+OLF)	85,615	11,605	18,875	116,095

Notes:

** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*

Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary

DL = Daylight, DK = Darkness

Table A2-41 Summary of Annual Flight Operations for the High-Tempo Year FCLP Alternative 1B

Airfield	Aircraft Type or Category	Alternative 1B (High Tempo Year) Type of Flight Operation FCLP (2, 3)	Other (4)	Total	Change from No Action Type of Flight Operation FCLP (2, 5)	Other	Total
Ault Field	EA-18G	17,100	66,100	83,200	+3,100	+12,500	+15,600
	Other Based	-	11,700	11,700	-	+300	+300
	Transient	-	2,300	2,300	-	-	-
	Subtotal	17,100	80,100	97,200	+3,100	+12,800	+15,900
OLF Coupeville	EA-18G	17,100	-	17,100	+11,000	-	+11,000
	Other	-	400	400	-	-	-
	Subtotal	17,100	400	17,500	+11,000	-	+11,000
TOTAL (both airfields)		34,200	80,500	114,700	+14,100	+12,800	+26,900

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 3000 interfacility (FCLP-related) operations; not shown separately
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-42 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 1D

Airfield	Aircraft	Squadron	Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	Arrival VFR SI/Non-Break Day (0700-2200)	Arrival VFR SI/Non-Break Night (2200-0700)	Arrival VFR SI/Non-Break Total	Arrival Overhead Break Day (0700-2200) DL	Arrival Overhead Break Day (0700-2200) DK	Arrival Overhead Break Night (2200-0700) DK	Arrival Overhead Break Total	Arrival IFR Day (0700-2200)	Arrival IFR Night (2200-0700)	Arrival IFR Total
Ault Field	EA18	CVW	7,076	440	7,516	2,589	81	2,670	4,198	-	190	4,388	454	5	459
		FRS	5,614	347	5,961	2,135	304	2,439	2,394	316	599	3,309	188	25	213
		RES	1,140	72	1,212	370	29	399	732	-	27	759	54	-	54
		EXP	1,858	88	1,946	694	27	721	1,039	-	49	1,088	135	2	137
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,934	84	2,018	1,375	285	1,660	-	-	-	-	289	68	357
	H60	SAR	385	-	385	385	-	385	-	-	-	-	-	-	-
	C-40	-	392	-	392	282	-	282	-	-	-	-	110	-	110
	JET_LRG	-	399	111	510	384	98	482	-	-	-	-	24	3	27
Total			18,798	1,142	19,940	8,214	824	9,038	8,363	316	865	9,544	1,254	103	1,357

Airfield	Aircraft	Squadron	Interfacility Departure to OLF Day (0700-2200) DL	Departure to OLF Day (0700-2200) DK	Departure to OLF Night (2200-0700) DK	Departure to OLF Total	Break Arrival from OLF Day (0700-2200) DL	Break Arrival from OLF Day (0700-2200) DK	Break Arrival from OLF Night (2200-0700) DK	Break Arrival from OLF Total	Helo Departure to OLF Day (0700-2200)	Helo Departure to OLF Night (2200-0700)	Helo Departure to OLF Total	Helo Arrival from OLF Day (0700-2200)	Helo Arrival from OLF Night (2200-0700)	Helo Arrival from OLF Total
Ault Field	EA18	CVW	498	202	295	995	800	-	195	995						
		FRS	251	128	108	487	417	-	69	487						
		RES	7	7	-	14	13	-	-	13						
		EXP	-	-	-	0	-	-	-	0						
	EP3	All														
	P3	All														
	P8	All														
	H60	SAR									89	-	89	89	-	89
	C-40	-														
	JET_LRG	-														
Total			756	337	403	1,495	1,230	-	264	1,495	90	-	90	90	-	90

Airfield	Aircraft	Squadron	Interfacility Break Arrival from Ault Day (0700-2200) DL	Break Arrival from Ault Day (0700-2200) DK	Break Arrival from Ault Night (2200-0700) DK	Break Arrival from Ault Total	Departure to Ault Day (0700-2200) DL	Departure to Ault Day (0700-2200) DK	Departure to Ault Night (2200-0700) DK	Departure to Ault Total	Helo Arrival from Ault Day (0700-2200)	Helo Arrival from Ault Night (2200-0700)	Helo Arrival from Ault Total	Helo Departure to Ault Day (0700-2200)	Helo Departure to Ault Night (2200-0700)	Helo Departure to Ault Total
OLF	EA18	CVW	800	-	195	995	498	202	295	995						
		FRS	417	-	69	487	251	128	108	487						
		RES	13	-	-	13	7	7	-	14						
	H60	SAR									89	-	89	89	-	89
Total			1,230	-	264	1,495	756	337	403	1,495	89	-	89	89	-	89

Airfield	Aircraft	Squadrons	Closed Pattern* FCLP Day (0700-2200) DL	FCLP Day (0700-2200) DK	FCLP Night (2200-0700) DK	FCLP Total	T&G Day (0700-2200) DL	T&G Day (0700-2200) DK	T&G Night (2200-0700) DK	T&G Total	ReEnter Day (0700-2200)	ReEnter Night (2200-0700)	ReEnter Total	GCA/CCA Day (0700-2200)	GCA/CCA Night (2200-0700)	GCA/CCA Total	TOTAL Day (0700-2200) DL	TOTAL Day (0700-2200) DK	TOTAL Night (2200-0700) DK	TOTAL Total
Ault Field	EA18	CVW	3,044	2,121	1,661	6,825	3,598	753	1,225	5,576	2,447	78	2,525	4,855	3,371	8,226	29,558	3,076	7,541	40,175
		FRS	1,982	786	453	3,221	3,601	722	1,008	5,331	-	-	0	4,651	1,071	5,722	21,233	1,952	3,984	27,169
		RES	143	69	-	212	558	12	12	582	401	6	407	568	12	580	3,986	88	158	4,232
		EXP	-	-	-	0	632	-	24	656	574	28	602	626	20	646	5,558	-	238	5,796
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,119	-	673	4,792	-	-	-	1,780	199	1,979	9,497	-	1,309	10,806
	H60	SAR					-	-	-	-	-	-	-	-	-	-	948	-	-	948
	C-40	-					321	-	-	321	-	-	-	161	-	161	1,266	-	-	1,266
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	807	-	212	1,019
Total			5,168	2,976	2,114	10,257	12,829	1,487	2,942	17,258	3,422	112	3,534	12,641	4,673	17,314	72,853	5,116	13,441	91,410
OLF	EA18	CVW	6,689	3,737	3,494	13,920											7,986	3,939	3,984	15,909
		FRS	3,351	2,329	1,127	6,808											4,020	2,457	1,304	7,781
		RES	88	101	-	188											108	108	-	215
	H60	SAR					179	-	-	179							357	-	-	357
Total			10,127	6,167	4,621	20,915	179	-	-	179							12,471	6,504	5,288	24,262

Total Annual EA-18G FCLP-Related Ops		
Ault =	10,257	(30%)
NOLF =	23,905	(70%)
Total =	34,162	

Grand Total (Ault+OLF)				
	85,323	11,620	18,729	115,672

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary
DL = Daylight, DK = Darkness
ALT3B

Table A2-43 Summary of Annual Flight Operations for the High-Tempo FCLP Year Alternative 1E

Airfield	Aircraft Type or Category	Alternative 1E (High Tempo Year) Type of Flight Operation FCLP (2, 3)	Other (4)	Total	Change from No Action Type of Flight Operation FCLP (2, 5)	Other	Total
Ault Field	EA-18G	23,900	65,300	89,200	+9,900	+11,700	+21,600
	Other Based	-	11,600	11,600	-	+200	+200
	Transient	-	2,300	2,300	-	-	-
	Subtotal	23,900	79,200	103,100	+9,900	+11,900	+21,800
OLF Coupeville	EA-18G	10,300	-	10,300	+4,200	-	+4,200
	Other	-	400	400	-	-	-
	Subtotal	10,300	400	10,700	+4,200	-	+4,200
TOTAL (both airfields)		34,200	79,600	113,800	+14,100	+11,900	+26,000

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 1200 interfacility (FCLP-related) operations; not shown separately
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-44 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 1E

Airfield	Aircraft	Squadron	Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	Arrival VFR SI/Non-Break Day (0700-2200)	Arrival VFR SI/Non-Break Night (2200-0700)	Arrival VFR SI/Non-Break Total	Arrival Overhead Break Day (0700-2200) DL	Arrival Overhead Break Day (0700-2200) DK	Arrival Overhead Break Night (2200-0700) DK	Arrival Overhead Break Total	Arrival IFR Day (0700-2200)	Arrival IFR Night (2200-0700)	Arrival IFR Total
Ault Field	EA18	CVW	7,054	459	7,513	2,595	79	2,674	4,169	-	153	4,322	513	4	517
		FRS	5,599	340	5,939	2,093	306	2,399	2,408	287	600	3,295	217	29	246
		RES	1,120	92	1,212	394	23	417	702	-	29	731	64	-	64
		EXP	1,826	114	1,940	700	27	727	1,016	-	44	1,060	144	8	152
	EP3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,922	93	2,015	1,362	266	1,628	-	-	-	-	328	59	387
	H60	SAR	384	-	384	384	-	384	-	-	-	-	-	-	-
	C-40	-	391	-	391	283	-	283	-	-	-	-	108	-	108
	JET_LRG	-	408	100	508	368	98	466	-	-	-	-	26	16	42
Total			18,704	1,198	19,902	8,179	799	8,978	8,295	287	826	9,408	1,400	116	1,516

Airfield	Aircraft	Squadron	Interfacility Departure to OLF Day (0700-2200) DL	Departure to OLF Day (0700-2200) DK	Departure to OLF Night (2200-0700) DK	Departure to OLF Total	Break Arrival from OLF Day (0700-2200) DL	Break Arrival from OLF Day (0700-2200) DK	Break Arrival from OLF Night (2200-0700) DK	Break Arrival from OLF Total	Helo Departure to OLF Day (0700-2200)	Helo Departure to OLF Night (2200-0700)	Helo Departure to OLF Total	Helo Arrival from OLF Day (0700-2200)	Helo Arrival from OLF Night (2200-0700)	Helo Arrival from OLF Total
Ault Field	EA18	CVW	206	111	95	411	351	-	60	411						
		FRS	110	60	45	215	185	-	30	215						
		RES	9	9	-	18	17	-	-	17						
		EXP	-	-	-	0	-	-	-	0						
	EP3	All														
	P3	All														
	P8	All														
	H60	SAR									89	-	89	89	-	89
	C-40	-														
	JET_LRG	-														
Total			324	180	140	644	552	-	90	642	89	-	89	89	-	89

Airfield	Aircraft	Squadron	Interfacility Break Arrival from Ault Day (0700-2200) DL	Break Arrival from Ault Day (0700-2200) DK	Break Arrival from Ault Night (2200-0700) DK	Break Arrival from Ault Total	Departure to Ault Day (0700-2200) DL	Departure to Ault Day (0700-2200) DK	Departure to Ault Night (2200-0700) DK	Departure to Ault Total	Helo Day (0700-2200)	Helo Night (2200-0700)	Helo Total	Helo Day (0700-2200)	Helo Night (2200-0700)	Helo Total
OLF	EA18	CVW	351	-	60	411	206	111	95	411						
		FRS	185	-	30	215	110	60	45	215						
		RES	17	-	-	17	9	9	-	18						
	H60	SAR									89	-	89	89	-	89
Total			552	-	90	642	324	180	140	644	89	-	89	89	-	89

Airfield	Aircraft	Squadron	Closed Pattern* FCLP Day (0700-2200) DL	FCLP Day (0700-2200) DK	FCLP Night (2200-0700) DK	FCLP Total	T&G Day (0700-2200) DL	T&G Day (0700-2200) DK	T&G Night (2200-0700) DK	T&G Total	ReEnter Day (0700-2200)	ReEnter Night (2200-0700)	ReEnter Total	GCA/CCA Day (0700-2200)	GCA/CCA Night (2200-0700)	GCA/CCA Total	TOTAL Day (0700-2200) DL	TOTAL Day (0700-2200) DK	TOTAL Night (2200-0700) DK	TOTAL Total
Ault Field	EA18	CVW	7,210	3,789	4,832	15,831	3,598	753	1,225	5,576	2,447	78	2,525	4,855	3,371	8,226	32,998	4,653	10,355	48,006
		FRS	5,046	1,786	1,103	7,935	3,601	722	1,008	5,331	-	-	0	4,651	1,071	5,722	23,909	2,855	4,532	31,296
		RES	77	55	-	132	558	12	12	582	401	6	407	568	12	580	3,910	76	174	4,160
		EXP	-	-	-	0	632	-	24	656	574	28	602	626	20	646	5,518	-	265	5,783
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					4,050	-	628	4,678	-	-	-	1,759	160	1,919	9,421	-	1,206	10,627
	H60	SAR					-	-	-	-	-	-	-	-	-	-	946	-	-	946
	C-40	-					325	-	-	325	-	-	-	162	-	162	1,269	-	-	1,269
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	802	-	214	1,016
Total			12,333	5,630	5,934	23,897	12,764	1,487	2,897	17,148	3,422	112	3,534	12,621	4,634	17,255	78,772	7,584	16,746	103,102

Airfield	Aircraft	Squadron	Closed Pattern* FCLP Day (0700-2200) DL	FCLP Day (0700-2200) DK	FCLP Night (2200-0700) DK	FCLP Total	T&G Day (0700-2200) DL	T&G Day (0700-2200) DK	T&G Night (2200-0700) DK	T&G Total	TOTAL Day (0700-2200) DL	TOTAL Day (0700-2200) DK	TOTAL Night (2200-0700) DK	TOTAL Total
OLF	EA18	CVW	2,729	1,902	1,116	5,747					3,285	2,013	1,271	6,569
		FRS	1,496	1,026	477	2,999					1,790	1,086	552	3,428
		RES	111	128	-	239					137	137	-	273
	H60	SAR					179	-	-	179	357	-	-	357
Total			4,335	3,056	1,593	8,984	179	-	-	179	5,568	3,236	1,823	10,626

Total Annual EA-18G FCLP-Related Ops			
	Ault =	23,897	(69.9%)
	NOLF =	10,269	(30.1%)
	Total =	34,166	

Grand Total (Ault+Coupeville)	84,340	10,819	18,568	113,728

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary
DL = Daylight, DK = Darkness

Table A2-45 Summary of Annual Flight Operations for the High-Tempo FCLP Year Alternative 2A

Airfield	Aircraft Type or Category	Alternative 2A (High Tempo Year) Type of Flight Operation FCLP (2, 3)	Alternative 2A (High Tempo Year) Type of Flight Operation Other (4)	Alternative 2A (High Tempo Year) Total	Change from No Action Type of Flight Operation FCLP (2, 5)	Change from No Action Type of Flight Operation Other	Change from No Action Total
Ault Field	EA-18G	6,400	69,100	75,500	-7,600	+15,500	+7,900
	Other Based	-	11,700	11,700	-	+300	+300
	Transient	-	2,300	2,300	-	-	-
	Subtotal	6,400	83,100	89,500	-7,600	+15,800	+8,200
OLF Coupeville	EA-18G	26,100	-	26,100	+20,000	-	+20,000
	Other	-	400	400	-	-	-
	Subtotal	26,100	400	26,500	+20,000	-	+20,000
TOTAL (both airfields)		**32,500**	**83,500**	**116,000**	**+12,400**	**+15,800**	**+28,200**

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 4600 interfacility (FCLP-related) operations; not shown separately
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-46 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 2A

Airfield	Aircraft	Squadron	Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	Arrival VFR SI/ Non-Break Day (0700-2200)	Arrival VFR SI/ Non-Break Night (2200-0700)	Arrival VFR SI/ Non-Break Total	Arrival Overhead Break Day (0700-2200) DL	Arrival Overhead Break Day (0700-2200) DK	Arrival Overhead Break Night (2200-0700) DK	Arrival Overhead Break Total	Arrival IFR Day (0700-2200)	Arrival IFR Night (2200-0700)	Arrival IFR Total
Ault Field	EA18	CVW	6,563	443	7,006	2,405	74	2,479	2,333	1,619	146	4,098	415	13	428
		FRS	5,661	369	6,030	2,182	304	2,486	1,400	1,306	631	3,337	173	35	208
		RES	1,140	81	1,221	419	13	432	432	245	22	699	75	15	90
		EXP	3,029	168	3,197	1,093	42	1,135	1,019	776	78	1,873	182	6	188
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,929	106	2,035	1,439	248	1,687	-	-	-	-	293	56	349
	H60	SAR	388	-	388	388	-	388	-	-	-	-	-	-	-
	C-40	-	394	-	394	284	-	284	-	-	-	-	110	-	110
	JET_LRG	-	407	105	512	378	95	473	-	-	-	-	23	16	39
Total			19,511	1,272	20,783	8,588	776	9,364	5,184	3,946	877	10,007	1,271	141	1,412

Airfield	Aircraft	Squadron	Interfacility Departure to OLF Day (0700-2200) DL	Departure to OLF Day (0700-2200) DK	Departure to OLF Night (2200-0700) DK	Departure to OLF Total	Break Arrival from OLF Day (0700-2200) DL	Break Arrival from OLF Day (0700-2200) DK	Break Arrival from OLF Night (2200-0700) DK	Break Arrival from OLF Total	Helo Departure to OLF Day (0700-2200)	Helo Departure to OLF Night (2200-0700)	Helo Departure to OLF Total	Helo Arrival from OLF Day (0700-2200)	Helo Arrival from OLF Night (2200-0700)	Helo Arrival from OLF Total
Ault Field	EA18	CVW	530	256	269	1,055	883	-	173	1,056						
		FRS	290	153	121	564	488	-	76	564						
		RES	5	4	3	12	10	-	2	12						
		EXP	-	-	-	0	-	-	-	0						
	EP3	All														
	P3	All														
	P8	All														
	H60	SAR									90	-	90	90	-	90
	C-40	-														
	JET_LRG	-														
Total			825	413	393	1,631	1,381	-	251	1,632	90	-	90	90	-	90

Airfield	Aircraft	Squadron	Interfacility Break Arrival from Ault Day (0700-2200) DL	Break Arrival from Ault Day (0700-2200) DK	Break Arrival from Ault Night (2200-0700) DK	Break Arrival from Ault Total	Departure to Ault Day (0700-2200) DL	Departure to Ault Day (0700-2200) DK	Departure to Ault Night (2200-0700) DK	Departure to Ault Total	Helo Arrival from Ault Day (0700-2200)	Helo Arrival from Ault Night (2200-0700)	Helo Arrival from Ault Total	Helo Departure to Ault Day (0700-2200)	Helo Departure to Ault Night (2200-0700)	Helo Departure to Ault Total
OLF	EA18	CVW	883	-	173	1,056	530	256	269	1,055						
		FRS	488	-	76	564	290	153	121	564						
		RES	10	-	2	12	5	4	3	12						
	H60	SAR									90	-	90	90	-	90
Total			1,381	-	251	1,632	825	413	393	1,631	90	-	90	90	-	90

Airfield	Aircraft	Squadrons	Closed Pattern* FCLP Day (0700-2200) DL	FCLP Day (0700-2200) DK	FCLP Night (2200-0700) DK	FCLP Total	T&G Day (0700-2200) DL	T&G Day (0700-2200) DK	T&G Night (2200-0700) DK	T&G Total	ReEnter Day (0700-2200)	ReEnter Night (2200-0700)	ReEnter Total	GCA/CCA Day (0700-2200)	GCA/CCA Night (2200-0700)	GCA/CCA Total	TOTAL Day (0700-2200) DL	TOTAL Day (0700-2200) DK	TOTAL Night (2200-0700) DK	TOTAL Total
Ault Field	EA18	CVW	1,350	1,764	908	4,022	1,148	3,041	1,021	5,210	2,175	107	2,282	4,540	3,135	7,675	22,342	6,680	6,289	35,311
		FRS	488	1,464	272	2,224	1,106	3,417	929	5,452	-	-	0	4,735	1,000	5,735	16,523	6,340	3,737	26,600
		RES	70	97	-	167	24	433	12	469	427	12	439	471	12	483	3,073	779	172	4,024
		EXP	-	-	-	0	-	994	32	1,026	1,084	44	1,128	994	24	1,018	7,401	1,770	394	9,565
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					-	4,034	661	4,695	-	-	-	1,739	206	1,945	5,400	4,034	1,277	10,711
	H60	SAR					-	-	-	-	-	-	-	-	-	-	956	-	-	956
	C-40	-					-	326	-	326	-	-	-	164	-	164	952	326	-	1,278
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	808	-	216	1,024
Total			1,908	3,325	1,180	6,413	2,278	12,245	2,655	17,178	3,686	163	3,849	12,643	4,377	17,020	57,455	19,929	12,085	89,469
OLF	EA18	CVW	7,080	4,622	3,064	14,766											8,493	4,878	3,506	16,877
		FRS	3,877	2,761	1,278	7,916											4,655	2,914	1,475	9,044
		RES	68	79	36	183											83	83	41	207
	H60	SAR					180	-	-	180							360	-	-	360
Total			11,025	7,462	4,378	22,865	180	-	-	180							13,591	7,875	5,022	26,488

Total Annual EA-18G FCLP-Related Ops			
	Ault =	6,413	(19.7%)
	NOLF =	26,128	(80.3%)
	Total =	32,541	

Grand Total (Ault+OLF)	71,046	27,804	17,107	115,957

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary
DL = Daylight, DK = Darkness

Table A2-47 Summary of Annual Flight Operations for the High-Tempo FCLP Year Alternative 2B

Airfield	Aircraft Type or Category	Alternative 2B (High Tempo Year) Type of Flight Operation FCLP (2, 3)	Other (4)	Total	Change from No Action Type of Flight Operation FCLP (2, 5)	Other	Total
Ault Field	EA-18G	16,300	67,500	83,800	+2,300	+13,900	+16,200
	Other Based	-	11,800	11,800	-	+400	+400
	Transient	-	2,300	2,300	-	-	-
	Subtotal	16,300	81,600	97,900	+2,300	+14,300	+16,600
OLF Coupeville	EA-18G	16,300	-	16,300	+10,200	-	+10,200
	Other	-	400	400	-	-	-
	Subtotal	16,300	400	16,700	+10,200	-	+10,200
TOTAL (both airfields)		32,600	82,000	114,600	+12,500	+14,300	+26,800

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 2900 interfacility (FCLP-related) operations; not shown separately
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-48 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 2B

Airfield	Aircraft	Squadron	Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	Arrival VFR SI/ Non-Break Day (0700-2200)	Arrival VFR SI/ Non-Break Night (2200-0700)	Arrival VFR SI/ Non-Break Total	Arrival Overhead Break Day (0700-2200) DL	Arrival Overhead Break Day (0700-2200) DK	Arrival Overhead Break Night (2200-0700) DK	Arrival Overhead Break Total	Arrival IFR Day (0700-2200)	Arrival IFR Night (2200-0700)	Arrival IFR Total
Ault Field	EA18	CVW	6,575	364	6,939	2,371	74	2,445	2,265	1,607	146	4,018	473	5	478
		FRS	5,609	361	5,970	2,182	301	2,483	1,364	1,280	626	3,270	200	16	216
		RES	1,144	67	1,211	399	20	419	428	244	28	700	79	12	91
		EXP	2,993	166	3,159	1,067	31	1,098	1,023	716	84	1,823	232	6	238
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,898	91	1,989	1,378	275	1,653	-	-	-	-	289	47	336
	H60	SAR	383	-	383	383	-	383	-	-	-	-	-	-	-
	C-40	-	390	-	390	284	-	284	-	-	-	-	106	-	106
	JET_LRG	-	401	106	507	371	98	469	-	-	-	-	25	13	38
Total			19,393	1,155	20,548	8,435	799	9,234	5,080	3,847	884	9,811	1,404	99	1,503

Airfield	Aircraft	Squadron	Interfacility Departure to OLF Day (0700-2200) DL	Departure to OLF Day (0700-2200) DK	Departure to OLF Night (2200-0700) DK	Departure to OLF Total	Break Arrival from OLF Day (0700-2200) DL	Break Arrival from OLF Day (0700-2200) DK	Break Arrival from OLF Night (2200-0700) DK	Break Arrival from OLF Total	Helo Departure to OLF Day (0700-2200)	Helo Departure to OLF Night (2200-0700)	Helo Departure to OLF Total	Helo Arrival from OLF Day (0700-2200)	Helo Arrival from OLF Night (2200-0700)	Helo Arrival from OLF Total
Ault Field	EA18	CVW	331	173	153	657	556	-	101	657						
		FRS	180	91	78	349	301	-	49	350						
		RES	7	7	-	14	14	-	-	14						
		EXP	-	-	-	0	-	-	-	0						
	EP3	All														
	P3	All														
	P8	All														
	H60	SAR									90	-	90	90	-	90
	C-40	-														
	JET_LRG	-														
Total			518	271	231	1,020	871	-	150	1,021	90	-	90	90	-	90

Airfield	Aircraft	Squadron	Interfacility Break Arrival from Ault Day (0700-2200) DL	Break Arrival from Ault Day (0700-2200) DK	Break Arrival from Ault Night (2200-0700) DK	Break Arrival from Ault Total	Departure to Ault Day (0700-2200) DL	Departure to Ault Day (0700-2200) DK	Departure to Ault Night (2200-0700) DK	Departure to Ault Total	Helo Arrival from Ault Day (0700-2200)	Helo Arrival from Ault Night (2200-0700)	Helo Arrival from Ault Total	Helo Departure to Ault Day (0700-2200)	Helo Departure to Ault Night (2200-0700)	Helo Departure to Ault Total
OLF	EA18	CVW	556	-	101	657	331	173	153	657						
		FRS	301	-	49	350	180	91	78	349						
		RES	14	-	-	14	7	7	-	14						
	H60	SAR									90	-	90	90	-	90
Total			871	-	150	1,021	518	271	231	1,020	90	-	90	90	-	90

Airfield	Aircraft	Squadrons	Closed Pattern* FCLP Day (0700-2200) DL	FCLP Day (0700-2200) DK	FCLP Night (2200-0700) DK	FCLP Total	T&G Day (0700-2200) DL	T&G Day (0700-2200) DK	T&G Night (2200-0700) DK	T&G Total	ReEnter Day (0700-2200)	ReEnter Night (2200-0700)	ReEnter Total	GCA/CCA Day (0700-2200)	GCA/CCA Night (2200-0700)	GCA/CCA Total	TOTAL Day (0700-2200) DL	TOTAL Day (0700-2200) DK	TOTAL Night (2200-0700) DK	TOTAL Total
Ault Field	EA18	CVW	2,920	4,774	2,802	10,496	1,148	3,041	1,021	5,210	2,175	107	2,282	4,540	3,135	7,675	23,354	9,595	7,908	40,857
		FRS	1,099	3,674	887	5,660	1,106	3,417	929	5,452	-	-	0	4,735	1,000	5,735	16,776	8,462	4,247	29,485
		RES	58	122	-	180	24	433	12	469	427	12	439	471	12	483	3,051	806	163	4,020
		EXP	-	-	-	0	-	994	32	1,026	1,084	44	1,128	994	24	1,018	7,393	1,710	387	9,490
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					-	4,234	640	4,874	-	-	-	1,827	184	2,011	5,392	4,234	1,237	10,863
	H60	SAR					-	-	-	-	-	-	-	-	-	-	946	-	-	946
	C-40	-					-	342	-	342	-	-	-	172	-	172	952	342	-	1,294
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	797	-	217	1,014
Total			4,077	8,570	3,689	16,336	2,278	12,119	2,634	17,031	3,686	163	3,849	12,567	4,355	16,922	56,912	24,807	13,942	95,661
OLF	EA18	CVW	4,444	2,965	1,786	9,195											5,331	3,138	2,040	10,509
		FRS	2,406	1,704	794	4,904											2,887	1,795	921	5,603
		RES	92	106	-	198											113	113	-	226
	H60	SAR					180	-	-	180							360	-	-	360
Total			6,942	4,775	2,580	14,297	180	-	-	180							8,691	5,046	2,961	16,698

Total Annual EA-18G FCLP-Related Ops			
	Ault =	16,336	(50%)
	NOLF =	16,338	(50%)
	Total =	32,674	

Grand Total (Ault+OLF)	67,352	30,195	17,120	114,667

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary
DL = Daylight, DK = Darkness

Table A2-49 Summary of Annual Flight Operations for the High-Tempo FCLP Year Alternative 2C

Airfield	Aircraft Type or Category	Alternative 2C (High Tempo Year) Type of Flight Operation FCLP (2, 3)	Other (4)	Total	Change from No Action Type of Flight Operation FCLP (2, 5)	Other	Total
Ault Field	EA-18G	26,100	66,400	92,500	+12,100	+12,800	+24,900
	Other Based	-	11,700	11,700	-	+300	+300
	Transient	-	2,300	2,300	-	-	-
	Subtotal	26,100	80,400	106,500	+12,100	+13,100	+25,200
OLF Coupeville	EA-18G	6,500	-	6,500	+400	-	+400
	Other	-	400	400	-	-	-
	Subtotal	6,500	400	6,900	+400	-	+400
TOTAL (both airfields)		32,600	80,800	113,400	+12,500	+13,100	+25,600

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 1200 interfacility (FCLP-related) operations; not shown separately
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-50 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 2C

Airfield	Aircraft	Squadron	Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	Arrival VFR SI/ Non-Break Day (0700-2200)	Arrival VFR SI/ Non-Break Night (2200-0700)	Arrival VFR SI/ Non-Break Total	Arrival Overhead Break Day (0700-2200) DL	Arrival Overhead Break Day (0700-2200) DK	Arrival Overhead Break Night (2200-0700) DK	Arrival Overhead Break Total	Arrival IFR Day (0700-2200)	Arrival IFR Night (2200-0700)	Arrival IFR Total	Interfacility Departure to OLF Day (0700-2200) DL	Interfacility Departure to OLF Day (0700-2200) DK	Interfacility Departure to OLF Night (2200-0700) DK	Interfacility Departure to OLF Total	Interfacility Break Arrival from OLF Day (0700-2200) DL	Interfacility Break Arrival from OLF Day (0700-2200) DK	Interfacility Break Arrival from OLF Night (2200-0700) DK	Interfacility Break Arrival from OLF Total	Interfacility Helo Departure to OLF Day (0700-2200)	Interfacility Helo Departure to OLF Night (2200-0700)	Interfacility Helo Departure to OLF Total	Interfacility Helo Arrival from OLF Day (0700-2200)	Interfacility Helo Arrival from OLF Night (2200-0700)	Interfacility Helo Arrival from OLF Total
Ault Field	EA18	CVW	6,589	360	6,949	2,401	87	2,488	2,237	1,604	159	4,000	452	10	462	133	55	76	264	216	-	49	265						
		FRS	5,649	338	5,987	2,128	315	2,443	1,410	1,325	583	3,318	192	34	226	68	41	26	135	117	-	18	135						
		RES	1,131	80	1,211	380	26	406	408	270	21	699	96	10	106	6	3	1	10	10	-	-	10						
		EXP	3,020	156	3,176	1,077	50	1,127	1,039	737	62	1,838	210	2	212	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,910	99	2,009	1,374	232	1,606	-	-	-	-	333	70	403														
	H60	SAR	385	-	385	385	-	385	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	392	-	392	289	-	289	-	-	-	-	103	-	103														
	JET_LRG	-	403	105	508	381	93	474	-	-	-	-	23	11	34														
Total			19,479	1,138	20,617	8,415	803	9,218	5,094	3,936	825	9,855	1,409	137	1,546	207	99	103	409	343	-	67	410	90	-	90	90	-	90

Airfield	Aircraft	Squadron	Interfacility Break Arrival from Ault Day (0700-2200) DL	Interfacility Break Arrival from Ault Day (0700-2200) DK	Interfacility Break Arrival from Ault Night (2200-0700) DK	Interfacility Break Arrival from Ault Total	Interfacility Departure to Ault Day (0700-2200) DL	Interfacility Departure to Ault Day (0700-2200) DK	Interfacility Departure to Ault Night (2200-0700) DK	Interfacility Departure to Ault Total	Interfacility Helo Arrival from Ault Day (0700-2200)	Interfacility Helo Arrival from Ault Night (2200-0700)	Interfacility Helo Arrival from Ault Total	Interfacility Helo Departure to Ault Day (0700-2200)	Interfacility Helo Departure to Ault Night (2200-0700)	Interfacility Helo Departure to Ault Total
OLF	EA18	CVW	216	-	49	265	133	55	76	264						
		FRS	117	-	18	135	68	41	26	135						
		RES	10	-	-	10	6	3	1	10						
	H60	SAR									90	-	90	90	-	90
Total			343	-	67	410	207	99	103	409	90	-	90	90	-	90

Airfield	Aircraft	Squadrons	Closed Pattern* FCLP Day (0700-2200) DL	Closed Pattern* FCLP Day (0700-2200) DK	Closed Pattern* FCLP Night (2200-0700) DK	Closed Pattern* FCLP Total	Closed Pattern* T&G Day (0700-2200) DL	Closed Pattern* T&G Day (0700-2200) DK	Closed Pattern* T&G Night (2200-0700) DK	Closed Pattern* T&G Total	Closed Pattern* ReEnter Day (0700-2200)	Closed Pattern* ReEnter Night (2200-0700)	Closed Pattern* ReEnter Total	Closed Pattern* GCA/CCA Day (0700-2200)	Closed Pattern* GCA/CCA Night (2200-0700)	Closed Pattern* GCA/CCA Total	TOTAL Day (0700-2200) DL	TOTAL Day (0700-2200) DK	TOTAL Night (2200-0700) DK	TOTAL Total
Ault Field	EA18	CVW	4,627	7,750	4,301	16,678	1,148	3,041	1,021	5,210	2,175	107	2,282	4,540	3,135	7,675	24,518	12,450	9,305	46,273
		FRS	2,113	5,887	1,237	9,237	1,106	3,417	929	5,452	-	-	0	4,735	1,000	5,735	17,518	10,670	4,480	32,668
		RES	94	131	-	225	24	433	12	469	427	12	439	471	12	483	3,047	837	174	4,058
		EXP	-	-	-	0	-	994	32	1,026	1,084	44	1,128	994	24	1,018	7,424	1,731	370	9,525
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					-	4,230	559	4,789	-	-	-	1,832	156	1,988	5,449	4,230	1,116	10,795
	H60	SAR					-	-	-	-	-	-	-	-	-	-	950	-	-	950
	C-40	-					-	319	-	319	-	-	-	162	-	162	946	319	-	1,265
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	807	-	209	1,016
Total			6,834	13,768	5,538	26,140	2,278	12,434	2,553	17,265	3,686	163	3,849	12,734	4,327	17,061	60,659	30,237	15,654	106,550
OLF	EA18	CVW	1,783	1,029	897	3,709											2,132	1,084	1,022	4,238
		FRS	894	717	273	1,884											1,079	758	317	2,154
		RES	74	56	-	130											90	59	1	150
	H60	SAR					180	-	-	180							360	-	-	360
Total			2,751	1,802	1,170	5,723	180	-	-	180							3,661	1,901	1,340	6,902

Total Annual EA-18G FCLP-Related Ops	Ault =	26,140	(80%)
	NOLF =	6,542	(20%)
	Total =	32,682	
Grand Total (Ault+OLF)	64,320	32,138	16,994	113,452

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary
DL = Daylight, DK = Darkness

Table A2-51 Summary of Annual Flight Operations for the High-Tempo FCLP Year Alternative 2D

Airfield	Aircraft Type or Category	Alternative 2D (High Tempo Year) Type of Flight Operation FCLP (2, 3)	Other (4)	Total	Change from No Action Type of Flight Operation FCLP (2, 5)	Other	Total
Ault Field	EA-18G	9,600	68,700	78,300	-4,400	+15,100	+10,700
	Other Based	-	11,700	11,700	-	+300	+300
	Transient	-	2,300	2,300	-	-	-
	Subtotal	9,600	82,700	92,300	-4,400	+15,400	+11,000
OLF Coupeville	EA-18G	22,900	-	22,900	+16,800	-	+16,800
	Other	-	400	400	-	-	-
	Subtotal	22,900	400	23,300	+16,800	-	+16,800
TOTAL (both airfields)		32,500	83,100	115,600	+12,400	+15,400	+27,800

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 2900 interfacility (FCLP-related) operations; not shown separately
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-52 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 2D

Airfield	Aircraft	Squadron	Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	Arrival: VFR SI/ Non-Break Day (0700-2200)	Arrival: VFR SI/ Non-Break Night (2200-0700)	Arrival: VFR SI/ Non-Break Total	Arrival: Overhead Break Day (0700-2200) DL	Arrival: Overhead Break Day (0700-2200) DK	Arrival: Overhead Break Night (2200-0700) DK	Arrival: Overhead Break Total	Arrival: IFR Day (0700-2200)	Arrival: IFR Night (2200-0700)	Arrival: IFR Total
Ault Field	EA18	CVW	6,563	443	7,006	2,405	74	2,479	2,333	1,619	146	4,098	415	13	428
		FRS	5,661	369	6,030	2,182	304	2,486	1,400	1,306	631	3,337	173	35	208
		RES	1,140	81	1,221	419	13	432	432	245	22	699	75	15	90
		EXP	3,029	168	3,197	1,093	42	1,135	1,019	776	78	1,873	182	6	188
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,929	106	2,035	1,439	248	1,687	-	-	-	-	293	56	349
	H60	SAR	388	-	388	388	-	388	-	-	-	-	-	-	-
	C-40	-	394	-	394	284	-	284	-	-	-	-	110	-	110
	JET_LRG	-	407	105	512	378	95	473	-	-	-	-	23	16	39
Total			19,511	1,272	20,783	8,588	776	9,364	5,184	3,946	877	10,007	1,271	141	1,412

Airfield	Aircraft	Squadron	Interfacility: Departure to OLF Day (0700-2200) DL	Departure to OLF Day (0700-2200) DK	Departure to OLF Night (2200-0700) DK	Departure to OLF Total	Break Arrival from OLF Day (0700-2200) DL	Break Arrival from OLF Day (0700-2200) DK	Break Arrival from OLF Night (2200-0700) DK	Break Arrival from OLF Total	Helo Departure to OLF Day (0700-2200)	Helo Departure to OLF Night (2200-0700)	Helo Departure to OLF Total	Helo Arrival from OLF Day (0700-2200)	Helo Arrival from OLF Night (2200-0700)	Helo Arrival from OLF Total
Ault Field	EA18	CVW	464	224	235	923	773	-	151	924						
		FRS	254	134	106	494	427	-	67	494						
		RES	4	4	3	11	9	-	2	11						
		EXP	-	-	-	0	-	-	-	0						
	EP3	All														
	P3	All														
	P8	All														
	H60	SAR									90	-	90	90	-	90
	C-40	-														
	JET_LRG	-														
Total			722	361	344	1,427	1,208	-	220	1,428	90	-	90	90	-	90

Airfield	Aircraft	Squadron	Interfacility: Break Arrival from Ault Day (0700-2200) DL	Break Arrival from Ault Day (0700-2200) DK	Break Arrival from Ault Night (2200-0700) DK	Break Arrival from Ault Total	Departure to Ault Day (0700-2200) DL	Departure to Ault Day (0700-2200) DK	Departure to Ault Night (2200-0700) DK	Departure to Ault Total	Helo Arrival from Ault Day (0700-2200)	Helo Arrival from Ault Night (2200-0700)	Helo Arrival from Ault Total	Helo Departure to Ault Day (0700-2200)	Helo Departure to Ault Night (2200-0700)	Helo Departure to Ault Total
OLF	EA18	CVW	773	-	151	924	464	224	235	923						
		FRS	427	-	67	494	254	134	106	494						
		RES	9	-	2	11	4	4	3	11						
	H60	SAR									90	-	90	90	-	90
Total			1,208	-	220	1,428	722	361	344	1,427	90	-	90	90	-	90

Airfield	Aircraft	Squadrons	Closed Pattern*: FCLP Day (0700-2200) DL	FCLP Day (0700-2200) DK	FCLP Night (2200-0700) DK	FCLP Total	T&G Day (0700-2200) DL	T&G Day (0700-2200) DK	T&G Night (2200-0700) DK	T&G Total	ReEnter Day (0700-2200)	ReEnter Night (2200-0700)	ReEnter Total	GCA/CCA Day (0700-2200)	GCA/CCA Night (2200-0700)	GCA/CCA Total	TOTAL Day (0700-2200) DL	TOTAL Day (0700-2200) DK	TOTAL Night (2200-0700) DK	TOTAL Total
Ault Field	EA18	CVW	2,025	2,646	1,362	6,033	1,148	3,041	1,021	5,210	2,175	107	2,282	4,540	3,135	7,675	22,840	7,530	6,688	37,058
		FRS	732	2,196	408	3,336	1,106	3,417	929	5,452	-	-	0	4,735	1,000	5,735	16,670	7,053	3,848	27,571
		RES	105	146	-	251	24	433	12	469	427	12	439	471	12	483	3,106	827	171	4,105
		EXP	-	-	-	0	-	994	32	1,026	1,084	44	1,128	994	24	1,018	7,401	1,770	394	9,565
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					-	4,034	661	4,695	-	-	-	1,739	206	1,945	5,400	4,034	1,277	10,711
	H60	SAR					-	-	-	-	-	-	-	-	-	-	956	-	-	956
	C-40	-					-	326	-	326	-	-	-	164	-	164	952	326	-	1,278
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	808	-	216	1,024
Total			2,862	4,988	1,770	9,620	2,278	12,245	2,655	17,178	3,686	163	3,849	12,643	4,377	17,020	58,133	21,540	12,595	92,268
OLF	EA18	CVW	6,195	4,044	2,681	12,920											7,431	4,268	3,068	14,767
		FRS	3,392	2,416	1,118	6,927											4,073	2,550	1,291	7,914
		RES	60	69	32	160											73	73	36	181
	H60	SAR					180	-	-	180							360	-	-	360
Total			9,647	6,529	3,831	20,007	180	-	-	180							11,937	6,891	4,394	23,222

Total Annual EA-18G FCLP-Related Ops	Ault =	9,620	(29.6%)
	NOLF =	22,862	(70.4%)
	Total =	32,482	

Grand Total (Ault+OLF)	70,070	28,431	16,989	115,490

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary
DL = Daylight, DK = Darkness

Table A2-53 Summary of Annual Flight Operations for the High-Tempo FCLP Year Alternative 2E

Airfield	Aircraft Type or Category	Alternative E (High Tempo Year) – Type of Flight Operation: FCLP (2, 3)	Alternative E (High Tempo Year) – Type of Flight Operation: Other (4)	Alternative E (High Tempo Year) – Total	Change from No Action – Type of Flight Operation: FCLP (2, 5)	Change from No Action – Type of Flight Operation: Other	Change from No Action – Total
Ault Field	EA-18G	22,900	66,800	89,700	+8,900	+13,200	+22,100
	Other Based	-	11,700	11,700	-	+300	+300
	Transient	-	2,300	2,300	-	-	-
	Subtotal	22,900	80,800	103,700	+8,900	+13,500	+22,400
OLF Coupeville	EA-18G	9,800	-	9,800	+3,700	-	+3,700
	Other	-	400	400	-	-	-
	Subtotal	9,800	400	10,200	+3,700	-	+3,700
TOTAL (both airfields)		**32,700**	**81,200**	**113,900**	**+12,600**	**+13,500**	**+26,100**

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 1200 interfacility (FCLP-related) operations; not shown separatel
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-54 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 2E

Airfield	Aircraft	Squadron	Departure			Arrival: VFR SI/ Non-Break			Arrival: Overhead Break				Arrival: IFR		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	6,589	360	6,949	2,401	87	2,488	2,237	1,604	159	4,000	452	10	462
		FRS	5,649	338	5,987	2,128	315	2,443	1,410	1,325	583	3,318	192	34	226
		RES	1,131	80	1,211	380	26	406	408	270	21	699	96	10	106
		EXP	3,020	156	3,176	1,077	50	1,127	1,039	737	62	1,838	210	2	212
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,910	99	2,009	1,374	232	1,606	-	-	-	-	333	70	403
	H60	SAR	385	-	385	385	-	385	-	-	-	-	-	-	-
	C-40	-	392	-	392	289	-	289	-	-	-	-	103	-	103
	JET_LRG	-	403	105	508	381	93	474	-	-	-	-	23	11	34
Total			19,479	1,138	20,617	8,415	803	9,218	5,094	3,936	825	9,855	1,409	137	1,546

Airfield	Aircraft	Squadron	Interfacility: Departure to OLF				Interfacility: Break Arrival from OLF				Interfacility: Helo Departure to OLF			Interfacility: Helo Arrival from OLF		
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	200	83	114	396	324	-	74	398						
		FRS	102	62	39	203	176	-	27	203						
		RES	9	5	2	15	15	-	-	15						
		EXP	-	-	-	0	-	-	-	0						
	EP3	All														
	P3	All														
	P8	All														
	H60	SAR									90	-	90	90	-	90
	C-40	-														
	JET_LRG	-														
Total			311	149	155	614	515	-	101	615	90	-	90	90	-	90

Airfield	Aircraft	Squadron	Interfacility: Break Arrival from Ault				Interfacility: Departure to Ault				Interfacility: Helo Arrival from Ault			Interfacility: Helo Departure to Ault		
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW	324	-	74	398	200	83	114	396						
		FRS	176	-	27	203	102	62	39	203						
		RES	15	-	-	15	9	5	2	15						
	H60	SAR									90	-	90	90	-	90
Total			515	-	101	615	311	149	155	614	90	-	90	90	-	90

Airfield	Aircraft	Squadrons	Closed Pattern*: FCLP				Closed Pattern*: T&G				Closed Pattern*: ReEnter			Closed Pattern*: GCA/CCA			TOTAL			
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total
Ault Field	EA18	CVW	4,049	6,781	3,763	14,593	1,148	3,041	1,021	5,210	2,175	107	2,282	4,540	3,135	7,675	24,114	11,509	8,830	44,453
		FRS	1,849	5,151	1,082	8,082	1,106	3,417	929	5,452	-	-	0	4,735	1,000	5,735	17,346	9,955	4,347	31,648
		RES	82	115	-	197	24	433	12	469	427	12	439	471	12	483	3,043	822	175	4,040
		EXP	-	-	-	0	-	994	32	1,026	1,084	44	1,128	994	24	1,018	7,424	1,731	370	9,525
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					-	4,230	559	4,789	-	-	-	1,832	156	1,988	5,449	4,230	1,116	10,795
	H60	SAR					-	-	-	-	-	-	-	-	-	-	950	-	-	950
	C-40	-					-	319	-	319	-	-	-	162	-	162	946	319	-	1,265
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	807	-	209	1,016
Total			5,980	12,047	4,846	22,873	2,278	12,434	2,553	17,265	3,686	163	3,849	12,734	4,327	17,061	60,080	28,566	15,047	103,692
OLF	EA18	CVW	2,675	1,544	1,346	5,564											3,198	1,626	1,533	6,357
		FRS	1,341	1,076	410	2,826											1,619	1,137	476	3,231
		RES	111	84	-	195											135	89	2	225
	H60	SAR					180	-	-	180							360	-	-	360
Total			4,127	2,703	1,755	8,585	180	-	-	180							5,312	2,852	2,010	10,173

Total Annual EA-18G FCLP-Related Ops			
	Ault =	22,873	(70%)
	NOLF =	9,813	(30%)
	Total =	32,686	

Grand Total (Ault+OLF)	65,391	31,417	17,057	113,865

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary
DL = Daylight, DK = Darkness

Table A2-55 Summary of Annual Flight Operations for the High-Tempo FCLP Year Alternative 3A

Airfield	Aircraft Type or Category	Alternative 3A (High Tempo Year) Type of Flight Operation FCLP (2, 3)	Other (4)	Total	Change from No Action Type of Flight Operation FCLP (2, 5)	Other	Total
Ault Field	EA-18G	6,500	67,800	74,300	-7,500	+14,200	+6,700
	Other Based	-	11,500	11,500	-	+100	+100
	Transient	-	2,300	2,300	-	-	-
	Subtotal	6,500	81,600	88,100	-7,500	+14,300	+6,800
OLF Coupeville	EA-18G	26,200	-	26,200	+20,100	-	+20,100
	Other	-	400	400	-	-	-
	Subtotal	26,200	400	26,600	+20,100	-	+20,100
TOTAL (both airfields)		**32,700**	**82,000**	**114,700**	**+12,600**	**+14,300**	**+26,900**

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 4600 interfacility (FCLP-related) operations; not shown separately
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-56 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 3A

Airfield	Aircraft	Squadron	Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	Arrival VFR SI/Non-Break Day (0700-2200)	Arrival VFR SI/Non-Break Night (2200-0700)	Arrival VFR SI/Non-Break Total	Arrival Overhead Break Day (0700-2200) DL	Arrival Overhead Break Day (0700-2200) DK	Arrival Overhead Break Night (2200-0700) DK	Arrival Overhead Break Total	Arrival IFR Day (0700-2200)	Arrival IFR Night (2200-0700)	Arrival IFR Total
Ault Field	EA18	CVW	6,581	374	6,955	2,437	66	2,503	2,221	1,545	128	3,894	550	7	557
		FRS	5,617	356	5,973	2,095	318	2,413	1,357	1,324	611	3,292	247	21	268
		RES	1,128	84	1,212	409	17	426	439	249	27	715	66	5	71
		EXP	2,542	152	2,694	879	39	918	1,022	670	81	1,773	281	-	281
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,937	83	2,020	1,343	314	1,657	-	-	-	-	302	62	364
	H60	SAR	384	-	384	384	-	384	-	-	-	-	-	-	-
	C-40	-	391	-	391	274	-	274	-	-	-	-	117	-	117
	JET_LRG	-	406	102	508	361	114	475	-	-	-	-	23	10	33
Total			18,986	1,151	20,137	8,182	868	9,050	5,039	3,788	847	9,674	1,586	105	1,691

Airfield	Aircraft	Squadron	Interfacility Departure to OLF Day (0700-2200) DL	Departure to OLF Day (0700-2200) DK	Departure to OLF Night (2200-0700) DK	Departure to OLF Total	Break Arrival from OLF Day (0700-2200) DL	Break Arrival from OLF Day (0700-2200) DK	Break Arrival from OLF Night (2200-0700) DK	Break Arrival from OLF Total	Helo Departure to OLF Day (0700-2200)	Helo Departure to OLF Night (2200-0700)	Helo Departure to OLF Total	Helo Arrival from OLF Day (0700-2200)	Helo Arrival from OLF Night (2200-0700)	Helo Arrival from OLF Total
Ault Field	EA18	CVW	526	208	324	1,058	834	-	225	1,059						
		FRS	292	154	119	565	487	-	78	565						
		RES	5	8	-	13	13	-	-	13						
		EXP	-	-	-	0	-	-	-	0						
	EP3	All														
	P3	All														
	P8	All														
	H60	SAR									89	-	89	89	-	89
	C-40	-														
	JET_LRG	-														
Total			823	370	443	1,636	1,334	-	303	1,637	89	-	89	89	-	89

Airfield	Aircraft	Squadron	Interfacility Break Arrival from Ault Day (0700-2200) DL	Break Arrival from Ault Day (0700-2200) DK	Break Arrival from Ault Night (2200-0700) DK	Break Arrival from Ault Total	Departure to Ault Day (0700-2200) DL	Departure to Ault Day (0700-2200) DK	Departure to Ault Night (2200-0700) DK	Departure to Ault Total	Helo Arrival from Ault Day (0700-2200)	Helo Arrival from Ault Night (2200-0700)	Helo Arrival from Ault Total	Helo Departure to Ault Day (0700-2200)	Helo Departure to Ault Night (2200-0700)	Helo Departure to Ault Total
OLF	EA18	CVW	834	-	225	1,059	526	208	324	1,058						
		FRS	487	-	78	565	292	154	119	565						
		RES	13	-	-	13	5	8	-	13						
	H60	SAR									89	-	89	89	-	89
Total			1,334	-	303	1,637	823	370	443	1,636	89	-	89	89	-	89

Airfield	Aircraft	Squadrons	Closed Pattern* FCLP Day (0700-2200) DL	FCLP Day (0700-2200) DK	FCLP Night (2200-0700) DK	FCLP Total	T&G Day (0700-2200) DL	T&G Day (0700-2200) DK	T&G Night (2200-0700) DK	T&G Total	ReEnter Day (0700-2200)	ReEnter Night (2200-0700)	ReEnter Total	GCA/CCA Day (0700-2200)	GCA/CCA Night (2200-0700)	GCA/CCA Total	TOTAL Day (0700-2200) DL	TOTAL Day (0700-2200) DK	TOTAL Night (2200-0700) DK	TOTAL Total
Ault Field	EA18	CVW	1,861	1,254	1,005	4,120	1,214	2,879	957	5,050	2,232	79	2,311	4,605	2,941	7,546	23,061	5,886	6,106	35,053
		FRS	1,451	498	256	2,205	961	3,310	1,041	5,312	-	-	0	4,760	1,034	5,794	17,267	5,286	3,834	26,387
		RES	96	46	-	142	16	503	12	531	428	16	444	533	12	545	3,133	806	173	4,112
		EXP	-	-	-	0	-	985	56	1,041	983	36	1,019	973	52	1,025	6,680	1,655	416	8,751
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					-	3,925	728	4,653	-	-	-	1,670	223	1,893	5,252	3,925	1,410	10,587
	H60	SAR					-	-	-	-	-	-	-	-	-	-	946	-	-	946
	C-40	-					-	329	-	329	-	-	-	164	-	164	946	329	-	1,275
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	790	-	226	1,016
Total			3,408	1,798	1,261	6,467	2,191	11,931	2,794	16,916	3,643	131	3,774	12,705	4,262	16,967	58,075	17,887	12,165	88,127
OLF	EA18	CVW	7,083	3,847	3,899	14,829											8,443	4,055	4,448	16,946
		FRS	3,889	2,858	1,158	7,905											4,668	3,012	1,355	9,035
		RES	65	117	-	182											83	125	-	208
	H60	SAR					178	-	-	178							356	-	-	356
Total			11,037	6,822	5,057	22,916	178	-	-	178							13,550	7,192	5,803	26,545

Total Annual EA-18G FCLP-Related Ops			
	Ault =	6,467	(19.8%)
	NOLF =	26,189	(80.2%)
	Total =	32,656	

Grand Total (Ault+OLF)			
71,625	25,079	17,968	114,672

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary
DL = Daylight, DK = Darkness

Table A2-57 Summary of Annual Flight Operations for the High-Tempo FCLP Year Alternative 3B

Airfield	Aircraft Type or Category	Alternative 3B (High Tempo Year) Type of Flight Operation FCLP (2, 3)	Other (4)	Total	Change from No Action Type of Flight Operation FCLP (2, 5)	Other	Total
Ault Field	EA-18G	16,400	67,100	83,500	+2,400	+13,500	+15,900
	Other Based	-	11,400	11,400	-	-	-
	Transient	-	2,300	2,300	-	-	-
	Subtotal	16,400	80,800	97,200	+2,400	+13,500	+15,900
OLF Coupeville	EA-18G	16,400	-	16,400	+10,300	-	+10,300
	Other	-	400	400	-	-	-
	Subtotal	16,400	400	16,800	+10,300	-	+10,300
TOTAL (both airfields)		**32,800**	**81,200**	**114,000**	**+12,700**	**+13,500**	**+26,200**

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 2900 interfacility (FCLP-related) operations; not shown separately
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-58 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 3B

Airfield	Aircraft	Squadron	Departure			Arrival: VFR SI/ Non-Break			Arrival: Overhead Break				Arrival: IFR		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	6,563	380	6,943	2,465	63	2,528	2,161	1,576	162	3,899	498	16	514
		FRS	5,623	341	5,964	2,140	292	2,432	1,363	1,271	582	3,216	267	49	316
		RES	1,132	78	1,210	391	25	416	437	260	25	722	68	4	72
		EXP	2,943	158	3,101	1,051	36	1,087	1,035	660	57	1,752	262	-	262
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,932	86	2,018	1,333	289	1,622	-	-	-	-	331	64	395
	H60	SAR	384	-	384	384	-	384	-	-	-	-	-	-	-
	C-40	-	390	-	390	276	-	276	-	-	-	-	114	-	114
	JET_LRG	-	410	97	507	374	102	476	-	-	-	-	18	13	31
Total			19,377	1,140	20,517	8,414	807	9,221	4,996	3,767	826	9,589	1,558	146	1,704

Airfield	Aircraft	Squadron	Interfacility: Departure to OLF				Interfacility: Break Arrival from OLF				Interfacility: Helo Departure to OLF			Interfacility: Helo Arrival from OLF		
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	325	146	186	657	533	-	124	657						
		FRS	181	101	72	354	303	-	50	353						
		RES	5	7	-	12	12	-	-	12						
		EXP	-	-	-	0	-	-	-	0						
	EP3	All														
	P3	All														
	P8	All														
	H60	SAR									90	-	90	90	-	90
	C-40	-														
	JET_LRG	-														
Total			511	254	258	1,023	848	-	174	1,022	90	-	90	90	-	90

Airfield	Aircraft	Squadron	Interfacility: Break Arrival from Ault				Interfacility: Departure to Ault				Interfacility: Helo Arrival from Ault			Interfacility: Helo Departure to Ault		
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW	533	-	124	657	325	146	186	657						
		FRS	303	-	50	353	181	101	72	354						
		RES	12	-	-	12	5	7	-	12						
	H60	SAR									90	-	90	90	-	90
Total			848	-	174	1,022	511	254	258	1,023	90	-	90	90	-	90

Airfield	Aircraft	Squadrons	Closed Pattern*: FCLP				Closed Pattern*: T&G				Closed Pattern*: ReEnter			Closed Pattern*: GCA/CCA			TOTAL			
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total
Ault Field	EA18	CVW	4,861	3,000	2,715	10,576	1,214	2,879	957	5,050	2,232	79	2,311	4,605	2,941	7,546	25,457	7,601	7,623	40,681
		FRS	3,653	1,317	685	5,655	961	3,310	1,041	5,312	-	-	0	4,760	1,034	5,794	19,251	5,999	4,146	29,396
		RES	81	58	-	139	16	503	12	531	428	16	444	533	12	545	3,103	828	172	4,103
		EXP	-	-	-	0	-	985	56	1,041	983	36	1,019	973	52	1,025	7,247	1,645	395	9,287
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					-	3,957	618	4,575	-	-	-	1,707	176	1,883	5,303	3,957	1,233	10,493
	H60	SAR					-	-	-	-	-	-	-	-	-	-	948	-	-	948
	C-40	-					-	322	-	322	-	-	-	162	-	162	942	322	-	1,264
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	802	-	212	1,014
Total			8,595	4,375	3,400	16,370	2,191	11,956	2,684	16,831	3,643	131	3,774	12,740	4,215	16,955	63,053	20,352	13,781	97,186
OLF	EA18	CVW	4,385	2,614	2,210	9,209											5,243	2,760	2,520	10,523
		FRS	2,416	1,670	869	4,955											2,900	1,771	991	5,662
		RES	59	107	-	166											76	114	-	190
	H60	SAR					180	-	-	180							360	-	-	360
Total			6,860	4,391	3,079	14,330	180	-	-	180							8,579	4,645	3,511	16,735

Total Annual EA-18G FCLP-Related Ops			
	Ault =	16,370	(50%)
	NOLF =	16,375	(50%)
	Total =	32,745	

Grand Total (Ault+OLF)	71,632	24,997	17,292	113,921

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary
DL = Daylight, DK = Darkness

Table A2-59 Summary of Annual Flight Operations for the High-Tempo FCLP Year Alternative 3C

Airfield	Aircraft Type or Category	Alternative 3C (High Tempo Year) Type of Flight Operation FCLP (2, 3)	Other (4)	Total	Change from No Action Type of Flight Operation FCLP (2, 5)	Other	Total
Ault Field	EA-18G	26,200	65,700	91,900	+12,200	+12,100	+24,300
	Other Based	-	11,500	11,500	-	+100	+100
	Transient	-	2,300	2,300	-	-	-
	Subtotal	26,200	79,500	105,700	+12,200	+12,200	+24,400
OLF Coupeville	EA-18G	6,600	-	6,600	+500	-	+500
	Other	-	400	400	-	-	-
	Subtotal	6,600	400	7,000	+500	-	+500
TOTAL (both airfields)		32,800	79,900	112,700	+12,700	+12,200	+24,900

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 1200 interfacility (FCLP-related) operations; not shown separately
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-60 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 3C

Airfield	Aircraft	Squadron	Arrival: Departure Day (0700-2200)	Departure Night (2200-0700)	Departure Total	VFR SI/ Non-Break Day (0700-2200)	VFR SI/ Non-Break Night (2200-0700)	VFR SI/ Non-Break Total	Overhead Break Day (0700-2200) DL	Overhead Break Day (0700-2200) DK	Overhead Break Night (2200-0700) DK	Overhead Break Total	IFR Day (0700-2200)	IFR Night (2200-0700)	IFR Total	Interfacility: Departure to OLF Day (0700-2200) DL	Departure to OLF Day (0700-2200) DK	Departure to OLF Night (2200-0700) DK	Departure to OLF Total	Break Arrival from OLF Day (0700-2200) DL	Break Arrival from OLF Day (0700-2200) DK	Break Arrival from OLF Night (2200-0700) DK	Break Arrival from OLF Total	Helo Departure to OLF Day (0700-2200)	Helo Departure to OLF Night (2200-0700)	Helo Departure to OLF Total	Helo Arrival from OLF Day (0700-2200)	Helo Arrival from OLF Night (2200-0700)	Helo Arrival from OLF Total
Ault Field	EA18	CVW	6,522	390	6,912	2,408	62	2,470	2,198	1,627	124	3,949	486	7	493	130	61	74	265	217	-	49	266						
		FRS	5,550	373	5,923	2,164	314	2,478	1,330	1,260	620	3,210	208	25	233	66	44	25	135	118	-	17	135						
		RES	1,137	68	1,205	387	27	414	443	225	35	703	83	5	88	4	6	-	10	10	-	-	10						
		EXP	2,942	140	3,082	1,077	45	1,122	977	699	60	1,736	219	6	225	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,907	87	1,994	1,367	258	1,625	-	-	-	-	309	60	369														
	H60	SAR	380	-	380	380	-	380	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	388	-	388	281	-	281	-	-	-	-	107	-	107														
	JET_LRG	-	391	113	504	358	104	462	-	-	-	-	29	13	42														
Total			19,217	1,171	20,388	8,422	810	9,232	4,948	3,811	839	9,598	1,441	116	1,557	200	111	99	410	345	-	66	411	90	-	90	90	-	90

Airfield	Aircraft	Squadron	Interfacility: Break Arrival from Ault Day (0700-2200) DL	Break Arrival from Ault Day (0700-2200) DK	Break Arrival from Ault Night (2200-0700) DK	Break Arrival from Ault Total	Departure to Ault Day (0700-2200) DL	Departure to Ault Day (0700-2200) DK	Departure to Ault Night (2200-0700) DK	Departure to Ault Total	Helo Arrival from Ault Day (0700-2200)	Helo Arrival from Ault Night (2200-0700)	Helo Arrival from Ault Total	Helo Departure to Ault Day (0700-2200)	Helo Departure to Ault Night (2200-0700)	Helo Departure to Ault Total
OLF	EA18	CVW	217	-	49	266	130	61	74	265						
		FRS	118	-	17	135	66	44	25	135						
		RES	10	-	-	10	4	6	-	10						
	H60	SAR									90	-	90	90	-	90
Total			345	-	66	411	200	111	99	410	90	-	90	90	-	90

Airfield	Aircraft	Squadrons	Closed Pattern*: FCLP Day (0700-2200) DL	FCLP Day (0700-2200) DK	FCLP Night (2200-0700) DK	FCLP Total	T&G Day (0700-2200) DL	T&G Day (0700-2200) DK	T&G Night (2200-0700) DK	T&G Total	ReEnter Day (0700-2200)	ReEnter Night (2200-0700)	ReEnter Total	GCA/CCA Day (0700-2200)	GCA/CCA Night (2200-0700)	GCA/CCA Total	TOTAL Day (0700-2200) DL	TOTAL Day (0700-2200) DK	TOTAL Night (2200-0700) DK	TOTAL Total
Ault Field	EA18	CVW	7,625	5,206	4,008	16,839	1,214	2,879	957	5,050	2,232	79	2,311	4,605	2,941	7,546	27,637	9,773	8,691	46,101
		FRS	5,850	2,043	1,305	9,198	961	3,310	1,041	5,312	-	-	0	4,760	1,034	5,794	21,007	6,657	4,754	32,418
		RES	89	64	-	153	16	503	12	531	428	16	444	533	12	545	3,130	798	175	4,103
		EXP	-	-	-	0	-	985	56	1,041	983	36	1,019	973	52	1,025	7,171	1,684	395	9,250
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					-	4,033	641	4,674	-	-	-	1,737	181	1,918	5,320	4,033	1,227	10,580
	H60	SAR					-	-	-	-	-	-	-	-	-	-	940	-	-	940
	C-40	-					-	318	-	318	-	-	-	159	-	159	935	318	-	1,253
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	778	-	230	1,008
Total			13,564	7,313	5,313	26,190	2,191	12,028	2,707	16,926	3,643	131	3,774	12,767	4,220	16,987	66,918	23,263	15,472	105,653
OLF	EA18	CVW	1,740	1,095	885	3,720											2,087	1,156	1,008	4,251
		FRS	894	723	269	1,886											1,078	767	311	2,156
		RES	46	84	-	130											60	90	-	150
	H60	SAR					179	-	-	179							359	-	-	359
Total			2,680	1,902	1,154	5,736	179	-	-	179							3,584	2,013	1,319	6,916

Total Annual EA-18G FCLP-Related Ops			
	Ault =	26,190	(80%)
	NOLF =	6,557	(20%)
	Total =	32,747	

Grand Total (Ault+OLF)	70,502	25,276	16,791	112,569

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary
DL = Daylight, DK = Darkness

Table A2-61 Summary of Annual Flight Operations for the High-Tempo FCLP Year Alternative 3D

Airfield	Aircraft Type or Category	Alternative 3D (High Tempo Year) Type of Flight Operation FCLP (2, 3)	Alternative 3D (High Tempo Year) Type of Flight Operation Other (4)	Alternative 3D (High Tempo Year) Total	Change from No Action Type of Flight Operation FCLP (2, 5)	Change from No Action Type of Flight Operation Other	Change from No Action Total
Ault Field	EA-18G	9,700	67,400	77,100	-4,300	+13,800	+9,500
	Other Based	-	11,500	11,500	-	+100	+100
	Transient	-	2,300	2,300	-	-	-
	Subtotal	9,700	81,200	90,900	-4,300	+13,900	+9,600
OLF Coupeville	EA-18G	22,900	-	22,900	+16,800	-	+16,800
	Other	-	400	400	-	-	-
	Subtotal	22,900	400	23,300	+16,800	-	+16,800
TOTAL (both airfields)		**32,600**	**81,600**	**114,200**	**+12,500**	**+13,900**	**+26,400**

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 2900 interfacility (FCLP-related) operations; not shown separately
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-62 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 3D

Airfield	Aircraft	Squadron	Departure			Arrival: VFR SI/ Non-Break			Arrival: Overhead Break				Arrival: IFR		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	6,581	374	6,955	2,437	66	2,503	2,221	1,545	128	3,894	550	7	557
		FRS	5,617	356	5,973	2,095	318	2,413	1,357	1,324	611	3,292	247	21	268
		RES	1,128	84	1,212	409	17	426	439	249	27	715	66	5	71
		EXP	2,542	152	2,694	879	39	918	1,022	670	81	1,773	281	-	281
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All	1,937	83	2,020	1,343	314	1,657	-	-	-	-	302	62	364
	H60	SAR	384	-	384	384	-	384	-	-	-	-	-	-	-
	C-40	-	391	-	391	274	-	274	-	-	-	-	117	-	117
	JET_LRG	-	406	102	508	361	114	475	-	-	-	-	23	10	33
Total			18,986	1,151	20,137	8,182	868	9,050	5,039	3,788	847	9,674	1,586	105	1,691

Airfield	Aircraft	Squadron	Interfacility: Departure to OLF				Interfacility: Break Arrival from OLF				Interfacility: Helo Departure to OLF			Interfacility: Helo Arrival from OLF		
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	460	182	284	926	730	-	197	927						
		FRS	256	135	104	494	426	-	68	494						
		RES	4	7	-	11	11	-	-	11						
		EXP	-	-	-	0	-	-	-	0						
	EP3	All														
	P3	All														
	P8	All														
	H60	SAR									89	-	89	89	-	89
	C-40	-														
	JET_LRG	-														
Total			720	324	388	1,432	1,167	-	265	1,432	89	-	89	89	-	89

Airfield	Aircraft	Squadron	Interfacility: Break Arrival from Ault				Interfacility: Departure to Ault				Interfacility: Helo Arrival from Ault			Interfacility: Helo Departure to Ault		
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW	730	-	197	927	460	182	284	926						
		FRS	426	-	68	494	256	135	104	494						
		RES	11	-	-	11	4	7	-	11						
	H60	SAR									89	-	89	89	-	89
Total			1,167	-	265	1,432	720	324	388	1,432	89	-	89	89	-	89

Airfield	Aircraft	Squadrons	Closed Pattern*: FCLP				Closed Pattern*: T&G				Closed Pattern*: ReEnter			Closed Pattern*: GCA/CCA			TOTAL			
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total
Ault Field	EA18	CVW	2,792	1,881	1,508	6,180	1,214	2,879	957	5,050	2,232	79	2,311	4,605	2,941	7,546	23,822	6,487	6,540	36,848
		FRS	2,177	747	384	3,308	961	3,310	1,041	5,312	-	-	0	4,760	1,034	5,794	17,895	5,516	3,937	27,348
		RES	144	69	-	213	16	503	12	531	428	16	444	533	12	545	3,179	828	173	4,180
		EXP	-	-	-	0	-	985	56	1,041	983	36	1,019	973	52	1,025	6,680	1,655	416	8,751
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					-	3,925	728	4,653	-	-	-	1,670	223	1,893	5,252	3,925	1,410	10,587
	H60	SAR					-	-	-	-	-	-	-	-	-	-	946	-	-	946
	C-40	-					-	329	-	329	-	-	-	164	-	164	946	329	-	1,275
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	790	-	226	1,016
Total			5,112	2,697	1,892	9,701	2,191	11,931	2,794	16,916	3,643	131	3,774	12,705	4,262	16,967	59,509	18,740	12,702	90,951
OLF	EA18	CVW	6,198	3,366	3,412	12,975											7,388	3,548	3,892	14,828
		FRS	3,403	2,501	1,013	6,917											4,085	2,636	1,186	7,906
		RES	57	102	-	159											73	109	-	182
	H60	SAR					179	-	-	179							357	-	-	357
Total			9,657	5,969	4,425	20,052	179	-	-	179							11,902	6,293	5,078	23,272

Total Annual EA-18G FCLP-Related Ops			
	Ault =	9,701	(29.7%)
	NOLF =	22,915	(70.3%)
	Total =	32,616	

Grand Total (Ault+OLF)	71,411	25,033	17,780	114,224

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary
DL = Daylight, DK = Darkness

Table A2-63 Summary of Annual Flight Operations for the High-Tempo FCLP Year Alternative 3E

Airfield	Aircraft Type or Category	Alternative 3E (High Tempo Year) – Type of Flight Operation: FCLP (2, 3)	Other (4)	Total	Change from No Action – Type of Flight Operation: FCLP (2, 5)	Other	Total
Ault Field	EA-18G	22,900	66,100	89,000	+8,900	+12,500	+21,400
	Other Based	-	11,500	11,500	-	+100	+100
	Transient	-	2,300	2,300	-	-	-
	Subtotal	22,900	79,900	102,800	+8,900	+12,600	+21,500
OLF Coupeville	EA-18G	9,800	-	9,800	+3,700	-	+3,700
	Other	-	400	400	-	-	-
	Subtotal	9,800	400	10,200	+3,700	-	+3,700
TOTAL (both airfields)		**32,700**	**80,300**	**113,000**	**+12,600**	**+12,600**	**+25,200**

(1) rounded to nearest 100 if greater than or equal to 100;
rounded to nearest 10 if greater than or equal to 10 (and less than 100);
set to 10 if between 1 and 9.
(2) each closed pattern is counted as 2 operations.
(3) For Growler at the OLF, values include 1200 interfacility (FCLP-related) operations; not shown separately
(4) For Ault Field, includes departures, arrivals, pattern operations and interfacility operations; For the OLF, includes HH-60 interfacility departures, arrivals and pattern work.
(5) No Action excludes 900 interfacility Growler operations (FCLP-related).

Table A2-64 Detailed Annual Flight Operations for the High-Tempo FCLP Year Alternative 3E

Airfield	Aircraft	Squadron	Departure			Arrival: VFR SI/ Non-Break			Arrival: Overhead Break				Arrival: IFR			Interfacility: Departure to OLF				Interfacility: Break Arrival from OLF				Interfacility: Helo Departure to OLF			Interfacility: Helo Arrival from OLF		
			Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Ault Field	EA18	CVW	6,522	390	6,912	2,408	62	2,470	2,198	1,627	124	3,949	486	7	493	195	92	111	398	326	-	74	399						
		FRS	5,550	373	5,923	2,164	314	2,478	1,330	1,260	620	3,210	208	25	233	99	66	38	203	177	-	26	203						
		RES	1,137	68	1,205	387	27	414	443	225	35	703	83	5	88	6	9	-	15	15	-	-	15						
		EXP	2,942	140	3,082	1,077	45	1,122	977	699	60	1,736	219	6	225	-	-	-	0	-	-	-	0						
	EP3	All	-	-	0	-	-	0	-	-	-	0	-	-	0														
	P3	All	-	-	-	-	-	-	-	-	-	-	-	-	-														
	P8	All	1,907	87	1,994	1,367	258	1,625	-	-	-	-	309	60	369														
	H60	SAR	380	-	380	380	-	380	-	-	-	-	-	-	-									90	-	90	90	-	90
	C-40	-	388	-	388	281	-	281	-	-	-	-	107	-	107														
	JET_LRG	-	391	113	504	358	104	462	-	-	-	-	29	13	42														
Total			19,217	1,171	20,388	8,422	810	9,232	4,948	3,811	839	9,598	1,441	116	1,557	300	167	149	615	518	-	99	617	90	-	90	90	-	90

Airfield	Aircraft	Squadron	Interfacility: Break Arrival from Ault				Interfacility: Departure to Ault				Interfacility: Helo Arrival from Ault			Interfacility: Helo Departure to Ault		
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
OLF	EA18	CVW	326	-	74	399	195	92	111	398						
		FRS	177	-	26	203	99	66	38	203						
		RES	15	-	-	15	6	9	-	15						
	H60	SAR									90	-	90	90	-	90
Total			518	-	99	617	300	167	149	615	90	-	90	90	-	90

Airfield	Aircraft	Squadrons	Closed Pattern*: FCLP				Closed Pattern*: T&G				Closed Pattern*: ReEnter			Closed Pattern*: GCA/CCA			TOTAL			
			Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200) DL	Day (0700-2200) DK	Night (2200-0700) DK	Total
Ault Field	EA18	CVW	6,672	4,555	3,507	14,734	1,214	2,879	957	5,050	2,232	79	2,311	4,605	2,941	7,546	26,857	9,153	8,252	44,262
		FRS	5,119	1,788	1,142	8,048	961	3,310	1,041	5,312	-	-	0	4,760	1,034	5,794	20,368	6,424	4,612	31,403
		RES	78	56	-	134	16	503	12	531	428	16	444	533	12	545	3,126	793	175	4,094
		EXP	-	-	-	0	-	985	56	1,041	983	36	1,019	973	52	1,025	7,171	1,684	395	9,250
	EP3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P3	All					-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P8	All					-	4,033	641	4,674	-	-	-	1,737	181	1,918	5,320	4,033	1,227	10,580
	H60	SAR					-	-	-	-	-	-	-	-	-	-	940	-	-	940
	C-40	-					-	318	-	318	-	-	-	159	-	159	935	318	-	1,253
	JET_LRG	-					-	-	-	-	-	-	-	-	-	-	778	-	230	1,008
Total			11,869	6,399	4,649	22,916	2,191	12,028	2,707	16,926	3,643	131	3,774	12,767	4,220	16,987	65,495	22,404	14,890	102,790
OLF	EA18	CVW	2,610	1,643	1,328	5,580											3,131	1,734	1,512	6,377
		FRS	1,341	1,085	404	2,829											1,617	1,151	467	3,234
		RES	69	126	-	195											90	135	-	225
	H60	SAR					179	-	-	179							359	-	-	359
Total			4,020	2,853	1,731	8,604	179	-	-	179							5,197	3,020	1,979	10,195

Total Annual EA-18G FCLP-Related Ops			
	Ault =	22,916	(70%)
	NOLF =	9,836	(30%)
	Total =	32,752	

Grand Total (Ault+OLF)	70,692	25,424	16,869	112,984

Notes:
** Closed pattern circuits consist of two operations (i.e., one departure and one arrival). Table values are closed pattern departure and arrival operation counts.*
Squadrons: CVW = Carrier, FRS = Fleet Replacement, RES = Reserve, EXP = Expeditionary
DL = Daylight, DK = Darkness

Appendix A3

EA-18G Runway Utilization Percentage

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List of Tables

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Table A3-1 Runway Utilization Percentages for EA-18G at Ault Field for Average Year Scenarios

Operation Type		Runway	Baseline		No Action		Alts 1, 2, 3	
			Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)
Departure		07	17%	18%	17%	16%	17%	16%
		14	31%	32%	27%	26%	30%	31%
		25	48%	46%	51%	53%	50%	49%
		32	4%	4%	5%	5%	3%	4%
Interfacility to/from OLF		07	14%	8%	23%	16%	18%	18%
		14	32%	44%	23%	28%	30%	31%
		25	53%	48%	48%	51%	50%	48%
		32	1%	0%	6%	5%	2%	3%
Arrival	VFR Arrivals (Non-breaks)	07	18%	18%	17%	18%	17%	16%
		14	31%	33%	27%	27%	30%	31%
		25	47%	45%	51%	50%	49%	50%
		32	4%	4%	5%	5%	4%	3%
	Overhead Break Arrivals	07	18%	17%	17%	15%	17%	16%
		14	30%	32%	27%	28%	29%	30%
		25	48%	46%	51%	52%	50%	50%
		32	4%	5%	5%	5%	4%	4%
	IFR Arrivals	07	17%	23%	16%	13%	16%	22%
		14	36%	18%	24%	36%	27%	27%
		25	44%	59%	55%	41%	53%	47%
		32	3%	0%	5%	10%	4%	4%
Closed Patterns	FCLP	07	15%	9%	21%	14%	22%	19%
		14	30%	35%	34%	36%	30%	29%
		25	52%	54%	39%	43%	47%	50%
		32	3%	2%	6%	7%	1%	2%
	Touch and Go	07	17%	14%	18%	16%	18%	18%
		14	30%	33%	27%	29%	30%	30%
		25	49%	49%	50%	51%	49%	49%
		32	4%	4%	5%	4%	3%	3%
	Depart and ReEnter	07	17%	24%	16%	21%	17%	17%
		14	28%	23%	26%	36%	29%	28%
		25	50%	49%	53%	40%	50%	51%
		32	5%	4%	5%	3%	4%	4%
	GCA Box	07	17%	12%	18%	19%	18%	18%
		14	30%	35%	27%	30%	30%	30%
		25	49%	51%	50%	47%	49%	50%
		32	4%	2%	5%	4%	3%	2%

Table A3-2 Runway Utilization Percentages for EA-18G at OLF Coupeville for Average Year Scenarios

Operation Type	Runway	Baseline		No Action		Alts 1,2,3	
		Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)
All	14	17%	18%	17%	20%	28%	31%
	32	83%	82%	83%	80%	72%	69%

Table A3-3 Runway Utilization Percentages for EA-18G at Ault Field for Average Year School-Day Scenarios

Operation Type		Runway	Baseline	No Action	Alts 1,2,3
Departure		07	17%	17%	17%
		14	31%	27%	30%
		25	48%	51%	50%
		32	4%	5%	3%
Interfacility to/from OLF		07	14%	16%	18%
		14	32%	24%	30%
		25	53%	55%	50%
		32	1%	5%	2%
Arrival	VFR Arrivals (Non-breaks)	07	18%	17%	17%
		14	31%	27%	30%
		25	47%	51%	49%
		32	4%	5%	4%
	Overhead Break Arrivals	07	18%	17%	17%
		14	30%	27%	29%
		25	48%	51%	50%
		32	4%	5%	4%
	IFR Arrivals	07	17%	16%	16%
		14	36%	24%	27%
		25	44%	55%	53%
		32	3%	5%	4%
Closed Patterns	FCLP	07	15%	21%	22%
		14	30%	34%	30%
		25	52%	39%	47%
		32	3%	6%	1%
	Touch and Go	07	17%	18%	18%
		14	30%	27%	30%
		25	49%	50%	49%
		32	4%	5%	3%
	Depart and ReEnter	07	17%	16%	17%
		14	28%	26%	29%
		25	50%	53%	50%
		32	5%	5%	4%
	GCA Box	07	17%	18%	18%
		14	30%	27%	30%
		25	49%	50%	49%
		32	4%	5%	3%

Table A3-4 Runway Utilization Percentages for EA-18G at OLF Coupeville for Average Year School-Day Scenarios

Operation Type	Runway	Baseline	No Action	Alts 1,2,3
All	14	17%	19%	28%
	32	83%	81%	72%

Table A3-5 Runway Utilization Percentages for EA-18G at Ault Field for High Tempo Year Scenarios

Operation Type		Runway	Baseline		No Action		Alts 1, 2, 3	
			Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)
Departure		07	17%	18%	17%	16%	17%	16%
		14	31%	32%	27%	26%	30%	31%
		25	48%	46%	51%	53%	50%	49%
		32	4%	4%	5%	5%	3%	4%
Interfacility to/from OLF		07	14%	8%	23%	16%	18%	18%
		14	32%	44%	23%	28%	30%	31%
		25	53%	48%	48%	51%	50%	48%
		32	1%	0%	6%	5%	2%	3%
Arrival	VFR Arrivals (Non-breaks)	07	18%	18%	17%	18%	17%	16%
		14	31%	33%	27%	27%	30%	31%
		25	47%	45%	51%	50%	49%	50%
		32	4%	4%	5%	5%	4%	3%
	Overhead Break Arrivals	07	18%	17%	17%	15%	17%	16%
		14	30%	32%	27%	28%	29%	30%
		25	48%	46%	51%	52%	50%	50%
		32	4%	5%	5%	5%	4%	4%
	IFR Arrivals	07	17%	23%	16%	13%	16%	22%
		14	36%	18%	24%	36%	27%	27%
		25	44%	59%	55%	41%	53%	47%
		32	3%	0%	5%	10%	4%	4%
Closed Patterns	FCLP	07	15%	9%	21%	14%	22%	19%
		14	30%	35%	34%	36%	30%	29%
		25	52%	54%	39%	43%	47%	50%
		32	3%	2%	6%	7%	1%	2%
	Touch and Go	07	17%	14%	18%	16%	18%	18%
		14	30%	33%	27%	29%	30%	30%
		25	49%	49%	50%	51%	49%	49%
		32	4%	4%	5%	4%	3%	3%
	Depart and ReEnter	07	17%	24%	16%	21%	17%	17%
		14	28%	23%	26%	36%	29%	28%
		25	50%	49%	53%	40%	50%	51%
		32	5%	4%	5%	3%	4%	4%
	GCA Box	07	17%	12%	18%	19%	18%	18%
		14	30%	35%	27%	30%	30%	30%
		25	49%	51%	50%	47%	49%	50%
		32	4%	2%	5%	4%	3%	2%

Table A3-6 Runway Utilization Percentages for EA-18G at OLF Coupeville for High Tempo Year Scenarios

Operation Type	Runway	Baseline		No Action		Alts 1,2,3	
		Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)
All	14	17%	18%	17%	20%	28%	31%
	32	83%	82%	83%	80%	72%	69%

Table A3-7 Runway Utilization Percentages for EA-18G at Ault Field for High Tempo Year School-Day Scenarios

Operation Type		Runway	Baseline	No Action	Alts 1,2,3
Departure		07	17%	17%	17%
		14	31%	27%	30%
		25	48%	51%	50%
		32	4%	5%	3%
Interfacility to/from OLF		07	14%	16%	18%
		14	32%	24%	30%
		25	53%	55%	50%
		32	1%	5%	2%
Arrival	VFR Arrivals (Non-breaks)	07	18%	17%	17%
		14	31%	27%	30%
		25	47%	51%	49%
		32	4%	5%	4%
	Overhead Break Arrivals	07	18%	17%	17%
		14	30%	27%	29%
		25	48%	51%	50%
		32	4%	5%	4%
	IFR Arrivals	07	17%	16%	16%
		14	36%	24%	27%
		25	44%	55%	53%
		32	3%	5%	4%
Closed Patterns	FCLP	07	15%	21%	22%
		14	30%	34%	30%
		25	52%	39%	47%
		32	3%	6%	1%
	Touch and Go	07	17%	18%	18%
		14	30%	27%	30%
		25	49%	50%	49%
		32	4%	5%	3%
	Depart and ReEnter	07	17%	16%	17%
		14	28%	26%	29%
		25	50%	53%	50%
		32	5%	5%	4%
	GCA Box	07	17%	18%	18%
		14	30%	27%	30%
		25	49%	50%	49%
		32	4%	5%	3%

Table A3-8 Runway Utilization Percentages for EA-18G at OLF Coupeville for High Tempo Year School-Day Scenarios

Operation Type	Runway	Baseline	No Action	Alts 1,2,3
All	14	17%	19%	28%
	32	83%	81%	72%

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Appendix A4

Modeled Flight Tracks and Growler Track Utilization Percentages

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List of Figures

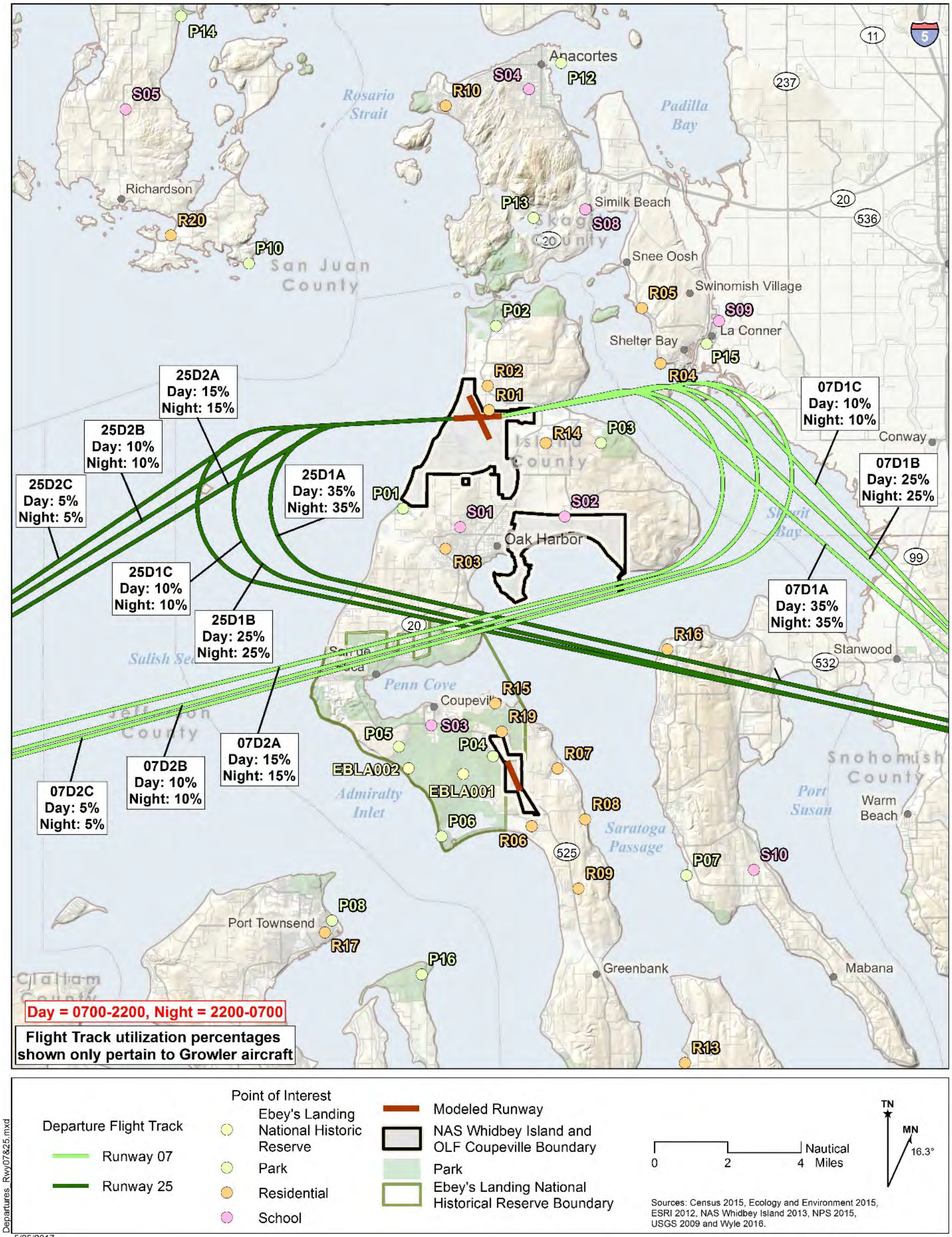

Figure A4-1 Modeled Average Daily Departure Flight Tracks on Runway 07/25 at Ault Field

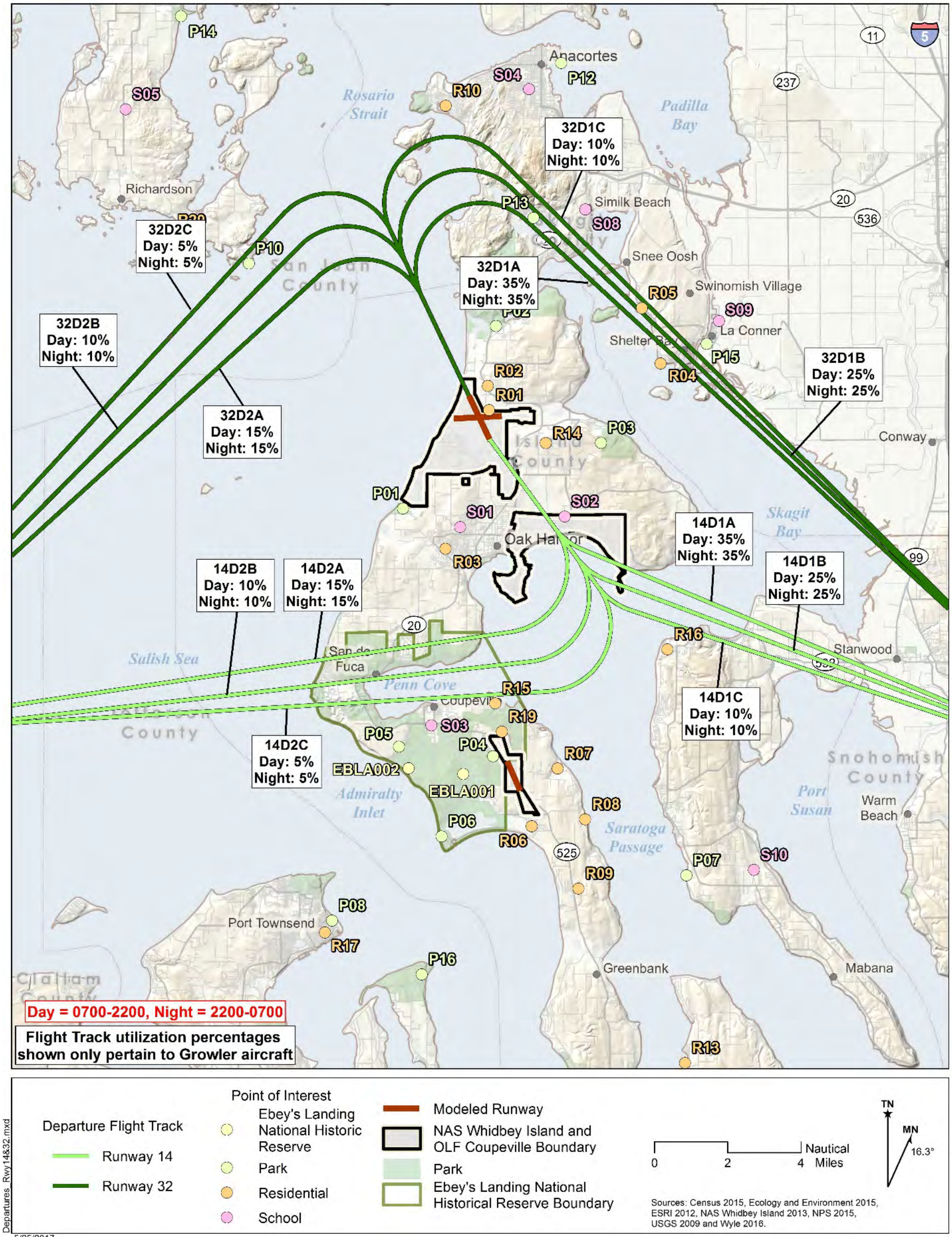

Figure A4-2 Modeled Average Daily Departure Flight Tracks on Runway 14/32 at Ault Field

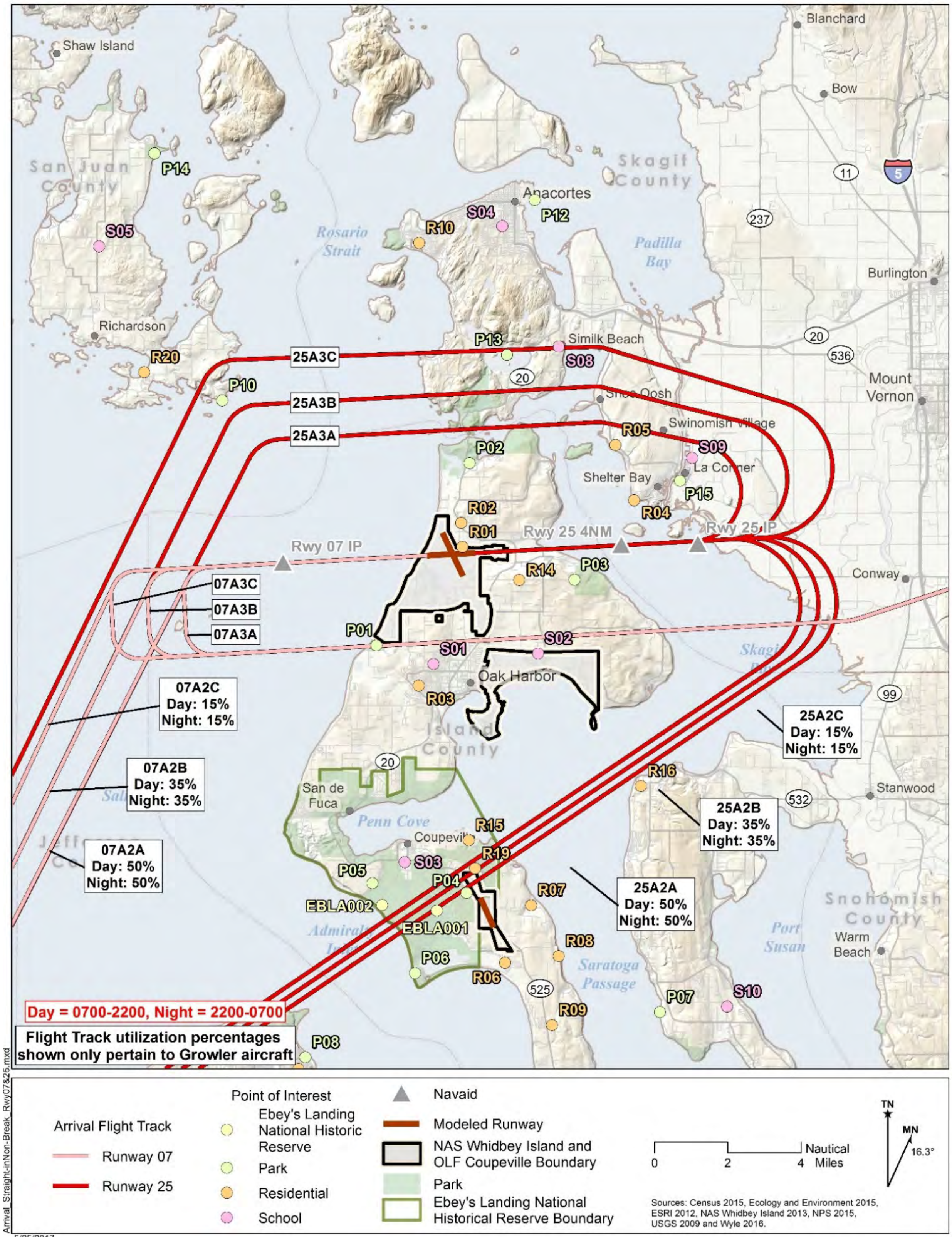

Figure A4-3 Modeled Average Daily Straight-in Non-break Arrival Flight Tracks to Runway 07/25 at Ault Field

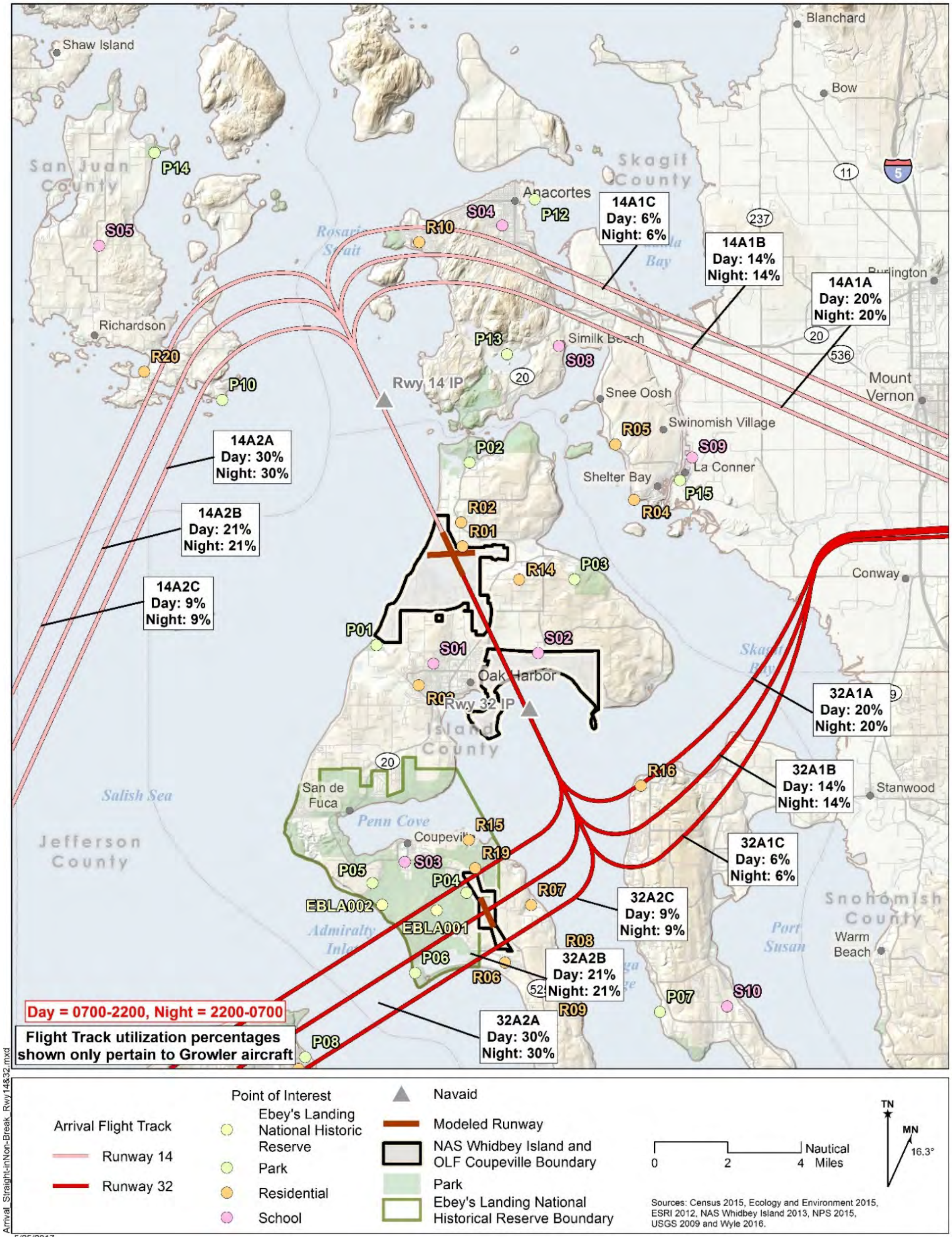

Figure A4-4 Modeled Average Daily Straight-in Non-break Arrival Flight Tracks to Runway 14/32 at Ault Field

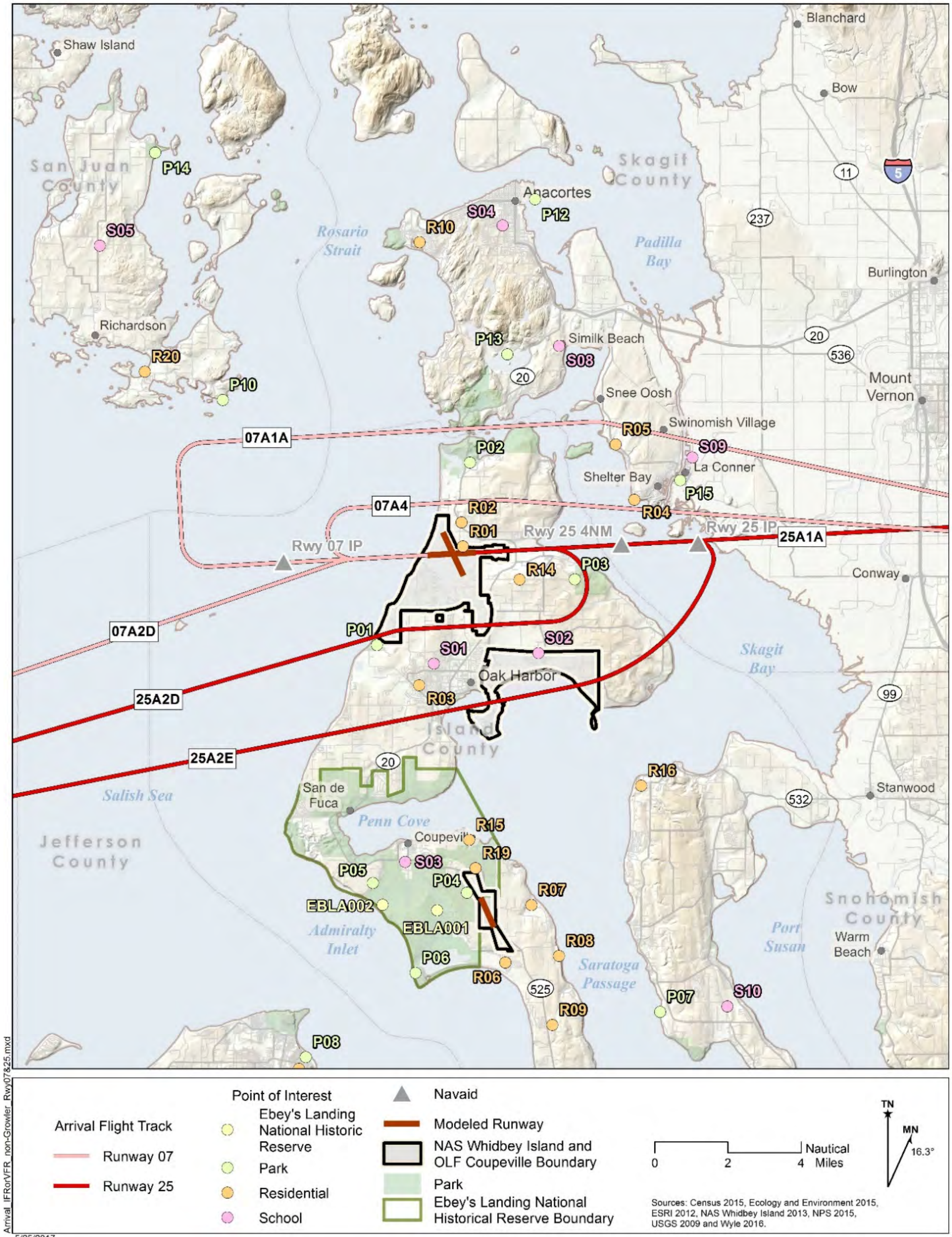

Figure A4-5 Modeled Average Daily Other Arrival Flight Tracks to Runway 07/25 at Ault Field (non-Growler)

Figure A4-6 Modeled Average Daily Other Arrival Flight Tracks to Runway 14/32 at Ault Field (non-Growler)

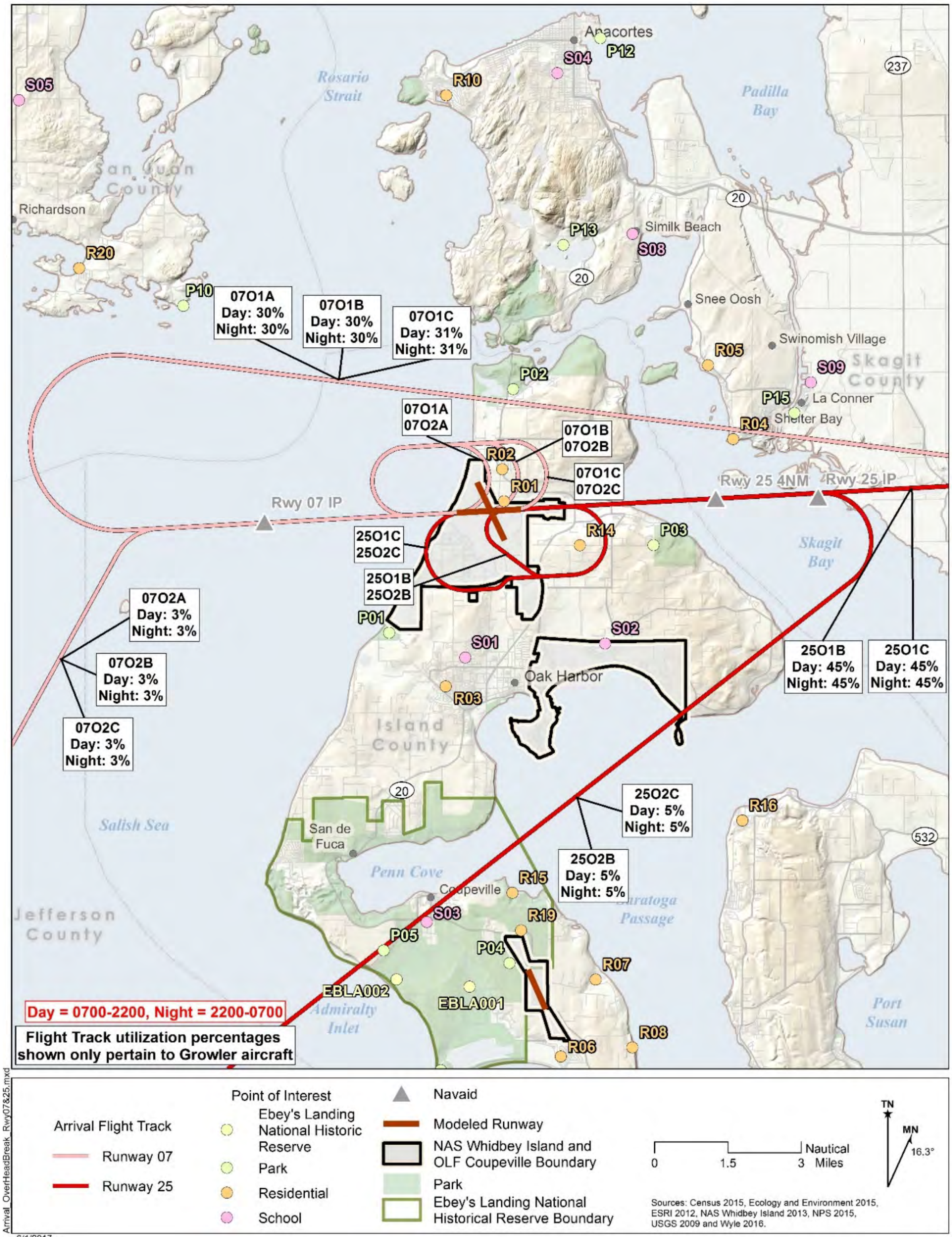

Figure A4-7 Modeled Average Daily Overhead Break Arrival Flight Tracks to Runway 07/25 at Ault Field

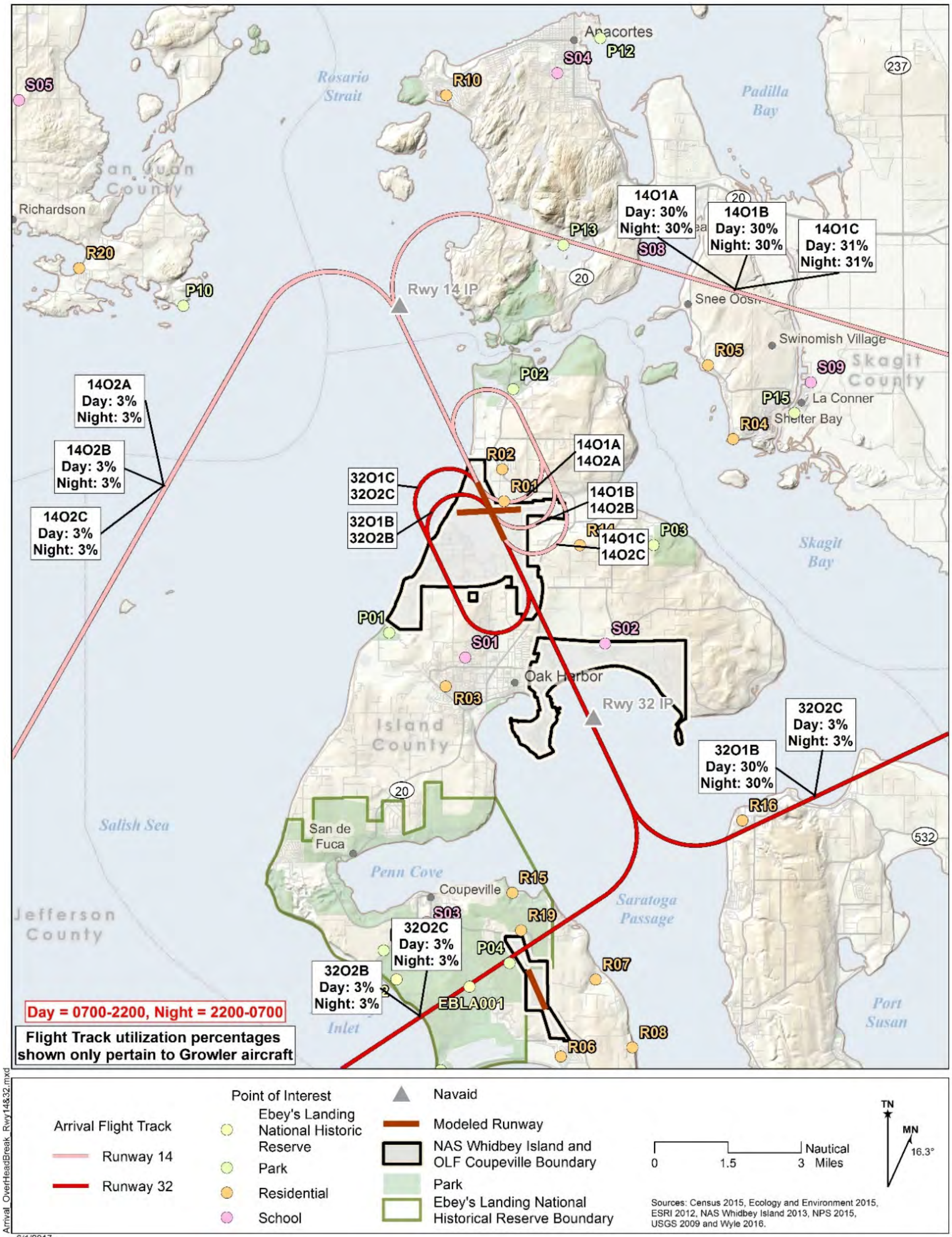

Figure A4-8 Modeled Average Daily Overhead Break Arrival Flight Tracks to Runway 14/32 at Ault Field

Figure A4-9 Modeled Average Daily High TACAN Arrival Flight Tracks at Ault Field

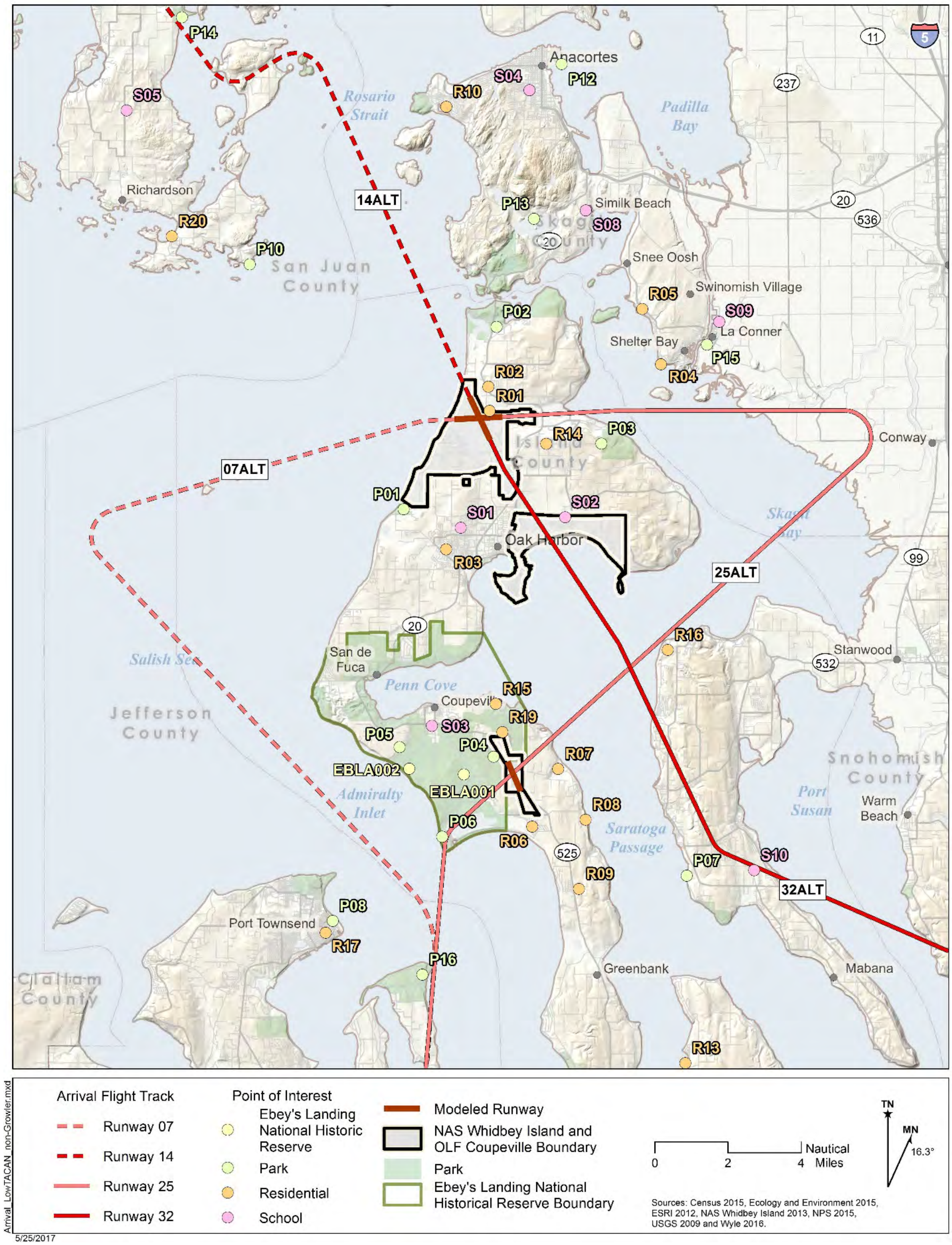

Figure A4-10 Modeled Average Daily Low TACAN Arrival Flight Tracks at Ault Field

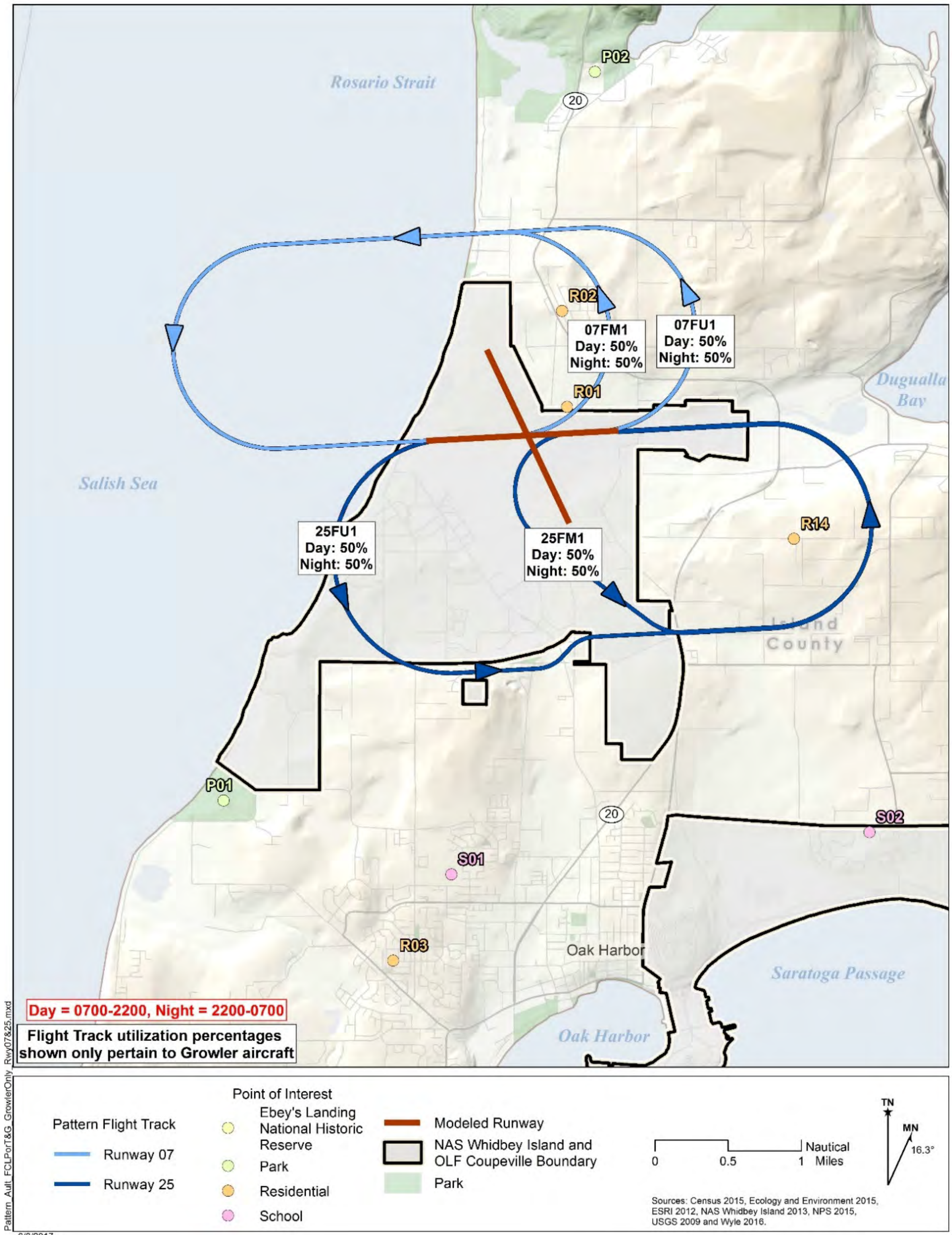

Figure A4-11 Modeled Average Daily FCLP/Touch and Go Flight Tracks for Runway 07/25 at Ault Field (Growler Only)

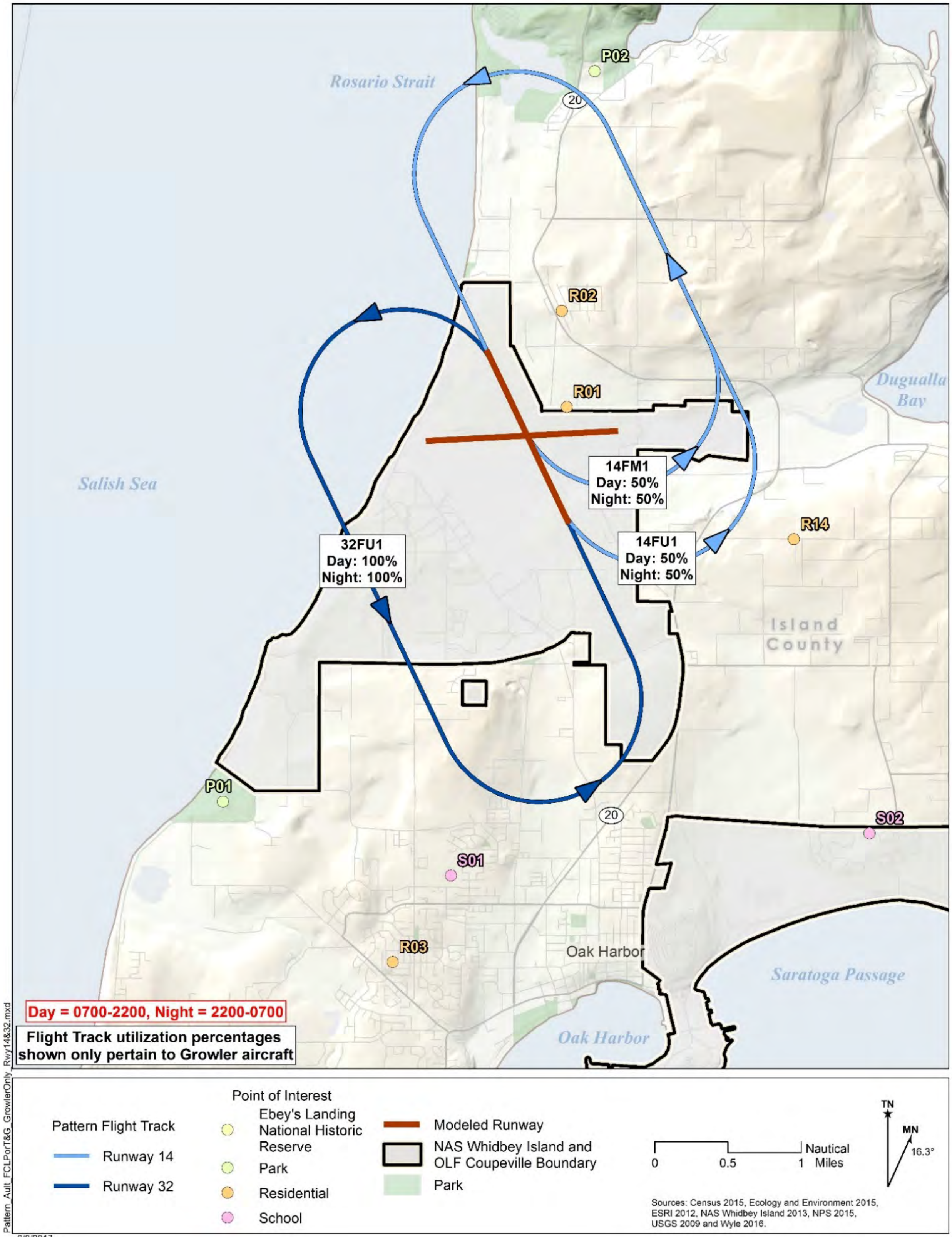

Figure A4-12 Modeled Average Daily FCLP/Touch and Go Flight Tracks for Runway 14/32 at Ault Field (Growler Only)

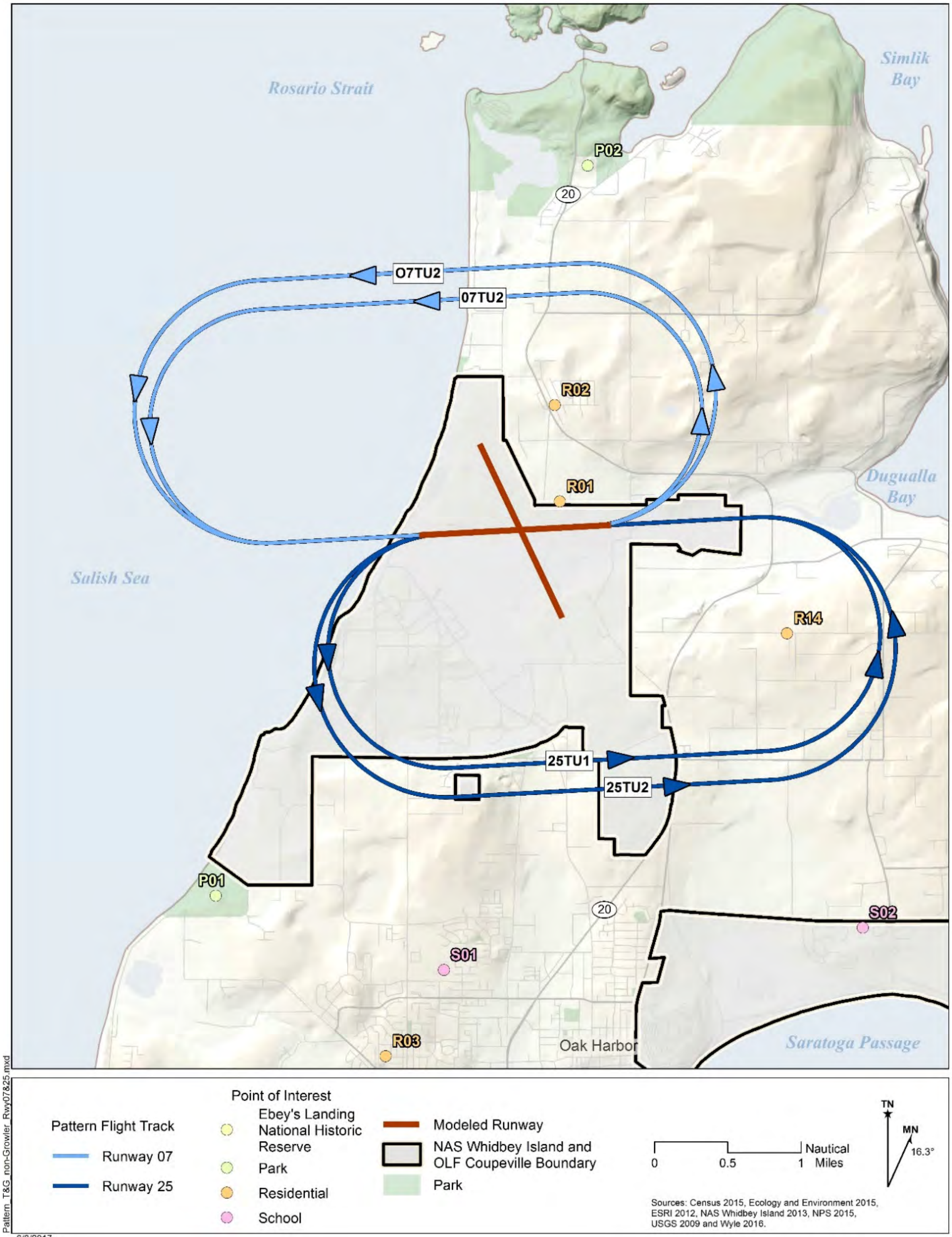

Figure A4-13 Modeled Average Daily Touch and Go Flight Tracks for Runway 07/25 at Ault Field (non-Growler)

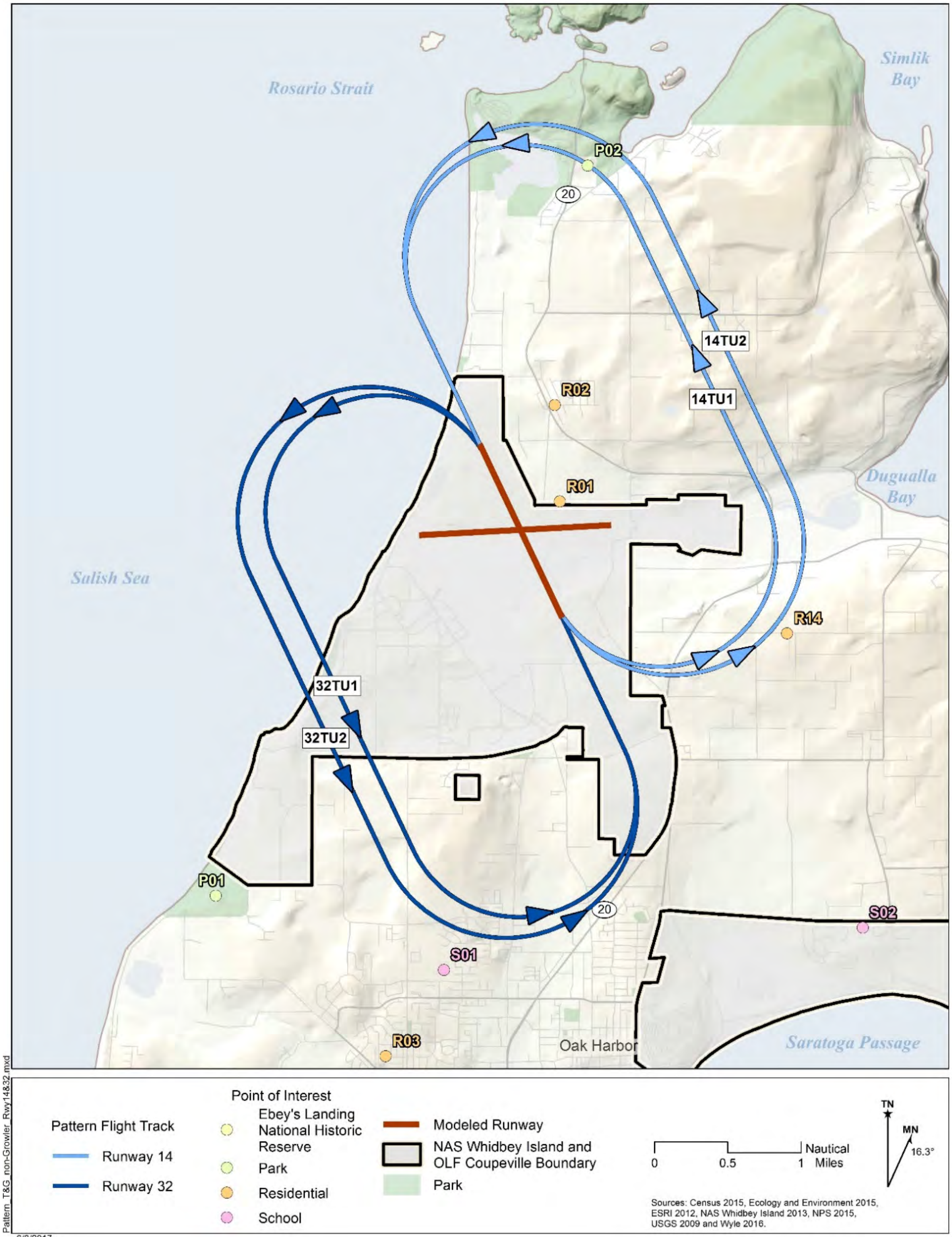

Figure A4-14 Modeled Average Daily Touch and Go Flight Tracks for Runway 14/32 at Ault Field (non-Growler)

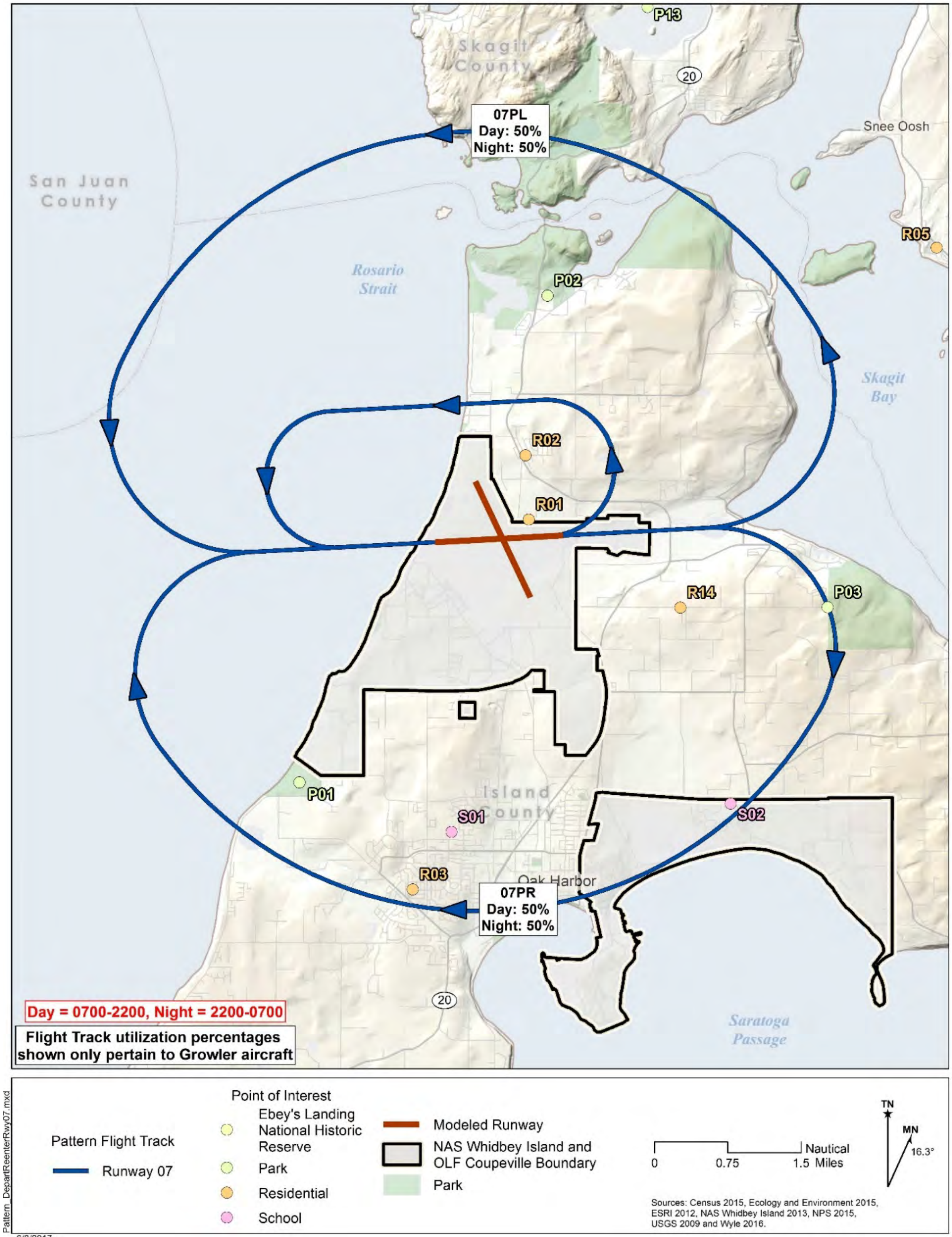

Figure A4-15 Modeled Average Daily Depart and Re-Enter Pattern Flight Tracks on Runway 07 at Ault Field

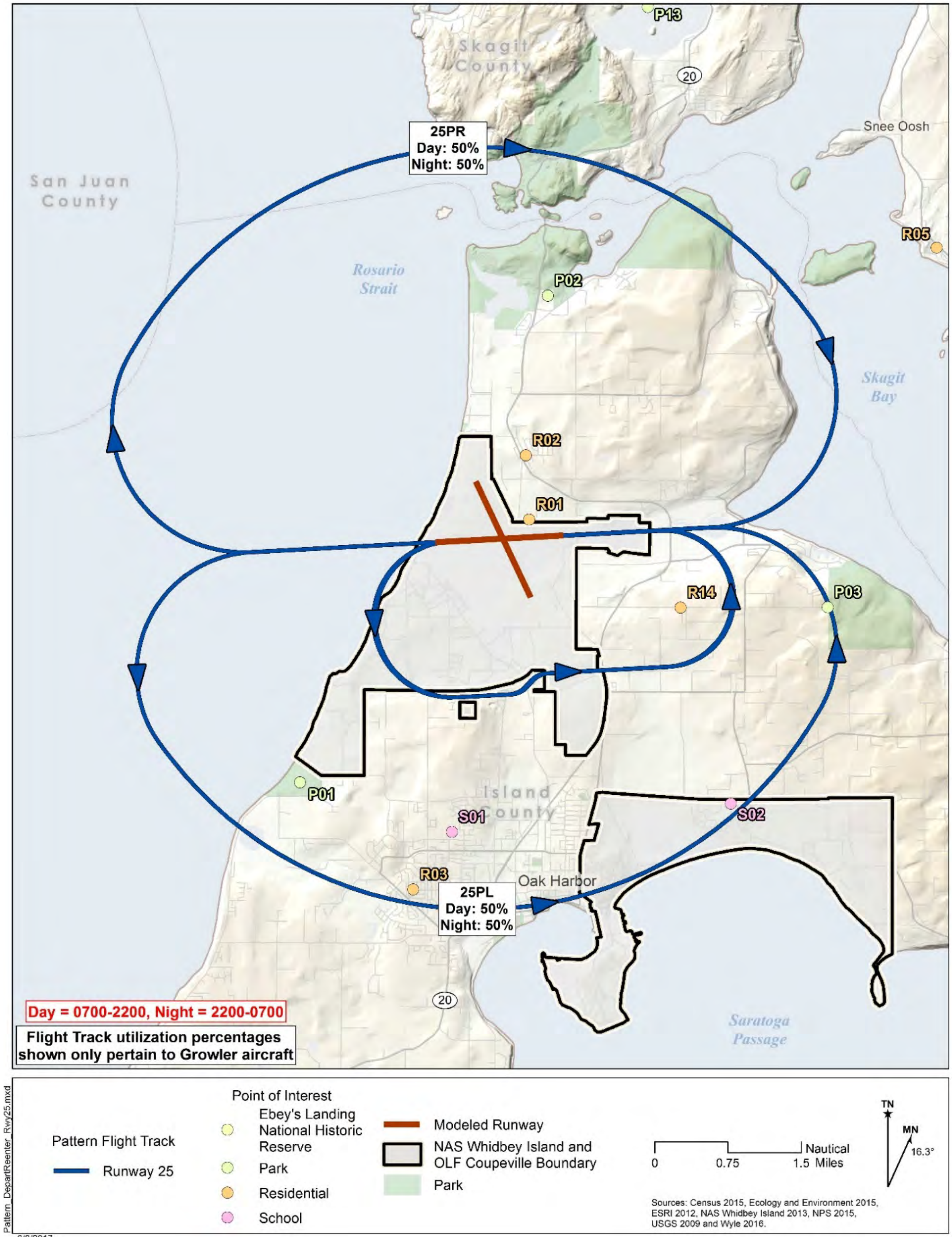

Figure A4-16 Modeled Average Daily Depart and Re-Enter Pattern Flight Tracks on Runway 25 at Ault Field

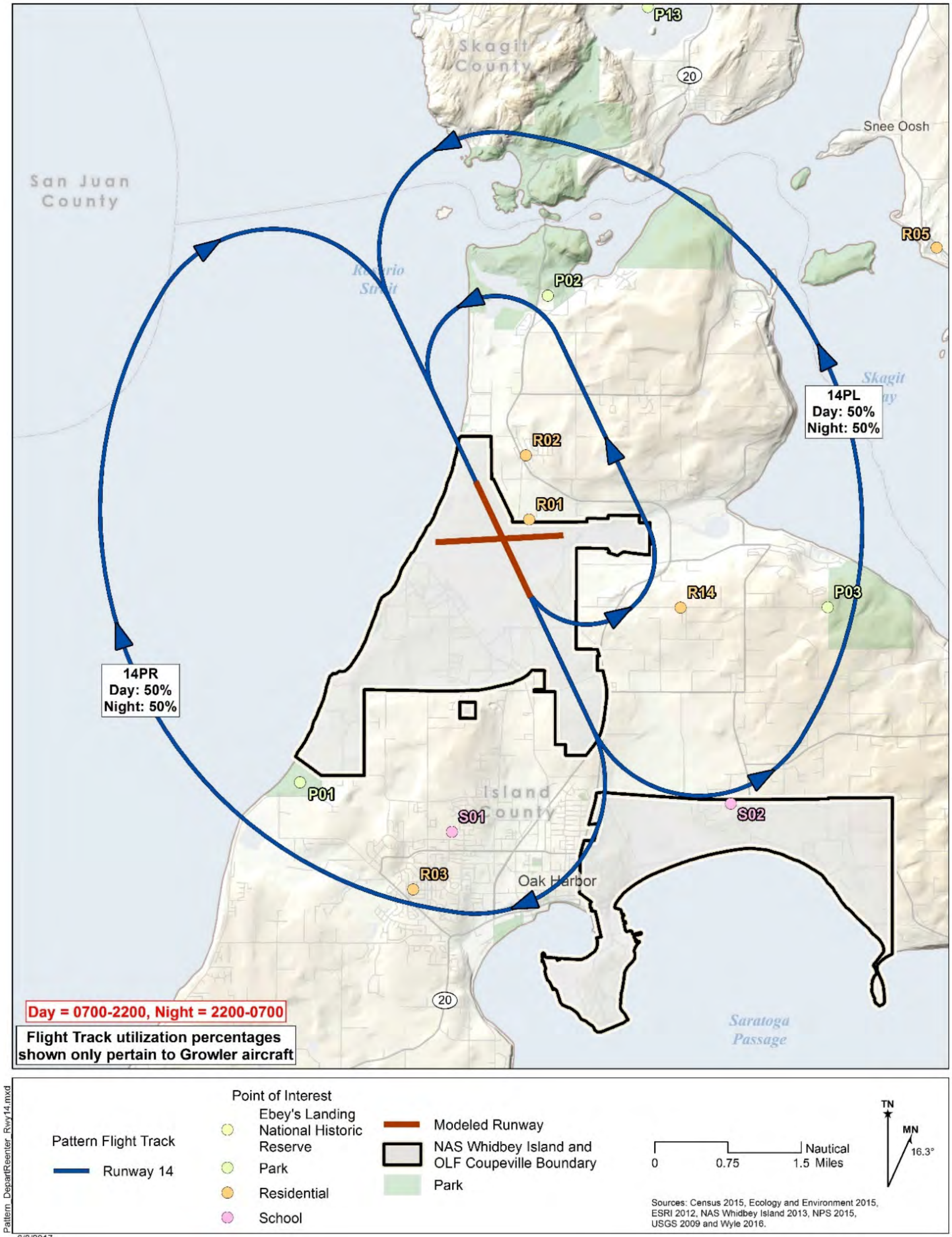

Figure A4-17 Modeled Average Daily Depart and Re-Enter Pattern Flight Tracks on Runway 14 at Ault Field

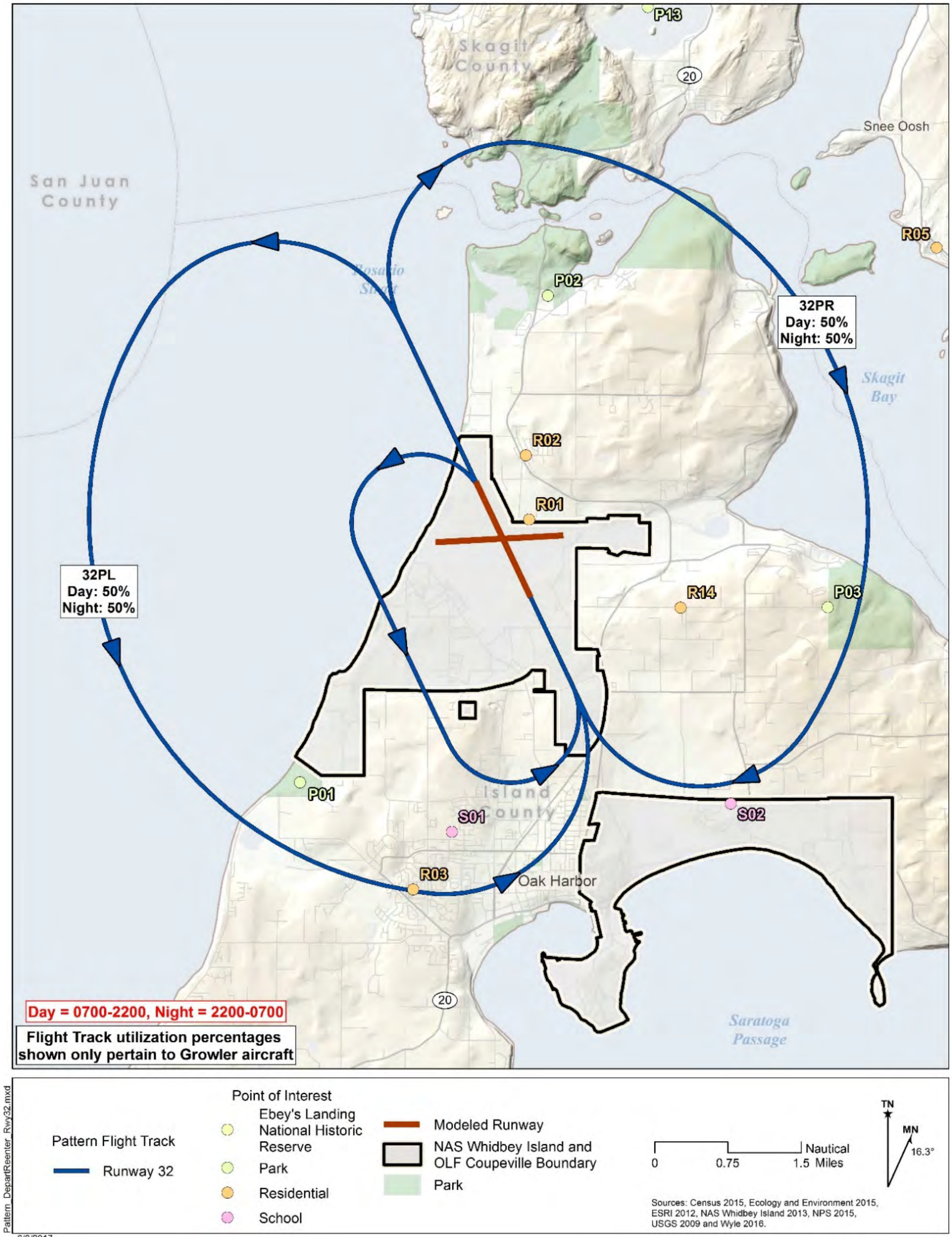

Figure A4-18 Modeled Average Daily Depart and Re-Enter Pattern Flight Tracks on Runway 32 at Ault Field

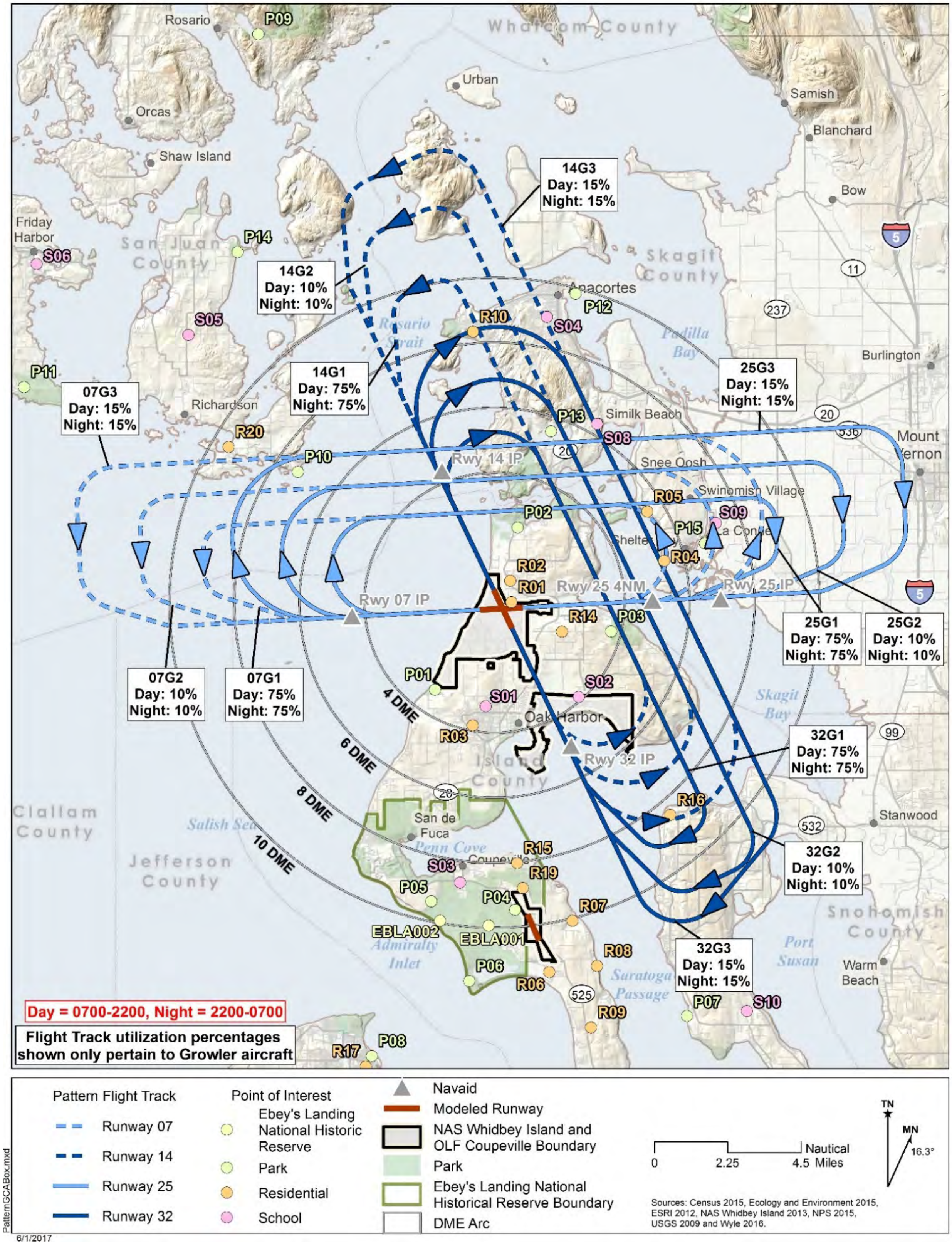

Figure A4-19 Modeled Average Daily GCA Box Pattern Flight Tracks at Ault Field

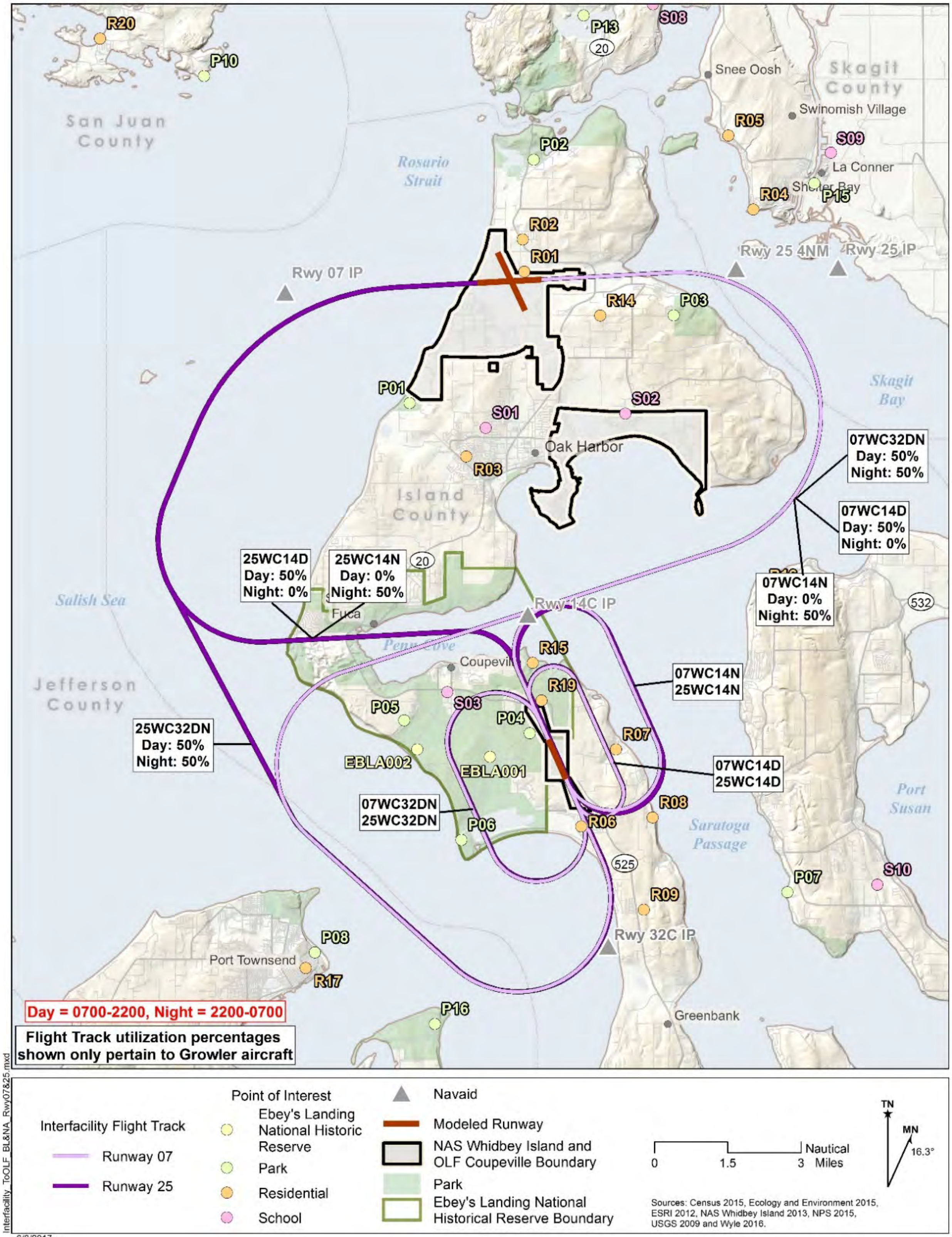

Figure A4-20 Modeled Average Daily Interfacility Flight Tracks from Runway 07/25 at Ault Field to the OLF for Baseline and No Action Alternative

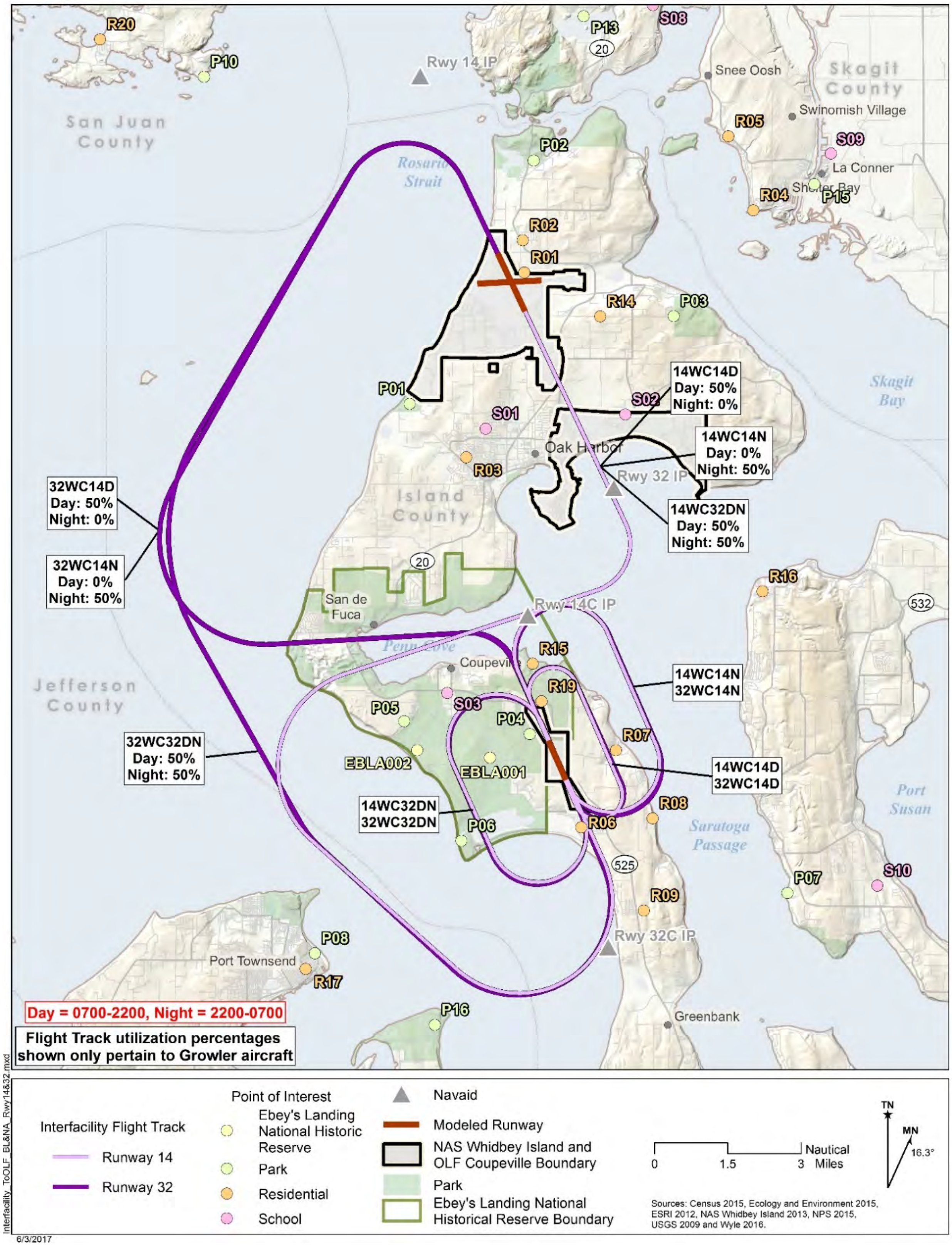

Figure A4-21 Modeled Average Daily Interfacility Flight Tracks from Runway 14/32 at Ault Field to the OLF for Baseline and No Action Alternative

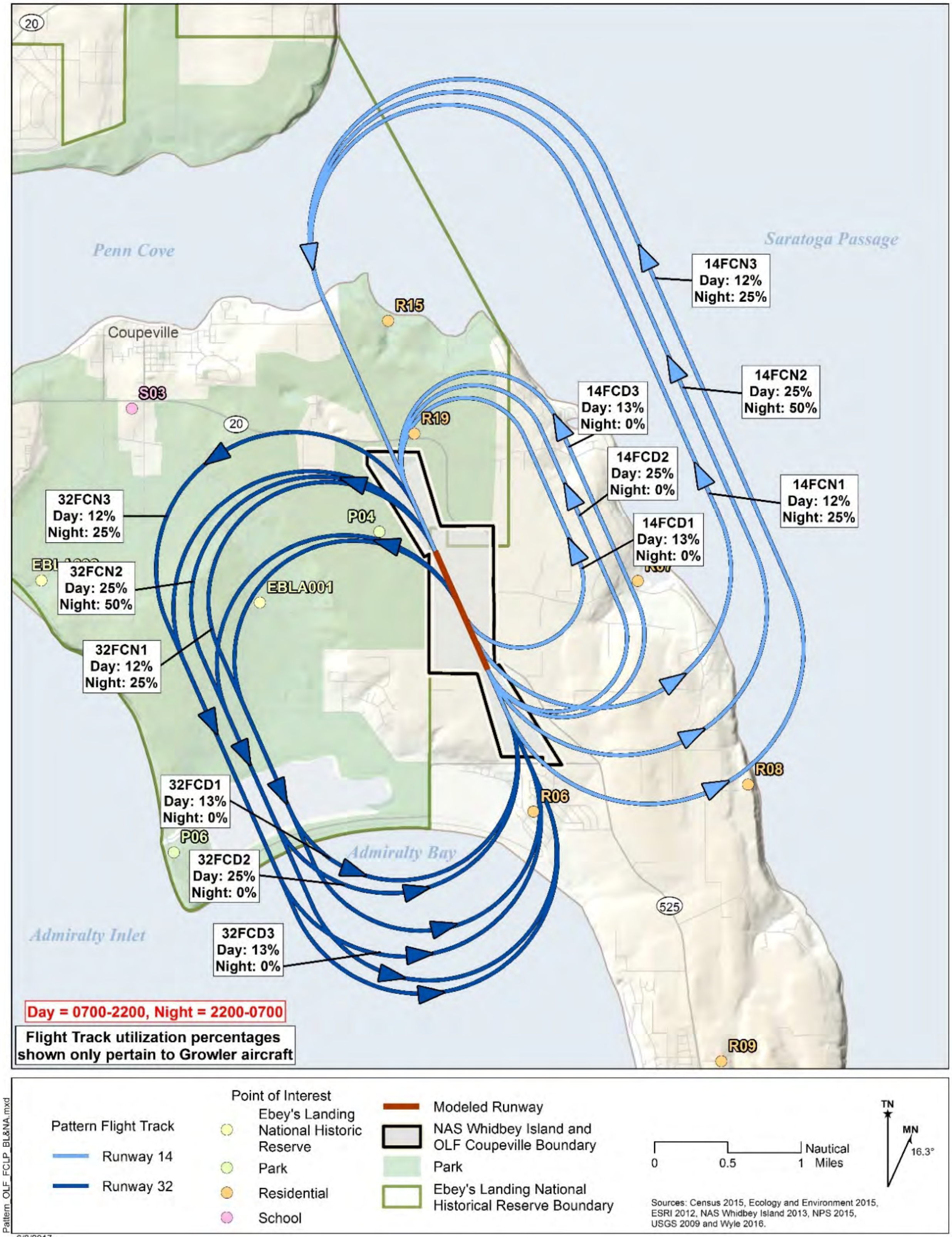

Figure A4-22 Modeled Average Daily FCLP Flight Tracks at the OLF for Baseline and No Action Alternative

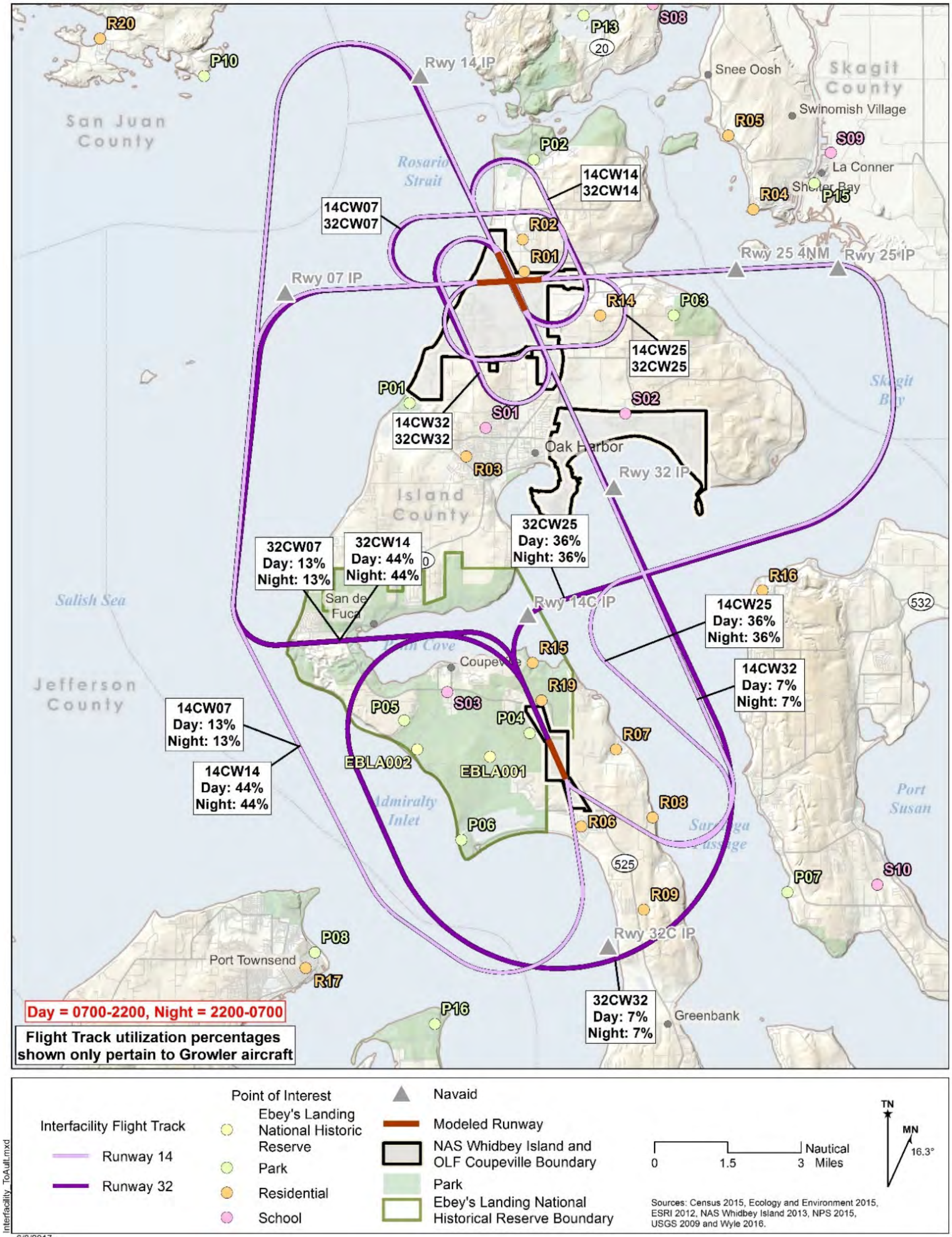

Figure A4-23 Modeled Average Daily Interfacility Flight Tracks from the OLF to Ault Field

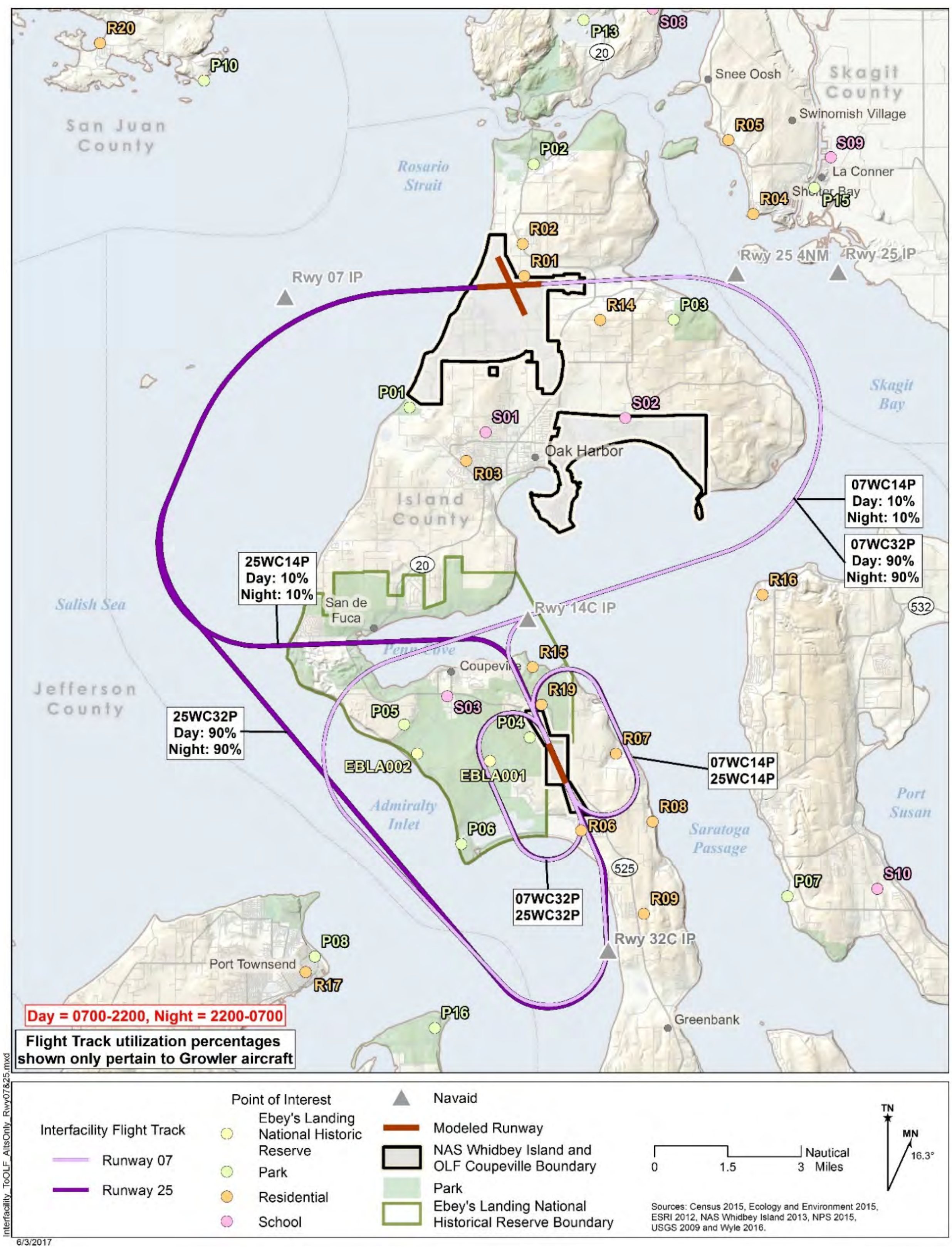

Figure A4-24 Modeled Average Daily Interfacility Flight Tracks from Runway 07/25 at Ault Field to the OLF for Numbered Alternatives

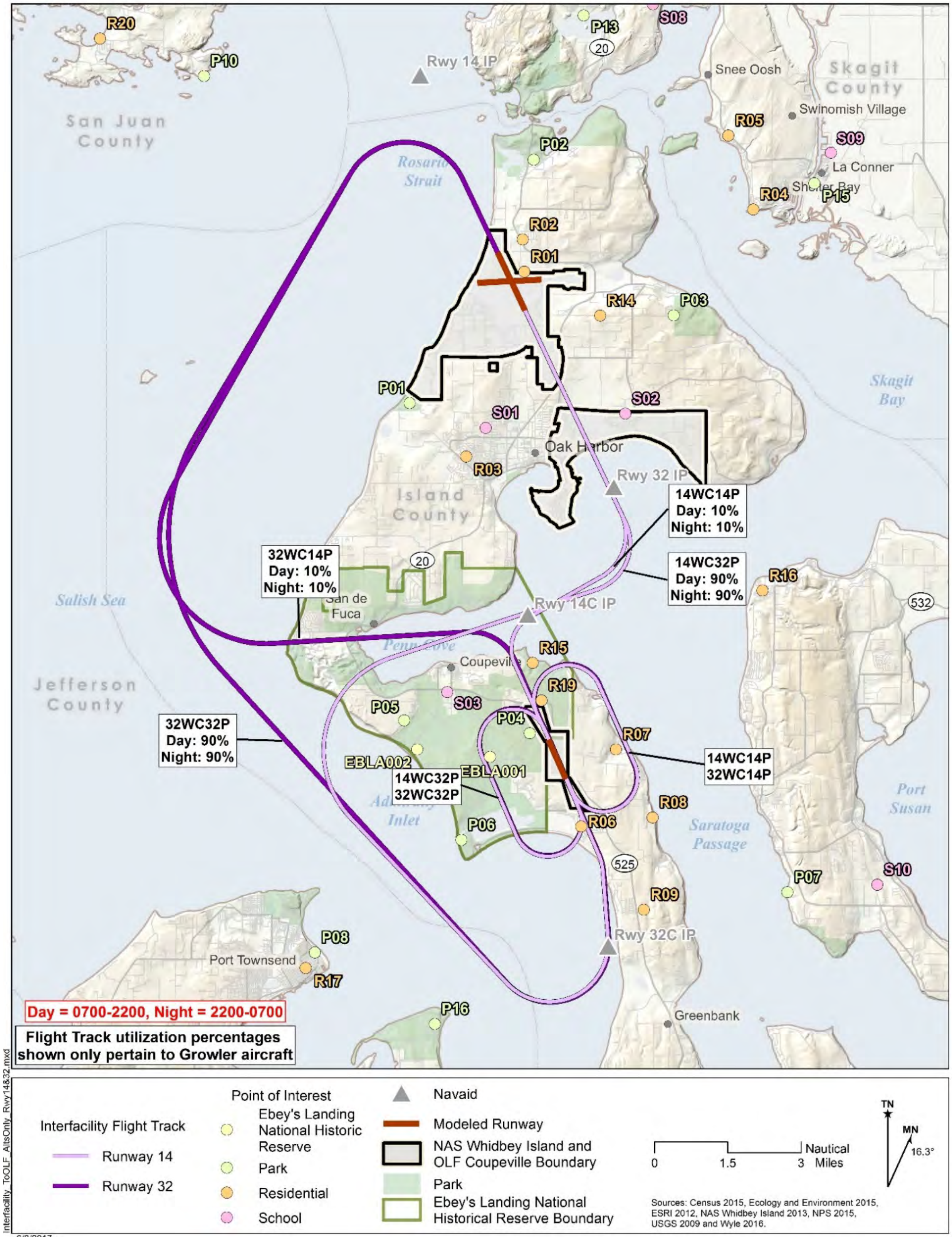

Figure A4-25 Modeled Average Daily Interfacility Flight Tracks from Runway 14/32 at Ault Field to the OLF for Numbered Alternatives

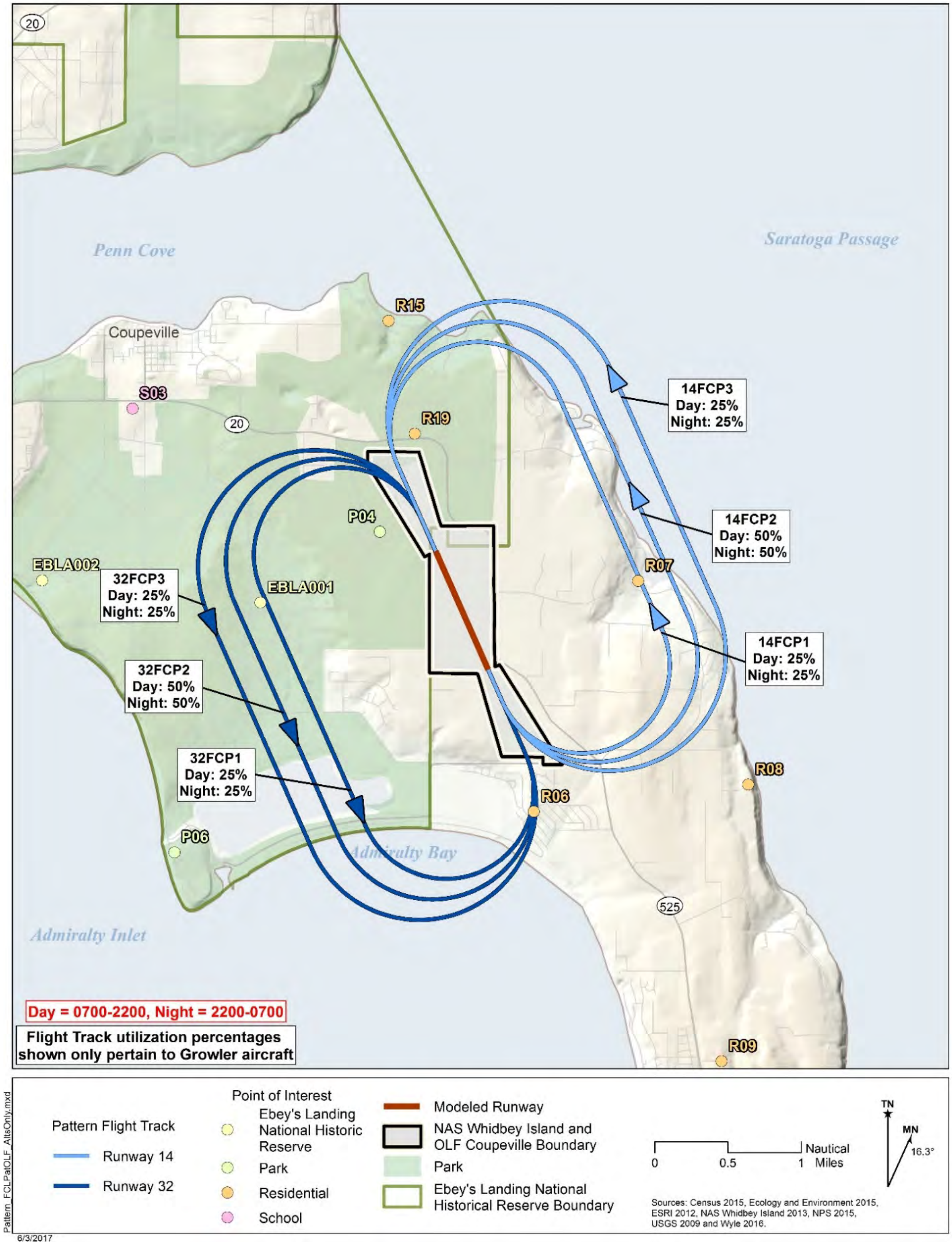

Figure A4-26 Modeled Average Daily FCLP Flight Tracks at the OLF for Numbered Alternatives

Appendix A5

Representative Flight Profiles for EA-18G, P-3C, P-8A, and Transient Large Jet Aircraft

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List of Figures

This appendix provides scaled plots of representative[1] flight profiles for each modeled aircraft type on a representative flight track. The representative flight profiles consist of flight parameters (i.e., altitude, distance, power setting, and speed) for a given aircraft. Each representative flight profile is applied to all applicable flight tracks of the same type. In some cases when the representative profile is spread to applicable flight tracks, the distances may need to be adjusted to account for Air Traffic Control rules, but profile parameters remain unchanged.

The background is an aerial image with the Naval Air Station Whidbey Island complex boundary shown as a red line. The 4-, 6-, 8-, and 10-nautical-mile Distance Measuring Equipment radius circles are depicted with light gray lines. The profile's flight track is depicted as a red line. In some cases, flight tracks related to the profile's flight track are shown in cyan.

The flight profiles are shown in the following order:

Pages	*Aircraft Type*
A5-7–A5-24	EA-18G
A5-25–A5-30	P-3C
A5-31–A5-36	P-8A
A5-37–A5-41	Transient Large Jet

Each figure includes a table describing the profile parameters of the associated flight track. The columns of the profile data tables are described below:

Column Heading	*Description*
Point	Sequence letter along flight track denoting change in flight parameters
Distance (feet)	Distance along flight track from runway threshold, in feet
Height (feet)	Altitude of aircraft in feet Above Ground Level (AGL) or relative to Mean Sea Level (MSL)
Power (Appropriate Unit)*	Engine power setting and Drag Configuration/Interpolation Code (defines sets of interpolation code in NOISEMAP (F for FIXED, P for PARALLEL, V for VARIABLE))
Speed (kts)	Indicated airspeed of aircraft, in knots

Notes: * not applicable to helicopter

[1] The noise modeling includes over 377 flight profiles. For brevity, only representative flight profiles are included in this appendix.

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Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	0 AGL	97 Min A/B	0	0.0 deg, 0 fpm, 16 sec
b	2,200	0 AGL	97 Afterburner	165	3.9 deg, 1620 fpm, 15 sec
c	8,000	400 AGL	96 Variable	250	4 deg, approx. 2000 fpm
d	16,580	1,000 AGL	95 Variable	300	9.5 deg; 5000 fpm
e	64,243	9,000 MSL	84 Variable	300	0.0 deg, 0 fpm, 278 sec
f	200,000	9,000 MSL	84 Variable	300	

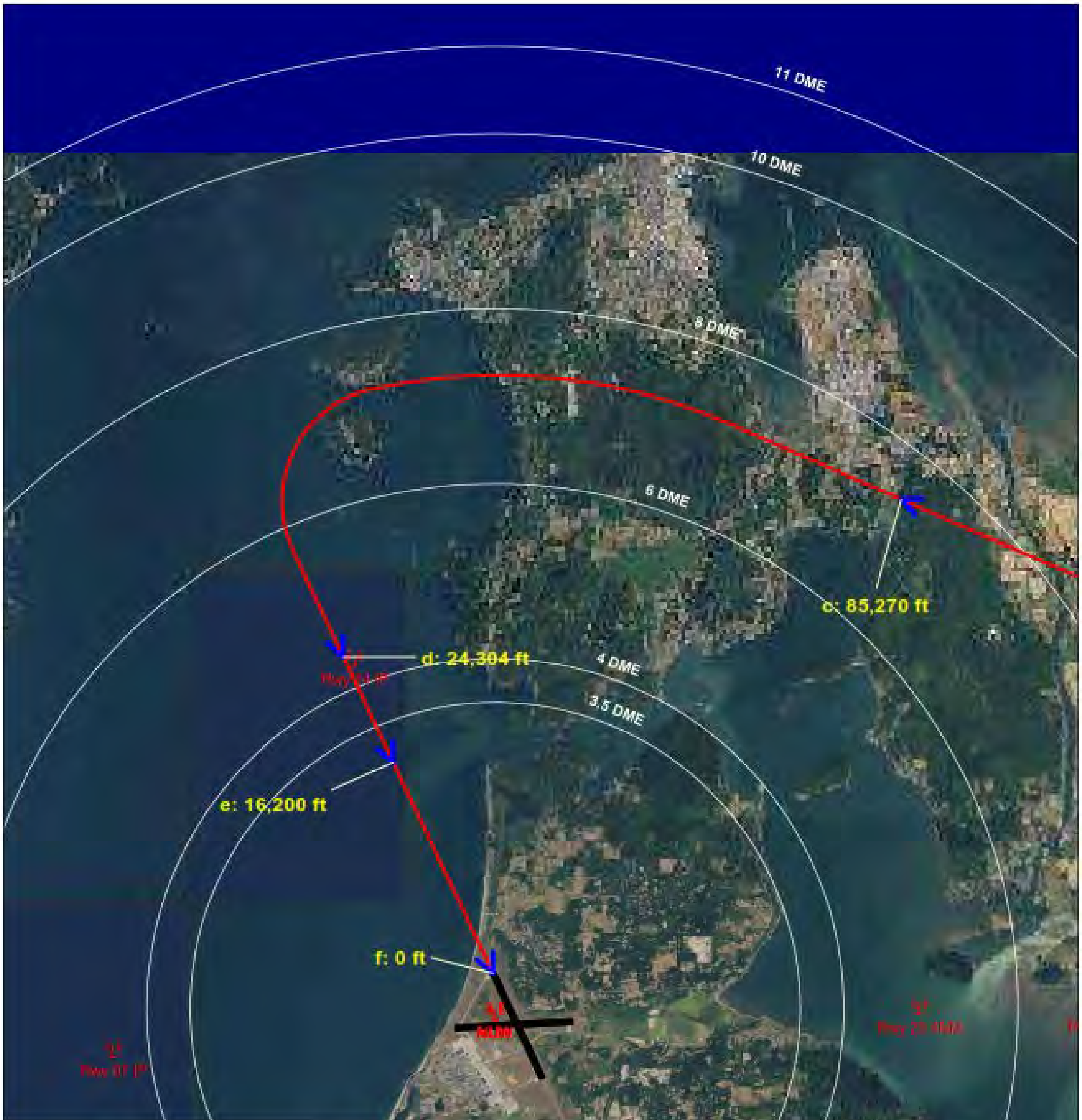
NAS Whidbey Island (47' MSL) - Flight Profile 213A
EA-18G - Rep Departure A/B Runway 25 - East Short
on Runway 25, flight track 25D1A
Prior to brake release, aircraft sits at 97 % NC Min A/B for 1 sec

0 10,000 20,000 30,000 40,000 50,000

Scale in Feet 1:176,000 (1 inch = 14,700 feet)

N

Figure A5-1 EA-18G Departure Flight Profile (with Afterburner for Takeoff Roll) at Ault Field Runway 25



Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	300,000	25,000 MSL	84 Variable	300	0.0 deg, 0 fpm, 118 sec
b	240,000	25,000 MSL	75 Variable	300	-8.1 deg, -4280 fpm, 306 sec
c	85,270	3,000 MSL	87 Variable	300	-1.1 deg, -450 fpm, 161 sec
d	24,304	1,800 MSL	80 Parallel	150	Initial Point at 4 NM from threshold, -4.2 deg, -1080 fpm, 33 sec
e	16,200	1,200 MSL	85 Parallel	140	-3.9 deg, -950 fpm, 70 sec
f	0	50 AGL	85 Parallel	135	

NAS Whidbey Island (47' MSL) - Flight Profile 228A

EA-18G - Rep - Straight-In Arrival Runway 14 - East Short on Runway 14, flight track 14A1A

Scale in Feet 1:112,000 (1 inch = 9,340 feet)

Figure A5-2 EA-18G VFR Straight-in Arrival Flight Profile at Ault Field Runway 14

Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	290,000	10,000 MSL	84 Variable	300	0.0 deg, 0 fpm, 201 sec
b	188,200	10,000 MSL	75 Variable	300	2600 fpm to 3k, -4.9 deg, -2600 fpm, 161 sec
c	106,700	3,000 MSL	80 Variable	300	400 fpm to the IP, -0.8 deg, -400 fpm, 75 sec
d	68,706	2,500 MSL	85 Variable	300	initial; -10500 to 2nm, -5.4 deg, -3120 fpm, 19 sec
e	58,200	1,500 MSL	85 Variable	350	2nm from threshold; break alt & speed, 0.0 deg, 0 fpm, 27 sec
f	42,475	1,500 MSL	66 Variable	350	break, power to idle; 0.0 deg, 0 fpm, 29 sec
g	29,114	1,500 MSL	81 Parallel	140	begin downwind, gear down, -3.0 deg, -890 fpm, 34 sec
h	19,431	1,000 MSL	81 Parallel	140	end downwind; increase power to 84%; -2.5, -2.4 deg, -600 fpm, 28 sec
i	12,750	675 AGL	84 Parallel	140	at the 90, -2.6 deg
j	6,070	368 AGL	84 Parallel	140	final, -3 deg
k	0	50 AGL	84 Parallel	140	crossing threshold

NAS Whidbey Island (47' MSL) - Flight Profile 237B
EA-18G - Rep - From East; Midfield break
on Runway 14, flight track 14O1B

Scale in Feet 1:144,000 (1 inch = 12,000 feet)

Figure A5-3 EA-18G Overhead Break Arrival Flight Profile at Ault Field Runway 14 (Midfield Break)

Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	300,000	10,800 MSL	70 Variable	250	-4.4 deg, -1950 fpm, 209 sec
b	212,000	4,000 MSL	70 Variable	250	0.0 deg, 0 fpm, 258 sec
c	103,305	4,000 MSL	70 Variable	250	-1.3 deg, -580 fpm, 103 sec
d	59,715	3,000 MSL	80 Parallel	250	gear down, -2.7 deg, -950 fpm, 76 sec
e	34,144	1,800 MSL	85 Parallel	150	-2.9 deg, -730 fpm, 64 sec
f	18,934	1,020 MSL	85 Parallel	130	-2.8 deg, -640 fpm, 86 sec
g	0	50 AGL	85 Parallel	130	

NAS Whidbey Island (47' MSL) - Flight Profile 244
EA-18G - rep - High-TACAN Arrival Runway 14
on Runway 14, flight track 14AHT

Scale in Feet 1:142,000 (1 inch = 11,800 feet)

Figure A5-4 EA-18G High TACAN Arrival Flight Profiles at Ault Field Runway 14

Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	0 AGL	97 Min A/B	0	0.0 deg, 0 fpm, 18 sec
b	2,000	0 AGL	97 Afterburner	135	9.5 deg, 3200 fpm, 18 sec
c	8,000	1,000 AGL	96 Variable	250	13.7 deg, 5980 fpm, 14 sec
d	13,975	2,500 MSL	82 Variable	250	level-off 2,500' MSL, 0.0 deg, 0 fpm, 24 sec
e	24,304	2,500 MSL	82 Variable	250	begin big turn, 0.0 deg, 0 fpm, 30 sec
f	37,000	2,500 MSL	82 Variable	250	25% turn, 0.0 deg, 0 fpm, 30 sec
g	49,700	2,500 MSL	82 Variable	250	50% turn, 0.0 deg, 0 fpm, 30 sec
h	62,400	2,500 MSL	82 Variable	250	75% turn, 0.0 deg, 0 fpm, 30 sec
i	75,049	2,500 MSL	82 Variable	250	end turn, 0.0 deg, 0 fpm, 55 sec
j	98,090	2,500 MSL	85 Variable	250	0.0 deg, 0 fpm, 22 sec
k	108,270	2,500 MSL	85 Variable	300	initial, -7.9 deg, -4530 fpm, 17 sec
l	117,631	1,200 MSL	85 Variable	350	break alt & speed, 0.0 deg, 0 fpm, 15 sec
m	126,270	1,200 MSL	66 Variable	350	break, 0.0 deg, 0 fpm, 19 sec
n	135,814	1,200 MSL	81 Parallel	140	begin downwind, gear down, -1.6 deg, -560 fpm, 43 sec
o	149,814	800 MSL	81 Parallel	140	end downwind, -1.7 deg, -420 fpm, 21 sec
p	154,821	650 MSL	84 Parallel	140	90 position, -3.5 deg, -860 fpm, 19 sec
q	159,359	375 MSL	84 Parallel	140	begin final, -1.3 deg, -330 fpm, 23 sec
r	164,720	250 MSL	84 Parallel	140	crossing threshold

NAS Whidbey Island (47' MSL) - Flight Profile 247D

EA-18G - Rep - Existing Interfacility Whidbey Rwy 07 to OLF Rwy 14 Daylight on Runway 07, flight track 07WC14D

Prior to brake release, aircraft sits at 97 % NC Min A/B for 1 sec

Scale in Feet 1:168,000 (1 inch = 14,000 feet)

Figure A5-5 EA-18G Existing Interfacility Flight Profile from Ault Field Runway 07 to OLF Coupeville Runway 14 during Daylight

Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	0 AGL	97 Min A/B	0	0.0 deg, 0 fpm, 18 sec
b	2,000	0 AGL	97 Afterburner	135	9.5 deg, 3200 fpm, 18 sec
c	8,000	1,000 AGL	96 Variable	250	13.7 deg, 5980 fpm, 14 sec
d	13,975	2,500 MSL	82 Variable	250	level-off 2,500' MSL, 0.0 deg, 0 fpm, 24 sec
e	24,304	2,500 MSL	82 Variable	250	begin turn, 0.0 deg, 0 fpm, 30 sec
f	37,000	2,500 MSL	82 Variable	250	25% turn, 0.0 deg, 0 fpm, 30 sec
g	49,700	2,500 MSL	82 Variable	250	50% turn, 0.0 deg, 0 fpm, 30 sec
h	62,400	2,500 MSL	82 Variable	250	75% turn, 0.0 deg, 0 fpm, 30 sec
i	75,049	2,500 MSL	82 Variable	250	end turn, 0.0 deg, 0 fpm, 55 sec
j	98,090	2,500 MSL	85 Variable	250	0.0 deg, 0 fpm, 22 sec
k	108,270	2,500 MSL	85 Variable	300	initial, -6.1 deg, -3500 fpm, 17 sec
l	117,631	1,500 MSL	85 Variable	350	break alt & speed, 0.0 deg, 0 fpm, 10 sec
m	123,270	1,500 MSL	66 Variable	350	break, 0.0 deg, 0 fpm, 38 sec
n	142,359	1,500 MSL	81 Parallel	140	begin downwind, gear down, -1.1 deg, -400 fpm, 46 sec
o	157,359	1,200 MSL	81 Parallel	140	end downwind, -3.3 deg, -820 fpm, 40 sec
p	166,903	650 MSL	84 Parallel	140	90 position, -1.7 deg, -410 fpm, 40 sec
q	176,447	375 MSL	84 Parallel	140	begin final, -0.8 deg, -190 fpm, 40 sec
r	185,808	250 MSL	84 Parallel	140	crossing threshold

NAS Whidbey Island (47' MSL) - Flight Profile 247N
EA-18G - Rep - Existing Interfacility Whidbey Rwy 07 to OLF Rwy 14 Darkness
on Runway 07, flight track 07WC14N
Prior to brake release, aircraft sits at 97 % NC Min A/B for 1 sec

Scale in Feet 1:145,000 (1 inch = 12,100 feet)

Figure A5-6 EA-18G Existing Interfacility Flight Profile from Ault Field Runway 07 to OLF Coupeville Runway 14 during Darkness

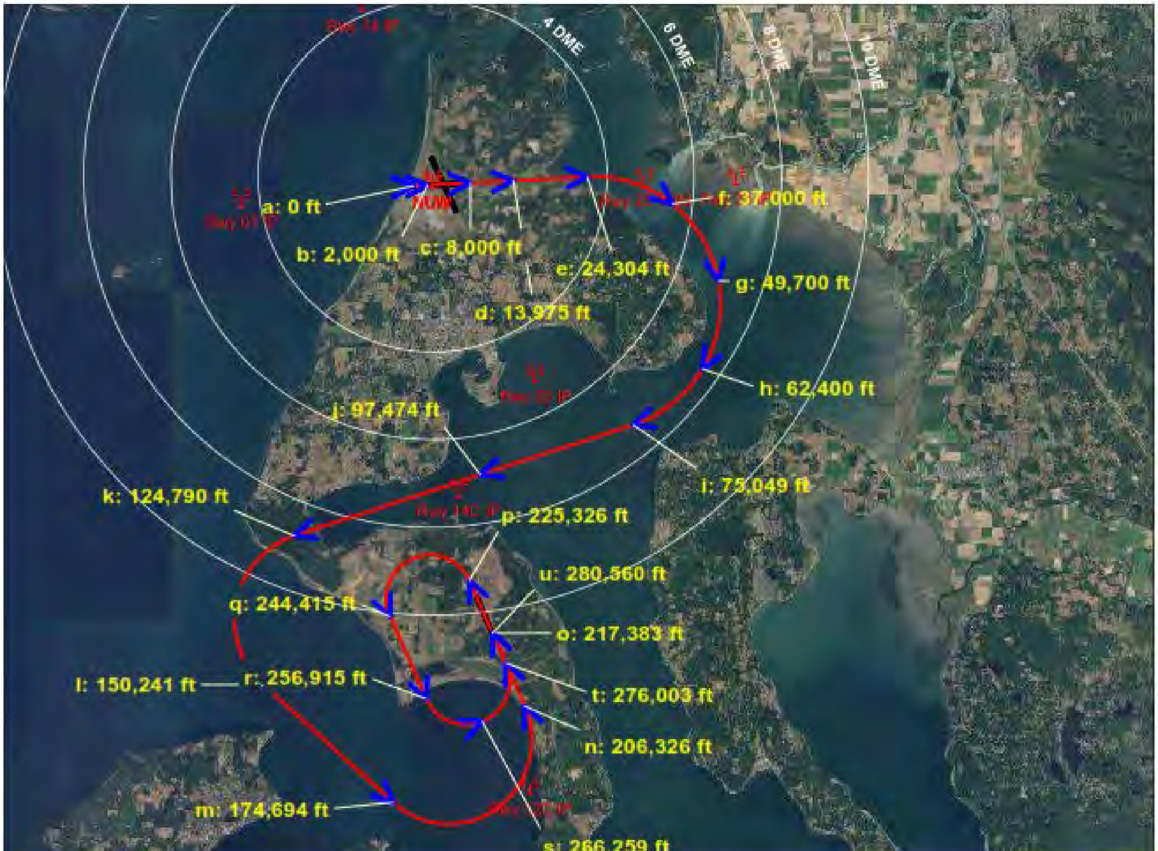
Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	0 AGL	97 Min A/B	0	0.0 deg, 0 fpm, 18 sec
b	2,000	0 AGL	97 Afterburner	135	9.5 deg, 3200 fpm, 18 sec
c	8,000	1,000 AGL	96 Variable	250	13.7 deg, 5980 fpm, 14 sec
d	13,975	2,500 MSL	82 Variable	250	level-off 2,500' MSL, 0.0 deg, 0 fpm, 24 sec
e	24,304	2,500 MSL	82 Variable	250	begin turn, 0.0 deg, 0 fpm, 30 sec
f	37,000	2,500 MSL	82 Variable	250	25% turn, 0.0 deg, 0 fpm, 30 sec
g	49,700	2,500 MSL	82 Variable	250	50% turn, 0.0 deg, 0 fpm, 30 sec
h	62,400	2,500 MSL	82 Variable	250	75% turn, 0.0 deg, 0 fpm, 30 sec
i	75,049	2,500 MSL	82 Variable	250	end turn, 0.0 deg, 0 fpm, 59 sec
j	99,958	2,500 MSL	85 Variable	250	0.0 deg, 0 fpm, 17 sec
k	107,633	2,500 MSL	85 Variable	300	initial, -6.7 deg, -3850 fpm, 20 sec
l	118,664	1,200 MSL	85 Variable	350	break alt & speed, 0.0 deg, 0 fpm, 12 sec
m	125,633	1,200 MSL	66 Variable	350	break, 0.0 deg, 0 fpm, 26 sec
n	138,994	1,200 MSL	84 Parallel	150	begin downwind, gear down, -2.1 deg, -740 fpm, 33 sec
o	149,719	800 MSL	85 Parallel	140	end downwind, -1.3 deg, -320 fpm, 28 sec
p	156,361	700 MSL	85 Parallel	140	90 position, -2.3 deg, -580 fpm, 28 sec
q	163,080	455 MSL	85 Parallel	140	begin final, -1.9 deg, -470 fpm, 16 sec
r	166,880	250 MSL	85 Parallel	140	crossing threshold

NAS Whidbey Island (47' MSL) - Flight Profile 247PD
EA-18G - Rep - Proposed Interfacility Whidbey Rwy 07 to OLF Rwy 14
on Runway 07, flight track 07WC14P
Prior to brake release, aircraft sits at 97 % NC Min A/B for 1 sec

0 10,000 20,000 30,000 40,000 50,000 60,000
Scale in Feet 1:185,000 (1 inch = 15,500 feet)

N

Figure A5-7 EA-18G Proposed Interfacility Flight Profile from Ault Field Runway 07 to OLF Coupeville Runway 14

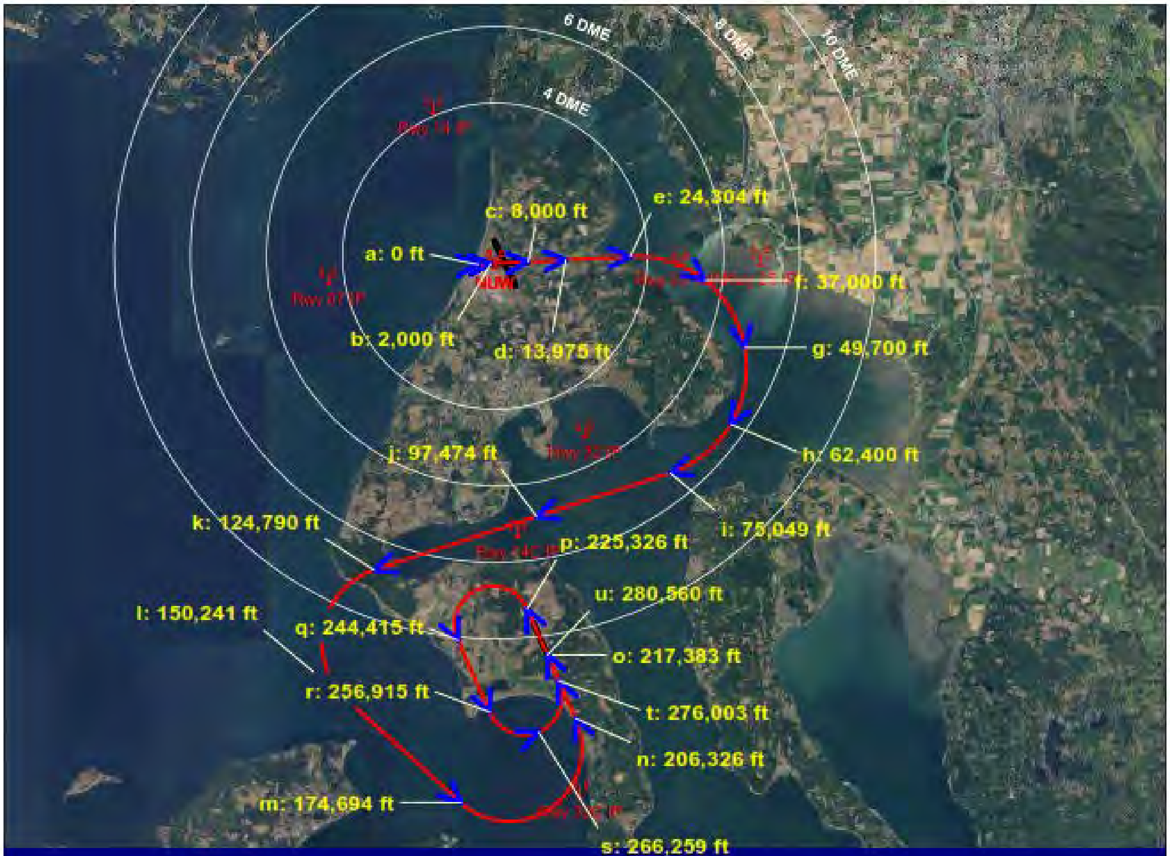


Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	0 AGL	97 Min A/B	0	0.0 deg, 0 fpm, 18 sec
b	2,000	0 AGL	97 Afterburner	135	9.5 deg, 3200 fpm, 18 sec
c	8,000	1,000 AGL	96 Variable	250	13.7 deg, 5980 fpm, 14 sec
d	13,975	2,500 MSL	82 Variable	250	level-off 2,500' MSL, 0.0 deg, 0 fpm, 24 sec
e	24,304	2,500 MSL	82 Variable	250	begin turn, 0.0 deg, 0 fpm, 30 sec
f	37,000	2,500 MSL	82 Variable	250	25% turn, 0.0 deg, 0 fpm, 30 sec
g	49,700	2,500 MSL	82 Variable	250	50% turn, 0.0 deg, 0 fpm, 30 sec
h	62,400	2,500 MSL	82 Variable	250	75% turn, 0.0 deg, 0 fpm, 30 sec
i	75,049	2,500 MSL	82 Variable	250	end turn, 0.0 deg, 0 fpm, 53 sec
j	97,474	2,500 MSL	82 Variable	250	0.0 deg, 0 fpm, 65 sec
k	124,790	2,500 MSL	82 Variable	250	0.0 deg, 0 fpm, 60 sec
l	150,241	2,500 MSL	82 Variable	250	0.0 deg, 0 fpm, 58 sec
m	174,694	2,500 MSL	85 Variable	250	0.0 deg, 0 fpm, 68 sec
n	206,326	2,500 MSL	85 Variable	300	initial, -6.7 deg, -3840 fpm, 20 sec
o	217,383	1,200 MSL	85 Variable	350	break alt & speed, 0.0 deg, 0 fpm, 13 sec
p	225,326	1,200 MSL	66 Variable	350	break, 0.0 deg, 0 fpm, 38 sec
q	244,415	1,200 MSL	84 Parallel	150	begin downwind, gear down, -1.8 deg, -630 fpm, 38 sec
r	256,915	800 MSL	85 Parallel	140	end downwind, -0.9 deg, -230 fpm, 40 sec
s	266,259	700 MSL	85 Parallel	140	90 position, -1.6 deg, -400 fpm, 41 sec
t	276,003	455 MSL	85 Parallel	140	begin final, -1.6 deg, -390 fpm, 19 sec
u	280,560	250 MSL	85 Parallel	140	crossing threshold

NAS Whidbey Island (47' MSL) - Flight Profile 248D
EA-18G - Rep - Existing Interfacility Whidbey Rwy 07 to OLF Rwy 32 Daylight
on Runway 07, flight track 07WC32DN
Prior to brake release, aircraft sits at 97 % NC Min A/B for 1 sec

0 10,000 20,000 30,000 40,000 50,000 60,000 70,000 80,000
Scale in Feet 1:240,000 (1 inch = 20,000 feet)

Figure A5-8 EA-18G (Baseline and No Action) Interfacility Flight Profile from Ault Field Runway 07 to OLF Coupeville Runway 32 during Daylight



Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	0 AGL	97 Min A/B	0	0.0 deg, 0 fpm, 18 sec
b	2,000	0 AGL	97 Afterburner	135	9.5 deg, 3200 fpm, 18 sec
c	8,000	1,000 AGL	96 Variable	250	13.7 deg, 5980 fpm, 14 sec
d	13,975	2,500 MSL	82 Variable	250	level-off 2,500' MSL, 0.0 deg, 0 fpm, 24 sec
e	24,304	2,500 MSL	82 Variable	250	begin turn, 0.0 deg, 0 fpm, 30 sec
f	37,000	2,500 MSL	82 Variable	250	25% turn, 0.0 deg, 0 fpm, 30 sec
g	49,700	2,500 MSL	82 Variable	250	50% turn, 0.0 deg, 0 fpm, 30 sec
h	62,400	2,500 MSL	82 Variable	250	75% turn, 0.0 deg, 0 fpm, 30 sec
i	75,049	2,500 MSL	82 Variable	250	end turn, 0.0 deg, 0 fpm, 53 sec
j	97,474	2,500 MSL	82 Variable	250	0.0 deg, 0 fpm, 65 sec
k	124,790	2,500 MSL	82 Variable	250	0.0 deg, 0 fpm, 60 sec
l	150,241	2,500 MSL	82 Variable	250	0.0 deg, 0 fpm, 58 sec
m	174,694	2,500 MSL	85 Variable	250	0.0 deg, 0 fpm, 68 sec
n	206,326	2,500 MSL	85 Variable	300	initial, -6.7 deg, -3840 fpm, 20 sec
o	217,383	1,200 MSL	85 Variable	350	break alt & speed, 0.0 deg, 0 fpm, 13 sec
p	225,326	1,200 MSL	66 Variable	350	break, 0.0 deg, 0 fpm, 38 sec
q	244,415	1,200 MSL	84 Parallel	150	begin downwind, gear down, -1.8 deg, -630 fpm, 38 sec
r	256,915	800 MSL	85 Parallel	140	end downwind, -0.9 deg, -230 fpm, 40 sec
s	266,259	700 MSL	85 Parallel	140	90 position, -1.6 deg, -400 fpm, 41 sec
t	276,003	455 MSL	85 Parallel	140	begin final, -1.6 deg, -390 fpm, 19 sec
u	280,560	250 MSL	85 Parallel	140	crossing threshold

NAS Whidbey Island (47' MSL) - Flight Profile 248N

EA-18G - Rep - Existing Interfacility Whidbey Rwy 07 to OLF Rwy 32 Darkness on Runway 07, flight track 07WC32DN

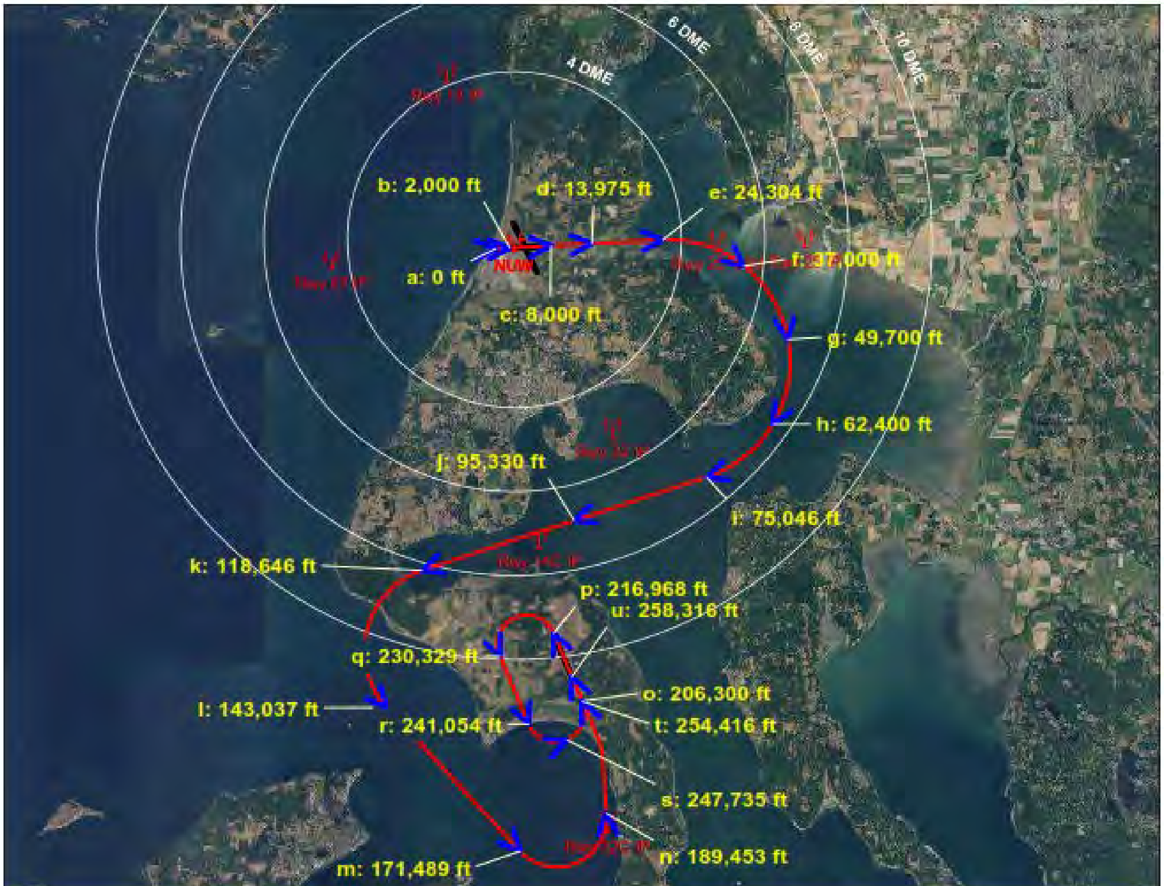
Prior to brake release, aircraft sits at 97 % NC Min A/B for 1 sec

0 10,000 20,000 30,000 40,000 50,000 60,000 70,000 80,000 90,000

Scale in Feet 1:277,000 (1 inch = 23,100 feet)

N

Figure A5-9 EA-18G (Baseline and No Action) Interfacility Flight Profile from Ault Field Runway 07 to OLF Coupeville Runway 32 during Darkness

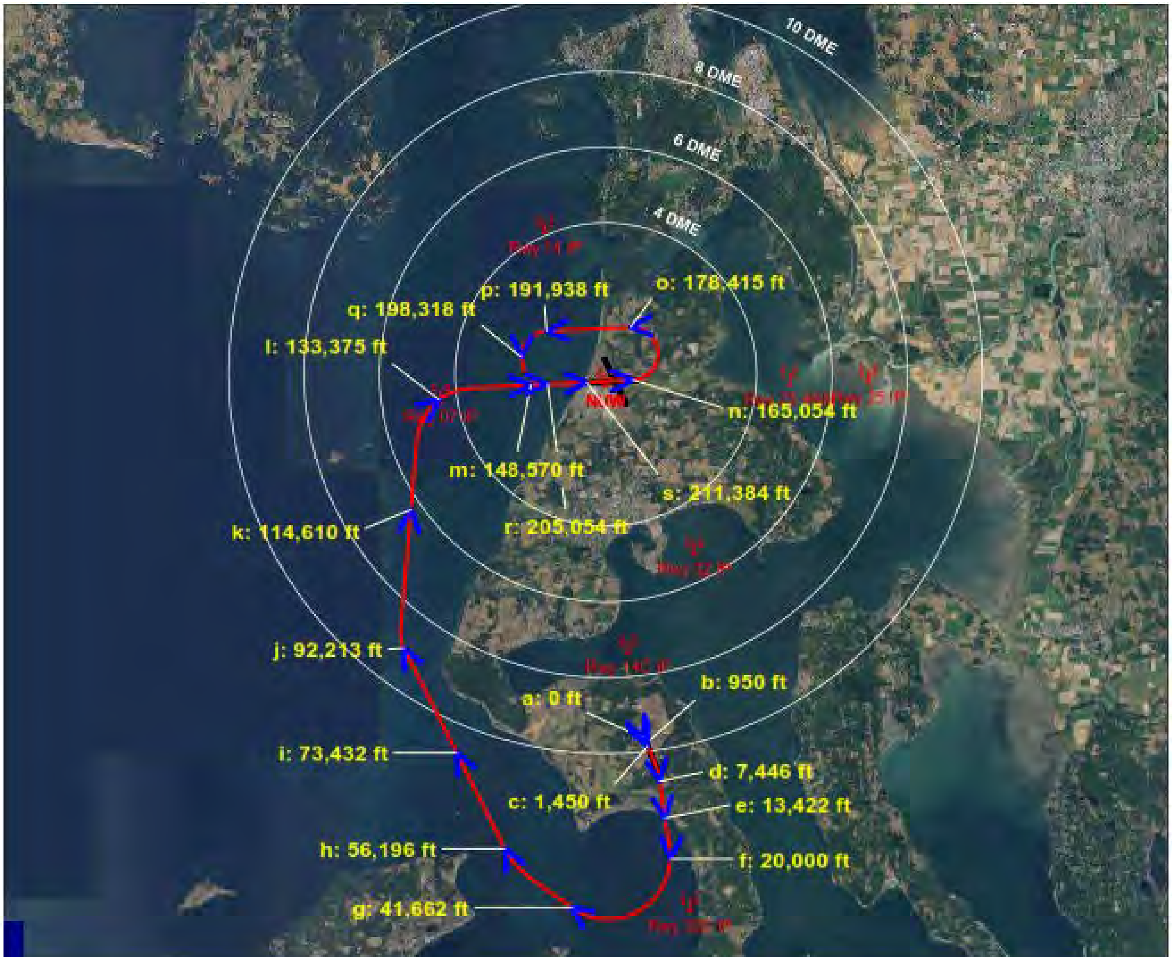


Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	0 AGL	97 Min A/B	0	0.0 deg, 0 fpm, 18 sec
b	2,000	0 AGL	97 Afterburner	135	rotate and climb, 9.5 deg, 3200 fpm, 18 sec
c	8,000	1,000 AGL	96 Variable	250	13.7 deg, 5980 fpm, 14 sec
d	13,975	2,500 MSL	82 Variable	250	level-off 2,500' MSL., 0.0 deg, 0 fpm, 24 sec
e	24,304	2,500 MSL	82 Variable	250	begin big turn, 0.0 deg, 0 fpm, 30 sec
f	37,000	2,500 MSL	82 Variable	250	25% big turn, 0.0 deg, 0 fpm, 30 sec
g	49,700	2,500 MSL	82 Variable	250	50% big turn, 0.0 deg, 0 fpm, 30 sec
h	62,400	2,500 MSL	82 Variable	250	75% big turn, 0.0 deg, 0 fpm, 30 sec
i	75,046	2,500 MSL	82 Variable	250	end turn, 0.0 deg, 0 fpm, 48 sec
j	95,330	2,500 MSL	82 Variable	250	0.0 deg, 0 fpm, 55 sec
k	118,646	2,500 MSL	82 Variable	250	0.0 deg, 0 fpm, 58 sec
l	143,037	2,500 MSL	82 Variable	250	0.0 deg, 0 fpm, 67 sec
m	171,489	2,500 MSL	85 Variable	250	0.0 deg, 0 fpm, 39 sec
n	189,453	2,500 MSL	85 Variable	300	initial, -4.4 deg, -2530 fpm, 31 sec
o	206,300	1,200 MSL	85 Variable	350	break alt & speed 0.6 nm from threshold, 0.0 deg, 0 fpm, 18 sec
p	216,968	1,200 MSL	66 Variable	350	break, 0.0 deg, 0 fpm, 26 sec
q	230,329	1,200 MSL	84 Parallel	150	begin downwind, gear down, -2.1 deg, -740 fpm, 33 sec
r	241,054	800 MSL	85 Parallel	140	end downwind, -1.3 deg, -320 fpm, 28 sec
s	247,735	700 MSL	85 Parallel	140	90 position, -1.7 deg, -410 fpm, 28 sec
t	254,416	455 MSL	85 Parallel	140	begin final, -3.0 deg, -740 fpm, 17 sec
u	258,316	250 MSL	85 Parallel	140	crossing threshold

NAS Whidbey Island (47' MSL) - Flight Profile 248PD
EA-18G - Proposed Interfacility Whidbey Rwy 07 to OLF Rwy 32
on Runway 07, flight track 07WC32P
Prior to brake release, aircraft sits at 97 % NC Min A/B for 1 sec

0 10,000 20,000 30,000 40,000 50,000 60,000 70,000 80,000
Scale in Feet 1:252,000 (1 inch = 21,000 feet)

Figure A5-10 EA-18G Proposed Interfacility Flight Profile from Ault Field Runway 07 to OLF Coupeville Runway 32



Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	250 MSL	85 Parallel	140	crossing threshold; – 3 deg to touchdown
b	950	200 MSL	96 Variable	140	touchdown and roll
c	1,450	200 MSL	96 Variable	150	7.6 deg
d	7,446	1,000 MSL	96 Traffic Pattern	250	9.5 deg
e	13,422	2,000 MSL	82 Variable	250	0.0 deg, 0 fpm, 14 sec
f	20,000	2,000 MSL	82 Variable	250	reach transit altitude, 0.0 deg, 0 fpm, 51 sec
g	41,662	2,000 MSL	82 Variable	250	0.0 deg, 0 fpm, 34 sec
h	56,196	2,000 MSL	82 Variable	250	0.0 deg, 0 fpm, 41 sec
i	73,432	2,000 MSL	82 Variable	250	0.0 deg, 0 fpm, 45 sec
j	92,213	2,000 MSL	82 Variable	250	0.0 deg, 0 fpm, 53 sec
k	114,610	2,000 MSL	82 Variable	250	0.0 deg, 0 fpm, 40 sec
l	133,375	2,000 MSL	85 Variable	300	initial, -1.9 deg, -1080 fpm, 28 sec
m	148,570	1,500 MSL	85 Variable	350	break alt & speed, 0.0 deg, 0 fpm, 28 sec
n	165,054	1,500 MSL	66 Variable	350	break, 0.0 deg, 0 fpm, 41 sec
o	178,415	1,500 MSL	81 Parallel	140	begin downwind, gear down, -2.4 deg, -730 fpm, 41 sec
p	191,938	1,000 MSL	81 Parallel	140	end downwind, -1.8 deg, -460 fpm, 40 sec
q	198,318	650 AGL	84 Parallel	140	90 position, -2.1 deg, -500 fpm, 42 sec
r	205,054	300 AGL	84 Parallel	140	begin final, -3.1 deg, -720 fpm, 21 sec
s	211,384	50 AGL	84 Parallel	140	crossing threshold

NAS Whidbey Island (47' MSL) - Flight Profile 255
EA-18G - Interfacility OLF Rwy 14 to Whidbey Rwy 07
on Runway 14_OLF, flight track 14CW07

0 10,000 20,000 30,000 40,000 50,000 60,000 70,000 80,000 90,000
Scale in Feet 1:281,000 (1 inch = 23,400 feet)

N

Figure A5-11 EA-18G Interfacility Flight Profile from OLF Coupeville Runway 14 to Ault Field Runway 07

Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	50 AGL	96 Variable	130	crossing threshold, 0.0 deg, 0 fpm, 2 sec
b	400	0 AGL	96 Variable	130	26.6 deg, 7470 fpm, 2 sec
c	1,000	300 AGL	90 Variable	200	1.5 deg, 620 fpm, 49 sec
d	19,520	800 AGL	84 Variable	250	3.8 deg, 1670 fpm, 41 sec
e	36,941	2,000 MSL	84 Variable	250	pattern altitude, 0.0 deg, 0 fpm, 28 sec
f	48,612	2,000 MSL	84 Variable	250	25% turn, 0.0 deg, 0 fpm, 28 sec
g	60,283	2,000 MSL	84 Variable	250	50% turn, 0.0 deg, 0 fpm, 28 sec
h	71,954	2,000 MSL	84 Variable	250	75% turn, 0.0 deg, 0 fpm, 80 sec
i	105,604	2,000 MSL	85 Variable	250	initial, -3.1 deg, -1640 fpm, 18 sec
j	114,868	1,500 MSL	85 Variable	350	break alt & speed, 0.0 deg, 0 fpm, 4 sec
k	117,448	1,500 MSL	85 Variable	350	break, -1.2 deg, -600 fpm, 50 sec
l	140,625	1,000 MSL	84 Parallel	200	begin downwind, gear down, 0.0 deg, 0 fpm, 36 sec
m	150,962	1,000 MSL	80 Parallel	140	end downwind, -3.8 deg, -940 fpm, 29 sec
n	157,794	500 AGL	84 Parallel	140	90 position, -2.0 deg, -490 fpm, 28 sec
o	164,323	275 AGL	84 Parallel	140	begin final, -2.1 deg, -520 fpm, 26 sec
p	170,393	50 AGL	84 Parallel	140	crossing threshold

NAS Whidbey Island (47' MSL) - Flight Profile 265R

EA-18G - Depart and ReEnter Runway 25
on Runway 25, flight track 25PR

0 4,000 8,000 12,000 16,000 20,000 24,000 28,000

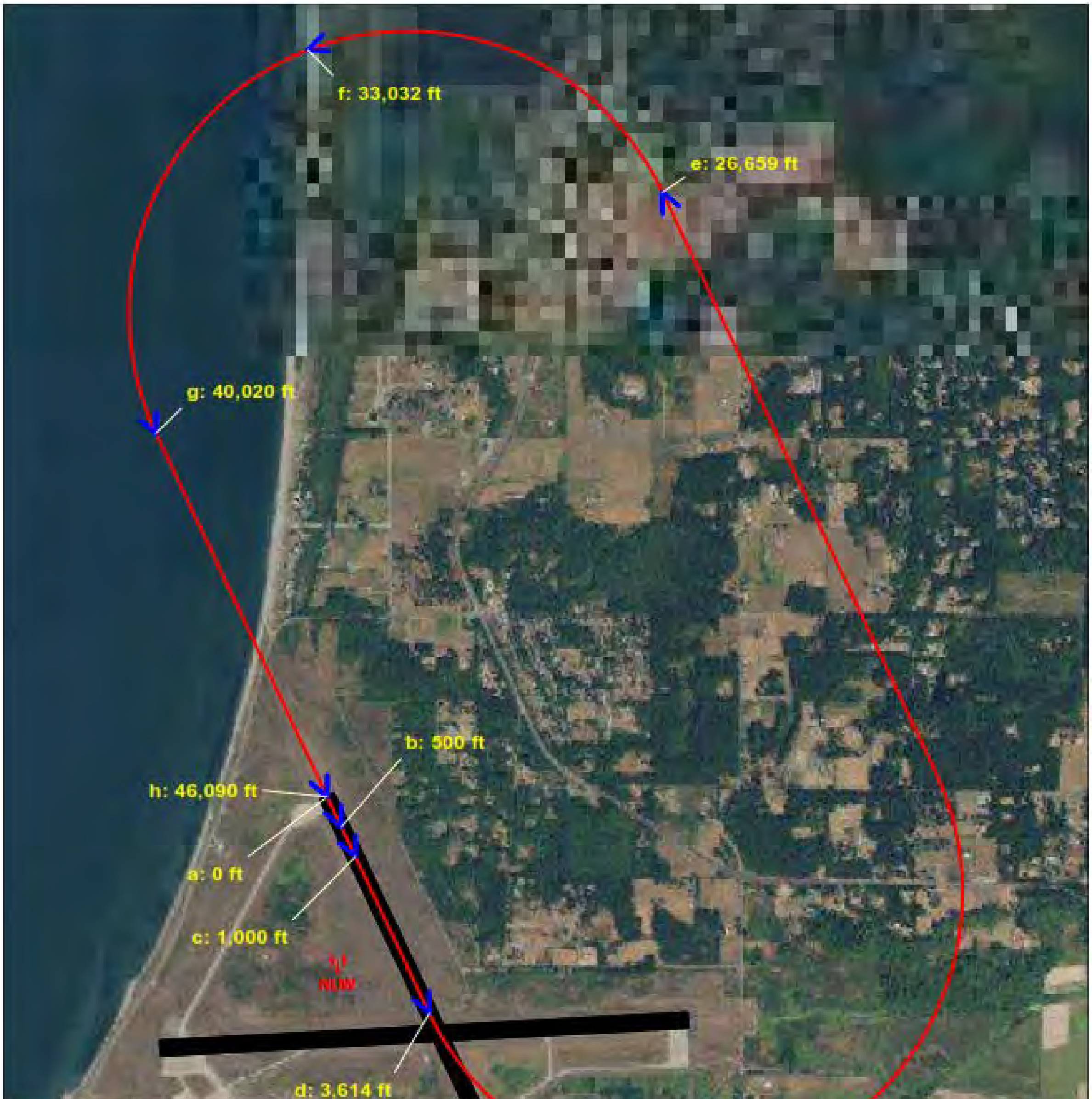
Scale in Feet 1:87,200 (1 inch = 7,270 feet)

N

Figure A5-12 EA-18G Depart and Re-enter Profile at Ault Field Runway 25

Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	50 AGL	96 Variable	130	cross threshold, 0.0 deg, 0 fpm, 2 sec
b	400	0 AGL	96 Variable	130	10 deg
c	2,101	300 AGL	90 Parallel	145	6.6 deg, 1660 fpm, 23 sec
d	7,745	1,000 MSL	84 Parallel	140	0.0 deg, 0 fpm, 115 sec
e	33,767	1,000 MSL	80 Parallel	140	end downwind, -3.9 deg
f	40,448	500 AGL	84 Parallel	140	-1 deg
g	47,128	368 AGL	84 Parallel	140	final, -3 deg
h	53,198	50 AGL	84 Parallel	140	cross threshold

Figure A5-13 EA-18G FCLP Flight Profile at Ault Field Runway 14



Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	50 AGL	84 Parallel	130	cross threshold, 0.0 deg, 0 fpm, 2 sec
b	500	0 AGL	96 Variable	130	31.0 deg, 7160 fpm, 2 sec
c	1,000	300 AGL	90 Variable	145	14.0 deg, 3380 fpm, 11 sec
d	3,614	1,000 MSL	84 Parallel	130	reach pattern altitude, 0.0 deg, 0 fpm, 105 sec
e	26,659	1,000 MSL	80 Parallel	130	end downwind, -4.1 deg, -930 fpm, 29 sec
f	33,032	500 AGL	84 Parallel	130	90 position, -1.6 deg, -380 fpm, 32 sec
g	40,020	300 AGL	84 Parallel	130	3/4 nm final, -2.4 deg, -540 fpm, 28 sec
h	46,090	50 AGL	84 Parallel	130	cross threshold

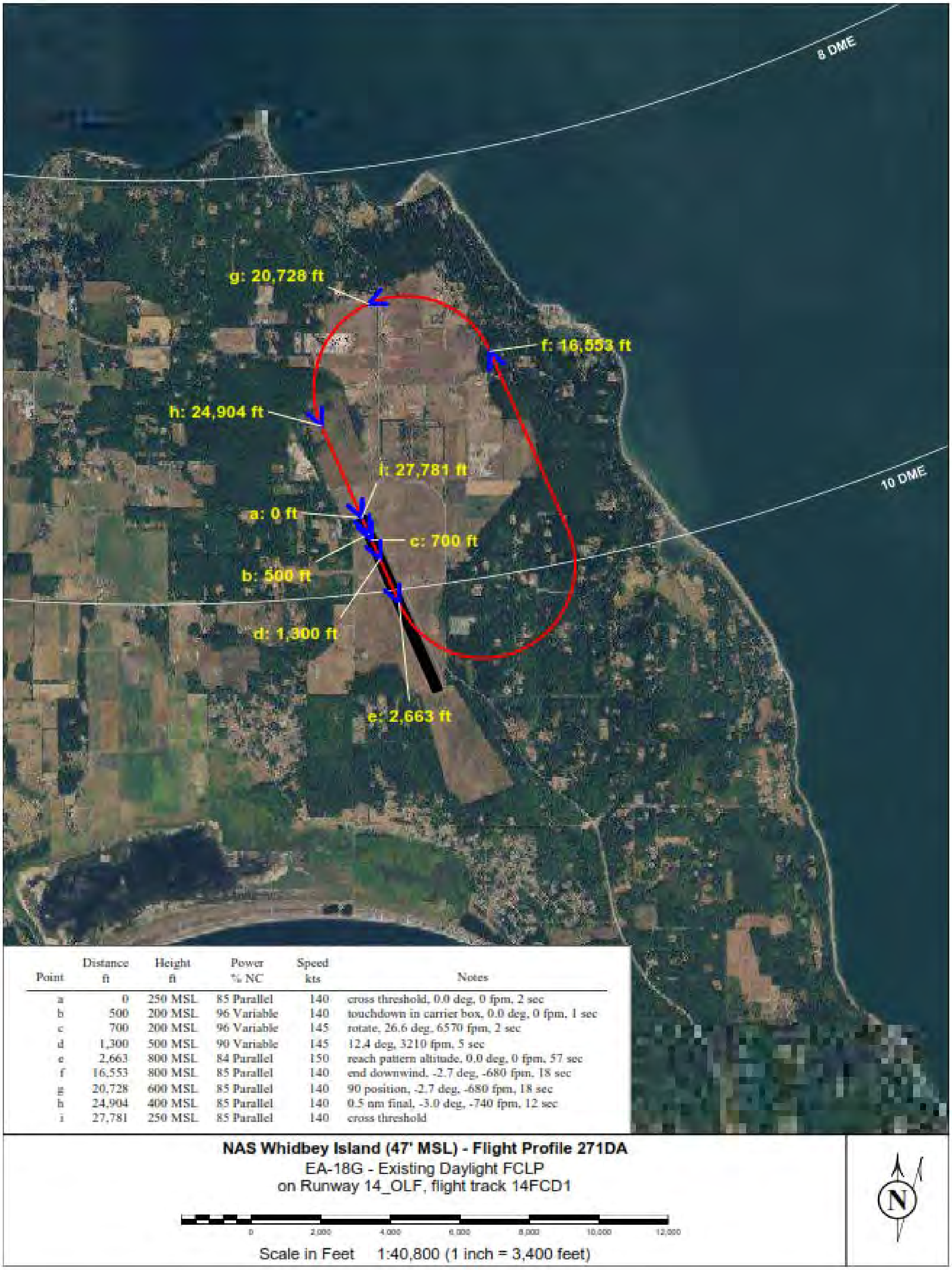
NAS Whidbey Island (47' MSL) - Flight Profile 268A
EA-18G - T&G at Ault; Midfield turn
on Runway 14, flight track 14FM1

0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000

Scale in Feet 1:24,600 (1 inch = 2,050 feet)

N

Figure A5-14 EA-18G Touch-and-Go Flight Profile at Ault Field Runway 14



Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	250 MSL	85 Parallel	140	cross threshold, 0.0 deg, 0 fpm, 2 sec
b	500	200 MSL	96 Variable	140	touchdown in carrier box, 0.0 deg, 0 fpm, 1 sec
c	700	200 MSL	96 Variable	145	rotate, 26.6 deg, 6570 fpm, 2 sec
d	1,300	500 MSL	90 Variable	145	12.4 deg, 3210 fpm, 5 sec
e	2,663	800 MSL	84 Parallel	150	reach pattern altitude, 0.0 deg, 0 fpm, 57 sec
f	16,553	800 MSL	85 Parallel	140	end downwind, -2.7 deg, -680 fpm, 18 sec
g	20,728	600 MSL	85 Parallel	140	90 position, -2.7 deg, -680 fpm, 18 sec
h	24,904	400 MSL	85 Parallel	140	0.5 nm final, -3.0 deg, -740 fpm, 12 sec
i	27,781	250 MSL	85 Parallel	140	cross threshold

Figure A5-15 EA-18G Existing FCLP Flight Profile at OLF Coupeville Runway 14 during Daylight

Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	250 MSL	85 Parallel	140	cross threshold, 0.0 deg, 0 fpm, 2 sec
b	500	200 MSL	96 Variable	140	touchdown in carrier box, 0.0 deg, 0 fpm, 1 sec
c	700	200 MSL	96 Variable	140	rotate, 26.6 deg, 6450 fpm, 2 sec
d	1,300	500 MSL	90 Variable	145	9.4 deg, 2440 fpm, 17 sec
e	5,525	1,200 MSL	84 Parallel	150	reach pattern altitude, 0.0 deg, 0 fpm, 126 sec
f	36,282	1,200 MSL	85 Parallel	140	end downwind, -1.1 deg, -280 fpm, 38 sec
g	45,229	1,025 MSL	85 Parallel	140	90 position, -1.1 deg, -280 fpm, 38 sec
h	54,176	850 MSL	85 Parallel	140	1.9 nm final, -3.0 deg, -740 fpm, 49 sec
i	65,704	250 MSL	85 Parallel	140	cross threshold

NAS Whidbey Island (47' MSL) - Flight Profile 272NA
EA-18G - Existing Darkness FCLP
on Runway 14_OLF, flight track 14FCN1

0 4,000 8,000 12,000 16,000 20,000 24,000

Scale in Feet 1:80,300 (1 inch = 6,690 feet)

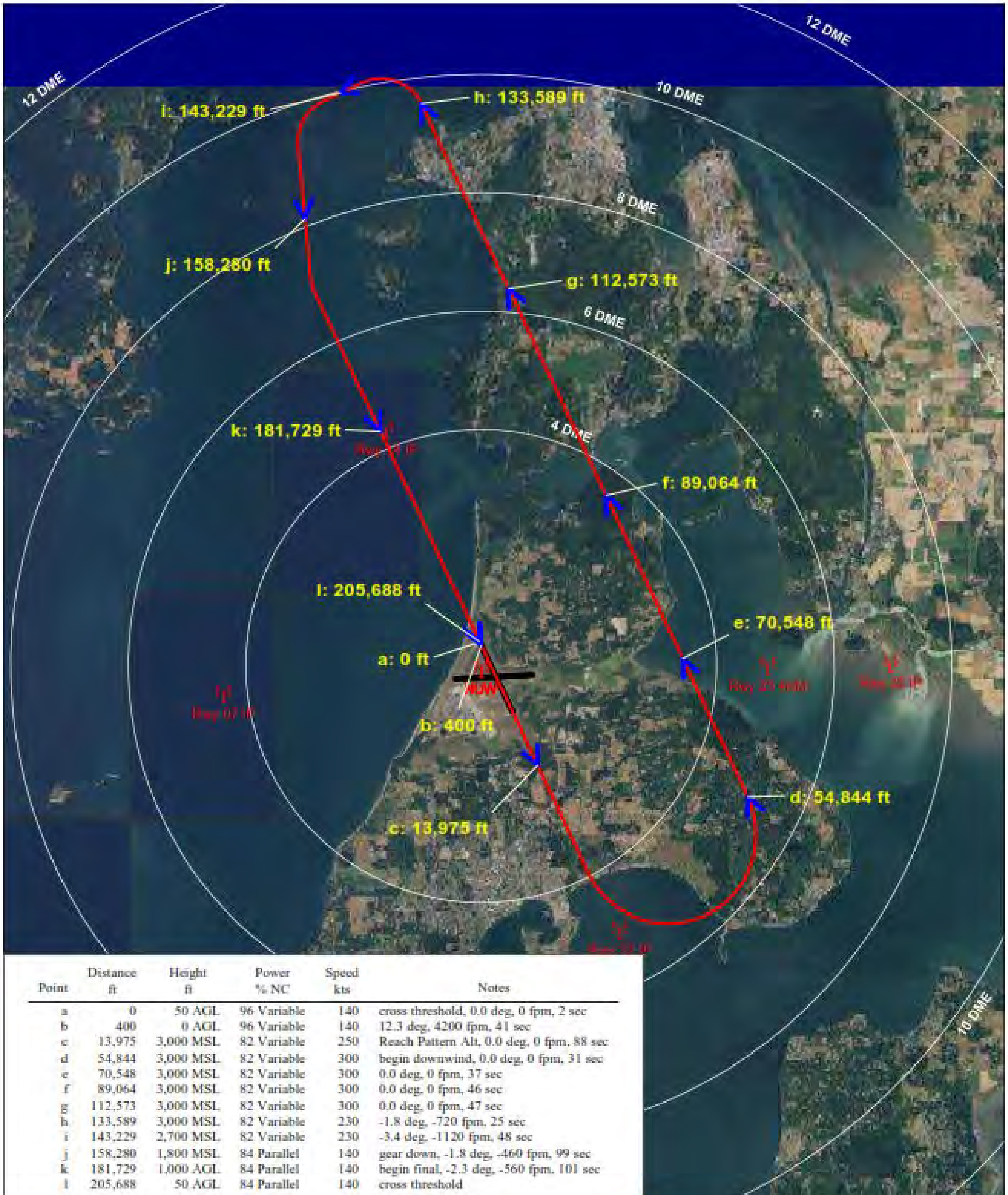
N

Figure A5-16 EA-18G Existing FCLP Flight Profile at OLF Coupeville Runway 14 during Darkness

Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	250 MSL	85 Parallel	140	cross threshold, 0.0 deg, 0 fpm, 2 sec
b	500	200 MSL	96 Variable	140	touchdown in carrier box, 0.0 deg, 0 fpm, 1 sec
c	700	200 MSL	96 Variable	140	rotate, 10 deg, 6450 fpm, 2 sec
d	2,401	500 MSL	90 Variable	145	10 deg, 3210 fpm, 5 sec
e	4,102	800 MSL	84 Parallel	150	reach pattern altitude, 0.0 deg, 0 fpm, 16 sec
f	6,825	800 MSL	84 Parallel	150	start crosswind turn, 0.0 deg, 0 fpm, 26 sec
g	13,506	800 MSL	84 Parallel	150	50% turn, 0.0 deg, 0 fpm, 26 sec
h	20,186	800 MSL	84 Parallel	150	begin downwind, 0.0 deg, 0 fpm, 44 sec
i	30,911	800 MSL	85 Parallel	140	end downwind, -1.5 deg, -370 fpm, 28 sec
j	37,592	700 MSL	85 Parallel	140	90 position, -1.5 deg, -360 fpm, 28 sec
k	44,272	455 MSL	85 Parallel	140	0.6 nm final, -3.0 deg, -740 fpm, 17 sec
l	48,172	250 MSL	85 Parallel	140	cross threshold

NAS Whidbey Island (47' MSL) - Flight Profile 273PDB
EA-18G - Proposed Daylight FCLP
on Runway 14_OLF, flight track 14FCP2

Figure A5-17 EA-18G Proposed FCLP Flight Profile at OLF Coupeville Runway 14

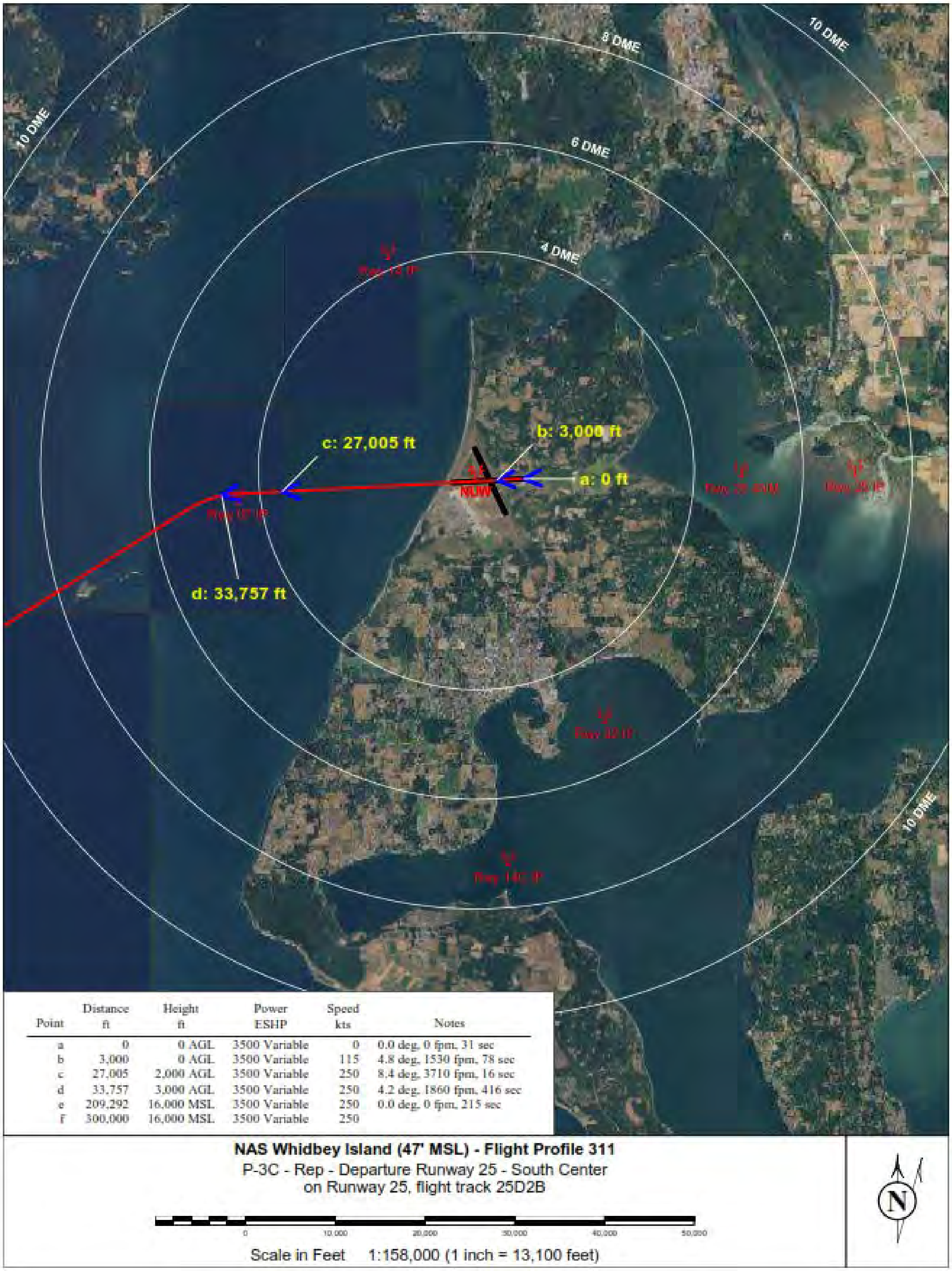


Point	Distance ft	Height ft	Power % NC	Speed kts	Notes
a	0	50 AGL	96 Variable	140	cross threshold, 0.0 deg, 0 fpm, 2 sec
b	400	0 AGL	96 Variable	140	12.3 deg, 4200 fpm, 41 sec
c	13,975	3,000 MSL	82 Variable	250	Reach Pattern Alt, 0.0 deg, 0 fpm, 88 sec
d	54,844	3,000 MSL	82 Variable	300	begin downwind, 0.0 deg, 0 fpm, 31 sec
e	70,548	3,000 MSL	82 Variable	300	0.0 deg, 0 fpm, 37 sec
f	89,064	3,000 MSL	82 Variable	300	0.0 deg, 0 fpm, 46 sec
g	112,573	3,000 MSL	82 Variable	300	0.0 deg, 0 fpm, 47 sec
h	133,589	3,000 MSL	82 Variable	230	-1.8 deg, -720 fpm, 25 sec
i	143,229	2,700 MSL	82 Variable	230	-3.4 deg, -1120 fpm, 48 sec
j	158,280	1,800 MSL	84 Parallel	140	gear down, -1.8 deg, -460 fpm, 99 sec
k	181,729	1,000 AGL	84 Parallel	140	begin final, -2.3 deg, -560 fpm, 101 sec
l	205,688	50 AGL	84 Parallel	140	cross threshold

NAS Whidbey Island (47' MSL) - Flight Profile 278A
EA-18G - Rep - GCA Box at Whidbey Runway 14 - 3NM Wide
on Runway 14, flight track 14G1

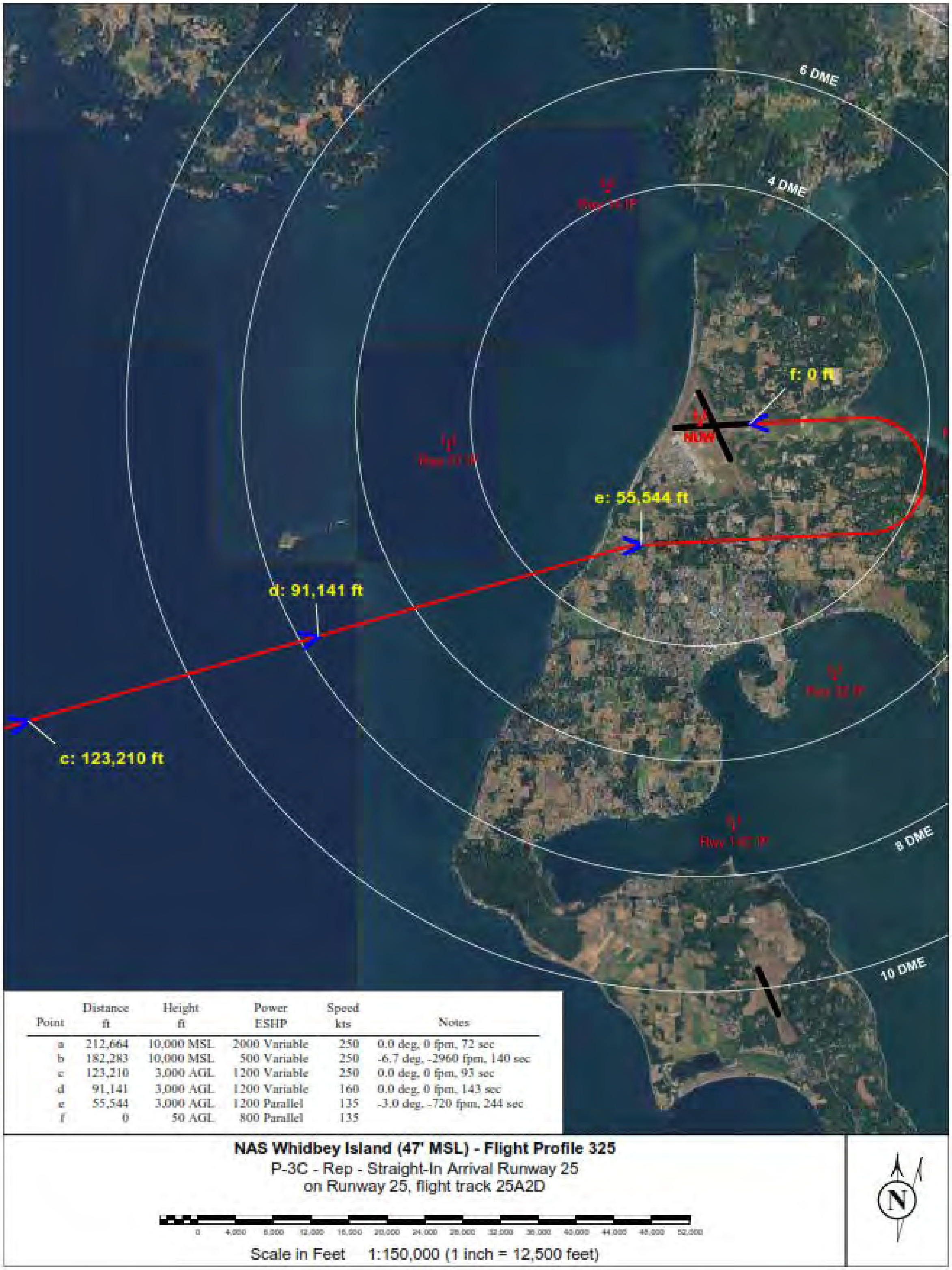
Scale in Feet 1:155,000 (1 inch = 12,900 feet)

Figure A5-18 EA-18G GCA Box Flight Profile at Ault Field Runway 14



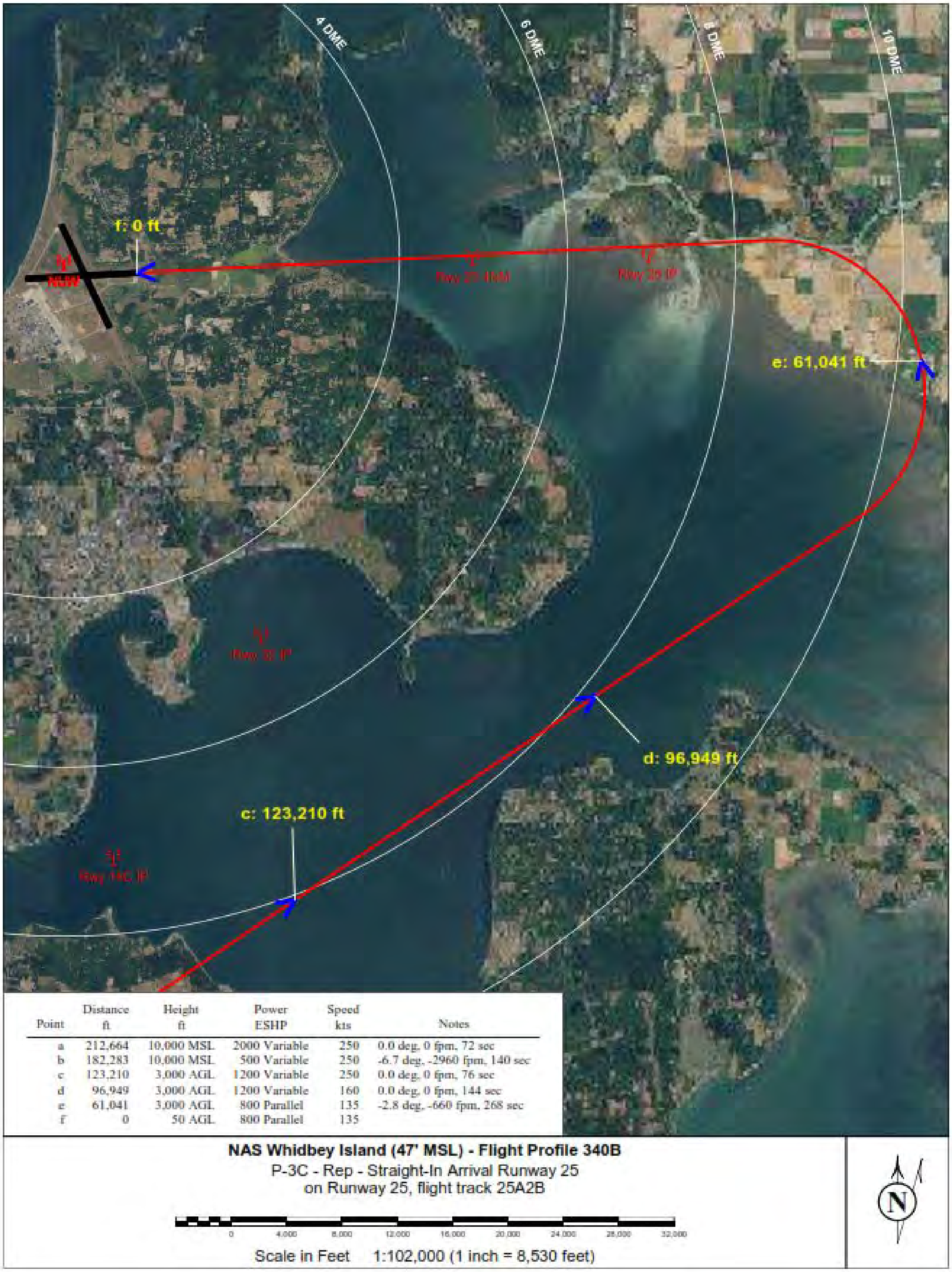
Point	Distance ft	Height ft	Power ESHP	Speed kts	Notes
a	0	0 AGL	3500 Variable	0	0.0 deg, 0 fpm, 31 sec
b	3,000	0 AGL	3500 Variable	115	4.8 deg, 1530 fpm, 78 sec
c	27,005	2,000 AGL	3500 Variable	250	8.4 deg, 3710 fpm, 16 sec
d	33,757	3,000 AGL	3500 Variable	250	4.2 deg, 1860 fpm, 416 sec
e	209,292	16,000 MSL	3500 Variable	250	0.0 deg, 0 fpm, 215 sec
f	300,000	16,000 MSL	3500 Variable	250	

Figure A5-19 P-3C Departure Flight Profile at Ault Field Runway 25



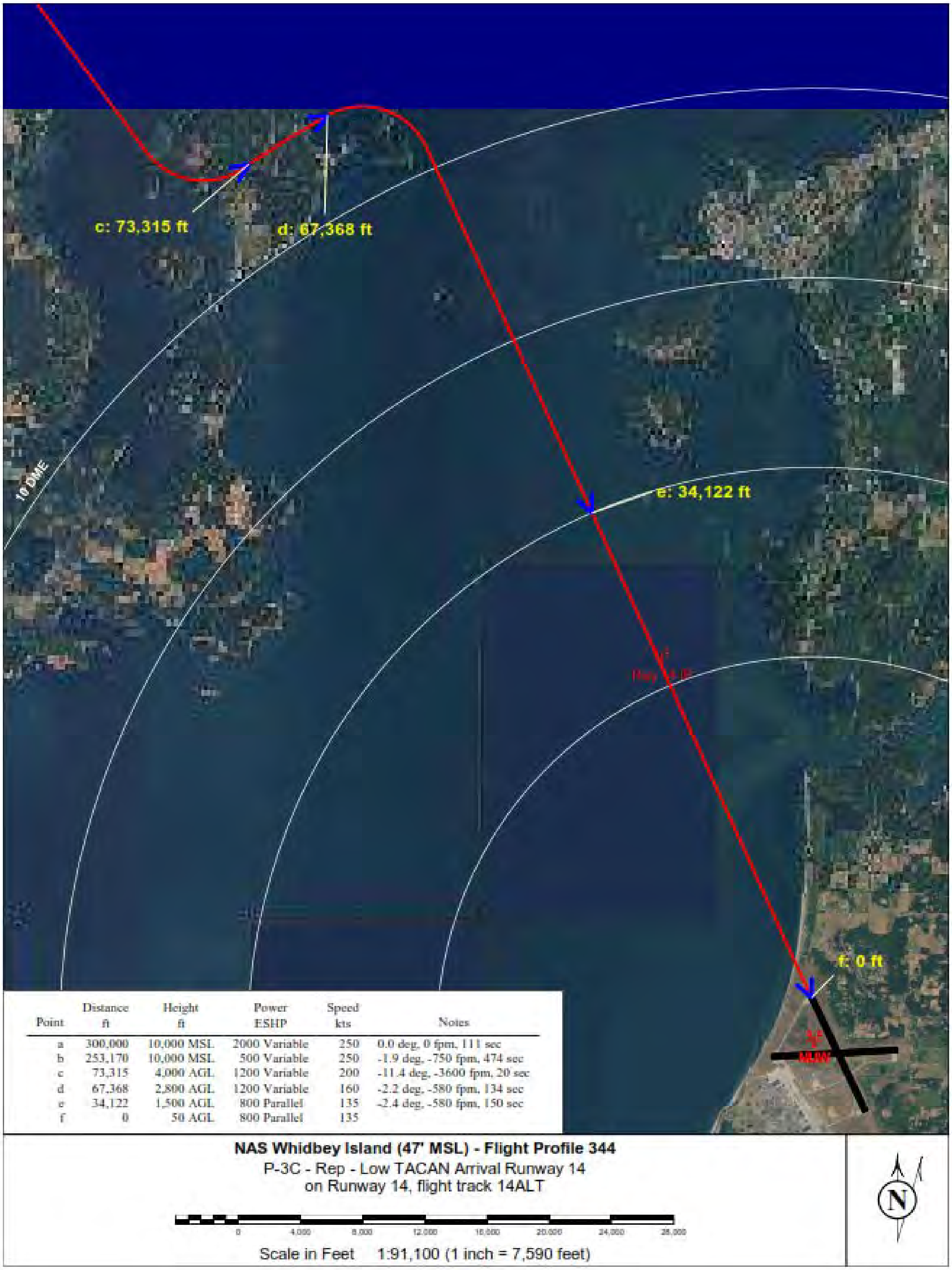
Point	Distance ft	Height ft	Power ESHP	Speed kts	Notes
a	212,664	10,000 MSL	2000 Variable	250	0.0 deg, 0 fpm, 72 sec
b	182,283	10,000 MSL	500 Variable	250	-6.7 deg, -2960 fpm, 140 sec
c	123,210	3,000 AGL	1200 Variable	250	0.0 deg, 0 fpm, 93 sec
d	91,141	3,000 AGL	1200 Variable	160	0.0 deg, 0 fpm, 143 sec
e	55,544	3,000 AGL	1200 Parallel	135	-3.0 deg, -720 fpm, 244 sec
f	0	50 AGL	800 Parallel	135	

Figure A5-20 P-3C Straight-in Arrival Flight Profile at Ault Field Runway 25 (Shorter Final)



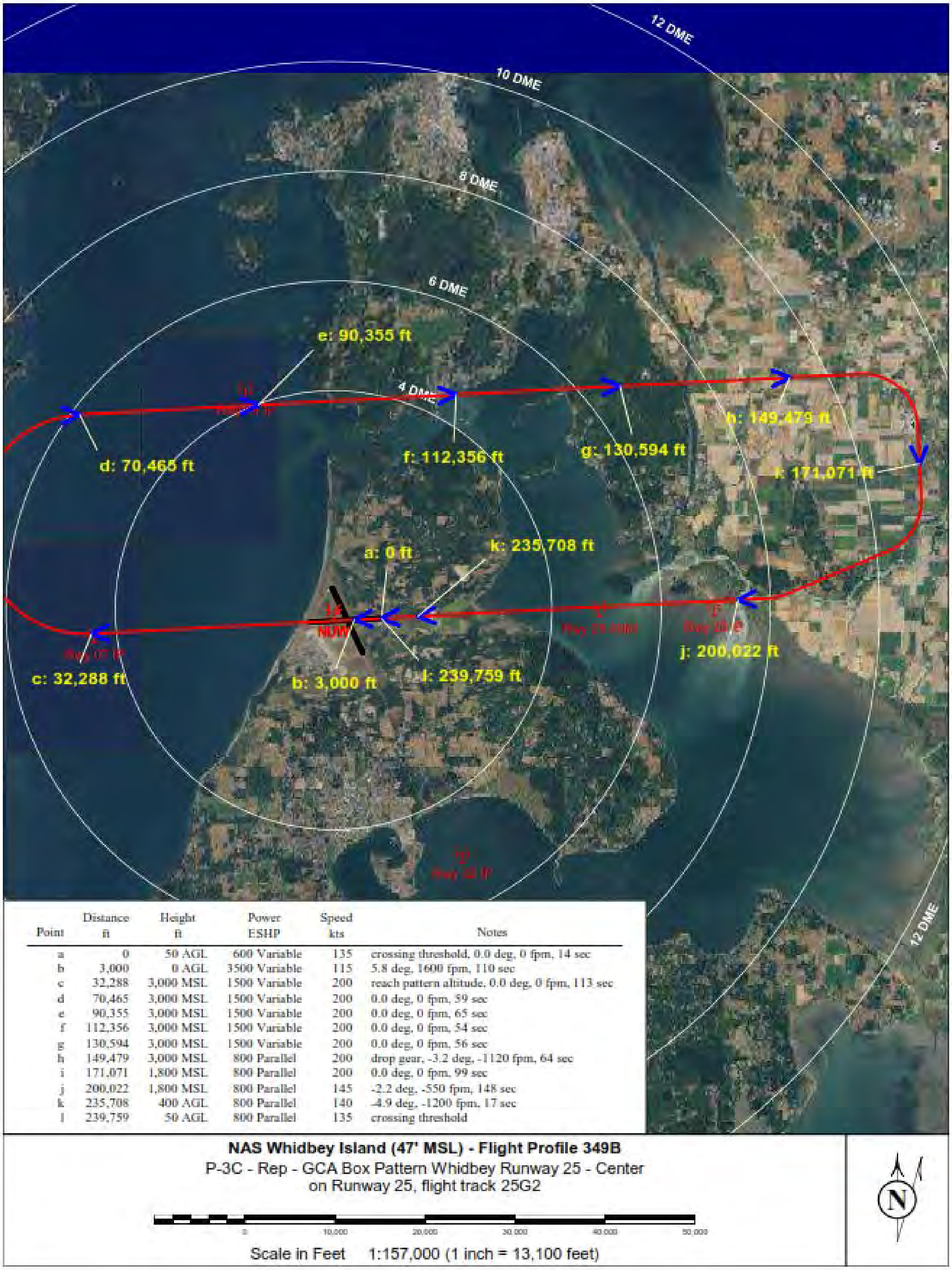
Point	Distance ft	Height ft	Power ESHP	Speed kts	Notes
a	212,664	10,000 MSL	2000 Variable	250	0.0 deg, 0 fpm, 72 sec
b	182,283	10,000 MSL	500 Variable	250	-6.7 deg, -2960 fpm, 140 sec
c	123,210	3,000 AGL	1200 Variable	250	0.0 deg, 0 fpm, 76 sec
d	96,949	3,000 AGL	1200 Variable	160	0.0 deg, 0 fpm, 144 sec
e	61,041	3,000 AGL	800 Parallel	135	-2.8 deg, -660 fpm, 268 sec
f	0	50 AGL	800 Parallel	135	

Figure A5-21 P-3C Straight-in Arrival Flight Profile at Ault Field Runway 25 (Longer Final)



Point	Distance ft	Height ft	Power ESHP	Speed kts	Notes
a	300,000	10,000 MSL	2000 Variable	250	0.0 deg, 0 fpm, 111 sec
b	253,170	10,000 MSL	500 Variable	250	-1.9 deg, -750 fpm, 474 sec
c	73,315	4,000 AGL	1200 Variable	200	-11.4 deg, -3600 fpm, 20 sec
d	67,368	2,800 AGL	1200 Variable	160	-2.2 deg, -580 fpm, 134 sec
e	34,122	1,500 AGL	800 Parallel	135	-2.4 deg, -580 fpm, 150 sec
f	0	50 AGL	800 Parallel	135	

Figure A5-22 P-3C Low TACAN Arrival Flight Profile at Ault Field Runway 14



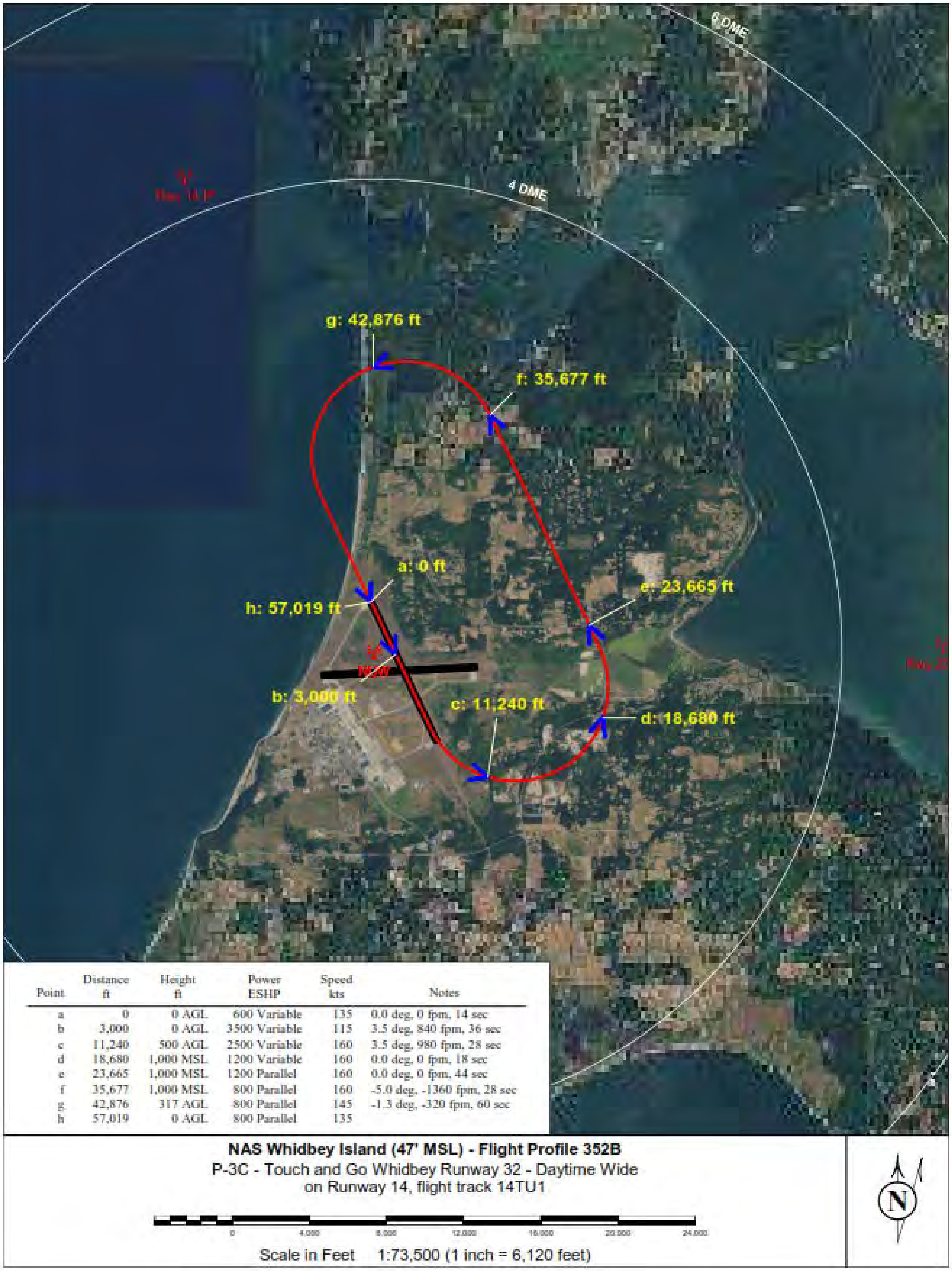
Point	Distance ft	Height ft	Power ESHP	Speed kts	Notes
a	0	50 AGL	600 Variable	135	crossing threshold, 0.0 deg, 0 fpm, 14 sec
b	3,000	0 AGL	3500 Variable	115	5.8 deg, 1600 fpm, 110 sec
c	32,288	3,000 MSL	1500 Variable	200	reach pattern altitude, 0.0 deg, 0 fpm, 113 sec
d	70,465	3,000 MSL	1500 Variable	200	0.0 deg, 0 fpm, 59 sec
e	90,355	3,000 MSL	1500 Variable	200	0.0 deg, 0 fpm, 65 sec
f	112,356	3,000 MSL	1500 Variable	200	0.0 deg, 0 fpm, 54 sec
g	130,594	3,000 MSL	1500 Variable	200	0.0 deg, 0 fpm, 56 sec
h	149,479	3,000 MSL	800 Parallel	200	drop gear, -3.2 deg, -1120 fpm, 64 sec
i	171,071	1,800 MSL	800 Parallel	200	0.0 deg, 0 fpm, 99 sec
j	200,022	1,800 MSL	800 Parallel	145	-2.2 deg, -550 fpm, 148 sec
k	235,708	400 AGL	800 Parallel	140	-4.9 deg, -1200 fpm, 17 sec
l	239,759	50 AGL	800 Parallel	135	crossing threshold

NAS Whidbey Island (47' MSL) - Flight Profile 349B

P-3C - Rep - GCA Box Pattern Whidbey Runway 25 - Center on Runway 25, flight track 25G2

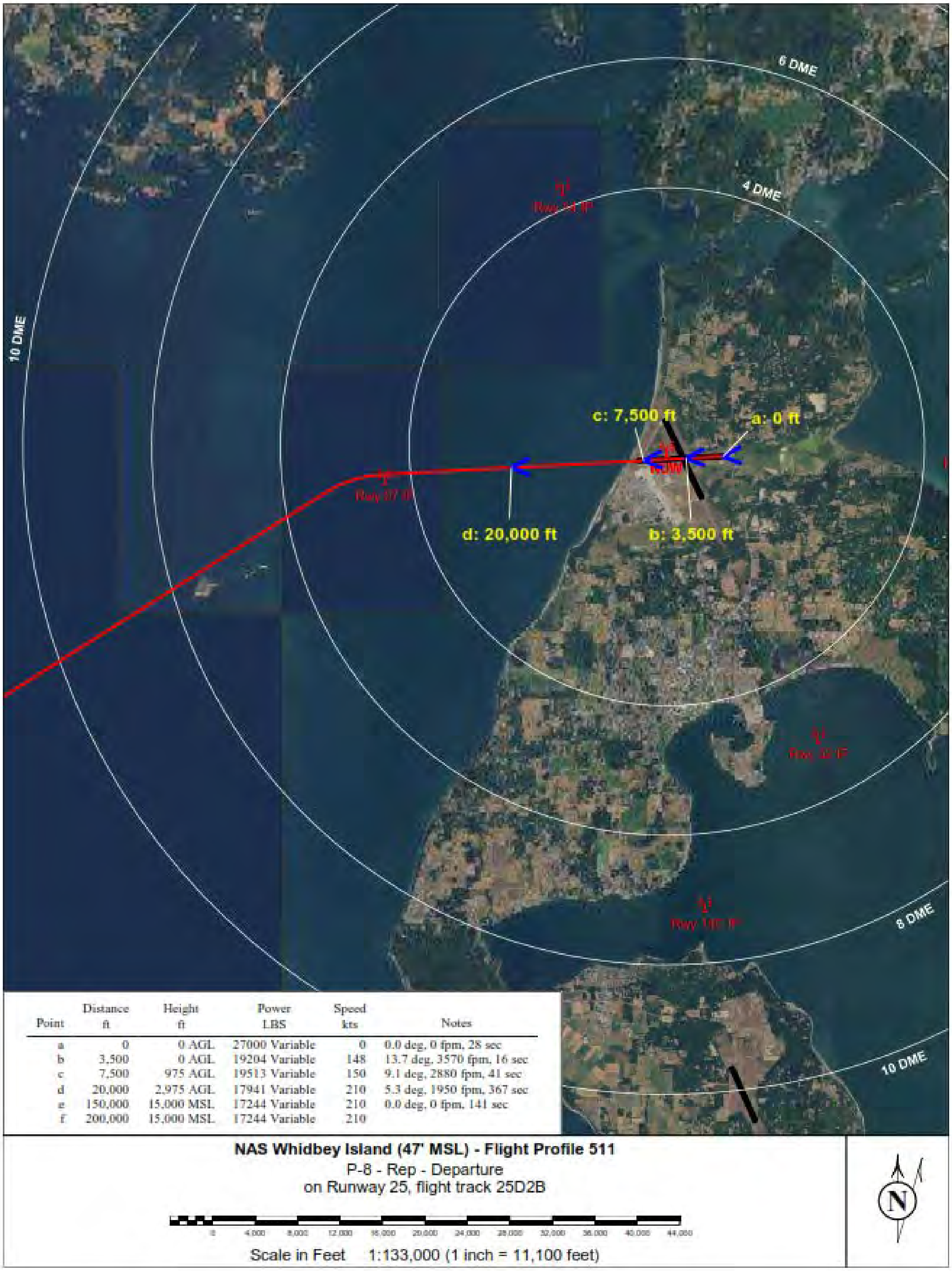
Scale in Feet 1:157,000 (1 inch = 13,100 feet)

Figure A5-23 P-3C GCA Box Pattern Flight Profile at Ault Field Runway 25



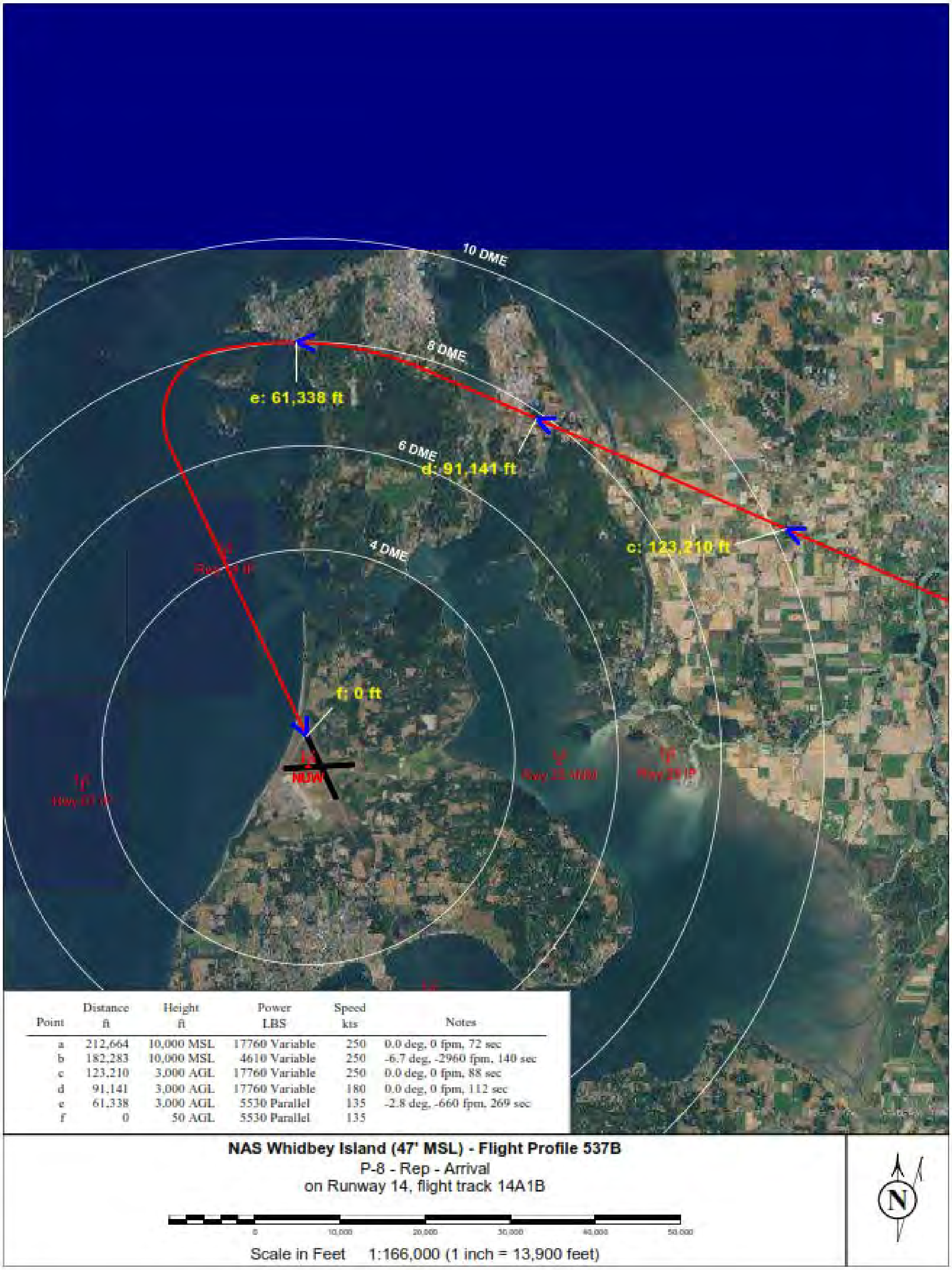
Point	Distance ft	Height ft	Power ESHP	Speed kts	Notes
a	0	0 AGL	600 Variable	135	0.0 deg, 0 fpm, 14 sec
b	3,000	0 AGL	3500 Variable	115	3.5 deg, 840 fpm, 36 sec
c	11,240	500 AGL	2500 Variable	160	3.5 deg, 980 fpm, 28 sec
d	18,680	1,000 MSL	1200 Variable	160	0.0 deg, 0 fpm, 18 sec
e	23,665	1,000 MSL	1200 Parallel	160	0.0 deg, 0 fpm, 44 sec
f	35,677	1,000 MSL	800 Parallel	160	-5.0 deg, -1360 fpm, 28 sec
g	42,876	317 AGL	800 Parallel	145	-1.3 deg, -320 fpm, 60 sec
h	57,019	0 AGL	800 Parallel	135	

Figure A5-24 P-3C Touch-and-Go Pattern Flight Profile at Ault Field Runway 32



Point	Distance ft	Height ft	Power LBS	Speed kts	Notes
a	0	0 AGL	27000 Variable	0	0.0 deg, 0 fpm, 28 sec
b	3,500	0 AGL	19204 Variable	148	13.7 deg, 3570 fpm, 16 sec
c	7,500	975 AGL	19513 Variable	150	9.1 deg, 2880 fpm, 41 sec
d	20,000	2,975 AGL	17941 Variable	210	5.3 deg, 1950 fpm, 367 sec
e	150,000	15,000 MSL	17244 Variable	210	0.0 deg, 0 fpm, 141 sec
f	200,000	15,000 MSL	17244 Variable	210	

Figure A5-25 P-8A Departure Flight Profile at Ault Field Runway 25



Point	Distance ft	Height ft	Power LBS	Speed kts	Notes
a	212,664	10,000 MSL	17760 Variable	250	0.0 deg, 0 fpm, 72 sec
b	182,283	10,000 MSL	4610 Variable	250	-6.7 deg, -2960 fpm, 140 sec
c	123,210	3,000 AGL	17760 Variable	250	0.0 deg, 0 fpm, 88 sec
d	91,141	3,000 AGL	17760 Variable	180	0.0 deg, 0 fpm, 112 sec
e	61,338	3,000 AGL	5530 Parallel	135	-2.8 deg, -660 fpm, 269 sec
f	0	50 AGL	5530 Parallel	135	

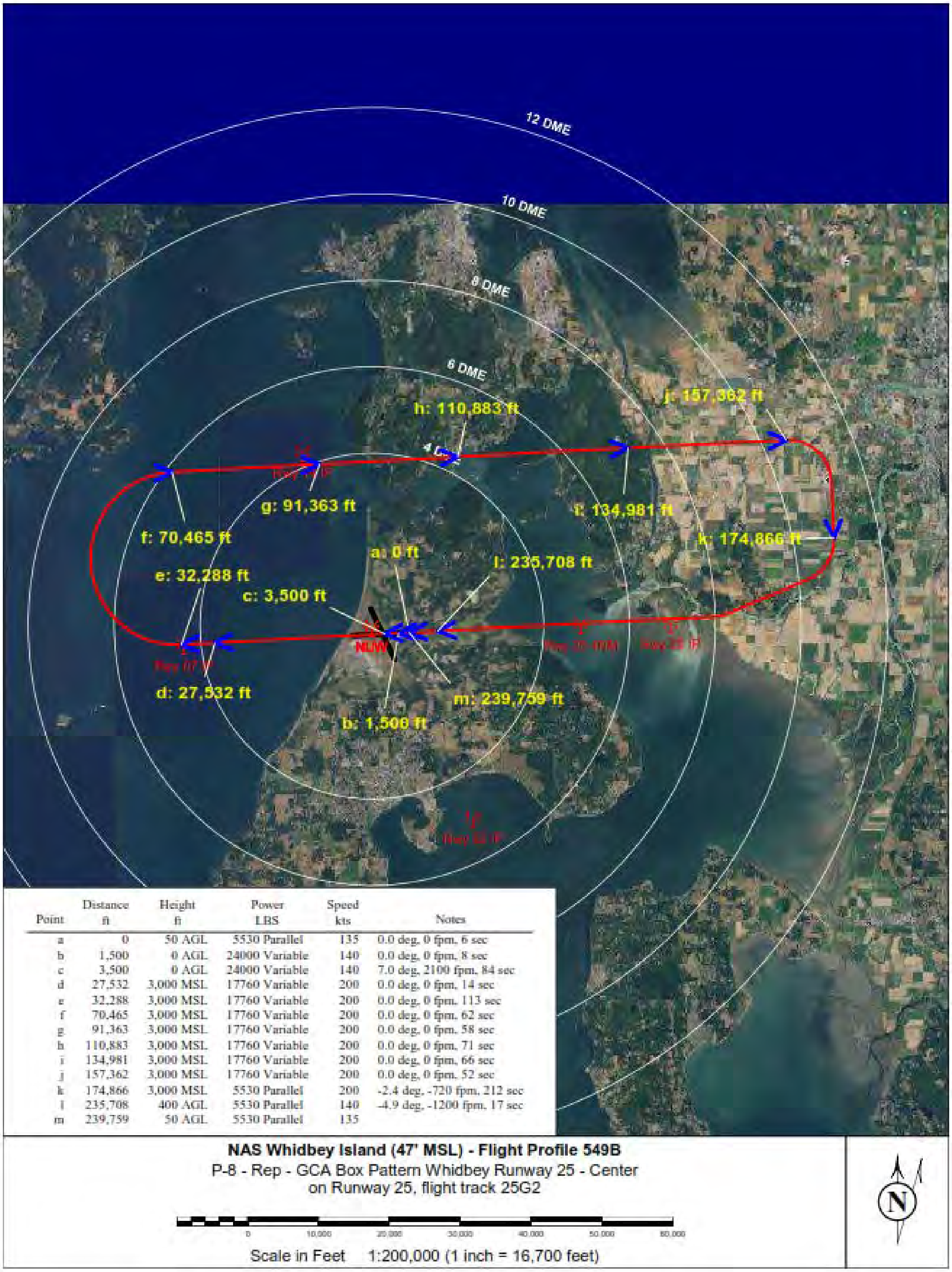
Figure A5-26 P-8A Straight-in Arrival Flight Profile at Ault Field Runway 14

Point	Distance ft	Height ft	Power LBS	Speed kts	Notes
a	212,664	10,000 MSL	17760 Variable	250	0.0 deg, 0 fpm, 72 sec
b	182,283	10,000 MSL	4610 Variable	250	-6.7 deg, -2960 fpm, 140 sec
c	123,210	3,000 AGL	17760 Variable	250	0.0 deg, 0 fpm, 88 sec
d	91,141	3,000 AGL	17760 Variable	180	0.0 deg, 0 fpm, 113 sec
e	61,165	3,000 AGL	5530 Parallel	135	-2.8 deg, -660 fpm, 268 sec
f	0	50 AGL	5530 Parallel	135	

Figure A5-27 P-8A Straight-in Arrival Flight Profile at Ault Field Runway 25 (Longer Final)

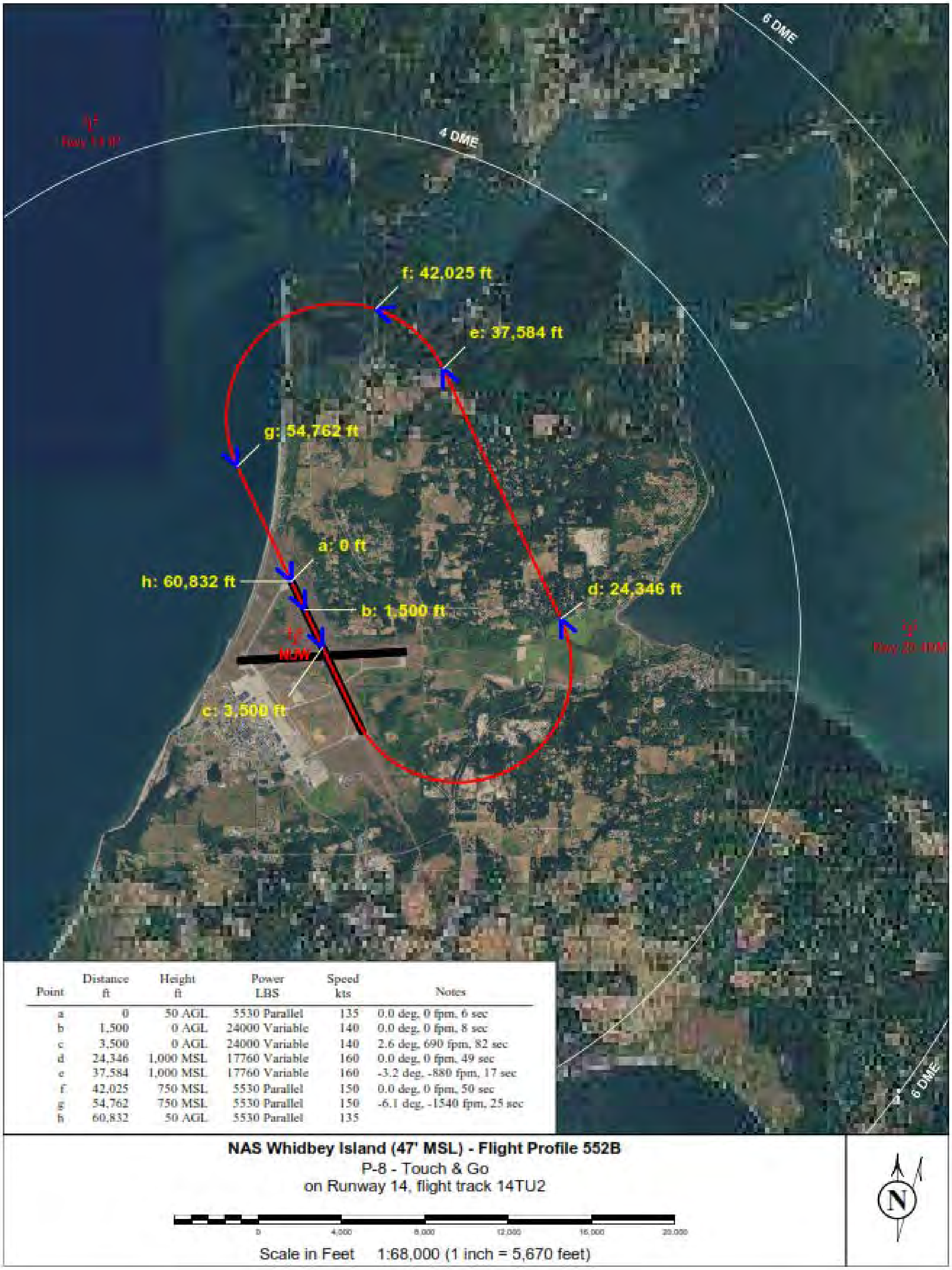
Point	Distance ft	Height ft	Power LBS	Speed kts	Notes
a	300,000	10,000 MSL	17760 Variable	250	0.0 deg, 0 fpm, 111 sec
b	253,170	10,000 MSL	4610 Variable	250	-1.9 deg, -840 fpm, 426 sec
c	73,315	4,000 AGL	17760 Variable	250	-11.4 deg, -4310 fpm, 16 sec
d	67,368	2,800 AGL	17760 Variable	180	-2.2 deg, -620 fpm, 125 sec
e	34,122	1,500 AGL	5530 Parallel	135	-2.4 deg, -580 fpm, 150 sec
f	0	50 AGL	5530 Parallel	135	

Figure A5-28 P-8A Low TACAN Arrival Flight Profile at Ault Field Runway 14



Point	Distance ft	Height ft	Power LBS	Speed kts	Notes
a	0	50 AGL	5530 Parallel	135	0.0 deg, 0 fpm, 6 sec
b	1,500	0 AGL	24000 Variable	140	0.0 deg, 0 fpm, 8 sec
c	3,500	0 AGL	24000 Variable	140	7.0 deg, 2100 fpm, 84 sec
d	27,532	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 14 sec
e	32,288	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 113 sec
f	70,465	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 62 sec
g	91,363	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 58 sec
h	110,883	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 71 sec
i	134,981	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 66 sec
j	157,362	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 52 sec
k	174,866	3,000 MSL	5530 Parallel	200	-2.4 deg, -720 fpm, 212 sec
l	235,708	400 AGL	5530 Parallel	140	-4.9 deg, -1200 fpm, 17 sec
m	239,759	50 AGL	5530 Parallel	135	

Figure A5-29 P-8A GCA Box Pattern Flight Profile at Ault Field Runway 25



Point	Distance ft	Height ft	Power LBS	Speed kts	Notes
a	0	50 AGL	5530 Parallel	135	0.0 deg, 0 fpm, 6 sec
b	1,500	0 AGL	24000 Variable	140	0.0 deg, 0 fpm, 8 sec
c	3,500	0 AGL	24000 Variable	140	2.6 deg, 690 fpm, 82 sec
d	24,346	1,000 MSL	17760 Variable	160	0.0 deg, 0 fpm, 49 sec
e	37,584	1,000 MSL	17760 Variable	160	-3.2 deg, -880 fpm, 17 sec
f	42,025	750 MSL	5530 Parallel	150	0.0 deg, 0 fpm, 50 sec
g	54,762	750 MSL	5530 Parallel	150	-6.1 deg, -1540 fpm, 25 sec
h	60,832	50 AGL	5530 Parallel	135	

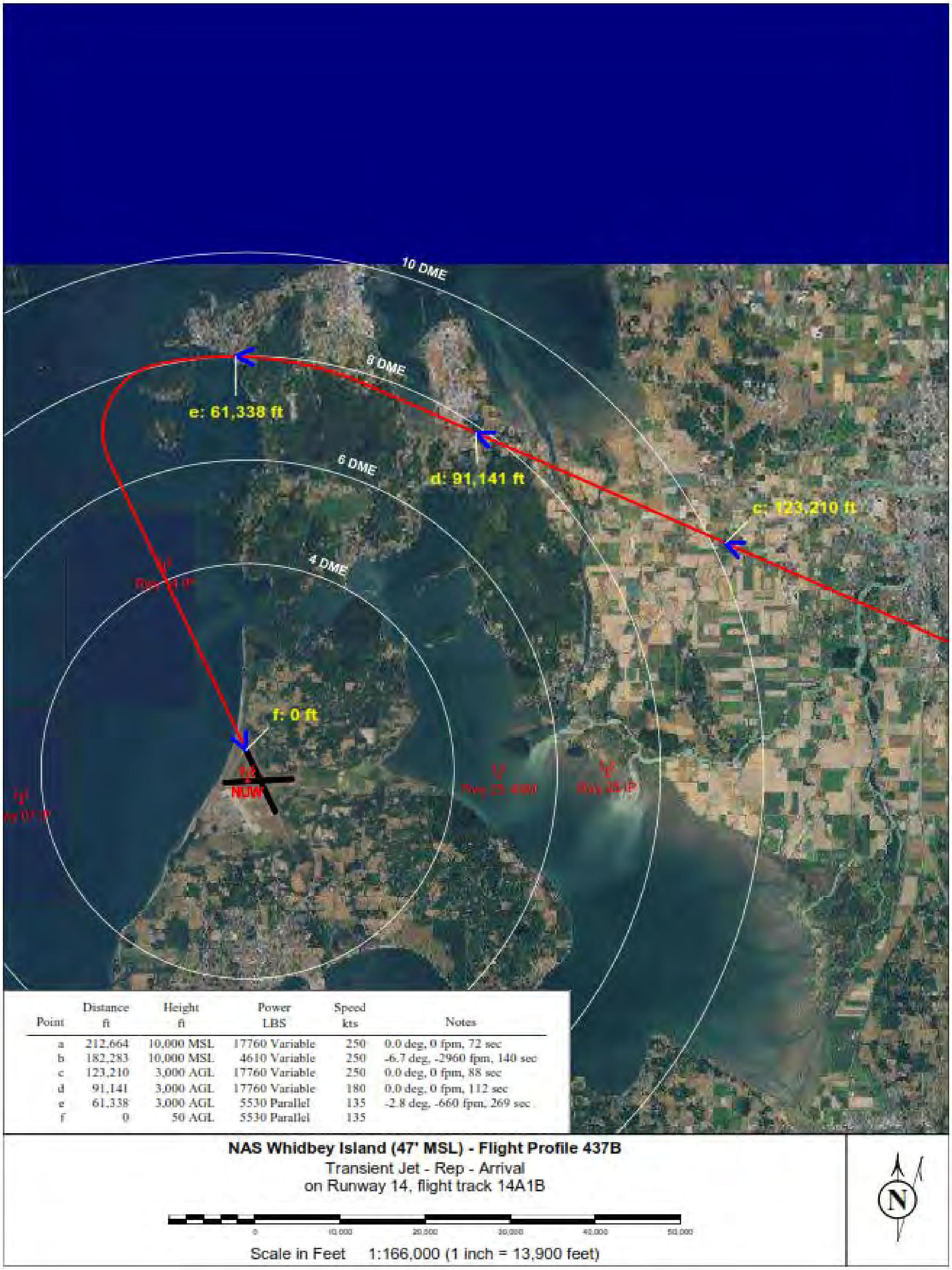
Figure A5-30 P-8A Touch-and-Go Pattern Flight Profile at Ault Field Runway 14

Point	Distance ft	Height ft	Power LBS	Speed kts	Notes
a	0	0 AGL	27000 Variable	0	0.0 deg, 0 fpm, 28 sec
b	3,500	0 AGL	19204 Variable	148	13.7 deg, 3570 fpm, 16 sec
c	7,500	975 AGL	19513 Variable	150	9.1 deg, 2880 fpm, 41 sec
d	20,000	2,975 AGL	17941 Variable	210	5.3 deg, 1950 fpm, 367 sec
e	150,000	15,000 MSL	17244 Variable	210	0.0 deg, 0 fpm, 141 sec
f	200,000	15,000 MSL	17244 Variable	210	

NAS Whidbey Island (47' MSL) - Flight Profile 405
Transient Jet - Rep - Departure Runway 14 - East Center
on Runway 14, flight track 14D1B

Scale in Feet 1:133,000 (1 inch = 11,100 feet)

Figure A5-31 Transient Large Jet Departure Flight Profile at Ault Field Runway 14



Point	Distance ft	Height ft	Power LBS	Speed kts	Notes
a	212,664	10,000 MSL	17760 Variable	250	0.0 deg, 0 fpm, 72 sec
b	182,283	10,000 MSL	4610 Variable	250	-6.7 deg, -2960 fpm, 140 sec
c	123,210	3,000 AGL	17760 Variable	250	0.0 deg, 0 fpm, 88 sec
d	91,141	3,000 AGL	17760 Variable	180	0.0 deg, 0 fpm, 112 sec
e	61,338	3,000 AGL	5530 Parallel	135	-2.8 deg, -660 fpm, 269 sec
f	0	50 AGL	5530 Parallel	135	

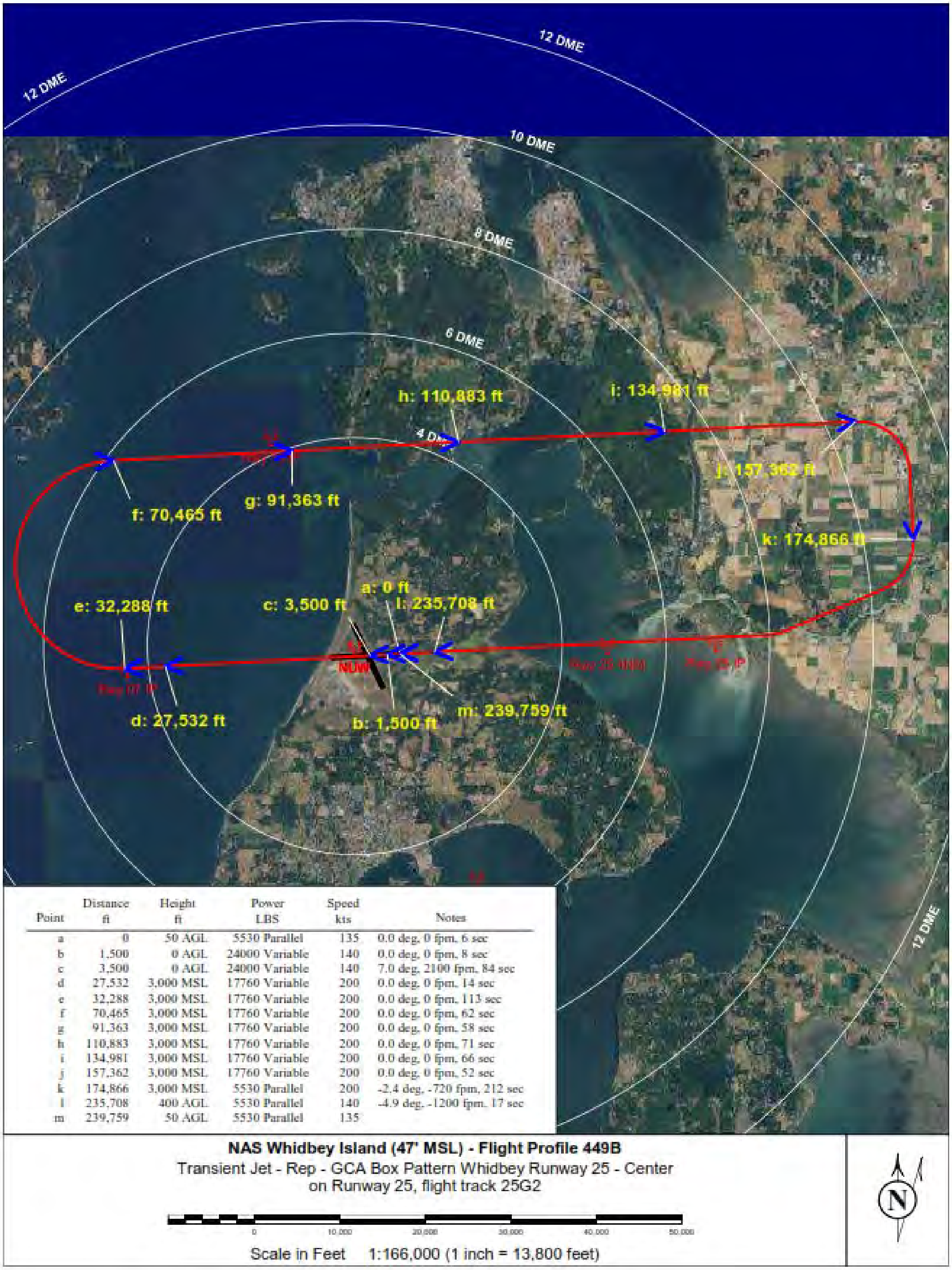
Figure A5-32 Transient Large Jet Straight-in Arrival Flight Profile at Ault Field Runway 14

Point	Distance ft	Height ft	Power LBS	Speed kts	Notes
a	212,664	10,000 MSL	17760 Variable	250	0.0 deg, 0 fpm, 72 sec
b	182,283	10,000 MSL	4610 Variable	250	-6.7 deg, -2960 fpm, 140 sec
c	123,210	3,000 AGL	17760 Variable	250	0.0 deg, 0 fpm, 88 sec
d	91,141	3,000 AGL	17760 Variable	180	0.0 deg, 0 fpm, 113 sec
e	61,165	3,000 AGL	5530 Parallel	135	-2.8 deg, -660 fpm, 268 sec
f	0	50 AGL	5530 Parallel	135	

NAS Whidbey Island (47' MSL) - Flight Profile 440B
Transient Jet - Rep - Arrival
on Runway 25, flight track 25A2B

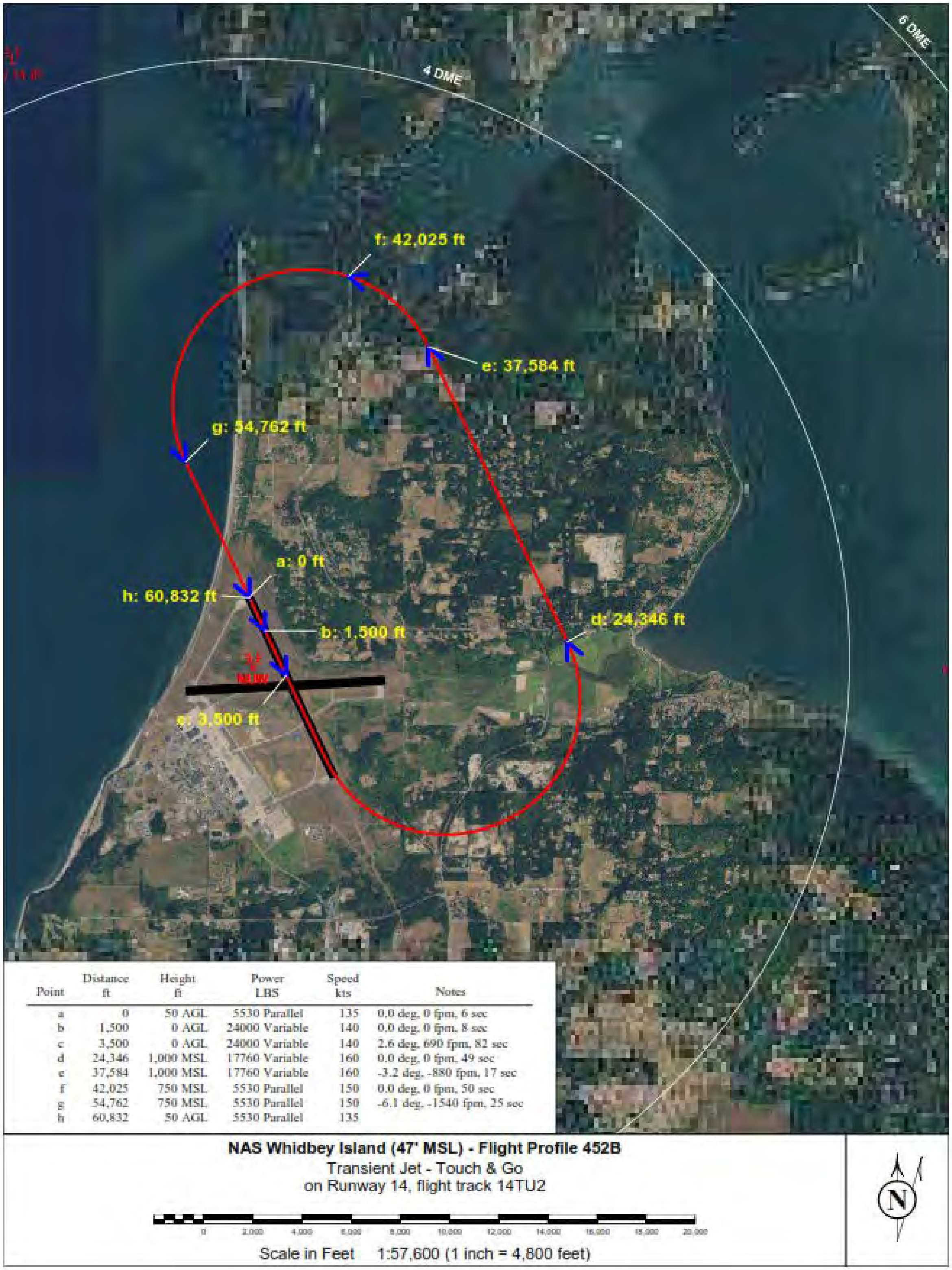
Scale in Feet 1:189,000 (1 inch = 15,800 feet)

Figure A5-33 Transient Large Jet Straight-in Arrival Flight Profile at Ault Field Runway 25 (Longer Final)



Point	Distance ft	Height ft	Power LBS	Speed kts	Notes
a	0	50 AGL	5530 Parallel	135	0.0 deg, 0 fpm, 6 sec
b	1,500	0 AGL	24000 Variable	140	0.0 deg, 0 fpm, 8 sec
c	3,500	0 AGL	24000 Variable	140	7.0 deg, 2100 fpm, 84 sec
d	27,532	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 14 sec
e	32,288	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 113 sec
f	70,465	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 62 sec
g	91,363	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 58 sec
h	110,883	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 71 sec
i	134,981	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 66 sec
j	157,362	3,000 MSL	17760 Variable	200	0.0 deg, 0 fpm, 52 sec
k	174,866	3,000 MSL	5530 Parallel	200	-2.4 deg, -720 fpm, 212 sec
l	235,708	400 AGL	5530 Parallel	140	-4.9 deg, -1200 fpm, 17 sec
m	239,759	50 AGL	5530 Parallel	135	

Figure A5-34 Transient Large Jet GCA Box Pattern Profile at Ault Field Runway 25



Point	Distance ft	Height ft	Power LBS	Speed kts	Notes
a	0	50 AGL	5530 Parallel	135	0.0 deg, 0 fpm, 6 sec
b	1,500	0 AGL	24000 Variable	140	0.0 deg, 0 fpm, 8 sec
c	3,500	0 AGL	24000 Variable	140	2.6 deg, 690 fpm, 82 sec
d	24,346	1,000 MSL	17760 Variable	160	0.0 deg, 0 fpm, 49 sec
e	37,584	1,000 MSL	17760 Variable	160	-3.2 deg, -880 fpm, 17 sec
f	42,025	750 MSL	5530 Parallel	150	0.0 deg, 0 fpm, 50 sec
g	54,762	750 MSL	5530 Parallel	150	-6.1 deg, -1540 fpm, 25 sec
h	60,832	50 AGL	5530 Parallel	135	

Figure A5-35 Transient Large Jet Touch-and-Go Pattern Flight Profile at Ault Field Runway 14

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Appendix A6

Point of Interest (POI) Event Data

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List of Tables

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Table A6-1 SEL-Ranked Flight Profiles for Average Year Baseline Scenario

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting	Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Annual Average Daily Events (3)		Estimated	
										Daytime (0700-2200)	Nighttime (2200-0700)	SEL (dBA)	Lmax (dBA) (4)
P01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84 % NC	250	2,000	4,401	0.088	0.003	93	82
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84 % NC	250	2,000	4,415	0.492	0.017	92	82
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	4,889	0.879	0.031	92	80
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	2,000	4,943	0.299	0.011	91	80
	5	EA-18G	269B	FCLP at Ault Field	25FU1	84 % NC	130	1,000	9,077	2.673	0.497	87	76
P02	1	EA-18G	268A	FCLP at Ault Field	14FM1	82.2 % NC	130	852	1,389	1.637	0.305	107	104
	2	EA-18G	268B	FCLP at Ault Field	14FU1	82.2 % NC	130	859	1,393	1.637	0.305	107	103
	3	EA-18G	282A	FCLP at Ault Field	14FM1	82.2 % NC	140	893	1,393	2.542	0.558	107	100
	4	EA-18G	282B	FCLP at Ault Field	14FU1	82.2 % NC	140	859	1,393	2.542	0.558	106	100
	5	EA-18G	264R	Depart and Re-enter Pattern	14PR	82.2 % NC	140	859	1,393	0.492	0.017	106	100
P03	1	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	1,477	1,206	0.299	0.011	105	98
	2	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	1,599	0.879	0.031	103	95
	3	EA-18G	264L	Depart and Re-enter Pattern	14PL	84 % NC	250	1,999	2,306	0.492	0.017	99	90
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	84 % NC	250	2,000	2,401	0.088	0.003	99	90
	5	EA-18G	245	TACAN Arrival	25AHT	85 % NC	150	1,023	5,395	0.784	0.059	97	87
P04	1	EA-18G	274DB	FCLP at Coupeville	32FCD2	84 % NC	150	800	674	1.236	0	115	106
	2	EA-18G	274DA	FCLP at Coupeville	32FCD1	84 % NC	150	800	759	0.618	0	114	106
	3	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	96 % NC	150	936	1,943	0.29	0.093	111	106
	4	EA-18G	259	Interfacility Coupeville to Ault Field	32CW07	96 % NC	150	936	1,943	0.086	0.027	111	106
	5	EA-18G	261	Interfacility Coupeville to Ault Field	32CW25	96 % NC	150	936	1,943	0.237	0.076	111	100
P05	1	EA-18G	275NC	FCLP at Coupeville	32FCN3	84 % NC	150	1,200	6,861	0.603	0.301	91	77
	2	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	350	1,200	5,714	0.102	0	89	77
	3	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	350	1,500	5,773	0	0.019	89	77
	4	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 % NC	150	800	7,987	0.618	0	89	77
	5	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85 % NC	350	1,199	5,867	0.234	0	88	76
P06	1	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 % NC	150	800	3,679	0.618	0	100	85
	2	EA-18G	275NC	FCLP at Coupeville	32FCN3	84 % NC	150	1,200	3,776	0.603	0.301	100	84
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	82.2 % NC	250	895	2,970	0.102	0	99	81
	4	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	82.2 % NC	250	900	2,979	0.007	0	99	81
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	82.2 % NC	250	893	3,062	0.387	0	99	79
P07	1	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82 % NC	250	2,000	12,064	0.009	0.003	82	73
	2	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82 % NC	250	2,000	11,825	0.049	0.016	82	73
	3	EA-18G	280C	GCA Pattern	32G3	82 % NC	230	2,208	17,859	0.07	0.018	80	68
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82 % NC	250	2,000	9,777	0.046	0.015	79	71
	5	EA-18G	280B	GCA Pattern	32G2	82 % NC	230	2,332	23,457	0.046	0.012	78	66
P08	1	transient	442C	VFR non breaks	32A2C	17760 LBS	250	3,047	3,389	0.022	0.003	85	N/A
	2	transient	442B	VFR non breaks	32A2B	17760 LBS	250	3,047	5,353	0.022	0.003	81	N/A
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	82 % NC	250	2,500	10,529	0.102	0	78	66
	4	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	82 % NC	250	2,500	10,496	0.007	0	78	66
	5	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	82 % NC	250	2,500	10,572	0.234	0	78	64
P09	1	EA-18G	244	TACAN Arrival	14AHT	78 % NC	250	3,163	48,626	0.641	0.048	62	51
	2	EA-18G	278C	GCA Pattern	14G3	82 % NC	230	2,403	34,003	0.523	0.134	61	52
	3	EA-18G	215A	Departure	25D1C	95 % NC	300	4,765	109,923	1.89	0.115	55	53
	4	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	82 % NC	250	2,500	112,051	0	0.016	55	48
	5	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	82 % NC	250	2,500	112,051	0.079	0	55	43
P10	1	EA-18G	229A	P3 P8 IFR and Growler VFR non breaks	14A2A	87 % NC	300	2,577	4,579	1.078	0.092	95	85
	2	EA-18G	223A	Departure	32D2B	95 % NC	300	8,291	9,255	0.157	0.01	90	80
	3	EA-18G	279C	GCA Pattern	25G3	82 % NC	250	3,000	4,073	0.854	0.218	89	80
	4	EA-18G	277C	GCA Pattern	07G3	82 % NC	300	3,000	4,085	0.296	0.076	89	79
	5	EA-18G	277B	GCA Pattern	07G2	82 % NC	300	3,000	4,387	0.197	0.051	88	78
P11	1	EA-18G	277C	GCA Pattern	07G3	82 % NC	230	2,926	21,053	0.296	0.076	64	50
	2	transient	447C	GCA Pattern	07G3	17760 LBS	200	3,000	21,066	0.021	0	63	N/A
	3	transient	423	IFR non breaks	14A2E	17760 LBS	250	3,047	30,649	0.064	0.005	57	N/A
	4	transient	447B	GCA Pattern	07G2	17760 LBS	200	3,000	32,405	0.021	0	56	N/A
	5	EA-18G	277B	GCA Pattern	07G2	82 % NC	230	2,891	32,410	0.197	0.051	56	44
P12	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87 % NC	300	2,941	9,040	0.323	0.028	82	74
	2	EA-18G	278C	GCA Pattern	14G3	82 % NC	300	3,000	7,718	0.523	0.134	80	72
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87 % NC	300	2,784	12,784	0.754	0.064	79	68
	4	transient	448C	GCA Pattern	14G3	17760 LBS	200	3,000	7,718	0.037	0	78	N/A
	5	transient	437C	VFR non breaks	14A1C	17760 LBS	180	3,047	9,073	0.119	0.024	76	N/A
P13	1	EA-18G	219A	Departure	32D1A	95 % NC	300	7,686	7,575	0.525	0.032	94	86
	2	EA-18G	278B	GCA Pattern	14G2	82 % NC	300	3,000	3,526	0.348	0.089	91	81
	3	EA-18G	277C	GCA Pattern	07G3	82 % NC	300	3,000	3,689	0.296	0.076	90	80
	4	EA-18G	279C	GCA Pattern	25G3	82 % NC	300	3,000	3,689	0.854	0.218	90	81
	5	EA-18G	280B	GCA Pattern	32G2	82 % NC	300	3,000	3,526	0.046	0.012	90	81
P14	1	EA-18G	278C	GCA Pattern	14G3	82 % NC	230	1,822	20,245	0.523	0.134	76	63
	2	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 % NC	150	800	129,685	0.618	0	75	59
	3	EA-18G	274DB	FCLP at Coupeville	32FCD2	84 % NC	150	800	132,707	1.236	0	75	59
	4	EA-18G	278B	GCA Pattern	14G2	82 % NC	230	2,166	23,933	0.348	0.089	72	61
	5	EA-18G	271DA	FCLP at Coupeville	14FCD1	85 % NC	140	597	129,635	0.127	0	71	59
P15	1	EA-18G	206A	Departure	07D2C	95 % NC	300	5,213	8,277	0.287	0.017	92	83
	2	EA-18G	203A	Departure	07D1C	95 % NC	300	5,155	8,368	0.669	0.041	92	83
	3	EA-18G	277B	GCA Pattern	07G2	82 % NC	250	3,000	3,437	0.197	0.051	91	80
	4	EA-18G	205A	Departure	07D2B	95 % NC	300	4,892	9,517	0.669	0.041	90	79
	5	EA-18G	202A	Departure	07D1B	95 % NC	300	4,743	10,004	1.562	0.095	89	78
P16	1	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	85 % NC	250	2,500	7,309	0.007	0	85	70
	2	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	250	2,500	7,526	0	0.019	84	68
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	250	2,500	7,526	0.102	0	84	68
	4	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85 % NC	250	2,500	7,612	0.234	0	84	68
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85 % NC	250	2,500	7,587	0.387	0	84	69

Table A6-1 SEL-Ranked Flight Profiles for Average Year Baseline Scenario (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting	Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Annual Average Daily Events (3)		Estimated	
										Daytime (0700-2200)	Nighttime (2200-0700)	SEL (dBA)	Lmax (dBA) (4)
	1	EA-18G	274DA	FCLP at Coupeville	32FCD1	84 %NC	150	800	878	0.618	0	114	109
	2	EA-18G	274DB	FCLP at Coupeville	32FCD2	84 %NC	150	800	1,257	1.236	0	111	105
P17	3	EA-18G	275NA	FCLP at Coupeville	32FCN1	84 %NC	150	1,200	2,411	0.603	0.301	106	95
	4	EA-18G	275NB	FCLP at Coupeville	32FCN2	84 %NC	150	1,200	3,071	1.206	0.603	104	92
	5	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 %NC	150	800	3,649	0.618	0	102	90
	1	EA-18G	275NC	FCLP at Coupeville	32FCN3	84 %NC	150	1,200	4,924	0.603	0.301	96	85
	2	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 %NC	150	800	5,592	0.618	0	94	82
P18	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 %NC	350	1,200	3,960	0.102	0	93	81
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 %NC	350	1,500	4,056	0	0.019	93	80
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85 %NC	350	1,200	4,055	0.387	0	93	80
	1	EA-18G	252N	Interfacility Ault Field to Coupeville	25WC32DN	97 %NC	135	59	1,093	0	0.073	121	114
	2	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	97 %NC	135	59	1,093	0.387	0	121	114
R01	3	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	97 %NC	135	59	1,093	0	0.016	121	114
	4	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	97 %NC	135	59	1,093	0.079	0	121	114
	5	EA-18G	204A	Departure	07D2A	97 %NC	165	302	1,118	0.956	0.058	120	116
	1	EA-18G	250N	Interfacility Ault Field to Coupeville	14WC32DN	97 %NC	0	47	3,519	0	0.044	110	96
	2	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	97 %NC	0	47	3,519	0.234	0	110	96
R02	3	EA-18G	249N	Interfacility Ault Field to Coupeville	14WC14N	97 %NC	0	47	3,519	0	0.01	110	96
	4	EA-18G	249D	Interfacility Ault Field to Coupeville	14WC14D	97 %NC	0	47	3,519	0.048	0	110	96
	5	EA-18G	210A	Departure	14D2A	97 %NC	0	47	3,519	1.743	0.106	109	100
	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84 %NC	250	2,000	1,787	0.088	0.003	101	93
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84 %NC	250	2,000	1,967	0.492	0.017	101	92
R03	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 %NC	250	2,000	1,971	0.879	0.031	100	92
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 %NC	250	2,000	2,001	0.299	0.011	100	92
	5	EA-18G	270B	FCLP at Ault Field	32FU1	82.2 %NC	130	817	8,282	0.436	0.081	88	78
	1	EA-18G	205A	Departure	07D2B	95 %NC	300	4,035	5,492	0.669	0.041	99	88
	2	EA-18G	202A	Departure	07D1B	95 %NC	300	4,007	5,530	1.562	0.095	98	88
R04	3	EA-18G	206A	Departure	07D2C	95 %NC	300	4,096	5,708	0.287	0.017	98	88
	4	EA-18G	203A	Departure	07D1C	95 %NC	300	4,096	5,708	0.669	0.041	98	88
	5	EA-18G	204A	Departure	07D2A	95 %NC	300	3,804	6,519	0.956	0.058	96	86
	1	EA-18G	277A	GCA Pattern	07G1	82 %NC	250	3,000	3,009	1.481	0.379	92	84
	2	EA-18G	279A	GCA Pattern	25G1	82 %NC	300	3,000	3,350	4.268	1.092	91	82
R05	3	EA-18G	280C	GCA Pattern	32G3	82 %NC	300	3,000	3,491	0.07	0.018	90	82
	4	EA-18G	278C	GCA Pattern	14G3	82 %NC	300	3,000	3,491	0.523	0.134	90	82
	5	EA-18G	205A	Departure	07D2B	95 %NC	300	3,808	13,742	0.669	0.041	85	75
	1	EA-18G	274DC	FCLP at Coupeville	32FCD3	85 %NC	140	503	567	0.618	0	118	114
	2	EA-18G	275NA	FCLP at Coupeville	32FCN1	85 %NC	140	610	599	0.603	0.301	118	113
R06	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 %NC	140	421	675	0.102	0	117	113
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 %NC	140	421	675	0	0.019	117	113
	5	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	85 %NC	140	412	706	0.007	0	116	113
	1	EA-18G	271DC	FCLP at Coupeville	14FCD3	84 %NC	150	800	847	0.127	0	114	109
	2	EA-18G	271DB	FCLP at Coupeville	14FCD2	84 %NC	150	799	1,359	0.253	0	110	104
R07	3	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	82.2 %NC	250	1,082	1,489	0.079	0	104	100
	4	EA-18G	253D	Interfacility Ault Field to Coupeville	32WC14D	82.2 %NC	250	1,082	1,493	0.001	0	104	100
	5	EA-18G	247D	Interfacility Ault Field to Coupeville	07WC14D	82.2 %NC	250	1,080	1,506	0.021	0	104	100
	1	EA-18G	272NC	FCLP at Coupeville	14FCN3	84 %NC	150	1,200	1,128	0.123	0.062	112	106
	2	EA-18G	272NB	FCLP at Coupeville	14FCN2	84 %NC	150	1,200	3,099	0.247	0.123	102	93
R08	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82 %NC	250	2,000	2,690	0.049	0.016	99	92
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82 %NC	250	2,000	2,690	0.009	0.003	99	92
	5	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	85 %NC	350	1,500	2,437	0	0.016	99	91
	1	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85 %NC	250	2,499	4,551	0.234	0	92	82
	2	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85 %NC	250	2,499	4,690	0.387	0	91	82
R09	3	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	85 %NC	250	2,499	4,762	0.007	0	91	81
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 %NC	250	2,499	4,777	0	0.019	91	81
	5	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 %NC	250	2,499	4,777	0.102	0	91	81
	1	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87 %NC	300	2,480	3,143	0.754	0.064	100	90
	2	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87 %NC	300	2,620	3,563	0.323	0.028	98	88
R10	3	EA-18G	280C	GCA Pattern	32G3	82 %NC	250	3,000	2,980	0.07	0.018	93	84
	4	EA-18G	278A	GCA Pattern	14G1	82 %NC	300	2,999	3,168	2.613	0.669	92	83
	5	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87 %NC	300	2,347	7,186	1.078	0.092	90	77
	1	EA-18G	238A	Overhead Break Arrival	14O2A	84 %NC	300	10,000	13,520	0.202	0.023	73	60
	2	EA-18G	238B	Overhead Break Arrival	14O2B	84 %NC	300	10,000	13,567	0.202	0.023	73	60
R11	3	EA-18G	238C	Overhead Break Arrival	14O2C	84 %NC	300	10,000	13,609	0.208	0.024	73	60
	4	EA-18G	236B	Overhead Break Arrival	07O2B	84 %NC	300	10,000	13,739	0.121	0.014	72	59
	5	EA-18G	236A	Overhead Break Arrival	07O2A	84 %NC	300	10,000	13,740	0.121	0.014	72	59
	1	EA-18G	205A	Departure	07D2B	84 %NC	300	9,000	9,677	0.669	0.041	75	65
	2	EA-18G	216A	Departure	25D2A	84 %NC	300	9,000	16,276	2.7	0.164	70	58
R12	3	EA-18G	217A	Departure	25D2B	84 %NC	300	9,000	16,448	1.89	0.115	70	58
	4	EA-18G	218A	Departure	25D2C	84 %NC	300	9,000	18,999	0.81	0.049	67	55
	5	EA-18G	206A	Departure	07D2C	84 %NC	300	9,000	24,952	0.287	0.017	66	55
	1	EA-18G	271DB	FCLP at Coupeville	14FCD2	84 %NC	150	800	49,661	0.253	0	75	55
	2	EA-18G	271DC	FCLP at Coupeville	14FCD3	84 %NC	150	800	49,257	0.127	0	74	55
R13	3	EA-18G	271DA	FCLP at Coupeville	14FCD1	84 %NC	150	800	52,723	0.127	0	74	55
	4	EA-18G	272NB	FCLP at Coupeville	14FCN2	84 %NC	150	1,200	46,508	0.247	0.123	74	53
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82 %NC	250	2,000	30,019	0.046	0.015	71	51
	1	EA-18G	268B	FCLP at Ault Field	14FU1	84 %NC	130	1,000	2,575	1.637	0.305	104	96
	2	EA-18G	269B	FCLP at Ault Field	25FU1	82.2 %NC	130	693	3,116	2.673	0.497	103	96
R14	3	EA-18G	283B	FCLP at Ault Field	25FU1	82.2 %NC	140	715	3,119	4.407	0.967	103	91
	4	EA-18G	269A	FCLP at Ault Field	25FM1	82.2 %NC	130	702	3,119	2.673	0.497	103	91
	5	EA-18G	265L	Depart and Re-enter Pattern	25PL	82.2 %NC	140	697	3,095	0.879	0.031	103	91

Table A6-1 SEL-Ranked Flight Profiles for Average Year Baseline Scenario (concluded)

											Annual Average Daily Events (3)		Estimated	
POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Daytime (0700-2200)	Nighttime (2200-0700)	SEL (dBA)	Lmax (dBA) (4)
R15	1	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	85	% NC	140	601	1,353	0.079	0	110	105
	2	EA-18G	253D	Interfacility Ault Field to Coupeville	32WC14D	85	% NC	140	609	1,370	0.001	0	110	105
	3	EA-18G	247D	Interfacility Ault Field to Coupeville	07WC14D	85	% NC	140	621	1,423	0.021	0	110	105
	4	EA-18G	249D	Interfacility Ault Field to Coupeville	14WC14D	85	% NC	140	616	1,435	0.048	0	110	105
	5	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	85	% NC	140	401	1,933	0	0.016	108	99
R16	1	EA-18G	233A	P3 P8 IFR and Growler VFR non breaks	32A1A	87	% NC	300	2,756	2,575	0.139	0.012	100	91
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	6,951	8,107	1.22	0.074	93	85
	3	EA-18G	278C	GCA Pattern	14G3	82	% NC	250	3,000	3,185	0.523	0.134	91	82
	4	EA-18G	208A	Departure	14D1B	95	% NC	300	6,815	9,922	2.848	0.173	90	81
	5	EA-18G	246	TACAN Arrival	32AHT	82.2	% NC	250	2,475	6,673	0.053	0.004	89	81
R17	1	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	0.022	0.003	85	N/A
	2	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	0.022	0.003	79	N/A
	3	P-3	342C	P3 P8 IFR and Growler VFR non breaks	32A2C	1200	ESHP	250	3,047	2,963	0.052	0.004	74	68
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	82	% NC	250	2,500	12,679	0	0.019	74	61
	5	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	82	% NC	250	2,500	12,679	0.102	0	73	61
R18	1	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	85	% NC	250	2,500	22,311	0.007	0	65	47
	2	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,500	22,575	0	0.019	65	47
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,500	22,575	0.102	0	65	47
	4	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85	% NC	250	2,500	22,587	0.234	0	65	47
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85	% NC	250	2,500	22,613	0.387	0	65	47
R19	1	EA-18G	271DA	FCLP at Coupeville	14FCD1	85	% NC	140	513	422	0.127	0	120	118
	2	EA-18G	271DB	FCLP at Coupeville	14FCD2	85	% NC	140	499	461	0.253	0	119	116
	3	EA-18G	271DC	FCLP at Coupeville	14FCD3	85	% NC	140	490	534	0.127	0	119	115
	4	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	85	% NC	140	321	1,011	0	0.016	113	106
	5	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	85	% NC	140	361	1,150	0.079	0	113	106
R20	1	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2,933	3,692	0.323	0.028	95	87
	2	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,898	0.296	0.076	89	52
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2,769	6,744	0.754	0.064	88	78
	4	transient	423	IFR non breaks	14A2E	17760	LBS	180	3,047	3,071	0.064	0.005	86	N/A
	5	transient	438C	VFR non breaks	14A2C	17760	LBS	180	3,047	3,781	0.178	0.036	84	N/A
S01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	82.2	% NC	140	773	4009	0.088	0.003	98	90
	2	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	802	4008	0.436	0.081	96	90
	3	EA-18G	284B	FCLP at Ault Field	32FU1	82.2	% NC	140	839	4014	0.508	0.112	96	84
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	82.2	% NC	140	773	4003	0.088	0.003	96	84
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82.2	% NC	140	861	3936	0.046	0.015	95	83
S02	1	EA-18G	212A	Departure	14D2C	95	% NC	300	2514	3432	0.523	0.032	104	94
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	2514	3432	1.22	0.074	104	93
	3	EA-18G	207A	Departure	14D1A	95	% NC	300	2514	3432	4.068	0.247	104	94
	4	EA-18G	211A	Departure	14D2B	95	% NC	300	2514	3432	1.22	0.074	104	94
	5	EA-18G	208A	Departure	14D1B	95	% NC	300	2514	3432	2.848	0.173	104	94
S03	1	EA-18G	275NC	FCLP at Coupeville	32FCN3	84	% NC	150	1200	3915	0.603	0.301	98	89
	2	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1200	2749	0.102	0	97	89
	3	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85	% NC	350	1200	2808	0.387	0	97	89
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1500	2879	0	0.019	96	89
	5	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85	% NC	350	1200	2890	0.234	0	96	88
S04	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2882	4781	0.323	0.028	93	83
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2903	0.523	0.134	92	84
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2719	7342	0.754	0.064	87	76
	4	transient	448C	GCA Pattern	14G3	17760	LBS	200	3000	2903	0.037	0	85	N/A
	5	EA-18G	280C	GCA Pattern	32G3	82	% NC	250	3000	5064	0.07	0.018	84	76
S05	1	EA-18G	243	TACAN Arrival	07AHT	78	% NC	250	3529	3374	0.303	0.023	76	68
	2	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2712	19217	0.323	0.028	70	56
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2592	23773	0.754	0.064	66	51
	4	EA-18G	224A	Departure	32D2C	95	% NC	300	8249	32151	0.067	0.004	65	52
	5	transient	438C	VFR non breaks	14A2C	17760	LBS	180	3047	19344	0.178	0.036	64	N/A
S06	1	EA-18G	224A	Departure	32D2C	84	% NC	300	9000	61543	0.067	0.004	51	39
	2	EA-18G	223A	Departure	32D2B	84	% NC	300	9000	66657	0.157	0.01	50	39
	3	transient	447C	GCA Pattern	07G3	17760	LBS	200	3000	40394	0.021	0	50	37
	4	EA-18G	222A	Departure	32D2A	95	% NC	300	8656	71520	0.225	0.014	49	37
	5	EA-18G	278C	GCA Pattern	14G3	82	% NC	230	1883	57832	0.523	0.134	49	37
S07	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2810	88787	0.296	0.076	61	51
	2	EA-18G	250N	Interfacility Ault Field to Coupeville	14WC32DN	82	% NC	250	2500	161086	0	0.044	60	47
	3	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	82	% NC	250	2500	161073	0.234	0	60	47
	4	EA-18G	253N	Interfacility Ault Field to Coupeville	32WC14N	82	% NC	250	2500	135294	0	0	59	42
	5	EA-18G	253D	Interfacility Ault Field to Coupeville	32WC14D	82	% NC	250	2500	135294	0.001	0	59	42
S08	1	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3000	2779	0.07	0.018	93	81
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2779	0.523	0.134	93	81
	3	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2851	6041	1.078	0.092	89	80
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3000	4183	0.854	0.218	88	79
	5	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3000	4183	0.296	0.076	88	79
S09	1	EA-18G	232A	P3 P8 IFR and Growler VFR non breaks	25A3A	87	% NC	300	3000	4033	0.817	0.07	92	86
	2	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3000	3025	0.197	0.051	91	78
	3	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3000	5300	4.268	1.092	87	75
	4	EA-18G	206A	Departure	07D2C	95	% NC	300	5403	11786	0.287	0.017	86	76
	5	EA-18G	203A	Departure	07D1C	95	% NC	300	5300	11968	0.669	0.041	86	76
S10	1	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2333	19814	0.07	0.018	71	59
	2	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2000	20733	0.049	0.016	70	58
	3	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2000	20783	0.009	0.003	70	58
	4	EA-18G	246	TACAN Arrival	32AHT	78	% NC	250	3085	23749	0.053	0.004	70	53
	5	EA-18G	212A	Departure	14D2C	95	% NC	300	7389	43096	0.523	0.032	70	47

Notes:

(1) 0 ft indicates the contributing profile is the beginning of takeoff roll

(2) FYI, Ault Field's elevation is 47 ft MSL, OLF Coupeville's elevation is 200 ft MSL

Table A6-2 SEL-Ranked Flight Profiles for Average Year No Action Alternative

											Annual Average Daily Events (3)		Estimated	
POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Daytime (0700-2200)	Nighttime (2200-0700)	SEL (dBA)	Lmax (dBA) (4)
P01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84	% NC	250	2,000	4,401	0.091	0.003	93	82
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84	% NC	250	2,000	4,415	0.471	0.016	92	82
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	4,889	0.96	0.033	92	80
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	2,000	4,943	0.29	0.01	91	80
	5	EA-18G	269B	FCLP at Ault Field	25FU1	84	% NC	130	1,000	9,077	2.772	0.5	87	76
P02	1	EA-18G	268A	FCLP at Ault Field	14FM1	82.2	% NC	130	852	1,389	1.497	0.27	107	104
	2	EA-18G	268B	FCLP at Ault Field	14FU1	82.2	% NC	130	859	1,393	1.497	0.27	107	103
	3	EA-18G	282A	FCLP at Ault Field	14FM1	82.2	% NC	140	893	1,393	2.122	0.5	107	100
	4	EA-18G	282B	FCLP at Ault Field	14FU1	82.2	% NC	140	859	1,393	2.122	0.5	106	100
	5	EA-18G	264R	Depart and Re-enter Pattern	14PR	82.2	% NC	140	859	1,393	0.471	0.016	106	100
P03	1	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	1,477	1,206	0.29	0.01	105	98
	2	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	1,599	0.96	0.033	103	95
	3	EA-18G	264L	Depart and Re-enter Pattern	14PL	84	% NC	250	1,999	2,306	0.471	0.016	99	90
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	84	% NC	250	2,000	2,401	0.091	0.003	99	90
	5	EA-18G	245	TACAN Arrival	25AHT	85	% NC	150	1,023	5,395	0.97	0.063	97	87
P04	1	EA-18G	274DB	FCLP at Coupeville	32FCD2	84	% NC	150	800	674	1.266	0	115	106
	2	EA-18G	274DA	FCLP at Coupeville	32FCD1	84	% NC	150	800	759	0.633	0	114	106
	3	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	96	% NC	150	936	1,943	0.333	0.096	111	106
	4	EA-18G	259	Interfacility Coupeville to Ault Field	32CW07	96	% NC	150	936	1,943	0.098	0.028	111	106
	5	EA-18G	261	Interfacility Coupeville to Ault Field	32CW25	96	% NC	150	936	1,943	0.272	0.079	111	100
P05	1	EA-18G	275NC	FCLP at Coupeville	32FCN3	84	% NC	150	1,200	6,861	0.617	0.249	91	77
	2	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1,200	5,714	0.19	0	89	77
	3	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1,500	5,773	0	0.034	89	77
	4	EA-18G	274DC	FCLP at Coupeville	32FCD3	84	% NC	150	800	7,987	0.633	0	89	77
	5	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85	% NC	350	1,199	5,867	0.19	0	88	N/A
P06	1	EA-18G	274DC	FCLP at Coupeville	32FCD3	84	% NC	150	800	3,679	0.633	0	100	85
	2	EA-18G	275NC	FCLP at Coupeville	32FCN3	84	% NC	150	1,200	3,776	0.617	0.249	100	84
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	82.2	% NC	250	895	2,970	0.19	0	99	81
	4	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	82.2	% NC	250	900	2,979	0.05	0	99	81
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	82.2	% NC	250	893	3,062	0.396	0	99	79
P07	1	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2,000	12,064	0.01	0.003	82	73
	2	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2,000	11,825	0.052	0.015	82	73
	3	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2,208	17,859	0.089	0.022	80	68
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	9,777	0.053	0.015	79	71
	5	EA-18G	280B	GCA Pattern	32G2	82	% NC	230	2,332	23,457	0.059	0.015	78	66
P08	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760	LBS	250	3,047	3,389	0.057	0.009	85	N/A
	2	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	3,389	0.027	0	85	N/A
	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760	LBS	250	3,047	5,353	0.057	0.009	81	N/A
	4	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	5,353	0.027	0	81	N/A
	5	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	82	% NC	250	2,500	10,529	0.19	0	78	64
P09	1	EA-18G	244	TACAN Arrival	14AHT	78	% NC	250	3,163	48,626	0.423	0.028	62	51
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	230	2,403	34,003	0.481	0.121	61	52
	3	P-8	544	Low TACAN Departure	14ALT	4610	LBS	250	5,632	28,942	0.227	0.037	55	53
	4	EA-18G	215A	Departure	25D1C	95	% NC	300	4,765	109,923	2.005	0.126	55	48
	5	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	82	% NC	250	2,500	112,051	0	0.012	55	43
P10	1	EA-18G	229A	P3 P8 IFR and Growler VFR non breaks	14A2A	87	% NC	300	2,577	4,579	0.941	0.079	95	85
	2	EA-18G	223A	Departure	32D2B	95	% NC	300	8,291	9,255	0.197	0.012	90	80
	3	EA-18G	279C	GCA Pattern	25G3	82	% NC	250	3,000	4,073	0.891	0.224	89	80
	4	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	4,085	0.321	0.081	89	79
	5	EA-18G	277B	GCA Pattern	07G2	82	% NC	300	3,000	4,387	0.214	0.054	88	78
P11	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2,926	21,053	0.321	0.081	64	50
	2	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3,000	21,066	0.192	0.02	63	N/A
	3	transient	447C	GCA Pattern	07G3	17760	LBS	200	3,000	21,066	0.018	0	63	N/A
	4	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760	LBS	250	3,047	30,649	0.067	0.011	57	N/A
	5	transient	423	IFR non breaks	14A2E	17760	LBS	250	3,047	30,649	0.058	0.004	57	N/A
P12	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2,941	9,040	0.282	0.024	82	74
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3,000	7,718	0.481	0.121	80	72
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2,784	12,784	0.659	0.055	79	68
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3,000	7,718	0.312	0.029	78	N/A
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3,000	7,718	0.032	0	78	N/A
P13	1	EA-18G	219A	Departure	32D1A	95	% NC	300	7,686	7,575	0.655	0.041	94	86
	2	EA-18G	278B	GCA Pattern	14G2	82	% NC	300	3,000	3,526	0.321	0.081	91	81
	3	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,689	0.321	0.081	90	80
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3,000	3,689	0.891	0.224	90	81
	5	EA-18G	280B	GCA Pattern	32G2	82	% NC	300	3,000	3,526	0.059	0.015	90	81
P14	1	EA-18G	278C	GCA Pattern	14G3	82	% NC	230	1,822	20,245	0.481	0.121	76	63
	2	EA-18G	274DC	FCLP at Coupeville	32FCD3	84	% NC	150	800	129,685	0.633	0	75	59
	3	EA-18G	274DB	FCLP at Coupeville	32FCD2	84	% NC	150	800	132,707	1.266	0	75	59
	4	P-8	544	Low TACAN Departure	14ALT	4610	LBS	250	4,622	4,657	0.227	0.037	72	N/A
	5	EA-18G	278B	GCA Pattern	14G2	82	% NC	230	2,166	23,933	0.321	0.081	72	59
P15	1	EA-18G	206A	Departure	07D2C	95	% NC	300	5,213	8,277	0.286	0.018	92	83
	2	EA-18G	203A	Departure	07D1C	95	% NC	300	5,155	8,368	0.668	0.042	92	83
	3	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3,000	3,437	0.214	0.054	91	80
	4	EA-18G	205A	Departure	07D2B	95	% NC	300	4,892	9,517	0.668	0.042	90	79
	5	EA-18G	202A	Departure	07D1B	95	% NC	300	4,743	10,004	1.56	0.098	89	78
P16	1	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	85	% NC	250	2,500	7,309	0.05	0	85	70
	2	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,500	7,526	0	0.034	84	68
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,500	7,526	0.19	0	84	68
	4	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85	% NC	250	2,500	7,612	0.19	0	84	68
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85	% NC	250	2,500	7,587	0.396	0	84	69

Table A6-2 SEL-Ranked Flight Profiles for Average Year No Action Alternative (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting	Speed (kts) [1]	Altitude (ft MSL) [2]	Slant Range (ft)	Annual Average Daily Events [3] Daytime (0700-2200)	Annual Average Daily Events [3] Nighttime (2200-0700)	Estimated SEL (dBA)	Estimated Lmax (dBA) [4]
P17	1	EA-18G	274DA	FCLP at Coupeville	32FCD1	84 % NC	150	800	878	0.633	0	114	109
	2	EA-18G	274DB	FCLP at Coupeville	32FCD2	84 % NC	150	800	1,257	1.266	0	111	105
	3	EA-18G	275NA	FCLP at Coupeville	32FCN1	84 % NC	150	1,200	2,411	0.617	0.249	106	95
	4	EA-18G	275NB	FCLP at Coupeville	32FCN2	84 % NC	150	1,200	3,071	1.235	0.497	104	92
	5	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 % NC	150	800	3,649	0.633	0	102	90
P18	1	EA-18G	275NC	FCLP at Coupeville	32FCN3	84 % NC	150	1,200	4,924	0.617	0.249	96	85
	2	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 % NC	150	800	5,592	0.633	0	94	82
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	350	1,200	3,960	0.19	0	93	81
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	350	1,500	4,056	0	0.034	93	80
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85 % NC	350	1,200	4,055	0.396	0	93	80
R01	1	EA-18G	252N	Interfacility Ault Field to Coupeville	25WC32DN	97 % NC	135	59	1,093	0	0.072	121	114
	2	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	97 % NC	135	59	1,093	0.396	0	121	114
	3	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	97 % NC	135	59	1,093	0	0.012	121	114
	4	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	97 % NC	135	59	1,093	0.075	0	121	114
	5	EA-18G	204A	Departure	07D2A	97 % NC	165	302	1,118	0.955	0.06	120	116
R02	1	EA-18G	250N	Interfacility Ault Field to Coupeville	14WC32DN	97 % NC	0	47	3,519	0	0.034	110	96
	2	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	97 % NC	0	47	3,519	0.19	0	110	96
	3	EA-18G	249N	Interfacility Ault Field to Coupeville	14WC14N	97 % NC	0	47	3,519	0	0.006	110	96
	4	EA-18G	249D	Interfacility Ault Field to Coupeville	14WC14D	97 % NC	0	47	3,519	0.036	0	110	96
	5	EA-18G	210A	Departure	14D2A	97 % NC	0	47	3,519	1.516	0.096	109	100
R03	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84 % NC	250	2,000	1,787	0.091	0.003	101	93
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84 % NC	250	2,000	1,967	0.471	0.016	101	92
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	1,971	0.96	0.033	100	92
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	2,000	2,001	0.29	0.01	100	92
	5	EA-18G	270B	FCLP at Ault Field	32FU1	82.2 % NC	130	817	8,282	0.554	0.1	88	78
R04	1	EA-18G	205A	Departure	07D2B	95 % NC	300	4,035	5,492	0.668	0.042	99	88
	2	EA-18G	202A	Departure	07D1B	95 % NC	300	4,007	5,530	1.56	0.098	98	88
	3	EA-18G	206A	Departure	07D2C	95 % NC	300	4,096	5,708	0.286	0.018	98	88
	4	EA-18G	203A	Departure	07D1C	95 % NC	300	4,096	5,708	0.668	0.042	98	88
	5	EA-18G	204A	Departure	07D2A	95 % NC	300	3,804	6,519	0.955	0.06	96	86
R05	1	EA-18G	277A	GCA Pattern	07G1	82 % NC	250	3,000	3,009	1.604	0.403	92	84
	2	EA-18G	279A	GCA Pattern	25G1	82 % NC	300	3,000	3,350	4.455	1.12	91	82
	3	EA-18G	280C	GCA Pattern	32G3	82 % NC	300	3,000	3,491	0.089	0.022	90	82
	4	EA-18G	278C	GCA Pattern	14G3	82 % NC	300	3,000	3,491	0.481	0.121	90	82
	5	EA-18G	205A	Departure	07D2B	95 % NC	300	3,808	13,742	0.668	0.042	85	75
R06	1	EA-18G	274DC	FCLP at Coupeville	32FCD3	85 % NC	140	503	567	0.633	0	118	114
	2	EA-18G	275NA	FCLP at Coupeville	32FCN1	85 % NC	140	610	599	0.617	0.249	118	113
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	140	421	675	0.19	0	117	113
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	140	421	675	0	0.034	117	113
	5	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	85 % NC	140	412	706	0.05	0	116	113
R07	1	EA-18G	271DC	FCLP at Coupeville	14FCD3	84 % NC	150	800	847	0.13	0	114	109
	2	EA-18G	271DB	FCLP at Coupeville	14FCD2	84 % NC	150	799	1,359	0.259	0	110	104
	3	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	82.2 % NC	250	1,082	1,489	0.075	0	104	100
	4	EA-18G	253D	Interfacility Ault Field to Coupeville	32WC14D	82.2 % NC	250	1,082	1,493	0.009	0	104	100
	5	EA-18G	247D	Interfacility Ault Field to Coupeville	07WC14D	82.2 % NC	250	1,080	1,506	0.036	0	104	100
R08	1	EA-18G	272NC	FCLP at Coupeville	14FCN3	84 % NC	150	1,200	1,128	0.126	0.051	112	106
	2	EA-18G	272NB	FCLP at Coupeville	14FCN2	84 % NC	150	1,200	3,099	0.253	0.102	102	93
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82 % NC	250	2,000	2,690	0.052	0.015	99	92
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82 % NC	250	2,000	2,690	0.01	0.003	99	92
	5	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	85 % NC	350	1,500	2,437	0	0.012	99	91
R09	1	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85 % NC	250	2,499	4,551	0.19	0	92	82
	2	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85 % NC	250	2,499	4,690	0.396	0	91	82
	3	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	85 % NC	250	2,499	4,762	0.05	0	91	81
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	250	2,499	4,777	0	0.034	91	81
	5	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	250	2,499	4,777	0.19	0	91	81
R10	1	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87 % NC	300	2,480	3,143	0.659	0.055	100	90
	2	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87 % NC	300	2,620	3,563	0.282	0.024	98	88
	3	EA-18G	280C	GCA Pattern	32G3	82 % NC	250	3,000	2,980	0.089	0.022	93	84
	4	EA-18G	278A	GCA Pattern	14G1	82 % NC	300	2,999	3,168	2.406	0.605	92	83
	5	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87 % NC	300	2,347	7,186	0.941	0.079	90	77
R11	1	EA-18G	238A	Overhead Break Arrival	14O2A	84 % NC	300	10,000	13,520	0.183	0.02	73	60
	2	EA-18G	238B	Overhead Break Arrival	14O2B	84 % NC	300	10,000	13,567	0.183	0.02	73	60
	3	EA-18G	238C	Overhead Break Arrival	14O2C	84 % NC	300	10,000	13,609	0.188	0.021	73	60
	4	EA-18G	236B	Overhead Break Arrival	07O2B	84 % NC	300	10,000	13,739	0.115	0.013	72	59
	5	EA-18G	236A	Overhead Break Arrival	07O2A	84 % NC	300	10,000	13,740	0.115	0.013	72	59
R12	1	EA-18G	205A	Departure	07D2B	84 % NC	300	9,000	9,677	0.668	0.042	75	65
	2	EA-18G	216A	Departure	25D2A	84 % NC	300	9,000	16,276	2.864	0.18	70	58
	3	EA-18G	217A	Departure	25D2B	84 % NC	300	9,000	16,448	2.005	0.126	70	58
	4	EA-18G	218A	Departure	25D2C	84 % NC	300	9,000	18,999	0.859	0.054	67	55
	5	EA-18G	206A	Departure	07D2C	84 % NC	300	9,000	24,952	0.286	0.018	66	55
R13	1	EA-18G	271DB	FCLP at Coupeville	14FCD2	84 % NC	150	800	49,661	0.259	0	75	55
	2	EA-18G	271DC	FCLP at Coupeville	14FCD3	84 % NC	150	800	49,257	0.13	0	74	55
	3	EA-18G	271DA	FCLP at Coupeville	14FCD1	84 % NC	150	800	52,723	0.13	0	74	55
	4	EA-18G	272NB	FCLP at Coupeville	14FCN2	84 % NC	150	1,200	46,508	0.253	0.102	74	53
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82 % NC	250	2,000	30,019	0.053	0.015	71	51
R14	1	EA-18G	268B	FCLP at Ault Field	14FU1	84 % NC	130	1,000	2,575	1.497	0.27	104	96
	2	EA-18G	269B	FCLP at Ault Field	25FU1	82.2 % NC	130	693	3,116	2.772	0.5	103	96
	3	EA-18G	283B	FCLP at Ault Field	25FU1	82.2 % NC	140	715	3,119	2.434	0.574	103	91
	4	EA-18G	269A	FCLP at Ault Field	25FM1	82.2 % NC	130	702	3,119	2.772	0.5	103	91
	5	EA-18G	265L	Depart and Re-enter Pattern	25PL	82.2 % NC	140	697	3,095	0.96	0.033	103	91

Table A6-2 SEL-Ranked Flight Profiles for Average Year No Action Alternative (concluded)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Annual Average Daily		Estimated	
											Daytime (0700-2200)	Nighttime (2200-0700)	SEL (dBA)	Lmax (dBA) (4)
R15	1	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	85	% NC	140	601	1,353	0.075	0	110	105
	2	EA-18G	253D	Interfacility Ault Field to Coupeville	32WC14D	85	% NC	140	609	1,370	0.009	0	110	105
	3	EA-18G	247D	Interfacility Ault Field to Coupeville	07WC14D	85	% NC	140	621	1,423	0.036	0	110	105
	4	EA-18G	249D	Interfacility Ault Field to Coupeville	14WC14D	85	% NC	140	616	1,435	0.036	0	110	105
	5	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	85	% NC	140	401	1,933	0	0.012	108	99
R16	1	EA-18G	233A	P3 P8 IFR and Growler VFR non breaks	32A1A	87	% NC	300	2,756	2,575	0.174	0.015	100	91
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	6,951	8,107	1.062	0.067	93	85
	3	EA-18G	278C	GCA Pattern	14G3	82	% NC	250	3,000	3,185	0.481	0.121	91	82
	4	EA-18G	208A	Departure	14D1B	95	% NC	300	6,815	9,922	2.477	0.156	90	81
	5	EA-18G	246	TACAN Arrival	32AHT	82.2	% NC	250	2,475	6,673	0.088	0.006	89	81
R17	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	0.057	0.009	85	N/A
	2	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	0.027	0	85	N/A
	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	0.057	0.009	79	N/A
	4	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	0.027	0	79	N/A
	5	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	82	% NC	250	2,500	12,679	0	0.034	74	59
R18	1	P-8	543	Low TACAN Departure	07ALT	4610	LBS	250	5,971	5,979	0.064	0.013	68	N/A
	2	P-8	545	Low TACAN Departure	25ALT	4610	LBS	250	6,446	6,474	0.116	0.017	67	N/A
	3	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	85	% NC	250	2,500	22,311	0.05	0	65	47
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,500	22,575	0	0.034	65	47
	5	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,500	22,575	0.19	0	65	47
R19	1	EA-18G	271DA	FCLP at Coupeville	14FCD1	85	% NC	140	513	422	0.13	0	120	118
	2	EA-18G	271DB	FCLP at Coupeville	14FCD2	85	% NC	140	499	461	0.259	0	119	116
	3	EA-18G	271DC	FCLP at Coupeville	14FCD3	85	% NC	140	490	534	0.13	0	119	115
	4	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	85	% NC	140	321	1,011	0	0.012	113	106
	5	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	85	% NC	140	361	1,150	0.075	0	113	106
R20	1	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2,933	3,692	0.282	0.024	95	87
	2	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,898	0.321	0.081	89	52
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2,769	6,744	0.659	0.055	88	78
	4	transient	423	IFR non breaks	14A2E	17760	LBS	180	3,047	3,071	0.058	0.004	86	N/A
	5	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760	LBS	180	3,047	3,071	0.067	0.011	86	N/A
S01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	82.2	% NC	140	773	4009	0.091	0.003	98	90
	2	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	802	4008	0.554	0.1	96	90
	3	EA-18G	284B	FCLP at Ault Field	32FU1	82.2	% NC	140	839	4014	0.749	0.177	96	84
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	82.2	% NC	140	773	4003	0.091	0.003	96	84
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82.2	% NC	140	861	3936	0.053	0.015	95	83
S02	1	EA-18G	212A	Departure	14D2C	95	% NC	300	2514	3432	0.455	0.029	104	94
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	2514	3432	1.062	0.067	104	93
	3	EA-18G	207A	Departure	14D1A	95	% NC	300	2514	3432	3.538	0.223	104	94
	4	EA-18G	211A	Departure	14D2B	95	% NC	300	2514	3432	1.062	0.067	104	94
	5	EA-18G	208A	Departure	14D1B	95	% NC	300	2514	3432	2.477	0.156	104	94
S03	1	EA-18G	275NC	FCLP at Coupeville	32FCN3	84	% NC	150	1200	3915	0.617	0.249	98	89
	2	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1200	2749	0.19	0	97	89
	3	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85	% NC	350	1200	2808	0.396	0	97	89
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1500	2879	0	0.034	96	89
	5	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85	% NC	350	1200	2890	0.19	0	96	88
S04	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2882	4781	0.282	0.024	93	83
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2903	0.481	0.121	92	84
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2719	7342	0.659	0.055	87	76
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3000	2903	0.312	0.029	85	N/A
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3000	2903	0.032	0	85	N/A
S05	1	EA-18G	243	TACAN Arrival	07AHT	78	% NC	250	3529	3374	0.282	0.018	76	68
	2	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2712	19217	0.282	0.024	70	56
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2592	23773	0.659	0.055	66	51
	4	EA-18G	224A	Departure	32D2C	95	% NC	300	8249	32151	0.084	0.005	65	52
	5	P-8	538C	P3 P8 IFR and Growler VFR non breaks	14A2C	17760	LBS	180	3047	19344	0.308	0.053	64	N/A
S06	1	EA-18G	224A	Departure	32D2C	84	% NC	300	9000	61543	0.084	0.005	51	39
	2	EA-18G	223A	Departure	32D2B	84	% NC	300	9000	66657	0.197	0.012	50	39
	3	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3000	40394	0.192	0.02	50	37
	4	transient	447C	GCA Pattern	07G3	17760	LBS	200	3000	40394	0.018	0	50	37
	5	EA-18G	222A	Departure	32D2A	95	% NC	300	8656	71520	0.281	0.018	49	37
S07	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2810	88787	0.321	0.081	61	51
	2	EA-18G	250N	Interfacility Ault Field to Coupeville	14WC32DN	82	% NC	250	2500	161086	0	0.034	60	47
	3	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	82	% NC	250	2500	161073	0.19	0	60	47
	4	EA-18G	253N	Interfacility Ault Field to Coupeville	32WC14N	82	% NC	250	2500	135294	0	0.001	59	45
	5	EA-18G	253D	Interfacility Ault Field to Coupeville	32WC14D	82	% NC	250	2500	135294	0.009	0	59	45
S08	1	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3000	2779	0.089	0.022	93	81
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2779	0.481	0.121	93	81
	3	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2851	6041	0.941	0.079	89	80
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3000	4183	0.891	0.224	88	79
	5	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3000	4183	0.321	0.081	88	79
S09	1	EA-18G	232A	P3 P8 IFR and Growler VFR non breaks	25A3A	87	% NC	300	3000	4033	0.889	0.075	92	86
	2	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3000	3025	0.214	0.054	91	78
	3	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3000	5300	4.455	1.12	87	75
	4	EA-18G	206A	Departure	07D2C	95	% NC	300	5403	11786	0.286	0.018	86	76
	5	EA-18G	203A	Departure	07D1C	95	% NC	300	5300	11968	0.668	0.042	86	76
S10	1	P-8	546	Low TACAN Departure	32ALT	17760	LBS	250	3616	3501	0.021	0.003	83	N/A
	2	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2333	19814	0.089	0.022	71	61
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2000	20733	0.052	0.015	70	58
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2000	20783	0.01	0.003	70	58
	5	EA-18G	246	TACAN Arrival	32AHT	78	% NC	250	3085	23749	0.088	0.006	70	53

Notes:
(1) 0 ft indicates the contributing profile is the beginning of takeoff roll
(2) FYI, Ault Field's elevation is 47 ft MSL, OLF Coupeville's elevation is 200 ft MSL

Table A6-3 SEL-Ranked Flight Profiles for Alternative 1 for Average Year

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated		Annual Average Daily Events (3)									
											SEL (dBA)	Lmax (dBA) (4)	1A		1B		1C		1D		1E	
													Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)
P01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84	% NC	250	2,000	4,401	93	82	0.096	0.004	0.096	0.004	0.096	0.004	0.096	0.004	0.096	0.004
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84	% NC	250	2,000	4,415	92	82	0.697	0.029	0.697	0.029	0.745	0.031	0.745	0.031	0.745	0.031
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	4,889	92	80	1.202	0.049	1.226	0.05	1.154	0.047	1.154	0.047	1.154	0.047
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	2,000	4,943	91	80	0.409	0.017	0.385	0.016	0.409	0.017	0.409	0.017	0.409	0.017
	5	EA-18G	269B	FCLP at Ault Field	25FU1	84	% NC	130	1,000	9,077	87	76	3.268	0.72	3.401	0.749	3.201	0.705	3.201	0.705	3.201	0.705
P02	1	EA-18G	268A	FCLP at Ault Field	14FM1	82.2	% NC	130	852	1,389	107	104	2.001	0.441	1.934	0.426	2.134	0.47	2.134	0.47	2.134	0.47
	2	EA-18G	268B	FCLP at Ault Field	14FU1	82.2	% NC	130	859	1,393	107	103	2.001	0.441	1.934	0.426	2.134	0.47	2.134	0.47	2.134	0.47
	3	EA-18G	282A	FCLP at Ault Field	14FM1	82.2	% NC	140	893	1,393	107	100	0.984	0.278	2.339	0.641	4.276	1.341	1.625	0.459	3.742	1.173
	4	EA-18G	282B	FCLP at Ault Field	14FU1	82.2	% NC	140	859	1,393	106	100	0.984	0.278	2.339	0.641	4.276	1.341	1.625	0.459	3.742	1.173
	5	EA-18G	264R	Depart and Re-enter Pattern	14PR	82.2	% NC	140	859	1,393	106	100	0.697	0.029	0.697	0.029	0.745	0.031	0.745	0.031	0.745	0.031
P03	1	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	1,477	1,206	105	98	0.409	0.017	0.385	0.016	0.409	0.017	0.409	0.017	0.409	0.017
	2	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	1,599	103	95	1.202	0.049	1.226	0.05	1.154	0.047	1.154	0.047	1.154	0.047
	3	EA-18G	264L	Depart and Re-enter Pattern	14PL	84	% NC	250	1,999	2,306	99	90	0.697	0.029	0.697	0.029	0.745	0.031	0.745	0.031	0.745	0.031
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	84	% NC	250	2,000	2,401	99	90	0.096	0.004	0.096	0.004	0.096	0.004	0.096	0.004	0.096	0.004
	5	EA-18G	245	TACAN Arrival	25AHT	85	% NC	150	1,023	5,395	97	87	1.349	0.073	1.369	0.075	1.195	0.037	1.273	0.068	1.195	0.037
P04	1	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	96	% NC	150	936	1,943	111	106	1.119	0.231	0.684	0.137	0.281	0.055	0.965	0.199	0.422	0.083
	2	EA-18G	259	Interfacility Coupeville to Ault Field	32CW07	96	% NC	150	936	1,943	111	106	0.331	0.068	0.202	0.04	0.083	0.016	0.285	0.059	0.125	0.025
	3	EA-18G	261	Interfacility Coupeville to Ault Field	32CW25	96	% NC	150	936	1,943	111	106	0.915	0.189	0.559	0.112	0.23	0.045	0.79	0.163	0.345	0.068
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	96	% NC	150	936	1,943	111	106	0.178	0.037	0.109	0.022	0.045	0.009	0.154	0.032	0.067	0.013
	5	EA-18G	273PDA	FCLP at Coupeville	14FCP1	85	% NC	140	337	1,801	108	100	1.001	0	0.671	0	0.258	0	0.907	0	0.387	0
P05	1	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1,200	8,512	88	77	1.636	1.154	1.017	0.676	0.425	0.268	1.412	0.996	0.638	0.402
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	8,475	88	77	2.573	0	1.566	0	0.631	0	2.22	0	0.946	0
	3	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,200	9,601	87	77	3.273	2.307	2.034	1.353	0.851	0.536	2.823	1.991	1.276	0.804
	4	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	9,568	87	77	5.146	0	3.133	0	1.261	0	4.44	0	1.893	0
	5	transient	430	IFR non breaks	32A2E	17760	LBS	180	3,047	3,122	85	N/A	0.009	0.001	0.011	0.001	0.011	0.001	0.011	0.001	0.011	0.001
P06	1	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	799	5,329	96	85	2.573	0	1.566	0	0.631	0	2.22	0	0.946	0
	2	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1,199	5,397	96	84	1.636	1.154	1.017	0.676	0.425	0.268	1.412	0.996	0.638	0.402
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	799	6,534	93	81	5.146	0	3.133	0	1.261	0	4.44	0	1.893	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,199	6,590	93	81	3.273	2.307	2.034	1.353	0.851	0.536	2.823	1.991	1.276	0.804
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1,199	7,791	91	79	1.636	1.154	1.017	0.676	0.425	0.268	1.412	0.996	0.638	0.402
P07	1	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2,000	12,064	82	73	0.069	0.014	0.047	0.009	0.018	0.004	0.063	0.013	0.027	0.005
	2	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2,000	11,825	82	73	0.356	0.073	0.24	0.048	0.094	0.018	0.323	0.067	0.141	0.028
	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84	% NC	150	800	23,102	80	68	2.001	0	1.343	0	0.515	0	1.813	0	0.773	0
	4	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2,208	17,859	80	71	0.065	0.025	0.086	0.034	0.086	0.034	0.086	0.034	0.086	0.034
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	9,777	79	66	0.178	0.037	0.109	0.022	0.045	0.009	0.154	0.032	0.067	0.013
P08	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760	LBS	250	3,047	3,389	85	N/A	0.046	0.007	0.045	0.013	0.046	0.015	0.046	0.016	0.046	0.015
	2	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	3,389	85	N/A	0.016	0.002	0.021	0.005	0.021	0.006	0.022	0.006	0.021	0.006
	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760	LBS	250	3,047	5,353	81	N/A	0.046	0.007	0.045	0.013	0.046	0.015	0.046	0.016	0.046	0.015
	4	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	5,353	81	N/A	0.016	0.002	0.021	0.005	0.021	0.006	0.022	0.006	0.021	0.006
	5	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82	% NC	250	2,000	10,604	76	64	0.129	0.027	0.087	0.017	0.034	0.007	0.117	0.024	0.051	0.01
P09	1	EA-18G	244	TACAN Arrival	14AHT	78	% NC	250	3,163	48,626	62	51	0.687	0.037	0.635	0.035	0.669	0.021	0.713	0.038	0.669	0.021
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	230	2,403	34,003	61	52	0.645	0.254	0.624	0.246	0.688	0.271	0.688	0.271	0.688	0.271
	3	P-8	544	Low TACAN Departure	14ALT	4610	LBS	250	5,632	28,942	55	53	0.204	0.038	0.22	0.042	0.205	0.036	0.209	0.041	0.205	0.036
	4	EA-18G	215A	Departure	25D1C	95	% NC	300	4,765	109,923	55	48	2.293	0.138	2.36	0.146	2.181	0.134	2.201	0.132	2.181	0.134
	5	EA-18G	217A	Departure	25D2B	95	% NC	300	3,835	110,307	54	43	2.293	0.138	2.36	0.146	2.181	0.134	2.201	0.132	2.181	0.134
P10	1	EA-18G	229A	P3 P8 IFR and Growler VFR non breaks	14A2A	87	% NC	300	2,577	4,579	95	85	1.206	0.091	1.11	0.084	1.271	0.099	1.286	0.097	1.271	0.099
	2	EA-18G	223A	Departure	32D2B	95	% NC	300	8,291	9,255	90	80	0.138	0.008	0.182	0.011	0.227	0.014	0.229	0.014	0.227	0.014
	3	EA-18G	279C	GCA Pattern	25G3	82	% NC	250	3,000	4,073	89	80	1.054	0.415	1.097	0.432	1.054	0.415	1.054	0.415	1.054	0.415
	4	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	4,085	89	79	0.387	0.152	0.344	0.135	0.323	0.127	0.323	0.127	0.323	0.127
	5	EA-18G	277B	GCA Pattern	07G2	82	% NC	300	3,000	4,387	88	78	0.258	0.102	0.229	0.09	0.215	0.085	0.215	0.085	0.215	0.085
P11	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2,926	21,053	64	50	0.387	0.152	0.344	0.135	0.323	0.127	0.323	0.127	0.323	0.127
	2	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3,000	21,066	63	N/A	0.221	0.025	0.203	0.019	0.181	0.018	0.184	0.021	0.181	0.018
	3	transient	447C	GCA Pattern	07G3	17760	LBS	200	3,000	21,066	63	N/A	0.018	0	0.018	0	0.017	0	0.017	0	0.017	0
	4	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760	LBS	250	3,047	30,649	57	N/A	0.072	0.015	0.071	0.014	0.078	0.014	0.079	0.016	0.078	0.014
	5	transient	423	IFR non breaks	14A2E	17760	LBS	250	3,047	30,649	57	N/A	0.063	0.004	0.062	0.007	0.069	0.007	0.07	0.005	0.069	0.007
P12	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2,941	9,040	82	74	0.362	0.027	0.333	0.025	0.381	0.03	0.386	0.029	0.381	0.03
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3,000	7,718	80	72	0.645	0.254	0.624	0.246	0.688	0.271	0.688	0.271	0.688	0.271
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2,784	12,784	79	68	0.844	0.064	0.777	0.059	0.89	0.07	0.9	0.068	0.89	0.07
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3,000	7,718	78	N/A	0.381	0.042	0.355	0.037	0.374	0.031	0.381	0.036	0.374	0.031
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3,000	7,718	78	N/A	0.034	0	0.032	0	0.035	0	0.035	0	0.035	0
P13	1	EA-18G	219A	Departure	32D1A	95	% NC	300	7,686	7,575	94	86	0.459	0.028	0.605	0.037	0.757	0.047	0.764	0.046	0.757	0.047
	2	EA-18G	278B	GCA Pattern	14G2	82	% NC	300	3,000	3,526	91	81	0.43	0.169	0.416	0.164	0.459	0.181	0.459	0.181	0.459	0.181
	3	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,689	90	80	0.387	0.152	0.344	0.135	0.323	0.127	0.323	0.127	0.323	0.127
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3,000	3,689	90	81	1.054	0.415	1.097	0.432	1.054	0.415	1.054	0.415	1.054	0.415
	5	EA-18G	280B	GCA Pattern	32G2	82	% NC	300	3,000	3,526	90	81	0.043	0.017	0.057	0.023	0.057	0.023	0.057	0.023	0.057	0.023

Table A6-3 SEL-Ranked Flight Profiles for Alternative 1 for Average Year (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting	Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	1A Daytime (0700-2200)	1A Nighttime (2200-0700)	1B Daytime (0700-2200)	1B Nighttime (2200-0700)	1C Daytime (0700-2200)	1C Nighttime (2200-0700)	1D Daytime (0700-2200)	1D Nighttime (2200-0700)	1E Daytime (0700-2200)	1E Nighttime (2200-0700)
												Annual Average Daily Events (3)									
P14	1	EA-18G	278C	GCA Pattern	14G3	82 % NC	230	1,822	20,245	76	63	0.645	0.254	0.624	0.246	0.688	0.271	0.688	0.271	0.688	0.271
	2	P-8	544	Low TACAN Departure	14ALT	4610 LBS	250	4,622	4,657	72	N/A	0.204	0.038	0.22	0.042	0.205	0.036	0.209	0.041	0.205	0.036
	3	EA-18G	278B	GCA Pattern	14G2	82 % NC	230	2,166	23,933	72	58	0.43	0.169	0.416	0.164	0.459	0.181	0.459	0.181	0.459	0.181
	4	EA-18G	221A	Departure	32D1C	95 % NC	300	6,560	43,942	69	49	0.138	0.008	0.182	0.011	0.227	0.014	0.229	0.014	0.227	0.014
	5	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87 % NC	300	2,569	25,383	67	55	0.362	0.027	0.333	0.025	0.381	0.03	0.386	0.029	0.381	0.03
P15	1	EA-18G	206A	Departure	07D2C	95 % NC	300	5,213	8,277	92	83	0.334	0.02	0.311	0.019	0.312	0.019	0.314	0.019	0.312	0.019
	2	EA-18G	203A	Departure	07D1C	95 % NC	300	5,155	8,368	92	83	0.78	0.047	0.726	0.045	0.727	0.045	0.734	0.044	0.727	0.045
	3	EA-18G	277B	GCA Pattern	07G2	82 % NC	250	3,000	3,437	91	80	0.258	0.102	0.229	0.09	0.215	0.085	0.215	0.085	0.215	0.085
	4	EA-18G	205A	Departure	07D2B	95 % NC	300	4,892	9,517	90	79	0.78	0.047	0.726	0.045	0.727	0.045	0.734	0.044	0.727	0.045
	5	EA-18G	202A	Departure	07D1B	95 % NC	300	4,743	10,004	89	78	1.819	0.109	1.694	0.105	1.696	0.104	1.712	0.103	1.696	0.104
P16	1	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82 % NC	250	2,000	8,724	79	67	0.435	0.09	0.293	0.059	0.115	0.022	0.394	0.081	0.172	0.034
	2	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82 % NC	250	2,000	8,724	79	67	0.129	0.027	0.087	0.017	0.034	0.007	0.117	0.024	0.051	0.01
	3	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	82 % NC	250	2,500	10,146	78	64	1.135	0	0.704	0	0.248	0	0.843	0	0.374	0
	4	EA-18G	248PN	Interfacility Ault Field to Coupeville	07WC32P	82 % NC	250	2,500	10,318	78	64	0	0.136	0	0.079	0	0.025	0	0.093	0	0.037
	5	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	82 % NC	250	2,500	10,355	78	64	0	0.227	0	0.122	0	0.065	0	0.245	0	0.098
P17	1	EA-18G	276PDA	FCLP at Coupeville	32FCP1	84 % NC	150	799	742	115	110	2.573	0	1.566	0	0.631	0	2.22	0	0.946	0
	2	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84 % NC	150	1,199	1,129	111	106	1.636	1.154	1.017	0.676	0.425	0.268	1.412	0.996	0.638	0.402
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84 % NC	150	799	1,206	111	105	5.146	0	3.133	0	1.261	0	4.44	0	1.893	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84 % NC	150	1,199	1,476	109	103	3.273	2.307	2.034	1.353	0.851	0.536	2.823	1.991	1.276	0.804
	5	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84 % NC	150	799	2,304	106	97	2.573	0	1.566	0	0.631	0	2.22	0	0.946	0
P18	1	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84 % NC	150	1,200	6,600	92	82	1.636	1.154	1.017	0.676	0.425	0.268	1.412	0.996	0.638	0.402
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84 % NC	150	800	6,544	91	82	2.573	0	1.566	0	0.631	0	2.22	0	0.946	0
	3	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84 % NC	150	1,200	7,760	90	79	3.273	2.307	2.034	1.353	0.851	0.536	2.823	1.991	1.276	0.804
	4	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84 % NC	150	800	7,712	90	79	5.146	0	3.133	0	1.261	0	4.44	0	1.893	0
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84 % NC	150	1,200	8,929	87	78	1.636	1.154	1.017	0.676	0.425	0.268	1.412	0.996	0.638	0.402
R01	1	EA-18G	251PN	Interfacility Ault Field to Coupeville	25WC14P	97 % NC	135	59	1,093	121	114	0	0.17	0	0.108	0	0.034	0	0.128	0	0.051
	2	EA-18G	251PD	Interfacility Ault Field to Coupeville	25WC14P	97 % NC	135	59	1,093	121	114	0.441	0	0.302	0	0.101	0	0.344	0	0.153	0
	3	EA-18G	252PN	Interfacility Ault Field to Coupeville	25WC32P	97 % NC	135	59	1,093	121	114	0	0.378	0	0.218	0	0.076	0	0.285	0	0.114
	4	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	97 % NC	135	59	1,093	121	114	1.135	0	0.704	0	0.248	0	0.843	0	0.374	0
	5	EA-18G	204A	Departure	07D2A	97 % NC	165	302	1,118	120	116	1.114	0.067	1.037	0.064	1.039	0.064	1.048	0.063	1.039	0.064
R02	1	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	97 % NC	0	47	3,519	110	96	0	0.227	0	0.122	0	0.065	0	0.245	0	0.098
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	97 % NC	0	47	3,519	110	96	0.681	0	0.394	0	0.214	0	0.725	0	0.322	0
	3	EA-18G	249PN	Interfacility Ault Field to Coupeville	14WC14P	97 % NC	0	47	3,519	110	96	0	0.102	0	0.06	0	0.029	0	0.11	0	0.044
	4	EA-18G	249PD	Interfacility Ault Field to Coupeville	14WC14P	97 % NC	0	47	3,519	110	96	0.265	0	0.169	0	0.087	0	0.296	0	0.131	0
	5	EA-18G	210A	Departure	14D2A	97 % NC	0	47	3,519	109	100	1.965	0.118	1.815	0.112	2.012	0.124	2.031	0.122	2.012	0.124
R03	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84 % NC	250	2,000	1,787	101	93	0.096	0.004	0.096	0.004	0.096	0.004	0.096	0.004	0.096	0.004
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84 % NC	250	2,000	1,967	101	92	0.697	0.029	0.697	0.029	0.745	0.031	0.745	0.031	0.745	0.031
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	1,971	100	92	1.202	0.049	1.226	0.05	1.154	0.047	1.154	0.047	1.154	0.047
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	2,000	2,001	100	92	0.409	0.017	0.385	0.016	0.409	0.017	0.409	0.017	0.409	0.017
	5	EA-18G	270B	FCLP at Ault Field	32FU1	82.2 % NC	130	817	8,282	88	78	0.4	0.088	0.533	0.118	0.533	0.118	0.533	0.118	0.533	0.118
R04	1	EA-18G	205A	Departure	07D2B	95 % NC	300	4,035	5,492	99	88	0.78	0.047	0.726	0.045	0.727	0.045	0.734	0.044	0.727	0.045
	2	EA-18G	202A	Departure	07D1B	95 % NC	300	4,007	5,530	98	88	1.819	0.109	1.694	0.105	1.696	0.104	1.712	0.103	1.696	0.104
	3	EA-18G	206A	Departure	07D2C	95 % NC	300	4,096	5,708	98	88	0.334	0.02	0.311	0.019	0.312	0.019	0.314	0.019	0.312	0.019
	4	EA-18G	203A	Departure	07D1C	95 % NC	300	4,096	5,708	98	88	0.78	0.047	0.726	0.045	0.727	0.045	0.734	0.044	0.727	0.045
	5	EA-18G	204A	Departure	07D2A	95 % NC	300	3,804	6,519	96	86	1.114	0.067	1.037	0.064	1.039	0.064	1.048	0.063	1.039	0.064
R05	1	EA-18G	277A	GCA Pattern	07G1	82 % NC	250	3,000	3,009	92	84	1.935	0.762	1.72	0.677	1.613	0.635	1.613	0.635	1.613	0.635
	2	EA-18G	279A	GCA Pattern	25G1	82 % NC	300	3,000	3,350	91	82	5.269	2.074	5.484	2.159	5.269	2.074	5.269	2.074	5.269	2.074
	3	EA-18G	280C	GCA Pattern	32G3	82 % NC	300	3,000	3,491	90	82	0.065	0.025	0.086	0.034	0.086	0.034	0.086	0.034	0.086	0.034
	4	EA-18G	278C	GCA Pattern	14G3	82 % NC	300	3,000	3,491	90	82	0.645	0.254	0.624	0.246	0.688	0.271	0.688	0.271	0.688	0.271
	5	EA-18G	205A	Departure	07D2B	95 % NC	300	3,808	13,742	85	75	0.78	0.047	0.726	0.045	0.727	0.045	0.734	0.044	0.727	0.045
R06	1	EA-18G	276PDB	FCLP at Coupeville	32FCP2	85 % NC	140	515	389	121	114	5.146	0	3.133	0	1.261	0	4.44	0	1.893	0
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	85 % NC	140	508	405	120	113	2.573	0	1.566	0	0.631	0	2.22	0	0.946	0
	3	EA-18G	276PDA	FCLP at Coupeville	32FCP1	85 % NC	140	524	412	120	113	2.573	0	1.566	0	0.631	0	2.22	0	0.946	0
	4	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	84 % NC	140	526	399	120	113	1.135	0	0.704	0	0.248	0	0.843	0	0.374	0
	5	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	84 % NC	140	523	399	120	113	0.045	0	0.056	0	0.035	0	0.118	0	0.052	0
R07	1	EA-18G	273PDA	FCLP at Coupeville	14FCP1	84 % NC	150	799	769	115	109	1.001	0	0.671	0	0.258	0	0.907	0	0.387	0
	2	EA-18G	273PNA	FCLP at Coupeville	14FCP1	84 % NC	150	1,199	1,167	111	104	0.636	0.449	0.436	0.29	0.174	0.109	0.577	0.407	0.261	0.164
	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84 % NC	150	799	1,512	110	100	2.001	0	1.343	0	0.515	0	1.813	0	0.773	0
	4	EA-18G	273PNB	FCLP at Coupeville	14FCP2	84 % NC	150	1,199	1,749	108	100	1.273	0.897	0.872	0.58	0.347	0.219	1.153	0.813	0.521	0.329
	5	EA-18G	253PD	Interfacility Ault Field to Coupeville	32WC14P	82.2 % NC	140	1,104	1,725	105	100	0.018	0	0.024	0	0.014	0	0.048	0	0.021	0
R08	1	EA-18G	273PDC	FCLP at Coupeville	14FCP3	84 % NC	150	800	3,154	101	106	1.001	0	0.671	0	0.258	0	0.907	0	0.387	0
	2	EA-18G	273PNC	FCLP at Coupeville	14FCP3	84 % NC	150	1,200	3,252	100	93	0.636	0.449	0.436	0.29	0.174	0.109	0.577	0.407	0.261	0.164
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82 % NC	250	2,000	2,690	99	92	0.356	0.073	0.24	0.048	0.094	0.018	0.323	0.067	0.141	0.028
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82 % NC	250	2,000	2,690	99	92	0.069	0.014	0.047	0.009	0.018	0.004	0.063	0.013	0.027	0.005
	5	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84 % NC	150	800	4,008	98	91	2.001	0	1.343	0	0.515	0	1.813	0	0.773	0

Table A6-3 SEL-Ranked Flight Profiles for Alternative 1 for Average Year (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	Annual Average Daily Events (3) 1A		1B		1C		1D		1E	
													Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)
	1	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	85	% NC	300	2,231	5,007	90	82	0.045	0	0.056	0	0.035	0	0.118	0	0.052	0
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	85	% NC	300	2,236	5,091	90	82	0.681	0	0.394	0	0.214	0	0.725	0	0.322	0
R09	3	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	85	% NC	300	2,180	5,083	90	81	1.135	0	0.704	0	0.248	0	0.843	0	0.374	0
	4	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	85	% NC	300	2,299	5,114	90	81	0	0.227	0	0.122	0	0.065	0	0.245	0	0.098
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	3,677	90	81	0.178	0.037	0.109	0.022	0.045	0.009	0.154	0.032	0.067	0.013
	1	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2,480	3,143	100	90	0.844	0.064	0.777	0.059	0.89	0.07	0.9	0.068	0.89	0.07
	2	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2,620	3,563	98	88	0.362	0.027	0.333	0.025	0.381	0.03	0.386	0.029	0.381	0.03
R10	3	EA-18G	280C	GCA Pattern	32G3	82	% NC	250	3,000	2,980	93	84	0.065	0.025	0.086	0.034	0.086	0.034	0.086	0.034	0.086	0.034
	4	EA-18G	278A	GCA Pattern	14G1	82	% NC	300	2,999	3,168	92	83	3.226	1.27	3.118	1.228	3.441	1.355	3.441	1.355	3.441	1.355
	5	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2,347	7,186	90	77	1.206	0.091	1.11	0.084	1.271	0.099	1.286	0.097	1.271	0.099
	1	EA-18G	238A	Overhead Break Arrival	14O2A	84	% NC	300	10,000	13,520	73	60	0.23	0.022	0.221	0.021	0.246	0.024	0.246	0.024	0.246	0.024
	2	EA-18G	238B	Overhead Break Arrival	14O2B	84	% NC	300	10,000	13,567	73	60	0.23	0.022	0.221	0.021	0.246	0.024	0.246	0.024	0.246	0.024
R11	3	EA-18G	238C	Overhead Break Arrival	14O2C	84	% NC	300	10,000	13,609	73	60	0.237	0.023	0.228	0.022	0.253	0.025	0.253	0.024	0.253	0.025
	4	EA-18G	236B	Overhead Break Arrival	07O2B	84	% NC	300	10,000	13,739	72	59	0.135	0.013	0.127	0.012	0.127	0.012	0.127	0.012	0.127	0.012
	5	EA-18G	236A	Overhead Break Arrival	07O2A	84	% NC	300	10,000	13,740	72	59	0.135	0.013	0.127	0.012	0.127	0.012	0.127	0.012	0.127	0.012
	1	EA-18G	205A	Departure	07D2B	84	% NC	300	9,000	9,677	75	65	0.78	0.047	0.726	0.045	0.727	0.045	0.734	0.044	0.727	0.045
	2	EA-18G	216A	Departure	25D2A	84	% NC	300	9,000	16,276	70	58	3.276	0.197	3.372	0.209	3.116	0.192	3.145	0.189	3.116	0.192
R12	3	EA-18G	217A	Departure	25D2B	84	% NC	300	9,000	16,448	70	58	2.293	0.138	2.36	0.146	2.181	0.134	2.201	0.132	2.181	0.134
	4	EA-18G	218A	Departure	25D2C	84	% NC	300	9,000	18,999	67	55	0.983	0.059	1.011	0.063	0.935	0.057	0.943	0.057	0.935	0.057
	5	EA-18G	206A	Departure	07D2C	84	% NC	300	9,000	24,952	66	55	0.334	0.02	0.311	0.019	0.312	0.019	0.314	0.019	0.312	0.019
	1	EA-18G	273PDA	FCLP at Coupeville	14FCP1	84	% NC	150	800	47,518	75	63	1.001	0	0.671	0	0.258	0	0.907	0	0.387	0
	2	EA-18G	273PNB	FCLP at Coupeville	14FCP2	84	% NC	150	1,200	46,886	74	62	1.273	0.897	0.872	0.58	0.347	0.219	1.153	0.813	0.521	0.329
R13	3	EA-18G	273PNA	FCLP at Coupeville	14FCP1	84	% NC	150	1,200	47,526	74	62	0.636	0.449	0.436	0.29	0.174	0.109	0.577	0.407	0.261	0.164
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	30,019	71	51	0.178	0.037	0.109	0.022	0.045	0.009	0.154	0.032	0.067	0.013
	5	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	85	% NC	140	250	52,917	71	51	1.119	0.231	0.684	0.137	0.281	0.055	0.965	0.199	0.422	0.083
	1	EA-18G	268B	FCLP at Ault Field	14FU1	84	% NC	130	1,000	2,575	104	96	2.001	0.441	1.934	0.426	2.134	0.47	2.134	0.47	2.134	0.47
	2	EA-18G	269B	FCLP at Ault Field	25FU1	82.2	% NC	130	693	3,116	103	96	3.268	0.72	3.401	0.749	3.201	0.705	3.201	0.705	3.201	0.705
R14	3	EA-18G	283B	FCLP at Ault Field	25FU1	82.2	% NC	140	715	3,119	103	91	1.542	0.436	4.344	1.19	6.35	1.991	2.412	0.682	5.556	1.742
	4	EA-18G	269A	FCLP at Ault Field	25FM1	82.2	% NC	130	702	3,119	103	91	3.268	0.72	3.401	0.749	3.201	0.705	3.201	0.705	3.201	0.705
	5	EA-18G	265L	Depart and Re-enter Pattern	25PL	82.2	% NC	140	697	3,095	103	91	1.202	0.049	1.226	0.05	1.154	0.047	1.154	0.047	1.154	0.047
	1	EA-18G	273PDC	FCLP at Coupeville	14FCP3	85	% NC	140	575	1,544	110	103	1.001	0	0.671	0	0.258	0	0.907	0	0.387	0
	2	EA-18G	273PNC	FCLP at Coupeville	14FCP3	85	% NC	140	698	1,589	109	103	0.636	0.449	0.436	0.29	0.174	0.109	0.577	0.407	0.261	0.164
R15	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	85	% NC	140	585	1,871	107	101	2.001	0	1.343	0	0.515	0	1.813	0	0.773	0
	4	EA-18G	273PNB	FCLP at Coupeville	14FCP2	85	% NC	140	718	1,912	107	101	1.273	0.897	0.872	0.58	0.347	0.219	1.153	0.813	0.521	0.329
	5	EA-18G	247PD	Interfacility Ault Field to Coupeville	07WC14P	84	% NC	140	588	2,009	106	98	0.159	0	0.109	0	0.033	0	0.112	0	0.05	0
	1	EA-18G	233A	P3 P8 IFR and Growler VFR non breaks	32A1A	87	% NC	300	2,756	2,575	100	91	0.161	0.012	0.198	0.015	0.159	0.012	0.161	0.012	0.159	0.012
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	6,951	8,107	93	85	1.376	0.083	1.271	0.079	1.409	0.087	1.422	0.085	1.409	0.087
R16	3	EA-18G	278C	GCA Pattern	14G3	82	% NC	250	3,000	3,185	91	82	0.645	0.254	0.624	0.246	0.688	0.271	0.688	0.271	0.688	0.271
	4	EA-18G	208A	Departure	14D1B	95	% NC	300	6,815	9,922	90	81	3.21	0.193	2.965	0.184	3.287	0.202	3.317	0.199	3.287	0.202
	5	EA-18G	246	TACAN Arrival	32AHT	82.2	% NC	250	2,475	6,673	89	81	0.102	0.005	0.147	0.008	0.119	0.004	0.127	0.007	0.119	0.004
	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	85	N/A	0.046	0.007	0.045	0.013	0.046	0.015	0.046	0.016	0.046	0.015
	2	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	85	N/A	0.016	0.002	0.021	0.005	0.021	0.006	0.022	0.006	0.021	0.006
R17	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	79	N/A	0.046	0.007	0.045	0.013	0.046	0.015	0.046	0.016	0.046	0.015
	4	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	79	N/A	0.016	0.002	0.021	0.005	0.021	0.006	0.022	0.006	0.021	0.006
	5	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	12,686	73	59	0.435	0.09	0.293	0.059	0.115	0.022	0.394	0.081	0.172	0.034
	1	P-8	543	Low TACAN Departure	07ALT	4610	LBS	250	5,971	5,979	68	N/A	0.072	0.017	0.068	0.015	0.067	0.012	0.068	0.013	0.067	0.012
	2	P-8	545	Low TACAN Departure	25ALT	4610	LBS	250	6,446	6,474	67	N/A	0.132	0.026	0.119	0.022	0.13	0.021	0.132	0.023	0.13	0.021
R18	3	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	24,403	64	53	0.435	0.09	0.293	0.059	0.115	0.022	0.394	0.081	0.172	0.034
	4	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82	% NC	250	2,000	24,403	64	53	0.129	0.027	0.087	0.017	0.034	0.007	0.117	0.024	0.051	0.01
	5	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	85	% NC	250	2,500	22,831	63	47	1.135	0	0.704	0	0.248	0	0.843	0	0.374	0
	1	EA-18G	253PD	Interfacility Ault Field to Coupeville	32WC14P	84	% NC	140	438	907	114	108	0.018	0	0.024	0	0.014	0	0.048	0	0.021	0
	2	EA-18G	253PN	Interfacility Ault Field to Coupeville	32WC14P	84	% NC	140	438	907	114	108	0	0.007	0	0.009	0	0.005	0	0.018	0	0.007
R19	3	EA-18G	273PDA	FCLP at Coupeville	14FCP1	85	% NC	140	492	1,069	114	108	1.001	0	0.671	0	0.258	0	0.907	0	0.387	0
	4	EA-18G	273PNA	FCLP at Coupeville	14FCP1	85	% NC	140	530	1,080	113	107	0.636	0.449	0.436	0.29	0.174	0.109	0.577	0.407	0.261	0.164
	5	EA-18G	251PD	Interfacility Ault Field to Coupeville	25WC14P	84	% NC	140	444	962	113	107	0.441	0	0.302	0	0.101	0	0.344	0	0.153	0
	1	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2,933	3,692	95	87	0.362	0.027	0.333	0.025	0.381	0.03	0.386	0.029	0.381	0.03
	2	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,898	89	78	0.387	0.152	0.344	0.135	0.323	0.127	0.323	0.127	0.323	0.127
R20	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2,769	6,744	88	78	0.844	0.064	0.777	0.059	0.89	0.07	0.9	0.068	0.89	0.07
	4	transient	423	IFR non breaks	14A2E	17760	LBS	180	3,047	3,071	86	N/A	0.063	0.004	0.062	0.007	0.069	0.007	0.07	0.005	0.069	0.007
	5	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760	LBS	180	3,047	3,071	86	N/A	0.072	0.015	0.071	0.014	0.078	0.014	0.079	0.016	0.078	0.014

Table A6-3 SEL-Ranked Flight Profiles for Alternative 1 for Average Year (concluded)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated		Annual Average Daily Events (3)									
											SEL (dBA)	Lmax (dBA) (4)	1A		1B		1C		1D		1E	
													Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)
	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	82.2	% NC	140	773	4009	98	90	0.096	0.004	0.096	0.004	0.096	0.004	0.096	0.004	0.096	0.004
	2	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	802	4008	96	90	0.4	0.088	0.533	0.118	0.533	0.118	0.533	0.118	0.533	0.118
S01	3	EA-18G	284B	FCLP at Ault Field	32FU1	82.2	% NC	140	839	4014	96	84	0.066	0.019	0.668	0.183	0.777	0.244	0.295	0.083	0.68	0.213
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	82.2	% NC	140	773	4003	96	84	0.096	0.004	0.096	0.004	0.096	0.004	0.096	0.004	0.096	0.004
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82.2	% NC	140	861	3936	95	83	0.178	0.037	0.109	0.022	0.045	0.009	0.154	0.032	0.067	0.013
	1	EA-18G	212A	Departure	14D2C	95	% NC	300	2514	3432	104	94	0.59	0.035	0.545	0.034	0.604	0.037	0.609	0.037	0.604	0.037
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	2514	3432	104	93	1.376	0.083	1.271	0.079	1.409	0.087	1.422	0.085	1.409	0.087
S02	3	EA-18G	207A	Departure	14D1A	95	% NC	300	2514	3432	104	94	4.586	0.275	4.236	0.262	4.696	0.289	4.739	0.284	4.696	0.289
	4	EA-18G	211A	Departure	14D2B	95	% NC	300	2514	3432	104	94	1.376	0.083	1.271	0.079	1.409	0.087	1.422	0.085	1.409	0.087
	5	EA-18G	208A	Departure	14D1B	95	% NC	300	2514	3432	104	94	3.21	0.193	2.965	0.184	3.287	0.202	3.317	0.199	3.287	0.202
	1	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	5231	94	89	2.573	0	1.566	0	0.631	0	2.22	0	0.946	0
	2	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1200	5297	94	89	1.636	1.154	1.017	0.676	0.425	0.268	1.412	0.996	0.638	0.402
S03	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	6105	92	89	5.146	0	3.133	0	1.261	0	4.44	0	1.893	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1200	6162	92	89	3.273	2.307	2.034	1.353	0.851	0.536	2.823	1.991	1.276	0.804
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1200	7058	90	88	1.636	1.154	1.017	0.676	0.425	0.268	1.412	0.996	0.638	0.402
	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2882	4781	93	83	0.362	0.027	0.333	0.025	0.381	0.03	0.386	0.029	0.381	0.03
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2903	92	84	0.645	0.254	0.624	0.246	0.688	0.271	0.688	0.271	0.688	0.271
S04	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2719	7342	87	76	0.844	0.064	0.777	0.059	0.89	0.07	0.9	0.068	0.89	0.07
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3000	2903	85	N/A	0.381	0.042	0.355	0.037	0.374	0.031	0.381	0.036	0.374	0.031
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3000	2903	85	76	0.034	0	0.032	0	0.035	0	0.035	0	0.035	0
	1	EA-18G	243	TACAN Arrival	07AHT	78	% NC	250	3529	3374	76	68	0.407	0.022	0.293	0.016	0.406	0.013	0.433	0.023	0.406	0.013
	2	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2712	19217	70	56	0.362	0.027	0.333	0.025	0.381	0.03	0.386	0.029	0.381	0.03
S05	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2592	23773	66	51	0.844	0.064	0.777	0.059	0.89	0.07	0.9	0.068	0.89	0.07
	4	EA-18G	224A	Departure	32D2C	95	% NC	300	8249	32151	65	52	0.059	0.004	0.078	0.005	0.097	0.006	0.098	0.006	0.097	0.006
	5	P-8	538C	P3 P8 IFR and Growler VFR non breaks	14A2C	17760	LBS	180	3047	19344	64	N/A	0.355	0.069	0.318	0.056	0.356	0.061	0.355	0.063	0.356	0.061
	1	EA-18G	224A	Departure	32D2C	84	% NC	300	9000	61543	51	39	0.059	0.004	0.078	0.005	0.097	0.006	0.098	0.006	0.097	0.006
	2	EA-18G	223A	Departure	32D2B	84	% NC	300	9000	66657	50	39	0.138	0.008	0.182	0.011	0.227	0.014	0.229	0.014	0.227	0.014
S06	3	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3000	40394	50	37	0.221	0.025	0.203	0.019	0.181	0.018	0.184	0.021	0.181	0.018
	4	transient	447C	GCA Pattern	07G3	17760	LBS	200	3000	40394	50	37	0.018	0	0.018	0	0.017	0	0.017	0	0.017	0
	5	EA-18G	222A	Departure	32D2A	95	% NC	300	8656	71520	49	37	0.197	0.012	0.259	0.016	0.325	0.02	0.328	0.02	0.325	0.02
	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2810	88787	61	51	0.387	0.152	0.344	0.135	0.323	0.127	0.323	0.127	0.323	0.127
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2500	165180	59	47	0.681	0	0.394	0	0.214	0	0.725	0	0.322	0
S07	3	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2500	165180	59	47	0	0.227	0	0.122	0	0.065	0	0.245	0	0.098
	4	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	82	% NC	250	2500	135475	59	47	0.045	0	0.056	0	0.035	0	0.118	0	0.052	0
	5	EA-18G	254PN	Interfacility Ault Field to Coupeville	32WC32P	82	% NC	250	2500	135475	59	47	0	0.015	0	0.017	0	0.011	0	0.04	0	0.016
	1	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3000	2779	93	81	0.065	0.025	0.086	0.034	0.086	0.034	0.086	0.034	0.086	0.034
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2779	93	81	0.645	0.254	0.624	0.246	0.688	0.271	0.688	0.271	0.688	0.271
S08	3	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2851	6041	89	80	1.206	0.091	1.11	0.084	1.271	0.099	1.286	0.097	1.271	0.099
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3000	4183	88	79	1.054	0.415	1.097	0.432	1.054	0.415	1.054	0.415	1.054	0.415
	5	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3000	4183	88	79	0.387	0.152	0.344	0.135	0.323	0.127	0.323	0.127	0.323	0.127
	1	EA-18G	232A	P3 P8 IFR and Growler VFR non breaks	25A3A	87	% NC	300	3000	4033	92	86	0.985	0.074	1.011	0.076	0.953	0.074	0.965	0.073	0.953	0.074
	2	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3000	3025	91	78	0.258	0.102	0.229	0.09	0.215	0.085	0.215	0.085	0.215	0.085
S09	3	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3000	5300	87	75	5.269	2.074	5.484	2.159	5.269	2.074	5.269	2.074	5.269	2.074
	4	EA-18G	206A	Departure	07D2C	95	% NC	300	5403	11786	86	76	0.334	0.02	0.311	0.019	0.312	0.019	0.314	0.019	0.312	0.019
	5	EA-18G	203A	Departure	07D1C	95	% NC	300	5300	11968	86	76	0.78	0.047	0.726	0.045	0.727	0.045	0.734	0.044	0.727	0.045
	1	P-8	546	Low TACAN Departure	32ALT	17760	LBS	250	3616	3501	83	N/A	0.017	0.003	0.017	0.005	0.017	0.005	0.017	0.006	0.017	0.005
	2	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2333	19814	71	61	0.065	0.025	0.086	0.034	0.086	0.034	0.086	0.034	0.086	0.034
S10	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2000	20733	70	58	0.356	0.073	0.24	0.048	0.094	0.018	0.323	0.067	0.141	0.028
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2000	20783	70	58	0.069	0.014	0.047	0.009	0.018	0.004	0.063	0.013	0.027	0.005
	5	EA-18G	246	TACAN Arrival	32AHT	78	% NC	250	3085	23749	70	53	0.102	0.005	0.147	0.008	0.119	0.004	0.127	0.007	0.119	0.004

Notes:
(1) 0 ft indicates the contributing profile is the beginning of takeoff roll
(2) FYI, Ault Field's elevation is 47 ft MSL, OLF Coupeville's elevation is 200 ft MSL
(3) not operations. Patterns counted as 1 event, vice 2 operations.
(4) n/a = not available: NOISEMAP's database does not include Lmax data for flight events for this aircraft type (B737-700).
(5) Estimated from the average difference of SEL and Lmax of similar events at this POI

Table A6-4 SEL-Ranked Flight Profiles for Alternative 2 for Average Year

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated		Annual Average Daily Events (3)									
											SEL (dBA)	Lmax (dBA) (4)	2A		2B		2C		2D		2E	
													Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)
	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84	% NC	250	2,000	4,401	93	82	0.102	0.003	0.102	0.003	0.102	0.003	0.102	0.003	0.102	0.003
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84	% NC	250	2,000	4,415	92	82	0.742	0.024	0.742	0.024	0.793	0.026	0.793	0.026	0.793	0.026
P01	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	4,889	92	80	1.279	0.042	1.305	0.043	1.228	0.04	1.228	0.04	1.228	0.04
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	2,000	4,943	91	80	0.435	0.014	0.409	0.013	0.435	0.014	0.435	0.014	0.435	0.014
	5	EA-18G	269B	FCLP at Ault Field	25FU1	84	% NC	130	1,000	9,077	87	76	3.305	0.673	3.44	0.701	3.238	0.66	3.238	0.66	3.238	0.66
	1	EA-18G	268A	FCLP at Ault Field	14FM1	82.2	% NC	130	852	1,389	107	104	2.024	0.412	1.956	0.398	2.159	0.44	2.159	0.44	2.159	0.44
	2	EA-18G	268B	FCLP at Ault Field	14FU1	82.2	% NC	130	859	1,393	107	103	2.024	0.412	1.956	0.398	2.159	0.44	2.159	0.44	2.159	0.44
P02	3	EA-18G	282A	FCLP at Ault Field	14FM1	82.2	% NC	140	893	1,393	107	100	0.971	0.248	2.239	0.606	4.17	1.194	1.603	0.41	3.649	1.045
	4	EA-18G	282B	FCLP at Ault Field	14FU1	82.2	% NC	140	859	1,393	106	100	0.971	0.248	2.239	0.606	4.17	1.194	1.603	0.41	3.649	1.045
	5	EA-18G	264R	Depart and Re-enter Pattern	14PR	82.2	% NC	140	859	1,393	106	100	0.742	0.024	0.742	0.024	0.793	0.026	0.793	0.026	0.793	0.026
	1	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	1,477	1,206	105	98	0.435	0.014	0.409	0.013	0.435	0.014	0.435	0.014	0.435	0.014
	2	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	1,599	103	95	1.279	0.042	1.305	0.043	1.228	0.04	1.228	0.04	1.228	0.04
P03	3	EA-18G	264L	Depart and Re-enter Pattern	14PL	84	% NC	250	1,999	2,306	99	90	0.742	0.024	0.742	0.024	0.793	0.026	0.793	0.026	0.793	0.026
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	84	% NC	250	2,000	2,401	99	90	0.102	0.003	0.102	0.003	0.102	0.003	0.102	0.003	0.102	0.003
	5	EA-18G	245	TACAN Arrival	25AHT	85	% NC	150	1,023	5,395	97	87	1.268	0.071	1.227	0.057	1.079	0.06	1.196	0.067	1.079	0.06
	1	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	96	% NC	150	936	1,943	111	106	1.075	0.212	0.662	0.121	0.267	0.052	0.928	0.183	0.401	0.079
	2	EA-18G	259	Interfacility Coupeville to Ault Field	32CW07	96	% NC	150	936	1,943	111	106	0.318	0.063	0.196	0.036	0.079	0.015	0.274	0.054	0.119	0.023
P04	3	EA-18G	261	Interfacility Coupeville to Ault Field	32CW25	96	% NC	150	936	1,943	111	106	0.88	0.173	0.542	0.099	0.218	0.043	0.759	0.15	0.328	0.064
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	96	% NC	150	936	1,943	111	106	0.171	0.034	0.105	0.019	0.042	0.008	0.148	0.029	0.064	0.013
	5	EA-18G	273PDA	FCLP at Coupeville	14FCP1	85	% NC	140	337	1,801	108	100	0.962	0	0.649	0	0.249	0	0.872	0	0.373	0
	1	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1,200	8,512	88	77	1.612	1.034	0.988	0.61	0.413	0.243	1.391	0.892	0.619	0.365
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	8,475	88	77	2.474	0	1.514	0	0.609	0	2.135	0	0.913	0
P05	3	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,200	9,601	87	77	3.224	2.068	1.977	1.221	0.825	0.487	2.782	1.784	1.238	0.73
	4	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	9,568	87	77	4.949	0	3.027	0	1.217	0	4.271	0	1.826	0
	5	transient	430	IFR non breaks	32A2E	17760	LBS	180	3,047	3,122	85	N/A	0.009	0.001	0.011	0.001	0.01	0.001	0.011	0.001	0.01	0.001
	1	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	799	5,329	96	85	2.474	0	1.514	0	0.609	0	2.135	0	0.913	0
	2	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1,199	5,397	96	84	1.612	1.034	0.988	0.61	0.413	0.243	1.391	0.892	0.619	0.365
P06	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	799	6,534	93	81	4.949	0	3.027	0	1.217	0	4.271	0	1.826	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,199	6,590	93	81	3.224	2.068	1.977	1.221	0.825	0.487	2.782	1.784	1.238	0.73
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1,199	7,791	91	79	1.612	1.034	0.988	0.61	0.413	0.243	1.391	0.892	0.619	0.365
	1	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2,000	12,064	82	73	0.067	0.013	0.045	0.008	0.017	0.003	0.06	0.012	0.026	0.005
	2	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2,000	11,825	82	73	0.342	0.067	0.232	0.042	0.089	0.017	0.31	0.061	0.134	0.026
P07	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84	% NC	150	800	23,102	80	68	1.925	0	1.297	0	0.497	0	1.744	0	0.746	0
	4	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2,208	17,859	80	71	0.065	0.024	0.086	0.032	0.086	0.032	0.086	0.032	0.086	0.032
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	9,777	79	66	0.171	0.034	0.105	0.019	0.042	0.008	0.148	0.029	0.064	0.013
	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760	LBS	250	3,047	3,389	85	N/A	0.047	0.007	0.046	0.013	0.046	0.015	0.047	0.015	0.046	0.015
	2	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	3,389	85	N/A	0.022	0.002	0.022	0.005	0.022	0.005	0.022	0.006	0.022	0.005
P08	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760	LBS	250	3,047	5,353	81	N/A	0.047	0.007	0.046	0.013	0.046	0.015	0.047	0.015	0.046	0.015
	4	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	5,353	81	N/A	0.022	0.002	0.022	0.005	0.022	0.005	0.022	0.006	0.022	0.005
	5	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82	% NC	250	2,000	10,604	76	64	0.124	0.024	0.084	0.015	0.032	0.006	0.112	0.022	0.048	0.01
	1	EA-18G	244	TACAN Arrival	14AHT	78	% NC	250	3,163	48,626	62	51	0.646	0.036	0.57	0.026	0.604	0.034	0.67	0.038	0.604	0.034
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	230	2,403	34,003	61	52	0.648	0.239	0.627	0.231	0.691	0.255	0.691	0.255	0.691	0.255
P09	3	P-8	544	Low TACAN Departure	14ALT	4610	LBS	250	5,632	28,942	55	53	0.197	0.037	0.201	0.039	0.205	0.041	0.201	0.04	0.205	0.041
	4	EA-18G	215A	Departure	25D1C	95	% NC	300	4,765	109,923	55	48	2.357	0.147	2.432	0.15	2.254	0.131	2.263	0.142	2.254	0.131
	5	EA-18G	217A	Departure	25D2B	95	% NC	300	3,835	110,307	54	43	2.357	0.147	2.432	0.15	2.254	0.131	2.263	0.142	2.254	0.131
	1	EA-18G	229A	P3 P8 IFR and Growler VFR non breaks	14A2A	87	% NC	300	2,577	4,579	95	85	1.249	0.093	1.157	0.082	1.323	0.1	1.332	0.099	1.323	0.1
	2	EA-18G	223A	Departure	32D2B	95	% NC	300	8,291	9,255	90	80	0.141	0.009	0.187	0.012	0.235	0.014	0.236	0.015	0.235	0.014
P10	3	EA-18G	279C	GCA Pattern	25G3	82	% NC	250	3,000	4,073	89	80	1.059	0.39	1.102	0.406	1.059	0.39	1.059	0.39	1.059	0.39
	4	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	4,085	89	79	0.389	0.143	0.346	0.127	0.324	0.119	0.324	0.119	0.324	0.119
	5	EA-18G	277B	GCA Pattern	07G2	82	% NC	300	3,000	4,387	88	78	0.259	0.096	0.23	0.085	0.216	0.08	0.216	0.08	0.216	0.08
	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2,926	21,053	64	50	0.389	0.143	0.346	0.127	0.324	0.119	0.324	0.119	0.324	0.119
	2	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3,000	21,066	63	N/A	0.222	0.025	0.201	0.021	0.187	0.019	0.185	0.021	0.187	0.019
P11	3	transient	447C	GCA Pattern	07G3	17760	LBS	200	3,000	21,066	63	N/A	0.021	0	0.018	0	0.017	0	0.017	0	0.017	0
	4	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760	LBS	250	3,047	30,649	57	N/A	0.069	0.014	0.065	0.013	0.078	0.016	0.076	0.015	0.078	0.016
	5	transient	423	IFR non breaks	14A2E	17760	LBS	250	3,047	30,649	57	N/A	0.063	0.006	0.059	0.006	0.064	0.006	0.07	0.007	0.064	0.006
	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2,941	9,040	82	74	0.375	0.028	0.347	0.024	0.397	0.03	0.4	0.03	0.397	0.03
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3,000	7,718	80	72	0.648	0.239	0.627	0.231	0.691	0.255	0.691	0.255	0.691	0.255
P12	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2,784	12,784	79	68	0.874	0.065	0.81	0.057	0.926	0.07	0.932	0.07	0.926	0.07
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3,000	7,718	78	N/A	0.382	0.042	0.351	0.041	0.386	0.034	0.382	0.037	0.386	0.034
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3,000	7,718	78	N/A	0.036	0	0.032	0	0.035	0	0.036	0	0.035	0
	1	EA-18G	219A	Departure	32D1A	95	% NC	300	7,686	7,575	94	86	0.471	0.029	0.624	0.038	0.783	0.045	0.786	0.049	0.783	0.045
	2	EA-18G	278B	GCA Pattern	14G2	82	% NC	300	3,000	3,526	91	81	0.432	0.159	0.418	0.154	0.461	0.17	0.461	0.17	0.461	0.17
P13	3	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,689	90	80	0.389	0.143	0.346	0.127	0.324	0.119	0.324	0.119	0.324	0.119
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3,000	3,689	90	81	1.059	0.39	1.102	0.406	1.059	0.39	1.059	0.39	1.059	0.39
	5	EA-18G	280B	GCA Pattern	32G2	82	% NC	300	3,000	3,526	90	81	0.043	0.016	0.058	0.021	0.058	0.021	0.058	0.021	0.058	0.021

Table A6-4 SEL-Ranked Flight Profiles for Alternative 2 for Average Year (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated		Annual Average Daily Events (3)									
											SEL (dBA)	Lmax (dBA) (4)	2A		2B		2C		2D		2E	
													Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)
	1	EA-18G	278C	GCA Pattern	14G3	82	% NC	230	1,822	20,245	76	63	0.648	0.239	0.627	0.231	0.691	0.255	0.691	0.255	0.691	0.255
	2	P-8	544	Low TACAN Departure	14ALT	4610	LBS	250	4,622	4,657	72	N/A	0.197	0.037	0.201	0.039	0.205	0.041	0.201	0.04	0.205	0.041
P14	3	EA-18G	278B	GCA Pattern	14G2	82	% NC	230	2,166	23,933	72	58	0.432	0.159	0.418	0.154	0.461	0.17	0.461	0.17	0.461	0.17
	4	EA-18G	221A	Departure	32D1C	95	% NC	300	6,560	43,942	69	49	0.141	0.009	0.187	0.012	0.235	0.014	0.236	0.015	0.235	0.014
	5	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2,569	25,383	67	55	0.375	0.028	0.347	0.024	0.397	0.03	0.4	0.03	0.397	0.03
	1	EA-18G	206A	Departure	07D2C	95	% NC	300	5,213	8,277	92	83	0.344	0.021	0.321	0.02	0.322	0.019	0.323	0.02	0.322	0.019
	2	EA-18G	203A	Departure	07D1C	95	% NC	300	5,155	8,368	92	83	0.802	0.05	0.748	0.046	0.751	0.044	0.754	0.047	0.751	0.044
P15	3	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3,000	3,437	91	80	0.259	0.096	0.23	0.085	0.216	0.08	0.216	0.08	0.216	0.08
	4	EA-18G	205A	Departure	07D2B	95	% NC	300	4,892	9,517	90	79	0.802	0.05	0.748	0.046	0.751	0.044	0.754	0.047	0.751	0.044
	5	EA-18G	202A	Departure	07D1B	95	% NC	300	4,743	10,004	89	78	1.87	0.117	1.746	0.108	1.753	0.102	1.76	0.11	1.753	0.102
	1	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	8,724	79	67	0.418	0.082	0.284	0.052	0.109	0.021	0.379	0.075	0.164	0.032
	2	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82	% NC	250	2,000	8,724	79	67	0.124	0.024	0.084	0.015	0.032	0.006	0.112	0.022	0.048	0.01
P16	3	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	82	% NC	250	2,500	10,146	78	64	1.101	0	0.68	0	0.233	0	0.817	0	0.351	0
	4	EA-18G	248PN	Interfacility Ault Field to Coupeville	07WC32P	82	% NC	250	2,500	10,318	78	64	0	0.124	0	0.072	0	0.024	0	0.085	0	0.037
	5	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2,500	10,355	78	64	0	0.207	0	0.112	0	0.064	0	0.224	0	0.097
	1	EA-18G	276PDA	FCLP at Coupeville	32FCP1	84	% NC	150	799	742	115	110	2.474	0	1.514	0	0.609	0	2.135	0	0.913	0
	2	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1,199	1,129	111	106	1.612	1.034	0.988	0.61	0.413	0.243	1.391	0.892	0.619	0.365
P17	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	799	1,206	111	105	4.949	0	3.027	0	1.217	0	4.271	0	1.826	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,199	1,476	109	103	3.224	2.068	1.977	1.221	0.825	0.487	2.782	1.784	1.238	0.73
	5	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	799	2,304	106	97	2.474	0	1.514	0	0.609	0	2.135	0	0.913	0
	1	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1,200	6,600	92	82	1.612	1.034	0.988	0.61	0.413	0.243	1.391	0.892	0.619	0.365
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	6,544	91	82	2.474	0	1.514	0	0.609	0	2.135	0	0.913	0
P18	3	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,200	7,760	90	79	3.224	2.068	1.977	1.221	0.825	0.487	2.782	1.784	1.238	0.73
	4	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	7,712	90	79	4.949	0	3.027	0	1.217	0	4.271	0	1.826	0
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1,200	8,929	87	78	1.612	1.034	0.988	0.61	0.413	0.243	1.391	0.892	0.619	0.365
	1	EA-18G	251PN	Interfacility Ault Field to Coupeville	25WC14P	97	% NC	135	59	1,093	121	114	0	0.155	0	0.099	0	0.034	0	0.117	0	0.051
	2	EA-18G	251PD	Interfacility Ault Field to Coupeville	25WC14P	97	% NC	135	59	1,093	121	114	0.428	0	0.291	0	0.095	0	0.334	0	0.143	0
R01	3	EA-18G	252PN	Interfacility Ault Field to Coupeville	25WC32P	97	% NC	135	59	1,093	121	114	0	0.345	0	0.2	0	0.075	0	0.26	0	0.113
	4	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	97	% NC	135	59	1,093	121	114	1.101	0	0.68	0	0.233	0	0.817	0	0.351	0
	5	EA-18G	204A	Departure	07D2A	97	% NC	165	302	1,118	120	116	1.145	0.072	1.069	0.066	1.073	0.062	1.078	0.067	1.073	0.062
	1	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	97	% NC	0	47	3,519	110	96	0	0.207	0	0.112	0	0.064	0	0.224	0	0.097
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	97	% NC	0	47	3,519	110	96	0.66	0	0.381	0	0.201	0	0.703	0	0.302	0
R02	3	EA-18G	249PN	Interfacility Ault Field to Coupeville	14WC14P	97	% NC	0	47	3,519	110	96	0	0.093	0	0.055	0	0.029	0	0.101	0	0.044
	4	EA-18G	249PD	Interfacility Ault Field to Coupeville	14WC14P	97	% NC	0	47	3,519	110	96	0.257	0	0.163	0	0.082	0	0.287	0	0.123	0
	5	EA-18G	210A	Departure	14D2A	97	% NC	0	47	3,519	109	100	2.021	0.126	1.871	0.115	2.08	0.121	2.088	0.131	2.08	0.121
	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84	% NC	250	2,000	1,787	101	93	0.102	0.003	0.102	0.003	0.102	0.003	0.102	0.003	0.102	0.003
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84	% NC	250	2,000	1,967	101	92	0.742	0.024	0.742	0.024	0.793	0.026	0.793	0.026	0.793	0.026
R03	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	1,971	100	92	1.279	0.042	1.305	0.043	1.228	0.04	1.228	0.04	1.228	0.04
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	2,000	2,001	100	92	0.435	0.014	0.409	0.013	0.435	0.014	0.435	0.014	0.435	0.014
	5	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	817	8,282	88	78	0.405	0.082	0.54	0.11	0.54	0.11	0.54	0.11	0.54	0.11
	1	EA-18G	205A	Departure	07D2B	95	% NC	300	4,035	5,492	99	88	0.802	0.05	0.748	0.046	0.751	0.044	0.754	0.047	0.751	0.044
	2	EA-18G	202A	Departure	07D1B	95	% NC	300	4,007	5,530	98	88	1.87	0.117	1.746	0.108	1.753	0.102	1.76	0.11	1.753	0.102
R04	3	EA-18G	206A	Departure	07D2C	95	% NC	300	4,096	5,708	98	88	0.344	0.021	0.321	0.02	0.322	0.019	0.323	0.02	0.322	0.019
	4	EA-18G	203A	Departure	07D1C	95	% NC	300	4,096	5,708	98	88	0.802	0.05	0.748	0.046	0.751	0.044	0.754	0.047	0.751	0.044
	5	EA-18G	204A	Departure	07D2A	95	% NC	300	3,804	6,519	96	86	1.145	0.072	1.069	0.066	1.073	0.062	1.078	0.067	1.073	0.062
	1	EA-18G	277A	GCA Pattern	07G1	82	% NC	250	3,000	3,009	92	84	1.945	0.717	1.728	0.637	1.62	0.597	1.62	0.597	1.62	0.597
	2	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3,000	3,350	91	82	5.294	1.951	5.51	2.031	5.294	1.951	5.294	1.951	5.294	1.951
R05	3	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3,000	3,491	90	82	0.065	0.024	0.086	0.032	0.086	0.032	0.086	0.032	0.086	0.032
	4	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3,000	3,491	90	82	0.648	0.239	0.627	0.231	0.691	0.255	0.691	0.255	0.691	0.255
	5	EA-18G	205A	Departure	07D2B	95	% NC	300	3,808	13,742	85	75	0.802	0.05	0.748	0.046	0.751	0.044	0.754	0.047	0.751	0.044
	1	EA-18G	276PDB	FCLP at Coupeville	32FCP2	85	% NC	140	515	389	121	114	4.949	0	3.027	0	1.217	0	4.271	0	1.826	0
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	85	% NC	140	508	405	120	113	2.474	0	1.514	0	0.609	0	2.135	0	0.913	0
R06	3	EA-18G	276PDA	FCLP at Coupeville	32FCP1	85	% NC	140	524	412	120	113	2.474	0	1.514	0	0.609	0	2.135	0	0.913	0
	4	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	84	% NC	140	526	399	120	113	1.101	0	0.68	0	0.233	0	0.817	0	0.351	0
	5	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	84	% NC	140	523	399	120	113	0.044	0	0.054	0	0.033	0	0.114	0	0.049	0
	1	EA-18G	273PDA	FCLP at Coupeville	14FCP1	84	% NC	150	799	769	115	109	0.962	0	0.649	0	0.249	0	0.872	0	0.373	0
	2	EA-18G	273PNA	FCLP at Coupeville	14FCP1	84	% NC	150	1,199	1,167	111	104	0.627	0.402	0.424	0.262	0.169	0.099	0.568	0.364	0.253	0.149
R07	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84	% NC	150	799	1,512	110	100	1.925	0	1.297	0	0.497	0	1.744	0	0.746	0
	4	EA-18G	273PNB	FCLP at Coupeville	14FCP2	84	% NC	150	1,199	1,749	108	100	1.254	0.804	0.847	0.523	0.337	0.199	1.136	0.729	0.506	0.298
	5	EA-18G	253PD	Interfacility Ault Field to Coupeville	32WC14P	82.2	% NC	140	1,104	1,725	105	100	0.017	0	0.023	0	0.013	0	0.047	0	0.02	0
	1	EA-18G	273PDC	FCLP at Coupeville	14FCP3	84	% NC	150	800	3,154	101	106	0.962	0	0.649	0	0.249	0	0.872	0	0.373	0
	2	EA-18G	273PNC	FCLP at Coupeville	14FCP3	84	% NC	150	1,200	3,252	100	93	0.627	0.402	0.424	0.262	0.169	0.099	0.568	0.364	0.253	0.149
R08	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2,000	2,690	99	92	0.342	0.067	0.232	0.042	0.089	0.017	0.31	0.061	0.134	0.026
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2,000	2,690	99	92	0.067	0.013	0.045	0.008	0.017	0.003	0.06	0.012	0.026	0.005
	5	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84	% NC	150	800	4,008	98	91	1.925	0	1.297	0	0.497	0	1.744	0	0.746	0

Table A6-4 SEL-Ranked Flight Profiles for Alternative 2 for Average Year (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated		Annual Average Daily Events (3)									
											SEL (dBA)	Lmax (dBA) (4)	2A		2B		2C		2D		2E	
													Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)
	1	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	85	% NC	300	2,231	5,007	90	82	0.044	0	0.054	0	0.033	0	0.114	0	0.049	0
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	85	% NC	300	2,236	5,091	90	82	0.66	0	0.381	0	0.201	0	0.703	0	0.302	0
R09	3	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	85	% NC	300	2,180	5,083	90	81	1.101	0	0.68	0	0.233	0	0.817	0	0.351	0
	4	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	85	% NC	300	2,299	5,114	90	81	0	0.207	0	0.112	0	0.064	0	0.224	0	0.097
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	3,677	90	81	0.171	0.034	0.105	0.019	0.042	0.008	0.148	0.029	0.064	0.013
	1	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2,480	3,143	100	90	0.874	0.065	0.81	0.057	0.926	0.07	0.932	0.07	0.926	0.07
	2	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2,620	3,563	98	88	0.375	0.028	0.347	0.024	0.397	0.03	0.4	0.03	0.397	0.03
R10	3	EA-18G	280C	GCA Pattern	32G3	82	% NC	250	3,000	2,980	93	84	0.065	0.024	0.086	0.032	0.086	0.032	0.086	0.032	0.086	0.032
	4	EA-18G	278A	GCA Pattern	14G1	82	% NC	300	2,999	3,168	92	83	3.241	1.195	3.133	1.155	3.457	1.274	3.457	1.274	3.457	1.274
	5	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2,347	7,186	90	77	1.249	0.093	1.157	0.082	1.323	0.1	1.332	0.099	1.323	0.1
	1	EA-18G	238A	Overhead Break Arrival	14O2A	84	% NC	300	10,000	13,520	73	60	0.238	0.023	0.23	0.022	0.255	0.024	0.255	0.025	0.255	0.024
	2	EA-18G	238B	Overhead Break Arrival	14O2B	84	% NC	300	10,000	13,567	73	60	0.238	0.023	0.23	0.022	0.255	0.024	0.255	0.025	0.255	0.024
R11	3	EA-18G	238C	Overhead Break Arrival	14O2C	84	% NC	300	10,000	13,609	73	60	0.245	0.024	0.237	0.023	0.263	0.024	0.262	0.025	0.263	0.024
	4	EA-18G	236B	Overhead Break Arrival	07O2B	84	% NC	300	10,000	13,739	72	59	0.14	0.013	0.131	0.013	0.132	0.012	0.131	0.013	0.132	0.012
	5	EA-18G	236A	Overhead Break Arrival	07O2A	84	% NC	300	10,000	13,740	72	59	0.14	0.013	0.131	0.013	0.132	0.012	0.131	0.013	0.132	0.012
	1	EA-18G	205A	Departure	07D2B	84	% NC	300	9,000	9,677	75	65	0.802	0.05	0.748	0.046	0.751	0.044	0.754	0.047	0.751	0.044
	2	EA-18G	216A	Departure	25D2A	84	% NC	300	9,000	16,276	70	58	3.368	0.211	3.475	0.214	3.22	0.187	3.233	0.202	3.22	0.187
R12	3	EA-18G	217A	Departure	25D2B	84	% NC	300	9,000	16,448	70	58	2.357	0.147	2.432	0.15	2.254	0.131	2.263	0.142	2.254	0.131
	4	EA-18G	218A	Departure	25D2C	84	% NC	300	9,000	18,999	67	55	1.01	0.063	1.042	0.064	0.966	0.056	0.97	0.061	0.966	0.056
	5	EA-18G	206A	Departure	07D2C	84	% NC	300	9,000	24,952	66	55	0.344	0.021	0.321	0.02	0.322	0.019	0.323	0.02	0.322	0.019
	1	EA-18G	273PDA	FCLP at Coupeville	14FCP1	84	% NC	150	800	47,518	75	63	0.962	0	0.649	0	0.249	0	0.872	0	0.373	0
	2	EA-18G	273PNB	FCLP at Coupeville	14FCP2	84	% NC	150	1,200	46,886	74	62	1.254	0.804	0.847	0.523	0.337	0.199	1.136	0.729	0.506	0.298
R13	3	EA-18G	273PNA	FCLP at Coupeville	14FCP1	84	% NC	150	1,200	47,526	74	62	0.627	0.402	0.424	0.262	0.169	0.099	0.568	0.364	0.253	0.149
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	30,019	71	51	0.171	0.034	0.105	0.019	0.042	0.008	0.148	0.029	0.064	0.013
	5	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	85	% NC	140	250	52,917	71	51	1.075	0.212	0.662	0.121	0.267	0.052	0.928	0.183	0.401	0.079
	1	EA-18G	268B	FCLP at Ault Field	14FU1	84	% NC	130	1,000	2,575	104	96	2.024	0.412	1.956	0.398	2.159	0.44	2.159	0.44	2.159	0.44
	2	EA-18G	269B	FCLP at Ault Field	25FU1	82.2	% NC	130	693	3,116	103	96	3.305	0.673	3.44	0.701	3.238	0.66	3.238	0.66	3.238	0.66
R14	3	EA-18G	283B	FCLP at Ault Field	25FU1	82.2	% NC	140	715	3,119	103	91	1.522	0.389	4.158	1.125	6.192	1.773	2.38	0.609	5.418	1.551
	4	EA-18G	269A	FCLP at Ault Field	25FM1	82.2	% NC	130	702	3,119	103	91	3.305	0.673	3.44	0.701	3.238	0.66	3.238	0.66	3.238	0.66
	5	EA-18G	265L	Depart and Re-enter Pattern	25PL	82.2	% NC	140	697	3,095	103	91	1.279	0.042	1.305	0.043	1.228	0.04	1.228	0.04	1.228	0.04
	1	EA-18G	273PDC	FCLP at Coupeville	14FCP3	85	% NC	140	575	1,544	110	103	0.962	0	0.649	0	0.249	0	0.872	0	0.373	0
	2	EA-18G	273PNC	FCLP at Coupeville	14FCP3	85	% NC	140	698	1,589	109	103	0.627	0.402	0.424	0.262	0.169	0.099	0.568	0.364	0.253	0.149
R15	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	85	% NC	140	585	1,871	107	101	1.925	0	1.297	0	0.497	0	1.744	0	0.746	0
	4	EA-18G	273PNB	FCLP at Coupeville	14FCP2	85	% NC	140	718	1,912	107	101	1.254	0.804	0.847	0.523	0.337	0.199	1.136	0.729	0.506	0.298
	5	EA-18G	247PD	Interfacility Ault Field to Coupeville	07WC14P	84	% NC	140	588	2,009	106	98	0.154	0	0.105	0	0.031	0	0.109	0	0.047	0
	1	EA-18G	233A	P3 P8 IFR and Growler VFR non breaks	32A1A	87	% NC	300	2,756	2,575	100	91	0.166	0.012	0.207	0.015	0.165	0.012	0.166	0.012	0.165	0.012
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	6,951	8,107	93	85	1.414	0.088	1.31	0.081	1.456	0.084	1.462	0.091	1.456	0.084
R16	3	EA-18G	278C	GCA Pattern	14G3	82	% NC	250	3,000	3,185	91	82	0.648	0.239	0.627	0.231	0.691	0.255	0.691	0.255	0.691	0.255
	4	EA-18G	208A	Departure	14D1B	95	% NC	300	6,815	9,922	90	81	3.3	0.206	3.056	0.188	3.397	0.197	3.41	0.213	3.397	0.197
	5	EA-18G	246	TACAN Arrival	32AHT	82.2	% NC	250	2,475	6,673	89	81	0.096	0.005	0.132	0.006	0.108	0.006	0.12	0.007	0.108	0.006
	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	85	N/A	0.047	0.007	0.046	0.013	0.046	0.015	0.047	0.015	0.046	0.015
	2	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	85	N/A	0.022	0.002	0.022	0.005	0.022	0.005	0.022	0.006	0.022	0.005
R17	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	79	N/A	0.047	0.007	0.046	0.013	0.046	0.015	0.047	0.015	0.046	0.015
	4	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	79	N/A	0.022	0.002	0.022	0.005	0.022	0.005	0.022	0.006	0.022	0.005
	5	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	12,686	73	59	0.418	0.082	0.284	0.052	0.109	0.021	0.379	0.075	0.164	0.032
	1	P-8	543	Low TACAN Departure	07ALT	4610	LBS	250	5,971	5,979	68	N/A	0.07	0.016	0.062	0.014	0.067	0.013	0.066	0.013	0.067	0.013
	2	P-8	545	Low TACAN Departure	25ALT	4610	LBS	250	6,446	6,474	67	N/A	0.127	0.025	0.108	0.02	0.13	0.023	0.127	0.023	0.13	0.023
R18	3	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	24,403	64	53	0.418	0.082	0.284	0.052	0.109	0.021	0.379	0.075	0.164	0.032
	4	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82	% NC	250	2,000	24,403	64	53	0.124	0.024	0.084	0.015	0.032	0.006	0.112	0.022	0.048	0.01
	5	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	85	% NC	250	2,500	22,831	63	47	1.101	0	0.68	0	0.233	0	0.817	0	0.351	0
	1	EA-18G	253PD	Interfacility Ault Field to Coupeville	32WC14P	84	% NC	140	438	907	114	108	0.017	0	0.023	0	0.013	0	0.047	0	0.02	0
	2	EA-18G	253PN	Interfacility Ault Field to Coupeville	32WC14P	84	% NC	140	438	907	114	108	0	0.006	0	0.008	0	0.005	0	0.016	0	0.007
R19	3	EA-18G	273PDA	FCLP at Coupeville	14FCP1	85	% NC	140	492	1,069	114	108	0.962	0	0.649	0	0.249	0	0.872	0	0.373	0
	4	EA-18G	273PNA	FCLP at Coupeville	14FCP1	85	% NC	140	530	1,080	113	107	0.627	0.402	0.424	0.262	0.169	0.099	0.568	0.364	0.253	0.149
	5	EA-18G	251PD	Interfacility Ault Field to Coupeville	25WC14P	84	% NC	140	444	962	113	107	0.428	0	0.291	0	0.095	0	0.334	0	0.143	0
	1	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2,933	3,692	95	87	0.375	0.028	0.347	0.024	0.397	0.03	0.4	0.03	0.397	0.03
	2	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,898	89	78	0.389	0.143	0.346	0.127	0.324	0.119	0.324	0.119	0.324	0.119
R20	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2,769	6,744	88	78	0.874	0.065	0.81	0.057	0.926	0.07	0.932	0.07	0.926	0.07
	4	transient	423	IFR non breaks	14A2E	17760	LBS	180	3,047	3,071	86	N/A	0.063	0.006	0.059	0.006	0.064	0.006	0.07	0.007	0.064	0.006
	5	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760	LBS	180	3,047	3,071	86	N/A	0.069	0.014	0.065	0.013	0.078	0.016	0.076	0.015	0.078	0.016

Table A6-4 SEL-Ranked Flight Profiles for Alternative 2 for Average Year (concluded)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated		Annual Average Daily Events (3)									
											SEL (dBA)	Lmax (dBA) (4)	2A		2B		2C		2D		2E	
													Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)
	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	82.2	% NC	140	773	4009	98	90	0.102	0.003	0.102	0.003	0.102	0.003	0.102	0.003	0.102	0.003
	2	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	802	4008	96	90	0.405	0.082	0.54	0.11	0.54	0.11	0.54	0.11	0.54	0.11
S01	3	EA-18G	284B	FCLP at Ault Field	32FU1	82.2	% NC	140	839	4014	96	84	0.065	0.017	0.64	0.173	0.758	0.217	0.291	0.075	0.663	0.19
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	82.2	% NC	140	773	4003	96	84	0.102	0.003	0.102	0.003	0.102	0.003	0.102	0.003	0.102	0.003
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82.2	% NC	140	861	3936	95	83	0.171	0.034	0.105	0.019	0.042	0.008	0.148	0.029	0.064	0.013
	1	EA-18G	212A	Departure	14D2C	95	% NC	300	2514	3432	104	94	0.606	0.038	0.561	0.035	0.624	0.036	0.626	0.039	0.624	0.036
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	2514	3432	104	93	1.414	0.088	1.31	0.081	1.456	0.084	1.462	0.091	1.456	0.084
S02	3	EA-18G	207A	Departure	14D1A	95	% NC	300	2514	3432	104	94	4.715	0.295	4.366	0.269	4.852	0.281	4.872	0.305	4.852	0.281
	4	EA-18G	211A	Departure	14D2B	95	% NC	300	2514	3432	104	94	1.414	0.088	1.31	0.081	1.456	0.084	1.462	0.091	1.456	0.084
	5	EA-18G	208A	Departure	14D1B	95	% NC	300	2514	3432	104	94	3.3	0.206	3.056	0.188	3.397	0.197	3.41	0.213	3.397	0.197
	1	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	5231	94	89	2.474	0	1.514	0	0.609	0	2.135	0	0.913	0
	2	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1200	5297	94	89	1.612	1.034	0.988	0.61	0.413	0.243	1.391	0.892	0.619	0.365
S03	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	6105	92	89	4.949	0	3.027	0	1.217	0	4.271	0	1.826	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1200	6162	92	89	3.224	2.068	1.977	1.221	0.825	0.487	2.782	1.784	1.238	0.73
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1200	7058	90	88	1.612	1.034	0.988	0.61	0.413	0.243	1.391	0.892	0.619	0.365
	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2882	4781	93	83	0.375	0.028	0.347	0.024	0.397	0.03	0.4	0.03	0.397	0.03
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2903	92	84	0.648	0.239	0.627	0.231	0.691	0.255	0.691	0.255	0.691	0.255
S04	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2719	7342	87	76	0.874	0.065	0.81	0.057	0.926	0.07	0.932	0.07	0.926	0.07
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3000	2903	85	N/A	0.382	0.042	0.351	0.041	0.386	0.034	0.382	0.037	0.386	0.034
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3000	2903	85	76	0.036	0	0.032	0	0.035	0	0.036	0	0.035	0
	1	EA-18G	243	TACAN Arrival	07AHT	78	% NC	250	3529	3374	76	68	0.383	0.021	0.263	0.012	0.367	0.02	0.407	0.023	0.367	0.02
	2	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2712	19217	70	56	0.375	0.028	0.347	0.024	0.397	0.03	0.4	0.03	0.397	0.03
S05	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2592	23773	66	51	0.874	0.065	0.81	0.057	0.926	0.07	0.932	0.07	0.926	0.07
	4	EA-18G	224A	Departure	32D2C	95	% NC	300	8249	32151	65	52	0.061	0.004	0.08	0.005	0.101	0.006	0.101	0.006	0.101	0.006
	5	P-8	538C	P3 P8 IFR and Growler VFR non breaks	14A2C	17760	LBS	180	3047	19344	64	N/A	0.361	0.067	0.322	0.058	0.354	0.06	0.361	0.061	0.354	0.06
	1	EA-18G	224A	Departure	32D2C	84	% NC	300	9000	61543	51	39	0.061	0.004	0.08	0.005	0.101	0.006	0.101	0.006	0.101	0.006
	2	EA-18G	223A	Departure	32D2B	84	% NC	300	9000	66657	50	39	0.141	0.009	0.187	0.012	0.235	0.014	0.236	0.015	0.235	0.014
S06	3	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3000	40394	50	37	0.222	0.025	0.201	0.021	0.187	0.019	0.185	0.021	0.187	0.019
	4	transient	447C	GCA Pattern	07G3	17760	LBS	200	3000	40394	50	37	0.021	0	0.018	0	0.017	0	0.017	0	0.017	0
	5	EA-18G	222A	Departure	32D2A	95	% NC	300	8656	71520	49	37	0.202	0.013	0.267	0.016	0.335	0.019	0.337	0.021	0.335	0.019
	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2810	88787	61	51	0.389	0.143	0.346	0.127	0.324	0.119	0.324	0.119	0.324	0.119
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2500	165180	59	47	0.66	0	0.381	0	0.201	0	0.703	0	0.302	0
S07	3	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2500	165180	59	47	0	0.207	0	0.112	0	0.064	0	0.224	0	0.097
	4	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	82	% NC	250	2500	135475	59	47	0.044	0	0.054	0	0.033	0	0.114	0	0.049	0
	5	EA-18G	254PN	Interfacility Ault Field to Coupeville	32WC32P	82	% NC	250	2500	135475	59	47	0	0.014	0	0.016	0	0.01	0	0.036	0	0.016
	1	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3000	2779	93	81	0.065	0.024	0.086	0.032	0.086	0.032	0.086	0.032	0.086	0.032
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2779	93	81	0.648	0.239	0.627	0.231	0.691	0.255	0.691	0.255	0.691	0.255
S08	3	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2851	6041	89	80	1.249	0.093	1.157	0.082	1.323	0.1	1.332	0.099	1.323	0.1
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3000	4183	88	79	1.059	0.39	1.102	0.406	1.059	0.39	1.059	0.39	1.059	0.39
	5	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3000	4183	88	79	0.389	0.143	0.346	0.127	0.324	0.119	0.324	0.119	0.324	0.119
	1	EA-18G	232A	P3 P8 IFR and Growler VFR non breaks	25A3A	87	% NC	300	3000	4033	92	86	1.02	0.076	1.054	0.074	0.992	0.075	0.999	0.074	0.992	0.075
	2	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3000	3025	91	78	0.259	0.096	0.23	0.085	0.216	0.08	0.216	0.08	0.216	0.08
S09	3	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3000	5300	87	75	5.294	1.951	5.51	2.031	5.294	1.951	5.294	1.951	5.294	1.951
	4	EA-18G	206A	Departure	07D2C	95	% NC	300	5403	11786	86	76	0.344	0.021	0.321	0.02	0.322	0.019	0.323	0.02	0.322	0.019
	5	EA-18G	203A	Departure	07D1C	95	% NC	300	5300	11968	86	76	0.802	0.05	0.748	0.046	0.751	0.044	0.754	0.047	0.751	0.044
	1	P-8	546	Low TACAN Departure	32ALT	17760	LBS	250	3616	3501	83	N/A	0.016	0.002	0.015	0.005	0.017	0.006	0.016	0.006	0.017	0.006
	2	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2333	19814	71	61	0.065	0.024	0.086	0.032	0.086	0.032	0.086	0.032	0.086	0.032
S10	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2000	20733	70	58	0.342	0.067	0.232	0.042	0.089	0.017	0.31	0.061	0.134	0.026
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2000	20783	70	58	0.067	0.013	0.045	0.008	0.017	0.003	0.06	0.012	0.026	0.005
	5	EA-18G	246	TACAN Arrival	32AHT	78	% NC	250	3085	23749	70	53	0.096	0.005	0.132	0.006	0.108	0.006	0.12	0.007	0.108	0.006

Notes:

(1) 0 ft indicates the contributing profile is the beginning of takeoff roll

(2) FYI, Ault Field's elevation is 47 ft MSL, OLF Coupeville's elevation is 200 ft MSL

(3) not operations. Patterns counted as 1 event, vice 2 operations.

(4) n/a = not available: NOISEMAP's database does not include Lmax data for flight events for this aircraft type (B737-700).

Table A6-5 SEL-Ranked Flight Profiles for Alternative 3 for Average Year

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting	Speed (kts) [1]	Altitude (ft MSL) [2]	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) [4]	Annual Average Daily Events [3] 3A Daytime (0700-2200)	3A Nighttime (2200-0700)	3B Daytime (0700-2200)	3B Nighttime (2200-0700)	3C Daytime (0700-2200)	3C Nighttime (2200-0700)	3D Daytime (0700-2200)	3D Nighttime (2200-0700)	3E Daytime (0700-2200)	3E Nighttime (2200-0700)
P01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84 % NC	250	2,000	4,401	93	82	0.098	0.004	0.098	0.004	0.098	0.004	0.098	0.004	0.098	0.004
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84 % NC	250	2,000	4,415	92	82	0.714	0.027	0.714	0.027	0.763	0.029	0.763	0.029	0.763	0.029
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	4,889	92	80	1.23	0.047	1.255	0.048	1.181	0.045	1.181	0.045	1.181	0.045
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	2,000	4,943	91	80	0.418	0.016	0.394	0.015	0.418	0.016	0.418	0.016	0.418	0.016
	5	EA-18G	269B	FCLP at Ault Field	25FU1	84 % NC	130	1,000	9,077	87	76	3.291	0.678	3.425	0.706	3.224	0.664	3.224	0.664	3.224	0.664
P02	1	EA-18G	268A	FCLP at Ault Field	14FM1	82.2 % NC	130	852	1,389	107	104	2.015	0.415	1.948	0.401	2.149	0.443	2.149	0.443	2.149	0.443
	2	EA-18G	268B	FCLP at Ault Field	14FU1	82.2 % NC	130	859	1,393	107	103	2.015	0.415	1.948	0.401	2.149	0.443	2.149	0.443	2.149	0.443
	3	EA-18G	282A	FCLP at Ault Field	14FM1	82.2 % NC	140	893	1,393	107	100	0.973	0.245	2.25	0.588	4.201	1.149	1.605	0.404	3.676	1.006
	4	EA-18G	282B	FCLP at Ault Field	14FU1	82.2 % NC	140	859	1,393	106	100	0.973	0.245	2.25	0.588	4.201	1.149	1.605	0.404	3.676	1.006
	5	EA-18G	264R	Depart and Re-enter Pattern	14PR	82.2 % NC	140	859	1,393	106	100	0.714	0.027	0.714	0.027	0.763	0.029	0.763	0.029	0.763	0.029
P03	1	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	1,477	1,206	105	98	0.418	0.016	0.394	0.015	0.418	0.016	0.418	0.016	0.418	0.016
	2	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	1,599	103	95	1.23	0.047	1.255	0.048	1.181	0.045	1.181	0.045	1.181	0.045
	3	EA-18G	264L	Depart and Re-enter Pattern	14PL	84 % NC	250	1,999	2,306	99	90	0.714	0.027	0.714	0.027	0.763	0.029	0.763	0.029	0.763	0.029
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	84 % NC	250	2,000	2,401	99	90	0.098	0.004	0.098	0.004	0.098	0.004	0.098	0.004	0.098	0.004
	5	EA-18G	245	TACAN Arrival	25AHT	85 % NC	150	1,023	5,395	97	87	1.291	0.062	1.447	0.083	1.19	0.058	1.218	0.059	1.19	0.058
P04	1	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	96 % NC	150	936	1,943	111	106	1.062	0.221	0.649	0.132	0.265	0.052	0.918	0.192	0.399	0.079
	2	EA-18G	259	Interfacility Coupeville to Ault Field	32CW07	96 % NC	150	936	1,943	111	106	0.314	0.065	0.192	0.039	0.078	0.015	0.271	0.057	0.118	0.023
	3	EA-18G	261	Interfacility Coupeville to Ault Field	32CW25	96 % NC	150	936	1,943	111	106	0.869	0.181	0.531	0.108	0.217	0.043	0.751	0.157	0.326	0.064
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	96 % NC	150	936	1,943	111	106	0.169	0.035	0.103	0.021	0.042	0.008	0.146	0.031	0.063	0.013
	5	EA-18G	273PDA	FCLP at Coupeville	14FCP1	85 % NC	140	337	1,801	108	100	0.956	0	0.641	0	0.248	0	0.866	0	0.373	0
P05	1	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84 % NC	150	1,200	8,512	88	77	1.557	1.094	0.948	0.661	0.389	0.264	1.343	0.944	0.584	0.396
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84 % NC	150	800	8,475	88	77	2.457	0	1.495	0	0.608	0	2.12	0	0.912	0
	3	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84 % NC	150	1,200	9,601	87	77	3.113	2.188	1.896	1.323	0.778	0.528	2.686	1.887	1.168	0.792
	4	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84 % NC	150	800	9,568	87	77	4.914	0	2.991	0	1.216	0	4.24	0	1.824	0
	5	transient	430	IFR non breaks	32A2E	17760 LBS	180	3,047	3,122	85	N/A	0.009	0.001	0.011	0.001	0.011	0.001	0.012	0.001	0.011	0.001
P06	1	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84 % NC	150	799	5,329	96	85	2.457	0	1.495	0	0.608	0	2.12	0	0.912	0
	2	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84 % NC	150	1,199	5,397	96	84	1.557	1.094	0.948	0.661	0.389	0.264	1.343	0.944	0.584	0.396
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84 % NC	150	799	6,534	93	81	4.914	0	2.991	0	1.216	0	4.24	0	1.824	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84 % NC	150	1,199	6,590	93	81	3.113	2.188	1.896	1.323	0.778	0.528	2.686	1.887	1.168	0.792
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84 % NC	150	1,199	7,791	91	79	1.557	1.094	0.948	0.661	0.389	0.264	1.343	0.944	0.584	0.396
P07	1	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82 % NC	250	2,000	12,064	82	73	0.066	0.014	0.044	0.009	0.017	0.003	0.06	0.012	0.026	0.005
	2	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82 % NC	250	2,000	11,825	82	73	0.338	0.07	0.228	0.046	0.089	0.017	0.307	0.064	0.133	0.026
	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84 % NC	150	800	23,102	80	68	1.911	0	1.282	0	0.497	0	1.732	0	0.745	0
	4	EA-18G	280C	GCA Pattern	32G3	82 % NC	230	2,208	17,859	80	71	0.066	0.024	0.087	0.032	0.087	0.032	0.087	0.032	0.087	0.032
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82 % NC	250	2,000	9,777	79	66	0.169	0.035	0.103	0.021	0.042	0.008	0.146	0.031	0.063	0.013
P08	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760 LBS	250	3,047	3,389	85	N/A	0.046	0.007	0.046	0.013	0.046	0.015	0.046	0.016	0.046	0.015
	2	transient	442C	VFR non breaks	32A2C	17760 LBS	250	3,047	3,389	85	N/A	0.021	0.003	0.022	0.005	0.021	0.006	0.021	0.006	0.021	0.006
	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760 LBS	250	3,047	5,353	81	N/A	0.046	0.007	0.046	0.013	0.046	0.015	0.046	0.016	0.046	0.015
	4	transient	442B	VFR non breaks	32A2B	17760 LBS	250	3,047	5,353	81	N/A	0.021	0.003	0.022	0.005	0.021	0.006	0.021	0.006	0.021	0.006
	5	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82 % NC	250	2,000	10,604	76	64	0.122	0.025	0.082	0.017	0.032	0.006	0.111	0.023	0.048	0.01
P09	1	EA-18G	244	TACAN Arrival	14AHT	78 % NC	250	3,163	48,626	62	51	0.658	0.032	0.672	0.038	0.667	0.032	0.682	0.033	0.667	0.032
	2	EA-18G	278C	GCA Pattern	14G3	82 % NC	230	2,403	34,003	61	52	0.656	0.237	0.634	0.229	0.699	0.253	0.699	0.253	0.699	0.253
	3	P-8	544	Low TACAN Departure	14ALT	4610 LBS	250	5,632	28,942	55	53	0.202	0.04	0.219	0.039	0.195	0.04	0.206	0.042	0.195	0.04
	4	EA-18G	215A	Departure	25D1C	95 % NC	300	4,765	109,923	55	48	2.353	0.144	2.45	0.149	2.243	0.137	2.259	0.138	2.243	0.137
	5	EA-18G	217A	Departure	25D2B	95 % NC	300	3,835	110,307	54	43	2.353	0.144	2.45	0.149	2.243	0.137	2.259	0.138	2.243	0.137
P10	1	EA-18G	229A	P3 P8 IFR and Growler VFR non breaks	14A2A	87 % NC	300	2,577	4,579	95	85	1.246	0.091	1.158	0.082	1.327	0.096	1.329	0.097	1.327	0.096
	2	EA-18G	223A	Departure	32D2B	95 % NC	300	8,291	9,255	90	80	0.141	0.009	0.188	0.011	0.234	0.014	0.235	0.014	0.234	0.014
	3	EA-18G	279C	GCA Pattern	25G3	82 % NC	250	3,000	4,073	89	80	1.071	0.387	1.114	0.403	1.071	0.387	1.071	0.387	1.071	0.387
	4	EA-18G	277C	GCA Pattern	07G3	82 % NC	300	3,000	4,085	89	79	0.393	0.142	0.35	0.126	0.328	0.119	0.328	0.119	0.328	0.119
	5	EA-18G	277B	GCA Pattern	07G2	82 % NC	300	3,000	4,387	88	78	0.262	0.095	0.233	0.084	0.219	0.079	0.219	0.079	0.219	0.079
P11	1	EA-18G	277C	GCA Pattern	07G3	82 % NC	230	2,926	21,053	64	50	0.393	0.142	0.35	0.126	0.328	0.119	0.328	0.119	0.328	0.119
	2	P-8	547C	GCA Pattern	07G3	17760 LBS	200	3,000	21,066	63	N/A	0.216	0.026	0.19	0.019	0.183	0.021	0.18	0.022	0.183	0.021
	3	transient	447C	GCA Pattern	07G3	17760 LBS	200	3,000	21,066	63	N/A	0.021	0	0.018	0	0.017	0	0.017	0	0.017	0
	4	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760 LBS	250	3,047	30,649	57	N/A	0.071	0.015	0.071	0.013	0.074	0.015	0.078	0.016	0.074	0.015
	5	transient	423	IFR non breaks	14A2E	17760 LBS	250	3,047	30,649	57	N/A	0.064	0.006	0.062	0.006	0.069	0.007	0.071	0.007	0.069	0.007
P12	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87 % NC	300	2,941	9,040	82	74	0.374	0.027	0.348	0.025	0.398	0.029	0.399	0.029	0.398	0.029
	2	EA-18G	278C	GCA Pattern	14G3	82 % NC	300	3,000	7,718	80	72	0.656	0.237	0.634	0.229	0.699	0.253	0.699	0.253	0.699	0.253
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87 % NC	300	2,784	12,784	79	68	0.872	0.064	0.811	0.058	0.929	0.067	0.93	0.068	0.929	0.067
	4	P-8	548C	GCA Pattern	14G3	17760 LBS	200	3,000	7,718	78	N/A	0.372	0.043	0.333	0.038	0.378	0.037	0.372	0.038	0.378	0.037
	5	transient	448C	GCA Pattern	14G3	17760 LBS	200	3,000	7,718	78	N/A	0.035	0	0.032	0	0.035	0	0.035	0	0.035	0
P13	1	EA-18G	219A	Departure	32D1A	95 % NC	300	7,686	7,575	94	86	0.471	0.029	0.628	0.038	0.779	0.048	0.784	0.048	0.779	0.048
	2	EA-18G	278B	GCA Pattern	14G2	82 % NC	300	3,000	3,526	91	81	0.437	0.158	0.422	0.153	0.466	0.169	0.466	0.169	0.466	0.169
	3	EA-18G	277C	GCA Pattern	07G3	82 % NC	300	3,000	3,689	90	80	0.393	0.142	0.35	0.126	0.328	0.119	0.328	0.119	0.328	0.119
	4	EA-18G	279C	GCA Pattern	25G3	82 % NC	300	3,000	3,689	90	81	1.071	0.387	1.114	0.403	1.071	0.387	1.071	0.387	1.071	0.387
	5	EA-18G	280B	GCA Pattern	32G2	82 % NC	300	3,000	3,526	90	81	0.044	0.016	0.058	0.021	0.058	0.021	0.058	0.021	0.058	0.021

Table A6-5 SEL-Ranked Flight Profiles for Alternative 3 for Average Year (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting	Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	3A Daytime (0700-2200)	3A Nighttime (2200-0700)	3B Daytime (0700-2200)	3B Nighttime (2200-0700)	3C Daytime (0700-2200)	3C Nighttime (2200-0700)	3D Daytime (0700-2200)	3D Nighttime (2200-0700)	3E Daytime (0700-2200)	3E Nighttime (2200-0700)
												Annual Average Daily Events (3)									
P14	1	EA-18G	278C	GCA Pattern	14G3	82 % NC	230	1,822	20,245	76	63	0.656	0.237	0.634	0.229	0.699	0.253	0.699	0.253	0.699	0.253
	2	P-8	544	Low TACAN Departure	14ALT	4610 LBS	250	4,622	4,657	72	N/A	0.202	0.04	0.219	0.039	0.195	0.04	0.206	0.042	0.195	0.04
	3	EA-18G	278B	GCA Pattern	14G2	82 % NC	230	2,166	23,933	72	58	0.437	0.158	0.422	0.153	0.466	0.169	0.466	0.169	0.466	0.169
	4	EA-18G	221A	Departure	32D1C	95 % NC	300	6,560	43,942	69	49	0.141	0.009	0.188	0.011	0.234	0.014	0.235	0.014	0.234	0.014
	5	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87 % NC	300	2,569	25,383	67	55	0.374	0.027	0.348	0.025	0.398	0.029	0.399	0.029	0.398	0.029
P15	1	EA-18G	206A	Departure	07D2C	95 % NC	300	5,213	8,277	92	83	0.343	0.021	0.323	0.02	0.32	0.02	0.323	0.02	0.32	0.02
	2	EA-18G	203A	Departure	07D1C	95 % NC	300	5,155	8,368	92	83	0.8	0.049	0.754	0.046	0.748	0.046	0.753	0.046	0.748	0.046
	3	EA-18G	277B	GCA Pattern	07G2	82 % NC	250	3,000	3,437	91	80	0.262	0.095	0.233	0.084	0.219	0.079	0.219	0.079	0.219	0.079
	4	EA-18G	205A	Departure	07D2B	95 % NC	300	4,892	9,517	90	79	0.8	0.049	0.754	0.046	0.748	0.046	0.753	0.046	0.748	0.046
	5	EA-18G	202A	Departure	07D1B	95 % NC	300	4,743	10,004	89	78	1.866	0.114	1.759	0.107	1.744	0.106	1.757	0.107	1.744	0.106
P16	1	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82 % NC	250	2,000	8,724	79	67	0.413	0.086	0.278	0.056	0.108	0.021	0.375	0.078	0.163	0.032
	2	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82 % NC	250	2,000	8,724	79	67	0.122	0.025	0.082	0.017	0.032	0.006	0.111	0.023	0.048	0.01
	3	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	82 % NC	250	2,500	10,146	78	64	1.081	0	0.664	0	0.232	0	0.803	0	0.348	0
	4	EA-18G	248PN	Interfacility Ault Field to Coupeville	07WC32P	82 % NC	250	2,500	10,318	78	64	0	0.13	0	0.077	0	0.025	0	0.089	0	0.037
	5	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	82 % NC	250	2,500	10,355	78	64	0	0.217	0	0.12	0	0.065	0	0.234	0	0.098
P17	1	EA-18G	276PDA	FCLP at Coupeville	32FCP1	84 % NC	150	799	742	115	110	2.457	0	1.495	0	0.608	0	2.12	0	0.912	0
	2	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84 % NC	150	1,199	1,129	111	106	1.557	1.094	0.948	0.661	0.389	0.264	1.343	0.944	0.584	0.396
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84 % NC	150	799	1,206	111	105	4.914	0	2.991	0	1.216	0	4.24	0	1.824	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84 % NC	150	1,199	1,476	109	103	3.113	2.188	1.896	1.323	0.778	0.528	2.686	1.887	1.168	0.792
	5	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84 % NC	150	799	2,304	106	97	2.457	0	1.495	0	0.608	0	2.12	0	0.912	0
P18	1	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84 % NC	150	1,200	6,600	92	82	1.557	1.094	0.948	0.661	0.389	0.264	1.343	0.944	0.584	0.396
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84 % NC	150	800	6,544	91	82	2.457	0	1.495	0	0.608	0	2.12	0	0.912	0
	3	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84 % NC	150	1,200	7,760	90	79	3.113	2.188	1.896	1.323	0.778	0.528	2.686	1.887	1.168	0.792
	4	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84 % NC	150	800	7,712	90	79	4.914	0	2.991	0	1.216	0	4.24	0	1.824	0
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84 % NC	150	1,200	8,929	87	78	1.557	1.094	0.948	0.661	0.389	0.264	1.343	0.944	0.584	0.396
R01	1	EA-18G	251PN	Interfacility Ault Field to Coupeville	25WC14P	97 % NC	135	59	1,093	121	114	0	0.163	0	0.105	0	0.034	0	0.122	0	0.051
	2	EA-18G	251PD	Interfacility Ault Field to Coupeville	25WC14P	97 % NC	135	59	1,093	121	114	0.42	0	0.284	0	0.095	0	0.328	0	0.142	0
	3	EA-18G	252PN	Interfacility Ault Field to Coupeville	25WC32P	97 % NC	135	59	1,093	121	114	0	0.362	0	0.214	0	0.076	0	0.272	0	0.114
	4	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	97 % NC	135	59	1,093	121	114	1.081	0	0.664	0	0.232	0	0.803	0	0.348	0
	5	EA-18G	204A	Departure	07D2A	97 % NC	165	302	1,118	120	116	1.143	0.07	1.077	0.065	1.068	0.065	1.076	0.066	1.068	0.065
R02	1	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	97 % NC	0	47	3,519	110	96	0	0.217	0	0.12	0	0.065	0	0.234	0	0.098
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	97 % NC	0	47	3,519	110	96	0.649	0	0.372	0	0.199	0	0.691	0	0.299	0
	3	EA-18G	249PN	Interfacility Ault Field to Coupeville	14WC14P	97 % NC	0	47	3,519	110	96	0	0.098	0	0.059	0	0.029	0	0.105	0	0.044
	4	EA-18G	249PD	Interfacility Ault Field to Coupeville	14WC14P	97 % NC	0	47	3,519	110	96	0.252	0	0.159	0	0.081	0	0.282	0	0.122	0
	5	EA-18G	210A	Departure	14D2A	97 % NC	0	47	3,519	109	100	2.017	0.123	1.885	0.115	2.069	0.126	2.084	0.127	2.069	0.126
R03	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84 % NC	250	2,000	1,787	101	93	0.098	0.004	0.098	0.004	0.098	0.004	0.098	0.004	0.098	0.004
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84 % NC	250	2,000	1,967	101	92	0.714	0.027	0.714	0.027	0.763	0.029	0.763	0.029	0.763	0.029
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	1,971	100	92	1.23	0.047	1.255	0.048	1.181	0.045	1.181	0.045	1.181	0.045
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	2,000	2,001	100	92	0.418	0.016	0.394	0.015	0.418	0.016	0.418	0.016	0.418	0.016
	5	EA-18G	270B	FCLP at Ault Field	32FU1	82.2 % NC	130	817	8,282	88	78	0.403	0.083	0.537	0.111	0.537	0.111	0.537	0.111	0.537	0.111
R04	1	EA-18G	205A	Departure	07D2B	95 % NC	300	4,035	5,492	99	88	0.8	0.049	0.754	0.046	0.748	0.046	0.753	0.046	0.748	0.046
	2	EA-18G	202A	Departure	07D1B	95 % NC	300	4,007	5,530	98	88	1.866	0.114	1.759	0.107	1.744	0.106	1.757	0.107	1.744	0.106
	3	EA-18G	206A	Departure	07D2C	95 % NC	300	4,096	5,708	98	88	0.343	0.021	0.323	0.02	0.32	0.02	0.323	0.02	0.32	0.02
	4	EA-18G	203A	Departure	07D1C	95 % NC	300	4,096	5,708	98	88	0.8	0.049	0.754	0.046	0.748	0.046	0.753	0.046	0.748	0.046
	5	EA-18G	204A	Departure	07D2A	95 % NC	300	3,804	6,519	96	86	1.143	0.07	1.077	0.065	1.068	0.065	1.076	0.066	1.068	0.065
R05	1	EA-18G	277A	GCA Pattern	07G1	82 % NC	250	3,000	3,009	92	84	1.967	0.711	1.748	0.632	1.639	0.593	1.639	0.593	1.639	0.593
	2	EA-18G	279A	GCA Pattern	25G1	82 % NC	300	3,000	3,350	91	82	5.354	1.936	5.572	2.015	5.354	1.936	5.354	1.936	5.354	1.936
	3	EA-18G	280C	GCA Pattern	32G3	82 % NC	300	3,000	3,491	90	82	0.066	0.024	0.087	0.032	0.087	0.032	0.087	0.032	0.087	0.032
	4	EA-18G	278C	GCA Pattern	14G3	82 % NC	300	3,000	3,491	90	82	0.656	0.237	0.634	0.229	0.699	0.253	0.699	0.253	0.699	0.253
	5	EA-18G	205A	Departure	07D2B	95 % NC	300	3,808	13,742	85	75	0.8	0.049	0.754	0.046	0.748	0.046	0.753	0.046	0.748	0.046
R06	1	EA-18G	276PDB	FCLP at Coupeville	32FCP2	85 % NC	140	515	389	121	114	4.914	0	2.991	0	1.216	0	4.24	0	1.824	0
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	85 % NC	140	508	405	120	113	2.457	0	1.495	0	0.608	0	2.12	0	0.912	0
	3	EA-18G	276PDA	FCLP at Coupeville	32FCP1	85 % NC	140	524	412	120	113	2.457	0	1.495	0	0.608	0	2.12	0	0.912	0
	4	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	84 % NC	140	526	399	120	113	1.081	0	0.664	0	0.232	0	0.803	0	0.348	0
	5	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	84 % NC	140	523	399	120	113	0.043	0	0.053	0	0.032	0	0.112	0	0.049	0
R07	1	EA-18G	273PDA	FCLP at Coupeville	14FCP1	84 % NC	150	799	769	115	109	0.956	0	0.641	0	0.248	0	0.866	0	0.373	0
	2	EA-18G	273PNA	FCLP at Coupeville	14FCP1	84 % NC	150	1,199	1,167	111	104	0.605	0.425	0.406	0.283	0.159	0.108	0.549	0.385	0.238	0.162
	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84 % NC	150	799	1,512	110	100	1.911	0	1.282	0	0.497	0	1.732	0	0.745	0
	4	EA-18G	273PNB	FCLP at Coupeville	14FCP2	84 % NC	150	1,199	1,749	108	100	1.211	0.851	0.813	0.567	0.318	0.216	1.097	0.771	0.477	0.323
	5	EA-18G	253PD	Interfacility Ault Field to Coupeville	32WC14P	82.2 % NC	140	1,104	1,725	105	100	0.017	0	0.023	0	0.013	0	0.046	0	0.02	0
R08	1	EA-18G	273PDC	FCLP at Coupeville	14FCP3	84 % NC	150	800	3,154	101	106	0.956	0	0.641	0	0.248	0	0.866	0	0.373	0
	2	EA-18G	273PNC	FCLP at Coupeville	14FCP3	84 % NC	150	1,200	3,252	100	93	0.605	0.425	0.406	0.283	0.159	0.108	0.549	0.385	0.238	0.162
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82 % NC	250	2,000	2,690	99	92	0.338	0.07	0.228	0.046	0.089	0.017	0.307	0.064	0.133	0.026
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82 % NC	250	2,000	2,690	99	92	0.066	0.014	0.044	0.009	0.017	0.003	0.06	0.012	0.026	0.005
	5	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84 % NC	150	800	4,008	98	91	1.911	0	1.282	0	0.497	0	1.732	0	0.745	0

Table A6-5 SEL-Ranked Flight Profiles for Alternative 3 for Average Year (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated		Annual Average Daily Events (3)									
													3A		3B		3C		3D		3E	
											SEL (dBA)	Lmax (dBA) (4)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)
	1	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	85	% NC	300	2,231	5,007	90	82	0.043	0	0.053	0	0.032	0	0.112	0	0.049	0
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	85	% NC	300	2,236	5,091	90	82	0.649	0	0.372	0	0.199	0	0.691	0	0.299	0
R09	3	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	85	% NC	300	2,180	5,083	90	81	1.081	0	0.664	0	0.232	0	0.803	0	0.348	0
	4	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	85	% NC	300	2,299	5,114	90	81	0	0.217	0	0.12	0	0.065	0	0.234	0	0.098
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	3,677	90	81	0.169	0.035	0.103	0.021	0.042	0.008	0.146	0.031	0.063	0.013
	1	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2,480	3,143	100	90	0.872	0.064	0.811	0.058	0.929	0.067	0.93	0.068	0.929	0.067
	2	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2,620	3,563	98	88	0.374	0.027	0.348	0.025	0.398	0.029	0.399	0.029	0.398	0.029
R10	3	EA-18G	280C	GCA Pattern	32G3	82	% NC	250	3,000	2,980	93	84	0.066	0.024	0.087	0.032	0.087	0.032	0.087	0.032	0.087	0.032
	4	EA-18G	278A	GCA Pattern	14G1	82	% NC	300	2,999	3,168	92	83	3.278	1.185	3.169	1.146	3.496	1.264	3.496	1.264	3.496	1.264
	5	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2,347	7,186	90	77	1.246	0.091	1.158	0.082	1.327	0.096	1.329	0.097	1.327	0.096
	1	EA-18G	238A	Overhead Break Arrival	14O2A	84	% NC	300	10,000	13,520	73	60	0.238	0.022	0.229	0.021	0.251	0.024	0.255	0.023	0.251	0.024
	2	EA-18G	238B	Overhead Break Arrival	14O2B	84	% NC	300	10,000	13,567	73	60	0.238	0.022	0.229	0.021	0.251	0.024	0.255	0.023	0.251	0.024
R11	3	EA-18G	238C	Overhead Break Arrival	14O2C	84	% NC	300	10,000	13,609	73	60	0.245	0.023	0.236	0.022	0.259	0.025	0.262	0.024	0.259	0.025
	4	EA-18G	236B	Overhead Break Arrival	07O2B	84	% NC	300	10,000	13,739	72	59	0.14	0.013	0.131	0.012	0.13	0.012	0.131	0.012	0.13	0.012
	5	EA-18G	236A	Overhead Break Arrival	07O2A	84	% NC	300	10,000	13,740	72	59	0.14	0.013	0.131	0.012	0.13	0.012	0.131	0.012	0.13	0.012
	1	EA-18G	205A	Departure	07D2B	84	% NC	300	9,000	9,677	75	65	0.8	0.049	0.754	0.046	0.748	0.046	0.753	0.046	0.748	0.046
	2	EA-18G	216A	Departure	25D2A	84	% NC	300	9,000	16,276	70	58	3.361	0.205	3.5	0.213	3.204	0.195	3.227	0.197	3.204	0.195
R12	3	EA-18G	217A	Departure	25D2B	84	% NC	300	9,000	16,448	70	58	2.353	0.144	2.45	0.149	2.243	0.137	2.259	0.138	2.243	0.137
	4	EA-18G	218A	Departure	25D2C	84	% NC	300	9,000	18,999	67	55	1.008	0.062	1.05	0.064	0.961	0.059	0.968	0.059	0.961	0.059
	5	EA-18G	206A	Departure	07D2C	84	% NC	300	9,000	24,952	66	55	0.343	0.021	0.323	0.02	0.32	0.02	0.323	0.02	0.32	0.02
	1	EA-18G	273PDA	FCLP at Coupeville	14FCP1	84	% NC	150	800	47,518	75	63	0.956	0	0.641	0	0.248	0	0.866	0	0.373	0
	2	EA-18G	273PNB	FCLP at Coupeville	14FCP2	84	% NC	150	1,200	46,886	74	62	1.211	0.851	0.813	0.567	0.318	0.216	1.097	0.771	0.477	0.323
R13	3	EA-18G	273PNA	FCLP at Coupeville	14FCP1	84	% NC	150	1,200	47,526	74	62	0.605	0.425	0.406	0.283	0.159	0.108	0.549	0.385	0.238	0.162
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	30,019	71	51	0.169	0.035	0.103	0.021	0.042	0.008	0.146	0.031	0.063	0.013
	5	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	85	% NC	140	250	52,917	71	51	1.062	0.221	0.649	0.132	0.265	0.052	0.918	0.192	0.399	0.079
	1	EA-18G	268B	FCLP at Ault Field	14FU1	84	% NC	130	1,000	2,575	104	96	2.015	0.415	1.948	0.401	2.149	0.443	2.149	0.443	2.149	0.443
	2	EA-18G	269B	FCLP at Ault Field	25FU1	82.2	% NC	130	693	3,116	103	96	3.291	0.678	3.425	0.706	3.224	0.664	3.224	0.664	3.224	0.664
R14	3	EA-18G	283B	FCLP at Ault Field	25FU1	82.2	% NC	140	715	3,119	103	91	1.524	0.384	4.179	1.091	6.238	1.707	2.383	0.6	5.459	1.493
	4	EA-18G	269A	FCLP at Ault Field	25FM1	82.2	% NC	130	702	3,119	103	91	3.291	0.678	3.425	0.706	3.224	0.664	3.224	0.664	3.224	0.664
	5	EA-18G	265L	Depart and Re-enter Pattern	25PL	82.2	% NC	140	697	3,095	103	91	1.23	0.047	1.255	0.048	1.181	0.045	1.181	0.045	1.181	0.045
	1	EA-18G	273PDC	FCLP at Coupeville	14FCP3	85	% NC	140	575	1,544	110	103	0.956	0	0.641	0	0.248	0	0.866	0	0.373	0
	2	EA-18G	273PNC	FCLP at Coupeville	14FCP3	85	% NC	140	698	1,589	109	103	0.605	0.425	0.406	0.283	0.159	0.108	0.549	0.385	0.238	0.162
R15	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	85	% NC	140	585	1,871	107	101	1.911	0	1.282	0	0.497	0	1.732	0	0.745	0
	4	EA-18G	273PNB	FCLP at Coupeville	14FCP2	85	% NC	140	718	1,912	107	101	1.211	0.851	0.813	0.567	0.318	0.216	1.097	0.771	0.477	0.323
	5	EA-18G	247PD	Interfacility Ault Field to Coupeville	07WC14P	84	% NC	140	588	2,009	106	98	0.151	0	0.102	0	0.031	0	0.107	0	0.046	0
	1	EA-18G	233A	P3 P8 IFR and Growler VFR non breaks	32A1A	87	% NC	300	2,756	2,575	100	91	0.166	0.012	0.207	0.015	0.166	0.012	0.166	0.012	0.166	0.012
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	6,951	8,107	93	85	1.412	0.086	1.319	0.08	1.448	0.088	1.459	0.089	1.448	0.088
R16	3	EA-18G	278C	GCA Pattern	14G3	82	% NC	250	3,000	3,185	91	82	0.656	0.237	0.634	0.229	0.699	0.253	0.699	0.253	0.699	0.253
	4	EA-18G	208A	Departure	14D1B	95	% NC	300	6,815	9,922	90	81	3.294	0.201	3.078	0.187	3.379	0.206	3.404	0.208	3.379	0.206
	5	EA-18G	246	TACAN Arrival	32AHT	82.2	% NC	250	2,475	6,673	89	81	0.097	0.005	0.155	0.009	0.119	0.006	0.122	0.006	0.119	0.006
	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	85	N/A	0.046	0.007	0.046	0.013	0.046	0.015	0.046	0.016	0.046	0.015
	2	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	85	N/A	0.021	0.003	0.022	0.005	0.021	0.006	0.021	0.006	0.021	0.006
R17	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	79	N/A	0.046	0.007	0.046	0.013	0.046	0.015	0.046	0.016	0.046	0.015
	4	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	79	N/A	0.021	0.003	0.022	0.005	0.021	0.006	0.021	0.006	0.021	0.006
	5	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	12,686	73	59	0.413	0.086	0.278	0.056	0.108	0.021	0.375	0.078	0.163	0.032
	1	P-8	543	Low TACAN Departure	07ALT	4610	LBS	250	5,971	5,979	68	N/A	0.071	0.017	0.067	0.014	0.064	0.013	0.067	0.014	0.064	0.013
	2	P-8	545	Low TACAN Departure	25ALT	4610	LBS	250	6,446	6,474	67	N/A	0.13	0.027	0.118	0.02	0.124	0.023	0.13	0.024	0.124	0.023
R18	3	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	24,403	64	53	0.413	0.086	0.278	0.056	0.108	0.021	0.375	0.078	0.163	0.032
	4	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82	% NC	250	2,000	24,403	64	53	0.122	0.025	0.082	0.017	0.032	0.006	0.111	0.023	0.048	0.01
	5	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	85	% NC	250	2,500	22,831	63	47	1.081	0	0.664	0	0.232	0	0.803	0	0.348	0
	1	EA-18G	253PD	Interfacility Ault Field to Coupeville	32WC14P	84	% NC	140	438	907	114	108	0.017	0	0.023	0	0.013	0	0.046	0	0.02	0
	2	EA-18G	253PN	Interfacility Ault Field to Coupeville	32WC14P	84	% NC	140	438	907	114	108	0	0.007	0	0.008	0	0.005	0	0.017	0	0.007
R19	3	EA-18G	273PDA	FCLP at Coupeville	14FCP1	85	% NC	140	492	1,069	114	108	0.956	0	0.641	0	0.248	0	0.866	0	0.373	0
	4	EA-18G	273PNA	FCLP at Coupeville	14FCP1	85	% NC	140	530	1,080	113	107	0.605	0.425	0.406	0.283	0.159	0.108	0.549	0.385	0.238	0.162
	5	EA-18G	251PD	Interfacility Ault Field to Coupeville	25WC14P	84	% NC	140	444	962	113	107	0.42	0	0.284	0	0.095	0	0.328	0	0.142	0
	1	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2,933	3,692	95	87	0.374	0.027	0.348	0.025	0.398	0.029	0.399	0.029	0.398	0.029
	2	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,898	89	78	0.393	0.142	0.35	0.126	0.328	0.119	0.328	0.119	0.328	0.119
R20	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2,769	6,744	88	78	0.872	0.064	0.811	0.058	0.929	0.067	0.93	0.068	0.929	0.067
	4	transient	423	IFR non breaks	14A2E	17760	LBS	180	3,047	3,071	86	N/A	0.064	0.006	0.062	0.006	0.069	0.007	0.071	0.007	0.069	0.007
	5	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760	LBS	180	3,047	3,071	86	N/A	0.071	0.015	0.071	0.013	0.074	0.015	0.078	0.016	0.074	0.015

Table A6-5 SEL-Ranked Flight Profiles for Alternative 3 for Average Year (concluded)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	Annual Average Daily Events (3): 3A Daytime (0700-2200)	3A Nighttime (2200-0700)	3B Daytime (0700-2200)	3B Nighttime (2200-0700)	3C Daytime (0700-2200)	3C Nighttime (2200-0700)	3D Daytime (0700-2200)	3D Nighttime (2200-0700)	3E Daytime (0700-2200)	3E Nighttime (2200-0700)
S01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	82.2	% NC	140	773	4009	98	90	0.098	0.004	0.098	0.004	0.098	0.004	0.098	0.004	0.098	0.004
	2	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	802	4008	96	90	0.403	0.083	0.537	0.111	0.537	0.111	0.537	0.111	0.537	0.111
	3	EA-18G	284B	FCLP at Ault Field	32FU1	82.2	% NC	140	839	4014	96	84	0.065	0.016	0.643	0.168	0.764	0.209	0.292	0.073	0.668	0.183
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	82.2	% NC	140	773	4003	96	84	0.098	0.004	0.098	0.004	0.098	0.004	0.098	0.004	0.098	0.004
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82.2	% NC	140	861	3936	95	83	0.169	0.035	0.103	0.021	0.042	0.008	0.146	0.031	0.063	0.013
S02	1	EA-18G	212A	Departure	14D2C	95	% NC	300	2514	3432	104	94	0.605	0.037	0.565	0.034	0.621	0.038	0.625	0.038	0.621	0.038
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	2514	3432	104	93	1.412	0.086	1.319	0.08	1.448	0.088	1.459	0.089	1.448	0.088
	3	EA-18G	207A	Departure	14D1A	95	% NC	300	2514	3432	104	94	4.705	0.287	4.397	0.267	4.828	0.295	4.862	0.297	4.828	0.295
	4	EA-18G	211A	Departure	14D2B	95	% NC	300	2514	3432	104	94	1.412	0.086	1.319	0.08	1.448	0.088	1.459	0.089	1.448	0.088
	5	EA-18G	208A	Departure	14D1B	95	% NC	300	2514	3432	104	94	3.294	0.201	3.078	0.187	3.379	0.206	3.404	0.208	3.379	0.206
S03	1	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	5231	94	89	2.457	0	1.495	0	0.608	0	2.12	0	0.912	0
	2	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1200	5297	94	89	1.557	1.094	0.948	0.661	0.389	0.264	1.343	0.944	0.584	0.396
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	6105	92	89	4.914	0	2.991	0	1.216	0	4.24	0	1.824	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1200	6162	92	89	3.113	2.188	1.896	1.323	0.778	0.528	2.686	1.887	1.168	0.792
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1200	7058	90	88	1.557	1.094	0.948	0.661	0.389	0.264	1.343	0.944	0.584	0.396
S04	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2882	4781	93	83	0.374	0.027	0.348	0.025	0.398	0.029	0.399	0.029	0.398	0.029
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2903	92	84	0.656	0.237	0.634	0.229	0.699	0.253	0.699	0.253	0.699	0.253
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2719	7342	87	76	0.872	0.064	0.811	0.058	0.929	0.067	0.93	0.068	0.929	0.067
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3000	2903	85	N/A	0.372	0.043	0.333	0.038	0.378	0.037	0.372	0.038	0.378	0.037
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3000	2903	85	76	0.035	0	0.032	0	0.035	0	0.035	0	0.035	0
S05	1	EA-18G	243	TACAN Arrival	07AHT	78	% NC	250	3529	3374	76	68	0.39	0.019	0.31	0.018	0.405	0.02	0.414	0.02	0.405	0.02
	2	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2712	19217	70	56	0.374	0.027	0.348	0.025	0.398	0.029	0.399	0.029	0.398	0.029
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2592	23773	66	51	0.872	0.064	0.811	0.058	0.929	0.067	0.93	0.068	0.929	0.067
	4	EA-18G	224A	Departure	32D2C	95	% NC	300	8249	32151	65	52	0.06	0.004	0.081	0.005	0.1	0.006	0.101	0.006	0.1	0.006
	5	P-8	538C	P3 P8 IFR and Growler VFR non breaks	14A2C	17760	LBS	180	3047	19344	64	N/A	0.354	0.073	0.325	0.058	0.357	0.061	0.354	0.066	0.357	0.061
S06	1	EA-18G	224A	Departure	32D2C	84	% NC	300	9000	61543	51	39	0.06	0.004	0.081	0.005	0.1	0.006	0.101	0.006	0.1	0.006
	2	EA-18G	223A	Departure	32D2B	84	% NC	300	9000	66657	50	39	0.141	0.009	0.188	0.011	0.234	0.014	0.235	0.014	0.234	0.014
	3	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3000	40394	50	37	0.216	0.026	0.19	0.019	0.183	0.021	0.18	0.022	0.183	0.021
	4	transient	447C	GCA Pattern	07G3	17760	LBS	200	3000	40394	50	37	0.021	0	0.018	0	0.017	0	0.017	0	0.017	0
	5	EA-18G	222A	Departure	32D2A	95	% NC	300	8656	71520	49	37	0.202	0.012	0.269	0.016	0.334	0.02	0.336	0.021	0.334	0.02
S07	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2810	88787	61	51	0.393	0.142	0.35	0.126	0.328	0.119	0.328	0.119	0.328	0.119
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2500	165180	59	47	0.649	0	0.372	0	0.199	0	0.691	0	0.299	0
	3	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2500	165180	59	47	0	0.217	0	0.12	0	0.065	0	0.234	0	0.098
	4	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	82	% NC	250	2500	135475	59	47	0.043	0	0.053	0	0.032	0	0.112	0	0.049	0
	5	EA-18G	254PN	Interfacility Ault Field to Coupeville	32WC32P	82	% NC	250	2500	135475	59	47	0	0.014	0	0.017	0	0.011	0	0.038	0	0.016
S08	1	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3000	2779	93	81	0.066	0.024	0.087	0.032	0.087	0.032	0.087	0.032	0.087	0.032
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2779	93	81	0.656	0.237	0.634	0.229	0.699	0.253	0.699	0.253	0.699	0.253
	3	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2851	6041	89	80	1.246	0.091	1.158	0.082	1.327	0.096	1.329	0.097	1.327	0.096
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3000	4183	88	79	1.071	0.387	1.114	0.403	1.071	0.387	1.071	0.387	1.071	0.387
	5	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3000	4183	88	79	0.393	0.142	0.35	0.126	0.328	0.119	0.328	0.119	0.328	0.119
S09	1	EA-18G	232A	P3 P8 IFR and Growler VFR non breaks	25A3A	87	% NC	300	3000	4033	92	86	1.017	0.075	1.055	0.075	0.995	0.072	0.996	0.073	0.995	0.072
	2	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3000	3025	91	78	0.262	0.095	0.233	0.084	0.219	0.079	0.219	0.079	0.219	0.079
	3	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3000	5300	87	75	5.354	1.936	5.572	2.015	5.354	1.936	5.354	1.936	5.354	1.936
	4	EA-18G	206A	Departure	07D2C	95	% NC	300	5403	11786	86	76	0.343	0.021	0.323	0.02	0.32	0.02	0.323	0.02	0.32	0.02
	5	EA-18G	203A	Departure	07D1C	95	% NC	300	5300	11968	86	76	0.8	0.049	0.754	0.046	0.748	0.046	0.753	0.046	0.748	0.046
S10	1	P-8	546	Low TACAN Departure	32ALT	17760	LBS	250	3616	3501	83	N/A	0.017	0.003	0.017	0.005	0.016	0.006	0.017	0.006	0.016	0.006
	2	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2333	19814	71	61	0.066	0.024	0.087	0.032	0.087	0.032	0.087	0.032	0.087	0.032
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2000	20733	70	58	0.338	0.07	0.228	0.046	0.089	0.017	0.307	0.064	0.133	0.026
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2000	20783	70	58	0.066	0.014	0.044	0.009	0.017	0.003	0.06	0.012	0.026	0.005
	5	EA-18G	246	TACAN Arrival	32AHT	78	% NC	250	3085	23749	70	53	0.097	0.005	0.155	0.009	0.119	0.006	0.122	0.006	0.119	0.006

Notes:
(1) 0 ft indicates the contributing profile is the beginning of takeoff roll
(2) FYI, Ault Field's elevation is 47 ft MSL, OLF Coupeville's elevation is 200 ft MSL
(3) not operations. Patterns counted as 1 event, vice 2 operations.
(4) n/a = not available: NOISEMAP's database does not include Lmax data for flight events for this aircraft type (B737-700).

Table A6-6 SEL-Ranked Flight Profiles for High-Tempo FCLP Year Baseline Scenario

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting	Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Annual Average Daily Daytime (0700-2200)	Annual Average Daily Nighttime (2200-0700)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)
P01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84 % NC	250	2,000	4,401	0.115	0.005	93	82
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84 % NC	250	2,000	4,415	0.403	0.016	92	82
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	4,889	0.848	0.033	92	80
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	2,000	4,943	0.307	0.012	91	80
	5	EA-18G	269B	FCLP at Ault Field	25FU1	84 % NC	130	1,000	9,077	2.636	0.505	87	76
P02	1	EA-18G	268A	FCLP at Ault Field	14FM1	82.2 % NC	130	852	1,389	1.74	0.333	107	104
	2	EA-18G	268B	FCLP at Ault Field	14FU1	82.2 % NC	130	859	1,393	1.74	0.333	107	103
	3	EA-18G	282A	FCLP at Ault Field	14FM1	82.2 % NC	140	893	1,393	3.219	0.711	107	100
	4	EA-18G	282B	FCLP at Ault Field	14FU1	82.2 % NC	140	859	1,393	3.219	0.711	106	100
	5	EA-18G	264R	Depart and Re-enter Pattern	14PR	82.2 % NC	140	859	1,393	0.403	0.016	106	100
P03	1	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	1,477	1,206	0.307	0.012	105	98
	2	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	1,599	0.848	0.033	103	95
	3	EA-18G	264L	Depart and Re-enter Pattern	14PL	84 % NC	250	1,999	2,306	0.403	0.016	99	90
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	84 % NC	250	2,000	2,401	0.115	0.005	99	90
	5	EA-18G	245	TACAN Arrival	25AHT	85 % NC	150	1,023	5,395	0.77	0.051	97	87
P04	1	EA-18G	274DB	FCLP at Coupeville	32FCD2	84 % NC	150	800	674	1.198	0	115	106
	2	EA-18G	274DA	FCLP at Coupeville	32FCD1	84 % NC	150	800	759	0.599	0	114	106
	3	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	96 % NC	150	936	1,943	0.28	0.086	111	106
	4	EA-18G	259	Interfacility Coupeville to Ault Field	32CW07	96 % NC	150	936	1,943	0.083	0.026	111	106
	5	EA-18G	261	Interfacility Coupeville to Ault Field	32CW25	96 % NC	150	936	1,943	0.229	0.071	111	100
P05	1	EA-18G	275NC	FCLP at Coupeville	32FCN3	84 % NC	150	1,200	6,861	0.584	0.277	91	77
	2	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	350	1,200	5,714	0.108	0	89	77
	3	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	350	1,500	5,773	0	0.021	89	77
	4	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 % NC	150	800	7,987	0.599	0	89	77
	5	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85 % NC	350	1,199	5,867	0.234	0	88	76
P06	1	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 % NC	150	800	3,679	0.599	0	100	85
	2	EA-18G	275NC	FCLP at Coupeville	32FCN3	84 % NC	150	1,200	3,776	0.584	0.277	100	84
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	82.2 % NC	250	895	2,970	0.108	0	99	81
	4	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	82.2 % NC	250	893	3,062	0.353	0	99	81
	5	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	82.2 % NC	250	888	3,115	0.234	0	99	79
P07	1	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82 % NC	250	2,000	12,064	0.011	0.004	82	73
	2	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82 % NC	250	2,000	11,825	0.059	0.018	82	73
	3	EA-18G	280C	GCA Pattern	32G3	82 % NC	230	2,208	17,859	0.092	0.026	80	68
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82 % NC	250	2,000	9,777	0.045	0.014	79	71
	5	EA-18G	280B	GCA Pattern	32G2	82 % NC	230	2,332	23,457	0.061	0.017	78	66
P08	1	transient	442C	VFR non breaks	32A2C	17760 LBS	250	3,047	3,389	0.036	0	85	N/A
	2	transient	442B	VFR non breaks	32A2B	17760 LBS	250	3,047	5,353	0.036	0	81	N/A
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	82 % NC	250	2,500	10,529	0.108	0	78	66
	4	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	82 % NC	250	2,500	10,572	0.234	0	78	66
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	82 % NC	250	2,500	10,602	0.353	0	78	64
P09	1	EA-18G	244	TACAN Arrival	14AHT	78 % NC	250	3,163	48,626	0.822	0.054	62	51
	2	EA-18G	278C	GCA Pattern	14G3	82 % NC	230	2,403	34,003	0.545	0.154	61	52
	3	EA-18G	215A	Departure	25D1C	95 % NC	300	4,765	109,923	1.827	0.11	55	53
	4	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	82 % NC	250	2,500	112,051	0	0.022	55	48
	5	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	82 % NC	250	2,500	112,051	0.09	0	55	43
P10	1	EA-18G	229A	P3 P8 IFR and Growler VFR non breaks	14A2A	87 % NC	300	2,577	4,579	1.08	0.092	95	85
	2	EA-18G	223A	Departure	32D2B	95 % NC	300	8,291	9,255	0.243	0.015	90	80
	3	EA-18G	279C	GCA Pattern	25G3	82 % NC	250	3,000	4,073	0.836	0.237	89	80
	4	EA-18G	277C	GCA Pattern	07G3	82 % NC	300	3,000	4,085	0.274	0.078	89	79
	5	EA-18G	277B	GCA Pattern	07G2	82 % NC	300	3,000	4,387	0.183	0.052	88	78
P11	1	EA-18G	277C	GCA Pattern	07G3	82 % NC	230	2,926	21,053	0.274	0.078	64	50
	2	transient	447C	GCA Pattern	07G3	17760 LBS	200	3,000	21,066	0.018	0	63	N/A
	3	transient	423	IFR non breaks	14A2E	17760 LBS	250	3,047	30,649	0.073	0.007	57	N/A
	4	transient	447B	GCA Pattern	07G2	17760 LBS	200	3,000	32,405	0.018	0	56	N/A
	5	EA-18G	277B	GCA Pattern	07G2	82 % NC	230	2,891	32,410	0.183	0.052	56	44
P12	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87 % NC	300	2,941	9,040	0.324	0.028	82	74
	2	EA-18G	278C	GCA Pattern	14G3	82 % NC	300	3,000	7,718	0.545	0.154	80	72
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87 % NC	300	2,784	12,784	0.756	0.065	79	68
	4	transient	448C	GCA Pattern	14G3	17760 LBS	200	3,000	7,718	0.035	0	78	N/A
	5	transient	437C	VFR non breaks	14A1C	17760 LBS	180	3,047	9,073	0.118	0.021	76	N/A
P13	1	EA-18G	219A	Departure	32D1A	95 % NC	300	7,686	7,575	0.809	0.049	94	86
	2	EA-18G	278B	GCA Pattern	14G2	82 % NC	300	3,000	3,526	0.363	0.103	91	81
	3	EA-18G	277C	GCA Pattern	07G3	82 % NC	300	3,000	3,689	0.274	0.078	90	80
	4	EA-18G	279C	GCA Pattern	25G3	82 % NC	300	3,000	3,689	0.836	0.237	90	81
	5	EA-18G	280B	GCA Pattern	32G2	82 % NC	300	3,000	3,526	0.061	0.017	90	81
P14	1	EA-18G	278C	GCA Pattern	14G3	82 % NC	230	1,822	20,245	0.545	0.154	76	63
	2	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 % NC	150	800	129,685	0.599	0	75	59
	3	EA-18G	274DB	FCLP at Coupeville	32FCD2	84 % NC	150	800	132,707	1.198	0	75	59
	4	EA-18G	278B	GCA Pattern	14G2	82 % NC	230	2,166	23,933	0.363	0.103	72	61
	5	EA-18G	271DA	FCLP at Coupeville	14FCD1	85 % NC	140	597	129,635	0.153	0	71	59
P15	1	EA-18G	206A	Departure	07D2C	95 % NC	300	5,213	8,277	0.282	0.017	92	83
	2	EA-18G	203A	Departure	07D1C	95 % NC	300	5,155	8,368	0.658	0.04	92	83
	3	EA-18G	277B	GCA Pattern	07G2	82 % NC	250	3,000	3,437	0.183	0.052	91	80
	4	EA-18G	205A	Departure	07D2B	95 % NC	300	4,892	9,517	0.658	0.04	90	79
	5	EA-18G	202A	Departure	07D1B	95 % NC	300	4,743	10,004	1.536	0.093	89	78
P16	1	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	250	2,500	7,526	0	0.021	84	70
	2	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	250	2,500	7,526	0.108	0	84	68
	3	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85 % NC	250	2,500	7,612	0.234	0	84	68
	4	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85 % NC	250	2,500	7,587	0.353	0	84	68
	5	EA-18G	252N	Interfacility Ault Field to Coupeville	25WC32DN	80 % NC	250	2,500	7,587	0	0.068	79	69
P17	1	EA-18G	274DA	FCLP at Coupeville	32FCD1	84 % NC	150	800	878	0.599	0	114	109
	2	EA-18G	274DB	FCLP at Coupeville	32FCD2	84 % NC	150	800	1,257	1.198	0	111	105
	3	EA-18G	275NA	FCLP at Coupeville	32FCN1	84 % NC	150	1,200	2,411	0.584	0.277	106	95
	4	EA-18G	275NB	FCLP at Coupeville	32FCN2	84 % NC	150	1,200	3,071	1.169	0.555	104	92
	5	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 % NC	150	800	3,649	0.599	0	102	90

Table A6-6 SEL-Ranked Flight Profiles for High-Tempo FCLP Year Baseline Scenario (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Annual Average Daily Events (3) Daytime (0700-2200)	Annual Average Daily Events (3) Nighttime (2200-0700)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)
P18	1	EA-18G	275NC	FCLP at Coupeville	32FCN3	84	% NC	150	1,200	4,924	0.584	0.277	96	85
	2	EA-18G	274DC	FCLP at Coupeville	32FCD3	84	% NC	150	800	5,592	0.599	0	94	82
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1,200	3,960	0.108	0	93	81
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1,500	4,056	0	0.021	93	80
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85	% NC	350	1,200	4,055	0.353	0	93	80
R01	1	EA-18G	252N	Interfacility Ault Field to Coupeville	25WC32DN	97	% NC	135	59	1,093	0	0.068	121	114
	2	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	97	% NC	135	59	1,093	0.353	0	121	114
	3	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	97	% NC	135	59	1,093	0	0.022	121	114
	4	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	97	% NC	135	59	1,093	0.09	0	121	114
	5	EA-18G	204A	Departure	07D2A	97	% NC	165	302	1,118	0.94	0.057	120	116
R02	1	EA-18G	250N	Interfacility Ault Field to Coupeville	14WC32DN	97	% NC	0	47	3,519	0	0.045	110	96
	2	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	97	% NC	0	47	3,519	0.234	0	110	96
	3	EA-18G	249N	Interfacility Ault Field to Coupeville	14WC14N	97	% NC	0	47	3,519	0	0.015	110	96
	4	EA-18G	249D	Interfacility Ault Field to Coupeville	14WC14D	97	% NC	0	47	3,519	0.06	0	110	96
	5	EA-18G	210A	Departure	14D2A	97	% NC	0	47	3,519	1.707	0.103	109	100
R03	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84	% NC	250	2,000	1,787	0.115	0.005	101	93
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84	% NC	250	2,000	1,967	0.403	0.016	101	92
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	1,971	0.848	0.033	100	92
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	2,000	2,001	0.307	0.012	100	92
	5	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	817	8,282	0.573	0.11	88	78
R04	1	EA-18G	205A	Departure	07D2B	95	% NC	300	4,035	5,492	0.658	0.04	99	88
	2	EA-18G	202A	Departure	07D1B	95	% NC	300	4,007	5,530	1.536	0.093	98	88
	3	EA-18G	206A	Departure	07D2C	95	% NC	300	4,096	5,708	0.282	0.017	98	88
	4	EA-18G	203A	Departure	07D1C	95	% NC	300	4,096	5,708	0.658	0.04	98	88
	5	EA-18G	204A	Departure	07D2A	95	% NC	300	3,804	6,519	0.94	0.057	96	86
R05	1	EA-18G	277A	GCA Pattern	07G1	82	% NC	250	3,000	3,009	1.371	0.388	92	84
	2	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3,000	3,350	4.182	1.183	91	82
	3	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3,000	3,491	0.092	0.026	90	82
	4	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3,000	3,491	0.545	0.154	90	82
	5	EA-18G	205A	Departure	07D2B	95	% NC	300	3,808	13,742	0.658	0.04	85	75
R06	1	EA-18G	274DC	FCLP at Coupeville	32FCD3	85	% NC	140	503	567	0.599	0	118	114
	2	EA-18G	275NA	FCLP at Coupeville	32FCN1	85	% NC	140	610	599	0.584	0.277	118	113
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	140	421	675	0.108	0	117	113
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	140	421	675	0	0.021	117	113
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85	% NC	140	426	713	0.353	0	116	113
R07	1	EA-18G	271DC	FCLP at Coupeville	14FCD3	84	% NC	150	800	847	0.153	0	114	109
	2	EA-18G	271DB	FCLP at Coupeville	14FCD2	84	% NC	150	799	1,359	0.306	0	110	104
	3	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	82.2	% NC	250	1,082	1,489	0.09	0	104	100
	4	EA-18G	247D	Interfacility Ault Field to Coupeville	07WC14D	82.2	% NC	250	1,080	1,506	0.028	0	104	100
	5	EA-18G	249D	Interfacility Ault Field to Coupeville	14WC14D	82.2	% NC	250	1,078	1,600	0.06	0	103	100
R08	1	EA-18G	272NC	FCLP at Coupeville	14FCN3	84	% NC	150	1,200	1,128	0.149	0.071	112	106
	2	EA-18G	272NB	FCLP at Coupeville	14FCN2	84	% NC	150	1,200	3,099	0.298	0.142	102	93
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2,000	2,690	0.059	0.018	99	92
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2,000	2,690	0.011	0.004	99	92
	5	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	85	% NC	350	1,500	2,437	0	0.022	99	91
R09	1	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85	% NC	250	2,499	4,551	0.234	0	92	82
	2	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85	% NC	250	2,499	4,690	0.353	0	91	82
	3	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,499	4,777	0	0.021	91	81
	4	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,499	4,777	0.108	0	91	81
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	3,677	0.045	0.014	90	81
R10	1	EA-18G	228B	P3 P8 IFR and Growler VFR non breal	14A1B	87	% NC	300	2,480	3,143	0.756	0.065	100	90
	2	EA-18G	228C	P3 P8 IFR and Growler VFR non breal	14A1C	87	% NC	300	2,620	3,563	0.324	0.028	98	88
	3	EA-18G	280C	GCA Pattern	32G3	82	% NC	250	3,000	2,980	0.092	0.026	93	84
	4	EA-18G	278A	GCA Pattern	14G1	82	% NC	300	2,999	3,168	2.723	0.77	92	83
	5	EA-18G	228A	P3 P8 IFR and Growler VFR non breal	14A1A	87	% NC	300	2,347	7,186	1.08	0.092	90	77
R11	1	EA-18G	238A	Overhead Break Arrival	14O2A	84	% NC	300	10,000	13,520	0.189	0.022	73	60
	2	EA-18G	238B	Overhead Break Arrival	14O2B	84	% NC	300	10,000	13,567	0.189	0.022	73	60
	3	EA-18G	238C	Overhead Break Arrival	14O2C	84	% NC	300	10,000	13,609	0.195	0.023	73	60
	4	EA-18G	236B	Overhead Break Arrival	07O2B	84	% NC	300	10,000	13,739	0.111	0.013	72	59
	5	EA-18G	236A	Overhead Break Arrival	07O2A	84	% NC	300	10,000	13,740	0.111	0.013	72	59
R12	1	EA-18G	205A	Departure	07D2B	84	% NC	300	9,000	9,677	0.658	0.04	75	65
	2	EA-18G	216A	Departure	25D2A	84	% NC	300	9,000	16,276	2.61	0.158	70	58
	3	EA-18G	217A	Departure	25D2B	84	% NC	300	9,000	16,448	1.827	0.11	70	58
	4	EA-18G	218A	Departure	25D2C	84	% NC	300	9,000	18,999	0.783	0.047	67	55
	5	EA-18G	206A	Departure	07D2C	84	% NC	300	9,000	24,952	0.282	0.017	66	55
R13	1	EA-18G	271DB	FCLP at Coupeville	14FCD2	84	% NC	150	800	49,661	0.306	0	75	55
	2	EA-18G	271DC	FCLP at Coupeville	14FCD3	84	% NC	150	800	49,257	0.153	0	74	55
	3	EA-18G	271DA	FCLP at Coupeville	14FCD1	84	% NC	150	800	52,723	0.153	0	74	55
	4	EA-18G	272NB	FCLP at Coupeville	14FCN2	84	% NC	150	1,200	46,508	0.298	0.142	74	53
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	30,019	0.045	0.014	71	51
R14	1	EA-18G	268B	FCLP at Ault Field	14FU1	84	% NC	130	1,000	2,575	1.74	0.333	104	96
	2	EA-18G	269B	FCLP at Ault Field	25FU1	82.2	% NC	130	693	3,116	2.636	0.505	103	96
	3	EA-18G	283B	FCLP at Ault Field	25FU1	82.2	% NC	140	715	3,119	5.062	1.118	103	91
	4	EA-18G	269A	FCLP at Ault Field	25FM1	82.2	% NC	130	702	3,119	2.636	0.505	103	91
	5	EA-18G	265L	Depart and Re-enter Pattern	25PL	82.2	% NC	140	697	3,095	0.848	0.033	103	91

Table A6-6 SEL-Ranked Flight Profiles for High-Tempo FCLP Year Baseline Scenario (concluded)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Annual Average Daily Daytime (0700-2200)	Annual Average Daily Nighttime (2200-0700)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)
R15	1	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	85	% NC	140	601	1,353	0.09	0	110	105
	2	EA-18G	247D	Interfacility Ault Field to Coupeville	07WC14D	85	% NC	140	621	1,423	0.028	0	110	105
	3	EA-18G	249D	Interfacility Ault Field to Coupeville	14WC14D	85	% NC	140	616	1,435	0.06	0	110	105
	4	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	85	% NC	140	401	1,933	0	0.022	108	105
	5	EA-18G	272NA	FCLP at Coupeville	14FCN1	85	% NC	140	744	2,197	0.149	0.071	107	99
R16	1	EA-18G	233A	P3 P8 IFR and Growler VFR non brea	32A1A	87	% NC	300	2,756	2,575	0.207	0.018	100	91
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	6,951	8,107	1.195	0.072	93	85
	3	EA-18G	278C	GCA Pattern	14G3	82	% NC	250	3,000	3,185	0.545	0.154	91	82
	4	EA-18G	208A	Departure	14D1B	95	% NC	300	6,815	9,922	2.788	0.168	90	81
	5	EA-18G	246	TACAN Arrival	32AHT	82.2	% NC	250	2,475	6,673	0.112	0.007	89	81
R17	1	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	0.036	0	85	N/A
	2	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	0.036	0	79	N/A
	3	P-3	342C	P3 P8 IFR and Growler VFR non brea	32A2C	1200	ESHP	250	3,047	2,963	0.094	0	74	68
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	82	% NC	250	2,500	12,679	0	0.021	74	61
	5	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	82	% NC	250	2,500	12,679	0.108	0	73	61
R18	1	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,500	22,575	0	0.021	65	47
	2	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,500	22,575	0.108	0	65	47
	3	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85	% NC	250	2,500	22,587	0.234	0	65	47
	4	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85	% NC	250	2,500	22,613	0.353	0	65	47
	5	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	24,403	0.072	0.022	64	47
R19	1	EA-18G	271DA	FCLP at Coupeville	14FCD1	85	% NC	140	513	422	0.153	0	120	118
	2	EA-18G	271DB	FCLP at Coupeville	14FCD2	85	% NC	140	499	461	0.306	0	119	116
	3	EA-18G	271DC	FCLP at Coupeville	14FCD3	85	% NC	140	490	534	0.153	0	119	115
	4	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	85	% NC	140	321	1,011	0	0.022	113	106
	5	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	85	% NC	140	361	1,150	0.09	0	113	106
R20	1	EA-18G	229C	P3 P8 IFR and Growler VFR non brea	14A2C	87	% NC	300	2,933	3,692	0.324	0.028	95	87
	2	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,898	0.274	0.078	89	52
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non brea	14A2B	87	% NC	300	2,769	6,744	0.756	0.065	88	78
	4	transient	423	IFR non breaks	14A2E	17760	LBS	180	3,047	3,071	0.073	0.007	86	N/A
	5	transient	438C	VFR non breaks	14A2C	17760	LBS	180	3,047	3,781	0.177	0.032	84	N/A
S01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	82.2	% NC	140	773	4009	0.115	0.005	98	90
	2	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	802	4008	0.573	0.11	96	90
	3	EA-18G	284B	FCLP at Ault Field	32FU1	82.2	% NC	140	839	4014	0.803	0.177	96	84
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	82.2	% NC	140	773	4003	0.115	0.005	96	84
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82.2	% NC	140	861	3936	0.045	0.014	95	83
S02	1	EA-18G	212A	Departure	14D2C	95	% NC	300	2514	3432	0.512	0.031	104	94
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	2514	3432	1.195	0.072	104	93
	3	EA-18G	207A	Departure	14D1A	95	% NC	300	2514	3432	3.983	0.241	104	94
	4	EA-18G	211A	Departure	14D2B	95	% NC	300	2514	3432	1.195	0.072	104	94
	5	EA-18G	208A	Departure	14D1B	95	% NC	300	2514	3432	2.788	0.168	104	94
S03	1	EA-18G	275NC	FCLP at Coupeville	32FCN3	84	% NC	150	1200	3915	0.584	0.277	98	89
	2	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1200	2749	0.108	0	97	89
	3	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85	% NC	350	1200	2808	0.353	0	97	89
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1500	2879	0	0.021	96	89
	5	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85	% NC	350	1200	2890	0.234	0	96	88
S04	1	EA-18G	228C	3 P8 IFR and Growler VFR non break	14A1C	87	% NC	300	2882	4781	0.324	0.028	93	83
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2903	0.545	0.154	92	84
	3	EA-18G	228B	3 P8 IFR and Growler VFR non break	14A1B	87	% NC	300	2719	7342	0.756	0.065	87	76
	4	transient	448C	GCA Pattern	14G3	17760	LBS	200	3000	2903	0.035	0	85	N/A
	5	EA-18G	280C	GCA Pattern	32G3	82	% NC	250	3000	5064	0.092	0.026	84	76
S05	1	EA-18G	243	TACAN Arrival	07AHT	78	% NC	250	3529	3374	0.405	0.027	76	68
	2	EA-18G	229C	3 P8 IFR and Growler VFR non break	14A2C	87	% NC	300	2712	19217	0.324	0.028	70	56
	3	EA-18G	229B	3 P8 IFR and Growler VFR non break	14A2B	87	% NC	300	2592	23773	0.756	0.065	66	51
	4	EA-18G	224A	Departure	32D2C	95	% NC	300	8249	32151	0.104	0.006	65	52
	5	transient	438C	VFR non breaks	14A2C	17760	LBS	180	3047	19344	0.177	0.032	64	N/A
S06	1	EA-18G	224A	Departure	32D2C	84	% NC	300	9000	61543	0.104	0.006	51	39
	2	EA-18G	223A	Departure	32D2B	84	% NC	300	9000	66657	0.243	0.015	50	39
	3	transient	447C	GCA Pattern	07G3	17760	LBS	200	3000	40394	0.018	0	50	37
	4	EA-18G	222A	Departure	32D2A	95	% NC	300	8656	71520	0.347	0.021	49	37
	5	EA-18G	278C	GCA Pattern	14G3	82	% NC	230	1883	57832	0.545	0.154	49	37
S07	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2810	88787	0.274	0.078	61	51
	2	EA-18G	250N	Interfacility Ault Field to Coupeville	14WC32DN	82	% NC	250	2500	161086	0	0.045	60	47
	3	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	82	% NC	250	2500	161073	0.234	0	60	47
	4	EA-18G	249N	Interfacility Ault Field to Coupeville	14WC14N	97	% NC	0	47	167753	0	0.015	58	42
	5	EA-18G	205A	Departure	07D2B	84	% NC	300	9000	100649	0.658	0.04	58	42
S08	1	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3000	2779	0.092	0.026	93	81
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2779	0.545	0.154	93	81
	3	EA-18G	228A	3 P8 IFR and Growler VFR non break	14A1A	87	% NC	300	2851	6041	1.08	0.092	89	80
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3000	4183	0.836	0.237	88	79
	5	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3000	4183	0.274	0.078	88	79
S09	1	EA-18G	232A	3 P8 IFR and Growler VFR non break	25A3A	87	% NC	300	3000	4033	0.777	0.067	92	86
	2	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3000	3025	0.183	0.052	91	78
	3	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3000	5300	4.182	1.183	87	75
	4	EA-18G	206A	Departure	07D2C	95	% NC	300	5403	11786	0.282	0.017	86	76
	5	EA-18G	203A	Departure	07D1C	95	% NC	300	5300	11968	0.658	0.04	86	76
S10	1	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2333	19814	0.092	0.026	71	59
	2	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2000	20733	0.059	0.018	70	58
	3	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2000	20783	0.011	0.004	70	58
	4	EA-18G	246	TACAN Arrival	32AHT	78	% NC	250	3085	23749	0.112	0.007	70	53
	5	EA-18G	212A	Departure	14D2C	95	% NC	300	7389	43096	0.512	0.031	70	47

Notes:

(1) 0 ft indicates the contributing profile is the beginning of takeoff roll

(2) FYI, Ault Field's elevation is 47 ft MSL, OLF Coupeville's elevation is 200 ft MSL

Table A6-7 SEL-Ranked Flight Profiles for High-Tempo FCLP Year No Action Alternative

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Annual Average Daily Events (3)		Estimated	
											Daytime (0700-2200)	Nighttime (2200-0700)	SEL (dBA)	Lmax (dBA) (4)
	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84	% NC	250	2,000	4,401	0.149	0.005	93	82
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84	% NC	250	2,000	4,415	0.452	0.014	92	82
P01	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	4,889	0.897	0.028	92	80
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	2,000	4,943	0.266	0.008	91	80
	5	EA-18G	269B	FCLP at Ault Field	25FU1	84	% NC	130	1,000	9,077	2.685	0.502	87	76
	1	EA-18G	268A	FCLP at Ault Field	14FM1	82.2	% NC	130	852	1,389	1.614	0.302	107	104
	2	EA-18G	268B	FCLP at Ault Field	14FU1	82.2	% NC	130	859	1,393	1.614	0.302	107	103
P02	3	EA-18G	282A	FCLP at Ault Field	14FM1	82.2	% NC	140	893	1,393	2.622	0.684	107	100
	4	EA-18G	282B	FCLP at Ault Field	14FU1	82.2	% NC	140	859	1,393	2.622	0.684	106	100
	5	EA-18G	264R	Depart and Re-enter Pattern	14PR	82.2	% NC	140	859	1,393	0.452	0.014	106	100
	1	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	1,477	1,206	0.266	0.008	105	98
	2	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	1,599	0.897	0.028	103	95
P03	3	EA-18G	264L	Depart and Re-enter Pattern	14PL	84	% NC	250	1,999	2,306	0.452	0.014	99	90
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	84	% NC	250	2,000	2,401	0.149	0.005	99	90
	5	EA-18G	245	TACAN Arrival	25AHT	85	% NC	150	1,023	5,395	1.022	0.054	97	87
	1	EA-18G	274DB	FCLP at Coupeville	32FCD2	84	% NC	150	800	674	1.266	0	115	106
	2	EA-18G	274DA	FCLP at Coupeville	32FCD1	84	% NC	150	800	759	0.633	0	114	106
P04	3	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	96	% NC	150	936	1,943	0.333	0.096	111	106
	4	EA-18G	259	Interfacility Coupeville to Ault Field	32CW07	96	% NC	150	936	1,943	0.098	0.028	111	106
	5	EA-18G	261	Interfacility Coupeville to Ault Field	32CW25	96	% NC	150	936	1,943	0.272	0.079	111	100
	1	EA-18G	275NC	FCLP at Coupeville	32FCN3	84	% NC	150	1,200	6,861	0.617	0.249	91	77
	2	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1,200	5,714	0.19	0	89	77
P05	3	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1,500	5,773	0	0.034	89	77
	4	EA-18G	274DC	FCLP at Coupeville	32FCD3	84	% NC	150	800	7,987	0.633	0	89	77
	5	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85	% NC	350	1,199	5,867	0.19	0	88	N/A
	1	EA-18G	274DC	FCLP at Coupeville	32FCD3	84	% NC	150	800	3,679	0.633	0	100	85
	2	EA-18G	275NC	FCLP at Coupeville	32FCN3	84	% NC	150	1,200	3,776	0.617	0.249	100	84
P06	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	82.2	% NC	250	895	2,970	0.19	0	99	81
	4	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	82.2	% NC	250	900	2,979	0.05	0	99	81
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	82.2	% NC	250	893	3,062	0.396	0	99	79
	1	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2,000	12,064	0.01	0.003	82	73
	2	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2,000	11,825	0.052	0.015	82	73
P07	3	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2,208	17,859	0.131	0.035	80	68
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	9,777	0.053	0.015	79	71
	5	EA-18G	280B	GCA Pattern	32G2	82	% NC	230	2,332	23,457	0.087	0.023	78	66
	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760	LBS	250	3,047	3,389	0.065	0.013	85	N/A
	2	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	3,389	0.038	0	85	N/A
P08	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760	LBS	250	3,047	5,353	0.065	0.013	81	N/A
	4	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	5,353	0.038	0	81	N/A
	5	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	82	% NC	250	2,500	10,529	0.19	0	78	64
	1	EA-18G	244	TACAN Arrival	14AHT	78	% NC	250	3,163	48,626	0.353	0.019	62	51
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	230	2,403	34,003	0.532	0.142	61	52
P09	3	P-8	544	Low TACAN Departure	14ALT	4610	LBS	250	5,632	28,942	0.209	0.032	55	53
	4	EA-18G	215A	Departure	25D1C	95	% NC	300	4,765	109,923	1.932	0.127	55	48
	5	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	82	% NC	250	2,500	112,051	0	0.012	55	43
	1	EA-18G	229A	P3 P8 IFR and Growler VFR non breaks	14A2A	87	% NC	300	2,577	4,579	0.994	0.084	95	85
	2	EA-18G	223A	Departure	32D2B	95	% NC	300	8,291	9,255	0.259	0.017	90	80
P10	3	EA-18G	279C	GCA Pattern	25G3	82	% NC	250	3,000	4,073	0.838	0.223	89	80
	4	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	4,085	0.329	0.087	89	79
	5	EA-18G	277B	GCA Pattern	07G2	82	% NC	300	3,000	4,387	0.219	0.058	88	78
	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2,926	21,053	0.329	0.087	64	50
	2	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3,000	21,066	0.208	0.028	63	N/A
P11	3	transient	447C	GCA Pattern	07G3	17760	LBS	200	3,000	21,066	0.018	0	63	N/A
	4	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760	LBS	250	3,047	30,649	0.066	0.013	57	N/A
	5	transient	423	IFR non breaks	14A2E	17760	LBS	250	3,047	30,649	0.061	0.005	57	N/A
	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2,941	9,040	0.298	0.025	82	74
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3,000	7,718	0.532	0.142	80	72
P12	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2,784	12,784	0.696	0.059	79	68
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3,000	7,718	0.309	0.035	78	N/A
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3,000	7,718	0.036	0	78	N/A
	1	EA-18G	219A	Departure	32D1A	95	% NC	300	7,686	7,575	0.864	0.057	94	86
	2	EA-18G	278B	GCA Pattern	14G2	82	% NC	300	3,000	3,526	0.355	0.094	91	81
P13	3	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,689	0.329	0.087	90	80
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3,000	3,689	0.838	0.223	90	81
	5	EA-18G	280B	GCA Pattern	32G2	82	% NC	300	3,000	3,526	0.087	0.023	90	81
	1	EA-18G	278C	GCA Pattern	14G3	82	% NC	230	1,822	20,245	0.532	0.142	76	63
	2	EA-18G	274DC	FCLP at Coupeville	32FCD3	84	% NC	150	800	129,685	0.633	0	75	59
P14	3	EA-18G	274DB	FCLP at Coupeville	32FCD2	84	% NC	150	800	132,707	1.266	0	75	59
	4	P-8	544	Low TACAN Departure	14ALT	4610	LBS	250	4,622	4,657	0.209	0.032	72	N/A
	5	EA-18G	278B	GCA Pattern	14G2	82	% NC	230	2,166	23,933	0.355	0.094	72	59
	1	EA-18G	206A	Departure	07D2C	95	% NC	300	5,213	8,277	0.279	0.018	92	83
	2	EA-18G	203A	Departure	07D1C	95	% NC	300	5,155	8,368	0.652	0.043	92	83
P15	3	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3,000	3,437	0.219	0.058	91	80
	4	EA-18G	205A	Departure	07D2B	95	% NC	300	4,892	9,517	0.652	0.043	90	79
	5	EA-18G	202A	Departure	07D1B	95	% NC	300	4,743	10,004	1.521	0.1	89	78
	1	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	85	% NC	250	2,500	7,309	0.05	0	85	70
	2	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,500	7,526	0	0.034	84	68
P16	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,500	7,526	0.19	0	84	68
	4	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85	% NC	250	2,500	7,612	0.19	0	84	68
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85	% NC	250	2,500	7,587	0.396	0	84	69

Table A6-7 SEL-Ranked Flight Profiles for High-Tempo FCLP Year No Action Alternative (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting	Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Annual Average Daily Events (3)		Estimated	
										Daytime (0700-2200)	Nighttime (2200-0700)	SEL (dBA)	Lmax (dBA) (4)
P17	1	EA-18G	274DA	FCLP at Coupeville	32FCD1	84 % NC	150	800	878	0.633	0	114	109
	2	EA-18G	274DB	FCLP at Coupeville	32FCD2	84 % NC	150	800	1,257	1.266	0	111	105
	3	EA-18G	275NA	FCLP at Coupeville	32FCN1	84 % NC	150	1,200	2,411	0.617	0.249	106	95
	4	EA-18G	275NB	FCLP at Coupeville	32FCN2	84 % NC	150	1,200	3,071	1.235	0.497	104	92
	5	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 % NC	150	800	3,649	0.633	0	102	90
P18	1	EA-18G	275NC	FCLP at Coupeville	32FCN3	84 % NC	150	1,200	4,924	0.617	0.249	96	85
	2	EA-18G	274DC	FCLP at Coupeville	32FCD3	84 % NC	150	800	5,592	0.633	0	94	82
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	350	1,200	3,960	0.19	0	93	81
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	350	1,500	4,056	0	0.034	93	80
	5	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85 % NC	350	1,200	4,055	0.396	0	93	80
R01	1	EA-18G	252N	Interfacility Ault Field to Coupeville	25WC32DN	97 % NC	135	59	1,093	0	0.072	121	114
	2	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	97 % NC	135	59	1,093	0.396	0	121	114
	3	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	97 % NC	135	59	1,093	0	0.012	121	114
	4	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	97 % NC	135	59	1,093	0.075	0	121	114
	5	EA-18G	204A	Departure	07D2A	97 % NC	165	302	1,118	0.931	0.061	120	116
R02	1	EA-18G	250N	Interfacility Ault Field to Coupeville	14WC32DN	97 % NC	0	47	3,519	0	0.034	110	96
	2	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	97 % NC	0	47	3,519	0.19	0	110	96
	3	EA-18G	249N	Interfacility Ault Field to Coupeville	14WC14N	97 % NC	0	47	3,519	0	0.006	110	96
	4	EA-18G	249D	Interfacility Ault Field to Coupeville	14WC14D	97 % NC	0	47	3,519	0.036	0	110	96
	5	EA-18G	210A	Departure	14D2A	97 % NC	0	47	3,519	1.526	0.1	109	100
R03	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84 % NC	250	2,000	1,787	0.149	0.005	101	93
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84 % NC	250	2,000	1,967	0.452	0.014	101	92
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	1,971	0.897	0.028	100	92
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	2,000	2,001	0.266	0.008	100	92
	5	EA-18G	270B	FCLP at Ault Field	32FU1	82.2 % NC	130	817	8,282	0.781	0.146	88	78
R04	1	EA-18G	205A	Departure	07D2B	95 % NC	300	4,035	5,492	0.652	0.043	99	88
	2	EA-18G	202A	Departure	07D1B	95 % NC	300	4,007	5,530	1.521	0.1	98	88
	3	EA-18G	206A	Departure	07D2C	95 % NC	300	4,096	5,708	0.279	0.018	98	88
	4	EA-18G	203A	Departure	07D1C	95 % NC	300	4,096	5,708	0.652	0.043	98	88
	5	EA-18G	204A	Departure	07D2A	95 % NC	300	3,804	6,519	0.931	0.061	96	86
R05	1	EA-18G	277A	GCA Pattern	07G1	82 % NC	250	3,000	3,009	1.644	0.437	92	84
	2	EA-18G	279A	GCA Pattern	25G1	82 % NC	300	3,000	3,350	4.192	1.115	91	82
	3	EA-18G	280C	GCA Pattern	32G3	82 % NC	300	3,000	3,491	0.131	0.035	90	82
	4	EA-18G	278C	GCA Pattern	14G3	82 % NC	300	3,000	3,491	0.532	0.142	90	82
	5	EA-18G	205A	Departure	07D2B	95 % NC	300	3,808	13,742	0.652	0.043	85	75
R06	1	EA-18G	274DC	FCLP at Coupeville	32FCD3	85 % NC	140	503	567	0.633	0	118	114
	2	EA-18G	275NA	FCLP at Coupeville	32FCN1	85 % NC	140	610	599	0.617	0.249	118	113
	3	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	140	421	675	0.19	0	117	113
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	140	421	675	0	0.034	117	113
	5	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	85 % NC	140	412	706	0.05	0	116	113
R07	1	EA-18G	271DC	FCLP at Coupeville	14FCD3	84 % NC	150	800	847	0.13	0	114	109
	2	EA-18G	271DB	FCLP at Coupeville	14FCD2	84 % NC	150	799	1,359	0.259	0	110	104
	3	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	82.2 % NC	250	1,082	1,489	0.075	0	104	100
	4	EA-18G	253D	Interfacility Ault Field to Coupeville	32WC14D	82.2 % NC	250	1,082	1,493	0.009	0	104	100
	5	EA-18G	247D	Interfacility Ault Field to Coupeville	07WC14D	82.2 % NC	250	1,080	1,506	0.036	0	104	100
R08	1	EA-18G	272NC	FCLP at Coupeville	14FCN3	84 % NC	150	1,200	1,128	0.126	0.051	112	106
	2	EA-18G	272NB	FCLP at Coupeville	14FCN2	84 % NC	150	1,200	3,099	0.253	0.102	102	93
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82 % NC	250	2,000	2,690	0.052	0.015	99	92
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82 % NC	250	2,000	2,690	0.01	0.003	99	92
	5	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	85 % NC	350	1,500	2,437	0	0.012	99	91
R09	1	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85 % NC	250	2,499	4,551	0.19	0	92	82
	2	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85 % NC	250	2,499	4,690	0.396	0	91	82
	3	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	85 % NC	250	2,499	4,762	0.05	0	91	81
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	250	2,499	4,777	0	0.034	91	81
	5	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85 % NC	250	2,499	4,777	0.19	0	91	81
R10	1	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87 % NC	300	2,480	3,143	0.696	0.059	100	90
	2	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87 % NC	300	2,620	3,563	0.298	0.025	98	88
	3	EA-18G	280C	GCA Pattern	32G3	82 % NC	250	3,000	2,980	0.131	0.035	93	84
	4	EA-18G	278A	GCA Pattern	14G1	82 % NC	300	2,999	3,168	2.661	0.708	92	83
	5	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87 % NC	300	2,347	7,186	0.994	0.084	90	77
R11	1	EA-18G	238A	Overhead Break Arrival	14O2A	84 % NC	300	10,000	13,520	0.178	0.019	73	60
	2	EA-18G	238B	Overhead Break Arrival	14O2B	84 % NC	300	10,000	13,567	0.178	0.019	73	60
	3	EA-18G	238C	Overhead Break Arrival	14O2C	84 % NC	300	10,000	13,609	0.183	0.02	73	60
	4	EA-18G	236B	Overhead Break Arrival	07O2B	84 % NC	300	10,000	13,739	0.11	0.012	72	59
	5	EA-18G	236A	Overhead Break Arrival	07O2A	84 % NC	300	10,000	13,740	0.11	0.012	72	59
R12	1	EA-18G	205A	Departure	07D2B	84 % NC	300	9,000	9,677	0.652	0.043	75	65
	2	EA-18G	216A	Departure	25D2A	84 % NC	300	9,000	16,276	2.76	0.181	70	58
	3	EA-18G	217A	Departure	25D2B	84 % NC	300	9,000	16,448	1.932	0.127	70	58
	4	EA-18G	218A	Departure	25D2C	84 % NC	300	9,000	18,999	0.828	0.054	67	55
	5	EA-18G	206A	Departure	07D2C	84 % NC	300	9,000	24,952	0.279	0.018	66	55
R13	1	EA-18G	271DB	FCLP at Coupeville	14FCD2	84 % NC	150	800	49,661	0.259	0	75	55
	2	EA-18G	271DC	FCLP at Coupeville	14FCD3	84 % NC	150	800	49,257	0.13	0	74	55
	3	EA-18G	271DA	FCLP at Coupeville	14FCD1	84 % NC	150	800	52,723	0.13	0	74	55
	4	EA-18G	272NB	FCLP at Coupeville	14FCN2	84 % NC	150	1,200	46,508	0.253	0.102	74	53
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82 % NC	250	2,000	30,019	0.053	0.015	71	51
R14	1	EA-18G	268B	FCLP at Ault Field	14FU1	84 % NC	130	1,000	2,575	1.614	0.302	104	96
	2	EA-18G	269B	FCLP at Ault Field	25FU1	82.2 % NC	130	693	3,116	2.685	0.502	103	96
	3	EA-18G	283B	FCLP at Ault Field	25FU1	82.2 % NC	140	715	3,119	2.916	0.761	103	91
	4	EA-18G	269A	FCLP at Ault Field	25FM1	82.2 % NC	130	702	3,119	2.685	0.502	103	91
	5	EA-18G	265L	Depart and Re-enter Pattern	25PL	82.2 % NC	140	697	3,095	0.897	0.028	103	91

Table A6-7 SEL-Ranked Flight Profiles for High-Tempo FCLP Year No Action Alternative (concluded)

											Annual Average Daily		Estimated	
POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Daytime (0700-2200)	Nighttime (2200-0700)	SEL (dBA)	Lmax (dBA) (4)
R15	1	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	85	% NC	140	601	1,353	0.075	0	110	105
	2	EA-18G	253D	Interfacility Ault Field to Coupeville	32WC14D	85	% NC	140	609	1,370	0.009	0	110	105
	3	EA-18G	247D	Interfacility Ault Field to Coupeville	07WC14D	85	% NC	140	621	1,423	0.036	0	110	105
	4	EA-18G	249D	Interfacility Ault Field to Coupeville	14WC14D	85	% NC	140	616	1,435	0.036	0	110	105
	5	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	85	% NC	140	401	1,933	0	0.012	108	99
R16	1	EA-18G	233A	P3 P8 IFR and Growler VFR non breaks	32A1A	87	% NC	300	2,756	2,575	0.222	0.019	100	91
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	6,951	8,107	1.068	0.07	93	85
	3	EA-18G	278C	GCA Pattern	14G3	82	% NC	250	3,000	3,185	0.532	0.142	91	82
	4	EA-18G	208A	Departure	14D1B	95	% NC	300	6,815	9,922	2.493	0.164	90	81
	5	EA-18G	246	TACAN Arrival	32AHT	82.2	% NC	250	2,475	6,673	0.112	0.006	89	81
R17	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	0.065	0.013	85	N/A
	2	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	0.038	0	85	N/A
	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	0.065	0.013	79	N/A
	4	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	0.038	0	79	N/A
	5	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	82	% NC	250	2,500	12,679	0	0.034	74	59
R18	1	P-8	543	Low TACAN Departure	07ALT	4610	LBS	250	5,971	5,979	0.075	0.02	68	N/A
	2	P-8	545	Low TACAN Departure	25ALT	4610	LBS	250	6,446	6,474	0.109	0.019	67	N/A
	3	EA-18G	254D	Interfacility Ault Field to Coupeville	32WC32DN	85	% NC	250	2,500	22,311	0.05	0	65	47
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,500	22,575	0	0.034	65	47
	5	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	250	2,500	22,575	0.19	0	65	47
R19	1	EA-18G	271DA	FCLP at Coupeville	14FCD1	85	% NC	140	513	422	0.13	0	120	118
	2	EA-18G	271DB	FCLP at Coupeville	14FCD2	85	% NC	140	499	461	0.259	0	119	116
	3	EA-18G	271DC	FCLP at Coupeville	14FCD3	85	% NC	140	490	534	0.13	0	119	115
	4	EA-18G	251N	Interfacility Ault Field to Coupeville	25WC14N	85	% NC	140	321	1,011	0	0.012	113	106
	5	EA-18G	251D	Interfacility Ault Field to Coupeville	25WC14D	85	% NC	140	361	1,150	0.075	0	113	106
R20	1	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2,933	3,692	0.298	0.025	95	87
	2	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,898	0.329	0.087	89	52
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2,769	6,744	0.696	0.059	88	78
	4	transient	423	IFR non breaks	14A2E	17760	LBS	180	3,047	3,071	0.061	0.005	86	N/A
	5	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760	LBS	180	3,047	3,071	0.066	0.013	86	N/A
S01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	82.2	% NC	140	773	4009	0.149	0.005	98	90
	2	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	802	4008	0.781	0.146	96	90
	3	EA-18G	284B	FCLP at Ault Field	32FU1	82.2	% NC	140	839	4014	0.96	0.25	96	84
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	82.2	% NC	140	773	4003	0.149	0.005	96	84
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82.2	% NC	140	861	3936	0.053	0.015	95	83
S02	1	EA-18G	212A	Departure	14D2C	95	% NC	300	2514	3432	0.458	0.03	104	94
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	2514	3432	1.068	0.07	104	93
	3	EA-18G	207A	Departure	14D1A	95	% NC	300	2514	3432	3.561	0.234	104	94
	4	EA-18G	211A	Departure	14D2B	95	% NC	300	2514	3432	1.068	0.07	104	94
	5	EA-18G	208A	Departure	14D1B	95	% NC	300	2514	3432	2.493	0.164	104	94
S03	1	EA-18G	275NC	FCLP at Coupeville	32FCN3	84	% NC	150	1200	3915	0.617	0.249	98	89
	2	EA-18G	248D	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1200	2749	0.19	0	97	89
	3	EA-18G	252D	Interfacility Ault Field to Coupeville	25WC32DN	85	% NC	350	1200	2808	0.396	0	97	89
	4	EA-18G	248N	Interfacility Ault Field to Coupeville	07WC32DN	85	% NC	350	1500	2879	0	0.034	96	89
	5	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	85	% NC	350	1200	2890	0.19	0	96	88
S04	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2882	4781	0.298	0.025	93	83
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2903	0.532	0.142	92	84
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2719	7342	0.696	0.059	87	76
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3000	2903	0.309	0.035	85	N/A
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3000	2903	0.036	0	85	N/A
S05	1	EA-18G	243	TACAN Arrival	07AHT	78	% NC	250	3529	3374	0.318	0.017	76	68
	2	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2712	19217	0.298	0.025	70	56
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2592	23773	0.696	0.059	66	51
	4	EA-18G	224A	Departure	32D2C	95	% NC	300	8249	32151	0.111	0.007	65	52
	5	P-8	538C	P3 P8 IFR and Growler VFR non breaks	14A2C	17760	LBS	180	3047	19344	0.302	0.052	64	N/A
S06	1	EA-18G	224A	Departure	32D2C	84	% NC	300	9000	61543	0.111	0.007	51	39
	2	EA-18G	223A	Departure	32D2B	84	% NC	300	9000	66657	0.259	0.017	50	39
	3	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3000	40394	0.208	0.028	50	37
	4	transient	447C	GCA Pattern	07G3	17760	LBS	200	3000	40394	0.018	0	50	37
	5	EA-18G	222A	Departure	32D2A	95	% NC	300	8656	71520	0.37	0.024	49	37
S07	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2810	88787	0.329	0.087	61	51
	2	EA-18G	250N	Interfacility Ault Field to Coupeville	14WC32DN	82	% NC	250	2500	161086	0	0.034	60	47
	3	EA-18G	250D	Interfacility Ault Field to Coupeville	14WC32DN	82	% NC	250	2500	161073	0.19	0	60	47
	4	EA-18G	253N	Interfacility Ault Field to Coupeville	32WC14N	82	% NC	250	2500	135294	0	0.001	59	45
	5	EA-18G	253D	Interfacility Ault Field to Coupeville	32WC14D	82	% NC	250	2500	135294	0.009	0	59	45
S08	1	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3000	2779	0.131	0.035	93	81
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2779	0.532	0.142	93	81
	3	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2851	6041	0.994	0.084	89	80
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3000	4183	0.838	0.223	88	79
	5	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3000	4183	0.329	0.087	88	79
S09	1	EA-18G	232A	P3 P8 IFR and Growler VFR non breaks	25A3A	87	% NC	300	3000	4033	0.842	0.071	92	86
	2	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3000	3025	0.219	0.058	91	78
	3	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3000	5300	4.192	1.115	87	75
	4	EA-18G	206A	Departure	07D2C	95	% NC	300	5403	11786	0.279	0.018	86	76
	5	EA-18G	203A	Departure	07D1C	95	% NC	300	5300	11968	0.652	0.043	86	76
S10	1	P-8	546	Low TACAN Departure	32ALT	17760	LBS	250	3616	3501	0.023	0.005	83	N/A
	2	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2333	19814	0.131	0.035	71	61
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2000	20733	0.052	0.015	70	58
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2000	20783	0.01	0.003	70	58
	5	EA-18G	246	TACAN Arrival	32AHT	78	% NC	250	3085	23749	0.112	0.006	70	53

Notes:
(1) 0 ft indicates the contributing profile is the beginning of takeoff roll
(2) FYI, Ault Field's elevation is 47 ft MSL, OLF Coupeville's elevation is 200 ft MSL
(3) not operations. Patterns counted as 1 event, vice 2 operations.

Table A6-8 SEL-Ranked Flight Profiles for Alternative 1 for High-Tempo FCLP Year

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	Annual Average Daily Events (3) 1A Daytime (0700-2200)	1A Nighttime (2200-0700)	1B Daytime (0700-2200)	1B Nighttime (2200-0700)	1C Daytime (0700-2200)	1C Nighttime (2200-0700)	1D Daytime (0700-2200)	1D Nighttime (2200-0700)	1E Daytime (0700-2200)	1E Nighttime (2200-0700)
P01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84	% NC	250	2,000	4,401	93	82	0.094	0.003	0.094	0.003	0.094	0.003	0.094	0.003	0.094	0.003
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84	% NC	250	2,000	4,415	92	82	0.68	0.022	0.68	0.022	0.727	0.024	0.727	0.024	0.727	0.024
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	4,889	92	80	1.172	0.038	1.195	0.039	1.125	0.037	1.125	0.037	1.125	0.037
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	2,000	4,943	91	80	0.398	0.013	0.375	0.012	0.398	0.013	0.398	0.013	0.398	0.013
	5	EA-18G	269B	FCLP at Ault Field	25FU1	84	% NC	130	1,000	9,077	87	76	3.315	0.762	3.45	0.793	3.247	0.746	3.247	0.746	3.247	0.746
P02	1	EA-18G	268A	FCLP at Ault Field	14FM1	82.2	% NC	130	852	1,389	107	104	2.029	0.466	1.962	0.451	2.165	0.497	2.165	0.497	2.165	0.497
	2	EA-18G	268B	FCLP at Ault Field	14FU1	82.2	% NC	130	859	1,393	107	103	2.029	0.466	1.962	0.451	2.165	0.497	2.165	0.497	2.165	0.497
	3	EA-18G	282A	FCLP at Ault Field	14FM1	82.2	% NC	140	893	1,393	107	100	1.116	0.29	2.572	0.703	4.64	1.533	1.841	0.478	4.06	1.341
	4	EA-18G	282B	FCLP at Ault Field	14FU1	82.2	% NC	140	859	1,393	106	100	1.116	0.29	2.572	0.703	4.64	1.533	1.841	0.478	4.06	1.341
	5	EA-18G	264R	Depart and Re-enter Pattern	14PR	82.2	% NC	140	859	1,393	106	100	0.68	0.022	0.68	0.022	0.727	0.024	0.727	0.024	0.727	0.024
P03	1	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	1,477	1,206	105	98	0.398	0.013	0.375	0.012	0.398	0.013	0.398	0.013	0.398	0.013
	2	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	1,599	103	95	1.172	0.038	1.195	0.039	1.125	0.037	1.125	0.037	1.125	0.037
	3	EA-18G	264L	Depart and Re-enter Pattern	14PL	84	% NC	250	1,999	2,306	99	90	0.68	0.022	0.68	0.022	0.727	0.024	0.727	0.024	0.727	0.024
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	84	% NC	250	2,000	2,401	99	90	0.094	0.003	0.094	0.003	0.094	0.003	0.094	0.003	0.094	0.003
	5	EA-18G	245	TACAN Arrival	25AHT	85	% NC	150	1,023	5,395	97	87	1.207	0.046	1.438	0.106	1.285	0.056	1.138	0.044	1.285	0.056
P04	1	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	96	% NC	150	936	1,943	111	106	1.22	0.262	0.761	0.139	0.315	0.051	1.053	0.226	0.472	0.077
	2	EA-18G	259	Interfacility Coupeville to Ault Field	32CW07	96	% NC	150	936	1,943	111	106	0.361	0.077	0.225	0.041	0.093	0.015	0.311	0.067	0.14	0.023
	3	EA-18G	261	Interfacility Coupeville to Ault Field	32CW25	96	% NC	150	936	1,943	111	106	0.998	0.214	0.623	0.114	0.258	0.042	0.862	0.185	0.387	0.063
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	96	% NC	150	936	1,943	111	106	0.194	0.042	0.121	0.022	0.05	0.008	0.168	0.036	0.075	0.012
	5	EA-18G	273PDA	FCLP at Coupeville	14FCP1	85	% NC	140	337	1,801	108	100	1.11	0	0.734	0	0.287	0	1.006	0	0.431	0
P05	1	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1,200	8,512	88	77	1.738	1.302	1.161	0.71	0.495	0.258	1.5	1.124	0.743	0.387
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	8,475	88	77	2.854	0	1.713	0	0.703	0	2.462	0	1.054	0
	3	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,200	9,601	87	77	3.476	2.604	2.322	1.421	0.991	0.516	2.999	2.247	1.486	0.775
	4	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	9,568	87	77	5.708	0	3.426	0	1.405	0	4.925	0	2.108	0
	5	transient	430	IFR non breaks	32A2E	17760	LBS	180	3,047	3,122	85	N/A	0.009	0	0.011	0.001	0.011	0.001	0.011	0	0.011	0.001
P06	1	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	799	5,329	96	85	2.854	0	1.713	0	0.703	0	2.462	0	1.054	0
	2	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1,199	5,397	96	84	1.738	1.302	1.161	0.71	0.495	0.258	1.5	1.124	0.743	0.387
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	799	6,534	93	81	5.708	0	3.426	0	1.405	0	4.925	0	2.108	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,199	6,590	93	81	3.476	2.604	2.322	1.421	0.991	0.516	2.999	2.247	1.486	0.775
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1,199	7,791	91	79	1.738	1.302	1.161	0.71	0.495	0.258	1.5	1.124	0.743	0.387
P07	1	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2,000	12,064	82	73	0.075	0.016	0.052	0.009	0.02	0.003	0.068	0.015	0.031	0.005
	2	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2,000	11,825	82	73	0.388	0.083	0.267	0.049	0.105	0.017	0.352	0.076	0.158	0.026
	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84	% NC	150	800	23,102	80	68	2.22	0	1.468	0	0.574	0	2.012	0	0.861	0
	4	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2,208	17,859	80	71	0.066	0.028	0.088	0.037	0.088	0.037	0.088	0.037	0.088	0.037
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	9,777	79	66	0.194	0.042	0.121	0.022	0.05	0.008	0.168	0.036	0.075	0.012
P08	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760	LBS	250	3,047	3,389	85	N/A	0.045	0.007	0.045	0.013	0.045	0.015	0.045	0.016	0.045	0.015
	2	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	3,389	85	N/A	0.022	0.002	0.022	0.005	0.021	0.006	0.022	0.006	0.021	0.006
	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760	LBS	250	3,047	5,353	81	N/A	0.045	0.007	0.045	0.013	0.045	0.015	0.045	0.016	0.045	0.015
	4	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	5,353	81	N/A	0.022	0.002	0.022	0.005	0.021	0.006	0.022	0.006	0.021	0.006
	5	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82	% NC	250	2,000	10,604	76	64	0.14	0.03	0.096	0.018	0.038	0.006	0.127	0.027	0.057	0.009
P09	1	EA-18G	244	TACAN Arrival	14AHT	78	% NC	250	3,163	48,626	62	51	0.615	0.024	0.667	0.049	0.72	0.031	0.637	0.025	0.72	0.031
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	230	2,403	34,003	61	52	0.66	0.276	0.638	0.267	0.704	0.294	0.704	0.294	0.704	0.294
	3	P-8	544	Low TACAN Departure	14ALT	4610	LBS	250	5,632	28,942	55	53	0.19	0.043	0.212	0.044	0.22	0.04	0.194	0.046	0.22	0.04
	4	EA-18G	215A	Departure	25D1C	95	% NC	300	4,765	109,923	55	48	2.256	0.136	2.325	0.149	2.154	0.139	2.166	0.131	2.154	0.139
	5	EA-18G	217A	Departure	25D2B	95	% NC	300	3,835	110,307	54	43	2.256	0.136	2.325	0.149	2.154	0.139	2.166	0.131	2.154	0.139
P10	1	EA-18G	229A	P3 P8 IFR and Growler VFR non breaks	14A2A	87	% NC	300	2,577	4,579	95	85	1.189	0.091	1.101	0.084	1.267	0.095	1.269	0.097	1.267	0.095
	2	EA-18G	223A	Departure	32D2B	95	% NC	300	8,291	9,255	90	80	0.135	0.008	0.179	0.011	0.224	0.014	0.226	0.014	0.224	0.014
	3	EA-18G	279C	GCA Pattern	25G3	82	% NC	250	3,000	4,073	89	80	1.077	0.45	1.121	0.469	1.077	0.45	1.077	0.45	1.077	0.45
	4	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	4,085	89	79	0.396	0.165	0.352	0.147	0.33	0.138	0.33	0.138	0.33	0.138
	5	EA-18G	277B	GCA Pattern	07G2	82	% NC	300	3,000	4,387	88	78	0.264	0.11	0.235	0.098	0.22	0.092	0.22	0.092	0.22	0.092
P11	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2,926	21,053	64	50	0.396	0.165	0.352	0.147	0.33	0.138	0.33	0.138	0.33	0.138
	2	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3,000	21,066	63	N/A	0.219	0.026	0.199	0.018	0.181	0.018	0.183	0.022	0.181	0.018
	3	transient	447C	GCA Pattern	07G3	17760	LBS	200	3,000	21,066	63	N/A	0.02	0	0.018	0	0.017	0	0.017	0	0.017	0
	4	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760	LBS	250	3,047	30,649	57	N/A	0.067	0.016	0.068	0.014	0.084	0.015	0.074	0.017	0.084	0.015
	5	transient	423	IFR non breaks	14A2E	17760	LBS	250	3,047	30,649	57	N/A	0.062	0.001	0.063	0.005	0.068	0.008	0.068	0.002	0.068	0.008
P12	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2,941	9,040	82	74	0.357	0.027	0.33	0.025	0.38	0.029	0.381	0.029	0.38	0.029
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3,000	7,718	80	72	0.66	0.276	0.638	0.267	0.704	0.294	0.704	0.294	0.704	0.294
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2,784	12,784	79	68	0.833	0.063	0.771	0.059	0.887	0.067	0.888	0.068	0.887	0.067
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3,000	7,718	78	N/A	0.378	0.044	0.348	0.034	0.373	0.031	0.378	0.038	0.373	0.031
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3,000	7,718	78	N/A	0.034	0	0.031	0	0.034	0	0.034	0	0.034	0
P13	1	EA-18G	219A	Departure	32D1A	95	% NC	300	7,686	7,575	94	86	0.451	0.027	0.596	0.038	0.748	0.048	0.752	0.045	0.748	0.048
	2	EA-18G	278B	GCA Pattern	14G2	82	% NC	300	3,000	3,526	91	81	0.44	0.184	0.425	0.178	0.469	0.196	0.469	0.196	0.469	0.196
	3	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,689	90	80	0.396	0.165	0.352	0.147	0.33	0.138	0.33	0.138	0.33	0.138
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3,000	3,689	90	81	1.077	0.45	1.121	0.469	1.077	0.45	1.077	0.45	1.077	0.45
	5	EA-18G	280B	GCA Pattern	32G2	82	% NC	300	3,000	3,526	90	81	0.044	0.018	0.059	0.025	0.059	0.025	0.059	0.025	0.059	0.025

Table A6-8 SEL-Ranked Flight Profiles for Alternative 1 for High-Tempo FCLP Year (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated		Annual Average Daily Events (3)									
													1A		1B		1C		1D		1E	
											SEL (dBA)	Lmax (dBA) (4)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)
	1	EA-18G	278C	GCA Pattern	14G3	82	% NC	230	1,822	20,245	76	63	0.66	0.276	0.638	0.267	0.704	0.294	0.704	0.294	0.704	0.294
	2	P-8	544	Low TACAN Departure	14ALT	4610	LBS	250	4,622	4,657	72	N/A	0.19	0.043	0.212	0.044	0.22	0.04	0.194	0.046	0.22	0.04
P14	3	EA-18G	278B	GCA Pattern	14G2	82	% NC	230	2,166	23,933	72	58	0.44	0.184	0.425	0.178	0.469	0.196	0.469	0.196	0.469	0.196
	4	EA-18G	221A	Departure	32D1C	95	% NC	300	6,560	43,942	69	49	0.135	0.008	0.179	0.011	0.224	0.014	0.226	0.014	0.224	0.014
	5	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2,569	25,383	67	55	0.357	0.027	0.33	0.025	0.38	0.029	0.381	0.029	0.38	0.029
	1	EA-18G	206A	Departure	07D2C	95	% NC	300	5,213	8,277	92	83	0.329	0.02	0.307	0.02	0.308	0.02	0.309	0.019	0.308	0.02
	2	EA-18G	203A	Departure	07D1C	95	% NC	300	5,155	8,368	92	83	0.767	0.046	0.715	0.046	0.718	0.046	0.722	0.044	0.718	0.046
P15	3	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3,000	3,437	91	80	0.264	0.11	0.235	0.098	0.22	0.092	0.22	0.092	0.22	0.092
	4	EA-18G	205A	Departure	07D2B	95	% NC	300	4,892	9,517	90	79	0.767	0.046	0.715	0.046	0.718	0.046	0.722	0.044	0.718	0.046
	5	EA-18G	202A	Departure	07D1B	95	% NC	300	4,743	10,004	89	78	1.79	0.108	1.669	0.107	1.675	0.108	1.685	0.102	1.675	0.108
	1	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	8,724	79	67	0.475	0.102	0.326	0.06	0.129	0.021	0.43	0.092	0.193	0.031
	2	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82	% NC	250	2,000	8,724	79	67	0.14	0.03	0.096	0.018	0.038	0.006	0.127	0.027	0.057	0.009
P16	3	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	82	% NC	250	2,500	10,146	78	64	1.232	0	0.788	0	0.281	0	0.914	0	0.422	0
	4	EA-18G	248PN	Interfacility Ault Field to Coupeville	07WC32P	82	% NC	250	2,500	10,318	78	64	0	0.157	0	0.081	0	0.025	0	0.107	0	0.037
	5	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2,500	10,355	78	64	0	0.261	0	0.126	0	0.065	0	0.282	0	0.098
	1	EA-18G	276PDA	FCLP at Coupeville	32FCP1	84	% NC	150	799	742	115	110	2.854	0	1.713	0	0.703	0	2.462	0	1.054	0
	2	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1,199	1,129	111	106	1.738	1.302	1.161	0.71	0.495	0.258	1.5	1.124	0.743	0.387
P17	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	799	1,206	111	105	5.708	0	3.426	0	1.405	0	4.925	0	2.108	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,199	1,476	109	103	3.476	2.604	2.322	1.421	0.991	0.516	2.999	2.247	1.486	0.775
	5	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	799	2,304	106	97	2.854	0	1.713	0	0.703	0	2.462	0	1.054	0
	1	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1,200	6,600	92	82	1.738	1.302	1.161	0.71	0.495	0.258	1.5	1.124	0.743	0.387
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	6,544	91	82	2.854	0	1.713	0	0.703	0	2.462	0	1.054	0
P18	3	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,200	7,760	90	79	3.476	2.604	2.322	1.421	0.991	0.516	2.999	2.247	1.486	0.775
	4	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	7,712	90	79	5.708	0	3.426	0	1.405	0	4.925	0	2.108	0
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1,200	8,929	87	78	1.738	1.302	1.161	0.71	0.495	0.258	1.5	1.124	0.743	0.387
	1	EA-18G	251PN	Interfacility Ault Field to Coupeville	25WC14P	97	% NC	135	59	1,093	121	114	0	0.195	0	0.111	0	0.034	0	0.147	0	0.051
	2	EA-18G	251PD	Interfacility Ault Field to Coupeville	25WC14P	97	% NC	135	59	1,093	121	114	0.479	0	0.338	0	0.115	0	0.373	0	0.172	0
R01	3	EA-18G	252PN	Interfacility Ault Field to Coupeville	25WC32P	97	% NC	135	59	1,093	121	114	0	0.435	0	0.225	0	0.076	0	0.327	0	0.113
	4	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	97	% NC	135	59	1,093	121	114	1.232	0	0.788	0	0.281	0	0.914	0	0.422	0
	5	EA-18G	204A	Departure	07D2A	97	% NC	165	302	1,118	120	116	1.096	0.066	1.022	0.066	1.026	0.066	1.032	0.062	1.026	0.066
	1	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	97	% NC	0	47	3,519	110	96	0	0.261	0	0.126	0	0.065	0	0.282	0	0.098
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	97	% NC	0	47	3,519	110	96	0.739	0	0.441	0	0.242	0	0.787	0	0.363	0
R02	3	EA-18G	249PN	Interfacility Ault Field to Coupeville	14WC14P	97	% NC	0	47	3,519	110	96	0	0.117	0	0.062	0	0.029	0	0.126	0	0.044
	4	EA-18G	249PD	Interfacility Ault Field to Coupeville	14WC14P	97	% NC	0	47	3,519	110	96	0.287	0	0.189	0	0.099	0	0.321	0	0.148	0
	5	EA-18G	210A	Departure	14D2A	97	% NC	0	47	3,519	109	100	1.934	0.117	1.788	0.115	1.987	0.128	1.999	0.121	1.987	0.128
	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84	% NC	250	2,000	1,787	101	93	0.094	0.003	0.094	0.003	0.094	0.003	0.094	0.003	0.094	0.003
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84	% NC	250	2,000	1,967	101	92	0.68	0.022	0.68	0.022	0.727	0.024	0.727	0.024	0.727	0.024
R03	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	1,971	100	92	1.172	0.038	1.195	0.039	1.125	0.037	1.125	0.037	1.125	0.037
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	2,000	2,001	100	92	0.398	0.013	0.375	0.012	0.398	0.013	0.398	0.013	0.398	0.013
	5	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	817	8,282	88	78	0.406	0.093	0.541	0.124	0.541	0.124	0.541	0.124	0.541	0.124
	1	EA-18G	205A	Departure	07D2B	95	% NC	300	4,035	5,492	99	88	0.767	0.046	0.715	0.046	0.718	0.046	0.722	0.044	0.718	0.046
	2	EA-18G	202A	Departure	07D1B	95	% NC	300	4,007	5,530	98	88	1.79	0.108	1.669	0.107	1.675	0.108	1.685	0.102	1.675	0.108
R04	3	EA-18G	206A	Departure	07D2C	95	% NC	300	4,096	5,708	98	88	0.329	0.02	0.307	0.02	0.308	0.02	0.309	0.019	0.308	0.02
	4	EA-18G	203A	Departure	07D1C	95	% NC	300	4,096	5,708	98	88	0.767	0.046	0.715	0.046	0.718	0.046	0.722	0.044	0.718	0.046
	5	EA-18G	204A	Departure	07D2A	95	% NC	300	3,804	6,519	96	86	1.096	0.066	1.022	0.066	1.026	0.066	1.032	0.062	1.026	0.066
	1	EA-18G	277A	GCA Pattern	07G1	82	% NC	250	3,000	3,009	92	84	1.979	0.827	1.759	0.735	1.649	0.689	1.649	0.689	1.649	0.689
	2	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3,000	3,350	91	82	5.387	2.252	5.607	2.344	5.387	2.252	5.387	2.252	5.387	2.252
R05	3	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3,000	3,491	90	82	0.066	0.028	0.088	0.037	0.088	0.037	0.088	0.037	0.088	0.037
	4	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3,000	3,491	90	82	0.66	0.276	0.638	0.267	0.704	0.294	0.704	0.294	0.704	0.294
	5	EA-18G	205A	Departure	07D2B	95	% NC	300	3,808	13,742	85	75	0.767	0.046	0.715	0.046	0.718	0.046	0.722	0.044	0.718	0.046
	1	EA-18G	276PDB	FCLP at Coupeville	32FCP2	85	% NC	140	515	389	121	114	5.708	0	3.426	0	1.405	0	4.925	0	2.108	0
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	85	% NC	140	508	405	120	113	2.854	0	1.713	0	0.703	0	2.462	0	1.054	0
R06	3	EA-18G	276PDA	FCLP at Coupeville	32FCP1	85	% NC	140	524	412	120	113	2.854	0	1.713	0	0.703	0	2.462	0	1.054	0
	4	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	84	% NC	140	526	399	120	113	1.232	0	0.788	0	0.281	0	0.914	0	0.422	0
	5	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	84	% NC	140	523	399	120	113	0.049	0	0.063	0	0.039	0	0.128	0	0.059	0
	1	EA-18G	273PDA	FCLP at Coupeville	14FCP1	84	% NC	150	799	769	115	109	1.11	0	0.734	0	0.287	0	1.006	0	0.431	0
	2	EA-18G	273PNA	FCLP at Coupeville	14FCP1	84	% NC	150	1,199	1,167	111	104	0.676	0.506	0.498	0.304	0.202	0.105	0.612	0.459	0.303	0.158
R07	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84	% NC	150	799	1,512	110	100	2.22	0	1.468	0	0.574	0	2.012	0	0.861	0
	4	EA-18G	273PNB	FCLP at Coupeville	14FCP2	84	% NC	150	1,199	1,749	108	100	1.352	1.013	0.995	0.609	0.405	0.211	1.225	0.918	0.607	0.316
	5	EA-18G	253PD	Interfacility Ault Field to Coupeville	32WC14P	82.2	% NC	140	1,104	1,725	105	100	0.019	0	0.027	0	0.016	0	0.052	0	0.024	0
	1	EA-18G	273PDC	FCLP at Coupeville	14FCP3	84	% NC	150	800	3,154	101	106	1.11	0	0.734	0	0.287	0	1.006	0	0.431	0
	2	EA-18G	273PNC	FCLP at Coupeville	14FCP3	84	% NC	150	1,200	3,252	100	93	0.676	0.506	0.498	0.304	0.202	0.105	0.612	0.459	0.303	0.158
R08	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2,000	2,690	99	92	0.388	0.083	0.267	0.049	0.105	0.017	0.352	0.076	0.158	0.026
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2,000	2,690	99	92	0.075	0.016	0.052	0.009	0.02	0.003	0.068	0.015	0.031	0.005
	5	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84	% NC	150	800	4,008	98	91	2.22	0	1.468	0	0.574	0	2.012	0	0.861	0

Table A6-8 SEL-Ranked Flight Profiles for Alternative 1 for High-Tempo FCLP Year(continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting	Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	Annual Average Daily Events (3) 1A Daytime (0700-2200)	1A Nighttime (2200-0700)	1B Daytime (0700-2200)	1B Nighttime (2200-0700)	1C Daytime (0700-2200)	1C Nighttime (2200-0700)	1D Daytime (0700-2200)	1D Nighttime (2200-0700)	1E Daytime (0700-2200)	1E Nighttime (2200-0700)
R09	1	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	85 % NC	300	2,231	5,007	90	82	0.049	0	0.063	0	0.039	0	0.128	0	0.059	0
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	85 % NC	300	2,236	5,091	90	82	0.739	0	0.441	0	0.242	0	0.787	0	0.363	0
	3	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	85 % NC	300	2,180	5,083	90	81	1.232	0	0.788	0	0.281	0	0.914	0	0.422	0
	4	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	85 % NC	300	2,299	5,114	90	81	0	0.261	0	0.126	0	0.065	0	0.282	0	0.098
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82 % NC	250	2,000	3,677	90	81	0.194	0.042	0.121	0.022	0.05	0.008	0.168	0.036	0.075	0.012
R10	1	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87 % NC	300	2,480	3,143	100	90	0.833	0.063	0.771	0.059	0.887	0.067	0.888	0.068	0.887	0.067
	2	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87 % NC	300	2,620	3,563	98	88	0.357	0.027	0.33	0.025	0.38	0.029	0.381	0.029	0.38	0.029
	3	EA-18G	280C	GCA Pattern	32G3	82 % NC	250	3,000	2,980	93	84	0.066	0.028	0.088	0.037	0.088	0.037	0.088	0.037	0.088	0.037
	4	EA-18G	278A	GCA Pattern	14G1	82 % NC	300	2,999	3,168	92	83	3.298	1.379	3.188	1.333	3.518	1.471	3.518	1.471	3.518	1.471
	5	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87 % NC	300	2,347	7,186	90	77	1.189	0.091	1.101	0.084	1.267	0.095	1.269	0.097	1.267	0.095
R11	1	EA-18G	238A	Overhead Break Arrival	14O2A	84 % NC	300	10,000	13,520	73	60	0.228	0.023	0.216	0.02	0.241	0.023	0.243	0.024	0.241	0.023
	2	EA-18G	238B	Overhead Break Arrival	14O2B	84 % NC	300	10,000	13,567	73	60	0.228	0.023	0.216	0.02	0.241	0.023	0.243	0.024	0.241	0.023
	3	EA-18G	238C	Overhead Break Arrival	14O2C	84 % NC	300	10,000	13,609	73	60	0.234	0.023	0.223	0.021	0.248	0.024	0.251	0.025	0.248	0.024
	4	EA-18G	236B	Overhead Break Arrival	07O2B	84 % NC	300	10,000	13,739	72	59	0.133	0.013	0.124	0.012	0.124	0.012	0.126	0.013	0.124	0.012
	5	EA-18G	236A	Overhead Break Arrival	07O2A	84 % NC	300	10,000	13,740	72	59	0.133	0.013	0.124	0.012	0.124	0.012	0.126	0.013	0.124	0.012
R12	1	EA-18G	205A	Departure	07D2B	84 % NC	300	9,000	9,677	75	65	0.767	0.046	0.715	0.046	0.718	0.046	0.722	0.044	0.718	0.046
	2	EA-18G	216A	Departure	25D2A	84 % NC	300	9,000	16,276	70	58	3.224	0.195	3.321	0.213	3.077	0.198	3.095	0.187	3.077	0.198
	3	EA-18G	217A	Departure	25D2B	84 % NC	300	9,000	16,448	70	58	2.256	0.136	2.325	0.149	2.154	0.139	2.166	0.131	2.154	0.139
	4	EA-18G	218A	Departure	25D2C	84 % NC	300	9,000	18,999	67	55	0.967	0.058	0.996	0.064	0.923	0.059	0.928	0.056	0.923	0.059
	5	EA-18G	206A	Departure	07D2C	84 % NC	300	9,000	24,952	66	55	0.329	0.02	0.307	0.02	0.308	0.02	0.309	0.019	0.308	0.02
R13	1	EA-18G	273PDA	FCLP at Coupeville	14FCP1	84 % NC	150	800	47,518	75	63	1.11	0	0.734	0	0.287	0	1.006	0	0.431	0
	2	EA-18G	273PNB	FCLP at Coupeville	14FCP2	84 % NC	150	1,200	46,886	74	62	1.352	1.013	0.995	0.609	0.405	0.211	1.225	0.918	0.607	0.316
	3	EA-18G	273PNA	FCLP at Coupeville	14FCP1	84 % NC	150	1,200	47,526	74	62	0.676	0.506	0.498	0.304	0.202	0.105	0.612	0.459	0.303	0.158
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82 % NC	250	2,000	30,019	71	51	0.194	0.042	0.121	0.022	0.05	0.008	0.168	0.036	0.075	0.012
	5	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	85 % NC	140	250	52,917	71	51	1.22	0.262	0.761	0.139	0.315	0.051	1.053	0.226	0.472	0.077
R14	1	EA-18G	268B	FCLP at Ault Field	14FU1	84 % NC	130	1,000	2,575	104	96	2.029	0.466	1.962	0.451	2.165	0.497	2.165	0.497	2.165	0.497
	2	EA-18G	269B	FCLP at Ault Field	25FU1	82.2 % NC	130	693	3,116	103	96	3.315	0.762	3.45	0.793	3.247	0.746	3.247	0.746	3.247	0.746
	3	EA-18G	283B	FCLP at Ault Field	25FU1	82.2 % NC	140	715	3,119	103	91	1.748	0.454	4.776	1.306	6.89	2.276	2.733	0.709	6.029	1.992
	4	EA-18G	269A	FCLP at Ault Field	25FM1	82.2 % NC	130	702	3,119	103	91	3.315	0.762	3.45	0.793	3.247	0.746	3.247	0.746	3.247	0.746
	5	EA-18G	265L	Depart and Re-enter Pattern	25PL	82.2 % NC	140	697	3,095	103	91	1.172	0.038	1.195	0.039	1.125	0.037	1.125	0.037	1.125	0.037
R15	1	EA-18G	273PDC	FCLP at Coupeville	14FCP3	85 % NC	140	575	1,544	110	103	1.11	0	0.734	0	0.287	0	1.006	0	0.431	0
	2	EA-18G	273PNC	FCLP at Coupeville	14FCP3	85 % NC	140	698	1,589	109	103	0.676	0.506	0.498	0.304	0.202	0.105	0.612	0.459	0.303	0.158
	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	85 % NC	140	585	1,871	107	101	2.22	0	1.468	0	0.574	0	2.012	0	0.861	0
	4	EA-18G	273PNB	FCLP at Coupeville	14FCP2	85 % NC	140	718	1,912	107	101	1.352	1.013	0.995	0.609	0.405	0.211	1.225	0.918	0.607	0.316
	5	EA-18G	247PD	Interfacility Ault Field to Coupeville	07WC14P	84 % NC	140	588	2,009	106	98	0.172	0	0.122	0	0.037	0	0.122	0	0.056	0
R16	1	EA-18G	233A	P3 P8 IFR and Growler VFR non breaks	32A1A	87 % NC	300	2,756	2,575	100	91	0.159	0.012	0.197	0.015	0.158	0.012	0.159	0.012	0.158	0.012
	2	EA-18G	209A	Departure	14D1C	95 % NC	300	6,951	8,107	93	85	1.354	0.082	1.252	0.08	1.391	0.09	1.399	0.084	1.391	0.09
	3	EA-18G	278C	GCA Pattern	14G3	82 % NC	250	3,000	3,185	91	82	0.66	0.276	0.638	0.267	0.704	0.294	0.704	0.294	0.704	0.294
	4	EA-18G	208A	Departure	14D1B	95 % NC	300	6,815	9,922	90	81	3.159	0.191	2.921	0.188	3.246	0.209	3.264	0.197	3.246	0.209
	5	EA-18G	246	TACAN Arrival	32AHT	82.2 % NC	250	2,475	6,673	89	81	0.091	0.004	0.154	0.011	0.128	0.006	0.114	0.004	0.128	0.006
R17	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760 LBS	250	3,047	2,963	85	N/A	0.045	0.007	0.045	0.013	0.045	0.015	0.045	0.016	0.045	0.015
	2	transient	442C	VFR non breaks	32A2C	17760 LBS	250	3,047	2,963	85	N/A	0.022	0.002	0.022	0.005	0.021	0.006	0.022	0.006	0.021	0.006
	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760 LBS	250	3,047	6,202	79	N/A	0.045	0.007	0.045	0.013	0.045	0.015	0.045	0.016	0.045	0.015
	4	transient	442B	VFR non breaks	32A2B	17760 LBS	250	3,047	6,202	79	N/A	0.022	0.002	0.022	0.005	0.021	0.006	0.022	0.006	0.021	0.006
	5	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82 % NC	250	2,000	12,686	73	59	0.475	0.102	0.326	0.06	0.129	0.021	0.43	0.092	0.193	0.031
R18	1	P-8	543	Low TACAN Departure	07ALT	4610 LBS	250	5,971	5,979	68	N/A	0.067	0.019	0.065	0.016	0.072	0.013	0.063	0.015	0.072	0.013
	2	P-8	545	Low TACAN Departure	25ALT	4610 LBS	250	6,446	6,474	67	N/A	0.123	0.029	0.114	0.023	0.139	0.023	0.123	0.026	0.139	0.023
	3	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82 % NC	250	2,000	24,403	64	53	0.475	0.102	0.326	0.06	0.129	0.021	0.43	0.092	0.193	0.031
	4	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82 % NC	250	2,000	24,403	64	53	0.14	0.03	0.096	0.018	0.038	0.006	0.127	0.027	0.057	0.009
	5	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	85 % NC	250	2,500	22,831	63	47	1.232	0	0.788	0	0.281	0	0.914	0	0.422	0
R19	1	EA-18G	253PD	Interfacility Ault Field to Coupeville	32WC14P	84 % NC	140	438	907	114	108	0.019	0	0.027	0	0.016	0	0.052	0	0.024	0
	2	EA-18G	253PN	Interfacility Ault Field to Coupeville	32WC14P	84 % NC	140	438	907	114	108	0	0.008	0	0.009	0	0.005	0	0.021	0	0.007
	3	EA-18G	273PDA	FCLP at Coupeville	14FCP1	85 % NC	140	492	1,069	114	108	1.11	0	0.734	0	0.287	0	1.006	0	0.431	0
	4	EA-18G	273PNA	FCLP at Coupeville	14FCP1	85 % NC	140	530	1,080	113	107	0.676	0.506	0.498	0.304	0.202	0.105	0.612	0.459	0.303	0.158
	5	EA-18G	251PD	Interfacility Ault Field to Coupeville	25WC14P	84 % NC	140	444	962	113	107	0.479	0	0.338	0	0.115	0	0.373	0	0.172	0
R20	1	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87 % NC	300	2,933	3,692	95	87	0.357	0.027	0.33	0.025	0.38	0.029	0.381	0.029	0.38	0.029
	2	EA-18G	277C	GCA Pattern	07G3	82 % NC	300	3,000	3,898	89	78	0.396	0.165	0.352	0.147	0.33	0.138	0.33	0.138	0.33	0.138
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87 % NC	300	2,769	6,744	88	78	0.833	0.063	0.771	0.059	0.887	0.067	0.888	0.068	0.887	0.067
	4	transient	423	IFR non breaks	14A2E	17760 LBS	180	3,047	3,071	86	N/A	0.062	0.001	0.063	0.005	0.068	0.008	0.068	0.002	0.068	0.008
	5	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760 LBS	180	3,047	3,071	86	N/A	0.067	0.016	0.068	0.014	0.084	0.015	0.074	0.017	0.084	0.015

Table A6-8 SEL-Ranked Flight Profiles for Alternative 1 for High-Tempo FCLP Year(concluded)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	Annual Average Daily Events (3) 1A Daytime (0700-2200)	1A Nighttime (2200-0700)	1B Daytime (0700-2200)	1B Nighttime (2200-0700)	1C Daytime (0700-2200)	1C Nighttime (2200-0700)	1D Daytime (0700-2200)	1D Nighttime (2200-0700)	1E Daytime (0700-2200)	1E Nighttime (2200-0700)
S01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	82.2	% NC	140	773	4009	98	90	0.094	0.003	0.094	0.003	0.094	0.003	0.094	0.003	0.094	0.003
	2	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	802	4008	96	90	0.406	0.093	0.541	0.124	0.541	0.124	0.541	0.124	0.541	0.124
	3	EA-18G	284B	FCLP at Ault Field	32FU1	82.2	% NC	140	839	4014	96	84	0.074	0.019	0.735	0.201	0.844	0.279	0.335	0.087	0.738	0.244
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	82.2	% NC	140	773	4003	96	84	0.094	0.003	0.094	0.003	0.094	0.003	0.094	0.003	0.094	0.003
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82.2	% NC	140	861	3936	95	83	0.194	0.042	0.121	0.022	0.05	0.008	0.168	0.036	0.075	0.012
S02	1	EA-18G	212A	Departure	14D2C	95	% NC	300	2514	3432	104	94	0.58	0.035	0.536	0.034	0.596	0.038	0.6	0.036	0.596	0.038
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	2514	3432	104	93	1.354	0.082	1.252	0.08	1.391	0.09	1.399	0.084	1.391	0.09
	3	EA-18G	207A	Departure	14D1A	95	% NC	300	2514	3432	104	94	4.513	0.272	4.172	0.268	4.637	0.299	4.663	0.282	4.637	0.299
	4	EA-18G	211A	Departure	14D2B	95	% NC	300	2514	3432	104	94	1.354	0.082	1.252	0.08	1.391	0.09	1.399	0.084	1.391	0.09
	5	EA-18G	208A	Departure	14D1B	95	% NC	300	2514	3432	104	94	3.159	0.191	2.921	0.188	3.246	0.209	3.264	0.197	3.246	0.209
S03	1	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	5231	94	89	2.854	0	1.713	0	0.703	0	2.462	0	1.054	0
	2	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1200	5297	94	89	1.738	1.302	1.161	0.71	0.495	0.258	1.5	1.124	0.743	0.387
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	6105	92	89	5.708	0	3.426	0	1.405	0	4.925	0	2.108	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1200	6162	92	89	3.476	2.604	2.322	1.421	0.991	0.516	2.999	2.247	1.486	0.775
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1200	7058	90	88	1.738	1.302	1.161	0.71	0.495	0.258	1.5	1.124	0.743	0.387
S04	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2882	4781	93	83	0.357	0.027	0.33	0.025	0.38	0.029	0.381	0.029	0.38	0.029
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2903	92	84	0.66	0.276	0.638	0.267	0.704	0.294	0.704	0.294	0.704	0.294
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2719	7342	87	76	0.833	0.063	0.771	0.059	0.887	0.067	0.888	0.068	0.887	0.067
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3000	2903	85	N/A	0.378	0.044	0.348	0.034	0.373	0.031	0.378	0.038	0.373	0.031
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3000	2903	85	76	0.034	0	0.031	0	0.034	0	0.034	0	0.034	0
S05	1	EA-18G	243	TACAN Arrival	07AHT	78	% NC	250	3529	3374	76	68	0.364	0.014	0.308	0.023	0.437	0.019	0.387	0.015	0.437	0.019
	2	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2712	19217	70	56	0.357	0.027	0.33	0.025	0.38	0.029	0.381	0.029	0.38	0.029
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2592	23773	66	51	0.833	0.063	0.771	0.059	0.887	0.067	0.888	0.068	0.887	0.067
	4	EA-18G	224A	Departure	32D2C	95	% NC	300	8249	32151	65	52	0.058	0.004	0.077	0.005	0.096	0.006	0.097	0.006	0.096	0.006
	5	P-8	538C	P3 P8 IFR and Growler VFR non breaks	14A2C	17760	LBS	180	3047	19344	64	N/A	0.35	0.073	0.316	0.057	0.347	0.061	0.35	0.066	0.347	0.061
S06	1	EA-18G	224A	Departure	32D2C	84	% NC	300	9000	61543	51	39	0.058	0.004	0.077	0.005	0.096	0.006	0.097	0.006	0.096	0.006
	2	EA-18G	223A	Departure	32D2B	84	% NC	300	9000	66657	50	39	0.135	0.008	0.179	0.011	0.224	0.014	0.226	0.014	0.224	0.014
	3	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3000	40394	50	37	0.219	0.026	0.199	0.018	0.181	0.018	0.183	0.022	0.181	0.018
	4	transient	447C	GCA Pattern	07G3	17760	LBS	200	3000	40394	50	37	0.02	0	0.018	0	0.017	0	0.017	0	0.017	0
	5	EA-18G	222A	Departure	32D2A	95	% NC	300	8656	71520	49	37	0.193	0.012	0.255	0.016	0.321	0.021	0.322	0.019	0.321	0.021
S07	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2810	88787	61	51	0.396	0.165	0.352	0.147	0.33	0.138	0.33	0.138	0.33	0.138
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2500	165180	59	47	0.739	0	0.441	0	0.242	0	0.787	0	0.363	0
	3	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2500	165180	59	47	0	0.261	0	0.126	0	0.065	0	0.282	0	0.098
	4	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	82	% NC	250	2500	135475	59	47	0.049	0	0.063	0	0.039	0	0.128	0	0.059	0
	5	EA-18G	254PN	Interfacility Ault Field to Coupeville	32WC32P	82	% NC	250	2500	135475	59	47	0	0.017	0	0.018	0	0.011	0	0.046	0	0.016
S08	1	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3000	2779	93	81	0.066	0.028	0.088	0.037	0.088	0.037	0.088	0.037	0.088	0.037
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2779	93	81	0.66	0.276	0.638	0.267	0.704	0.294	0.704	0.294	0.704	0.294
	3	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2851	6041	89	80	1.189	0.091	1.101	0.084	1.267	0.095	1.269	0.097	1.267	0.095
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3000	4183	88	79	1.077	0.45	1.121	0.469	1.077	0.45	1.077	0.45	1.077	0.45
	5	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3000	4183	88	79	0.396	0.165	0.352	0.147	0.33	0.138	0.33	0.138	0.33	0.138
S09	1	EA-18G	232A	P3 P8 IFR and Growler VFR non breaks	25A3A	87	% NC	300	3000	4033	92	86	0.971	0.074	1.003	0.077	0.95	0.072	0.951	0.072	0.95	0.072
	2	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3000	3025	91	78	0.264	0.11	0.235	0.098	0.22	0.092	0.22	0.092	0.22	0.092
	3	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3000	5300	87	75	5.387	2.252	5.607	2.344	5.387	2.252	5.387	2.252	5.387	2.252
	4	EA-18G	206A	Departure	07D2C	95	% NC	300	5403	11786	86	76	0.329	0.02	0.307	0.02	0.308	0.02	0.309	0.019	0.308	0.02
	5	EA-18G	203A	Departure	07D1C	95	% NC	300	5300	11968	86	76	0.767	0.046	0.715	0.046	0.718	0.046	0.722	0.044	0.718	0.046
S10	1	P-8	546	Low TACAN Departure	32ALT	17760	LBS	250	3616	3501	83	N/A	0.016	0.003	0.016	0.005	0.018	0.006	0.016	0.007	0.018	0.006
	2	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2333	19814	71	61	0.066	0.028	0.088	0.037	0.088	0.037	0.088	0.037	0.088	0.037
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2000	20733	70	58	0.388	0.083	0.267	0.049	0.105	0.017	0.352	0.076	0.158	0.026
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2000	20783	70	58	0.075	0.016	0.052	0.009	0.02	0.003	0.068	0.015	0.031	0.005
	5	EA-18G	246	TACAN Arrival	32AHT	78	% NC	250	3085	23749	70	53	0.091	0.004	0.154	0.011	0.128	0.006	0.114	0.004	0.128	0.006

Notes:
(1) 0 ft indicates the contributing profile is the beginning of takeoff roll
(2) FYI, Ault Field's elevation is 47 ft MSL, OLF Coupeville's elevation is 200 ft MSL
(3) not operations. Patterns counted as 1 event, vice 2 operations.
(4) n/a = not available: NOISEMAP's database does not include Lmax data for flight events for this aircraft type (B737-700).
(5) Estimated from the average difference of SEL and Lmax of similar events at this POI

Table A6-9 SEL-Ranked Flight Profiles for Alternative 2 for High-Tempo FCLP Year

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting	Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	Annual Average Daily Events (3) 2A Daytime (0700-2200)	2A Nighttime (2200-0700)	2B Daytime (0700-2200)	2B Nighttime (2200-0700)	2C Daytime (0700-2200)	2C Nighttime (2200-0700)	2D Daytime (0700-2200)	2D Nighttime (2200-0700)	2E Daytime (0700-2200)	2E Nighttime (2200-0700)
P01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84 % NC	250	2,000	4,401	93	82	0.101	0.004	0.101	0.004	0.101	0.004	0.101	0.004	0.101	0.004
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84 % NC	250	2,000	4,415	92	82	0.732	0.032	0.732	0.032	0.783	0.035	0.783	0.035	0.783	0.035
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	4,889	92	80	1.262	0.056	1.288	0.057	1.212	0.054	1.212	0.054	1.212	0.054
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	2,000	4,943	91	80	0.429	0.019	0.404	0.018	0.429	0.019	0.429	0.019	0.429	0.019
	5	EA-18G	269B	FCLP at Ault Field	25FU1	84 % NC	130	1,000	9,077	87	76	3.411	0.669	3.55	0.697	3.341	0.656	3.341	0.656	3.341	0.656
P02	1	EA-18G	268A	FCLP at Ault Field	14FM1	82.2 % NC	130	852	1,389	107	104	2.088	0.41	2.019	0.396	2.228	0.437	2.228	0.437	2.228	0.437
	2	EA-18G	268B	FCLP at Ault Field	14FU1	82.2 % NC	130	859	1,393	107	103	2.088	0.41	2.019	0.396	2.228	0.437	2.228	0.437	2.228	0.437
	3	EA-18G	282A	FCLP at Ault Field	14FM1	82.2 % NC	140	893	1,393	107	100	1.075	0.242	2.425	0.707	4.657	1.252	1.774	0.4	4.075	1.095
	4	EA-18G	282B	FCLP at Ault Field	14FU1	82.2 % NC	140	859	1,393	106	100	1.075	0.242	2.425	0.707	4.657	1.252	1.774	0.4	4.075	1.095
	5	EA-18G	264R	Depart and Re-enter Pattern	14PR	82.2 % NC	140	859	1,393	106	100	0.732	0.032	0.732	0.032	0.783	0.035	0.783	0.035	0.783	0.035
P03	1	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	1,477	1,206	105	98	0.429	0.019	0.404	0.018	0.429	0.019	0.429	0.019	0.429	0.019
	2	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	1,599	103	95	1.262	0.056	1.288	0.057	1.212	0.054	1.212	0.054	1.212	0.054
	3	EA-18G	264L	Depart and Re-enter Pattern	14PL	84 % NC	250	1,999	2,306	99	90	0.732	0.032	0.732	0.032	0.783	0.035	0.783	0.035	0.783	0.035
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	84 % NC	250	2,000	2,401	99	90	0.101	0.004	0.101	0.004	0.101	0.004	0.101	0.004	0.101	0.004
	5	EA-18G	245	TACAN Arrival	25AHT	85 % NC	150	1,023	5,395	97	87	1.227	0.1	1.51	0.06	1.301	0.077	1.158	0.095	1.301	0.077
P04	1	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	96 % NC	150	936	1,943	111	106	1.199	0.218	0.735	0.127	0.294	0.057	1.034	0.188	0.44	0.086
	2	EA-18G	259	Interfacility Coupeville to Ault Field	32CW07	96 % NC	150	936	1,943	111	106	0.354	0.064	0.217	0.037	0.087	0.017	0.306	0.056	0.13	0.025
	3	EA-18G	261	Interfacility Coupeville to Ault Field	32CW25	96 % NC	150	936	1,943	111	106	0.981	0.178	0.601	0.104	0.24	0.047	0.846	0.154	0.36	0.07
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	96 % NC	150	936	1,943	111	106	0.191	0.035	0.117	0.02	0.047	0.009	0.165	0.03	0.07	0.014
	5	EA-18G	273PDA	FCLP at Coupeville	14FCP1	85 % NC	140	337	1,801	108	100	1.057	0	0.713	0	0.273	0	0.958	0	0.41	0
P05	1	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84 % NC	150	1,200	8,512	88	77	1.84	1.08	1.145	0.618	0.438	0.284	1.588	0.931	0.657	0.427
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84 % NC	150	800	8,475	88	77	2.718	0	1.664	0	0.669	0	2.346	0	1.003	0
	3	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84 % NC	150	1,200	9,601	87	77	3.68	2.159	2.289	1.237	0.876	0.569	3.175	1.863	1.314	0.853
	4	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84 % NC	150	800	9,568	87	77	5.437	0	3.328	0	1.338	0	4.691	0	2.007	0
	5	transient	430	IFR non breaks	32A2E	17760 LBS	180	3,047	3,122	85	N/A	0.009	0.001	0.011	0.001	0.01	0.001	0.011	0.001	0.01	0.001
P06	1	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84 % NC	150	799	5,329	96	85	2.718	0	1.664	0	0.669	0	2.346	0	1.003	0
	2	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84 % NC	150	1,199	5,397	96	84	1.84	1.08	1.145	0.618	0.438	0.284	1.588	0.931	0.657	0.427
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84 % NC	150	799	6,534	93	81	5.437	0	3.328	0	1.338	0	4.691	0	2.007	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84 % NC	150	1,199	6,590	93	81	3.68	2.159	2.289	1.237	0.876	0.569	3.175	1.863	1.314	0.853
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84 % NC	150	1,199	7,791	91	79	1.84	1.08	1.145	0.618	0.438	0.284	1.588	0.931	0.657	0.427
P07	1	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82 % NC	250	2,000	12,064	82	73	0.074	0.013	0.05	0.009	0.019	0.004	0.067	0.012	0.029	0.006
	2	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82 % NC	250	2,000	11,825	82	73	0.381	0.069	0.258	0.044	0.098	0.019	0.346	0.063	0.147	0.029
	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84 % NC	150	800	23,102	80	68	2.114	0	1.426	0	0.546	0	1.916	0	0.82	0
	4	EA-18G	280C	GCA Pattern	32G3	82 % NC	230	2,208	17,859	80	71	0.066	0.026	0.088	0.034	0.088	0.034	0.088	0.034	0.088	0.034
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82 % NC	250	2,000	9,777	79	66	0.191	0.035	0.117	0.02	0.047	0.009	0.165	0.03	0.07	0.014
P08	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760 LBS	250	3,047	3,389	85	N/A	0.047	0.006	0.045	0.014	0.045	0.013	0.047	0.014	0.045	0.013
	2	transient	442C	VFR non breaks	32A2C	17760 LBS	250	3,047	3,389	85	N/A	0.022	0.002	0.022	0.005	0.022	0.005	0.022	0.005	0.022	0.005
	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760 LBS	250	3,047	5,353	81	N/A	0.047	0.006	0.045	0.014	0.045	0.013	0.047	0.014	0.045	0.013
	4	transient	442B	VFR non breaks	32A2B	17760 LBS	250	3,047	5,353	81	N/A	0.022	0.002	0.022	0.005	0.022	0.005	0.022	0.005	0.022	0.005
	5	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82 % NC	250	2,000	10,604	76	64	0.138	0.025	0.093	0.016	0.035	0.007	0.125	0.023	0.053	0.01
P09	1	EA-18G	244	TACAN Arrival	14AHT	78 % NC	250	3,163	48,626	62	51	0.625	0.051	0.701	0.028	0.729	0.043	0.648	0.053	0.729	0.043
	2	EA-18G	278C	GCA Pattern	14G3	82 % NC	230	2,403	34,003	61	52	0.662	0.257	0.64	0.249	0.706	0.274	0.706	0.274	0.706	0.274
	3	P-8	544	Low TACAN Departure	14ALT	4610 LBS	250	5,632	28,942	55	53	0.193	0.035	0.206	0.032	0.224	0.047	0.197	0.038	0.224	0.047
	4	EA-18G	215A	Departure	25D1C	95 % NC	300	4,765	109,923	55	48	2.358	0.153	2.441	0.143	2.263	0.129	2.264	0.147	2.263	0.129
	5	EA-18G	217A	Departure	25D2B	95 % NC	300	3,835	110,307	54	43	2.358	0.153	2.441	0.143	2.263	0.129	2.264	0.147	2.263	0.129
P10	1	EA-18G	229A	P3 P8 IFR and Growler VFR non breaks	14A2A	87 % NC	300	2,577	4,579	95	85	1.253	0.089	1.154	0.082	1.312	0.105	1.337	0.095	1.312	0.105
	2	EA-18G	223A	Departure	32D2B	95 % NC	300	8,291	9,255	90	80	0.141	0.009	0.188	0.011	0.236	0.013	0.236	0.015	0.236	0.013
	3	EA-18G	279C	GCA Pattern	25G3	82 % NC	250	3,000	4,073	89	80	1.081	0.42	1.125	0.437	1.081	0.42	1.081	0.42	1.081	0.42
	4	EA-18G	277C	GCA Pattern	07G3	82 % NC	300	3,000	4,085	89	79	0.397	0.154	0.353	0.137	0.331	0.129	0.331	0.129	0.331	0.129
	5	EA-18G	277B	GCA Pattern	07G2	82 % NC	300	3,000	4,387	88	78	0.265	0.103	0.235	0.091	0.221	0.086	0.221	0.086	0.221	0.086
P11	1	EA-18G	277C	GCA Pattern	07G3	82 % NC	230	2,926	21,053	64	50	0.397	0.154	0.353	0.137	0.331	0.129	0.331	0.129	0.331	0.129
	2	P-8	547C	GCA Pattern	07G3	17760 LBS	200	3,000	21,066	63	N/A	0.214	0.027	0.2	0.02	0.188	0.017	0.179	0.023	0.188	0.017
	3	transient	447C	GCA Pattern	07G3	17760 LBS	200	3,000	21,066	63	N/A	0.02	0	0.019	0	0.017	0	0.017	0	0.017	0
	4	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760 LBS	250	3,047	30,649	57	N/A	0.067	0.013	0.067	0.01	0.085	0.018	0.075	0.014	0.085	0.018
	5	transient	423	IFR non breaks	14A2E	17760 LBS	250	3,047	30,649	57	N/A	0.061	0.008	0.06	0.006	0.064	0.006	0.068	0.008	0.064	0.006
P12	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87 % NC	300	2,941	9,040	82	74	0.376	0.027	0.346	0.025	0.394	0.031	0.401	0.028	0.394	0.031
	2	EA-18G	278C	GCA Pattern	14G3	82 % NC	300	3,000	7,718	80	72	0.662	0.257	0.64	0.249	0.706	0.274	0.706	0.274	0.706	0.274
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87 % NC	300	2,784	12,784	79	68	0.877	0.062	0.808	0.057	0.918	0.073	0.936	0.066	0.918	0.073
	4	P-8	548C	GCA Pattern	14G3	17760 LBS	200	3,000	7,718	78	N/A	0.369	0.045	0.35	0.039	0.389	0.03	0.369	0.04	0.389	0.03
	5	transient	448C	GCA Pattern	14G3	17760 LBS	200	3,000	7,718	78	N/A	0.035	0	0.033	0	0.034	0	0.035	0	0.034	0
P13	1	EA-18G	219A	Departure	32D1A	95 % NC	300	7,686	7,575	94	86	0.472	0.031	0.626	0.037	0.786	0.045	0.786	0.051	0.786	0.045
	2	EA-18G	278B	GCA Pattern	14G2	82 % NC	300	3,000	3,526	91	81	0.441	0.171	0.427	0.166	0.471	0.183	0.471	0.183	0.471	0.183
	3	EA-18G	277C	GCA Pattern	07G3	82 % NC	300	3,000	3,689	90	80	0.397	0.154	0.353	0.137	0.331	0.129	0.331	0.129	0.331	0.129
	4	EA-18G	279C	GCA Pattern	25G3	82 % NC	300	3,000	3,689	90	81	1.081	0.42	1.125	0.437	1.081	0.42	1.081	0.42	1.081	0.42
	5	EA-18G	280B	GCA Pattern	32G2	82 % NC	300	3,000	3,526	90	81	0.044	0.017	0.059	0.023	0.059	0.023	0.059	0.023	0.059	0.023
P14	1	EA-18G	278C	GCA Pattern	14G3	82 % NC	230	1,822	20,245	76	63	0.662	0.257	0.64	0.249	0.706	0.274	0.706	0.274	0.706	0.274
	2	P-8	544	Low TACAN Departure	14ALT	4610 LBS	250	4,622	4,657	72	N/A	0.193	0.035	0.206	0.032	0.224	0.047	0.197	0.038	0.224	0.047
	3	EA-18G	278B	GCA Pattern	14G2	82 % NC	230	2,166	23,933	72	58	0.441	0.171	0.427	0.166	0.471	0.183	0.471	0.183	0.471	0.183
	4	EA-18G	221A	Departure	32D1C	95 % NC	300	6,560	43,942	69	49	0.141	0.009	0.188	0.011	0.236	0.013	0.236	0.015	0.236	0.013
	5	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87 % NC	300	2,569	25,383	67	55	0.376	0.027	0.346	0.025	0.394	0.031	0.401	0.028	0.394	0.031

Table A6-9 SEL-Ranked Flight Profiles for Alternative 2 for High-Tempo FCLP Year (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	Annual Average Daily Events (3) 2A Daytime (0700-2200)	2A Nighttime (2200-0700)	2B Daytime (0700-2200)	2B Nighttime (2200-0700)	2C Daytime (0700-2200)	2C Nighttime (2200-0700)	2D Daytime (0700-2200)	2D Nighttime (2200-0700)	2E Daytime (0700-2200)	2E Nighttime (2200-0700)
P15	1	EA-18G	206A	Departure	07D2C	95	% NC	300	5,213	8,277	92	83	0.344	0.022	0.322	0.019	0.323	0.018	0.323	0.021	0.323	0.018
	2	EA-18G	203A	Departure	07D1C	95	% NC	300	5,155	8,368	92	83	0.802	0.052	0.751	0.044	0.754	0.043	0.755	0.049	0.754	0.043
	3	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3,000	3,437	91	80	0.265	0.103	0.235	0.091	0.221	0.086	0.221	0.086	0.221	0.086
	4	EA-18G	205A	Departure	07D2B	95	% NC	300	4,892	9,517	90	79	0.802	0.052	0.751	0.044	0.754	0.043	0.755	0.049	0.754	0.043
	5	EA-18G	202A	Departure	07D1B	95	% NC	300	4,743	10,004	89	78	1.871	0.121	1.753	0.103	1.76	0.1	1.761	0.114	1.76	0.1
P16	1	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	8,724	79	67	0.466	0.085	0.315	0.054	0.12	0.023	0.422	0.077	0.18	0.035
	2	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82	% NC	250	2,000	8,724	79	67	0.138	0.025	0.093	0.016	0.035	0.007	0.125	0.023	0.053	0.01
	3	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	82	% NC	250	2,500	10,146	78	64	1.221	0	0.757	0	0.256	0	0.906	0	0.384	0
	4	EA-18G	248PN	Interfacility Ault Field to Coupeville	07WC32P	82	% NC	250	2,500	10,318	78	64	0	0.134	0	0.076	0	0.027	0	0.091	0	0.041
	5	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2,500	10,355	78	64	0	0.223	0	0.119	0	0.072	0	0.241	0	0.108
P17	1	EA-18G	276PDA	FCLP at Coupeville	32FCP1	84	% NC	150	799	742	115	110	2.718	0	1.664	0	0.669	0	2.346	0	1.003	0
	2	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1,199	1,129	111	106	1.84	1.08	1.145	0.618	0.438	0.284	1.588	0.931	0.657	0.427
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	799	1,206	111	105	5.437	0	3.328	0	1.338	0	4.691	0	2.007	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,199	1,476	109	103	3.68	2.159	2.289	1.237	0.876	0.569	3.175	1.863	1.314	0.853
	5	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	799	2,304	106	97	2.718	0	1.664	0	0.669	0	2.346	0	1.003	0
P18	1	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1,200	6,600	92	82	1.84	1.08	1.145	0.618	0.438	0.284	1.588	0.931	0.657	0.427
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	6,544	91	82	2.718	0	1.664	0	0.669	0	2.346	0	1.003	0
	3	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,200	7,760	90	79	3.68	2.159	2.289	1.237	0.876	0.569	3.175	1.863	1.314	0.853
	4	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	7,712	90	79	5.437	0	3.328	0	1.338	0	4.691	0	2.007	0
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1,200	8,929	87	78	1.84	1.08	1.145	0.618	0.438	0.284	1.588	0.931	0.657	0.427
R01	1	EA-18G	251PN	Interfacility Ault Field to Coupeville	25WC14P	97	% NC	135	59	1,093	121	114	0	0.167	0	0.104	0	0.038	0	0.126	0	0.056
	2	EA-18G	251PD	Interfacility Ault Field to Coupeville	25WC14P	97	% NC	135	59	1,093	121	114	0.475	0	0.324	0	0.105	0	0.37	0	0.157	0
	3	EA-18G	252PN	Interfacility Ault Field to Coupeville	25WC32P	97	% NC	135	59	1,093	121	114	0	0.371	0	0.212	0	0.084	0	0.28	0	0.126
	4	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	97	% NC	135	59	1,093	121	114	1.221	0	0.757	0	0.256	0	0.906	0	0.384	0
	5	EA-18G	204A	Departure	07D2A	97	% NC	165	302	1,118	120	116	1.145	0.074	1.073	0.063	1.078	0.061	1.078	0.07	1.078	0.061
R02	1	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	97	% NC	0	47	3,519	110	96	0	0.223	0	0.119	0	0.072	0	0.241	0	0.108
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	97	% NC	0	47	3,519	110	96	0.733	0	0.424	0	0.22	0	0.78	0	0.33	0
	3	EA-18G	249PN	Interfacility Ault Field to Coupeville	14WC14P	97	% NC	0	47	3,519	110	96	0	0.1	0	0.058	0	0.032	0	0.108	0	0.049
	4	EA-18G	249PD	Interfacility Ault Field to Coupeville	14WC14P	97	% NC	0	47	3,519	110	96	0.285	0	0.182	0	0.09	0	0.318	0	0.135	0
	5	EA-18G	210A	Departure	14D2A	97	% NC	0	47	3,519	109	100	2.021	0.131	1.878	0.11	2.088	0.119	2.088	0.135	2.088	0.119
R03	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84	% NC	250	2,000	1,787	101	93	0.101	0.004	0.101	0.004	0.101	0.004	0.101	0.004	0.101	0.004
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84	% NC	250	2,000	1,967	101	92	0.732	0.032	0.732	0.032	0.783	0.035	0.783	0.035	0.783	0.035
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	1,971	100	92	1.262	0.056	1.288	0.057	1.212	0.054	1.212	0.054	1.212	0.054
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	2,000	2,001	100	92	0.429	0.019	0.404	0.018	0.429	0.019	0.429	0.019	0.429	0.019
	5	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	817	8,282	88	78	0.418	0.082	0.557	0.109	0.557	0.109	0.557	0.109	0.557	0.109
R04	1	EA-18G	205A	Departure	07D2B	95	% NC	300	4,035	5,492	99	88	0.802	0.052	0.751	0.044	0.754	0.043	0.755	0.049	0.754	0.043
	2	EA-18G	202A	Departure	07D1B	95	% NC	300	4,007	5,530	98	88	1.871	0.121	1.753	0.103	1.76	0.1	1.761	0.114	1.76	0.1
	3	EA-18G	206A	Departure	07D2C	95	% NC	300	4,096	5,708	98	88	0.344	0.022	0.322	0.019	0.323	0.018	0.323	0.021	0.323	0.018
	4	EA-18G	203A	Departure	07D1C	95	% NC	300	4,096	5,708	98	88	0.802	0.052	0.751	0.044	0.754	0.043	0.755	0.049	0.754	0.043
	5	EA-18G	204A	Departure	07D2A	95	% NC	300	3,804	6,519	96	86	1.145	0.074	1.073	0.063	1.078	0.061	1.078	0.07	1.078	0.061
R05	1	EA-18G	277A	GCA Pattern	07G1	82	% NC	250	3,000	3,009	92	84	1.986	0.771	1.765	0.686	1.655	0.643	1.655	0.643	1.655	0.643
	2	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3,000	3,350	91	82	5.407	2.1	5.627	2.185	5.407	2.1	5.407	2.1	5.407	2.1
	3	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3,000	3,491	90	82	0.066	0.026	0.088	0.034	0.088	0.034	0.088	0.034	0.088	0.034
	4	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3,000	3,491	90	82	0.662	0.257	0.64	0.249	0.706	0.274	0.706	0.274	0.706	0.274
	5	EA-18G	205A	Departure	07D2B	95	% NC	300	3,808	13,742	85	75	0.802	0.052	0.751	0.044	0.754	0.043	0.755	0.049	0.754	0.043
R06	1	EA-18G	276PDB	FCLP at Coupeville	32FCP2	85	% NC	140	515	389	121	114	5.437	0	3.328	0	1.338	0	4.691	0	2.007	0
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	85	% NC	140	508	405	120	113	2.718	0	1.664	0	0.669	0	2.346	0	1.003	0
	3	EA-18G	276PDA	FCLP at Coupeville	32FCP1	85	% NC	140	524	412	120	113	2.718	0	1.664	0	0.669	0	2.346	0	1.003	0
	4	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	84	% NC	140	526	399	120	113	1.221	0	0.757	0	0.256	0	0.906	0	0.384	0
	5	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	84	% NC	140	523	399	120	113	0.049	0	0.061	0	0.036	0	0.126	0	0.054	0
R07	1	EA-18G	273PDA	FCLP at Coupeville	14FCP1	84	% NC	150	799	769	115	109	1.057	0	0.713	0	0.273	0	0.958	0	0.41	0
	2	EA-18G	273PNA	FCLP at Coupeville	14FCP1	84	% NC	150	1,199	1,167	111	104	0.716	0.42	0.491	0.265	0.179	0.116	0.648	0.38	0.268	0.174
	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84	% NC	150	799	1,512	110	100	2.114	0	1.426	0	0.546	0	1.916	0	0.82	0
	4	EA-18G	273PNB	FCLP at Coupeville	14FCP2	84	% NC	150	1,199	1,749	108	100	1.431	0.84	0.981	0.53	0.358	0.232	1.297	0.761	0.537	0.349
	5	EA-18G	253PD	Interfacility Ault Field to Coupeville	32WC14P	82.2	% NC	140	1,104	1,725	105	100	0.019	0	0.026	0	0.015	0	0.052	0	0.022	0
R08	1	EA-18G	273PDC	FCLP at Coupeville	14FCP3	84	% NC	150	800	3,154	101	106	1.057	0	0.713	0	0.273	0	0.958	0	0.41	0
	2	EA-18G	273PNC	FCLP at Coupeville	14FCP3	84	% NC	150	1,200	3,252	100	93	0.716	0.42	0.491	0.265	0.179	0.116	0.648	0.38	0.268	0.174
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2,000	2,690	99	92	0.381	0.069	0.258	0.044	0.098	0.019	0.346	0.063	0.147	0.029
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2,000	2,690	99	92	0.074	0.013	0.05	0.009	0.019	0.004	0.067	0.012	0.029	0.006
	5	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84	% NC	150	800	4,008	98	91	2.114	0	1.426	0	0.546	0	1.916	0	0.82	0
R09	1	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	85	% NC	300	2,231	5,007	90	82	0.049	0	0.061	0	0.036	0	0.126	0	0.054	0
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	85	% NC	300	2,236	5,091	90	82	0.733	0	0.424	0	0.22	0	0.78	0	0.33	0
	3	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	85	% NC	300	2,180	5,083	90	81	1.221	0	0.757	0	0.256	0	0.906	0	0.384	0
	4	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	85	% NC	300	2,299	5,114	90	81	0	0.223	0	0.119	0	0.072	0	0.241	0	0.108
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	3,677	90	81	0.191	0.035	0.117	0.02	0.047	0.009	0.165	0.03	0.07	0.014

Table A6-9 SEL-Ranked Flight Profiles for Alternative 2 for High-Tempo FCLP Year (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	Annual Average Daily Events (3) 2A Daytime (0700-2200)	2A Nighttime (2200-0700)	2B Daytime (0700-2200)	2B Nighttime (2200-0700)	2C Daytime (0700-2200)	2C Nighttime (2200-0700)	2D Daytime (0700-2200)	2D Nighttime (2200-0700)	2E Daytime (0700-2200)	2E Nighttime (2200-0700)
R10	1	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2,480	3,143	100	90	0.877	0.062	0.808	0.057	0.918	0.073	0.936	0.066	0.918	0.073
	2	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2,620	3,563	98	88	0.376	0.027	0.346	0.025	0.394	0.031	0.401	0.028	0.394	0.031
	3	EA-18G	280C	GCA Pattern	32G3	82	% NC	250	3,000	2,980	93	84	0.066	0.026	0.088	0.034	0.088	0.034	0.088	0.034	0.088	0.034
	4	EA-18G	278A	GCA Pattern	14G1	82	% NC	300	2,999	3,168	92	83	3.31	1.286	3.2	1.243	3.531	1.371	3.531	1.371	3.531	1.371
	5	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2,347	7,186	90	77	1.253	0.089	1.154	0.082	1.312	0.105	1.337	0.095	1.312	0.105
R11	1	EA-18G	238A	Overhead Break Arrival	14O2A	84	% NC	300	10,000	13,520	73	60	0.239	0.023	0.226	0.022	0.253	0.023	0.256	0.025	0.253	0.023
	2	EA-18G	238B	Overhead Break Arrival	14O2B	84	% NC	300	10,000	13,567	73	60	0.239	0.023	0.226	0.022	0.253	0.023	0.256	0.025	0.253	0.023
	3	EA-18G	238C	Overhead Break Arrival	14O2C	84	% NC	300	10,000	13,609	73	60	0.247	0.024	0.233	0.023	0.261	0.024	0.264	0.025	0.261	0.024
	4	EA-18G	236B	Overhead Break Arrival	07O2B	84	% NC	300	10,000	13,739	72	59	0.14	0.013	0.129	0.013	0.131	0.012	0.132	0.013	0.131	0.012
	5	EA-18G	236A	Overhead Break Arrival	07O2A	84	% NC	300	10,000	13,740	72	59	0.14	0.013	0.129	0.013	0.131	0.012	0.132	0.013	0.131	0.012
R12	1	EA-18G	205A	Departure	07D2B	84	% NC	300	9,000	9,677	75	65	0.802	0.052	0.751	0.044	0.754	0.043	0.755	0.049	0.754	0.043
	2	EA-18G	216A	Departure	25D2A	84	% NC	300	9,000	16,276	70	58	3.368	0.218	3.488	0.205	3.233	0.184	3.234	0.209	3.233	0.184
	3	EA-18G	217A	Departure	25D2B	84	% NC	300	9,000	16,448	70	58	2.358	0.153	2.441	0.143	2.263	0.129	2.264	0.147	2.263	0.129
	4	EA-18G	218A	Departure	25D2C	84	% NC	300	9,000	18,999	67	55	1.011	0.065	1.046	0.061	0.97	0.055	0.97	0.063	0.97	0.055
	5	EA-18G	206A	Departure	07D2C	84	% NC	300	9,000	24,952	66	55	0.344	0.022	0.322	0.019	0.323	0.018	0.323	0.021	0.323	0.018
R13	1	EA-18G	273PDA	FCLP at Coupeville	14FCP1	84	% NC	150	800	47,518	75	63	1.057	0	0.713	0	0.273	0	0.958	0	0.41	0
	2	EA-18G	273PNB	FCLP at Coupeville	14FCP2	84	% NC	150	1,200	46,886	74	62	1.431	0.84	0.981	0.53	0.358	0.232	1.297	0.761	0.537	0.349
	3	EA-18G	273PNA	FCLP at Coupeville	14FCP1	84	% NC	150	1,200	47,526	74	62	0.716	0.42	0.491	0.265	0.179	0.116	0.648	0.38	0.268	0.174
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	30,019	71	51	0.191	0.035	0.117	0.02	0.047	0.009	0.165	0.03	0.07	0.014
	5	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	85	% NC	140	250	52,917	71	51	1.199	0.218	0.735	0.127	0.294	0.057	1.034	0.188	0.44	0.086
R14	1	EA-18G	268B	FCLP at Ault Field	14FU1	84	% NC	130	1,000	2,575	104	96	2.088	0.41	2.019	0.396	2.228	0.437	2.228	0.437	2.228	0.437
	2	EA-18G	269B	FCLP at Ault Field	25FU1	82.2	% NC	130	693	3,116	103	96	3.411	0.669	3.55	0.697	3.341	0.656	3.341	0.656	3.341	0.656
	3	EA-18G	283B	FCLP at Ault Field	25FU1	82.2	% NC	140	715	3,119	103	91	1.685	0.38	4.504	1.314	6.914	1.859	2.634	0.594	6.05	1.626
	4	EA-18G	269A	FCLP at Ault Field	25FM1	82.2	% NC	130	702	3,119	103	91	3.411	0.669	3.55	0.697	3.341	0.656	3.341	0.656	3.341	0.656
	5	EA-18G	265L	Depart and Re-enter Pattern	25PL	82.2	% NC	140	697	3,095	103	91	1.262	0.056	1.288	0.057	1.212	0.054	1.212	0.054	1.212	0.054
R15	1	EA-18G	273PDC	FCLP at Coupeville	14FCP3	85	% NC	140	575	1,544	110	103	1.057	0	0.713	0	0.273	0	0.958	0	0.41	0
	2	EA-18G	273PNC	FCLP at Coupeville	14FCP3	85	% NC	140	698	1,589	109	103	0.716	0.42	0.491	0.265	0.179	0.116	0.648	0.38	0.268	0.174
	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	85	% NC	140	585	1,871	107	101	2.114	0	1.426	0	0.546	0	1.916	0	0.82	0
	4	EA-18G	273PNB	FCLP at Coupeville	14FCP2	85	% NC	140	718	1,912	107	101	1.431	0.84	0.981	0.53	0.358	0.232	1.297	0.761	0.537	0.349
	5	EA-18G	247PD	Interfacility Ault Field to Coupeville	07WC14P	84	% NC	140	588	2,009	106	98	0.171	0	0.117	0	0.034	0	0.12	0	0.051	0
R16	1	EA-18G	233A	P3 P8 IFR and Growler VFR non breaks	32A1A	87	% NC	300	2,756	2,575	100	91	0.167	0.012	0.206	0.015	0.164	0.013	0.167	0.012	0.164	0.013
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	6,951	8,107	93	85	1.415	0.092	1.315	0.077	1.462	0.083	1.462	0.095	1.462	0.083
	3	EA-18G	278C	GCA Pattern	14G3	82	% NC	250	3,000	3,185	91	82	0.662	0.257	0.64	0.249	0.706	0.274	0.706	0.274	0.706	0.274
	4	EA-18G	208A	Departure	14D1B	95	% NC	300	6,815	9,922	90	81	3.301	0.214	3.067	0.18	3.41	0.194	3.411	0.221	3.41	0.194
	5	EA-18G	246	TACAN Arrival	32AHT	82.2	% NC	250	2,475	6,673	89	81	0.093	0.008	0.162	0.006	0.13	0.008	0.116	0.009	0.13	0.008
R17	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	85	N/A	0.047	0.006	0.045	0.014	0.045	0.013	0.047	0.014	0.045	0.013
	2	transient	442C	VFR non breaks	32A2C	17760	LBS	250	3,047	2,963	85	N/A	0.022	0.002	0.022	0.005	0.022	0.005	0.022	0.005	0.022	0.005
	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	79	N/A	0.047	0.006	0.045	0.014	0.045	0.013	0.047	0.014	0.045	0.013
	4	transient	442B	VFR non breaks	32A2B	17760	LBS	250	3,047	6,202	79	N/A	0.022	0.002	0.022	0.005	0.022	0.005	0.022	0.005	0.022	0.005
	5	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	12,686	73	59	0.466	0.085	0.315	0.054	0.12	0.023	0.422	0.077	0.18	0.035
R18	1	P-8	543	Low TACAN Departure	07ALT	4610	LBS	250	5,971	5,979	68	N/A	0.068	0.015	0.063	0.012	0.073	0.015	0.064	0.012	0.073	0.015
	2	P-8	545	Low TACAN Departure	25ALT	4610	LBS	250	6,446	6,474	67	N/A	0.124	0.024	0.111	0.017	0.141	0.027	0.124	0.021	0.141	0.027
	3	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	24,403	64	53	0.466	0.085	0.315	0.054	0.12	0.023	0.422	0.077	0.18	0.035
	4	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82	% NC	250	2,000	24,403	64	53	0.138	0.025	0.093	0.016	0.035	0.007	0.125	0.023	0.053	0.01
	5	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	85	% NC	250	2,500	22,831	63	47	1.221	0	0.757	0	0.256	0	0.906	0	0.384	0
R19	1	EA-18G	253PD	Interfacility Ault Field to Coupeville	32WC14P	84	% NC	140	438	907	114	108	0.019	0	0.026	0	0.015	0	0.052	0	0.022	0
	2	EA-18G	253PN	Interfacility Ault Field to Coupeville	32WC14P	84	% NC	140	438	907	114	108	0	0.007	0	0.008	0	0.005	0	0.018	0	0.008
	3	EA-18G	273PDA	FCLP at Coupeville	14FCP1	85	% NC	140	492	1,069	114	108	1.057	0	0.713	0	0.273	0	0.958	0	0.41	0
	4	EA-18G	273PNA	FCLP at Coupeville	14FCP1	85	% NC	140	530	1,080	113	107	0.716	0.42	0.491	0.265	0.179	0.116	0.648	0.38	0.268	0.174
	5	EA-18G	251PD	Interfacility Ault Field to Coupeville	25WC14P	84	% NC	140	444	962	113	107	0.475	0	0.324	0	0.105	0	0.37	0	0.157	0
R20	1	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2,933	3,692	95	87	0.376	0.027	0.346	0.025	0.394	0.031	0.401	0.028	0.394	0.031
	2	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3,000	3,898	89	78	0.397	0.154	0.353	0.137	0.331	0.129	0.331	0.129	0.331	0.129
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2,769	6,744	88	78	0.877	0.062	0.808	0.057	0.918	0.073	0.936	0.066	0.918	0.073
	4	transient	423	IFR non breaks	14A2E	17760	LBS	180	3,047	3,071	86	N/A	0.061	0.008	0.06	0.006	0.064	0.006	0.068	0.008	0.064	0.006
	5	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760	LBS	180	3,047	3,071	86	N/A	0.067	0.013	0.067	0.01	0.085	0.018	0.075	0.014	0.085	0.018

Table A6-9 SEL-Ranked Flight Profiles for Alternative 2 for High-Tempo FCLP Year (concluded)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	Annual Average Daily Events (3) 2A Daytime (0700-2200)	2A Nighttime (2200-0700)	2B Daytime (0700-2200)	2B Nighttime (2200-0700)	2C Daytime (0700-2200)	2C Nighttime (2200-0700)	2D Daytime (0700-2200)	2D Nighttime (2200-0700)	2E Daytime (0700-2200)	2E Nighttime (2200-0700)
S01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	82.2	% NC	140	773	4009	98	90	0.101	0.004	0.101	0.004	0.101	0.004	0.101	0.004	0.101	0.004
	2	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	802	4008	96	90	0.418	0.082	0.557	0.109	0.557	0.109	0.557	0.109	0.557	0.109
	3	EA-18G	284B	FCLP at Ault Field	32FU1	82.2	% NC	140	839	4014	96	84	0.072	0.016	0.693	0.202	0.847	0.228	0.323	0.073	0.741	0.199
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	82.2	% NC	140	773	4003	96	84	0.101	0.004	0.101	0.004	0.101	0.004	0.101	0.004	0.101	0.004
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82.2	% NC	140	861	3936	95	83	0.191	0.035	0.117	0.02	0.047	0.009	0.165	0.03	0.07	0.014
S02	1	EA-18G	212A	Departure	14D2C	95	% NC	300	2514	3432	104	94	0.606	0.039	0.563	0.033	0.626	0.036	0.627	0.041	0.626	0.036
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	2514	3432	104	93	1.415	0.092	1.315	0.077	1.462	0.083	1.462	0.095	1.462	0.083
	3	EA-18G	207A	Departure	14D1A	95	% NC	300	2514	3432	104	94	4.716	0.305	4.382	0.257	4.872	0.278	4.873	0.315	4.872	0.278
	4	EA-18G	211A	Departure	14D2B	95	% NC	300	2514	3432	104	94	1.415	0.092	1.315	0.077	1.462	0.083	1.462	0.095	1.462	0.083
	5	EA-18G	208A	Departure	14D1B	95	% NC	300	2514	3432	104	94	3.301	0.214	3.067	0.18	3.41	0.194	3.411	0.221	3.41	0.194
S03	1	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	5231	94	89	2.718	0	1.664	0	0.669	0	2.346	0	1.003	0
	2	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1200	5297	94	89	1.84	1.08	1.145	0.618	0.438	0.284	1.588	0.931	0.657	0.427
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	6105	92	89	5.437	0	3.328	0	1.338	0	4.691	0	2.007	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1200	6162	92	89	3.68	2.159	2.289	1.237	0.876	0.569	3.175	1.863	1.314	0.853
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1200	7058	90	88	1.84	1.08	1.145	0.618	0.438	0.284	1.588	0.931	0.657	0.427
S04	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2882	4781	93	83	0.376	0.027	0.346	0.025	0.394	0.031	0.401	0.028	0.394	0.031
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2903	92	84	0.662	0.257	0.64	0.249	0.706	0.274	0.706	0.274	0.706	0.274
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2719	7342	87	76	0.877	0.062	0.808	0.057	0.918	0.073	0.936	0.066	0.918	0.073
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3000	2903	85	N/A	0.369	0.045	0.35	0.039	0.389	0.03	0.369	0.04	0.389	0.03
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3000	2903	85	76	0.035	0	0.033	0	0.034	0	0.035	0	0.034	0
S05	1	EA-18G	243	TACAN Arrival	07AHT	78	% NC	250	3529	3374	76	68	0.37	0.03	0.324	0.013	0.442	0.026	0.394	0.032	0.442	0.026
	2	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2712	19217	70	56	0.376	0.027	0.346	0.025	0.394	0.031	0.401	0.028	0.394	0.031
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2592	23773	66	51	0.877	0.062	0.808	0.057	0.918	0.073	0.936	0.066	0.918	0.073
	4	EA-18G	224A	Departure	32D2C	95	% NC	300	8249	32151	65	52	0.061	0.004	0.08	0.005	0.101	0.006	0.101	0.007	0.101	0.006
	5	P-8	538C	P3 P8 IFR and Growler VFR non breaks	14A2C	17760	LBS	180	3047	19344	64	N/A	0.367	0.063	0.317	0.059	0.35	0.053	0.367	0.057	0.35	0.053
S06	1	EA-18G	224A	Departure	32D2C	84	% NC	300	9000	61543	51	39	0.061	0.004	0.08	0.005	0.101	0.006	0.101	0.007	0.101	0.006
	2	EA-18G	223A	Departure	32D2B	84	% NC	300	9000	66657	50	39	0.141	0.009	0.188	0.011	0.236	0.013	0.236	0.015	0.236	0.013
	3	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3000	40394	50	37	0.214	0.027	0.2	0.02	0.188	0.017	0.179	0.023	0.188	0.017
	4	transient	447C	GCA Pattern	07G3	17760	LBS	200	3000	40394	50	37	0.02	0	0.019	0	0.017	0	0.017	0	0.017	0
	5	EA-18G	222A	Departure	32D2A	95	% NC	300	8656	71520	49	37	0.202	0.013	0.268	0.016	0.337	0.019	0.337	0.022	0.337	0.019
S07	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2810	88787	61	51	0.397	0.154	0.353	0.137	0.331	0.129	0.331	0.129	0.331	0.129
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2500	165180	59	47	0.733	0	0.424	0	0.22	0	0.78	0	0.33	0
	3	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2500	165180	59	47	0	0.223	0	0.119	0	0.072	0	0.241	0	0.108
	4	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	82	% NC	250	2500	135475	59	47	0.049	0	0.061	0	0.036	0	0.126	0	0.054	0
	5	EA-18G	254PN	Interfacility Ault Field to Coupeville	32WC32P	82	% NC	250	2500	135475	59	47	0	0.015	0	0.017	0	0.012	0	0.039	0	0.018
S08	1	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3000	2779	93	81	0.066	0.026	0.088	0.034	0.088	0.034	0.088	0.034	0.088	0.034
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2779	93	81	0.662	0.257	0.64	0.249	0.706	0.274	0.706	0.274	0.706	0.274
	3	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2851	6041	89	80	1.253	0.089	1.154	0.082	1.312	0.105	1.337	0.095	1.312	0.105
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3000	4183	88	79	1.081	0.42	1.125	0.437	1.081	0.42	1.081	0.42	1.081	0.42
	5	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3000	4183	88	79	0.397	0.154	0.353	0.137	0.331	0.129	0.331	0.129	0.331	0.129
S09	1	EA-18G	232A	P3 P8 IFR and Growler VFR non breaks	25A3A	87	% NC	300	3000	4033	92	86	1.023	0.073	1.051	0.074	0.984	0.079	1.003	0.071	0.984	0.079
	2	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3000	3025	91	78	0.265	0.103	0.235	0.091	0.221	0.086	0.221	0.086	0.221	0.086
	3	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3000	5300	87	75	5.407	2.1	5.627	2.185	5.407	2.1	5.407	2.1	5.407	2.1
	4	EA-18G	206A	Departure	07D2C	95	% NC	300	5403	11786	86	76	0.344	0.022	0.322	0.019	0.323	0.018	0.323	0.021	0.323	0.018
	5	EA-18G	203A	Departure	07D1C	95	% NC	300	5300	11968	86	76	0.802	0.052	0.751	0.044	0.754	0.043	0.755	0.049	0.754	0.043
S10	1	P-8	546	Low TACAN Departure	32ALT	17760	LBS	250	3616	3501	83	N/A	0.016	0.002	0.016	0.004	0.018	0.007	0.016	0.005	0.018	0.007
	2	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2333	19814	71	61	0.066	0.026	0.088	0.034	0.088	0.034	0.088	0.034	0.088	0.034
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2000	20733	70	58	0.381	0.069	0.258	0.044	0.098	0.019	0.346	0.063	0.147	0.029
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2000	20783	70	58	0.074	0.013	0.05	0.009	0.019	0.004	0.067	0.012	0.029	0.006
	5	EA-18G	246	TACAN Arrival	32AHT	78	% NC	250	3085	23749	70	53	0.093	0.008	0.162	0.006	0.13	0.008	0.116	0.009	0.13	0.008

Notes:
(1) 0 ft indicates the contributing profile is the beginning of takeoff roll
(2) FYI, Ault Field's elevation is 47 ft MSL, OLF Coupeville's elevation is 200 ft MSL
(3) not operations. Patterns counted as 1 event, vice 2 operations.
(4) n/a = not available: NOISEMAP's database does not include Lmax data for flight events for this aircraft type (B737-700).
(5) Estimated from the average difference of SEL and Lmax of similar events at this POI

Table A6-10 SEL-Ranked Flight Profiles for Alternative 3 for High-Tempo FCLP Year

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting	Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	Annual Average Daily Events (3): 3A Daytime (0700-2200)	3A Nighttime (2200-0700)	3B Daytime (0700-2200)	3B Nighttime (2200-0700)	3C Daytime (0700-2200)	3C Nighttime (2200-0700)	3D Daytime (0700-2200)	3D Nighttime (2200-0700)	3E Daytime (0700-2200)	3E Nighttime (2200-0700)
P01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84 % NC	250	2,000	4,401	93	82	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84 % NC	250	2,000	4,415	92	82	0.724	0.026	0.724	0.026	0.774	0.028	0.724	0.026	0.724	0.026
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	4,889	92	80	1.248	0.045	1.273	0.046	1.198	0.043	1.273	0.046	1.273	0.046
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	2,000	4,943	91	80	0.424	0.015	0.399	0.014	0.424	0.015	0.399	0.014	0.399	0.014
	5	EA-18G	269B	FCLP at Ault Field	25FU1	84 % NC	130	1,000	9,077	87	76	3.312	0.693	3.447	0.722	3.244	0.679	3.447	0.722	3.447	0.722
P02	1	EA-18G	268A	FCLP at Ault Field	14FM1	82.2 % NC	130	852	1,389	107	104	2.028	0.425	1.96	0.41	2.163	0.453	1.96	0.41	1.96	0.41
	2	EA-18G	268B	FCLP at Ault Field	14FU1	82.2 % NC	130	859	1,393	107	103	2.028	0.425	1.96	0.41	2.163	0.453	1.96	0.41	1.96	0.41
	3	EA-18G	282A	FCLP at Ault Field	14FM1	82.2 % NC	140	893	1,393	107	100	1.07	0.259	2.487	0.652	4.719	1.201	1.498	0.363	3.503	0.892
	4	EA-18G	282B	FCLP at Ault Field	14FU1	82.2 % NC	140	859	1,393	106	100	1.07	0.259	2.487	0.652	4.719	1.201	1.498	0.363	3.503	0.892
	5	EA-18G	264R	Depart and Re-enter Pattern	14PR	82.2 % NC	140	859	1,393	106	100	0.724	0.026	0.724	0.026	0.774	0.028	0.724	0.026	0.724	0.026
P03	1	EA-18G	263R	Depart and Re-enter Pattern	07PR	84 % NC	250	1,477	1,206	105	98	0.424	0.015	0.399	0.014	0.424	0.015	0.399	0.014	0.399	0.014
	2	EA-18G	265L	Depart and Re-enter Pattern	25PL	84 % NC	250	2,000	1,599	103	95	1.248	0.045	1.273	0.046	1.198	0.043	1.273	0.046	1.273	0.046
	3	EA-18G	264L	Depart and Re-enter Pattern	14PL	84 % NC	250	1,999	2,306	99	90	0.724	0.026	0.724	0.026	0.774	0.028	0.724	0.026	0.724	0.026
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	84 % NC	250	2,000	2,401	99	90	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004
	5	EA-18G	245	TACAN Arrival	25AHT	85 % NC	150	1,023	5,395	97	87	1.661	0.048	1.68	0.106	1.364	0.059	1.755	0.051	1.528	0.066
P04	1	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	96 % NC	150	936	1,943	111	106	1.158	0.263	0.716	0.147	0.295	0.056	0.985	0.224	0.437	0.084
	2	EA-18G	259	Interfacility Coupeville to Ault Field	32CW07	96 % NC	150	936	1,943	111	106	0.342	0.078	0.211	0.043	0.087	0.017	0.291	0.066	0.129	0.025
	3	EA-18G	261	Interfacility Coupeville to Ault Field	32CW25	96 % NC	150	936	1,943	111	106	0.947	0.215	0.585	0.12	0.242	0.046	0.806	0.183	0.357	0.068
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	96 % NC	150	936	1,943	111	106	0.184	0.042	0.114	0.023	0.047	0.009	0.157	0.036	0.069	0.013
	5	EA-18G	273PDA	FCLP at Coupeville	14FCP1	85 % NC	140	337	1,801	108	100	1.058	0	0.705	0	0.266	0	0.992	0	0.413	0
P05	1	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84 % NC	150	1,200	8,512	88	77	1.682	1.247	1.053	0.738	0.462	0.281	1.431	1.061	0.684	0.415
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84 % NC	150	800	8,475	88	77	2.721	0	1.645	0	0.652	0	2.315	0	0.964	0
	3	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84 % NC	150	1,200	9,601	87	77	3.364	2.494	2.105	1.476	0.925	0.561	2.862	2.122	1.368	0.83
	4	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84 % NC	150	800	9,568	87	77	5.443	0	3.289	0	1.303	0	4.63	0	1.927	0
	5	transient	430	IFR non breaks	32A2E	17760 LBS	180	3,047	3,122	85	N/A	0.009	0.001	0.011	0.001	0.011	0.001	0.012	0.001	0.011	0.001
P06	1	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84 % NC	150	799	5,329	96	85	2.721	0	1.645	0	0.652	0	2.315	0	0.964	0
	2	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84 % NC	150	1,199	5,397	96	84	1.682	1.247	1.053	0.738	0.462	0.281	1.431	1.061	0.684	0.415
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84 % NC	150	799	6,534	93	81	5.443	0	3.289	0	1.303	0	4.63	0	1.927	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84 % NC	150	1,199	6,590	93	81	3.364	2.494	2.105	1.476	0.925	0.561	2.862	2.122	1.368	0.83
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84 % NC	150	1,199	7,791	91	79	1.682	1.247	1.053	0.738	0.462	0.281	1.431	1.061	0.684	0.415
P07	1	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82 % NC	250	2,000	12,064	82	73	0.072	0.016	0.049	0.01	0.019	0.004	0.067	0.015	0.03	0.006
	2	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82 % NC	250	2,000	11,825	82	73	0.368	0.084	0.251	0.051	0.099	0.019	0.345	0.078	0.153	0.029
	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84 % NC	150	800	23,102	80	68	2.117	0	1.41	0	0.532	0	1.984	0	0.826	0
	4	EA-18G	280C	GCA Pattern	32G3	82 % NC	230	2,208	17,859	80	71	0.067	0.025	0.089	0.033	0.089	0.033	0.089	0.033	0.089	0.033
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82 % NC	250	2,000	9,777	79	66	0.184	0.042	0.114	0.023	0.047	0.009	0.157	0.036	0.069	0.013
P08	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760 LBS	250	3,047	3,389	85	N/A	0.044	0.008	0.044	0.014	0.045	0.015	0.044	0.015	0.045	0.013
	2	transient	442C	VFR non breaks	32A2C	17760 LBS	250	3,047	3,389	85	N/A	0.021	0.003	0.021	0.005	0.021	0.006	0.021	0.006	0.021	0.005
	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760 LBS	250	3,047	5,353	81	N/A	0.044	0.008	0.044	0.014	0.045	0.015	0.044	0.015	0.045	0.013
	4	transient	442B	VFR non breaks	32A2B	17760 LBS	250	3,047	5,353	81	N/A	0.021	0.003	0.021	0.005	0.021	0.006	0.021	0.006	0.021	0.005
	5	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82 % NC	250	2,000	10,604	76	64	0.133	0.03	0.091	0.019	0.036	0.007	0.125	0.028	0.055	0.011
P09	1	EA-18G	244	TACAN Arrival	14AHT	78 % NC	250	3,163	48,626	62	51	0.846	0.024	0.78	0.049	0.764	0.033	0.815	0.024	0.709	0.031
	2	EA-18G	278C	GCA Pattern	14G3	82 % NC	230	2,403	34,003	61	52	0.67	0.249	0.648	0.241	0.715	0.266	0.648	0.241	0.648	0.241
	3	P-8	544	Low TACAN Departure	14ALT	4610 LBS	250	5,632	28,942	55	53	0.199	0.039	0.236	0.044	0.207	0.04	0.215	0.042	0.22	0.041
	4	EA-18G	215A	Departure	25D1C	95 % NC	300	4,765	109,923	55	48	2.282	0.139	2.432	0.143	2.23	0.134	2.374	0.145	2.416	0.145
	5	EA-18G	217A	Departure	25D2B	95 % NC	300	3,835	110,307	54	43	2.282	0.139	2.432	0.143	2.23	0.134	2.374	0.145	2.416	0.145
P10	1	EA-18G	229A	P3 P8 IFR and Growler VFR non breaks	14A2A	87 % NC	300	2,577	4,579	95	85	1.196	0.09	1.16	0.08	1.323	0.098	1.116	0.084	1.158	0.086
	2	EA-18G	223A	Departure	32D2B	95 % NC	300	8,291	9,255	90	80	0.137	0.008	0.187	0.011	0.232	0.014	0.183	0.011	0.186	0.011
	3	EA-18G	279C	GCA Pattern	25G3	82 % NC	250	3,000	4,073	89	80	1.095	0.407	1.139	0.423	1.095	0.407	1.139	0.423	1.139	0.423
	4	EA-18G	277C	GCA Pattern	07G3	82 % NC	300	3,000	4,085	89	79	0.402	0.149	0.357	0.133	0.335	0.124	0.357	0.133	0.357	0.133
	5	EA-18G	277B	GCA Pattern	07G2	82 % NC	300	3,000	4,387	88	78	0.268	0.1	0.238	0.089	0.223	0.083	0.238	0.089	0.238	0.089
P11	1	EA-18G	277C	GCA Pattern	07G3	82 % NC	230	2,926	21,053	64	50	0.402	0.149	0.357	0.133	0.335	0.124	0.357	0.133	0.357	0.133
	2	P-8	547C	GCA Pattern	07G3	17760 LBS	200	3,000	21,066	63	N/A	0.206	0.029	0.187	0.019	0.178	0.02	0.183	0.024	0.19	0.02
	3	transient	447C	GCA Pattern	07G3	17760 LBS	200	3,000	21,066	63	N/A	0.02	0	0.018	0	0.016	0	0.018	0	0.017	0
	4	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760 LBS	250	3,047	30,649	57	N/A	0.07	0.015	0.076	0.014	0.079	0.015	0.07	0.014	0.071	0.013
	5	transient	423	IFR non breaks	14A2E	17760 LBS	250	3,047	30,649	57	N/A	0.064	0.005	0.061	0.006	0.069	0.007	0.064	0.005	0.063	0.006
P12	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87 % NC	300	2,941	9,040	82	74	0.359	0.027	0.348	0.024	0.397	0.029	0.335	0.025	0.347	0.026
	2	EA-18G	278C	GCA Pattern	14G3	82 % NC	300	3,000	7,718	80	72	0.67	0.249	0.648	0.241	0.715	0.266	0.648	0.241	0.648	0.241
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87 % NC	300	2,784	12,784	79	68	0.837	0.063	0.812	0.056	0.926	0.069	0.781	0.059	0.81	0.06
	4	P-8	548C	GCA Pattern	14G3	17760 LBS	200	3,000	7,718	78	N/A	0.355	0.049	0.327	0.037	0.369	0.035	0.32	0.047	0.333	0.038
	5	transient	448C	GCA Pattern	14G3	17760 LBS	200	3,000	7,718	78	N/A	0.035	0	0.031	0	0.034	0	0.031	0	0.03	0
P13	1	EA-18G	219A	Departure	32D1A	95 % NC	300	7,686	7,575	94	86	0.456	0.028	0.624	0.037	0.774	0.047	0.609	0.037	0.619	0.037
	2	EA-18G	278B	GCA Pattern	14G2	82 % NC	300	3,000	3,526	91	81	0.447	0.166	0.432	0.16	0.477	0.177	0.432	0.16	0.432	0.16
	3	EA-18G	277C	GCA Pattern	07G3	82 % NC	300	3,000	3,689	90	80	0.402	0.149	0.357	0.133	0.335	0.124	0.357	0.133	0.357	0.133
	4	EA-18G	279C	GCA Pattern	25G3	82 % NC	300	3,000	3,689	90	81	1.095	0.407	1.139	0.423	1.095	0.407	1.139	0.423	1.139	0.423
	5	EA-18G	280B	GCA Pattern	32G2	82 % NC	300	3,000	3,526	90	81	0.045	0.017	0.06	0.022	0.06	0.022	0.06	0.022	0.06	0.022
P14	1	EA-18G	278C	GCA Pattern	14G3	82 % NC	230	1,822	20,245	76	63	0.67	0.249	0.648	0.241	0.715	0.266	0.648	0.241	0.648	0.241
	2	P-8	544	Low TACAN Departure	14ALT	4610 LBS	250	4,622	4,657	72	N/A	0.199	0.039	0.236	0.044	0.207	0.04	0.215	0.042	0.22	0.041
	3	EA-18G	278B	GCA Pattern	14G2	82 % NC	230	2,166	23,933	72	58	0.447	0.166	0.432	0.16	0.477	0.177	0.432	0.16	0.432	0.16
	4	EA-18G	221A	Departure	32D1C	95 % NC	300	6,560	43,942	69	49	0.137	0.008	0.187	0.011	0.232	0.014	0.183	0.011	0.186	0.011
	5	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87 % NC	300	2,569	25,383	67	55	0.359	0.027	0.348	0.024	0.397	0.029	0.335	0.025	0.347	0.026

Table A6-10 SEL-Ranked Flight Profiles for Alternative 3 for High-Tempo FCLP Year (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	Annual Average Daily Events (3) 3A Daytime (0700-2200)	3A Nighttime (2200-0700)	3B Daytime (0700-2200)	3B Nighttime (2200-0700)	3C Daytime (0700-2200)	3C Nighttime (2200-0700)	3D Daytime (0700-2200)	3D Nighttime (2200-0700)	3E Daytime (0700-2200)	3E Nighttime (2200-0700)
P15	1	EA-18G	206A	Departure	07D2C	95	% NC	300	5,213	8,277	92	83	0.333	0.02	0.321	0.019	0.319	0.019	0.313	0.019	0.319	0.019
	2	EA-18G	203A	Departure	07D1C	95	% NC	300	5,155	8,368	92	83	0.776	0.047	0.748	0.044	0.743	0.045	0.73	0.044	0.743	0.045
	3	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3,000	3,437	91	80	0.268	0.1	0.238	0.089	0.223	0.083	0.238	0.089	0.238	0.089
	4	EA-18G	205A	Departure	07D2B	95	% NC	300	4,892	9,517	90	79	0.776	0.047	0.748	0.044	0.743	0.045	0.73	0.044	0.743	0.045
	5	EA-18G	202A	Departure	07D1B	95	% NC	300	4,743	10,004	89	78	1.811	0.11	1.746	0.103	1.735	0.104	1.704	0.104	1.735	0.104
P16	1	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82	% NC	250	2,000	8,724	79	67	0.45	0.102	0.307	0.063	0.121	0.023	0.422	0.096	0.187	0.036
	2	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82	% NC	250	2,000	8,724	79	67	0.133	0.03	0.091	0.019	0.036	0.007	0.125	0.028	0.055	0.011
	3	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	82	% NC	250	2,500	10,146	78	64	1.177	0	0.734	0	0.26	0	1.001	0	0.447	0
	4	EA-18G	248PN	Interfacility Ault Field to Coupeville	07WC32P	82	% NC	250	2,500	10,318	78	64	0	0.151	0	0.085	0	0.026	0	0.128	0	0.049
	5	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2,500	10,355	78	64	0	0.251	0	0.133	0	0.069	0	0.199	0	0.076
P17	1	EA-18G	276PDA	FCLP at Coupeville	32FCP1	84	% NC	150	799	742	115	110	2.721	0	1.645	0	0.652	0	2.315	0	0.964	0
	2	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1,199	1,129	111	106	1.682	1.247	1.053	0.738	0.462	0.281	1.431	1.061	0.684	0.415
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	799	1,206	111	105	5.443	0	3.289	0	1.303	0	4.63	0	1.927	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,199	1,476	109	103	3.364	2.494	2.105	1.476	0.925	0.561	2.862	2.122	1.368	0.83
	5	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	799	2,304	106	97	2.721	0	1.645	0	0.652	0	2.315	0	0.964	0
P18	1	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1,200	6,600	92	82	1.682	1.247	1.053	0.738	0.462	0.281	1.431	1.061	0.684	0.415
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	6,544	91	82	2.721	0	1.645	0	0.652	0	2.315	0	0.964	0
	3	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1,200	7,760	90	79	3.364	2.494	2.105	1.476	0.925	0.561	2.862	2.122	1.368	0.83
	4	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	7,712	90	79	5.443	0	3.289	0	1.303	0	4.63	0	1.927	0
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1,200	8,929	87	78	1.682	1.247	1.053	0.738	0.462	0.281	1.431	1.061	0.684	0.415
R01	1	EA-18G	251PN	Interfacility Ault Field to Coupeville	25WC14P	97	% NC	135	59	1,093	121	114	0	0.188	0	0.117	0	0.036	0	0.175	0	0.067
	2	EA-18G	251PD	Interfacility Ault Field to Coupeville	25WC14P	97	% NC	135	59	1,093	121	114	0.458	0	0.314	0	0.106	0	0.429	0	0.192	0
	3	EA-18G	252PN	Interfacility Ault Field to Coupeville	25WC32P	97	% NC	135	59	1,093	121	114	0	0.419	0	0.237	0	0.08	0	0.356	0	0.136
	4	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	97	% NC	135	59	1,093	121	114	1.177	0	0.734	0	0.26	0	1.001	0	0.447	0
	5	EA-18G	204A	Departure	07D2A	97	% NC	165	302	1,118	120	116	1.109	0.067	1.069	0.063	1.062	0.064	1.043	0.064	1.062	0.064
R02	1	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	97	% NC	0	47	3,519	110	96	0	0.251	0	0.133	0	0.069	0	0.199	0	0.076
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	97	% NC	0	47	3,519	110	96	0.706	0	0.411	0	0.224	0	0.561	0	0.251	0
	3	EA-18G	249PN	Interfacility Ault Field to Coupeville	14WC14P	97	% NC	0	47	3,519	110	96	0	0.113	0	0.065	0	0.031	0	0.098	0	0.038
	4	EA-18G	249PD	Interfacility Ault Field to Coupeville	14WC14P	97	% NC	0	47	3,519	110	96	0.275	0	0.176	0	0.091	0	0.24	0	0.107	0
	5	EA-18G	210A	Departure	14D2A	97	% NC	0	47	3,519	109	100	1.956	0.119	1.871	0.11	2.058	0.124	1.826	0.111	1.858	0.112
R03	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	84	% NC	250	2,000	1,787	101	93	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004
	2	EA-18G	264R	Depart and Re-enter Pattern	14PR	84	% NC	250	2,000	1,967	101	92	0.724	0.026	0.724	0.026	0.774	0.028	0.724	0.026	0.724	0.026
	3	EA-18G	265L	Depart and Re-enter Pattern	25PL	84	% NC	250	2,000	1,971	100	92	1.248	0.045	1.273	0.046	1.198	0.043	1.273	0.046	1.273	0.046
	4	EA-18G	263R	Depart and Re-enter Pattern	07PR	84	% NC	250	2,000	2,001	100	92	0.424	0.015	0.399	0.014	0.424	0.015	0.399	0.014	0.399	0.014
	5	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	817	8,282	88	78	0.406	0.085	0.541	0.113	0.541	0.113	0.541	0.113	0.541	0.113
R04	1	EA-18G	205A	Departure	07D2B	95	% NC	300	4,035	5,492	99	88	0.776	0.047	0.748	0.044	0.743	0.045	0.73	0.044	0.743	0.045
	2	EA-18G	202A	Departure	07D1B	95	% NC	300	4,007	5,530	98	88	1.811	0.11	1.746	0.103	1.735	0.104	1.704	0.104	1.735	0.104
	3	EA-18G	206A	Departure	07D2C	95	% NC	300	4,096	5,708	98	88	0.333	0.02	0.321	0.019	0.319	0.019	0.313	0.019	0.319	0.019
	4	EA-18G	203A	Departure	07D1C	95	% NC	300	4,096	5,708	98	88	0.776	0.047	0.748	0.044	0.743	0.045	0.73	0.044	0.743	0.045
	5	EA-18G	204A	Departure	07D2A	95	% NC	300	3,804	6,519	96	86	1.109	0.067	1.069	0.063	1.062	0.064	1.043	0.064	1.062	0.064
R05	1	EA-18G	277A	GCA Pattern	07G1	82	% NC	250	3,000	3,009	92	84	2.01	0.747	1.787	0.664	1.675	0.622	1.787	0.664	1.787	0.664
	2	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3,000	3,350	91	82	5.473	2.033	5.696	2.116	5.473	2.033	5.696	2.116	5.696	2.116
	3	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3,000	3,491	90	82	0.067	0.025	0.089	0.033	0.089	0.033	0.089	0.033	0.089	0.033
	4	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3,000	3,491	90	82	0.67	0.249	0.648	0.241	0.715	0.266	0.648	0.241	0.648	0.241
	5	EA-18G	205A	Departure	07D2B	95	% NC	300	3,808	13,742	85	75	0.776	0.047	0.748	0.044	0.743	0.045	0.73	0.044	0.743	0.045
R06	1	EA-18G	276PDB	FCLP at Coupeville	32FCP2	85	% NC	140	515	389	121	114	5.443	0	3.289	0	1.303	0	4.63	0	1.927	0
	2	EA-18G	276PDC	FCLP at Coupeville	32FCP3	85	% NC	140	508	405	120	113	2.721	0	1.645	0	0.652	0	2.315	0	0.964	0
	3	EA-18G	276PDA	FCLP at Coupeville	32FCP1	85	% NC	140	524	412	120	113	2.721	0	1.645	0	0.652	0	2.315	0	0.964	0
	4	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	84	% NC	140	526	399	120	113	1.177	0	0.734	0	0.26	0	1.001	0	0.447	0
	5	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	84	% NC	140	523	399	120	113	0.047	0	0.059	0	0.036	0	0.08	0	0.036	0
R07	1	EA-18G	273PDA	FCLP at Coupeville	14FCP1	84	% NC	150	799	769	115	109	1.058	0	0.705	0	0.266	0	0.992	0	0.413	0
	2	EA-18G	273PNA	FCLP at Coupeville	14FCP1	84	% NC	150	1,199	1,167	111	104	0.654	0.485	0.451	0.316	0.189	0.115	0.613	0.455	0.293	0.178
	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84	% NC	150	799	1,512	110	100	2.117	0	1.41	0	0.532	0	1.984	0	0.826	0
	4	EA-18G	273PNB	FCLP at Coupeville	14FCP2	84	% NC	150	1,199	1,749	108	100	1.308	0.97	0.902	0.633	0.378	0.229	1.227	0.909	0.586	0.356
	5	EA-18G	253PD	Interfacility Ault Field to Coupeville	32WC14P	82.2	% NC	140	1,104	1,725	105	100	0.018	0	0.025	0	0.015	0	0.034	0	0.015	0
R08	1	EA-18G	273PDC	FCLP at Coupeville	14FCP3	84	% NC	150	800	3,154	101	106	1.058	0	0.705	0	0.266	0	0.992	0	0.413	0
	2	EA-18G	273PNC	FCLP at Coupeville	14FCP3	84	% NC	150	1,200	3,252	100	93	0.654	0.485	0.451	0.316	0.189	0.115	0.613	0.455	0.293	0.178
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2,000	2,690	99	92	0.368	0.084	0.251	0.051	0.099	0.019	0.345	0.078	0.153	0.029
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2,000	2,690	99	92	0.072	0.016	0.049	0.01	0.019	0.004	0.067	0.015	0.03	0.006
	5	EA-18G	273PDB	FCLP at Coupeville	14FCP2	84	% NC	150	800	4,008	98	91	2.117	0	1.41	0	0.532	0	1.984	0	0.826	0
R09	1	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	85	% NC	300	2,231	5,007	90	82	0.047	0	0.059	0	0.036	0	0.08	0	0.036	0
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	85	% NC	300	2,236	5,091	90	82	0.706	0	0.411	0	0.224	0	0.561	0	0.251	0
	3	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	85	% NC	300	2,180	5,083	90	81	1.177	0	0.734	0	0.26	0	1.001	0	0.447	0
	4	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	85	% NC	300	2,299	5,114	90	81	0	0.251	0	0.133	0	0.069	0	0.199	0	0.076
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82	% NC	250	2,000	3,677	90	81	0.184	0.042	0.114	0.023	0.047	0.009	0.157	0.036	0.069	0.013

Table A6-10 SEL-Ranked Flight Profiles for Alternative 3 for High-Tempo FCLP Year (continued)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting	Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated SEL (dBA)	Estimated Lmax (dBA) (4)	3A Daytime (0700-2200)	3A Nighttime (2200-0700)	3B Daytime (0700-2200)	3B Nighttime (2200-0700)	3C Daytime (0700-2200)	3C Nighttime (2200-0700)	3D Daytime (0700-2200)	3D Nighttime (2200-0700)	3E Daytime (0700-2200)	3E Nighttime (2200-0700)
												Annual Average Daily Events (3)									
R10	1	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87 % NC	300	2,480	3,143	100	90	0.837	0.063	0.812	0.056	0.926	0.069	0.781	0.059	0.81	0.06
	2	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87 % NC	300	2,620	3,563	98	88	0.359	0.027	0.348	0.024	0.397	0.029	0.335	0.025	0.347	0.026
	3	EA-18G	280C	GCA Pattern	32G3	82 % NC	250	3,000	2,980	93	84	0.067	0.025	0.089	0.033	0.089	0.033	0.089	0.033	0.089	0.033
	4	EA-18G	278A	GCA Pattern	14G1	82 % NC	300	2,999	3,168	92	83	3.351	1.245	3.239	1.203	3.574	1.328	3.239	1.203	3.239	1.203
	5	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87 % NC	300	2,347	7,186	90	77	1.196	0.09	1.16	0.08	1.323	0.098	1.116	0.084	1.158	0.086
R11	1	EA-18G	238A	Overhead Break Arrival	14O2A	84 % NC	300	10,000	13,520	73	60	0.231	0.022	0.222	0.021	0.245	0.024	0.223	0.021	0.222	0.021
	2	EA-18G	238B	Overhead Break Arrival	14O2B	84 % NC	300	10,000	13,567	73	60	0.231	0.022	0.222	0.021	0.245	0.024	0.223	0.021	0.222	0.021
	3	EA-18G	238C	Overhead Break Arrival	14O2C	84 % NC	300	10,000	13,609	73	60	0.238	0.023	0.229	0.022	0.253	0.024	0.23	0.022	0.228	0.022
	4	EA-18G	236B	Overhead Break Arrival	07O2B	84 % NC	300	10,000	13,739	72	59	0.136	0.013	0.127	0.012	0.127	0.012	0.128	0.012	0.127	0.012
	5	EA-18G	236A	Overhead Break Arrival	07O2A	84 % NC	300	10,000	13,740	72	59	0.136	0.013	0.127	0.012	0.127	0.012	0.128	0.012	0.127	0.012
R12	1	EA-18G	205A	Departure	07D2B	84 % NC	300	9,000	9,677	75	65	0.776	0.047	0.748	0.044	0.743	0.045	0.73	0.044	0.743	0.045
	2	EA-18G	216A	Departure	25D2A	84 % NC	300	9,000	16,276	70	58	3.261	0.198	3.475	0.205	3.186	0.192	3.391	0.206	3.451	0.208
	3	EA-18G	217A	Departure	25D2B	84 % NC	300	9,000	16,448	70	58	2.282	0.139	2.432	0.143	2.23	0.134	2.374	0.145	2.416	0.145
	4	EA-18G	218A	Departure	25D2C	84 % NC	300	9,000	18,999	67	55	0.978	0.06	1.042	0.061	0.956	0.057	1.017	0.062	1.035	0.062
	5	EA-18G	206A	Departure	07D2C	84 % NC	300	9,000	24,952	66	55	0.333	0.02	0.321	0.019	0.319	0.019	0.313	0.019	0.319	0.019
R13	1	EA-18G	273PDA	FCLP at Coupeville	14FCP1	84 % NC	150	800	47,518	75	63	1.058	0	0.705	0	0.266	0	0.992	0	0.413	0
	2	EA-18G	273PNB	FCLP at Coupeville	14FCP2	84 % NC	150	1,200	46,886	74	62	1.308	0.97	0.902	0.633	0.378	0.229	1.227	0.909	0.586	0.356
	3	EA-18G	273PNA	FCLP at Coupeville	14FCP1	84 % NC	150	1,200	47,526	74	62	0.654	0.485	0.451	0.316	0.189	0.115	0.613	0.455	0.293	0.178
	4	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82 % NC	250	2,000	30,019	71	51	0.184	0.042	0.114	0.023	0.047	0.009	0.157	0.036	0.069	0.013
	5	EA-18G	260	Interfacility Coupeville to Ault Field	32CW14	85 % NC	140	250	52,917	71	51	1.158	0.263	0.716	0.147	0.295	0.056	0.985	0.224	0.437	0.084
R14	1	EA-18G	268B	FCLP at Ault Field	14FU1	84 % NC	130	1,000	2,575	104	96	2.028	0.425	1.96	0.41	2.163	0.453	1.96	0.41	1.96	0.41
	2	EA-18G	269B	FCLP at Ault Field	25FU1	82.2 % NC	130	693	3,116	103	96	3.312	0.693	3.447	0.722	3.244	0.679	3.447	0.722	3.447	0.722
	3	EA-18G	283B	FCLP at Ault Field	25FU1	82.2 % NC	140	715	3,119	103	91	1.676	0.406	4.619	1.211	7.007	1.783	2.781	0.674	6.506	1.656
	4	EA-18G	269A	FCLP at Ault Field	25FM1	82.2 % NC	130	702	3,119	103	91	3.312	0.693	3.447	0.722	3.244	0.679	3.447	0.722	3.447	0.722
	5	EA-18G	265L	Depart and Re-enter Pattern	25PL	82.2 % NC	140	697	3,095	103	91	1.248	0.045	1.273	0.046	1.198	0.043	1.273	0.046	1.273	0.046
R15	1	EA-18G	273PDC	FCLP at Coupeville	14FCP3	85 % NC	140	575	1,544	110	103	1.058	0	0.705	0	0.266	0	0.992	0	0.413	0
	2	EA-18G	273PNC	FCLP at Coupeville	14FCP3	85 % NC	140	698	1,589	109	103	0.654	0.485	0.451	0.316	0.189	0.115	0.613	0.455	0.293	0.178
	3	EA-18G	273PDB	FCLP at Coupeville	14FCP2	85 % NC	140	585	1,871	107	101	2.117	0	1.41	0	0.532	0	1.984	0	0.826	0
	4	EA-18G	273PNB	FCLP at Coupeville	14FCP2	85 % NC	140	718	1,912	107	101	1.308	0.97	0.902	0.633	0.378	0.229	1.227	0.909	0.586	0.356
	5	EA-18G	247PD	Interfacility Ault Field to Coupeville	07WC14P	84 % NC	140	588	2,009	106	98	0.165	0	0.113	0	0.035	0	0.154	0	0.069	0
R16	1	EA-18G	233A	P3 P8 IFR and Growler VFR non breaks	32A1A	87 % NC	300	2,756	2,575	100	91	0.159	0.012	0.207	0.014	0.165	0.012	0.199	0.015	0.207	0.015
	2	EA-18G	209A	Departure	14D1C	95 % NC	300	6,951	8,107	93	85	1.369	0.083	1.31	0.077	1.44	0.087	1.278	0.078	1.301	0.078
	3	EA-18G	278C	GCA Pattern	14G3	82 % NC	250	3,000	3,185	91	82	0.67	0.249	0.648	0.241	0.715	0.266	0.648	0.241	0.648	0.241
	4	EA-18G	208A	Departure	14D1B	95 % NC	300	6,815	9,922	90	81	3.195	0.195	3.056	0.18	3.361	0.202	2.982	0.182	3.036	0.182
	5	EA-18G	246	TACAN Arrival	32AHT	82.2 % NC	250	2,475	6,673	89	81	0.125	0.004	0.18	0.011	0.136	0.006	0.188	0.005	0.164	0.007
R17	1	P-8	542C	P3 P8 IFR and Growler VFR non breaks	32A2C	17760 LBS	250	3,047	2,963	85	N/A	0.044	0.008	0.044	0.014	0.045	0.015	0.044	0.015	0.045	0.013
	2	transient	442C	VFR non breaks	32A2C	17760 LBS	250	3,047	2,963	85	N/A	0.021	0.003	0.021	0.005	0.021	0.006	0.021	0.006	0.021	0.005
	3	P-8	542B	P3 P8 IFR and Growler VFR non breaks	32A2B	17760 LBS	250	3,047	6,202	79	N/A	0.044	0.008	0.044	0.014	0.045	0.015	0.044	0.015	0.045	0.013
	4	transient	442B	VFR non breaks	32A2B	17760 LBS	250	3,047	6,202	79	N/A	0.021	0.003	0.021	0.005	0.021	0.006	0.021	0.006	0.021	0.005
	5	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82 % NC	250	2,000	12,686	73	59	0.45	0.102	0.307	0.063	0.121	0.023	0.422	0.096	0.187	0.036
R18	1	P-8	543	Low TACAN Departure	07ALT	4610 LBS	250	5,971	5,979	68	N/A	0.07	0.017	0.073	0.016	0.068	0.013	0.066	0.015	0.068	0.015
	2	P-8	545	Low TACAN Departure	25ALT	4610 LBS	250	6,446	6,474	67	N/A	0.128	0.026	0.127	0.023	0.131	0.023	0.116	0.022	0.119	0.021
	3	EA-18G	256	Interfacility Coupeville to Ault Field	14CW14	82 % NC	250	2,000	24,403	64	53	0.45	0.102	0.307	0.063	0.121	0.023	0.422	0.096	0.187	0.036
	4	EA-18G	255	Interfacility Coupeville to Ault Field	14CW07	82 % NC	250	2,000	24,403	64	53	0.133	0.03	0.091	0.019	0.036	0.007	0.125	0.028	0.055	0.011
	5	EA-18G	252PD	Interfacility Ault Field to Coupeville	25WC32P	85 % NC	250	2,500	22,831	63	47	1.177	0	0.734	0	0.26	0	1.001	0	0.447	0
R19	1	EA-18G	253PD	Interfacility Ault Field to Coupeville	32WC14P	84 % NC	140	438	907	114	108	0.018	0	0.025	0	0.015	0	0.034	0	0.015	0
	2	EA-18G	253PN	Interfacility Ault Field to Coupeville	32WC14P	84 % NC	140	438	907	114	108	0	0.008	0	0.009	0	0.005	0	0.014	0	0.005
	3	EA-18G	273PDA	FCLP at Coupeville	14FCP1	85 % NC	140	492	1,069	114	108	1.058	0	0.705	0	0.266	0	0.992	0	0.413	0
	4	EA-18G	273PNA	FCLP at Coupeville	14FCP1	85 % NC	140	530	1,080	113	107	0.654	0.485	0.451	0.316	0.189	0.115	0.613	0.455	0.293	0.178
	5	EA-18G	251PD	Interfacility Ault Field to Coupeville	25WC14P	84 % NC	140	444	962	113	107	0.458	0	0.314	0	0.106	0	0.429	0	0.192	0
R20	1	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87 % NC	300	2,933	3,692	95	87	0.359	0.027	0.348	0.024	0.397	0.029	0.335	0.025	0.347	0.026
	2	EA-18G	277C	GCA Pattern	07G3	82 % NC	300	3,000	3,898	89	78	0.402	0.149	0.357	0.133	0.335	0.124	0.357	0.133	0.357	0.133
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87 % NC	300	2,769	6,744	88	78	0.837	0.063	0.812	0.056	0.926	0.069	0.781	0.059	0.81	0.06
	4	transient	423	IFR non breaks	14A2E	17760 LBS	180	3,047	3,071	86	N/A	0.064	0.005	0.061	0.006	0.069	0.007	0.064	0.005	0.063	0.006
	5	P-8	527	P3 P8 C40 VFR non breaks	14A2E	17760 LBS	180	3,047	3,071	86	N/A	0.07	0.015	0.076	0.014	0.079	0.015	0.07	0.014	0.071	0.013

Table A6-10 SEL-Ranked Flight Profiles for Alternative 3 for High-Tempo FCLP Year (concluded)

POI ID	SEL Rank	Aircraft Type	Profile ID	Type of Operation	Track ID	Power Setting		Speed (kts) (1)	Altitude (ft MSL) (2)	Slant Range (ft)	Estimated		Annual Average Daily Events (3)									
											SEL (dBA)	Lmax (dBA) (4)	3A		3B		3C		3D		3E	
													Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)	Daytime (0700-2200)	Nighttime (2200-0700)
S01	1	EA-18G	266L	Depart and Re-enter Pattern	32PL	82.2	% NC	140	773	4009	98	90	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004
	2	EA-18G	270B	FCLP at Ault Field	32FU1	82.2	% NC	130	802	4008	96	90	0.406	0.085	0.541	0.113	0.541	0.113	0.541	0.113	0.541	0.113
	3	EA-18G	284B	FCLP at Ault Field	32FU1	82.2	% NC	140	839	4014	96	84	0.071	0.017	0.711	0.186	0.858	0.218	0.428	0.104	1.001	0.255
	4	EA-18G	266R	Depart and Re-enter Pattern	32PR	82.2	% NC	140	773	4003	96	84	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004	0.1	0.004
	5	EA-18G	262	Interfacility Coupeville to Ault Field	32CW32	82.2	% NC	140	861	3936	95	83	0.184	0.042	0.114	0.023	0.047	0.009	0.157	0.036	0.069	0.013
S02	1	EA-18G	212A	Departure	14D2C	95	% NC	300	2514	3432	104	94	0.587	0.036	0.561	0.033	0.617	0.037	0.548	0.033	0.558	0.034
	2	EA-18G	209A	Departure	14D1C	95	% NC	300	2514	3432	104	93	1.369	0.083	1.31	0.077	1.44	0.087	1.278	0.078	1.301	0.078
	3	EA-18G	207A	Departure	14D1A	95	% NC	300	2514	3432	104	94	4.565	0.278	4.366	0.257	4.801	0.289	4.26	0.259	4.336	0.261
	4	EA-18G	211A	Departure	14D2B	95	% NC	300	2514	3432	104	94	1.369	0.083	1.31	0.077	1.44	0.087	1.278	0.078	1.301	0.078
	5	EA-18G	208A	Departure	14D1B	95	% NC	300	2514	3432	104	94	3.195	0.195	3.056	0.18	3.361	0.202	2.982	0.182	3.036	0.182
S03	1	EA-18G	276PDC	FCLP at Coupeville	32FCP3	84	% NC	150	800	5231	94	89	2.721	0	1.645	0	0.652	0	2.315	0	0.964	0
	2	EA-18G	276PNC	FCLP at Coupeville	32FCP3	84	% NC	150	1200	5297	94	89	1.682	1.247	1.053	0.738	0.462	0.281	1.431	1.061	0.684	0.415
	3	EA-18G	276PDB	FCLP at Coupeville	32FCP2	84	% NC	150	800	6105	92	89	5.443	0	3.289	0	1.303	0	4.63	0	1.927	0
	4	EA-18G	276PNB	FCLP at Coupeville	32FCP2	84	% NC	150	1200	6162	92	89	3.364	2.494	2.105	1.476	0.925	0.561	2.862	2.122	1.368	0.83
	5	EA-18G	276PNA	FCLP at Coupeville	32FCP1	84	% NC	150	1200	7058	90	88	1.682	1.247	1.053	0.738	0.462	0.281	1.431	1.061	0.684	0.415
S04	1	EA-18G	228C	P3 P8 IFR and Growler VFR non breaks	14A1C	87	% NC	300	2882	4781	93	83	0.359	0.027	0.348	0.024	0.397	0.029	0.335	0.025	0.347	0.026
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2903	92	84	0.67	0.249	0.648	0.241	0.715	0.266	0.648	0.241	0.648	0.241
	3	EA-18G	228B	P3 P8 IFR and Growler VFR non breaks	14A1B	87	% NC	300	2719	7342	87	76	0.837	0.063	0.812	0.056	0.926	0.069	0.781	0.059	0.81	0.06
	4	P-8	548C	GCA Pattern	14G3	17760	LBS	200	3000	2903	85	N/A	0.355	0.049	0.327	0.037	0.369	0.035	0.32	0.047	0.333	0.038
	5	transient	448C	GCA Pattern	14G3	17760	LBS	200	3000	2903	85	76	0.035	0	0.031	0	0.034	0	0.031	0	0.03	0
S05	1	EA-18G	243	TACAN Arrival	07AHT	78	% NC	250	3529	3374	76	68	0.501	0.014	0.36	0.023	0.464	0.02	0.376	0.011	0.327	0.014
	2	EA-18G	229C	P3 P8 IFR and Growler VFR non breaks	14A2C	87	% NC	300	2712	19217	70	56	0.359	0.027	0.348	0.024	0.397	0.029	0.335	0.025	0.347	0.026
	3	EA-18G	229B	P3 P8 IFR and Growler VFR non breaks	14A2B	87	% NC	300	2592	23773	66	51	0.837	0.063	0.812	0.056	0.926	0.069	0.781	0.059	0.81	0.06
	4	EA-18G	224A	Departure	32D2C	95	% NC	300	8249	32151	65	52	0.059	0.004	0.08	0.005	0.1	0.006	0.078	0.005	0.08	0.005
	5	P-8	538C	P3 P8 IFR and Growler VFR non breaks	14A2C	17760	LBS	180	3047	19344	64	N/A	0.342	0.08	0.307	0.062	0.348	0.059	0.309	0.067	0.315	0.055
S06	1	EA-18G	224A	Departure	32D2C	84	% NC	300	9000	61543	51	39	0.059	0.004	0.08	0.005	0.1	0.006	0.078	0.005	0.08	0.005
	2	EA-18G	223A	Departure	32D2B	84	% NC	300	9000	66657	50	39	0.137	0.008	0.187	0.011	0.232	0.014	0.183	0.011	0.186	0.011
	3	P-8	547C	GCA Pattern	07G3	17760	LBS	200	3000	40394	50	37	0.206	0.029	0.187	0.019	0.178	0.02	0.183	0.024	0.19	0.02
	4	transient	447C	GCA Pattern	07G3	17760	LBS	200	3000	40394	50	37	0.02	0	0.018	0	0.016	0	0.018	0	0.017	0
	5	EA-18G	222A	Departure	32D2A	95	% NC	300	8656	71520	49	37	0.196	0.012	0.267	0.016	0.332	0.02	0.261	0.016	0.265	0.016
S07	1	EA-18G	277C	GCA Pattern	07G3	82	% NC	230	2810	88787	61	51	0.402	0.149	0.357	0.133	0.335	0.124	0.357	0.133	0.357	0.133
	2	EA-18G	250PD	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2500	165180	59	47	0.706	0	0.411	0	0.224	0	0.561	0	0.251	0
	3	EA-18G	250PN	Interfacility Ault Field to Coupeville	14WC32P	82	% NC	250	2500	165180	59	47	0	0.251	0	0.133	0	0.069	0	0.199	0	0.076
	4	EA-18G	254PD	Interfacility Ault Field to Coupeville	32WC32P	82	% NC	250	2500	135475	59	47	0.047	0	0.059	0	0.036	0	0.08	0	0.036	0
	5	EA-18G	254PN	Interfacility Ault Field to Coupeville	32WC32P	82	% NC	250	2500	135475	59	47	0	0.017	0	0.019	0	0.011	0	0.028	0	0.011
S08	1	EA-18G	280C	GCA Pattern	32G3	82	% NC	300	3000	2779	93	81	0.067	0.025	0.089	0.033	0.089	0.033	0.089	0.033	0.089	0.033
	2	EA-18G	278C	GCA Pattern	14G3	82	% NC	300	3000	2779	93	81	0.67	0.249	0.648	0.241	0.715	0.266	0.648	0.241	0.648	0.241
	3	EA-18G	228A	P3 P8 IFR and Growler VFR non breaks	14A1A	87	% NC	300	2851	6041	89	80	1.196	0.09	1.16	0.08	1.323	0.098	1.116	0.084	1.158	0.086
	4	EA-18G	279C	GCA Pattern	25G3	82	% NC	300	3000	4183	88	79	1.095	0.407	1.139	0.423	1.095	0.407	1.139	0.423	1.139	0.423
	5	EA-18G	277C	GCA Pattern	07G3	82	% NC	300	3000	4183	88	79	0.402	0.149	0.357	0.133	0.335	0.124	0.357	0.133	0.357	0.133
S09	1	EA-18G	232A	P3 P8 IFR and Growler VFR non breaks	25A3A	87	% NC	300	3000	4033	92	86	0.977	0.074	1.056	0.073	0.992	0.074	1.017	0.077	1.054	0.078
	2	EA-18G	277B	GCA Pattern	07G2	82	% NC	250	3000	3025	91	78	0.268	0.1	0.238	0.089	0.223	0.083	0.238	0.089	0.238	0.089
	3	EA-18G	279A	GCA Pattern	25G1	82	% NC	300	3000	5300	87	75	5.473	2.033	5.696	2.116	5.473	2.033	5.696	2.116	5.696	2.116
	4	EA-18G	206A	Departure	07D2C	95	% NC	300	5403	11786	86	76	0.333	0.02	0.321	0.019	0.319	0.019	0.313	0.019	0.319	0.019
	5	EA-18G	203A	Departure	07D1C	95	% NC	300	5300	11968	86	76	0.776	0.047	0.748	0.044	0.743	0.045	0.73	0.044	0.743	0.045
S10	1	P-8	546	Low TACAN Departure	32ALT	17760	LBS	250	3616	3501	83	N/A	0.017	0.003	0.018	0.005	0.017	0.006	0.017	0.005	0.017	0.005
	2	EA-18G	280C	GCA Pattern	32G3	82	% NC	230	2333	19814	71	61	0.067	0.025	0.089	0.033	0.089	0.033	0.089	0.033	0.089	0.033
	3	EA-18G	257	Interfacility Coupeville to Ault Field	14CW25	82	% NC	250	2000	20733	70	58	0.368	0.084	0.251	0.051	0.099	0.019	0.345	0.078	0.153	0.029
	4	EA-18G	258	Interfacility Coupeville to Ault Field	14CW32	82	% NC	250	2000	20783	70	58	0.072	0.016	0.049	0.01	0.019	0.004	0.067	0.015	0.03	0.006
	5	EA-18G	246	TACAN Arrival	32AHT	78	% NC	250	3085	23749	70	53	0.125	0.004	0.18	0.011	0.136	0.006	0.188	0.005	0.164	0.007

Notes:

(1) 0 ft indicates the contributing profile is the beginning of takeoff roll

(2) FYI, Ault Field's elevation is 47 ft MSL, OLF Coupeville's elevation is 200 ft MSL

(3) not operations. Patterns counted as 1 event, vice 2 operations.

(4) n/a = not available: NOISEMAP's database does not include Lmax data for flight events for this aircraft type (B737-700).

(5) Estimated from the average difference of SEL and Lmax of similar events at this POI

Table A6-11 Maximum SEL and Maximum L_{max} of Top Noise Contributor for All Alternatives and No Action Alternative

Point of Interest			Maximum Sound Exposure Level (SEL) and Maximum Sound Level (Lmax)					
			Maximum SEL (dBA)			Maximum Lmax (dBA)		
Type	ID	Description	All Alternatives	No Action	Increase re No Action	All Alternatives	No Action	Increase re No Action
Park	P01	Joseph Whidbey State Park	93	93	-	60	60	-
Park	P02	Deception Pass State Park	107	107	-	104	104	-
Park	P03	Dugualla State Park	105	105	-	88	88	-
Park	P04	Baseball Field (Ebey's Landing National Historical Reserve)	111	114	-3	105	111	-6
Park	P05	Ebey's Landing State Park	88	91	-3	76	78	-2
Park	P06	Fort Casey State Park	96	102	-6	86	91	-5
Park	P07	Cama Beach State Park	82	82	-	73	73	-
Park	P08	Port Townsend	85	85	-	N/A	N/A	-
Park	P09	Moran State Park	62	62	-	51	51	-
Park	P10	San Juan Islands National Monument	95	95	-	85	85	-
Park	P11	San Juan Island Visitors Center	64	64	-	50	50	-
Park	P12	Cap Sante Park	82	82	-	74	74	-
Park	P13	Lake Campbell	94	94	-	86	86	-
Park	P14	Spencer Spit State Park	76	76	-	63	63	-
Park	P15	Pioneer Park	92	92	-	83	83	-
Park	P16	Marrowstone Island (Fort Flagler)	79	85	-6	67	70	-3
Park	EBLA001	Reuble Farm	115	115	-	110	110	-
Park	EBLA002	Ferry House	91	96	-5	82	85	-3
Residential	R01	Sullivan Rd	121	121	-	114	114	-
Residential	R02	Salal St. and N. Northgate Dr	110	110	-	101	101	-
Residential	R03	Central Whidbey	101	101	-	49	49	-
Residential	R04	Pull and Be Damned Point	99	99	-	91	91	-
Residential	R05	Snee-Oosh Point	92	92	-	84	84	-
Residential	R06	Admirals Dr and Byrd Dr	120	118	+2	117	115	+2
Residential	R07	Race Lagoon	115	114	+1	110	109	+1
Residential	R08	Pratts Bluff	101	112	-11	93	106	-13
Residential	R09	Cox Rd and Island Ridge Way	90	92	-2	51	46	+5
Residential	R10	Skyline	100	100	-	90	90	-
Residential	R11	Sequim	73	73	-	60	60	-
Residential	R12	Port Angeles	75	75	-	65	65	-
Residential	R13	Beverly Beach, Freeland	75	75	-	63	63	-
Residential	R14	E Sleeper Rd & Slumber Ln	104	104	-	96	96	-
Residential	R15	Long Point Manor	109	110	-1	103	105	-2
Residential	R16	Rocky Point Heights	100	100	-	91	91	-
Residential	R17	Port Townsend	85	85	-	N/A	N/A	-
Residential	R18	Marrowstone Island (Nordland)	68	68	-	N/A	N/A	-
Residential	R19	Island Transit Offices, Coupeville	115	120	-5	108	117	-9
Residential	R20	South Lopez Island (Agate Beach)	95	95	-	87	87	-
School	S01	Oak Harbor High School	98	98	-	90	90	-
School	S02	Crescent Harbor Elementary School	104	104	-	94	94	-
School	S03	Coupeville Elementary School	94	98	-4	86	90	-4
School	S04	Anacortes High School	93	93	-	83	83	-
School	S05	Lopez Island School	76	76	-	68	68	-
School	S06	Friday Harbor Elementary School	51	51	-	39	39	-
School	S07	Sir James Douglas Elementary School	61	61	-	51	51	-
School	S08	Fidalgo Elementary School	93	93	-	59	59	-
School	S09	La Conner Elementary School	92	92	-	86	86	-
School	S10	Elger Bay Elementary School	83	83	-	N/A	N/A	-

Table A6-12 Annual Average Daily NA 80 L_{max} for Alternative 1 for Average Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 80 dBA										
Type	ID	Description	No Action	Alt 1A	Increase re No Action	Alt 1B	Increase re No Action	Alt 1C	Increase re No Action	Alt 1D	Increase re No Action	Alt 1E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	24.5	26.7	2.2	29.8	5.3	36.7	12.2	29.5	5.0	35.3	10.8
	P03	Dugualla State Park	44.6	50.2	5.6	57.4	12.8	61.1	16.5	51.5	6.9	59.1	14.5
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	8.7	35.2	26.5	22.1	13.4	9.0	0.3	30.9	22.2	13.4	4.7
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	6.0	21.5	15.5	13.0	7.0	5.3	-0.7	18.5	12.5	7.9	1.9
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	1.3	1.5	0.2	1.5	0.2	1.7	0.4	1.7	0.4	1.7	0.4
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.7	0.5	-0.2	0.6	-0.1	0.8	0.1	0.8	0.1	0.8	0.1
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	1.0	1.2	0.2	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	8.4	34.1	25.7	21.3	12.9	8.5	0.1	29.8	21.4	12.8	4.4
	EBLA002	Ferry House	3.2	5.4	2.2	3.3	0.1	1.3	-1.9	4.6	1.4	2.0	-1.2
Residential	R01	Sullivan Rd	132.4	154.5	22.1	163.6	31.2	173.5	41.1	157.7	25.3	170.3	37.9
	R02	Salal St. and N. Northgate Dr	106.6	124.7	18.1	133.4	26.8	145.3	38.7	128.7	22.1	141.9	35.3
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	13.7	17.3	3.6	17.0	3.3	16.3	2.6	16.5	2.8	16.3	2.6
	R05	Snee-Oosh Point	7.6	10.0	2.4	10.0	2.4	9.6	2.0	9.6	2.0	9.6	2.0
	R06	Admirals Dr and Byrd Dr	8.5	35.0	26.5	21.9	13.4	8.8	0.3	30.7	22.2	13.2	4.7
	R07	Race Lagoon	2.6	13.5	10.9	8.9	6.3	3.6	1.0	12.1	9.5	5.3	2.7
	R08	Pratts Bluff	1.0	10.5	9.5	7.0	6.0	2.7	1.7	9.5	8.5	4.1	3.1
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	4.2	5.9	1.7	5.7	1.5	6.4	2.2	6.4	2.2	6.4	2.2
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	111.0	127.5	16.5	139.0	28.0	148.1	37.1	130.9	19.9	144.6	33.6
	R15	Long Point Manor	6.9	13.8	6.9	9.4	2.5	4.7	-2.2	12.6	5.7	6.3	-0.6
	R16	Rocky Point Heights	4.2	5.3	1.1	5.0	0.8	5.4	1.2	5.5	1.3	5.4	1.2
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	8.7	35.2	26.5	22.1	13.4	9.0	0.3	30.9	22.2	13.4	4.7
	R20	South Lopez Island (Agate Beach)	0.3	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
School	S01	Oak Harbor High School	2.7	1.7	-1.0	2.6	-0.1	2.7	0.0	2.2	-0.5	2.6	-0.1
	S02	Crescent Harbor Elementary School	12.2	15.1	2.9	14.5	2.3	15.6	3.4	15.8	3.6	15.6	3.4
	S03	Coupeville Elementary School	5.1	8.4	3.3	5.1	0.0	2.1	-3.0	7.3	2.2	3.1	-2.0
	S04	Anacortes High School	0.3	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	1.0	1.1	0.1	1.1	0.1	1.0	0.0	1.0	0.0	1.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-13 Annual Average Daily NA 90 L_{max} for Alternative 1 for Average Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 90 dBA											
Type	ID	Description	No Action	Alt 1A	Increase re No Action	Alt 1B	Increase re No Action	Alt 1C	Increase re No Action	Alt 1D	Increase re No Action	Alt 1E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	15.0	15.6	0.6	18.4	3.4	24.7	9.7	18.0	3.0	23.4	8.4
	P03	Dugualla State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	8.5	35.0	26.5	21.9	13.4	8.8	0.3	30.7	22.2	13.2	4.7
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	4.5	21.5	17.0	13.0	8.5	5.3	0.8	18.5	14.0	7.9	3.4
	EBLA002	Ferry House	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential	R01	Sullivan Rd	119.5	138.6	19.1	148.4	28.9	158.3	38.8	142.0	22.5	155.0	35.5
	R02	Salal St. and N. Northgate Dr	98.8	114.2	15.4	124.2	25.4	136.7	37.9	118.8	20.0	133.1	34.3
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	1.0	1.2	0.2	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	R05	Snee-Oosh Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R06	Admirals Dr and Byrd Dr	6.7	31.0	24.3	19.4	12.7	7.8	1.1	27.2	20.5	11.7	5.0
	R07	Race Lagoon	0.6	9.3	8.7	6.2	5.6	2.4	1.8	8.4	7.8	3.6	3.0
	R08	Pratts Bluff	0.6	2.6	2.0	1.7	1.1	0.7	0.1	2.4	1.8	1.0	0.4
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	28.0	30.2	2.2	37.7	9.7	44.7	16.7	31.8	3.8	42.1	14.1
	R15	Long Point Manor	2.3	12.4	10.1	8.1	5.8	3.2	0.9	11.1	8.8	4.8	2.5
	R16	Rocky Point Heights	0.2	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	6.6	34.0	27.4	21.3	14.7	8.6	2.0	29.8	23.2	12.9	6.3
	R20	South Lopez Island (Agate Beach)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
School	S01	Oak Harbor High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S02	Crescent Harbor Elementary School	10.8	14.0	3.2	13.0	2.2	14.4	3.6	14.5	3.7	14.4	3.6
	S03	Coupeville Elementary School	0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9
	S04	Anacortes High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-14 Annual Average Daily NA 100 L_{max} for Alternative 1 for Average Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 100 dBA											
Type	ID	Description	No Action	Alt 1A	Increase re No Action	Alt 1B	Increase re No Action	Alt 1C	Increase re No Action	Alt 1D	Increase re No Action	Alt 1E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	14.9	15.0	0.1	18.0	3.1	24.6	9.7	17.5	2.6	23.2	8.3
	P03	Dugualla State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	7.5	12.4	4.9	8.1	0.6	3.2	-4.3	11.1	3.6	4.8	-2.7
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	1.9	16.1	14.2	9.8	7.9	4.0	2.1	13.9	12.0	6.0	4.1
	EBLA002	Ferry House	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential	R01	Sullivan Rd	82.7	93.2	10.5	104.1	21.4	114.7	32.0	96.3	13.6	111.0	28.3
	R02	Salal St. and N. Northgate Dr	13.1	16.6	3.5	15.5	2.4	17.0	3.9	18.3	5.2	17.2	4.1
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R05	Snee-Oosh Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R06	Admirals Dr and Byrd Dr	6.1	22.1	16.0	13.5	7.4	5.5	-0.6	19.1	13.0	8.2	2.1
	R07	Race Lagoon	0.5	7.2	6.7	4.8	4.3	1.9	1.4	6.5	6.0	2.8	2.3
	R08	Pratts Bluff	0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R15	Long Point Manor	0.1	6.3	6.2	4.2	4.1	1.6	1.5	5.7	5.6	2.4	2.3
	R16	Rocky Point Heights	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	2.3	12.4	10.1	8.1	5.8	3.2	0.9	11.1	8.8	4.8	2.5
	R20	South Lopez Island (Agate Beach)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
School	S01	Oak Harbor High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S02	Crescent Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S03	Coupeville Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S04	Anacortes High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-15 Annual Average Daily NA 80 L_{max} for Alternative 2 for Average Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 80 dBA										
Type	ID	Description	No Action	Alt 2A	Increase re No Action	Alt 2B	Increase re No Action	Alt 2C	Increase re No Action	Alt 2D	Increase re No Action	Alt 2E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	24.5	26.7	2.2	29.6	5.1	36.2	11.7	29.4	4.9	34.8	10.3
	P03	Dugualla State Park	44.6	50.9	6.3	57.8	13.2	61.2	16.6	52.1	7.5	59.3	14.7
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	8.7	33.6	24.9	21.2	12.5	8.6	-0.1	29.5	20.8	12.8	4.1
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	6.0	20.5	14.5	12.4	6.4	5.1	-0.9	17.7	11.7	7.6	1.6
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	1.3	1.6	0.3	1.5	0.2	1.8	0.5	1.8	0.5	1.8	0.5
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.7	0.5	-0.2	0.7	0.0	0.8	0.1	0.8	0.1	0.8	0.1
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	1.0	1.2	0.2	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	8.4	32.5	24.1	20.3	11.9	8.1	-0.3	28.4	20.0	12.2	3.8
	EBLA002	Ferry House	3.2	5.1	1.9	3.1	-0.1	1.3	-1.9	4.4	1.2	1.9	-1.3
Residential	R01	Sullivan Rd	132.4	156.7	24.3	165.2	32.8	174.7	42.3	159.8	27.4	171.5	39.1
	R02	Salal St. and N. Northgate Dr	106.6	126.2	19.6	134.2	27.6	145.7	39.1	130.0	23.4	142.5	35.9
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	13.7	17.3	3.6	16.8	3.1	16.2	2.5	16.4	2.7	16.2	2.5
	R05	Snee-Oosh Point	7.6	9.9	2.3	9.9	2.3	9.5	1.9	9.5	1.9	9.5	1.9
	R06	Admirals Dr and Byrd Dr	8.5	33.4	24.9	20.9	12.4	8.4	-0.1	29.3	20.8	12.6	4.1
	R07	Race Lagoon	2.6	12.9	10.3	8.5	5.9	3.4	0.8	11.6	9.0	5.0	2.4
	R08	Pratts Bluff	1.0	10.0	9.0	6.7	5.7	2.6	1.6	9.1	8.1	3.9	2.9
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	4.2	5.9	1.7	5.7	1.5	6.4	2.2	6.4	2.2	6.4	2.2
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	111.0	129.1	18.1	140.0	29.0	148.6	37.6	132.4	21.4	145.2	34.2
	R15	Long Point Manor	6.9	13.3	6.4	9.1	2.2	4.6	-2.3	12.1	5.2	6.1	-0.8
	R16	Rocky Point Heights	4.2	5.4	1.2	5.1	0.9	5.6	1.4	5.6	1.4	5.6	1.4
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	8.7	33.6	24.9	21.2	12.5	8.6	-0.1	29.5	20.8	12.8	4.1
	R20	South Lopez Island (Agate Beach)	0.3	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
School	S01	Oak Harbor High School	2.7	1.7	-1.0	2.6	-0.1	2.7	0.0	2.2	-0.5	2.6	-0.1
	S02	Crescent Harbor Elementary School	12.2	15.6	3.4	14.9	2.7	16.1	3.9	16.2	4.0	16.1	3.9
	S03	Coupeville Elementary School	5.1	8.0	2.9	4.9	-0.2	2.0	-3.1	6.9	1.8	3.0	-2.1
	S04	Anacortes High School	0.3	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	1.0	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-16 Annual Average Daily NA 90 L_{max} for Alternative 2 for Average Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 90 dBA										
Type	ID	Description	No Action	Alt 2A	Increase re No Action	Alt 2B	Increase re No Action	Alt 2C	Increase re No Action	Alt 2D	Increase re No Action	Alt 2E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	15.0	15.7	0.7	18.4	3.4	24.5	9.5	18.1	3.1	23.2	8.2
	P03	Dugualla State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	8.5	33.4	24.9	20.9	12.4	8.4	-0.1	29.3	20.8	12.6	4.1
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	4.5	20.5	16.0	12.4	7.9	5.1	0.6	17.7	13.2	7.6	3.1
	EBLA002	Ferry House	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential	R01	Sullivan Rd	119.5	140.6	21.1	149.8	30.3	159.2	39.7	143.8	24.3	156.0	36.5
	R02	Salal St. and N. Northgate Dr	98.8	115.5	16.7	124.9	26.1	136.9	38.1	119.9	21.1	133.4	34.6
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	1.0	1.2	0.2	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	R05	Snee-Oosh Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R06	Admirals Dr and Byrd Dr	6.7	29.6	22.9	18.5	11.8	7.4	0.7	25.9	19.2	11.1	4.4
	R07	Race Lagoon	0.6	8.9	8.3	5.9	5.3	2.3	1.7	8.1	7.5	3.5	2.9
	R08	Pratts Bluff	0.6	2.5	1.9	1.7	1.1	0.6	0.0	2.2	1.6	1.0	0.4
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	28.0	30.2	2.2	37.2	9.2	43.9	15.9	31.7	3.7	41.4	13.4
	R15	Long Point Manor	2.3	11.8	9.5	7.7	5.4	3.0	0.7	10.6	8.3	4.6	2.3
	R16	Rocky Point Heights	0.2	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	6.6	32.5	25.9	20.4	13.8	8.3	1.7	28.4	21.8	12.3	5.7
	R20	South Lopez Island (Agate Beach)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
School	S01	Oak Harbor High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S02	Crescent Harbor Elementary School	10.8	14.4	3.6	13.4	2.6	14.8	4.0	14.9	4.1	14.8	4.0
	S03	Coupeville Elementary School	0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9
	S04	Anacortes High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-17 Annual Average Daily NA 100 L_{max} for Alternative 2 for Average Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 100 dBA										
Type	ID	Description	No Action	Alt 2A	Increase re No Action	Alt 2B	Increase re No Action	Alt 2C	Increase re No Action	Alt 2D	Increase re No Action	Alt 2E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	14.9	15.2	0.3	18.0	3.1	24.4	9.5	17.7	2.8	23.0	8.1
	P03	Dugualla State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	7.5	11.8	4.3	7.7	0.2	3.0	-4.5	10.6	3.1	4.6	-2.9
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	1.9	15.4	13.5	9.3	7.4	3.8	1.9	13.3	11.4	5.7	3.8
	EBLA002	Ferry House	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential	R01	Sullivan Rd	82.7	94.0	11.3	104.3	21.6	114.4	31.7	97.0	14.3	110.8	28.1
	R02	Salal St. and N. Northgate Dr	13.1	17.0	3.9	15.9	2.8	17.5	4.4	18.7	5.6	17.7	4.6
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R05	Snee-Oosh Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R06	Admirals Dr and Byrd Dr	6.1	21.1	15.0	12.9	6.8	5.2	-0.9	18.3	12.2	7.8	1.7
	R07	Race Lagoon	0.5	6.9	6.4	4.6	4.1	1.8	1.3	6.3	5.8	2.7	2.2
	R08	Pratts Bluff	0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R15	Long Point Manor	0.1	6.0	5.9	4.0	3.9	1.6	1.5	5.4	5.3	2.3	2.2
	R16	Rocky Point Heights	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	2.3	11.8	9.5	7.7	5.4	3.0	0.7	10.6	8.3	4.6	2.3
	R20	South Lopez Island (Agate Beach)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
School	S01	Oak Harbor High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S02	Crescent Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S03	Coupeville Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S04	Anacortes High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-18 Annual Average Daily NA 80 L_{max} for Alternative 3 for Average Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 80 dBA										
Type	ID	Description	No Action	Alt 3A	Increase re No Action	Alt 3B	Increase re No Action	Alt 3C	Increase re No Action	Alt 3D	Increase re No Action	Alt 3E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	24.5	26.6	2.1	29.5	5.0	36.0	11.5	29.4	4.9	34.7	10.2
	P03	Dugualla State Park	44.6	50.7	6.1	58.0	13.4	61.0	16.4	52.0	7.4	59.2	14.6
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	8.7	33.5	24.8	21.1	12.4	8.5	-0.2	29.4	20.7	12.7	4.0
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	6.0	20.4	14.4	12.4	6.4	5.0	-1.0	17.6	11.6	7.6	1.6
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	1.3	1.6	0.3	1.5	0.2	1.8	0.5	1.8	0.5	1.8	0.5
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.7	0.5	-0.2	0.7	0.0	0.8	0.1	0.8	0.1	0.8	0.1
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	1.0	1.2	0.2	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	8.4	32.4	24.0	20.3	11.9	8.1	-0.3	28.4	20.0	12.2	3.8
	EBLA002	Ferry House	3.2	5.1	1.9	3.1	-0.1	1.3	-1.9	4.4	1.2	1.9	-1.3
Residential	R01	Sullivan Rd	132.4	156.3	23.9	165.7	33.3	174.3	41.9	159.4	27.0	171.2	38.8
	R02	Salal St. and N. Northgate Dr	106.6	125.8	19.2	134.5	27.9	145.4	38.8	129.7	23.1	142.1	35.5
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	13.7	17.3	3.6	17.2	3.5	16.4	2.7	16.5	2.8	16.4	2.7
	R05	Snee-Oosh Point	7.6	10.0	2.4	10.0	2.4	9.5	1.9	9.5	1.9	9.5	1.9
	R06	Admirals Dr and Byrd Dr	8.5	33.4	24.9	20.9	12.4	8.4	-0.1	29.2	20.7	12.5	4.0
	R07	Race Lagoon	2.6	12.9	10.3	8.5	5.9	3.4	0.8	11.5	8.9	5.0	2.4
	R08	Pratts Bluff	1.0	10.0	9.0	6.7	5.7	2.6	1.6	9.1	8.1	3.9	2.9
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	4.2	6.0	1.8	5.8	1.6	6.4	2.2	6.4	2.2	6.4	2.2
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	111.0	128.8	17.8	140.4	29.4	148.3	37.3	132.1	21.1	144.9	33.9
	R15	Long Point Manor	6.9	13.3	6.4	9.1	2.2	4.6	-2.3	12.1	5.2	6.1	-0.8
	R16	Rocky Point Heights	4.2	5.4	1.2	5.2	1.0	5.5	1.3	5.6	1.4	5.5	1.3
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	8.7	33.5	24.8	21.1	12.4	8.5	-0.2	29.4	20.7	12.7	4.0
	R20	South Lopez Island (Agate Beach)	0.3	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
School	S01	Oak Harbor High School	2.7	1.7	-1.0	2.6	-0.1	2.7	0.0	2.2	-0.5	2.6	-0.1
	S02	Crescent Harbor Elementary School	12.2	15.5	3.3	15.0	2.8	16.1	3.9	16.2	4.0	16.1	3.9
	S03	Coupeville Elementary School	5.1	8.0	2.9	4.9	-0.2	2.0	-3.1	6.9	1.8	3.0	-2.1
	S04	Anacortes High School	0.3	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	1.0	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-19 Annual Average Daily NA 90 L_{max} for Alternative 3 for Average Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 90 dBA										
Type	ID	Description	No Action	Alt 3A	Increase re No Action	Alt 3B	Increase re No Action	Alt 3C	Increase re No Action	Alt 3D	Increase re No Action	Alt 3E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	15.0	15.7	0.7	18.3	3.3	24.4	9.4	18.1	3.1	23.1	8.1
	P03	Dugualla State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	8.5	33.4	24.9	20.9	12.4	8.4	-0.1	29.2	20.7	12.5	4.0
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	4.5	20.4	15.9	12.4	7.9	5.0	0.5	17.6	13.1	7.6	3.1
	EBLA002	Ferry House	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential	R01	Sullivan Rd	119.5	140.1	20.6	150.1	30.6	158.8	39.3	143.4	23.9	155.6	36.1
	R02	Salal St. and N. Northgate Dr	98.8	115.2	16.4	125.1	26.3	136.6	37.8	119.6	20.8	133.1	34.3
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	1.0	1.2	0.2	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	R05	Snee-Oosh Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R06	Admirals Dr and Byrd Dr	6.7	29.5	22.8	18.5	11.8	7.4	0.7	25.9	19.2	11.1	4.4
	R07	Race Lagoon	0.6	8.9	8.3	5.9	5.3	2.3	1.7	8.0	7.4	3.5	2.9
	R08	Pratts Bluff	0.6	2.5	1.9	1.7	1.1	0.6	0.0	2.2	1.6	1.0	0.4
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	28.0	30.1	2.1	37.2	9.2	43.8	15.8	31.6	3.6	41.3	13.3
	R15	Long Point Manor	2.3	11.8	9.5	7.7	5.4	3.0	0.7	10.6	8.3	4.5	2.2
	R16	Rocky Point Heights	0.2	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	6.6	32.4	25.8	20.3	13.7	8.2	1.6	28.4	21.8	12.3	5.7
	R20	South Lopez Island (Agate Beach)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
School	S01	Oak Harbor High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S02	Crescent Harbor Elementary School	10.8	14.4	3.6	13.5	2.7	14.8	4.0	14.9	4.1	14.8	4.0
	S03	Coupeville Elementary School	0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9
	S04	Anacortes High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-20 Annual Average Daily NA 100 L_{max} for Alternative 3 for Average Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 100 dBA										
Type	ID	Description	No Action	Alt 3A	Increase re No Action	Alt 3B	Increase re No Action	Alt 3C	Increase re No Action	Alt 3D	Increase re No Action	Alt 3E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	14.9	15.2	0.3	18.0	3.1	24.2	9.3	17.6	2.7	22.9	8.0
	P03	Dugualla State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	7.5	11.8	4.3	7.7	0.2	3.0	-4.5	10.6	3.1	4.5	-3.0
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	1.9	15.3	13.4	9.3	7.4	3.8	1.9	13.2	11.3	5.7	3.8
	EBLA002	Ferry House	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential	R01	Sullivan Rd	82.7	93.8	11.1	104.5	21.8	114.2	31.5	96.8	14.1	110.6	27.9
	R02	Salal St. and N. Northgate Dr	13.1	17.0	3.9	16.0	2.9	17.4	4.3	18.6	5.5	17.7	4.6
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R05	Snee-Oosh Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R06	Admirals Dr and Byrd Dr	6.1	21.1	15.0	12.9	6.8	5.2	-0.9	18.2	12.1	7.8	1.7
	R07	Race Lagoon	0.5	6.9	6.4	4.6	4.1	1.8	1.3	6.2	5.7	2.7	2.2
	R08	Pratts Bluff	0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R15	Long Point Manor	0.1	6.0	5.9	4.0	3.9	1.5	1.4	5.4	5.3	2.3	2.2
	R16	Rocky Point Heights	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	2.3	11.8	9.5	7.7	5.4	3.0	0.7	10.6	8.3	4.5	2.2
	R20	South Lopez Island (Agate Beach)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
School	S01	Oak Harbor High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S02	Crescent Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S03	Coupeville Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S04	Anacortes High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-21 Annual Average Daily NA 80 L_{max} for Alternative 1 for High-Tempo FCLP Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 80 dBA											
Type	ID	Description	No Action	Alt 1A	Increase re No Action	Alt 1B	Increase re No Action	Alt 1C	Increase re No Action	Alt 1D	Increase re No Action	Alt 1E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	27.7	27.9	0.2	29.8	2.1	36.7	9.0	29.5	1.8	35.3	7.6
	P03	Dugualla State Park	45.6	50.6	5.0	57.4	11.8	61.1	15.5	51.5	5.9	59.1	13.5
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	8.7	38.7	30.0	22.1	13.4	9.0	0.3	30.9	22.2	13.4	4.7
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	6.0	23.6	17.6	13.0	7.0	5.3	-0.7	18.5	12.5	7.9	1.9
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	1.5	1.5	0.0	1.5	0.0	1.7	0.2	1.7	0.2	1.7	0.2
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.9	0.5	-0.4	0.6	-0.3	0.8	-0.1	0.8	-0.1	0.8	-0.1
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	1.0	1.2	0.2	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	8.4	37.4	29.0	21.3	12.9	8.5	0.1	29.8	21.4	12.8	4.4
	EBLA002	Ferry House	3.2	5.9	2.7	3.3	0.1	1.3	-1.9	4.6	1.4	2.0	-1.2
Residential	R01	Sullivan Rd	136.8	151.4	14.6	163.6	26.8	173.5	36.7	157.7	20.9	170.3	33.5
	R02	Salal St. and N. Northgate Dr	111.2	124.8	13.6	133.4	22.2	145.3	34.1	128.7	17.5	141.9	30.7
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	13.4	17.5	4.1	17.0	3.6	16.3	2.9	16.5	3.1	16.3	2.9
	R05	Snee-Oosh Point	7.4	10.4	3.0	10.0	2.6	9.6	2.2	9.6	2.2	9.6	2.2
	R06	Admirals Dr and Byrd Dr	8.5	38.5	30.0	21.9	13.4	8.8	0.3	30.7	22.2	13.2	4.7
	R07	Race Lagoon	2.6	14.8	12.2	8.9	6.3	3.6	1.0	12.1	9.5	5.3	2.7
	R08	Pratts Bluff	1.0	11.6	10.6	7.0	6.0	2.7	1.7	9.5	8.5	4.1	3.1
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	4.7	6.1	1.4	5.7	1.0	6.4	1.7	6.4	1.7	6.4	1.7
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	115.2	125.3	10.1	139.0	23.8	148.1	32.9	130.9	15.7	144.6	29.4
	R15	Long Point Manor	6.9	15.1	8.2	9.4	2.5	4.7	-2.2	12.6	5.7	6.3	-0.6
	R16	Rocky Point Heights	4.3	5.2	0.9	5.0	0.7	5.4	1.1	5.5	1.2	5.4	1.1
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	8.7	38.7	30.0	22.1	13.4	9.0	0.3	30.9	22.2	13.4	4.7
	R20	South Lopez Island (Agate Beach)	0.3	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
School	S01	Oak Harbor High School	3.7	1.7	-2.0	2.6	-1.1	2.7	-1.0	2.2	-1.5	2.6	-1.1
	S02	Crescent Harbor Elementary School	12.8	14.9	2.1	14.5	1.7	15.6	2.8	15.8	3.0	15.6	2.8
	S03	Coupeville Elementary School	5.1	9.3	4.2	5.1	0.0	2.1	-3.0	7.3	2.2	3.1	-2.0
	S04	Anacortes High School	0.3	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.9	1.0	0.1	1.1	0.2	1.0	0.1	1.0	0.1	1.0	0.1
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-22 Annual Average Daily NA 90 L_{max} for Alternative 1 for High-Tempo FCLP Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 90 dBA										
Type	ID	Description	No Action	Alt 1A	Increase re No Action	Alt 1B	Increase re No Action	Alt 1C	Increase re No Action	Alt 1D	Increase re No Action	Alt 1E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	16.5	16.0	-0.5	18.4	1.9	24.7	8.2	18.0	1.5	23.4	6.9
	P03	Dugualla State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	8.5	38.5	30.0	21.9	13.4	8.8	0.3	30.7	22.2	13.2	4.7
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	4.5	23.6	19.1	13.0	8.5	5.3	0.8	18.5	14.0	7.9	3.4
	EBLA002	Ferry House	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential	R01	Sullivan Rd	123.6	140.1	16.5	148.4	24.8	158.3	34.7	142.0	18.4	155.0	31.4
	R02	Salal St. and N. Northgate Dr	103.3	115.0	11.7	124.2	20.9	136.7	33.4	118.8	15.5	133.1	29.8
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	1.0	1.2	0.2	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	R05	Snee-Oosh Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R06	Admirals Dr and Byrd Dr	6.7	34.1	27.4	19.4	12.7	7.8	1.1	27.2	20.5	11.7	5.0
	R07	Race Lagoon	0.6	10.2	9.6	6.2	5.6	2.4	1.8	8.4	7.8	3.6	3.0
	R08	Pratts Bluff	0.6	2.9	2.3	1.7	1.1	0.7	0.1	2.4	1.8	1.0	0.4
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	29.9	31.2	1.3	37.7	7.8	44.7	14.8	31.8	1.9	42.1	12.2
	R15	Long Point Manor	2.3	13.6	11.3	8.1	5.8	3.2	0.9	11.1	8.8	4.8	2.5
	R16	Rocky Point Heights	0.2	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	6.7	37.4	30.7	21.3	14.6	8.6	1.9	29.8	23.1	12.9	6.2
	R20	South Lopez Island (Agate Beach)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
School	S01	Oak Harbor High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S02	Crescent Harbor Elementary School	11.0	13.8	2.8	13.0	2.0	14.4	3.4	14.5	3.5	14.4	3.4
	S03	Coupeville Elementary School	0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9
	S04	Anacortes High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-23 Annual Average Daily NA 100 L_{max} for Alternative 1 for High-Tempo FCLP Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 100 dBA											
Type	ID	Description	No Action	Alt 1A	Increase re No Action	Alt 1B	Increase re No Action	Alt 1C	Increase re No Action	Alt 1D	Increase re No Action	Alt 1E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	16.4	15.4	-1.0	18.0	1.6	24.6	8.2	17.5	1.1	23.2	6.8
	P03	Dugualla State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	7.5	13.6	6.1	8.1	0.6	3.2	-4.3	11.1	3.6	4.8	-2.7
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	1.9	17.7	15.8	9.8	7.9	4.0	2.1	13.9	12.0	6.0	4.1
	EBLA002	Ferry House	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential	R01	Sullivan Rd	86.6	94.8	8.2	104.1	17.5	114.7	28.1	96.3	9.7	111.0	24.4
	R02	Salal St. and N. Northgate Dr	13.8	16.5	2.7	15.5	1.7	17.0	3.2	18.3	4.5	17.2	3.4
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R05	Snee-Oosh Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R06	Admirals Dr and Byrd Dr	6.1	24.3	18.2	13.5	7.4	5.5	-0.6	19.1	13.0	8.2	2.1
	R07	Race Lagoon	0.5	8.0	7.5	4.8	4.3	1.9	1.4	6.5	6.0	2.8	2.3
	R08	Pratts Bluff	0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R15	Long Point Manor	0.1	6.9	6.8	4.2	4.1	1.6	1.5	5.7	5.6	2.4	2.3
	R16	Rocky Point Heights	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	2.3	13.6	11.3	8.1	5.8	3.2	0.9	11.1	8.8	4.8	2.5
	R20	South Lopez Island (Agate Beach)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
School	S01	Oak Harbor High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S02	Crescent Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S03	Coupeville Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S04	Anacortes High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-24 Annual Average Daily NA 80 L_{max} for Alternative 2 for High-Tempo FCLP Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 80 dBA										
Type	ID	Description	No Action	Alt 2A	Increase re No Action	Alt 2B	Increase re No Action	Alt 2C	Increase re No Action	Alt 2D	Increase re No Action	Alt 2E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	27.7	27.7	0.0	30.9	3.2	38.0	10.3	30.6	2.9	36.6	8.9
	P03	Dugualla State Park	45.6	51.8	6.2	59.4	13.8	63.3	17.7	53.2	7.6	61.3	15.7
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	8.7	37.0	28.3	23.3	14.6	9.4	0.7	32.4	23.7	14.0	5.3
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	6.0	22.6	16.6	13.7	7.7	5.6	-0.4	19.5	13.5	8.3	2.3
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	1.5	1.6	0.1	1.5	0.0	1.8	0.3	1.8	0.3	1.8	0.3
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.9	0.5	-0.4	0.7	-0.2	0.8	-0.1	0.8	-0.1	0.8	-0.1
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	1.0	1.2	0.2	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	8.4	35.8	27.4	22.4	14.0	9.0	0.6	31.3	22.9	13.4	5.0
	EBLA002	Ferry House	3.2	5.6	2.4	3.4	0.2	1.4	-1.8	4.9	1.7	2.1	-1.1
Residential	R01	Sullivan Rd	136.8	159.4	22.6	169.0	32.2	179.6	42.8	162.8	26.0	176.1	39.3
	R02	Salal St. and N. Northgate Dr	111.2	128.7	17.5	137.8	26.6	150.5	39.3	132.8	21.6	146.9	35.7
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	13.4	17.6	4.2	17.5	4.1	16.8	3.4	16.8	3.4	16.8	3.4
	R05	Snee-Oosh Point	7.4	10.3	2.9	10.3	2.9	9.8	2.4	9.8	2.4	9.8	2.4
	R06	Admirals Dr and Byrd Dr	8.5	36.8	28.3	23.1	14.6	9.2	0.7	32.2	23.7	13.8	5.3
	R07	Race Lagoon	2.6	14.2	11.6	9.4	6.8	3.7	1.1	12.7	10.1	5.5	2.9
	R08	Pratts Bluff	1.0	11.0	10.0	7.4	6.4	2.9	1.9	10.0	9.0	4.3	3.3
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	4.7	6.1	1.4	5.9	1.2	6.6	1.9	6.6	1.9	6.6	1.9
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	115.2	131.6	16.4	143.5	28.3	153.3	38.1	135.1	19.9	149.6	34.4
	R15	Long Point Manor	6.9	14.5	7.6	9.9	3.0	4.9	-2.0	13.2	6.3	6.5	-0.4
	R16	Rocky Point Heights	4.3	5.4	1.1	5.2	0.9	5.6	1.3	5.6	1.3	5.6	1.3
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	8.7	37.0	28.3	23.3	14.6	9.4	0.7	32.4	23.7	14.0	5.3
	R20	South Lopez Island (Agate Beach)	0.3	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
School	S01	Oak Harbor High School	3.7	1.8	-1.9	2.7	-1.0	2.8	-0.9	2.2	-1.5	2.7	-1.0
	S02	Crescent Harbor Elementary School	12.8	15.6	2.8	14.9	2.1	16.2	3.4	16.3	3.5	16.2	3.4
	S03	Coupeville Elementary School	5.1	8.9	3.8	5.4	0.3	2.2	-2.9	7.6	2.5	3.3	-1.8
	S04	Anacortes High School	0.3	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.9	1.1	0.2	1.1	0.2	1.1	0.2	1.1	0.2	1.1	0.2
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-25 Annual Average Daily NA 90 L_{max} for Alternative 2 for High-Tempo FCLP Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 90 dBA										
Type	ID	Description	No Action	Alt 2A	Increase re No Action	Alt 2B	Increase re No Action	Alt 2C	Increase re No Action	Alt 2D	Increase re No Action	Alt 2E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	16.5	16.1	-0.4	19.0	2.5	25.7	9.2	18.7	2.2	24.3	7.8
	P03	Dugualla State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	8.5	36.8	28.3	23.1	14.6	9.2	0.7	32.2	23.7	13.8	5.3
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	4.5	22.6	18.1	13.7	9.2	5.6	1.1	19.5	15.0	8.3	3.8
	EBLA002	Ferry House	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential	R01	Sullivan Rd	123.6	143.2	19.6	153.3	29.7	163.9	40.3	146.7	23.1	160.4	36.8
	R02	Salal St. and N. Northgate Dr	103.3	117.9	14.6	128.4	25.1	141.6	38.3	122.6	19.3	137.7	34.4
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	1.0	1.2	0.2	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	R05	Snee-Oosh Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R06	Admirals Dr and Byrd Dr	6.7	32.6	25.9	20.4	13.7	8.2	1.5	28.5	21.8	12.2	5.5
	R07	Race Lagoon	0.6	9.8	9.2	6.5	5.9	2.5	1.9	8.9	8.3	3.8	3.2
	R08	Pratts Bluff	0.6	2.7	2.1	1.8	1.2	0.7	0.1	2.5	1.9	1.1	0.5
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	29.9	31.2	1.3	39.1	9.2	46.5	16.6	32.8	2.9	43.8	13.9
	R15	Long Point Manor	2.3	13.0	10.7	8.5	6.2	3.3	1.0	11.6	9.3	5.0	2.7
	R16	Rocky Point Heights	0.2	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	6.7	35.7	29.0	22.4	15.7	9.1	2.4	31.3	24.6	13.5	6.8
	R20	South Lopez Island (Agate Beach)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
School	S01	Oak Harbor High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S02	Crescent Harbor Elementary School	11.0	14.4	3.4	13.4	2.4	14.9	3.9	14.9	3.9	14.9	3.9
	S03	Coupeville Elementary School	0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9
	S04	Anacortes High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-26 Annual Average Daily NA 100 L_{max} for Alternative 2 for High-Tempo FCLP Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 100 dBA										
Type	ID	Description	No Action	Alt 2A	Increase re No Action	Alt 2B	Increase re No Action	Alt 2C	Increase re No Action	Alt 2D	Increase re No Action	Alt 2E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	16.4	15.6	-0.8	18.6	2.2	25.5	9.1	18.2	1.8	24.0	7.6
	P03	Dugualla State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	7.5	13.0	5.5	8.5	1.0	3.3	-4.2	11.6	4.1	5.0	-2.5
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	1.9	16.9	15.0	10.3	8.4	4.2	2.3	14.6	12.7	6.3	4.4
	EBLA002	Ferry House	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential	R01	Sullivan Rd	86.6	96.2	9.6	107.6	21.0	118.9	32.3	99.4	12.8	115.0	28.4
	R02	Salal St. and N. Northgate Dr	13.8	17.2	3.4	16.0	2.2	17.6	3.8	18.9	5.1	17.8	4.0
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R05	Snee-Oosh Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R06	Admirals Dr and Byrd Dr	6.1	23.3	17.2	14.2	8.1	5.8	-0.3	20.1	14.0	8.6	2.5
	R07	Race Lagoon	0.5	7.6	7.1	5.1	4.6	2.0	1.5	6.9	6.4	3.0	2.5
	R08	Pratts Bluff	0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R15	Long Point Manor	0.1	6.6	6.5	4.4	4.3	1.7	1.6	6.0	5.9	2.6	2.5
	R16	Rocky Point Heights	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	2.3	13.0	10.7	8.5	6.2	3.3	1.0	11.6	9.3	5.0	2.7
	R20	South Lopez Island (Agate Beach)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
School	S01	Oak Harbor High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S02	Crescent Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S03	Coupeville Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S04	Anacortes High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-27 Annual Average Daily NA 80 L_{max} for Alternative 3 for High-Tempo FCLP Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 80 dBA										
Type	ID	Description	No Action	Alt 3A	Increase re No Action	Alt 3B	Increase re No Action	Alt 3C	Increase re No Action	Alt 3D	Increase re No Action	Alt 3E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	27.7	27.3	-0.4	30.6	2.9	37.7	10.0	27.9	0.2	33.2	5.5
	P03	Dugualla State Park	45.6	50.9	5.3	59.1	13.5	62.8	17.2	54.3	8.7	63.3	17.7
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	8.7	37.1	28.4	23.3	14.6	9.4	0.7	32.5	23.8	14.1	5.4
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	6.0	22.6	16.6	13.7	7.7	5.6	-0.4	19.2	13.2	8.3	2.3
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	1.5	1.5	0.0	1.5	0.0	1.8	0.3	1.5	0.0	1.5	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.9	0.5	-0.4	0.7	-0.2	0.8	-0.1	0.6	-0.3	0.7	-0.2
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	1.0	1.2	0.2	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	8.4	35.9	27.5	22.4	14.0	9.0	0.6	31.4	23.0	13.5	5.1
	EBLA002	Ferry House	3.2	5.7	2.5	3.4	0.2	1.4	-1.8	4.8	1.6	2.1	-1.1
Residential	R01	Sullivan Rd	136.8	156.5	19.7	168.3	31.5	178.1	41.3	159.9	23.1	174.7	37.9
	R02	Salal St. and N. Northgate Dr	111.2	126.3	15.1	137.2	26.0	149.4	38.2	128.7	17.5	144.1	32.9
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	13.4	17.8	4.4	17.7	4.3	16.8	3.4	17.6	4.2	17.4	4.0
	R05	Snee-Oosh Point	7.4	10.3	2.9	10.3	2.9	9.8	2.4	10.3	2.9	10.3	2.9
	R06	Admirals Dr and Byrd Dr	8.5	36.9	28.4	23.1	14.6	9.2	0.7	32.3	23.8	13.9	5.4
	R07	Race Lagoon	2.6	14.2	11.6	9.4	6.8	3.7	1.1	13.1	10.5	5.7	3.1
	R08	Pratts Bluff	1.0	11.1	10.1	7.4	6.4	2.9	1.9	10.4	9.4	4.4	3.4
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	4.7	6.0	1.3	5.9	1.2	6.6	1.9	5.8	1.1	5.9	1.2
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	115.2	129.1	13.9	143.0	27.8	152.1	36.9	134.2	19.0	150.0	34.8
	R15	Long Point Manor	6.9	14.5	7.6	9.9	3.0	4.9	-2.0	13.3	6.4	6.5	-0.4
	R16	Rocky Point Heights	4.3	5.3	1.0	5.2	0.9	5.5	1.2	5.1	0.8	5.1	0.8
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	8.7	37.1	28.4	23.3	14.6	9.4	0.7	32.5	23.8	14.1	5.4
	R20	South Lopez Island (Agate Beach)	0.3	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
School	S01	Oak Harbor High School	3.7	1.7	-2.0	2.7	-1.0	2.8	-0.9	2.3	-1.4	3.0	-0.7
	S02	Crescent Harbor Elementary School	12.8	15.1	2.3	14.9	2.1	16.0	3.2	14.6	1.8	14.8	2.0
	S03	Coupeville Elementary School	5.1	8.9	3.8	5.4	0.3	2.2	-2.9	7.6	2.5	3.2	-1.9
	S04	Anacortes High School	0.3	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.9	1.1	0.2	1.1	0.2	1.1	0.2	1.1	0.2	1.1	0.2
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-28 Annual Average Daily NA 90 L_{max} for Alternative 3 for High-Tempo FCLP Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 90 dBA										
Type	ID	Description	No Action	Alt 3A	Increase re No Action	Alt 3B	Increase re No Action	Alt 3C	Increase re No Action	Alt 3D	Increase re No Action	Alt 3E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	16.5	15.8	-0.7	18.7	2.2	25.4	8.9	16.4	-0.1	21.1	4.6
	P03	Dugualla State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	8.5	36.9	28.4	23.1	14.6	9.2	0.7	32.3	23.8	13.9	5.4
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5	0.0	-1.5
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	4.5	22.6	18.1	13.7	9.2	5.6	1.1	19.2	14.7	8.3	3.8
	EBLA002	Ferry House	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential	R01	Sullivan Rd	123.6	140.3	16.7	152.6	29.0	162.6	39.0	144.1	20.5	159.3	35.7
	R02	Salal St. and N. Northgate Dr	103.3	115.6	12.3	127.8	24.5	140.5	37.2	118.8	15.5	135.2	31.9
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	1.0	1.2	0.2	1.1	0.1	1.1	0.1	1.1	0.1	1.1	0.1
	R05	Snee-Oosh Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R06	Admirals Dr and Byrd Dr	6.7	32.6	25.9	20.5	13.8	8.2	1.5	28.6	21.9	12.3	5.6
	R07	Race Lagoon	0.6	9.8	9.2	6.6	6.0	2.5	1.9	9.2	8.6	3.9	3.3
	R08	Pratts Bluff	0.6	2.7	2.1	1.8	1.2	0.7	0.1	2.6	2.0	1.1	0.5
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	29.9	30.7	0.8	38.9	9.0	46.2	16.3	33.1	3.2	44.2	14.3
	R15	Long Point Manor	2.3	13.1	10.8	8.5	6.2	3.3	1.0	11.9	9.6	5.1	2.8
	R16	Rocky Point Heights	0.2	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	6.7	35.8	29.1	22.5	15.8	9.1	2.4	31.4	24.7	13.6	6.9
	R20	South Lopez Island (Agate Beach)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
School	S01	Oak Harbor High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S02	Crescent Harbor Elementary School	11.0	14.0	3.0	13.4	2.4	14.7	3.7	13.1	2.1	13.3	2.3
	S03	Coupeville Elementary School	0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9	0.0	-0.9
	S04	Anacortes High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A6-29 Annual Average Daily NA 100 L_{max} for Alternative 3 for High-Tempo FCLP Year

Point of Interest			Annual Average Number of Daily Events above Maximum Sound Level 100 dBA										
Type	ID	Description	No Action	Alt 3A	Increase re No Action	Alt 3B	Increase re No Action	Alt 3C	Increase re No Action	Alt 3D	Increase re No Action	Alt 3E	Increase re No Action
Park	P01	Joseph Whidbey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P02	Deception Pass State Park	16.4	15.2	-1.2	18.4	2.0	25.2	8.8	15.9	-0.5	20.9	4.5
	P03	Dugualla State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	7.5	13.1	5.6	8.5	1.0	3.3	-4.2	11.9	4.4	5.1	-2.4
	P05	Ebey's Landing State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P06	Fort Casey State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P07	Cama Beach State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P08	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P09	Moran State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P10	San Juan Islands National Monument	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P11	San Juan Island Visitors Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P12	Cap Sante Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P13	Lake Campbell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P14	Spencer Spit State Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P15	Pioneer Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	P16	Marrowstone Island (Fort Flagler)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	EBLA001	Reuble Farm	1.9	17.0	15.1	10.3	8.4	4.2	2.3	14.4	12.5	6.2	4.3
	EBLA002	Ferry House	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential	R01	Sullivan Rd	86.6	94.3	7.7	107.2	20.6	118.2	31.6	98.2	11.6	114.8	28.2
	R02	Salal St. and N. Northgate Dr	13.8	16.7	2.9	16.0	2.2	17.4	3.6	16.0	2.2	15.6	1.8
	R03	Central Whidbey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R04	Pull and Be Damned Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R05	Snee-Oosh Point	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R06	Admirals Dr and Byrd Dr	6.1	23.3	17.2	14.2	8.1	5.8	-0.3	19.9	13.8	8.5	2.4
	R07	Race Lagoon	0.5	7.6	7.1	5.1	4.6	2.0	1.5	7.1	6.6	3.1	2.6
	R08	Pratts Bluff	0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	-0.2
	R09	Cox Rd and Island Ridge Way	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R10	Skyline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R11	Sequim	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R12	Port Angeles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R13	Beverly Beach, Freeland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R14	E Sleeper Rd & Slumber Ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R15	Long Point Manor	0.1	6.6	6.5	4.4	4.3	1.7	1.6	6.2	6.1	2.7	2.6
	R16	Rocky Point Heights	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R17	Port Townsend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R18	Marrowstone Island (Nordland)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R19	Island Transit Offices, Coupeville	2.3	13.1	10.8	8.5	6.2	3.3	1.0	11.9	9.6	5.1	2.8
	R20	South Lopez Island (Agate Beach)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
School	S01	Oak Harbor High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S02	Crescent Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S03	Coupeville Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S04	Anacortes High School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S05	Lopez Island School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S06	Friday Harbor Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S07	Sir James Douglas Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S08	Fidalgo Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S09	La Conner Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	S10	Elger Bay Elementary School	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Appendix A7

Other Modeling Output for High-Tempo FCLP Year Scenarios

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List of Figures

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List of Tables

Table A7.0-1 Summary of Noise Exposure Results for the High-Tempo FCLP Year

			Alternative 1					Alternative 2					Alternative 3				
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
Population Exposed to ≥65 dB DNL, Both Airfields	Population		11,863	12,227	12,267	12,208	12,326	11,754	12,153	12,070	12,052	12,143	11,751	12,129	12,007	12,065	12,187
	Change from No Action (10,916)		+1519	+2150	+2386	+2150	+2386	+1567	+2035	+2180	+2035	+2180	+1597	+2081	+2175	+2081	+2175
			15%	18%	19%	18%	19%	14%	17%	17%	17%	17%	14%	17%	16%	17%	18%
DNL at POI (Change from No Action)	Decrease of	5 dB or more	-	-	2	-	5	-	-	-	-	-	-	-	1	-	-
		3-4 dB	-	3	10	-	7	-	4	12	-	12	-	1	11	-	12
		1-2 dB	-	10	1	6	-	1	11	1	4	-	2	14	-	9	-
	No Change		20	32	30	30	31	18	28	32	32	32	18	28	30	27	30
	Increase of	1 dB	9	3	4	-	4	11	5	3	-	4	12	5	6	-	6
		2-3 dB	10	-	1	-	1	9	-	-	-	-	7	-	-	-	-
		4-5 dB	4	-	-	-	-	4	-	-	10	-	4	-	-	5	-
		6-10 dB	4	-	-	12	-	4	-	-	2	-	4	-	-	7	-
		11-15 dB	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-
		>15 dB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Newly ≥65 dB DNL		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Population of Average NIPTS ≥5 dB	Population		113	67	74	69	72	104	68	76	62	74	101	67	75	61	73
	Change from No Action (40)		+75	+29	+36	+31	+34	+66	+30	+38	+24	+36	+63	+29	+37	+23	+35
			208%	81%	100%	86%	94%	183%	83%	106%	67%	100%	175%	81%	103%	64%	97%
Annual Avg Nightly PA at Residential POI (Change from No Action in %PA)	Decrease of	1-10%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	No Change		6	7	12	8	8	6	8	11	7	9	7	8	10	7	8
	Increase of	1-10%	17	18	13	16	19	19	19	16	19	18	17	19	17	17	19
		11-20%	5	5	5	4	3	3	3	3	3	3	4	3	3	4	3
		21-30%	1	-	-	1	-	2	-	-	1	-	1	-	-	2	-
		31-40%	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-
		41-50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		51-60%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		61% or more	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Daytime Indoor Speech Interference at Residential POI (Change from No Action)	Decrease of	1-2 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	No Change		19	16	19	16	17	17	15	19	16	18	18	16	19	16	18
	Increase of	1-2 events/hr	11	14	11	14	13	13	15	11	14	12	12	14	11	14	12
		3-4 events/hr															
Classroom Learning Interference at School POI (Change from No Action)	Decrease of	1-2 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	No Change		9	8	8	9	8	7	7	7	8	8	7	7	8	7	8
	Increase of	1-2 events/hr	3	4	4	3	4	5	5	5	4	4	5	5	4	5	4
		3-4 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5-6 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recreational Speech Interference at Outdoor/Park POI (Change from No Action)	Decrease of	1 events/hr	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
	No Change		15	14	25	13	17	11	13	23	12	17	12	13	25	13	17
	Increase of	1-2 events/hr	33	34	22	35	31	37	35	24	36	31	36	35	22	35	31
		3-4 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5-6 events/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A7.1-1 Estimated Acreage and Population within the DNL Contour Ranges[1] for the High-Tempo FCLP Year for Baseline Conditions at the NAS Whidbey Island Complex

DNL Contours	*DNL Contour Ranges*							
	65 to <70 dB DNL		*70 to <75 dB DNL*		*Greater than or equal to 75 dB DNL*		*Total[3]*	
	Area (acres)	*Pop[2]*	*Area (acres)*	*Pop[2]*	*Area (acres)*	*Pop[2]*	*Area (acres)*	*Pop[2]*
Ault Field	3,545	3,534	3,166	2,445	5,955	3,589	12,666	9,568
OLF Coupeville	4,003	979	3,178	841	742	607	7,923	2,427
Total[3]	**7,548**	**4,513**	**6,345**	**3,286**	**6,697**	**4,196**	**20,590**	**11,995**

Notes:

1 Acreage presented does not include areas over water or areas over the NAS Whidbey Island complex.

2 Population counts of people within the DNL contours were computed using 2010 census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block, and it excludes population on military properties within the DNL contours (NAS Whidbey Island [Ault Field], the Seaplane Base, and OLF Coupeville). All population estimates for areas under the dB DNL contours utilized 2010 U.S. Census Bureau data. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). To simplify the analysis, this growth factor was also used for areas of Skagit County that fall under the 65+ dB DNL contours. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

3 Numbers have been rounded to ensure totals sum.

Key:
dB = decibel
DNL = day-night average sound level

Table A7.1-2 Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year Baseline Scenario

Point of Interest			
ID	Description	Related Field	DNL (dB)
P01	Joseph Whidbey State Park	Ault	57
P02	Deception Pass State Park	Ault	74
P03	Dugualla State Park	Ault	65
P04	Baseball Field (Ebey's Landing National Historical Reserve)	OLF	74
P05	Ebey's Landing State Park	OLF	52
P06	Fort Casey State Park	OLF	62
P07	Cama Beach State Park	OLF	<45
P08	Port Townsend	None	<45
P09	Moran State Park	None	<45
P10	San Juan Islands National Monument	None	54
P11	San Juan Island Visitors Center	None	<45
P12	Cap Sante Park	Ault	<45
P13	Lake Campbell	Ault	54
P14	Spencer Spit State Park	None	<45
P15	Pioneer Park	Ault	55
P16	Marrowstone Island (Fort Flagler)	OLF	<45
BLA0	Reuble Farm	OLF	69
BLA0	Ferry House	OLF	56
R01	Sullivan Rd	Ault	90
R02	Salal St. and N. Northgate Dr	Ault	78
R03	Central Whidbey	Ault	57
R04	Pull and Be Damned Point	Ault	62
R05	Snee-Oosh Point	Ault	57
R06	Admirals Dr and Byrd Dr	OLF	79
R07	Race Lagoon	OLF	61
R08	Pratts Bluff	OLF	63
R09	Cox Rd and Island Ridge Way	OLF	50
R10	Skyline	None	57
R11	Sequim	None	<45
R12	Port Angeles	None	<45
R13	Beverly Beach, Freeland	OLF	<45
R14	E Sleeper Rd & Slumber Ln	Ault	75
R15	Long Point Manor	OLF	65
R16	Rocky Point Heights	OLF	55
R17	Port Townsend	None	<45
R18	Marrowstone Island (Nordland)	None	<45
R19	Island Transit Offices, Coupeville	OLF	73
R20	South Lopez Island (Agate Beach)	None	48
S01	Oak Harbor High School	Ault	60
S02	Crescent Harbor Elementary School	Ault	68
S03	Coupeville Elementary School	OLF	58
S04	Anacortes High School	Ault	48
S05	Lopez Island School	None	<45
S06	Friday Harbor Elementary School	None	<45
S07	Sir James Douglas Elementary School	None	<45
S08	Fidalgo Elementary School	Ault	52
S09	La Conner Elementary School	Ault	53
S10	Elger Bay Elementary School	OLF	<45

Table A7.1-3 Average and 10th Percentile Noise Induced Permanent Threshold Shifts as a Function of Equivalent Sound Level at the NAS Whidbey Island Complex for Max Year Baseline Conditions

			Estimated Population[2, 3,4]			
Band of Leq(24) (dB)	Average NIPTS (dB)[1]	10th Percentile NIPTS (dB)[1]	Ault Field (on-station)	Ault Field (off-station)	OLF Coupeville (off-station)	Total
74-75	0.5	3.5	-	-	-	-
75-76	1.0	4.0	-	-	51	51
76-77	1.0	4.5	-	140	48	189
77-78	1.5	5.0	-	299	43	342
78-79	2.0	5.5	-	205	21	226
79-80	2.5	6.0	-	130	6	135
80-81	3.0	7.0	-	79	-	80
81-82	3.5	8.0	-	62	-	62
82-83	4.0	9.0	-	39	-	39
83-84	4.5	10.0	-	29	-	29
84-85	5.5	11.0	-	26	-	26
85-86	6.0	12.0	-	10	-	10
86-87	7.0	13.5	-	7	-	7
87-88	7.5	15.0	-	5	-	5
88-89	8.5	16.5	-	2	-	2
89-90	9.5	18.0	-	-	-	-
90-91	10.5	19.5	-	-	-	-
91-92	11.5	21.0	-	-	-	-

Notes:

1 NIPTS values rounded to nearest 0.5 dB.

2 This analysis assumes the population is outdoors and exposed to all aircraft noise events for 40 years. Given the amount of time spent indoors and the intermittent occurrence of aircraft noise events, it is highly unlikely that individuals would meet all the criteria, and the actual potential for hearing loss would be less than the values reported here.

3 Estimated Population was determined by those living within the 80 dB DNL noise contour around each airfield, including those living on-base at Ault Field (there is no on-base population at OLF Coupeville).

4 Population counts of people within the DNL contours were computed using 2010 census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block. All population estimates for areas under the dB DNL contours utilized 2010 U.S. Census Bureau data. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). In addition, per guidance on potential hearing loss, on-base populations at Ault Field have been included in the analysis. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

Key:

dB = decibel

$L_{eq(24)}$ = 24-hour Equivalent Sound Level

NIPTS = Noise Induced Permanent Threshold Shift

OLF = outlying landing field

Table A7.1-4 Average Indoor Nightly Probability of Awakening at Applicable POIs for the High-Tempo FCLP Year Baseline Scenario

Representative Residential Receptor				Annual Average Nightly (2200-0700) Probability of Awakening (%) (1)	
				Baseline	
Type	ID	Description	Related Field	Windows Open	Windows Closed
Residential(2)	R01	Sullivan Rd	Ault	62%	46%
	R02	Salal St. and N. Northgate Dr	Ault	44%	31%
	R03	Central Whidbey	Ault	17%	9%
	R04	Pull and Be Damned Point	Ault	20%	9%
	R05	Snee-Oosh Point	Ault	16%	5%
	R06	Admirals Dr and Byrd Dr	OLF	10%	6%
	R07	Race Lagoon	OLF	5%	2%
	R08	Pratts Bluff	OLF	5%	3%
	R09	Cox Rd and Island Ridge Way	OLF	3%	2%
	R10	Skyline	None	7%	2%
	R11	Sequim	None	0%	0%
	R12	Port Angeles	None	0%	0%
	R13	Beverly Beach, Freeland	OLF	2%	0%
	R14	E Sleeper Rd & Slumber Ln	Ault	40%	28%
	R15	Long Point Manor	OLF	12%	4%
	R16	Rocky Point Heights	OLF	10%	3%
	R17	Port Townsend	None	1%	0%
	R18	Marrowstone Island (Nordland)	None	0%	0%
	R19	Island Transit Offices, Coupeville	OLF	10%	5%
	R20	South Lopez Island (Agate Beach)	None	2%	1%
School (near residential)	S01	Oak Harbor High School	Ault	22%	13%
	S02	Crescent Harbor Elementary School	Ault	23%	14%
	S03	Coupeville Elementary School	OLF	6%	3%
	S04	Anacortes High School	Ault	2%	1%
	S05	Lopez Island School	None	0%	0%
	S06	Friday Harbor Elementary School	None	0%	0%
	S07	Sir James Douglas Elementary School	None	0%	0%
	S08	Fidalgo Elementary School	Ault	7%	2%
	S09	La Conner Elementary School	Ault	8%	3%
	S10	Elger Bay Elementary School	OLF	0%	0%

Table A7.1-5 Indoor Speech Interference for the High-Tempo FCLP Year Baseline Scenario

Point of Interest				Annual Average Daily Indoor Daytime (0700-2200) Events per Hour (1)	
				Baseline	
Type	ID	Description	Related Field	Windows Open	Windows Closed
Residential	R01	Sullivan Rd	Ault	10	10
	R02	Salal St. and N. Northgate Dr	Ault	10	8
	R03	Central Whidbey	Ault	5	-
	R04	Pull and Be Damned Point	Ault	2	1
	R05	Snee-Oosh Point	Ault	2	1
	R06	Admirals Dr and Byrd Dr	OLF	-	-
	R07	Race Lagoon	OLF	1	-
	R08	Pratts Bluff	OLF	-	-
	R09	Cox Rd and Island Ridge Way	OLF	-	-
	R10	Skyline	None	1	-
	R11	Sequim	None	-	-
	R12	Port Angeles	None	-	-
	R13	Beverly Beach, Freeland	OLF	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	8	7
	R15	Long Point Manor	OLF	1	1
	R16	Rocky Point Heights	OLF	2	1
	R17	Port Townsend	None	-	-
	R18	Marrowstone Island (Nordland)	None	-	-
	R19	Island Transit Offices, Coupeville	OLF	1	1
	R20	South Lopez Island (Agate Beach)	None	-	-
School (near residential)	S01	Oak Harbor High School	Ault	6	2
	S02	Crescent Harbor Elementary School	Ault	5	2
	S03	Coupeville Elementary School	OLF	1	-
	S04	Anacortes High School	Ault	-	-
	S05	Lopez Island School	None	-	-
	S06	Friday Harbor Elementary School	None	-	-
	S07	Sir James Douglas Elementary School	None	-	-
	S08	Fidalgo Elementary School	Ault	-	-
	S09	La Conner Elementary School	Ault	1	-
	S10	Elger Bay Elementary School	OLF	-	-

Table A7.1-6 Classroom Learning Interference for the High-Tempo FCLP Year Baseline Scenario

Representative School Location				Baseline				
					Indoor (1)			
					Windows Open		Windows Closed	
Type	ID	Description	Related Field	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)
School Surrogate	R03	Central Whidbey	Ault	57	<45	5	<45	-
School Surrogate	R11	Sequim	None	<45	<45	-	<45	-
School	S01	Oak Harbor High School	Ault	58	<45	6	<45	2
School	S02	Crescent Harbor Elementary School	Ault	68	53	5	<45	2
School	S03	Coupeville Elementary School	OLF	52	<45	1	<45	-
School	S04	Anacortes High School	Ault	47	<45	-	<45	-
School	S05	Lopez Island School	None	<45	<45	-	<45	-
School	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-
School	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-
School	S08	Fidalgo Elementary School	Ault	49	<45	-	<45	-
School	S09	La Conner Elementary School	Ault	51	<45	1	<45	-
School	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-
Number of Sites Exceeding 1 Intrusive Event per Hour						3		2
Minimum Number of Intrusive Events per Hour if Exceeding 1						5		2
Maximum Number of Intrusive Events per Hour if Exceeding 1						6		2

Notes:

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) Number of Average School-Day Events per hour during 8-hour school day (0800-1600) At or Above an Indoor Maximum (single-event) Sound Level (L_{max}) of 50 dB;

Table A7.1-7 Recreational Speech Interference for the High-Tempo FCLP Year Baseline Scenario

Representative Park Receptor				Annual Average Outdoor Daily Daytime Events per Hour NA50 L_{max}	
Type	ID	Description	Related Field	Daytime	Nighttime
Park	P01	Joseph Whidbey State Park	Ault	9	2
	P02	Deception Pass State Park	Ault	9	2
	P03	Dugualla State Park	Ault	9	2
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	OLF	3	1
	P05	Ebey's Landing State Park	OLF	2	-
	P06	Fort Casey State Park	OLF	1	-
	P07	Cama Beach State Park	OLF	3	-
	P08	Port Townsend	None	1	-
	P09	Moran State Park	None	-	-
	P10	San Juan Islands National Monument	None	8	2
	P11	San Juan Island Visitors Center	None	-	-
	P12	Cap Sante Park	Ault	1	-
	P13	Lake Campbell	Ault	5	1
	P14	Spencer Spit State Park	None	-	-
	P15	Pioneer Park	Ault	4	1
	P16	Marrowstone Island (Fort Flagler)	OLF	-	-
	EBLA001	Reuble Farm	OLF	2	-
	EBLA002	Ferry House	OLF	2	-
Residential	R01	Sullivan Rd	Ault	10	2
	R02	Salal St. and N. Northgate Dr	Ault	10	2
	R03	Central Whidbey	Ault	8	2
	R04	Pull and Be Damned Point	Ault	8	2
	R05	Snee-Oosh Point	Ault	7	2
	R06	Admirals Dr and Byrd Dr	OLF	1	-
	R07	Race Lagoon	OLF	3	1
	R08	Pratts Bluff	OLF	1	-
	R09	Cox Rd and Island Ridge Way	OLF	1	-
	R10	Skyline	None	4	1
	R11	Sequim	None	1	-
	R12	Port Angeles	None	1	-
	R13	Beverly Beach, Freeland	OLF	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	10	2
	R15	Long Point Manor	OLF	7	2
	R16	Rocky Point Heights	OLF	5	1
	R17	Port Townsend	None	-	-
	R18	Marrowstone Island (Nordland)	None	-	-
	R19	Island Transit Offices, Coupeville	OLF	3	1
	R20	South Lopez Island (Agate Beach)	None	4	1
School	S01	Oak Harbor High School	Ault	9	2
	S02	Crescent Harbor Elementary School	Ault	8	2
	S03	Coupeville Elementary School	OLF	3	1
	S04	Anacortes High School	Ault	1	-
	S05	Lopez Island School	None	-	-
	S06	Friday Harbor Elementary School	None	-	-
	S07	Sir James Douglas Elementary School	None	-	-
	S08	Fidalgo Elementary School	Ault	4	1
	S09	La Conner Elementary School	Ault	3	1
	S10	Elger Bay Elementary School	OLF	1	-

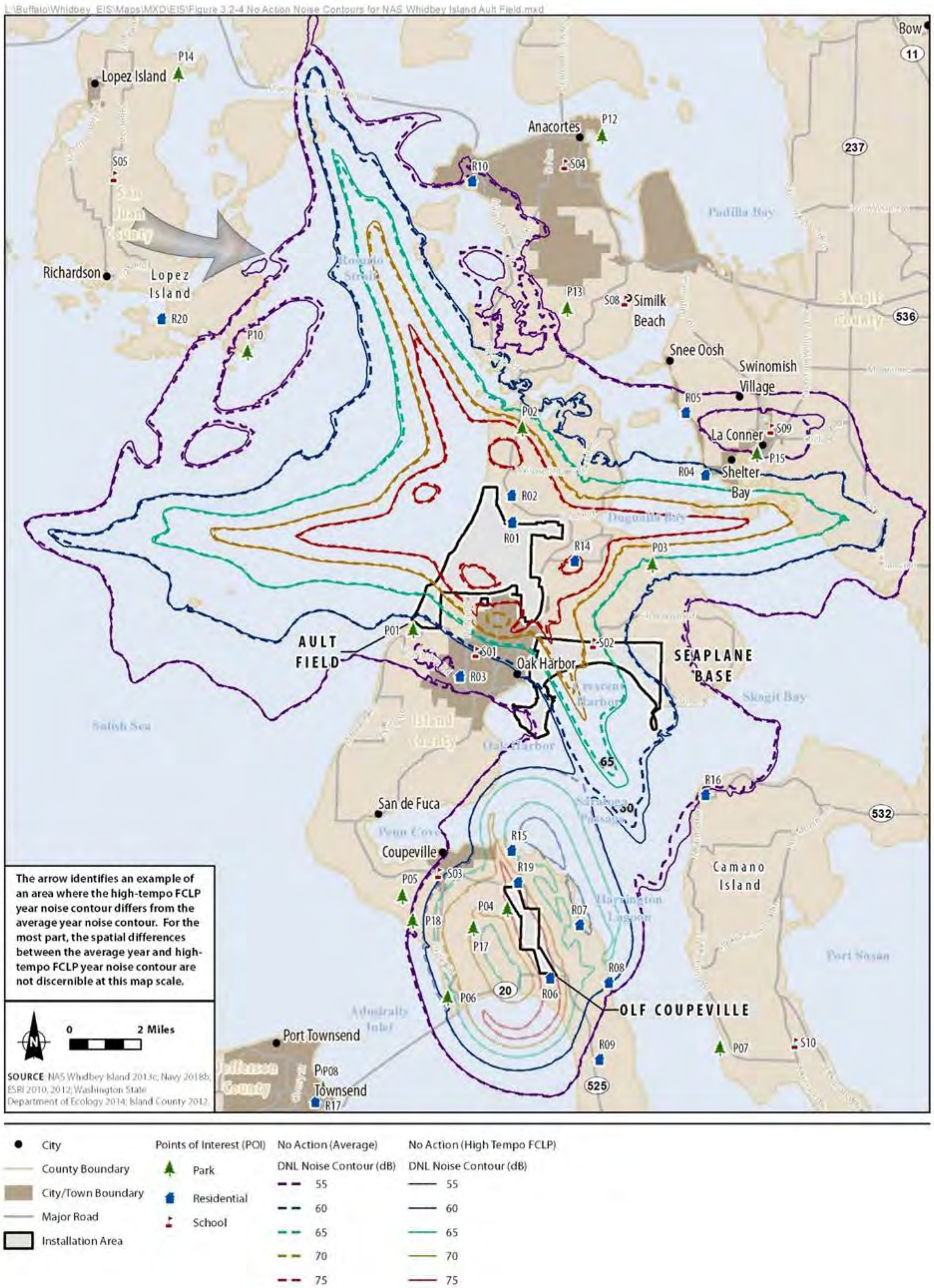


Figure A7.2-1 DNL Contours for AAD Aircraft Events for the Average Year and High-Tempo FCLP Year No Action Alternative

Table A7.2-1 Estimated Acreage and Population within the DNL Contour Ranges[1] for the High-Tempo FCLP Year No Action Alternative at the NAS Whidbey Island Complex

DNL Contours	DNL Contour Ranges 65 to <70 dB DNL Area (acres)	Pop[2]	70 to <75 dB DNL Area (acres)	Pop[2]	Greater than or equal to 75 dB DNL Area (acres)	Pop[2]	Total[3] Area (acres)	Pop[2]
Ault Field	3,503	3,347	3,260	2,677	5,864	3,530	**12,628**	**9,554**
OLF Coupeville	3,718	881	3,054	786	637	583	**7,409**	**2,250**
Total[3]	**7,221**	**4,228**	**6,315**	**3,463**	**6,502**	**4,113**	**20,037**	**11,804**

Notes:

1 Acreage presented does not include areas over water or areas over the NAS Whidbey Island complex.

2 Population counts of people within the DNL contours were computed using 2010 census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block, and it excludes population on military properties within the DNL contours (NAS Whidbey Island [Ault Field], the Seaplane Base, and OLF Coupeville). All population estimates for areas under the dB DNL contours utilized 2010 U.S. Census Bureau data. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). To simplify the analysis, this growth factor was also used for areas of Skagit County that fall under the 65+ dB DNL contours. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

3 Numbers have been rounded to ensure totals sum.

Key:

dB = decibel

DNL = day-night average sound level

Table A7.2-2 Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year No Action Alternative

Point of Interest				DNL (dB)	
Type	ID	Description	Related Field	No Action	Increase re Baseline
Park	P01	Joseph Whidbey State Park	Ault	57	-
	P02	Deception Pass State Park	Ault	74	-
	P03	Dugualla State Park	Ault	65	-
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	OLF	74	-
	P05	Ebey's Landing State Park	OLF	52	-
	P06	Fort Casey State Park	OLF	61	-1
	P07	Cama Beach State Park	OLF	<45	-
	P08	Port Townsend	None	<45	-
	P09	Moran State Park	None	<45	-
	P10	San Juan Islands National Monument	None	54	-
	P11	San Juan Island Visitors Center	None	<45	-
	P12	Cap Sante Park	Ault	<45	-
	P13	Lake Campbell	Ault	54	-
	P14	Spencer Spit State Park	None	<45	-
	P15	Pioneer Park	Ault	55	-
	P16	Marrowstone Island (Fort Flagler)	OLF	<45	-
	BLA0(	Reuble Farm	OLF	69	-
	BLA0(	Ferry House	OLF	56	-
Residential	R01	Sullivan Rd	Ault	90	-
	R02	Salal St. and N. Northgate Dr	Ault	78	-
	R03	Central Whidbey	Ault	57	-
	R04	Pull and Be Damned Point	Ault	62	-
	R05	Snee-Oosh Point	Ault	57	-
	R06	Admirals Dr and Byrd Dr	OLF	79	-
	R07	Race Lagoon	OLF	61	-
	R08	Pratts Bluff	OLF	62	-1
	R09	Cox Rd and Island Ridge Way	OLF	50	-
	R10	Skyline	None	56	-1
	R11	Sequim	None	<45	-
	R12	Port Angeles	None	<45	-
	R13	Beverly Beach, Freeland	OLF	<45	-
	R14	E Sleeper Rd & Slumber Ln	Ault	74	-1
	R15	Long Point Manor	OLF	64	-1
	R16	Rocky Point Heights	OLF	55	-
	R17	Port Townsend	None	<45	-
	R18	Marrowstone Island (Nordland)	None	<45	-
	R19	Island Transit Offices, Coupeville	OLF	73	-
	R20	South Lopez Island (Agate Beach)	None	48	-
School	S01	Oak Harbor High School	Ault	60	-
	S02	Crescent Harbor Elementary School	Ault	68	-
	S03	Coupeville Elementary School	OLF	58	-
	S04	Anacortes High School	Ault	48	-
	S05	Lopez Island School	None	<45	-
	S06	Friday Harbor Elementary School	None	<45	-
	S07	Sir James Douglas Elementary School	None	<45	-
	S08	Fidalgo Elementary School	Ault	52	-
	S09	La Conner Elementary School	Ault	53	-
	S10	Elger Bay Elementary School	OLF	<45	-

Table A7.2-3 Average and 10th Percentile Noise Induced Permanent Threshold Shifts as a Function of Equivalent Sound Level at the NAS Whidbey Island Complex for Max Year No Action Alternative

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB)[1]	10th Percentile NIPTS (dB)[1]	Estimated Population[2, 3,4] Ault Field (on-station)	Ault Field (off-station)	OLF Coupeville (off-station)	Total
74-75	0.5	3.5	-	-	-	-
75-76	1.0	4.0	-	-	32	32
76-77	1.0	4.5	-	155	46	201
77-78	1.5	5.0	-	277	46	322
78-79	2.0	5.5	-	169	24	193
79-80	2.5	6.0	-	102	7	109
80-81	3.0	7.0	-	75	1	77
81-82	3.5	8.0	-	51	-	51
82-83	4.0	9.0	-	38	-	38
83-84	4.5	10.0	-	36	-	36
84-85	5.5	11.0	-	12	-	12
85-86	6.0	12.0	-	9	-	9
86-87	7.0	13.5	-	7	-	7
87-88	7.5	15.0	-	4	-	4
88-89	8.5	16.5	-	2	-	2
89-90	9.5	18.0	-	-	-	-
90-91	10.5	19.5	-	-	-	-
91-92	11.5	21.0	-	-	-	-

Notes:

1 NIPTS values rounded to nearest 0.5 dB.

2 This analysis assumes the population is outdoors and exposed to all aircraft noise events for 40 years. Given the amount of time spent indoors and the intermittent occurrence of aircraft noise events, it is highly unlikely that individuals would meet all the criteria, and the actual potential for hearing loss would be less than the values reported here.

3 Estimated Population was determined by those living within the 80 dB DNL noise contour around each airfield, including those living on-base at Ault Field (there is no on-base population at OLF Coupeville).

4 Population counts of people within the DNL contours were computed using 2010 census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block. All population estimates for areas under the dB DNL contours utilized 2010 U.S. Census Bureau data. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). In addition, per guidance on potential hearing loss, on-base populations at Ault Field have been included in the analysis. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

Key:

dB = decibel

$L_{eq(24)}$ = 24-hour Equivalent Sound Level

NIPTS = Noise Induced Permanent Threshold Shift

OLF = outlying landing field

Table A7.2-4 Average Indoor Nightly Probability of Awakening at Applicable POIs for the High-Tempo FCLP Year No Action Alternative

Representative Residential Receptor				Annual Average Nightly (2200-0700) Probability of Awakening (%) (1)			
				No Action		Change from Baseline	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential	R01	Sullivan Rd	Ault	62%	46%	-	-
	R02	Salal St. and N. Northgate Dr	Ault	44%	31%	-	-
	R03	Central Whidbey	Ault	17%	9%	-	-
	R04	Pull and Be Damned Point	Ault	21%	9%	1%	-
	R05	Snee-Oosh Point	Ault	16%	5%	-	-
	R06	Admirals Dr and Byrd Dr	OLF	9%	6%	-1%	-
	R07	Race Lagoon	OLF	5%	2%	-	-
	R08	Pratts Bluff	OLF	4%	2%	-1%	-1%
	R09	Cox Rd and Island Ridge Way	OLF	3%	2%	-	-
	R10	Skyline	None	6%	2%	-1%	-
	R11	Sequim	None	0%	0%	-	-
	R12	Port Angeles	None	0%	0%	-	-
	R13	Beverly Beach, Freeland	OLF	2%	0%	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	40%	28%	-	-
	R15	Long Point Manor	OLF	11%	4%	-1%	-
	R16	Rocky Point Heights	OLF	10%	3%	-	-
	R17	Port Townsend	None	1%	0%	-	-
	R18	Marrowstone Island (Nordland)	None	0%	0%	-	-
	R19	Island Transit Offices, Coupeville	OLF	10%	5%	-	-
	R20	South Lopez Island (Agate Beach)	None	3%	1%	1%	-
School (near residential)	S01	Oak Harbor High School	Ault	22%	13%	-	-
	S02	Crescent Harbor Elementary School	Ault	23%	13%	-	-1%
	S03	Coupeville Elementary School	OLF	5%	3%	-1%	-
	S04	Anacortes High School	Ault	2%	1%	-	-
	S05	Lopez Island School	None	0%	0%	-	-
	S06	Friday Harbor Elementary School	None	0%	0%	-	-
	S07	Sir James Douglas Elementary School	None	0%	0%	-	-
	S08	Fidalgo Elementary School	Ault	7%	2%	-	-
	S09	La Conner Elementary School	Ault	8%	3%	-	-
	S10	Elger Bay Elementary School	OLF	0%	0%	-	-

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) R01 and R06 include interior SELs greater than 100 dB with windows open

Table A7.2-5 Indoor Speech Interference for the High-Tempo FCLP Year No Action Alternative

Indoor Speech Interference for Max Year No Action

Point of Interest				Annual Average Daily Indoor Daytime (0700-2200) Events per Hour (1)			
				No Action		Change from Baseline	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential	R01	Sullivan Rd	Ault	8	8	-2	-2
	R02	Salal St. and N. Northgate Dr	Ault	8	8	-2	-
	R03	Central Whidbey	Ault	5	-	-	-
	R04	Pull and Be Damned Point	Ault	2	1	-	-
	R05	Snee-Oosh Point	Ault	2	1	-	-
	R06	Admirals Dr and Byrd Dr	OLF	-	-	-	-
	R07	Race Lagoon	OLF	1	-	-	-
	R08	Pratts Bluff	OLF	-	-	-	-
	R09	Cox Rd and Island Ridge Way	OLF	-	-	-	-
	R10	Skyline	None	-	-	-1	-
	R11	Sequim	None	-	-	-	-
	R12	Port Angeles	None	-	-	-	-
	R13	Beverly Beach, Freeland	OLF	-	-	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	8	7	-	-
	R15	Long Point Manor	OLF	1	1	-	-
	R16	Rocky Point Heights	OLF	2	1	-	-
	R17	Port Townsend	None	-	-	-	-
	R18	Marrowstone Island (Nordland)	None	-	-	-	-
	R19	Island Transit Offices, Coupeville	OLF	1	1	-	-
	R20	South Lopez Island (Agate Beach)	None	-	-	-	-
School	S01	Oak Harbor High School	Ault	6	2	-	-
	S02	Crescent Harbor Elementary School	Ault	5	2	-	-
	S03	Coupeville Elementary School	OLF	1	-	-	-
	S04	Anacortes High School	Ault	-	-	-	-
	S05	Lopez Island School	None	-	-	-	-
	S06	Friday Harbor Elementary School	None	-	-	-	-
	S07	Sir James Douglas Elementary School	None	-	-	-	-
	S08	Fidalgo Elementary School	Ault	-	-	-	-
	S09	La Conner Elementary School	Ault	1	-	-	-
	S10	Elger Bay Elementary School	OLF	-	-	-	-

(1) with an indoor Maximum Sound Level of at Least 50 dB; assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) The Whidbey General Hospital is located within approximately 1,000 feet of the Coupeville Elementary School; therefore, this location was not modeled individually, but similar result for indoor speech interference for POI S03 would apply.

Table A7.2-6 Classroom Learning Interference for the High-Tempo FCLP Year No Action Alternative

Representative School Location: Type	ID	Description	No Action: Outdoor $L_{eq(8h)}$ (dB)	No Action: Indoor (1) Windows Open $L_{eq(8h)}$ (dB)	No Action: Indoor (1) Windows Open Events per Hour(2)	No Action: Indoor (1) Windows Closed $L_{eq(8h)}$ (dB)	No Action: Indoor (1) Windows Closed Events per Hour(2)	Change from Baseline: Outdoor $L_{eq(8h)}$ (dB)	Change from Baseline: Indoor (1) Windows Open $L_{eq(8h)}$ (dB)	Change from Baseline: Indoor (1) Windows Open Events per Hour(2)	Change from Baseline: Indoor (1) Windows Closed $L_{eq(8h)}$ (dB)	Change from Baseline: Indoor (1) Windows Closed Events per Hour(2)
School Surrogate	R03	Central Whidbey	57	<45	4	<45	-	-	-	-1	-	-
School Surrogate	R11	Sequim	<45	<45	-	<45	-	-	-	-	-	-
School	S01	Oak Harbor High School	57	<45	5	<45	2	-1	-1	-1	-1	-
School	S02	Crescent Harbor Elementary School	67	52	4	<45	2	-1	-1	-1	-1	-
School	S03	Coupeville Elementary School	52	<45	-	<45	-	-	-	-1	-	-
School	S04	Anacortes High School	46	<45	-	<45	-	-1	-1	-	-1	-
School	S05	Lopez Island School	<45	<45	-	<45	-	-1	-1	-	-1	-
School	S06	Friday Harbor Elementary School	<45	<45	-	<45	-	-	-	-	-	-
School	S07	Sir James Douglas Elementary School	<45	<45	-	<45	-	-	-	-	-	-
School	S08	Fidalgo Elementary School	49	<45	-	<45	-	-	-	-	-	-
School	S09	La Conner Elementary School	50	<45	1	<45	-	-1	-1	-	-1	-
School	S10	Elger Bay Elementary School	<45	<45	-	<45	-	-	-	-	-	-
Number of Sites Exceeding 1 Intrusive Event per Hour					3		2			-		-
Minimum Number of Intrusive Events per Hour if Exceeding 1					4		2			-		-
Maximum Number of Intrusive Events per Hour if Exceeding 1					5		2			-		-

Notes:

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) Number of Average School-Day Events per hour during 8-hour school day (0800-1600) At or Above an Indoor Maximum (single-event) Sound Level (L_{max}) of 50 dB;

Table A7.2-7 Recreational Speech Interference for the High-Tempo FCLP Year No Action Alternative

Representative Park Receptor			Annual Average Outdoor Daily Daytime Events per Hour NA50 L_{max}			
			No Action		Increase re No Action	
Type	ID	Description	Daytime	Nighttime	Daytime	Daytime
Park	P01	Joseph Whidbey State Park	8	2	-1	-
	P02	Deception Pass State Park	8	2	-1	-
	P03	Dugualla State Park	8	2	-1	-
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	3	1	-	-
	P05	Ebey's Landing State Park	2		-	-
	P06	Fort Casey State Park	1		-	-
	P07	Cama Beach State Park	3		-	-
	P08	Port Townsend	1		-	-
	P09	Moran State Park			-	-
	P10	San Juan Islands National Monument	7	2	-1	-
	P11	San Juan Island Visitors Center			-	-
	P12	Cap Sante Park			-1	-
	P13	Lake Campbell	4	1	-1	-
	P14	Spencer Spit State Park			-	-
	P15	Pioneer Park	4	1	-	-
	P16	Marrowstone Island (Fort Flagler)			-	-
	EBLA001	Reuble Farm	2		-	-
	EBLA002	Ferry House	2		-	-
Residential	R01	Sullivan Rd	8	2	-2	-
	R02	Salal St. and N. Northgate Dr	8	2	-2	-
	R03	Central Whidbey	7	2	-1	-
	R04	Pull and Be Damned Point	7	2	-1	-
	R05	Snee-Oosh Point	7	2	-	-
	R06	Admirals Dr and Byrd Dr	1		-	-
	R07	Race Lagoon	3	1	-	-
	R08	Pratts Bluff	1		-	-
	R09	Cox Rd and Island Ridge Way	1		-	-
	R10	Skyline	4	1	-	-
	R11	Sequim			-1	-
	R12	Port Angeles	1		-	-
	R13	Beverly Beach, Freeland			-	-
	R14	E Sleeper Rd & Slumber Ln	8	2	-2	-
	R15	Long Point Manor	7	2	-	-
	R16	Rocky Point Heights	4	1	-1	-
	R17	Port Townsend	1		1	-
	R18	Marrowstone Island (Nordland)			-	-
	R19	Island Transit Offices, Coupeville	3	1	-	-
	R20	South Lopez Island (Agate Beach)	3	1	-1	-
School	S01	Oak Harbor High School	8	2	-1	-
	S02	Crescent Harbor Elementary School	7	2	-1	-
	S03	Coupeville Elementary School	3	1	-	-
	S04	Anacortes High School	1		-	-
	S05	Lopez Island School			-	-
	S06	Friday Harbor Elementary School			-	-
	S07	Sir James Douglas Elementary School			-	-
	S08	Fidalgo Elementary School	4	1	-	-
	S09	La Conner Elementary School	3	1	-	-
	S10	Elger Bay Elementary School	1		-	-

Table A7.3-1 Estimated Acreage and Population within the DNL Contour Ranges[1] for the NAS Whidbey Island Complex, Alternative 1 (High-Tempo FCLP Year)[2,3]

	DNL Contour Ranges							
	65 to <70 dB DNL		*70 to <75 dB DNL*		*Greater than or equal to 75 dB DNL*		*Total*	
	Area (acres)	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*
Ault Field								
No Action Alternative								
High-Tempo FCLP Year	3,503	3,347	3,260	2,677	5,864	3,530	12,628	9,554
Alternative 1								
Scenario A (20/80 FCLP split)	4,065 (+562)	3,690 (+343)	3,278 (+18)	1,973 (-704)	6,004 (+140)	3,548 (+18)	13,346 (+718)	9,212 (-342)
Scenario B (50/50 FCLP split)	3,974 (+471)	3,667 (+320)	3,273 (+13)	2,503 (-174)	6,528 (+664)	3,828 (+298)	13,775 (+1,147)	9,997 (+443)
Scenario C (80/20 FCLP split)	3,998 (+495)	3,853 (+506)	3,115 (-145)	2,566 (-111)	7,009 (+1,145)	4,064 (+534)	14,122 (+1,494)	10,483 (+929)
Scenario D (30/70 FCLP split)	3,997 (+494)	3,735 (+388)	3,203 (-57)	2,228 (-449)	6,312 (+448)	3,714 (+184)	13,513 (+885)	9,677 (+123)
Scenario E (70/30 FCLP split)	3,985 (+482)	3,791 (+444)	3,135 (-125)	2,564 (-113)	6,898 (+1,034)	3,990 (+460)	14,019 (+1,391)	10,327 (+773)
OLF Coupeville								
No Action Alternative								
High-Tempo FCLP Year	3,718	881	3,054	786	637	583	7,409	2,250
Alternative 1								
Scenario A (20/80 FCLP split)	1,897 (-1,821)	612 (-269)	3,064 (+10)	871 (+150)	5,707 (+5,070)	2,053 (+1,470)	10,354 (+2,945)	3,536 (+1,286)
Scenario B (50/50 FCLP split)	1,897 (-1,821)	492 (-389)	3,467 (+413)	1,085 (+275)	4,215 (+3,578)	1,592 (+1,009)	9,579 (+2,170)	3,169 (+919)
Scenario C (80/20 FCLP split)	3,454 (-264)	1,040 (+159)	3,183 (+129)	1,038 (+250)	1,497 (+860)	700 (+117)	8,134 (+725)	2,778 (+528)
Scenario D (30/70 FCLP split)	1,556 (-2,162)	556 (-325)	3,265 (+211)	943 (+206)	5,341 (+4,704)	1,946 (+1,363)	10,162 (+2,753)	3,445 (+1,195)
Scenario E (70/30 FCLP split)	2,996 (-722)	849 (-32)	3,195 (+141)	1,047 (+272)	2,615 (+1,978)	1,039 (+456)	8,606 (+1,197)	5,029 (+2,779)
NAS Whidbey Island Complex								
No Action Alternative								
High-Tempo FCLP Year	7,221	4,228	6,315	3,463	6,502	4,113	20,037	11,804
Alternative 1								
Scenario A (20/80 FCLP split)	5,647 (-1,574)	4,303 (+75)	6,342 (+27)	2,844 (-619)	11,711 (+5,209)	5,602 (+1,489)	23,700 (+3,663)	12,749 (+945)
Scenario B (50/50 FCLP split)	5,872 (-1,349)	4,159 (-69)	6,740 (+425)	3,587 (+125)	10,742 (+4,240)	5,420 (+1,307)	23,354 (+3,317)	13,166 (+1,362)
Scenario C (80/20 FCLP split)	7,452 (+231)	4,893 (+665)	6,298 (-17)	3,604 (+141)	8,506 (+2,004)	4,764 (+651)	22,256 (+2,219)	13,261 (+1,457)
Scenario D (30/70 FCLP split)	5,554 (-1,667)	4,291 (+63)	6,468 (+153)	3,171 (-292)	11,653 (+5,151)	5,660 (+1,547)	23,675 (+3,638)	13,122 (+1,318)

Table A7.3-1 Estimated Acreage and Population within the DNL Contour Ranges[1] for the NAS Whidbey Island Complex, Alternative 1 (High-Tempo FCLP Year)[2,3]

	DNL Contour Ranges							
	65 to <70 dB DNL		*70 to <75 dB DNL*		*Greater than or equal to 75 dB DNL*		*Total*	
	Area (acres)	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*
Scenario E (70/30 FCLP split)	6,981 (-240)	4,640 (+412)	6,330 (+15)	3,593 (+130)	9,514 (+3,012)	5,029 (+916)	22,825 (+2,788)	13,262 (+1,458)

Notes:

1 All five scenarios are outlined in Section 2.3.3, where the split represents the percent of FCLPs conducted at Ault Field and OLF Coupeville, respectively (i.e., 20/80 FCLP split = 20 percent of FCLPs at Ault Field and 80 percent of FCLPs at OLF Coupeville).

2 Acreage presented does not include areas over water or areas over the NAS Whidbey Island complex.

3 The difference between the No Action Alternative and Alternative 1 is noted in parentheses.

4 Population counts of people within the DNL contour ranges were computed using 2010 Census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour range, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block, and it excludes population on military properties within the DNL contour ranges (NAS Whidbey Island [Ault Field], the Seaplane Base, and OLF Coupeville). All population estimates for areas within the dB DNL contours utilized 2010 U.S. Census Bureau data. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). To simplify the analysis, this growth factor was also used for areas of Skagit County that fall within the 65+ dB DNL contours. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

5 Numbers have been rounded to ensure totals sum.

Key:

dB = decibel

DNL = day-night average sound level

FCLP = Field Carrier Landing Practice

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
P01	Joseph Whidbey State Park	Ault	58				
				59			
					59		
						58	
							59
P02	Deception Pass State Park	Ault	74				
				74			
					76		
						74	
							76
P03	Dugualla State Park	Ault	66				
				66			
					66		
						66	
							66
P04	Baseball Field (Ebey's Landing National Historical Reserve)	OLF	80				
				77			
					73		
						79	
							75
P05	Ebey's Prairie	OLF	57				
				54			
					50		
						56	
							52
P06	Fort Casey State Park	OLF	64				
				61			
					57		
						63	
							59
P07	Cama Beach State Park	OLF	48				
				46			
					<45		
						48	
							<45
P08	Port Townsend	OLF	<45				
				<45			
					<45		
						<45	
							<45
P09	Moran State Park	Ault	<45				
				<45			
					<45		
						<45	
							<45
P10	San Juan Islands National Monument	Ault	55				
				55			
					55		
						55	
							55
P11	San Juan Island Visitors Center	Ault	<45				
				<45			
					<45		
						<45	
							<45
P12	Cap Sante Park	Ault	<45				
				<45			
					<45		
						<45	
							<45
P13	Lake Campbell	Ault	56				
				56			
					56		
						56	
							56

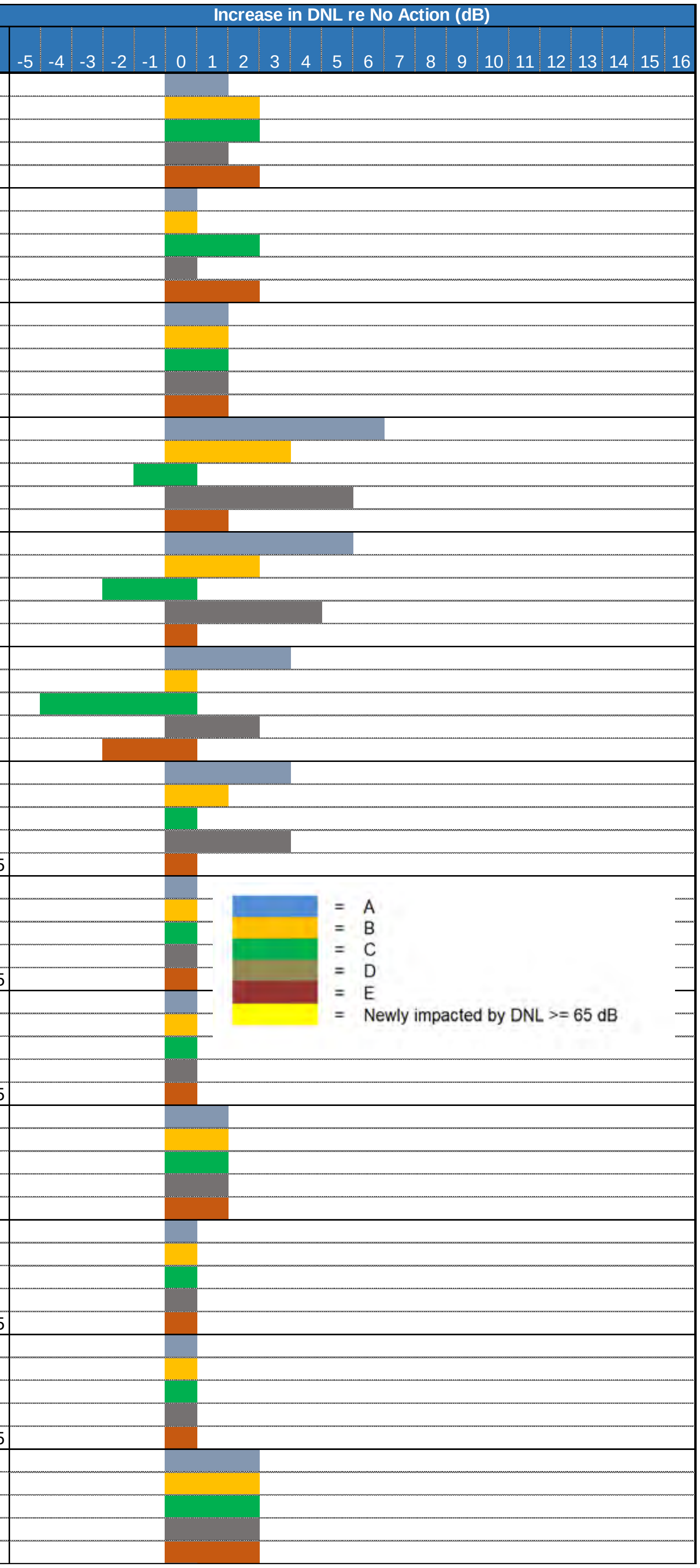
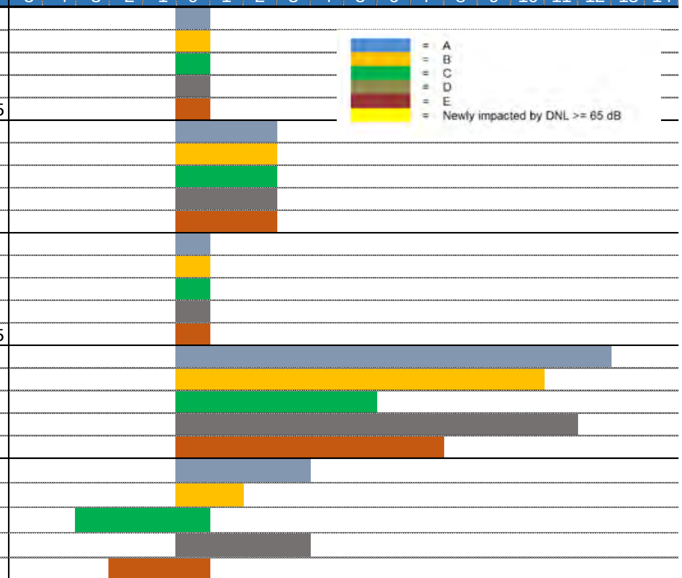


Figure A7.3-1 Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year, Alternative 1

Point of Interest ID	Description	Related Field	DNL (dB) A	B	C	D	E
P14	Spencer Spit State Park	None	<45				
				<45			
					<45		
						<45	
							<45
P15	Pioneer Park	Ault	57				
				57			
					57		
						57	
							57
P16	Marrowstone Island (Fort Flagler)	OLF	<45				
				<45			
					<45		
						<45	
							<45
EBLA001	Reuble Farm	OLF	81				
				79			
					74		
						80	
							76
EBLA002	Ferry House	OLF	59				
				57			
					53		
						59	
							54



Point of Interest ID	Description	Related Field	DNL (dB) A	B	C	D	E
R01	Sullivan Rd	Ault	91				
				92			
					92		
						91	
							92
R02	Salal St. and N. Northgate Dr	Ault	79				
				79			
					80		
						79	
							80
R03	Central Whidbey	Ault	58				
				58			
					59		
						58	
							59
R04	ºull and Be Damned Poir	Ault	64				
				64			
					63		
						63	
							63
R05	Snee-Oosh Point	Ault	59				
				59			
					59		
						59	
							59
R06	Admirals Dr and Byrd Dı	OLF	90				
				87			
					83		
						89	
							85
R07	Race Lagoon	OLF	76				
				74			
					70		
						76	
							72
R08	Pratts Bluff	OLF	64				
				62			
					57		
						63	
							59

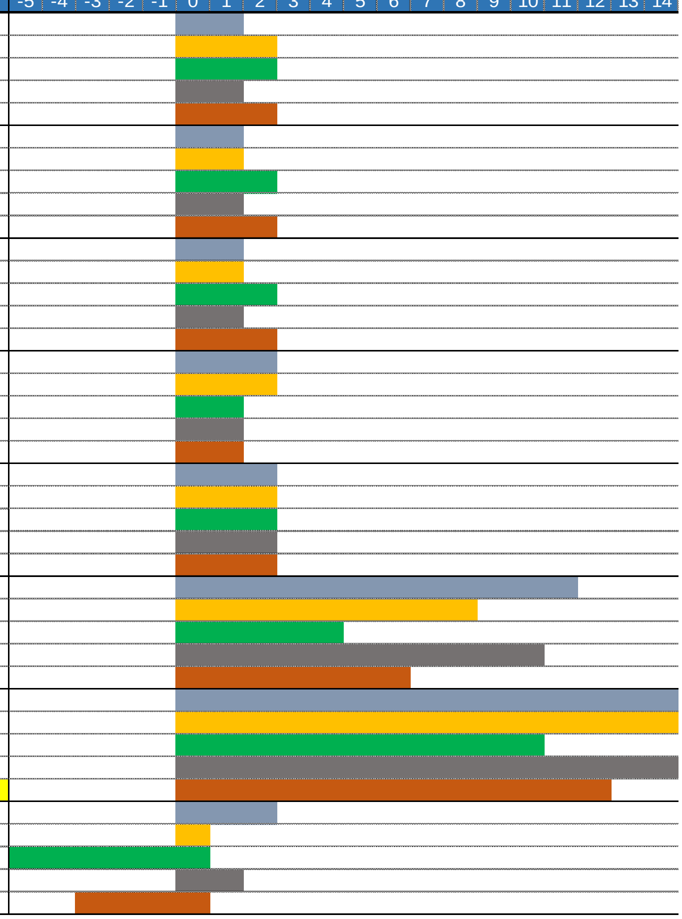


Figure A7.3-1 Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year, Alternative 1 (continued)

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
R09	Cox Rd and Island Ridge Way	OLF	55	53	48	55	50
R10	Skyline	None	58	58	58	58	58
R11	Sequim	None	<45	<45	<45	<45	<45
R12	Port Angeles	None	<45	<45	<45	<45	<45
R13	Beverly Beach, Freeland	OLF	<45	<45	<45	<45	<45
R14	Sleeper Rd & Slumber L	Ault	75	76	77	75	76
R15	Long Point Manor	OLF	73	71	67	73	69
R16	Rocky Point Heights	OLF	56	56	56	56	56
R17	Port Townsend	None	<45	<45	<45	<45	<45
R18	Marrowstone Island (Nordland)	None	<45	<45	<45	<45	<45
R19	Island Transit Offices, Coupeville	OLF	81	79	74	80	76
R20	South Lopez Island (Agate Beach)	None	49	49	49	49	49

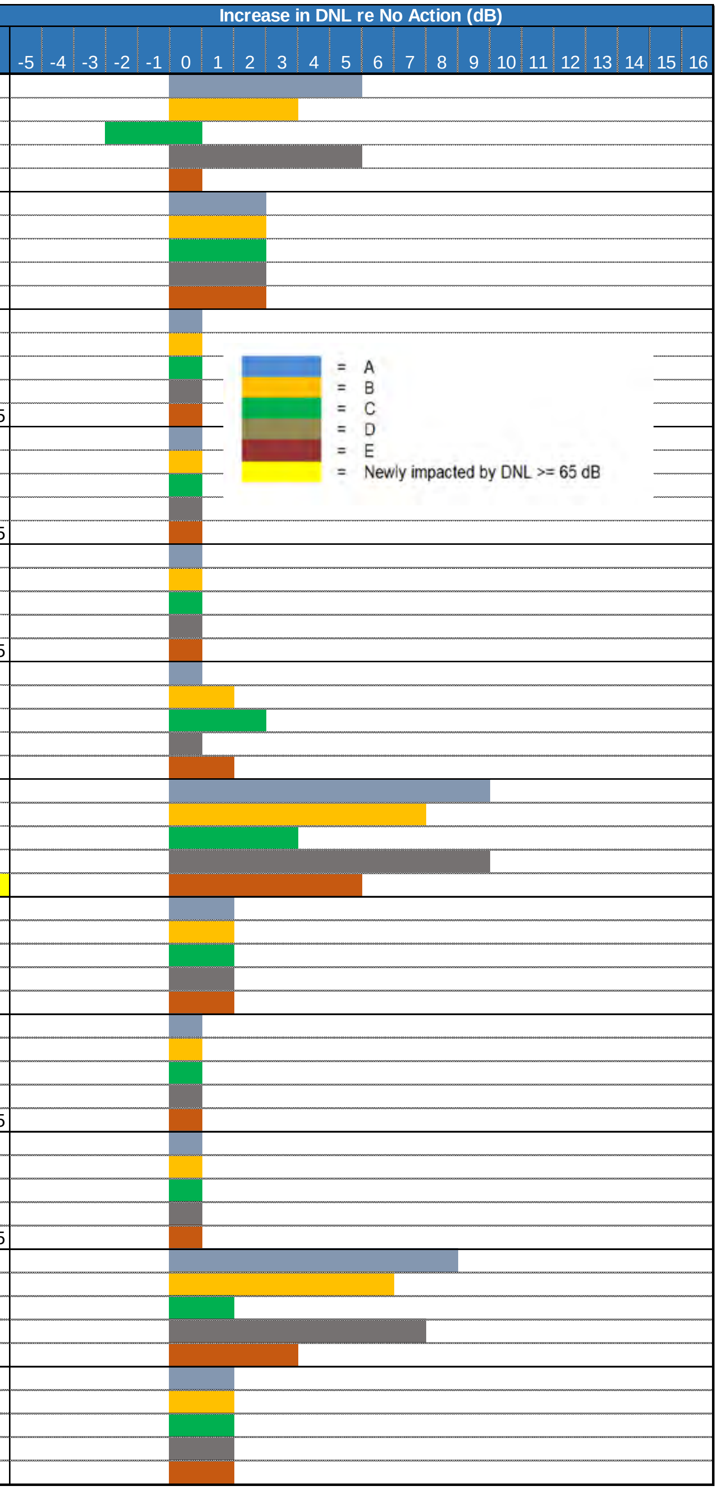


Figure A7.3-1 Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year, Alternative 1 (continued)

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
S01	Oak Harbor High School	Ault	60	61	61	60	61
S02	Crescent Harbor Elementary School	Ault	68	68	69	69	69
S03	Coupeville Elementary School	OLF	62	60	56	62	57
S04	Anacortes High School	Ault	50	50	50	50	50
S05	Lopez Island School	None	<45	<45	<45	<45	<45
S06	Friday Harbor Elementary School	None	<45	<45	<45	<45	<45
S07	Sir James Douglas Elementary School	None	<45	<45	<45	<45	<45
S08	Fidalgo Elementary School	Ault	53	53	53	53	53
S09	La Conner Elementary School	Ault	55	55	55	55	55
S10	Elger Bay Elementary School	OLF	<45	<45	<45	<45	<45

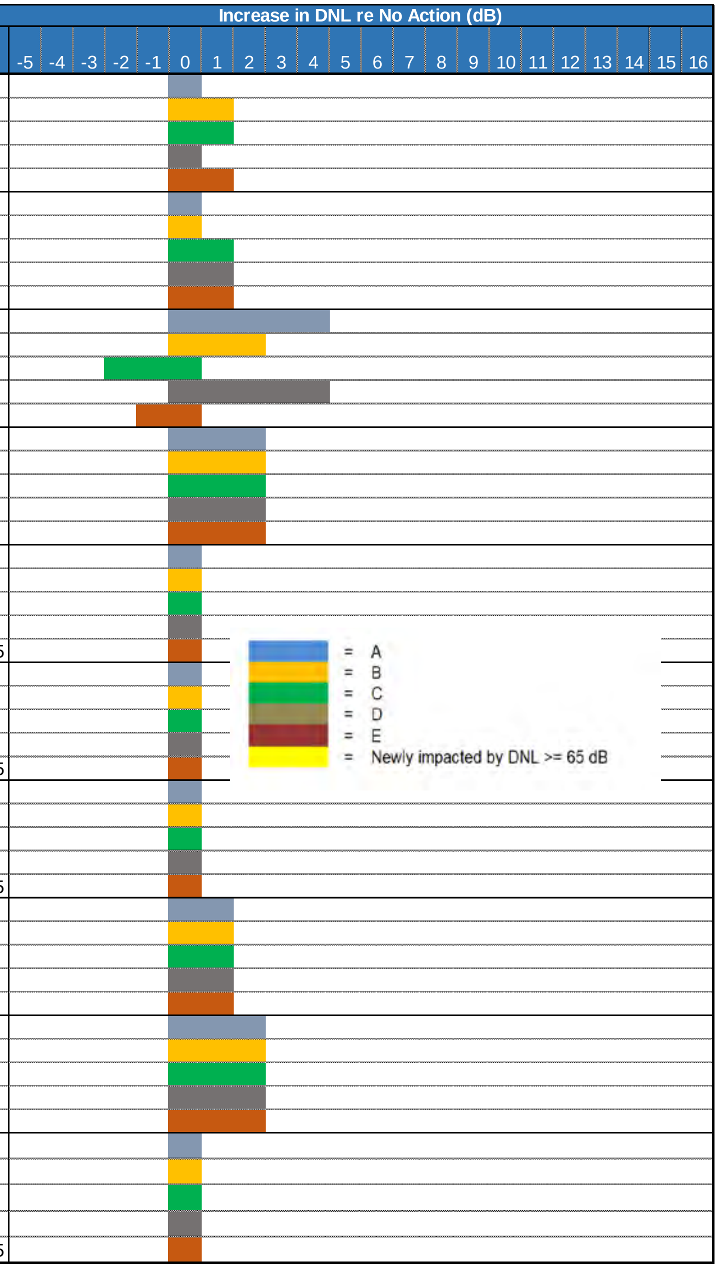


Figure A7.3-1 Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year, Alternative 1 (concluded)

Table A7.3-2 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 1A

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-			
75-76	1.0	4.0	-	1	137	138	-	-	105	105
76-77	1.0	4.5	-	195	189	384	-	41	143	184
77-78	1.5	5.0	-	275	166	441	-	(1)	120	119
78-79	2.0	5.5	-	150	100	250	-	(19)	76	56
79-80	2.5	6.0	-	133	85	218	-	31	78	108
80-81	3.0	7.0	-	77	73	150	-	2	71	73
81-82	3.5	8.0	-	64	64	127	-	12	64	76
82-83	4.0	9.0	-	48	53	101	-	10	53	63
83-84	4.5	10.0	-	34	62	95	-	(2)	62	59
84-85	5.5	11.0	-	27	71	98	-	15	71	85
85-86	6.0	12.0	-	10	2	11	-	-	2	2
86-87	7.0	13.5	-	9	-	9	-	2	-	2
87-88	7.5	15.0	-	6	-	6	-	1	-	1
88-89	8.5	16.5	-	4	-	4	-	2	-	2
89-90	9.5	18.0	-	1	-	1	-	1	-	1
90-91	10.5	19.5	-	-	-	-	-			
91-92	11.5	21.0	-	-	-	-	-			

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.3-3 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 1B

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-				-	-	-	-
75-76	1.0	4.0	-	6	63	69	-	6	30	36
76-77	1.0	4.5	195	370	104	669	195	215	58	468
77-78	1.5	5.0	-	350	83	433	-	73	37	111
78-79	2.0	5.5	-	261	72	333	-	92	48	140
79-80	2.5	6.0	-	174	61	235	-	72	54	126
80-81	3.0	7.0	-	99	56	155	-	23	55	78
81-82	3.5	8.0	-	73	63	136	-	21	63	85
82-83	4.0	9.0	-	61	62	123	-	23	62	85
83-84	4.5	10.0	-	36	1	37	-	-	1	1
84-85	5.5	11.0	-	27	-	27	-	14	-	14
85-86	6.0	12.0	-	23	-	23	-	14	-	14
86-87	7.0	13.5	-	9	-	9	-	2	-	2
87-88	7.5	15.0	-	7	-	7	-	3	-	3
88-89	8.5	16.5	-	4	-	4	-	2	-	2
89-90	9.5	18.0	-	2	-	2	-	2	-	2
90-91	10.5	19.5	-				-	-	-	-
91-92	11.5	21.0	-				-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.3-4 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 1C

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	76	14	90	-	76	(19)	57
76-77	1.0	4.5	607	382	54	1,043	607	228	7	842
77-78	1.5	5.0	-	453	62	515	-	176	17	193
78-79	2.0	5.5	-	305	68	372	-	136	43	179
79-80	2.5	6.0	-	280	2	281	-	178	(6)	172
80-81	3.0	7.0	-	144	-	145	-	69	(1)	68
81-82	3.5	8.0	-	82	0	82	-	31	(0)	31
82-83	4.0	9.0	-	65	-	65	-	27	-	27
83-84	4.5	10.0	-	41	-	41	-	5	-	5
84-85	5.5	11.0	-	29	-	29	-	17	-	17
85-86	6.0	12.0	-	29	-	29	-	19	-	19
86-87	7.0	13.5	-	10	-	10	-	3	-	3
87-88	7.5	15.0	-	8	-	8	-	4	-	4
88-89	8.5	16.5	-	5	-	5	-	3	-	3
89-90	9.5	18.0	-	2	-	2	-	2	-	2
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.3-5 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 1D

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	1	159	160	-	1	126	127
76-77	1.0	4.5	-	240	169	408	-	85	122	207
77-78	1.5	5.0	-	321	133	454	-	44	88	132
78-79	2.0	5.5	-	191	92	284	-	22	68	90
79-80	2.5	6.0	-	144	75	220	-	42	68	110
80-81	3.0	7.0	-	83	66	149	-	7	65	72
81-82	3.5	8.0	-	69	59	128	-	18	59	76
82-83	4.0	9.0	-	49	58	107	-	10	58	68
83-84	4.5	10.0	-	35	69	104	-	(1)	69	68
84-85	5.5	11.0	-	30	26	55	-	17	26	43
85-86	6.0	12.0	-	10	1	11	-	1	1	1
86-87	7.0	13.5	-	9	-	9	-	2	-	2
87-88	7.5	15.0	-	6	-	6	-	2	-	2
88-89	8.5	16.5	-	4	-	4	-	2	-	2
89-90	9.5	18.0	-	1	-	1	-	1	-	1
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.3-6 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 1E

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	57	14	70	-	57	(19)	38
76-77	1.0	4.5	415	407	69	892	415	253	23	691
77-78	1.5	5.0	-	407	62	468	-	130	16	146
78-79	2.0	5.5	-	295	55	350	-	126	31	157
79-80	2.5	6.0	-	245	64	309	-	143	57	199
80-81	3.0	7.0	-	126	52	178	-	51	51	102
81-82	3.5	8.0	-	79	1	80	-	28	1	28
82-83	4.0	9.0	-	64	-	64	-	26	0	26
83-84	4.5	10.0	-	38	0	38	-	2	0	2
84-85	5.5	11.0	-	29	-	29	-	16	-	16
85-86	6.0	12.0	-	26	-	26	-	17	-	17
86-87	7.0	13.5	-	10	-	10	-	3	-	3
87-88	7.5	15.0	-	8	-	8	-	3	-	3
88-89	8.5	16.5	-	5	-	5	-	3	-	3
89-90	9.5	18.0	-	2	-	2	-	2	-	2
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.3-7 Average Indoor Nightly Probability of Awakening at Applicable POIs for the High-Tempo FCLP Year, Alternative 1

Point of Interest				Annual Average Nightly (2200-0700) Probability of Awakening (%) (1)																			
				Alt1A		Change from No Action		Alt1B		Change from No Action		Alt1C		Change from No Action		Alt1D		Change from No Action		Alt1E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential(2)	R01	Sullivan Rd	Ault	70%	54%	8%	8%	74%	58%	12%	12%	79%	64%	17%	18%	71%	55%	9%	9%	78%	62%	16%	16%
	R02	Salal St. and N. Northgate Dr	Ault	52%	37%	8%	6%	55%	40%	11%	9%	61%	45%	17%	14%	53%	38%	9%	7%	60%	44%	16%	13%
	R03	Central Whidbey	Ault	21%	11%	4%	2%	23%	12%	6%	3%	26%	14%	9%	5%	22%	12%	5%	3%	26%	14%	9%	5%
	R04	Pull and Be Damned Point	Ault	27%	13%	6%	4%	28%	13%	7%	4%	31%	14%	10%	5%	27%	13%	6%	4%	30%	13%	9%	4%
	R05	Snee-Oosh Point	Ault	22%	8%	6%	3%	23%	8%	7%	3%	25%	8%	9%	3%	22%	8%	6%	3%	25%	8%	9%	3%
	R06	Admirals Dr and Byrd Dr	OLF	45%	32%	36%	26%	28%	19%	19%	13%	12%	8%	3%	2%	41%	29%	32%	23%	17%	11%	8%	5%
	R07	Race Lagoon	OLF	22%	10%	17%	8%	14%	6%	9%	4%	7%	2%	2%	-	20%	9%	15%	7%	9%	3%	4%	1%
	R08	Pratts Bluff	OLF	16%	11%	12%	9%	10%	6%	6%	4%	4%	2%	-	-	15%	9%	11%	7%	6%	3%	2%	1%
	R09	Cox Rd and Island Ridge Way	OLF	14%	9%	11%	7%	8%	5%	5%	3%	3%	2%	-	-	12%	8%	9%	6%	4%	3%	1%	1%
	R10	Skyline	None	8%	3%	2%	1%	9%	3%	3%	1%	11%	3%	5%	1%	9%	3%	3%	1%	10%	3%	4%	1%
	R11	Sequim	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R12	Port Angeles	None	1%	0%	1%	-	1%	0%	1%	-	1%	0%	1%	-	0%	0%	-	-	1%	0%	1%	-
	R13	Beverly Beach, Freeland	OLF	7%	-	5%	-	4%	-	2%	-	2%	-	-	-	6%	-	4%	-	2%	-	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	46%	33%	6%	5%	50%	36%	10%	8%	56%	41%	16%	13%	47%	34%	7%	6%	54%	40%	14%	12%
	R15	Long Point Manor	OLF	26%	14%	15%	10%	20%	9%	9%	5%	15%	4%	4%	-	24%	13%	13%	9%	16%	5%	5%	1%
	R16	Rocky Point Heights	OLF	12%	4%	2%	1%	13%	4%	3%	1%	14%	4%	4%	1%	12%	4%	2%	1%	14%	4%	4%	1%
	R17	Port Townsend	None	1%	-	-	-	1%	-	-	-	0%	-	-1%	-	1%	-	-	-	1%	-	-	-
	R18	Marrowstone Island (Nordland)	None	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	0%	-	-	-
	R19	Island Transit Offices, Coupeville	OLF	37%	24%	27%	19%	24%	14%	14%	9%	12%	6%	2%	1%	34%	22%	24%	17%	16%	8%	6%	3%
	R20	South Lopez Island (Agate Beach)	None	4%	1%	1%	-	4%	1%	1%	-	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-
School (near residential)	S01	Oak Harbor High School	Ault	27%	16%	5%	3%	29%	18%	7%	5%	33%	21%	11%	8%	28%	17%	6%	4%	32%	20%	10%	7%
	S02	Crescent Harbor Elementary School	Ault	28%	17%	5%	4%	30%	18%	7%	5%	34%	21%	11%	8%	29%	18%	6%	5%	33%	21%	10%	8%
	S03	Coupeville Elementary School	OLF	19%	12%	14%	9%	12%	7%	7%	4%	5%	3%	-	-	17%	11%	12%	8%	7%	4%	2%	1%
	S04	Anacortes High School	Ault	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-
	S05	Lopez Island School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	10%	3%	3%	1%	10%	3%	3%	1%	11%	3%	4%	1%	10%	3%	3%	1%	11%	3%	4%	1%
	S09	La Conner Elementary School	Ault	11%	5%	3%	2%	11%	6%	3%	3%	11%	5%	3%	2%	11%	5%	3%	2%	11%	5%	3%	2%
	S10	Elger Bay Elementary School	OLF	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) R01 and R06 include interior SELs greater than 100 dB with windows open

Table A7.3-8 Indoor Speech Interference for the High-Tempo FCLP Year, Alternative 1

Point of Interest				Annual Average Daily Indoor Daytime (0700-2200) Events per Hour (1)																			
				Alt1A		Change from No Action		Alt1B		Change from No Action		Alt1C		Change from No Action		Alt1D		Change from No Action		Alt1E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential	R01	Sullivan Rd	Ault	9	9	+1	+1	10	10	+2	+2	10	10	+2	+2	9	9	+1	+1	10	10	+2	+2
	R02	Salal St. and N. Northgate Dr	Ault	9	9	+1	+1	9	9	+1	+1	10	10	+2	+2	9	9	+1	+1	10	10	+2	+2
	R03	Central Whidbey	Ault	5	-	-	-	6	-	+1	-	6	-	+1	-	5	-	-	-	6	-	+1	-
	R04	Pull and Be Damned Point	Ault	3	1	+1	-	3	1	+1	-	3	1	+1	-	3	1	+1	-	3	1	+1	-
	R05	Snee-Oosh Point	Ault	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-
	R06	Admirals Dr and Byrd Dr	OLF	2	2	+2	+2	1	1	+1	+1	1	1	+1	+1	2	2	+2	+2	1	1	+1	+1
	R07	Race Lagoon	OLF	2	1	+1	+1	1	1	-	+1	1	-	-	-	2	1	+1	+1	1	-	-	-
	R08	Pratts Bluff	OLF	2	1	+2	+1	1	1	+1	+1	1	-	+1	-	2	1	+2	+1	1	-	+1	-
	R09	Cox Rd and Island Ridge Way	OLF	1	-	+1	-	1	-	+1	-	-	-	-	-	1	-	+1	-	1	-	+1	-
	R10	Skyline	None	-	-	-	-	-	-	-	-	1	-	+1	-	1	-	+1	-	1	-	+1	-
	R11	Sequim	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R12	Port Angeles	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R13	Beverly Beach, Freeland	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	9	8	+1	+1	9	8	+1	+1	10	9	+2	+2	9	8	+1	+1	10	9	+2	+2
	R15	Long Point Manor	OLF	3	2	+2	+1	2	1	+1	-	1	1	-	-	3	2	+2	+1	2	1	+1	-
	R16	Rocky Point Heights	OLF	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-
	R17	Port Townsend	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R18	Marrowstone Island (Nordland)	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R19	Island Transit Offices, Coupeville	OLF	2	2	+1	+1	2	1	+1	-	1	1	-	-	2	2	+1	+1	1	1	-	-
	R20	South Lopez Island (Agate Beach)	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School (near residential)	S01	Oak Harbor High School	Ault	6	2	-	-	7	3	+1	+1	7	3	+1	+1	7	3	+1	+1	7	3	+1	+1
	S02	Crescent Harbor Elementary School	Ault	5	2	-	-	6	2	+1	-	7	3	+2	+1	6	2	+1	-	6	3	+1	+1
	S03	Coupeville Elementary School	OLF	2	1	+1	+1	2	1	+1	+1	1	-	-	-	2	1	+1	+1	1	1	-	+1
	S04	Anacortes High School	Ault	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S05	Lopez Island School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S09	La Conner Elementary School	Ault	1	-	-	-	1	1	-	+1	1	-	-	-	1	-	-	-	1	-	-	-
	S10	Elger Bay Elementary School	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A7.3-9 Classroom Learning Interference for the High-Tempo FCLP Year, Alternative 1

Representative School Location				Alt1A					Change from No Action				
					Indoor (1)					Indoor (1)			
					Windows Open		Windows Closed			Windows Open		Windows Closed	
Type	ID	Description	Related Field	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)
School Surrogate	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2	-	-	+1	-	-
	S02	Crescent Harbor Elementary School	Ault	68	53	5	<45	2	+1	+1	+1	+1	-
	S03	Coupeville Elementary School	OLF	57	<45	2	<45	1	+5	+5	+2	+5	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-3	-3	-	-3	-
	S08	Fidalgo Elementary School	Ault	49	<45	-	<45	-	-	-	-	-	-
	S09	La Conner Elementary School	Ault	51	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						4		2			1		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						2		2			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						6		2			+2		-
Point of Interest				Alt1B					Change from No Action				
School Surrogate	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	2	+1	+1	+2	+1	-
	S02	Crescent Harbor Elementary School	Ault	68	53	6	<45	2	+1	+1	+2	+1	-
	S03	Coupeville Elementary School	OLF	55	<45	1	<45	1	+3	+3	+1	+3	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-3	-3	-	-3	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+2	+2	-	+2	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						3		2			2		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						5		2			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						7		2			+2		-
Point of Interest				Alt1C					Change from No Action				
School Surrogate	R03	Central Whidbey	Ault	58	<45	6	<45	-	+1	+1	+2	+1	-
	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
	S02	Crescent Harbor Elementary School	Ault	68	53	6	<45	3	+1	+1	+2	+1	+1
	S03	Coupeville Elementary School	OLF	52	<45	1	<45	-	-	-	+1	-	-
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-3	-3	-	-3	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	51	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						3		2			3		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						6		3			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						7		3			+2		-

Notes:

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) Number of Average School-Day Events per hour during 8-hour school day (0800-1600) At or Above an Indoor Maximum (single-event) Sound Level (L_{max}) of 50 dB;

Table A7.3-9 Classroom Learning Interference for High-Tempo FCLP Year, Alternative 1 (concluded)

Representative School Location				Alt1D					Change from No Action				
					Indoor (1)					Indoor (1)			
					Windows Open		Windows Closed			Windows Open		Windows Closed	
Type	ID	Description	Related Field	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)
School Surrogate	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
School Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2	-	-	+1	-	-
School	S02	Crescent Harbor Elementary School	Ault	68	53	5	<45	2	+1	+1	+1	+1	-
School	S03	Coupeville Elementary School	OLF	57	<45	2	<45	1	+5	+5	+2	+5	+1
School	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
School	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
School	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S08	Fidalgo Elementary School	Ault	49	<45	-	<45	-	-	-	-	-	-
School	S09	La Conner Elementary School	Ault	51	<45	1	<45	-	+1	+1	-	+1	-
School	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						4		2			1		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						5		2			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						6		2			+2		-
Point of Interest				Alt1E					Change from No Action				
School Surrogate	R03	Central Whidbey	Ault	58	<45	6	<45	-	+1	+1	+2	+1	-
School Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
School	S02	Crescent Harbor Elementary School	Ault	68	53	6	<45	2	+1	+1	+2	+1	-
School	S03	Coupeville Elementary School	OLF	53	<45	1	<45	-	+1	+1	+1	+1	-
School	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
School	S05	Lopez Island School	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
School	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
School	S09	La Conner Elementary School	Ault	51	<45	1	<45	-	+1	+1	-	+1	-
School	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						3		2			3		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						6		2			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						7		3			+2		-

Notes:

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

Table A7.3-10 Recreational Speech Interference for High-Tempo FCLP Year, Alternative 1

Representative Park Receptor			Annual Average Outdoor Daily Daytime Events per Hour, NA 50 L_{max}																	
			Alt1A		Increase re No Action		Alt1B		Increase re No Action		Alt1C		Increase re No Action		Alt1D		Increase re No Action		Alt1E	
Type	ID	Description	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Park	P01	Joseph Whidbey State Park	9	2	+1	-	9	2	+1	-	10	3	+2	+1	9	2	+1	-	10	3
	P02	Deception Pass State Park	9	2	+1	-	9	2	+1	-	10	3	+2	+1	9	2	+1	-	10	3
	P03	Dugualla State Park	8	2	-	-	9	2	+1	-	9	3	+1	+1	9	2	+1	-	9	3
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	5	1	+2	-	4	1	+1	-	3	1	-	-	5	1	+2	-	4	1
	P05	Ebey's Landing State Park	4	1	+2	+1	3	1	+1	+1	3	1	+1	+1	4	1	+2	+1	3	1
	P06	Fort Casey State Park	3	1	+2	+1	2	1	+1	+1	1		-	-	3	1	+2	+1	2	
	P07	Cama Beach State Park	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	5	1	+2	+1	4	1
	P08	Port Townsend	2	1	+1	+1	2	1	+1	+1	1		-	-	2	1	+1	+1	1	
	P09	Moran State Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P10	San Juan Islands National Monument	8	2	+1	-	9	2	+2	-	9	3	+2	+1	8	2	+1	-	9	3
	P11	San Juan Island Visitors Center	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P12	Cap Sante Park		-	-	-		-	-	-	1	-	+1	-	1	-	+1	-	1	-
	P13	Lake Campbell	5	1	+1	-	5	1	+1	-	5	2	+1	+1	5	1	+1	-	5	2
	P14	Spencer Spit State Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P15	Pioneer Park	4	1	-	-	4	1	-	-	4	1	-	-	4	1	-	-	4	1
	P16	Marrowstone Island (Fort Flagler)	2	1	+2	+1	1	-	+1	-	-	-	-	-	1	1	+1	+1	1	-
	EBLA001	Reuble Farm	4	1	+2	+1	3	1	+1	+1	2	-	-	-	4	1	+2	+1	3	1
	EBLA002	Ferry House	4	1	+2	+1	3	1	+1	+1	2	-	-	-	4	1	+2	+1	3	1
Residential	R01	Sullivan Rd	9	2	+1	-	10	3	+2	+1	10	3	+2	+1	9	2	+1	-	10	3
	R02	Salal St. and N. Northgate Dr	9	2	+1	-	10	3	+2	+1	10	3	+2	+1	9	2	+1	-	10	3
	R03	Central Whidbey	8	2	+1	-	9	2	+2	-	9	3	+2	+1	8	2	+1	-	9	3
	R04	Pull and Be Damned Point	8	2	+1	-	9	2	+2	-	9	3	+2	+1	9	2	+2	-	9	3
	R05	Snee-Oosh Point	8	2	+1	-	8	2	+1	-	9	3	+2	+1	8	2	+1	-	9	3
	R06	Admirals Dr and Byrd Dr	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2	-
	R07	Race Lagoon	5	1	+2	-	4	1	+1	-	3	1	-	-	4	1	+1	-	3	1
	R08	Pratts Bluff	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2	-
	R09	Cox Rd and Island Ridge Way	2	1	+1	+1	2	1	+1	+1	1	-	-	-	2	1	+1	+1	1	-
	R10	Skyline	4	1	-	-	4	1	-	-	5	2	+1	+1	4	1	-	-	5	2
	R11	Sequim	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-
	R12	Port Angeles	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-
	R13	Beverly Beach, Freeland	1		+1	-	1	-	+1	-	-	-	-	-	1	-	+1	-	-	-
	R14	E Sleeper Rd & Slumber Ln	9	2	+1	-	10	2	+2	-	10	3	+2	+1	9	2	+1	-	10	3
	R15	Long Point Manor	8	3	+1	+1	9	3	+2	+1	8	3	+1	+1	9	3	+2	+1	8	3
	R16	Rocky Point Heights	5	2	+1	+1	5	2	+1	+1	5	2	+1	+1	5	2	+1	+1	5	2
	R17	Port Townsend	2	1	+1	+1	1	-	-	-	-	-	-1	-	1	1	-	+1	1	-
	R18	Marrowstone Island (Nordland)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R19	Island Transit Offices, Coupeville	5	2	+2	+1	4	1	+1	-	3	1	-	-	5	1	+2	-	4	1
	R20	South Lopez Island (Agate Beach)	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1
School	S01	Oak Harbor High School	9	2	+1	-	9	2	+1	-	10	3	+2	+1	9	2	+1	-	10	3
	S02	Crescent Harbor Elementary School	8	2	+1	-	9	2	+2	-	9	3	+2	+1	9	2	+2	-	9	3
	S03	Coupeville Elementary School	5	1	+2	-	4	1	+1	-	3	1	-	-	4	1	+1	-	3	1
	S04	Anacortes High School	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-
	S05	Lopez Island School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	4	1	-	-	5	1	+1	-	5	2	+1	+1	5	1	+1	-	5	1
	S09	La Conner Elementary School	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1
	S10	Elger Bay Elementary School	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-

Table A7.4-1 Estimated Acreage and Population within the DNL Contour Ranges[1] for the NAS Whidbey Island Complex, Alternative 2 (High-Tempo FCLP Year)[2,3]

	DNL Contour Ranges							
	65 to <70 dB DNL		70 to <75 dB DNL		Greater than or equal to 75 dB DNL		Total	
	Area (acres)	Pop[4]	Area (acres)	Pop[4]	Area (acres)	Pop[4]	Area (acres)	Pop[4]
Ault Field								
No Action Alternative								
High-Tempo FCLP Year	3,503	3,347	3,260	2,677	5,864	3,530	12,628	9,554
Alternative 2								
Scenario A (20/80 FCLP split)	4,085 (+582)	3,738 (+391)	3,272 (+12)	1,929 (-748)	5,950 (+86)	3,516 (-14)	13,306 (+678)	9,183 (-371)
Scenario B (50/50 FCLP split)	3,952 (+449)	3,661 (+314)	3,267 (+7)	2,491 (-186)	6,492 (+628)	3,814 (+284)	13,712 (+1,084)	9,966 (+412)
Scenario C (80/20 FCLP split)	3,992 (+489)	3,766 (+419)	3,139 (-121)	2,517 (-160)	6,845 (+981)	3,962 (+432)	13,975 (+1,347)	10,245 (+691)
Scenario D (30/70 FCLP split)	4,025 (+522)	3,753 (+406)	3,244 (-16)	2,225 (-452)	6,192 (+328)	3,630 (+100)	13,461 (+833)	9,608 (+54)
Scenario E (70/30 FCLP split)	3,968 (+465)	3,721 (+374)	3,162 (-98)	2,486 (-191)	6,743 (+879)	3,909 (+379)	13,873 (+1,245)	10,116 (+562)
OLF Coupeville								
No Action Alternative								
High-Tempo FCLP Year	3,718	881	3,054	786	637	583	7,409	2,250
Alternative 2								
Scenario A (20/80 FCLP split)	1,562 (-2,156)	562 (-319)	3,282 (+228)	949 (+163)	5,324 (+4,687)	1,938 (+1,355)	10,168 (+2,759)	3,449 (+1,199)
Scenario B (50/50 FCLP split)	2,062 (-1,656)	561 (-320)	3,461 (+407)	1,060 (+274)	3,920 (+3,283)	1,496 (+913)	9,443 (+2,034)	3,117 (+867)
Scenario C (80/20 FCLP split)	3,447 (-271)	1,027 (+146)	3,176 (+122)	1,042 (+256)	1,629 (+992)	736 (+153)	8,252 (+843)	2,805 (+555)
Scenario D (30/70 FCLP split)	1,586 (-2,132)	527 (-354)	3,426 (+372)	1,006 (+220)	4,968 (+4,331)	1,830 (+1,247)	9,980 (+2,571)	3,363 (+1,113)
Scenario E (70/30 FCLP split)	2,922 (-796)	825 (-56)	3,224 (+170)	1,051 (+265)	2,718 (2,081)	1,073 (+490)	8,865 (+1,456)	2,950 (+700)
NAS Whidbey Island Complex								
No Action Alternative								
High-Tempo FCLP Year	7,221	4,228	6,315	3,463	6,502	4,113	20,037	11,804
Alternative 2								
Scenario A (20/80 FCLP split)	5,647 (-1,574)	4,300 (+72)	6,554 (+239)	2,879 (-584)	11,273 (+4,771)	5,454 (+1,341)	23,474 (+3,437)	12,632 (+828)
Scenario B (50/50 FCLP split)	6,015 (-1,206)	4,222 (-6)	6,728 (+413)	3,551 (+88)	10,412 (+3,910)	5,310 (+1,197)	23,156 (+3,119)	13,083 (+1,279)
Scenario C (80/20 FCLP split)	7,439 (+218)	4,793 (+565)	6,315 (0)	3,559 (+96)	8,474 (+1,972)	4,698 (+585)	22,228 (+2,191)	13,050 (+1,246)
Scenario D (30/70 FCLP split)	5,612 (-1,609)	4,280 (+52)	6,670 (+355)	3,231 (-232)	11,159 (+4,657)	5,460 (+1,347)	23,441 (+3,404)	12,972 (+1,168)
Scenario E (70/30 FCLP split)	6,890 (-331)	4,546 (+318)	6,386 (+71)	3,538 (+75)	9,461 (+2,959)	4,982 (+869)	22,738 (+2,701)	13,065 (+1,261)

Table A7.4-1 Estimated Acreage and Population within the DNL Contour Ranges[1] for the NAS Whidbey Island Complex, Alternative 2 (High-Tempo FCLP Year)[2,3]

	DNL Contour Ranges							
	65 to <70 dB DNL		*70 to <75 dB DNL*		*Greater than or equal to 75 dB DNL*		*Total*	
	Area (acres)	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*

Notes:

[1] All five scenarios are outlined in Section 2.3.3, where the split represents the percent of FCLPs conducted at Ault Field and OLF Coupeville, respectively (i.e., 20/80 FCLP split = 20 percent of FCLPs at Ault Field and 80 percent of FCLPs at OLF Coupeville).

[2] Acreage presented does not include areas over water or areas over the NAS Whidbey Island complex.

[3] The difference between the No Action Alternative and Alternative 1 is noted in parentheses.

[4] Population counts of people within the DNL contour ranges were computed using 2010 Census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour range, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block, and it excludes population on military properties within the DNL contour ranges (NAS Whidbey Island [Ault Field], the Seaplane Base, and OLF Coupeville). All population estimates for areas within the dB DNL contours utilized 2010 U.S. Census Bureau data. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). To simplify the analysis, this growth factor was also used for areas of Skagit County that fall within the 65+ dB DNL contours. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

[5] Numbers have been rounded to ensure totals sum.

Key:

dB = decibel

DNL = day-night average sound level

FCLP = Field Carrier Landing Practice

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
P01	Joseph Whidbey State Park	Ault	58				
				59			
					59		
						58	
							59
P02	Deception Pass State Park	Ault	73				
				74			
					75		
						74	
							75
P03	Dugualla State Park	Ault	66				
				66			
					66		
						66	
							66
P04	Baseball Field (Ebey's Landing National Historical Reserve)	OLF	79				
				77			
					73		
						79	
							75
P05	Ebey's Prairie	OLF	56				
				54			
					50		
						55	
							52
P06	Fort Casey State Park	OLF	63				
				61			
					57		
						62	
							59
P07	Cama Beach State Park	OLF	47				
				46			
					<45		
						47	
							<45
P08	Port Townsend	OLF	<45				
				<45			
					<45		
						<45	
							<45
P09	Moran State Park	Ault	<45				
				<45			
					<45		
						<45	
							<45
P10	San Juan Islands National Monument	Ault	55				
				55			
					55		
						55	
							55
P11	San Juan Island Visitors Center	Ault	<45				
				<45			
					<45		
						<45	
							<45
P12	Cap Sante Park	Ault	<45				
				<45			
					<45		
						<45	
							<45
P13	Lake Campbell	Ault	55				
				56			
					56		
						56	
							56

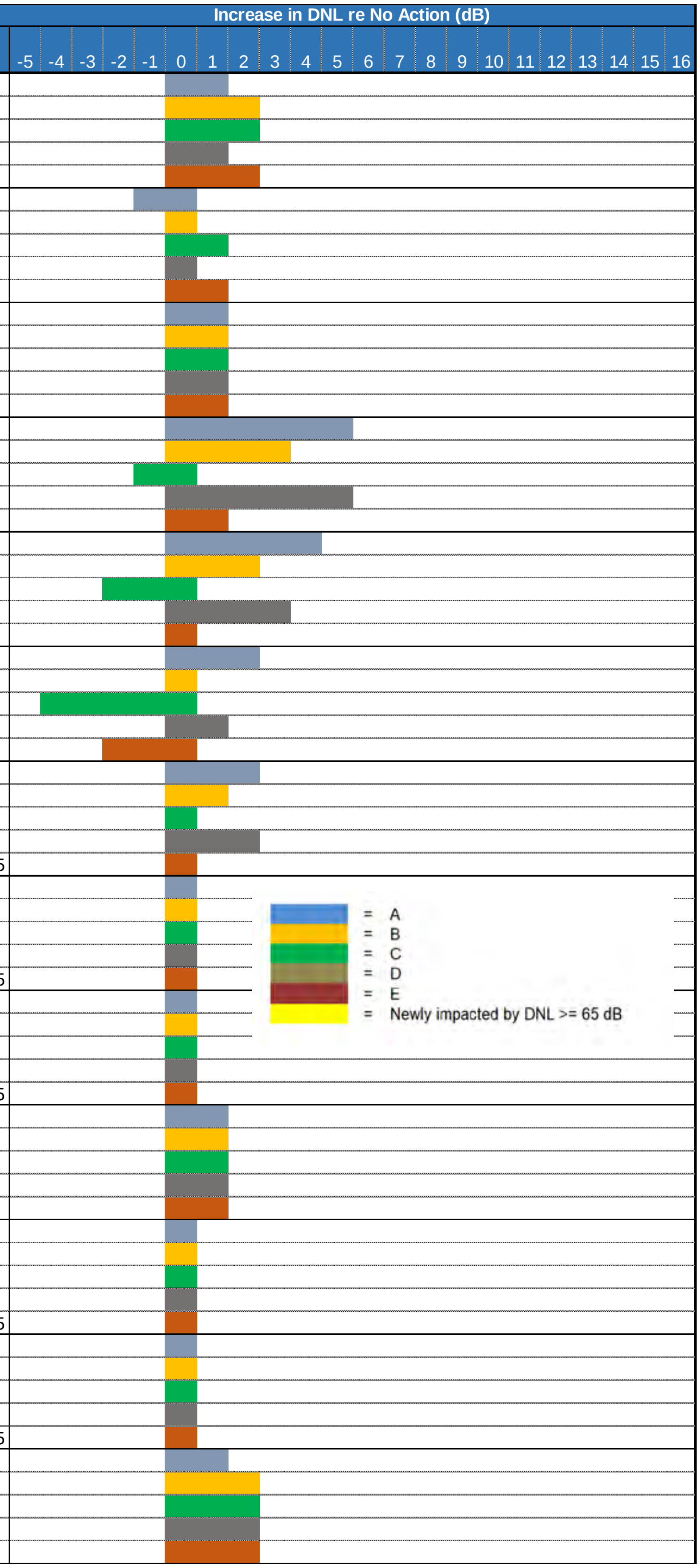


Figure A7.4-1 Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year, Alternative 2

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
P14	Spencer Spit State Park	None	<45	<45	<45	<45	<45
P15	Pioneer Park	Ault	57	57	57	57	57
P16	Marrowstone Island (Fort Flagler)	OLF	<45	<45	<45	<45	<45
EBLA001	Ferry House	OLF	80	78	75	80	76
EBLA002	Reuble Farm	OLF	59	56	53	58	55
R01	Sullivan Rd	Ault	91	91	92	91	92
R02	Salal St. and N. Northgate Dr	Ault	79	79	80	79	80
R03	Central Whidbey	Ault	59	59	59	59	59
R04	ull and Be Damned Poi	Ault	64	63	63	63	63
R05	Snee-Oosh Point	Ault	59	59	58	58	58
R06	Admirals Dr and Byrd D	OLF	89	87	83	89	85
R07	Race Lagoon	OLF	76	74	70	75	72
R08	Pratts Bluff	OLF	63	61	58	63	59

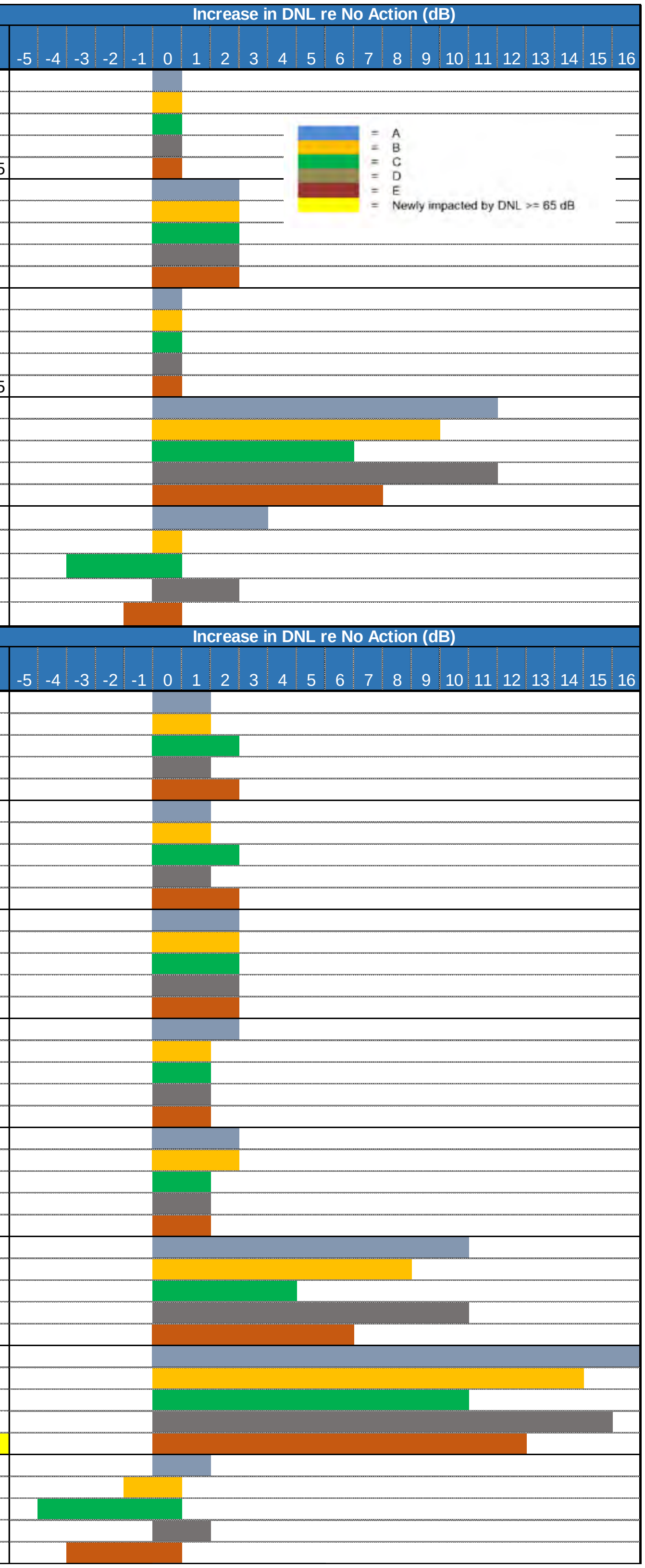


Figure A7.4-1. Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year, Alternative 2 (continued)

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
R09	Cox Rd and Island Ridge Way	OLF	55				
				52			
					49		
						54	
							50
R10	Skyline	None	58				
				58			
					58		
						58	
							58
R11	Sequim	None	<45				
				<45			
					<45		
						<45	
							<45
R12	Port Angeles	None	<45				
				<45			
					<45		
						<45	
							<45
R13	Beverly Beach, Freeland	OLF	<45				
				<45			
					<45		
						<45	
							<45
R14	Sleeper Rd & Slumber L	Ault	75				
				76			
					76		
						75	
							76
R15	Long Point Manor	OLF	73				
				71			
					67		
						72	
							69
R16	Rocky Point Heights	OLF	56				
				56			
					56		
						56	
							56
R17	Port Townsend	None	<45				
				<45			
					<45		
						<45	
							<45
R18	Marrowstone Island (Nordland)	None	<45				
				<45			
					<45		
						<45	
							<45
R19	Island Transit Offices, Coupeville	OLF	80				
				78			
					74		
						80	
							76
R20	South Lopez Island (Agate Beach)	None	49				
				48			
					49		
						49	
							49

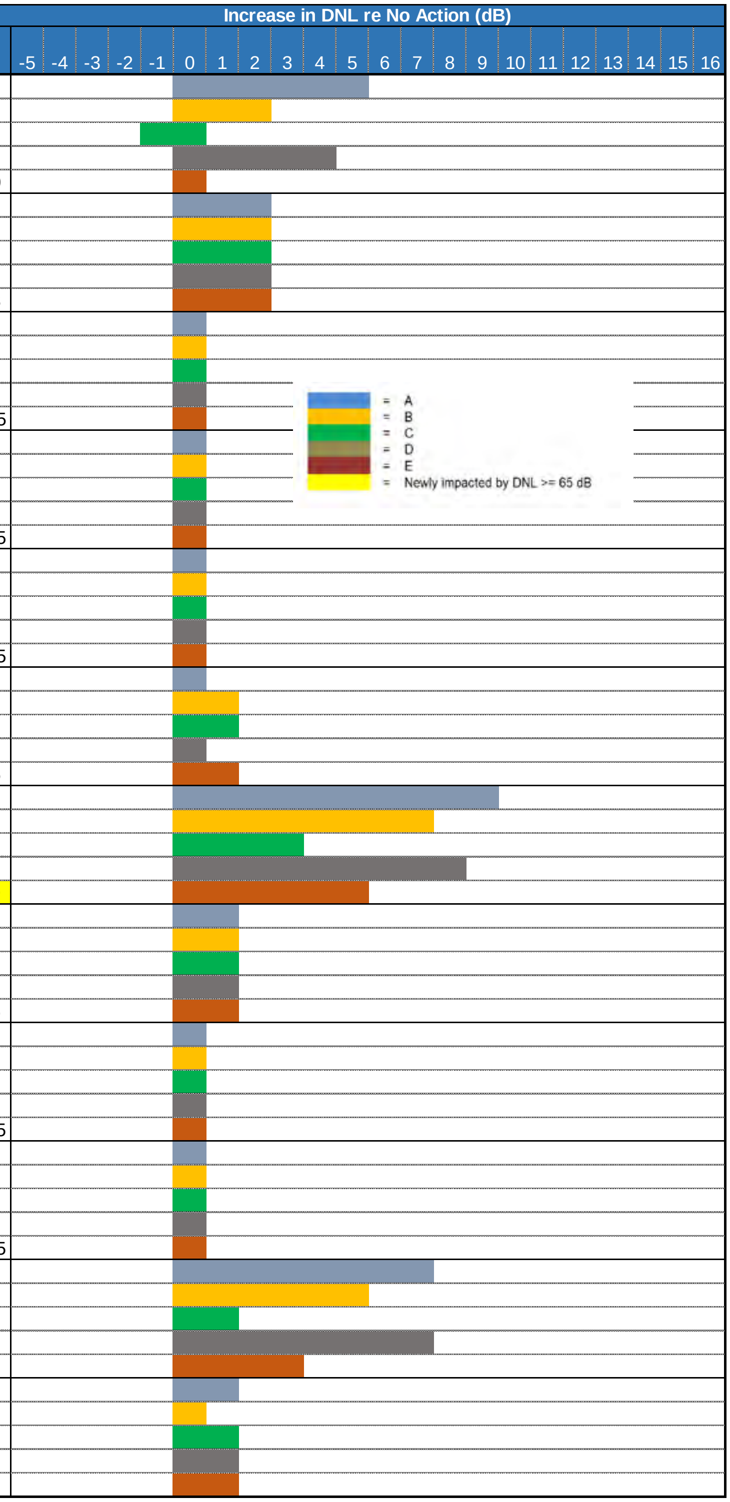


Figure A7.4-1. Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year, Alternative 2 (continued)

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
S01	Oak Harbor High School	Ault	60	61	61	60	61
S02	Crescent Harbor Elementary School	Ault	69	68	69	69	69
S03	Coupeville Elementary School	OLF	62	59	56	61	58
S04	Anacortes High School	Ault	50	50	50	50	50
S05	Lopez Island School	None	<45	<45	<45	<45	<45
S06	Friday Harbor Elementary School	None	<45	<45	<45	<45	<45
S07	Sir James Douglas Elementary School	None	<45	<45	<45	<45	<45
S08	Fidalgo Elementary School	Ault	53	53	53	53	53
S09	La Conner Elementary School	Ault	55	55	55	55	55
S10	Elger Bay Elementary School	OLF	<45	<45	<45	<45	<45

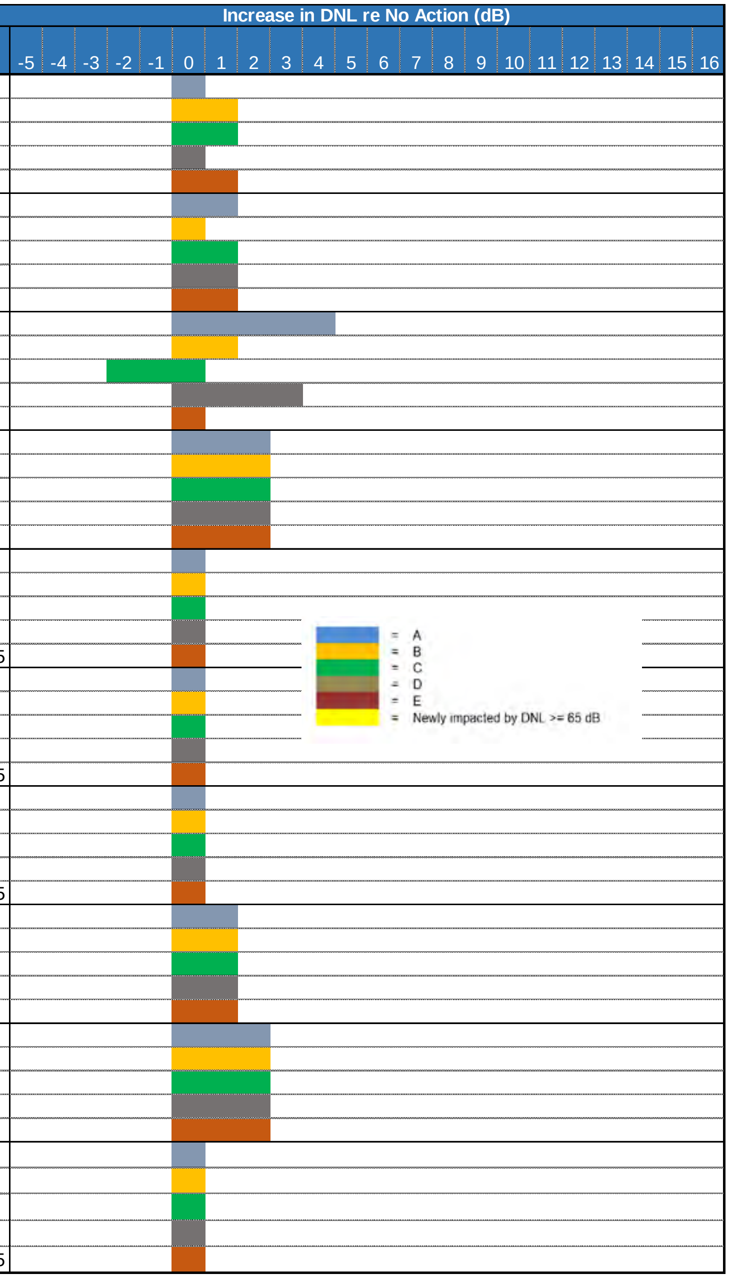


Figure A7.4-1. Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year, Alternative 2 (concluded)

Table A7.4-2 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 2A

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	-	76	76	-	(0)	44	44
76-77	1.0	4.5	-	127	180	307	-	(28)	134	106
77-78	1.5	5.0	-	275	157	432	-	(1)	112	110
78-79	2.0	5.5	-	160	98	258	-	(9)	74	65
79-80	2.5	6.0	-	138	80	218	-	36	73	108
80-81	3.0	7.0	-	79	70	149	-	4	69	73
81-82	3.5	8.0	-	65	62	127	-	14	62	76
82-83	4.0	9.0	-	49	54	102	-	10	54	64
83-84	4.5	10.0	-	36	63	100	-	0	63	64
84-85	5.5	11.0	-	28	59	88	-	16	59	75
85-86	6.0	12.0	-	10	1	11	-	0	1	1
86-87	7.0	13.5	-	9	0	9	-	2	0	2
87-88	7.5	15.0	-	6	0	6	-	2	0	2
88-89	8.5	16.5	-	4	-	4	-	2	-	2
89-90	9.5	18.0	-	1	-	1	-	1	-	1
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.4-3 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 2B

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	2	27	29	-	2	(6)	(4)
76-77	1.0	4.5	114	337	101	552	114	182	55	351
77-78	1.5	5.0	-	353	78	431	-	76	33	109
78-79	2.0	5.5	-	260	69	329	-	91	45	136
79-80	2.5	6.0	-	171	62	234	-	70	55	124
80-81	3.0	7.0	-	104	56	160	-	29	55	84
81-82	3.5	8.0	-	73	64	137	-	22	64	86
82-83	4.0	9.0	-	62	49	111	-	23	49	72
83-84	4.5	10.0	-	38	1	38	-	2	1	2
84-85	5.5	11.0	-	27	0	27	-	15	0	15
85-86	6.0	12.0	-	24	0	24	-	14	0	14
86-87	7.0	13.5	-	9	-	9	-	2	-	2
87-88	7.5	15.0	-	7	-	7	-	3	-	3
88-89	8.5	16.5	-	5	-	5	-	3	-	3
89-90	9.5	18.0	-	2	-	2	-	2	-	2
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.4-4 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 2C

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	4	36	40	-	4	4	8
76-77	1.0	4.5	195	293	55	543	195	139	8	342
77-78	1.5	5.0	2	458	64	524	2	181	18	201
78-79	2.0	5.5	-	307	55	361	-	137	31	168
79-80	2.5	6.0	-	271	1	272	-	169	(6)	163
80-81	3.0	7.0	-	146	0	147	-	71	(1)	70
81-82	3.5	8.0	-	82	0	82	-	31	(0)	31
82-83	4.0	9.0	-	66	-	66	-	27	-	27
83-84	4.5	10.0	-	42	-	42	-	6	-	6
84-85	5.5	11.0	-	30	-	30	-	17	-	17
85-86	6.0	12.0	-	29	-	29	-	19	-	19
86-87	7.0	13.5	-	10	-	10	-	3	-	3
87-88	7.5	15.0	-	8	-	8	-	4	-	4
88-89	8.5	16.5	-	5	-	5	-	3	-	3
89-90	9.5	18.0	-	3	-	3	-	3	-	3
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.4-5 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 2D

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	0	72	72	-	(0)	39	39
76-77	1.0	4.5	-	149	170	320	-	(5)	124	119
77-78	1.5	5.0	-	317	113	430	-	40	67	108
78-79	2.0	5.5	-	198	88	286	-	29	64	93
79-80	2.5	6.0	-	144	74	218	-	42	67	109
80-81	3.0	7.0	-	89	64	153	-	13	63	76
81-82	3.5	8.0	-	70	57	127	-	18	57	75
82-83	4.0	9.0	-	49	60	109	-	11	60	71
83-84	4.5	10.0	-	37	80	117	-	1	80	81
84-85	5.5	11.0	-	31	3	34	-	18	3	22
85-86	6.0	12.0	-	11	0	11	-	1	0	2
86-87	7.0	13.5	-	9	0	9	-	2	0	2
87-88	7.5	15.0	-	6	0	6	-	2	0	2
88-89	8.5	16.5	-	4	-	4	-	2	-	2
89-90	9.5	18.0	-	1	-	1	-	1	-	1
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.4-6 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 2E

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	2	43	45	-	2	11	12
76-77	1.0	4.5	102	331	67	500	102	176	21	299
77-78	1.5	5.0	-	400	60	460	-	123	14	138
78-79	2.0	5.5	-	298	57	355	-	129	33	162
79-80	2.5	6.0	-	237	66	303	-	135	59	194
80-81	3.0	7.0	-	130	37	168	-	55	36	91
81-82	3.5	8.0	-	79	1	80	-	28	1	29
82-83	4.0	9.0	-	64	0	64	-	25	0	26
83-84	4.5	10.0	-	39	0	39	-	3	0	3
84-85	5.5	11.0	-	29	-	29	-	17	-	17
85-86	6.0	12.0	-	26	-	26	-	17	-	17
86-87	7.0	13.5	-	10	-	10	-	3	-	3
87-88	7.5	15.0	-	8	-	8	-	3	-	3
88-89	8.5	16.5	-	5	-	5	-	3	-	3
89-90	9.5	18.0	-	2	-	2	-	2	-	2
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.4-7 Average Indoor Nightly Probability of Awakening at Applicable POIs for the High-Tempo FCLP Year, Alternative 2

Point of Interest				Annual Average Nightly (2200-0700) Probability of Awakening (%) [(1)]																			
				Alt2A		Change from No Action		Alt2B		Change from No Action		Alt2C		Change from No Action		Alt2D		Change from No Action		Alt2E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential	R01	Sullivan Rd	Ault	68%	52%	6%	6%	73%	57%	11%	11%	76%	60%	14%	14%	69%	53%	7%	7%	74%	59%	12%	13%
	R02	Salal St. and N. Northgate Dr	Ault	50%	36%	6%	5%	54%	39%	10%	8%	57%	42%	13%	11%	51%	37%	7%	6%	56%	41%	12%	10%
	R03	Central Whidbey	Ault	20%	11%	3%	2%	23%	12%	6%	3%	24%	13%	7%	4%	21%	11%	4%	2%	23%	12%	6%	3%
	R04	Pull and Be Damned Point	Ault	26%	13%	5%	4%	27%	13%	6%	4%	28%	13%	7%	4%	26%	12%	5%	3%	28%	13%	7%	4%
	R05	Snee-Oosh Point	Ault	21%	8%	5%	3%	22%	8%	6%	3%	23%	8%	7%	3%	21%	8%	5%	3%	23%	8%	7%	3%
	R06	Admirals Dr and Byrd Dr	OLF	39%	28%	30%	22%	25%	17%	16%	11%	13%	8%	4%	2%	35%	25%	26%	19%	18%	12%	9%	6%
	R07	Race Lagoon	OLF	19%	8%	14%	6%	13%	5%	8%	3%	8%	3%	3%	1%	17%	8%	12%	6%	10%	4%	5%	2%
	R08	Pratts Bluff	OLF	14%	9%	10%	7%	9%	5%	5%	3%	5%	3%	1%	1%	13%	8%	9%	6%	6%	4%	2%	2%
	R09	Cox Rd and Island Ridge Way	OLF	11%	8%	8%	6%	7%	5%	4%	3%	3%	2%	-	-	10%	7%	7%	5%	5%	3%	2%	1%
	R10	Skyline	None	8%	3%	2%	1%	8%	3%	2%	1%	10%	3%	4%	1%	9%	3%	3%	1%	10%	3%	4%	1%
	R11	Sequim	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R12	Port Angeles	None	1%	0%	1%	-	1%	0%	1%	-	0%	0%	-	-	1%	0%	1%	-	0%	0%	-	-
	R13	Beverly Beach, Freeland	OLF	6%	-	4%	-	4%	-	2%	-	2%	-	-	-	5%	-	3%	-	3%	-	1%	-
	R14	E Sleeper Rd & Slumber Ln	Ault	45%	31%	5%	3%	49%	35%	9%	7%	52%	38%	12%	10%	46%	32%	6%	4%	51%	37%	11%	9%
	R15	Long Point Manor	OLF	23%	12%	12%	8%	18%	8%	7%	4%	14%	4%	3%	-	22%	11%	11%	7%	16%	6%	5%	2%
	R16	Rocky Point Heights	OLF	11%	4%	1%	1%	12%	4%	2%	1%	13%	3%	3%	-	12%	4%	2%	1%	13%	3%	3%	-
	R17	Port Townsend	None	1%	-	-	-	1%	-	-	-	0%	-	-1%	-	1%	-	-	-	1%	-	-	-
	R18	Marrowstone Island (Nordland)	None	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	0%	-	-	-
	R19	Island Transit Offices, Coupeville	OLF	32%	21%	22%	16%	22%	13%	12%	8%	13%	6%	3%	1%	29%	18%	19%	13%	17%	9%	7%	4%
	R20	South Lopez Island (Agate Beach)	None	4%	1%	1%	-	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-
School (near residential)	S01	Oak Harbor High School	Ault	26%	15%	4%	2%	28%	17%	6%	4%	30%	19%	8%	6%	26%	16%	4%	3%	29%	18%	7%	5%
	S02	Crescent Harbor Elementary School	Ault	27%	16%	4%	3%	30%	18%	7%	5%	31%	19%	8%	6%	28%	17%	5%	4%	31%	19%	8%	6%
	S03	Coupeville Elementary School	OLF	17%	10%	12%	7%	11%	6%	6%	3%	6%	3%	1%	-	15%	9%	10%	6%	8%	4%	3%	1%
	S04	Anacortes High School	Ault	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-
	S05	Lopez Island School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	9%	3%	2%	1%	10%	3%	3%	1%	10%	3%	3%	1%	10%	3%	3%	1%	10%	3%	3%	1%
	S09	La Conner Elementary School	Ault	11%	5%	3%	2%	11%	5%	3%	2%	10%	5%	2%	2%	11%	5%	3%	2%	11%	5%	3%	2%
	S10	Elger Bay Elementary School	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

Table A7.4-8 Indoor Speech Interference for the High-Tempo FCLP Year, Alternative 2

Point of Interest				Annual Average Daily Indoor Daytime (0700-2200) Events per Hour (1)																			
				Alt2A		Change from No Action		Alt2B		Change from No Action		Alt2C		Change from No Action		Alt2D		Change from No Action		Alt2E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential	R01	Sullivan Rd	Ault	9	9	+1	+1	10	10	+2	+2	10	10	+2	+2	10	10	+2	+2	10	10	+2	+2
	R02	Salal St. and N. Northgate Dr	Ault	9	9	+1	+1	10	10	+2	+2	10	10	+2	+2	9	9	+1	+1	10	10	+2	+2
	R03	Central Whidbey	Ault	5	-	-	-	6	-	+1	-	6	-	+1	-	5	-	-	-	6	-	+1	-
	R04	Pull and Be Damned Point	Ault	3	1	+1	-	3	2	+1	+1	3	1	+1	-	3	1	+1	-	3	1	+1	-
	R05	Snee-Oosh Point	Ault	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-
	R06	Admirals Dr and Byrd Dr	OLF	2	2	+2	+2	1	1	+1	+1	1	-	+1	-	2	2	+2	+2	1	1	+1	+1
	R07	Race Lagoon	OLF	2	1	+1	+1	1	1	-	+1	1	-	-	-	2	1	+1	+1	1	-	-	-
	R08	Pratts Bluff	OLF	2	1	+2	+1	1	1	+1	+1	1	-	+1	-	2	1	+2	+1	1	-	+1	-
	R09	Cox Rd and Island Ridge Way	OLF	1	-	+1	-	1	-	+1	-	-	-	-	-	1	-	+1	-	-	-	-	-
	R10	Skyline	None	-	-	-	-	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-
	R11	Sequim	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R12	Port Angeles	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R13	Beverly Beach, Freeland	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R14	E Sleeper Rd & Slumber Ln	Ault	9	8	+1	+1	10	9	+2	+2	10	9	+2	+2	9	8	+1	+1	10	9	+2	+2
	R15	Long Point Manor	OLF	3	2	+2	+1	2	1	+1	-	1	1	-	-	3	2	+2	+1	2	1	+1	-
	R16	Rocky Point Heights	OLF	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-
	R17	Port Townsend	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R18	Marrowstone Island (Nordland)	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R19	Island Transit Offices, Coupeville	OLF	2	2	+1	+1	2	1	+1	-	1	1	-	-	2	2	+1	+1	1	1	-	-
	R20	South Lopez Island (Agate Beach)	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School (near residential)	S01	Oak Harbor High School	Ault	7	3	+1	+1	7	3	+1	+1	8	3	+2	+1	7	3	+1	+1	7	3	+1	+1
	S02	Crescent Harbor Elementary	Ault	6	2	+1	-	6	3	+1	+1	7	3	+2	+1	6	2	+1	-	6	3	+1	+1
	S03	Coupeville Elementary	OLF	2	1	+1	+1	2	1	+1	+1	1	-	-	-	2	1	+1	+1	1	1.00	-	+1
	S04	Anacortes High School	Ault	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S05	Lopez Island School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S09	La Conner Elementary	Ault	1	1	-	+1	1	1	-	+1	1		-	-	1		-	-	1		-	-
	S10	Elger Bay Elementary	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A7.4-9 Classroom Learning Interference for the High-Tempo FCLP Year, Alternative 2

Representative School Location				Alt2A					Change from No Action				
					Indoor (1)					Indoor (1)			
					Windows Open		Windows Closed			Windows Open		Windows Closed	
Type	ID	Description	Related Field	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)
School Surrogate	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
School Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2	-	-	+1	-	-
School	S02	Crescent Harbor Elementary School	Ault	68	53	5	<45	2	+1	+1	+1	+1	-
School	S03	Coupeville Elementary School	OLF	57	<45	2	<45	1	+5	+5	+2	+5	+1
School	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
School	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
School	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-3	-3	-	-3	-
School	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
School	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+2	+2	-	+2	-
School	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						4		2			-		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						2		2			-		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						6		2			-		-
Point of Interest				Alt2B					Change from No Action				
School Surrogate	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
School Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
School	S02	Crescent Harbor Elementary School	Ault	68	53	6	<45	2	+1	+1	+2	+1	-
School	S03	Coupeville Elementary School	OLF	55	<45	1	<45	1	+3	+3	+1	+3	+1
School	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
School	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	-	-	-	-	-
School	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-3	-3	-	-3	-
School	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
School	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+2	+2	-	+2	-
School	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						3		2			2		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						5		2			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						7		3			+2		-
Point of Interest				Alt2C					Change from No Action				
School Surrogate	R03	Central Whidbey	Ault	59	<45	6	<45	-	+2	+2	+2	+2	-
School Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
School	S02	Crescent Harbor Elementary School	Ault	69	54	6	<45	3	+2	+2	+2	+2	+1
School	S03	Coupeville Elementary School	OLF	51	<45	1	<45	-	-1	-1	+1	-1	-
School	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
School	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
School	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-3	-3	-	-3	-
School	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
School	S09	La Conner Elementary School	Ault	51	<45	1	<45	-	+1	+1	-	+1	-
School	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						3		2			3		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						6		3			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						7		3			+2		-

Notes:

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

Table A7.4-9 Classroom Learning Interference for the High-Tempo FCLP Year, Alternative 2 (concluded)

Representative School Location				Alt2D					Change from No Action				
					Indoor (1)					Indoor (1)			
					Windows Open		Windows Closed			Windows Open		Windows Closed	
Type	ID	Description	Related Field	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)
School Surrogate	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2	-	-	+1	-	-
	S02	Crescent Harbor Elementary School	Ault	68	53	5	<45	2	+1	+1	+1	+1	-
	S03	Coupeville Elementary School	OLF	57	<45	2	<45	1	+5	+5	+2	+5	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+2	+2	-	+2	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						4		2			1		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						5		2			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						6		2			+2		-
Point of Interest				Alt2E					Change from No Action				
School Surrogate	R03	Central Whidbey	Ault	59	<45	6	<45	-	+2	+2	+2	+2	-
	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
	S02	Crescent Harbor Elementary School	Ault	69	54	6	<45	2	+2	+2	+2	+2	-
	S03	Coupeville Elementary School	OLF	53	<45	1	<45	-	+1	+1	+1	+1	-
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	51	<45	1	<45	-	+1	+1	-	+1	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						3		2			3		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						6		2			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						7		3			+2		-

Notes:

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

Table A7.4-10 Recreational Speech Interference for the High-Tempo FCLP Year, Alternative 2

Representative Park Receptor			Annual Average Outdoor Daily Daytime Events per Hour, NA 50 L_{max}																			
			Alt2A		Increase re No Action		Alt2B		Increase re No Action		Alt2C		Increase re No Action		Alt2D		Increase re No Action		Alt2E		Increase re No Action	
Type	ID	Description	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Park	P01	Joseph Whidbey State Park	9	2	+1	-	9	2	+1	-	10	3	+2	+1	9	2	+1	-	10	2	+2	-
	P02	Deception Pass State Park	9	2	+1	-	10	2	+1	-	10	3	+2	+1	9	2	+1	-	10	2	+2	-
	P03	Dugualla State Park	9	2	+1	-	9	2	+1	-	10	3	+2	+1	9	2	+1	-	10	2	+2	-
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	5	1	+2	-	4	1	+1	-	3	1	-	-	5	1	+2	-	4	1	+1	-
	P05	Ebey's Landing State Park	4	1	+2	+1	3	1	+1	+1	3	1	+1	+1	4	1	+2	+1	3	1	+1	+1
	P06	Fort Casey State Park	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2	-	+1	-
	P07	Cama Beach State Park	5	1	+2	+1	4	1	+1	+1	4	1	+1	+1	5	1	+2	+1	4	1	+1	+1
	P08	Port Townsend	2	1	+1	+1	2	1	+1	+1	1	-	-	-	2	1	+1	+1	1	-	-	-
	P09	Moran State Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P10	San Juan Islands National Monument	8	2	+1	-	9	2	+2	-	9	2	+2	-	8	2	+1	-	9	2	+2	-
	P11	San Juan Island Visitors Center	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P12	Cap Sante Park	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-
	P13	Lake Campbell	5	1	+1	-	5	1	+1	-	6	1	+2	-	5	1	+1	-	6	1	+2	-
	P14	Spencer Spit State Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P15	Pioneer Park	5	1	+1	-	4	1	-	-	4	1	-	-	5	1	+1	-	4	1	-	-
	P16	Marrowstone Island (Fort Flagler)	2	1	+2	+1	1		+1	-		-	-	-	1	1	+2	+1	1	-	+1	-
	EBLA001	Reuble Farm	4	1	+2	+1	3	1	+1	+1	2		-	-	4	1	+2	+1	3	1	+1	+1
	EBLA002	Ferry House	4	1	+2	+1	3	1	+1	+1	2		-	-	4	1	+2	+1	3	1	+1	+1
Residential	R01	Sullivan Rd	10	2	+2	-	10	2	+2	-	11	3	+3	+1	10	2	+2	-	10	3	+2	+1
	R02	Salal St. and N. Northgate Dr	10	2	+1	-	10	2	+2	-	11	3	+2	+1	10	2	+2	-	10	3	+2	+1
	R03	Central Whidbey	9	2	+2	-	9	2	+2	-	10	2	+3	+1	9	2	+2	-	9	2	+3	+1
	R04	Pull and Be Damned Point	9	2	+2	-	9	2	+2	-	10	3	+3	+1	9	2	+2	-	10	2	+3	-
	R05	Snee-Oosh Point	8	2	+1	-	9	2	+2	-	9	2	+2	-	8	2	+1	-	9	2	+2	-
	R06	Admirals Dr and Byrd Dr	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2	-	+1	-
	R07	Race Lagoon	5	1	+2	-	4	1	+1	-	3	1	-	-	5	1	+2	-	3	1	-	-
	R08	Pratts Bluff	3	1	+2	+1	2	1	+1	+1	2	-	+1	-	3	1	+2	+1	2	-	+1	-
	R09	Cox Rd and Island Ridge Way	2	1	+1	+1	2	1	+1	+1	1	-	-	-	2	1	+1	+1	1	-	-	-
	R10	Skyline	4	1	-	-	4	1	-	-	5	1	+1	-	4	1	-	-	5	1	+1	-
	R11	Sequim	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-
	R12	Port Angeles	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-
	R13	Beverly Beach, Freeland	1	-	+1	-	1	-	+1	-	-	-	-	-	1	-	+1	-	-	-	-	-
	R14	E Sleeper Rd & Slumber Ln	10	2	+2	-	10	2	+2	-	11	3	+3	+1	10	2	+2	-	10	3	+2	+1
	R15	Long Point Manor	9	2	+2	-	9	2	+2	-	9	2	+1	-	9	2	+2	-	9	2	+1	-
	R16	Rocky Point Heights	5	1	+1	-	5	2	+1	-	6	2	+1	-	5	1	+1	-	5	2	+1	-
	R17	Port Townsend	2	1	+1	+1	1		-	-		-	-1	-	1	1	-	+1	1	-	-	-
	R18	Marrowstone Island (Nordland)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R19	Island Transit Offices, Coupeville	5	1	+2	-	4	1	+1	-	3	1	-	-	5	1	+2	-	4	1	+1	-
	R20	South Lopez Island (Agate Beach)	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-
School	S01	Oak Harbor High School	9	2	+1	-	10	2	+2	-	10	3	+2	+1	9	2	+1	-	10	2	+2	-
	S02	Crescent Harbor Elementary School	9	2	+2	-	9	2	+2	-	10	2	+3	+1	9	2	+2	-	9	2	+2	-
	S03	Coupeville Elementary School	5	1	+2	-	4	1	+1	-	3	1	-	-	5	1	+2	-	3	1	-	-
	S04	Anacortes High School	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-
	S05	Lopez Island School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-
	S09	La Conner Elementary School	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-
	S10	Elger Bay Elementary School	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-

Table A7.5-1 Estimated Acreage and Population within the DNL Contour Ranges[1] for the NAS Whidbey Island Complex, Alternative 3 (High-Tempo FCLP Year)[2,3]

	DNL Contour Ranges							
	65 to <70 dB DNL		*70 to <75 dB DNL*		*Greater than or equal to 75 dB DNL*		*Total*	
	Area (acres)	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*
Ault Field								
No Action Alternative								
High-Tempo FCLP Year	3,503	3,347	3,260	2,677	5,864	3,530	12,628	9,554
Alternative 3								
Scenario A (20/80 FCLP split)	4,026 (+523)	3,685 (+338)	3,263 (+3)	1,922 (-755)	5,923 (+59)	3,513 (-17)	13,212 (+584)	9,120 (-434)
Scenario B (50/50 FCLP split)	3,935 (+432)	3,631 (+284)	3,270 (+10)	2,461 (-216)	6,443 (+579)	3,793 (+263)	13,648 (+1,020)	9,886 (+332)
Scenario C (80/20 FCLP split)	3,949 (+446)	3,738 (+391)	3,130 (-130)	2,499 (-178)	6,811 (+947)	3,946 (+416)	13,890 (+1,262)	10,182 (+628)
Scenario D (30/70 FCLP split)	3,996 (+493)	3,672 (+325)	3,258 (-2)	2,223 (-454)	6,165 (+301)	3,661 (+131)	13,419 (+791)	9,555 (+1)
Scenario E (70/30 FCLP split)	3,941 (+438)	3,711 (+364)	3,216 (-44)	2,542 (-135)	6,666 (+802)	3,910 (+380)	13,824 (+1,196)	10,163 (+609)
OLF Coupeville								
No Action Alternative								
High-Tempo FCLP Year	3,718	881	3,054	786	637	583	7,409	2,250
Alternative 3								
Scenario A (20/80 FCLP split)	1,572 (-2,146)	597 (-284)	3,131 (+77)	894 (+108)	5,591 (+4,954)	2,018 (+1,435)	10,294 (+2,885)	3,510 (+1,260)
Scenario B (50/50 FCLP split)	1,887 (-1,831)	493 (-388)	3,461 (+407)	1,080 (+294)	4,247 (+3,610)	1,603 (+1,020)	9,596 (+2,187)	3,176 (+926)
Scenario C (80/20 FCLP split)	3,449 (-269)	1,030 (+149)	3,193 (+139)	1,045 (+259)	1,586 (+949)	725 (+142)	8,397 (+988)	2,800 (+550)
Scenario D (30/70 FCLP split)	1,551 (-2,167)	538 (-343)	3,310 (+256)	961 (+175)	5,239 (+4,602)	1,918 (+1,335)	10,100 (+2,691)	3,417 (+1,167)
Scenario E (70/30 FCLP split)	2,932 (-786)	825 (-56)	3,213 (+159)	1,048 (+262)	2,711 (+2,074)	1,074 (+491)	8,846 (+1,437)	2,947 (+697)
NAS Whidbey Island Complex								
No Action Alternative								
High-Tempo FCLP Year	7,221	4,228	6,315	3,463	6,502	4,113	20,037	11,804
Alternative 3								
Scenario A (20/80 FCLP split)	5,599 (-1,622)	4,283 (+55)	6,394 (+79)	2,816 (-647)	11,513 (+5,011)	5,531 (+1,418)	23,506 (+3,469)	12,631 (+827)
Scenario B (50/50 FCLP split)	5,823 (-1,398)	4,125 (-103)	6,731 (+416)	3,541 (+78)	10,690 (+4,188)	5,396 (+1,283)	23,244 (+3,207)	13,062 (+1,258)
Scenario C (80/20 FCLP split)	7,398 (+177)	4,767 (+539)	6,323 (+8)	3,544 (+81)	8,397 (+1,895)	4,671 (+558)	22,118 (+2,081)	12,982 (+1,178)
Scenario D (30/70 FCLP split)	5,547 (-1,674)	4,209 (-19)	6,569 (+254)	3,184 (-279)	11,404 (+4,902)	5,579 (+1,466)	23,519 (+3,482)	12,972 (+1,168)

Table A7.5-1 Estimated Acreage and Population within the DNL Contour Ranges[1] for the NAS Whidbey Island Complex, Alternative 3 (High-Tempo FCLP Year)[2,3]

	DNL Contour Ranges							
	65 to <70 dB DNL		*70 to <75 dB DNL*		*Greater than or equal to 75 dB DNL*		*Total*	
	Area (acres)	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*	*Area (acres)*	*Pop[4]*
Scenario E (70/30 FCLP split)	6,864 (-357)	4,536 (+308)	6,429 (+114)	3,590 (+127)	9,377 (+2,875)	4,985 (+872)	22,670 (+2,633)	13,111 (+1,307)

Notes:

1 All five scenarios are outlined in Section 2.3.3, where the split represents the percent of FCLPs conducted at Ault Field and OLF Coupeville, respectively (i.e., 20/80 FCLP split = 20 percent of FCLPs at Ault Field and 80 percent of FCLPs at OLF Coupeville).

2 Acreage presented does not include areas over water or areas over the NAS Whidbey Island complex.

3 The difference between the No Action Alternative and Alternative 1 is noted in parentheses.

4 Population counts of people within the DNL contour ranges were computed using 2010 Census block-level data. The percent area of the census block covered by the DNL contour range was applied to the population of that census block to estimate the population within the DNL contour range (e.g., if 25 percent of the census block is within a DNL contour range, then 25 percent of the population is included in the population count). This calculation assumes an even distribution of the population across the census block, and it excludes population on military properties within the DNL contour ranges (NAS Whidbey Island [Ault Field], the Seaplane Base, and OLF Coupeville). All population estimates for areas within the dB DNL contours utilized 2010 U.S. Census Bureau data. A 7.1-percent growth factor was applied to the 2010 census statistics to account for population changes between 2010 and 2020 based on medium forecasted population projections for Island County during that period (Washington State Office of Financial Management, 2017). To simplify the analysis, this growth factor was also used for areas of Skagit County that fall within the 65+ dB DNL contours. These data should be used for comparative purposes only and are not considered actual numbers within the DNL contour range.

5 Numbers have been rounded to ensure totals sum.

Key:

dB = decibel

DNL = day-night average sound level

FCLP = Field Carrier Landing Practice

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
P01	Joseph Whidbey State Park	Ault	58	59	59	58	59
P02	Deception Pass State Park	Ault	73	74	75	74	75
P03	Dugualla State Park	Ault	66	66	66	66	66
P04	Baseball Field (Ebey's Landing National Historical Reserve)	OLF	80	77	73	79	75
P05	Ebey's Prairie	OLF	56	54	50	56	52
P06	Fort Casey State Park	OLF	63	61	57	63	59
P07	Cama Beach State Park	OLF	48	46	<45	47	<45
P08	Port Townsend	OLF	<45	<45	<45	<45	<45
P09	Moran State Park	Ault	<45	<45	<45	<45	<45
P10	San Juan Islands National Monument	Ault	55	55	55	55	55
P11	San Juan Island Visitors Center	Ault	<45	<45	<45	<45	<45
P12	Cap Sante Park	Ault	<45	<45	<45	<45	<45
P13	Lake Campbell	Ault	55	55	56	55	55

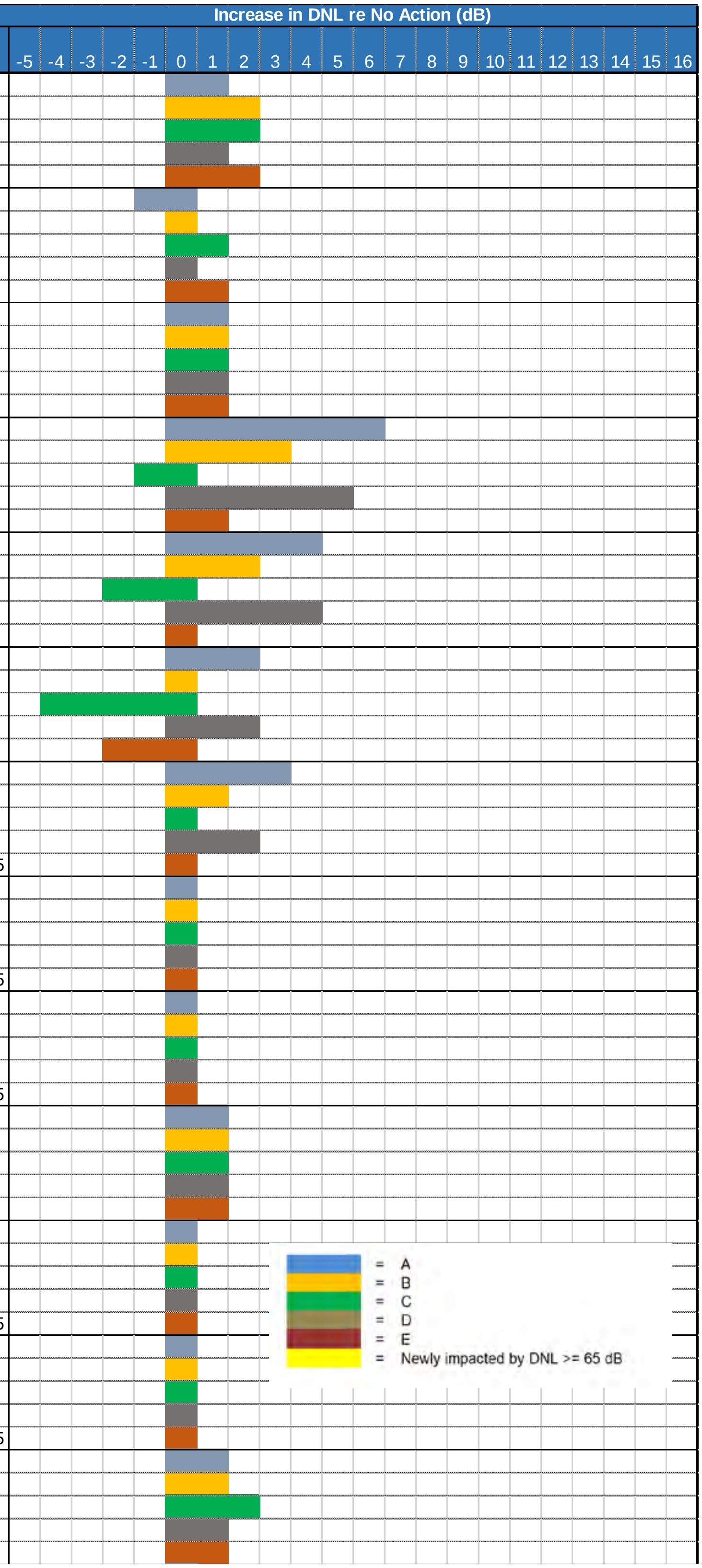


Figure A7.5-1 Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year, Alternative 3

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
P14	Spencer Spit State Park	None	<45	<45	<45	<45	<45
P15	Pioneer Park	Ault	57	57	57	57	57
P16	Marrowstone Island (Fort Flagler)	OLF	<45	<45	<45	<45	<45
EBLA001	Reuble Farm	OLF	81	79	75	80	76
EBLA002	Ferry House	OLF	59	57	53	58	54
R01	Sullivan Rd	Ault	91	91	92	91	92
R02	Salal St. and N. Northgate Dr	Ault	79	79	80	79	79
R03	Central Whidbey	Ault	58	59	59	58	59
R04	ull and Be Damned Poi	Ault	63	63	63	63	63
R05	Snee-Oosh Point	Ault	58	58	58	58	58
R06	Admirals Dr and Byrd D	OLF	90	87	83	89	85
R07	Race Lagoon	OLF	76	74	70	76	72
R08	Pratts Bluff	OLF	64	62	57	63	59

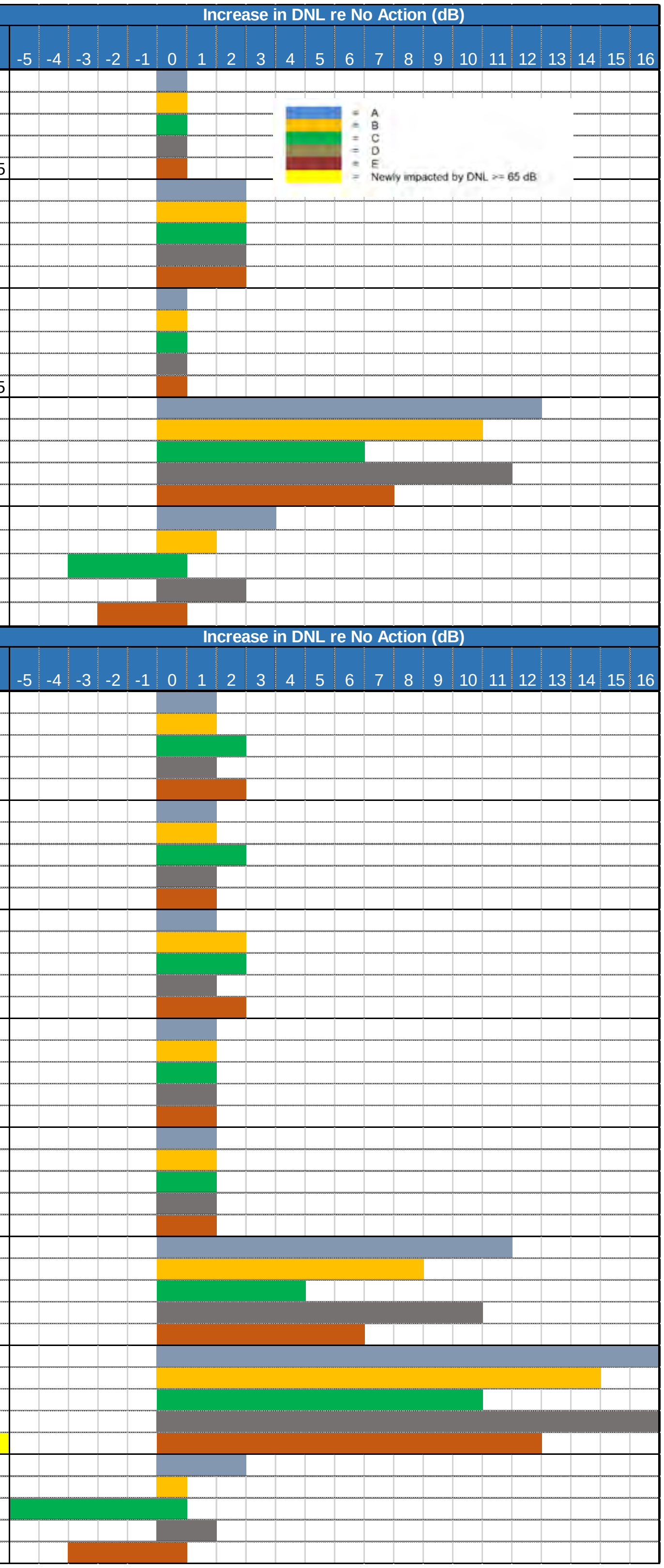


Figure A7.5-1. Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year, Alternative 3 (continued)

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
R09	Cox Rd and Island Ridge Way	OLF	55	53	49	54	50
R10	Skyline	None	58	57	58	57	58
R11	Sequim	None	<45	<45	<45	<45	<45
R12	Port Angeles	None	<45	<45	<45	<45	<45
R13	Beverly Beach, Freeland	OLF	<45	<45	<45	<45	<45
R14	Sleeper Rd & Slumber L	Ault	75	76	76	75	76
R15	Long Point Manor	OLF	73	71	67	73	69
R16	Rocky Point Heights	OLF	56	56	56	56	56
R17	Port Townsend	None	<45	<45	<45	<45	<45
R18	Marrowstone Island (Nordland)	None	<45	<45	<45	<45	<45
R19	Island Transit Offices, Coupeville	OLF	81	79	74	80	76
R20	South Lopez Island (Agate Beach)	None	49	48	49	48	49

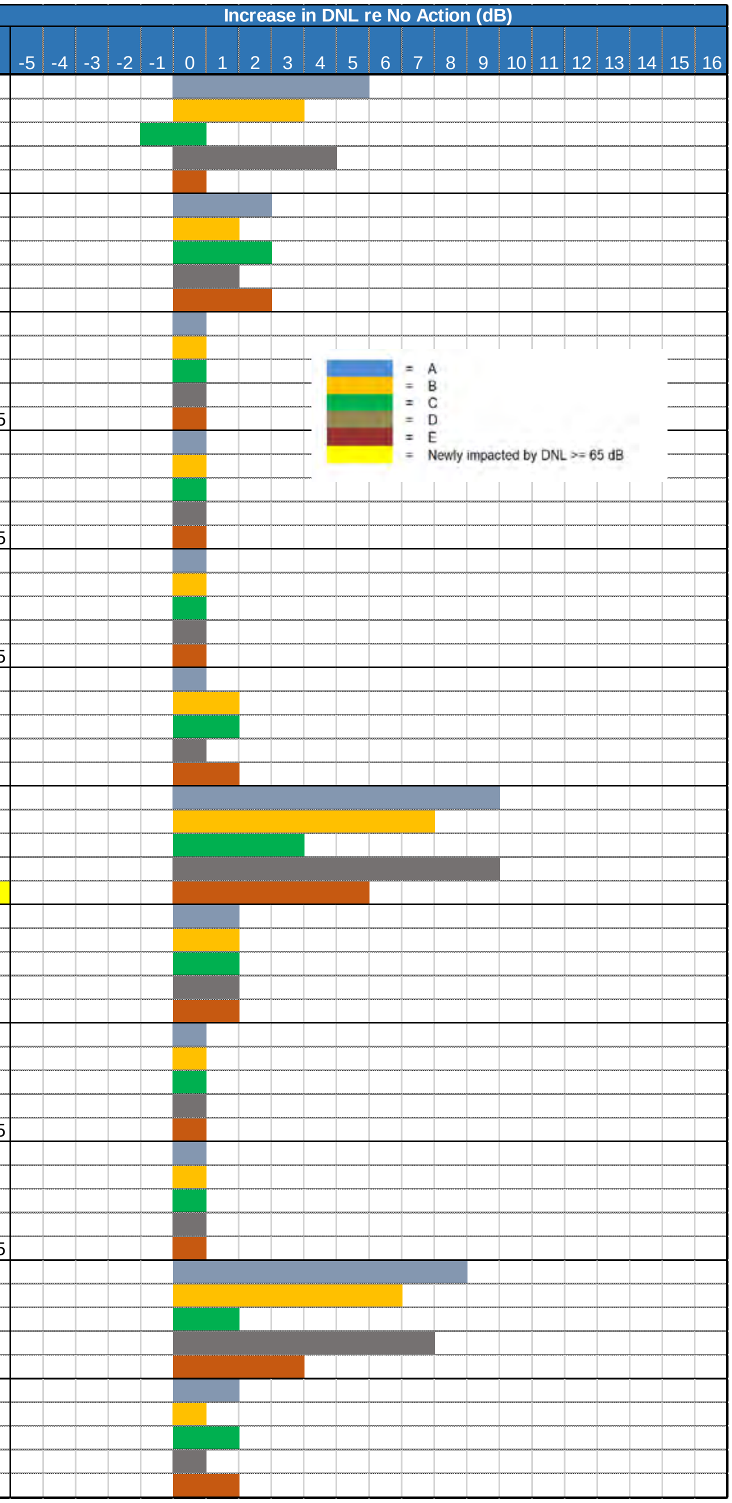


Figure A7.5-1. Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year, Alternative 3 (continued)

Point of Interest			DNL (dB)				
ID	Description	Related Field	A	B	C	D	E
S01	Oak Harbor High School	Ault	59	60	61	60	61
S02	Crescent Harbor Elementary School	Ault	68	68	69	68	68
S03	Coupeville Elementary School	OLF	62	60	56	61	58
S04	Anacortes High School	Ault	50	50	50	50	50
S05	Lopez Island School	None	<45	<45	<45	<45	<45
S06	Friday Harbor Elementary School	None	<45	<45	<45	<45	<45
S07	Sir James Douglas Elementary School	None	<45	<45	<45	<45	<45
S08	Fidalgo Elementary School	Ault	53	53	53	53	53
S09	La Conner Elementary School	Ault	55	55	55	55	55
S10	Elger Bay Elementary School	OLF	<45	<45	<45	<45	<45

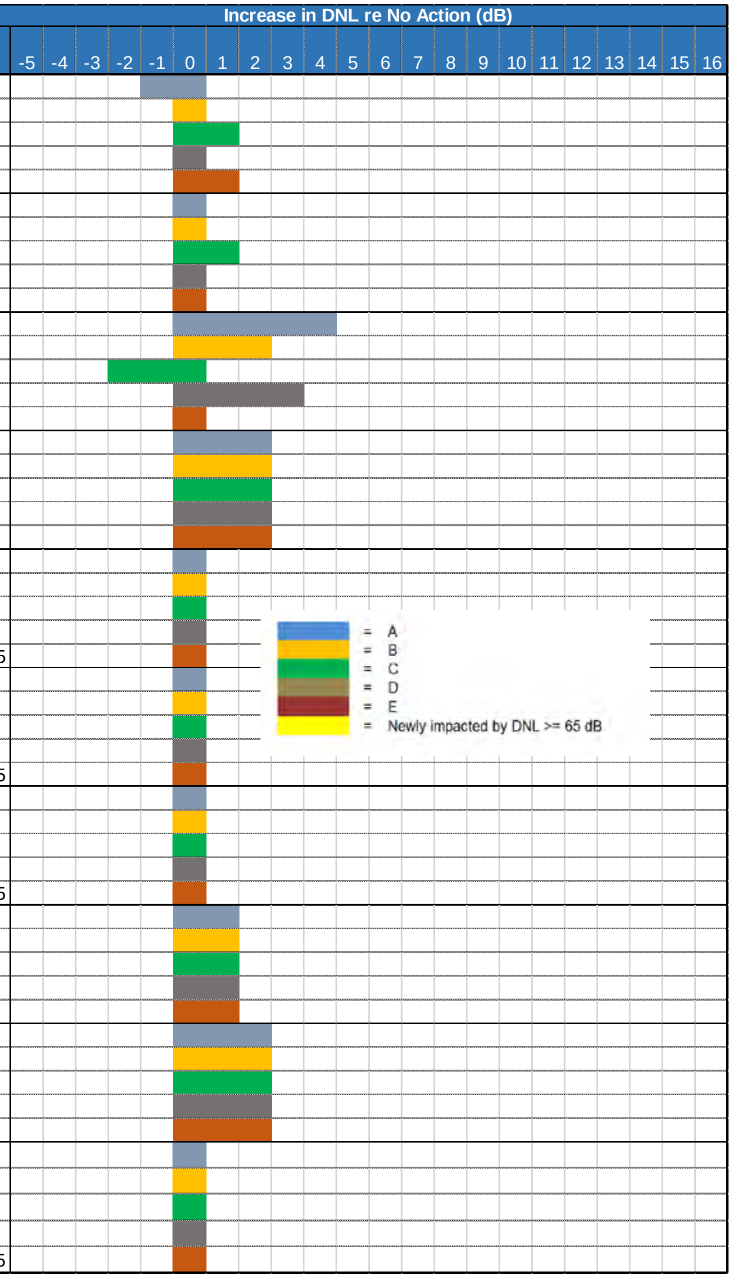


Figure A7.5-1. Estimated Aircraft DNL at POIs for the High-Tempo FCLP Year, Alternative 3 (concluded)

Table A7.5-2 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 3A

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	-	145	145	-	(0)	113	113
76-77	1.0	4.5	-	147	181	327	-	(8)	134	126
77-78	1.5	5.0	-	271	158	429	-	(5)	112	107
78-79	2.0	5.5	-	151	98	249	-	(18)	74	55
79-80	2.5	6.0	-	134	80	215	-	32	73	105
80-81	3.0	7.0	-	77	70	148	-	2	69	71
81-82	3.5	8.0	-	64	62	125	-	12	62	74
82-83	4.0	9.0	-	49	54	103	-	11	54	64
83-84	4.5	10.0	-	34	63	97	-	(2)	63	61
84-85	5.5	11.0	-	27	60	87	-	15	60	75
85-86	6.0	12.0	-	9	1	10	-	-	1	1
86-87	7.0	13.5	-	9	-	9	-	2	-	2
87-88	7.5	15.0	-	6	-	6	-	1	-	1
88-89	8.5	16.5	-	4	-	4	-	2	-	2
89-90	9.5	18.0	-	1	-	1	-	1	-	1
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.5-3 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 3B

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	1	102	102	-	0	69	70
76-77	1.0	4.5	79	305	101	486	79	151	55	285
77-78	1.5	5.0	-	351	79	430	-	75	33	108
78-79	2.0	5.5	-	256	70	325	-	86	45	132
79-80	2.5	6.0	-	170	62	232	-	68	55	123
80-81	3.0	7.0	-	102	56	158	-	27	55	82
81-82	3.5	8.0	-	73	64	137	-	22	64	86
82-83	4.0	9.0	-	61	50	111	-	23	50	73
83-84	4.5	10.0	-	37	1	38	-	1	1	2
84-85	5.5	11.0	-	27	-	27	-	14	-	15
85-86	6.0	12.0	-	23	-	23	-	14	-	14
86-87	7.0	13.5	-	9	-	9	-	2	-	2
87-88	7.5	15.0	-	7	-	7	-	3	-	3
88-89	8.5	16.5	-	5	-	5	-	3	-	3
89-90	9.5	18.0	-	2	-	2	-	2	-	2
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.5-4 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 3C

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	2	33	35	-	2	0	2
76-77	1.0	4.5	137	285	55	477	137	130	8	276
77-78	1.5	5.0	-	454	64	518	-	178	18	196
78-79	2.0	5.5	-	305	56	361	-	136	31	168
79-80	2.5	6.0	-	267	1	268	-	165	(6)	159
80-81	3.0	7.0	-	142	-	143	-	67	(1)	66
81-82	3.5	8.0	-	82	-	82	-	30	(0)	30
82-83	4.0	9.0	-	66	-	66	-	28	-	28
83-84	4.5	10.0	-	40	-	40	-	4	-	4
84-85	5.5	11.0	-	30	-	30	-	17	-	17
85-86	6.0	12.0	-	28	-	28	-	19	-	19
86-87	7.0	13.5	-	10	-	10	-	3	-	3
87-88	7.5	15.0	-	8	-	8	-	4	-	4
88-89	8.5	16.5	-	5	-	5	-	3	-	3
89-90	9.5	18.0	-	2	-	2	-	2	-	2
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.5-5 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 3D

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10th Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	-	158	158	-	(0)	125	125
76-77	1.0	4.5	-	193	178	371	-	39	132	170
77-78	1.5	5.0	-	287	115	402	-	11	69	80
78-79	2.0	5.5	-	195	88	284	-	26	64	90
79-80	2.5	6.0	-	142	74	216	-	40	67	107
80-81	3.0	7.0	-	81	64	145	-	6	63	68
81-82	3.5	8.0	-	70	58	128	-	19	58	77
82-83	4.0	9.0	-	51	60	112	-	13	60	73
83-84	4.5	10.0	-	35	78	113	-	(1)	78	77
84-85	5.5	11.0	-	32	3	35	-	19	3	22
85-86	6.0	12.0	-	10	-	11	-	1	-	1
86-87	7.0	13.5	-	9	-	9	-	2	-	2
87-88	7.5	15.0	-	6	-	6	-	2	-	2
88-89	8.5	16.5	-	4	-	4	-	2	-	2
89-90	9.5	18.0	-	2	-	2	-	2	-	2
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.5-6 Estimated Potential Hearing Loss for the High-Tempo FCLP Year, Alternative 3E

Band of $L_{eq(24)}$ (dB)	Average NIPTS (dB) (1)	10^{th} Percentile NIPTS (dB) (1)	Estimated Population				Change in population re No Action			
			Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL	Ault Field (on-Station)	Ault Field (off-Station)	OLF Coupeville (off-Station)	TOTAL
74-75	0.5	3.5	-	-	-	-	-	-	-	-
75-76	1.0	4.0	-	1	39	40	-	1	6	7
76-77	1.0	4.5	237	265	67	570	237	111	21	369
77-78	1.5	5.0	30	437	60	527	30	160	15	205
78-79	2.0	5.5	-	301	58	358	-	132	34	165
79-80	2.5	6.0	-	216	67	283	-	114	60	174
80-81	3.0	7.0	-	127	33	160	-	52	32	84
81-82	3.5	8.0	-	79	1	79	-	27	1	28
82-83	4.0	9.0	-	66	-	67	-	28	-	28
83-84	4.5	10.0	-	41	-	41	-	5	-	5
84-85	5.5	11.0	-	28	-	28	-	16	-	16
85-86	6.0	12.0	-	28	-	28	-	19	-	19
86-87	7.0	13.5	-	9	-	9	-	2	-	2
87-88	7.5	15.0	-	8	-	8	-	4	-	4
88-89	8.5	16.5	-	5	-	5	-	3	-	3
89-90	9.5	18.0	-	3	-	3	-	3	-	3
90-91	10.5	19.5	-	-	-	-	-	-	-	-
91-92	11.5	21.0	-	-	-	-	-	-	-	-

(1) rounded to nearest 0.5 dB

Note: Average NIPTS values greater than 10 dB, and 10th Percentile NIPTS values greater than 12 dB are estimated based on extrapolating available data from EPA guidance (EPA 1982).

Table A7.5-7 Average Indoor Nightly Probability of Awakening at Applicable POIs for the High-Tempo FCLP Year, Alternative 3

Point of Interest				Annual Average Nightly (2200-0700) Probability of Awakening (%) [1]																			
				Alt3A		Change from No Action		Alt3B		Change from No Action		Alt3C		Change from No Action		Alt3D		Change from No Action		Alt3E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential	R01	Sullivan Rd	Ault	68%	52%	6%	6%	72%	56%	10%	10%	75%	59%	13%	13%	69%	53%	7%	7%	74%	58%	12%	12%
	R02	Salal St. and N. Northgate Dr	Ault	50%	36%	6%	5%	53%	38%	9%	7%	57%	42%	13%	11%	51%	37%	7%	6%	55%	40%	11%	9%
	R03	Central Whidbey	Ault	20%	11%	3%	2%	22%	12%	5%	3%	24%	13%	7%	4%	21%	11%	4%	2%	23%	12%	6%	3%
	R04	Pull and Be Damned Point	Ault	25%	12%	4%	3%	27%	13%	6%	4%	28%	13%	7%	4%	26%	13%	5%	4%	28%	13%	7%	4%
	R05	Snee-Oosh Point	Ault	21%	8%	5%	3%	22%	8%	6%	3%	23%	8%	7%	3%	21%	8%	5%	3%	23%	8%	7%	3%
	R06	Admirals Dr and Byrd Dr	OLF	44%	31%	35%	25%	29%	20%	20%	14%	13%	8%	4%	2%	39%	28%	30%	22%	18%	12%	9%	6%
	R07	Race Lagoon	OLF	21%	10%	16%	8%	14%	6%	9%	4%	7%	3%	2%	1%	19%	9%	14%	7%	10%	4%	5%	2%
	R08	Pratts Bluff	OLF	16%	10%	12%	8%	10%	6%	6%	4%	4%	2%	-	-	14%	9%	10%	7%	6%	4%	2%	2%
	R09	Cox Rd and Island Ridge Way	OLF	13%	9%	10%	7%	8%	5%	5%	3%	3%	2%	-	-	12%	8%	9%	6%	5%	3%	2%	1%
	R10	Skyline	None	8%	3%	2%	1%	8%	3%	2%	1%	10%	3%	4%	1%	8%	3%	2%	1%	8%	3%	2%	1%
	R11	Sequim	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R12	Port Angeles	None	1%	0%	1%	-	1%	0%	1%	-	1%	0%	1%	-	1%	0%	1%	-	1%	0%	1%	-
	R13	Beverly Beach, Freeland	OLF	6%	-	4%	-	4%	-	2%	-	2%	-	-	-	6%	-	4%	-	3%	-	1%	-
	R14	E Sleeper Rd & Slumber Ln	Ault	45%	31%	5%	3%	48%	34%	8%	6%	52%	37%	12%	9%	46%	32%	6%	4%	51%	36%	11%	8%
	R15	Long Point Manor	OLF	25%	14%	14%	10%	20%	9%	9%	5%	14%	4%	3%	-	24%	12%	13%	8%	16%	6%	5%	2%
	R16	Rocky Point Heights	OLF	11%	4%	1%	1%	12%	4%	2%	1%	13%	4%	3%	1%	12%	4%	2%	1%	13%	4%	3%	1%
	R17	Port Townsend	None	1%	-	-	-	1%	-	-	-	0%	-	-1%	-	1%	-	-	-	1%	-	-	-
	R18	Marrowstone Island (Nordland)	None	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	0%	-	-	-
	R19	Island Transit Offices, Coupeville	OLF	36%	23%	26%	18%	25%	15%	15%	10%	12%	6%	2%	1%	33%	21%	23%	16%	16%	9%	6%	4%
	R20	South Lopez Island (Agate Beach)	None	4%	1%	1%	-	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-	3%	1%	-	-
School (near residential)	S01	Oak Harbor High School	Ault	25%	15%	3%	2%	28%	17%	6%	4%	30%	18%	8%	5%	26%	16%	4%	3%	29%	18%	7%	5%
	S02	Crescent Harbor Elementary School	Ault	27%	16%	4%	3%	29%	17%	6%	4%	31%	19%	8%	6%	28%	17%	5%	4%	30%	18%	7%	5%
	S03	Coupeville Elementary School	OLF	19%	12%	14%	9%	12%	7%	7%	4%	6%	3%	1%	-	17%	10%	12%	7%	8%	4%	3%	1%
	S04	Anacortes High School	Ault	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-	3%	1%	1%	-
	S05	Lopez Island School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	Ault	9%	3%	2%	1%	9%	3%	2%	1%	10%	3%	3%	1%	9%	3%	2%	1%	9%	3%	2%	1%
	S09	La Conner Elementary School	Ault	11%	5%	3%	2%	11%	5%	3%	2%	10%	5%	2%	2%	11%	5%	3%	2%	11%	5%	3%	2%
	S10	Elger Bay Elementary School	OLF	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

Table A7.5-8 Indoor Speech Interference for the High-Tempo FCLP Year, Alternative 3

Point of Interest				Annual Average Daily Indoor Daytime (0700-2200) Events per Hour (1)																			
				Alt3A		Change from No Action		Alt3B		Change from No Action		Alt3C		Change from No Action		Alt3D		Change from No Action		Alt3E		Change from No Action	
Type	ID	Description	Related Field	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed	Windows Open	Windows Closed
Residential	R01	Sullivan Rd	Ault	9	9	+1	+1	10	10	+2	+2	10	10	+2	+2	9	9	+1	+1	10	10	+2	+2
Residential	R02	Salal St. and N. Northgate Dr	Ault	9	9	+1	+1	10	10	+2	+2	10	10	+2	+2	9	9	+1	+1	10	10	+2	+2
Residential	R03	Central Whidbey	Ault	5	-	-	-	6	-	+1	-	6	-	+1	-	5	-	-	-	6	-	+1	-
Residential	R04	Pull and Be Damned Point	Ault	3	1	+1	-	3	2	+1	+1	3	1	+1	-	3	2	+1	+1	3	2	+1	+1
Residential	R05	Snee-Oosh Point	Ault	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-
Residential	R06	Admirals Dr and Byrd Dr	OLF	2	2	+2	+2	1	1	+1	+1	1	-	+1	-	2	2	+2	+2	1	1	+1	+1
Residential	R07	Race Lagoon	OLF	2	1	+1	+1	1	1	-	+1	1	-	-	-	2	1	+1	+1	1	-	-	-
Residential	R08	Pratts Bluff	OLF	2	1	+2	+1	1	-	+1	-	1	-	+1	-	2	1	+2	+1	1	-	+1	-
Residential	R09	Cox Rd and Island Ridge Way	OLF	1	-	+1	-	1	-	+1	-	-	-	-	-	1	-	+1	-	-	-	-	-
Residential	R10	Skyline	None	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-
Residential	R11	Sequim	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential	R12	Port Angeles	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential	R13	Beverly Beach, Freeland	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential	R14	E Sleeper Rd & Slumber Ln	Ault	9	8	+1	+1	10	9	+2	+2	10	9	+2	+2	9	8	+1	+1	10	9	+2	+2
Residential	R15	Long Point Manor	OLF	3	2	+2	+1	2	1	+1	-	1	1	-	-	2	2	+1	+1	2	1	+1	-
Residential	R16	Rocky Point Heights	OLF	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-	2	1	-	-
Residential	R17	Port Townsend	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential	R18	Marrowstone Island (Nordland)	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential	R19	Island Transit Offices, Coupeville	OLF	2	2	+1	+1	1	1	-	-	1	1	-	-	2	2	+1	+1	1	1	-	-
Residential	R20	South Lopez Island (Agate Beach)	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School (near residential)	S01	Oak Harbor High School	Ault	6	2	-	-	7	3	+1	+1	8	3	+2	+1	7	3	+1	+1	8	3	+2	+1
School (near residential)	S02	Crescent Harbor Elementary School	Ault	5	2	-	-	6	3	+1	+1	7	3	+2	+1	6	2	+1	-	7	3	+2	+1
School (near residential)	S03	Coupeville Elementary School	OLF	2	1	+1	+1	2	1	+1	+1	1	-	-	-	2	1	+1	+1	1	1	-	+1
School (near residential)	S04	Anacortes High School	Ault	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School (near residential)	S05	Lopez Island School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School (near residential)	S06	Friday Harbor Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School (near residential)	S07	Sir James Douglas Elementary School	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School (near residential)	S08	Fidalgo Elementary School	Ault	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School (near residential)	S09	La Conner Elementary School	Ault	1	1	-	+1	1	1	-	+1	1	1	-	+1	1	1	-	+1	1	1	-	+1
School (near residential)	S10	Elger Bay Elementary School	OLF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A7.5-9 Classroom Learning Interference for the High-Tempo FCLP Year, Alternative 3

Representative School Location				Alt3A					Change from No Action				
					Indoor (1)					Indoor (1)			
					Windows Open		Windows Closed			Windows Open		Windows Closed	
Type	ID	Description	Related Field	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)
School Surrogate	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2	-	-	+1	-	-
	S02	Crescent Harbor Elementary School	Ault	68	53	5	<45	2	+1	+1	+1	+1	-
	S03	Coupeville Elementary School	OLF	57	<45	2	<45	1	+5	+5	+2	+5	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+2	+2	-	+2	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-3	-3	-	-3	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+2	+2	-	+2	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+2	+2	-	+2	-
Number of Sites Exceeding 1 Intrusive Event per Hour						4		2			1		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						2		2			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						6		2			+2		-
Point of Interest				Alt3B					Change from No Action				
School Surrogate	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
	S02	Crescent Harbor Elementary School	Ault	68	53	6	<45	2	+1	+1	+2	+1	-
	S03	Coupeville Elementary School	OLF	55	<45	1	<45	1	+3	+3	+1	+3	+1
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-3	-3	-	-3	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+2	+2	-	+2	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						3		2					-
Minimum Number of Intrusive Events per Hour if Exceeding 1						5		2			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						7		3			+2		-
Point of Interest				Alt3C					Change from No Action				
School Surrogate	R03	Central Whidbey	Ault	59	<45	6	<45	-	+2	+2	+2	+2	-
	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
	S02	Crescent Harbor Elementary School	Ault	69	54	6	<45	3	+2	+2	+2	+2	+1
	S03	Coupeville Elementary School	OLF	51	<45	1	<45	-	-1	-1	+1	-1	-
	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
	S05	Lopez Island School	None	<45	<45	-	<45	-	+2	+2	-	+2	-
	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	-3	-3	-	-3	-
	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+2	+2	-	+2	-
	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						3		2			3		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						6		3			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						7		3			+2		-

Notes:

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

Table A7.5-9 Classroom Learning Interference for the High-Tempo FCLP Year, Alternative 3

Representative School Location				Alt3D					Change from No Action				
					Indoor (1)					Indoor (1)			
					Windows Open		Windows Closed			Windows Open		Windows Closed	
Type	ID	Description	Related Field	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	Outdoor $L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour(2)	$L_{eq(8h)}$ (dB)	Events per Hour(2)
School Surrogate	R03	Central Whidbey	Ault	58	<45	5	<45	-	+1	+1	+1	+1	-
School Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S01	Oak Harbor High School	Ault	57	<45	6	<45	2	-	-	+1	-	-
School	S02	Crescent Harbor Elementary School	Ault	68	53	5	<45	2	+1	+1	+1	+1	-
School	S03	Coupeville Elementary School	OLF	57	<45	2	<45	1	+5	+5	+2	+5	+1
School	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
School	S05	Lopez Island School	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
School	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
School	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+2	+2	-	+2	-
School	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						4		2			1		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						5		2			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						6		2			+2		-
Point of Interest				Alt3E					Change from No Action				
School Surrogate	R03	Central Whidbey	Ault	59	<45	6	<45	-	+2	+2	+2	+2	-
School Surrogate	R11	Sequim	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S01	Oak Harbor High School	Ault	58	<45	7	<45	3	+1	+1	+2	+1	+1
School	S02	Crescent Harbor Elementary School	Ault	69	54	6	<45	2	+2	+2	+2	+2	-
School	S03	Coupeville Elementary School	OLF	53	<45	1	<45	-	+1	+1	+1	+1	-
School	S04	Anacortes High School	Ault	47	<45	-	<45	-	+1	+1	-	+1	-
School	S05	Lopez Island School	None	<45	<45	-	<45	-	+2	+2	-	+2	-
School	S06	Friday Harbor Elementary School	None	<45	<45	-	<45	-	+1	-	-	-	-
School	S07	Sir James Douglas Elementary School	None	<45	<45	-	<45	-	+1	+1	-	+1	-
School	S08	Fidalgo Elementary School	Ault	50	<45	-	<45	-	+1	+1	-	+1	-
School	S09	La Conner Elementary School	Ault	52	<45	1	<45	-	+2	+2	-	+2	-
School	S10	Elger Bay Elementary School	OLF	<45	<45	-	<45	-	+1	+1	-	+1	-
Number of Sites Exceeding 1 Intrusive Event per Hour						3		2			3		-
Minimum Number of Intrusive Events per Hour if Exceeding 1						6		2			+2		-
Maximum Number of Intrusive Events per Hour if Exceeding 1						7		3			+2		-

Notes:

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) Number of Average School-Day Events per hour during 8-hour school day (0800-1600) At or Above an Indoor Maximum (single-event) Sound Level (L_{max}) of 50 dB;

Table A7.5-10 Recreational Speech Interference for the High-Tempo FCLP Year, Alternative 3

Representative Park Receptor			Annual Average Outdoor Daily Daytime Events per Hour, NA 50 L_{max}																			
			Alt3A		Increase re No Action		Alt3B		Increase re No Action		Alt3C		Increase re No Action		Alt3D		Increase re No Action		Alt3E		Increase re No Action	
Type	ID	Description	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Park	P01	Joseph Whidbey State Park	9	2	+1	-	9	2	+1	-	10	2	+2	-	9	2	+1	-	10	2	+2	-
	P02	Deception Pass State Park	9	2	+1	-	10	2	+2	-	10	3	+2	+1	9	2	+1	-	10	2	+2	-
	P03	Dugualla State Park	9	2	+1	-	9	2	+1	-	10	2	+2	-	9	2	+1	-	10	2	+2	-
	P04	Baseball Field (Ebey's Landing National Historical Reserve)	5	1	+2	-	4	1	+1	-	3	1	-	-	4	1	+1	-	4	1	+1	-
	P05	Ebey's Landing State Park	4	1	+2	+1	3	1	+1	+1	3	1	+1	+1	4	1	+2	+1	3	1	+1	+1
	P06	Fort Casey State Park	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2	-	+1	-
	P07	Cama Beach State Park	5	1	+2	+1	4	1	+1	+1	3	1	-	+1	5	1	+2	+1	4	1	+1	+1
	P08	Port Townsend	2	1	+1	+1	2	1	+1	+1	1	-	-	-	2	1	+1	+1	1	-	-	-
	P09	Moran State Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P10	San Juan Islands National Monument	8	2	+1	-	9	2	+2	-	9	2	+2	-	8	2	+1	-	9	2	+2	-
	P11	San Juan Island Visitors Center	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P12	Cap Sante Park	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-
	P13	Lake Campbell	5	1	+1	-	5	1	+1	-	6	1	+2	-	5	1	+1	-	5	1	+1	-
	P14	Spencer Spit State Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P15	Pioneer Park	5	1	+1	-	4	1	-	-	4	1	-	-	4	1	-	-	4	1	-	-
	P16	Marrowstone Island (Fort Flagler)	2	1	+2	+1	1		+1	-		-	-	-	1	1	+1	+1	1	-	+1	-
	EBLA001	Reuble Farm	4	1	+2	+1	3	1	+1	+1	2		-	-	4	1	+2	+1	3	1	+1	+1
	EBLA002	Ferry House	4	1	+2	+1	3	1	+1	+1	2		-	-	4	1	+2	+1	3	1	+1	+1
Residential	R01	Sullivan Rd	9	2	+1	-	10	2	+2	-	11	3	+3	+1	10	2	+2	-	10	3	+2	+1
	R02	Salal St. and N. Northgate Dr	9	2	+1	-	10	2	+2	-	11	3	+3	+1	10	2	+2	-	10	3	+2	+1
	R03	Central Whidbey	8	2	+1	-	9	2	+2	-	9	2	+2	-	9	2	+2	-	9	2	+2	-
	R04	Pull and Be Damned Point	8	2	+1	-	9	2	+2	-	10	2	+3	-	9	2	+2	-	9	2	+2	-
	R05	Snee-Oosh Point	8	2	+1	-	9	2	+2	-	9	2	+2	-	8	2	+1	-	9	2	+2	-
	R06	Admirals Dr and Byrd Dr	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2	-	+1	-
	R07	Race Lagoon	5	1	+2	-	4	1	+1	-	3	1	-	-	4	1	+1	-	3	1	-	-
	R08	Pratts Bluff	3	1	+2	+1	2	1	+1	+1	1	-	-	-	3	1	+2	+1	2	-	+1	-
	R09	Cox Rd and Island Ridge Way	2	1	+1	+1	2	1	+1	+1	1	-	-	-	2	1	+1	+1	1	-	-	-
	R10	Skyline	4	1	-	-	4	1	-	-	5	1	+1	-	4	1	-	-	5	1	+1	-
	R11	Sequim	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-	1	-	+1	-
	R12	Port Angeles	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-
	R13	Beverly Beach, Freeland	1	-	+1	-	1	-	+1	-	-	-	-	-	1	-	+1	-	-	-	-	-
	R14	E Sleeper Rd & Slumber Ln	9	2	+1	-	10	2	+2	-	10	3	+2	+1	10	2	+2	-	10	3	+2	+1
	R15	Long Point Manor	9	3	+2	+1	9	2	+2	-	9	2	+2	-	9	3	+2	+1	9	2	+2	-
	R16	Rocky Point Heights	5	1	+1	-	5	2	+1	+1	6	2	+2	+1	5	1	+1	-	5	2	+1	+1
	R17	Port Townsend	2	1	+1	+1	1		-	-		-	-1	-	1	1	-	+1	1	-	-	-
	R18	Marrowstone Island (Nordland)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R19	Island Transit Offices, Coupeville	5	1	+2	-	4	1	+1	-	3	1	-	-	5	1	+2	-	4	1	+1	-
	R20	South Lopez Island (Agate Beach)	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-
School	S01	Oak Harbor High School	9	2	+1	-	10	2	+2	-	10	3	+2	+1	9	2	+1	-	10	2	+2	-
	S02	Crescent Harbor Elementary School	8	2	+1	-	9	2	+2	-	10	2	+3	-	9	2	+2	-	9	2	+2	-
	S03	Coupeville Elementary School	5	1	+2	-	4	1	+1	-	3	1	-	-	4	1	+1	-	3	1	-	-
	S04	Anacortes High School	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-
	S05	Lopez Island School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S06	Friday Harbor Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S07	Sir James Douglas Elementary School	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S08	Fidalgo Elementary School	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-	5	1	+1	-
	S09	La Conner Elementary School	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-	4	1	+1	-
	S10	Elger Bay Elementary School	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-

Appendix A8

Literature Review Process

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Article	Source	Is the exposure related to jet noise or airports?	Is the outcome due to exposure to noise?	What are the average/range of noise levels ?	Are the risk estimates precise and significant?	Medical expert: should this paper be considered for the analysis?	Medical expert notes	Noise expert: should this paper be considered for the analysis?	Noise expert notes	Final resolution and notes
Abel SM. The extra-auditory effects of noise and annoyance: an overview of research. J Otolaryngol. 1990;19 Suppl 1:1-13.	Dahlgren Report	No	Not available	Not available	Not available	No	Review of research on extra-auditory effects of exposure to noise	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Akbayir N, Calis AB, Alkim C, Sokmen HM, Erdem L, Ozbal A, et al. Sensorineural hearing loss in patients with inflammatory bowel disease: a subclinical extraintestinal manifestation. Dig Dis Sci. 2005;50(10):1938-45.	Dahlgren Report	No	no	NA	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Alimohammadi I, Sandrock S, Gohari MR. The effects of low frequency noise on mental performance and annoyance. Environ Monit Assess. 2013;185(8):7043-51.	Dahlgren Report	Urban noise that included aircraft	Yes	50-70 dBA	Not available	No	Low frequency noise compared to silence increased the accuracy and test performance speed.	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Aparicio-Ramon DV, Morales Suarez-Varela MM, Garcia GA, Llopis Gonzale A, Ruano L, Sanchez AM, et al. Subjective annoyance caused by environmental noise. J Environ Pathol Toxicol Oncol 1993 Oct-Dec;12(4):237-43. 1993.	Dahlgren Report	No	Yes	Not assessed	Not available	No	40% of those interviewed considered environmental noise to cause considerable distress.	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Argalasova-Sobotova L, Lekaviciute J, Jeram S, Sevcikova L, Jurkovicova J. Environmental noise and cardiovascular disease in adults: research in Central, Eastern and South-Eastern Europe and Newly Independent States. Noise Health. 2013;15(62):22-31.	Dahlgren Report	No	Yes	N/A; meta-analysis including over 20 papers all with varying exposures	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Babisch W BBSMKNIH. Traffic Noise and Risk of Myocardial Infarction. Epidemiology (Cambridge, Mass). 2005;16(1):33-40.	Dahlgren Report	No	Yes	65-70 dB	Yes	No	Not jet related	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Babisch W, Houthuijs D, Pershagen G, Cadum E, Katsouyanni K, Velonakis M, et al. Annoyance due to aircraft noise has increased over the years--results of the HYENA study. Environ Int. 2009;35(8):1169-76.	Dahlgren Report/ Washington Department of Health	Yes	Yes	Not available	Not available	Already in analysis	Annoyance ratings due to aircraft noise were higher than predicted in the EU	Already in analysis	Study specific to Europe and Lden, and no evidence provided that the trend found would apply to the US and DNL.	Previously included in analysis and Draft Environmental Impact Statement
Babisch W, Kamp I. Exposure-response relationship of the association between aircraft noise and the risk of hypertension. Noise Health. 2009;11(44):161-8.	Dahlgren Report	Yes	NA	NA	NA	No	This is a review article. Does not provide new information	No		Reviewed and added to the analysis in the Final Environmental Impact Statement
Babisch W, Pershagen G, Selander J, et al. Noise annoyance--a modifier of the association between noise level and cardiovascular health? *Sci Total Environ.* 2013;452-453:50-57. doi:10.1016/j.scitote nv.2013.02.034.	Dahlgren Report/ Washington Department of Health	Yes	Yes	Not available	Not available	Already in analysis	Noise annoyance acts as an effect modifier of the relationship between the noise level and hypertension	Already in analysis	Already in noise study and referenced but listed slightly differently as: Babisch, W., G. Pershagen, J. Selander, D. Houthuijs, O. Breugelmans, E. Cadum, F. Vigna-Taglianti, K. Katsouyanni, A.S. Haralabidis, K. Dimakopoulou, P. Sourtzi, S. Floud, and A.L. Hansell. 2013. Noise annoyance – A modifier of the association between noise level and cardiovascular health? Science of the Total Environment, Volumes 452-453, pp. 50-57, May.	Previously included in analysis and Draft Environmental Impact Statement
Babisch W, Swart W, Houthuijs D, Selander J, Bluhm G, Pershagen G, et al. Exposure modifiers of the relationships of transportation noise with high blood pressure and noise annoyance. The Journal of the Acoustical Society of America. 2012;132(6):3788-808.	Dahlgren Report	Not the main focus of the article	Yes, but ecologic	Unknown	Yes	No	Does not provide information on the environment under consideration.	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Babisch W, Wolf K, Petz M, Heinrich J, Cyrys J, Peters A. Associations between Traffic Noise, Particulate Air Pollution, Hypertension, and Isolated Systolic Hypertension in Adults: The KORA Study. Environmental health perspectives. 2014;122(5):492-8.	Dahlgren Report	No	Yes, but ecologic	31-80 dBA	Yes	No	Traffic noise and ambient noise levels typical in industrial cities	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Babisch W. Cardiovascular effects of noise. Noise Health. 2011;13(52):201.	Washington Department of Health					No	Prospective research proposal	No	This reference wouldn't add significant value to the analysis. However, several of the source citations may provide added value but each is reviewed directly (e.g., WHO)	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Babisch W. ROAD TRAFFIC NOISE AND CARDIOVASCULAR RISK. Noise & Health. 2008;10(38):27-33.	Dahlgren Report	No	Yes	They vary (it was a meta-analysis), but for the most part: <=60; 61-65; 66-70; 71-75; 76-80 dB	No	No	Not jet related	No	Study associations for road noise not readily applied to aircraft noise due to the differences in nature (constant vs. intermittent)	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Babisch W. Stress hormones in the research on cardiovascular effects of noise. Noise Health. 2003;5(18)::1-11.	Dahlgren Report	No	Yes	Not reported	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Babisch W. The Noise/Stress Concept, Risk Assessment and Research Needs. *Noise Health. 2002;4(16):1-11.*	Washington Department of Health	No	Yes	No	None were given	No	Background/Informative only	No	Reference focuses more generally on trends, and although the concepts are all applicable to the analysis, no details are included that would aid the analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Babisch W. Traffic noise and cardiovascular disease : Epidemiological review and synthesis. Noise & Health. 2000;2(8):9-32. 51 of 55	Dahlgren Report	Yes	Yes	>68 dB	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Babisch W. Updated exposure-response relationship between road traffic noise and coronary heart diseases: A meta-analysis. Noise Health. 2014	Dahlgren Report/ Washington Department of Health	No	Yes	Varies, but mostly 60-75 dB	No	No	Meta-analysis	No	This reference may add some value to the analysis of non-auditory health effects, specifically coronary heart disease, despite the relatively low correlation to noise exposure, but is meta-analysis.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
BaliatsasC, van Kamp I, van Poll R, Yzermans J. Health effects from low-frequency noise and infrasound in the general population: Is it time to listen? A systematic review of observational studies. Sci Total Environ 2016	Washington Department of Health					No		No	This reference would not add significant value to the analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Banbury SP, Macken WJ, Tremblay S, Jones DM. Auditory distraction and short-term memory: phenomena and practical implications. Hum Factors. 2001;43(1):12-29.	Dahlgren Report	No	No	NA	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Bartels S, Marki F, Muller U. The influence of acoustical and non-acoustical factors on short-term annoyance due to aircraft noise in the field - The COSMA study. The Science of the total environment. 2015;538:834-43.	Dahlgren Report	Yes	Yes	Used residents living close to airport	Not available	No	Number of fly overs predicted annoyance better than sound pressure levels among 55 residents close to Cologne airport	No	No additional value beyond what is already in the analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement

Article	Source	Is the exposure related to jet noise or airports?	Is the outcome due to exposure to noise?	What are the average/range of noise levels ?	Are the risk estimates precise and significant?	Medical expert: should this paper be considered for the analysis?	Medical expert notes	Noise expert: should this paper be considered for the analysis?	Noise expert notes	Final resolution and notes
Basner M, Babisch W, Davis A, Brink M, Clark C, Janssen S, et al. Auditory and non-auditory effects of noise on health. Lancet. 2014;383(9925):1325-32.	Dahlgren Report/ Washington Department of Health	Yes (some info on airports)	Yes	<30 to >=55	N/A	Yes	Background Only	Yes	Would add some additional background informatiion to the analysis. Analysis analyzes classroom learning effects using Leq and a 5 dB increase in Leq as significant if increased beyond threshold. However, did not consider significant for 5 dB increase when it doesn't reach threshold of concern. Might consider revisiting text discussion. -analysis does not analyze LAeq levels. Aircraft generated night levels much more variable over time than in this reference (road or commercial air traffic) so not clear how easily conclusions can be applied to analysis -WHO 55 dB LAeq night target identified in may references and original source should probably be added to analysis (if not already there). Key point is that this is a target, not necessarily the threshold for significant non-auditory health effects. Other papers by same authors already included in analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Basner M, Brink et al. ICBEN review of research on the biological effects of noise 2011-2014. Noise Health. 2015;17(75:57-82. doi:10.4103/1463-1741.153373	Washington Department of Health							No	Original source reviewed regarding hypertension and diabetes. Hospitalization correlation to Ldn doesn't appear to isolate Ldn and cause; too many uncontrolled variables. Train-borne vibration not easily translated to aircraft-sourced vibrations due to ground generated vs air generated. Other papers by same author already included in analysis.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Basner M, Griefahn 8, Berg M van den. Aircraft noise effects on sleep: mechanisms, mitigation and research needs. Noise Health. 2010;12(47):95-109. doi:10.4103/1463-1741.63210.	Dahlgren Report/ Washington Department of Health	No	No	N/A	N/A	No	Used 200 ANE per night as the exposure	No	This references is a review of studies and doesn't add significant value to the analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Basner M, MullerU, Elmenhorst E-M. Single and compbined effects of air,road, and rail traffic noise on sleep and recuperations. Sleep. 2011	Washington Department of Health					Already in analysis		Already in analysis		Previously included in analysis and Draft Environmental Impact Statement
Becker V, von Delius S, Bajbouj M, Karagianni A, Schmid RM, Meining A. Intravenous application of fluorescein for confocal laser scanning microscopy: evaluation of contrast dynamics and image quality with increasing injection-to-imaging time. Gastrointest Endosc. 2008;68(2):319-23.	Dahlgren Report	No	No	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Belojevic G S-TM. Prevalence of Arterial Hypertension and Myocardial Infarction in Relation to Subjective Ratings of Traffic Noise Exposure. Noise Health. 2002;4(16)::33-7. 54 of 55	Dahlgren Report	No	Unknown	Qualitative	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Beutel ME, Jünger C, Klein EM, Wild P, Lackner K, Blettner M, et al. (2016) Noise Annoyance Is Associated with Depression and Anxiety in the General Population- The Contribution of Aircraft Noise. PLoS ONE 11(5): e0155357	Dahlgren Report/ Washington Department of Health/ Independent	Yes	Yes	Did not assess levels	Yes	No	Cross sectional nature of the surveys does not establish an associatinon between mental health and noise exposures.; Noise annoyance was associated with a two fold higher prevalence of depression and anxiety in the general population. Could not relate annoyance to aircraft noise directly to depression and anxiety.	No		Reviewed and added to the analysis in the Final Environmental Impact Statement
Bluhm G, Eriksson C. Cardiovascular effects of environmental noise: research in Sweden. Noise Health. 2011;13(52):212-6.	Dahlgren Report	Yes	Yes	>55	Yes	No		No	Nothing new beyond the HYENA study, which is already in the analysi	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Bodin T, Björk J, Öhrström E, Ardö J, Albin M. Survey context and question wording affects self reported annoyance due to road traffic noise: a comparison between two cross-sectional studies. Environ Health. 2012;11(1):1.	Washington Department of Health							No	Study focused on road traffic noise and annoyance. Does not provide significant additional value to add to analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Brenner H, Oberacker A, Kranig W, Buchwalsky R. A field study on the immediate effects of exposure to low-altitude flights on heart rate and arrhythmia in patients with cardiac diseases. International archives of occupational and environmental health. 1993;65(4):263-8.	Dahlgren Report	Yes	Yes	>95 dB	No	No	Only studied effects in patients with pre-existing cardiovascular conditions	No	This study measured "startle" effect of MTR type flight on blood pressure. The "low-altitude military flights" consisted of events with sound level increases of up to 75 dB/s. Despite military jets operating at low altitudes, the sound level increase rate is typically an order of magnitude smaller, so this study does not apply to this analysis.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Brisbane Airport Corporation. (2007). *New Parallel Runway Draft Environmental Impact Statement/Major Development Plan* . September 2007. Volume D—Airspace, Chapter 7: Human Impact Assessment. Retrieved May 7, 2018: https://bne.com.au/sites/default/files/docs/BNR_EIS_MDP_D7_Health_Impact_Assess.pdf	Independent									Reviewed and added to the analysis in the Final Environmental Impact Statement
Brunekreef B, Beelen R, Hoek G, Schouten L, Bausch-Goldbohm S, Fischer P, et al. Effects of long-term exposure to traffic-related air pollution on respiratory and cardiovascular mortality in the Netherlands: the NLCS-AIR study. Research report (Health Effects Institute). 2009(139):5-71; discussion 3-89.	Dahlgren Report	No	No	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
C.D. Francis, J.R. Barber. *A Framework/or Understanding Noise Impacts on Wildlife: An urgent Conservation Priority.* August 1, 2013. Boise State University Scholar Works, Department of Biological Sciences.	USEPA Reg 10	No	Yes; noise impacts on wildlife	N/A	This is not a study	Yes	Background/Informative only	No	Analysis already includes significant discussion on wildlife impacts from noise; no new information	Reviewed and not added to the analysis in the Final Environmental Impact Statement

Article	Source	Is the exposure related to jet noise or airports?	Is the outcome due to exposure to noise?	What are the average/range of noise levels ?	Are the risk estimates precise and significant?	Medical expert: should this paper be considered for the analysis?	Medical expert notes	Noise expert: should this paper be considered for the analysis?	Noise expert notes	Final resolution and notes
Cappuccio FP, D'Elia L, Strazzullo P, Miller MA. Sleep duration and all-cause mortality: a systematic review and meta-analysis of prospective studies. Sleep. 2010;33(5):585-592.	Washington Department of Health					No	Meta analysis with little or no association to the causes of short or long sleep durations.	No	The analysis focuses on potential for awakening without a current method to estimate effect on sleep duration due to noise exposure. This reference may not add significant value to the analysis because of this practical limitation, particularly due to fairly small relative risk correlation	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Carter NL. Transportation noise, sleep, and possible after-effects. Environ Int. 1996;22(1):105-16.	Dahlgren Report	No	Yes	Not available	Not available	No	Chronic exposure to traffic noise during sleep may affect mood states	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Castle JS, Xing JH, Warner MR, Korsten MA. Environmental noise alters gastric myoelectrical activity: Effect of age. World J Gastroenterol. 2007;13(3):403-7.	Dahlgren Report	No	Yes	N/A	Yes	No	focuses on gastric myoelectrical activity and noise exposures include hospital noise, conversation babble and traffic noise	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Chang Ty STCLSYJRMCCC. Effects of occupational noise exposure on 24-hour ambulatory vascular properties in male workers. Environmental health perspectives. 2007;115(11):1660-4.	Dahlgren Report	No	Yes	>=85 dB	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Chang TY, Hwang BF, Liu CS, Chen RY, Wang VS, Bao BY, et al. Occupational noise exposure and incident hypertension in men: a prospective cohort study. American journal of epidemiology. 2013;177(8):818-25.	Dahlgren Report	No	Yes	80->=85 dB	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Chang TY, Liu CS, Huang KH, Chen RY, Lai JS, Bao BY. High-frequency hearing loss, occupational noise exposure and hypertension: a cross-sectional study in male workers. Environmental health : a global access science source. 2011;10:35.	Dahlgren Report	No	Yes	>=85 dB	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Charakida M, Deanfield JE. Nighttime aircraft noise exposure: flying towards arterial disease. Eur Heart J. 2013;34(45):3472-4.	Dahlgren Report	Yes	Yes	N/A	N/A	No	Article on biological mechanism of noise exposure. No results	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Chengzhi C, Yan T, Xuejun J, Xiang L, Youbin Q, Baijie T. Recovery of chronic noise exposure induced spatial learning and memory deficits in young male Sprague-Dawley rats. J Occup Health. 2011;53(3):157-63.	Dahlgren Report	No	Yes	80 and 100 dBA continuous for 4 hrs per day	NA	No	Rat study and not related to exposures similar to airports and jet noise.			Reviewed and not added to the analysis in the Final Environmental Impact Statement
Chiovenda P, Pasqualetti P, Zappasodi F, Ercolani M, Milazzo D, Tomei G, et al. Environmental noise-exposed workers: event-related potentials, neuropsychological and mood assessment. Int J Psychophysiol. 2007;65(3):228-37.	Dahlgren Report	No	Yes	N/A	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Clark C, Crombie R, Head J, van Kamp I, van Kempen E, Stansfeld SA. Does traffic-related air pollution explain associations of aircraft and road traffic noise exposure on children's health and cognition? A secondary analysis of the United Kingdom sample from the RANCH project. American journal of epidemiology. 2012;176(4):327-37.	Dahlgren Report	Yes	Unknown	52-54 dBA	No	Yes		Yes	The predecessor studies (Clark, 2005; Clark, 2009) are already in analysis. This will provide udpate to the authors' work.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Clark C, Martin R, van Kempen E, Alfred T, Head J, Davies HW, et al. Exposure-effect relations between aircraft and road traffic noise exposure at school and reading comprehension: the RANCH project. American journal of epidemiology. 2006;163(1):27-37. 52 of 55	Dahlgren Report	Yes	Yes	30-77 dBA	Yes	Already in analysis		Already in analysis	This study was published in multiple journals a few months apart in both 2005 and 2006. The analysis references 2005.	Previously included in analysis and Draft Environmental Impact Statement
Cohen S, Evans GW, Krantz DS, Stokols D, Kelly S. Aircraft Noise and Children: Longitudinal and Cross-Sectional Evidence on Adaptation to Noise and the Effectiveness of Noise Abatement. Journal of Personality and Social Psychology. 1981;40(2). 53 of 55	Dahlgren Report	Yes	Yes	74 ave, 84 peak	Unknown	No	The article did not present data that could be readily evaluated.			Reviewed and added to the analysis in the Final Environmental Impact Statement
Cohen S, Evans GW, Krantz DS, Stokols D. Physiological, motivational, and cognitive effects of aircraft noise on children: moving from the laboratory to the field. Am Psychol. 1980;35(3):231-43.	Dahlgren Report	Yes	Yes	74 ave, 84 peak	Unknown	No	The article did not present data that could be readily evaluated.			Reviewed and added to the analysis in the Final Environmental Impact Statement
Cohen S, Krantz DS, Evans GW, Stokols D. Cardiovascular and Behavioral Effects of Community Noise: Evidence from field studies of schoolchildren supports laboratory findings that high-intensity noise adversely affects physical health and psychological functioning. American Scientist. 1981:528-35.	Dahlgren Report	Yes	Yes	None stated; just aircraft noise	No	No	Results not quantified.	No	The original Cohen 1980 study is already in analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Crombie R, Clark C, Stansfeld SA. Environmental noise exposure, early biological risk and mental health in nine to ten year old children: a cross-sectional field study. Environmental health : a global access science source. 2011;10:39.	Dahlgren Report	Yes	No association found	30-77 dBA	Yes	Yes	Study found no association between aircraft noise and later mental health issues in children at risk at birth.	Yes	Study found no association between aircraft noise and later mental health issues in children at risk at birth.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Cui B, Wu M, She X. Effects of chronic noise exposure on spatial learning and memory of rats in relation to neurotransmitters and NMDAR2B alteration in the hippocampus. J Occup Health. 2009;51(2):152-8.	Dahlgren Report	No	Yes	100 dB white noise, 4 h/day × 30 days, from 8:00 to 12:00	NA	No	Rat study with no clear association with the environment in question			Reviewed and not added to the analysis in the Final Environmental Impact Statement
da Fonseca J, dos Santos JM, Branco NC, Alves-Pereira M, Grande N, Oliveira P, et al. Noise-induced gastric lesions: a light and scanning electron microscopy study of the alterations of the rat gastric mucosa induced by low frequency noise. Cent Eur J Public Health. 2006;14(1):35-8.	Dahlgren Report	No	No	NA; low-frequency noise only.	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Davies H, Van Kamp I. Noise and cardiovascular disease: A review of the literature 2008-2011. Noise Health. 2012	Dahlgren Report/ Washington Department of Health	No	Yes	80-95 dB	No	No	No new information	Yes	May add a little value to the analysis on non-auditory health effects.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Davies HW, Teschke K, Kennedy SM, Hodgson MR, Hertzman C, Demers PA. Occupational exposure to noise and mortality from acute myocardial infarction. Epidemiology (Cambridge, Mass). 2005;16(1):25-32.	Dahlgren Report	No	Unknown	No	No	No	ecologic study	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Davis A, Rafaie EA. Epidemiology of tinnitus. *Tinnitus Handb.* 2000: 1-23.	Washington Department of Health	Yes	Not a study; an evidenced-based informative review	N/A	Doesn't provide	Yes	Background/Informative only	Yes	Evidence-based information review	Reviewed and added to the analysis in the Final Environmental Impact Statement

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Dawes P, Cruickshanks KJ, Moore DR, et al. Cigarette smoking, passive smoking, alcohol consumption, and hearing loss. J Assoc Res Otolaryngol. 2014;15(4):663-674.	Washington Department of Health					No		No	Reference does not address noise	Reviewed and not added to the analysis in the Final Environmental Impact Statement
de Kluizenaar Y, Gansevoort RT, Miedema HM, de Jong PE. Hypertension and road traffic noise exposure. Journal of occupational and environmental medicine / American College of Occupational and Environmental Medicine. 2007;49(5):484-92.	Dahlgren Report	No	Yes	>=55 dB	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Department of the Navy. Environmental Impacts Statement for EA-18G "Growler" Airfield Operations at Naval Air Station Whidbey Island Complex. Volume 1.: 2016	Washington Department of Health							No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
DeWitt JC. Toxicological effects of perfluoroalkyl and polyfluoroalkyl substances: Springer; 2015.	Dahlgren Report	No	No	NA	Unknown	No	Article is related to an ingredient in fire-fighting foam and not noise exposure.			Reviewed and not added to the analysis in the Final Environmental Impact Statement
Di Nisi J, Muzet A, Ehrhart J, Libert JP. Comparison of cardiovascular responses to noise during waking and sleeping in humans. Sleep. 1990;13(2):108-20.	Dahlgren Report	No	Yes	Not available	Not available	No	Sleep pattern showed no significant modification in the night of noise disturbance.	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Dreger S, Meyer N, Fromme H, Bolte G, Study Group of the GMEc. Environmental noise and incident mental health problems: A prospective cohort study among school children in Germany. Environmental research. 2015;143(Pt A):49-54.	Dahlgren Report	Yes	Yes	N/A	No	No		No		Reviewed and added to the analysis in the Final Environmental Impact Statement
Dzhambov AM, Dimitrova DD, Mihaylova-Alakidi VK. Burden of Sleep Disturbance Due to Traffic Noise in Bulgaria. Folia Med (Plovdiv). 2015;57(3-4):264-9.	Dahlgren Report	Included road, railway, and aircraft traffic	Yes	55-59 dBA	No	No	No p-values or confidence intervals. 12% of those exposed to 55-59 dBA of noise were highly sleep disturbed	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Earshen JJ. Sound Measurement: Instrumentation and Noise Descriptors. In: The Noise Manual. Fifth. American Industrial Hygiene Association; 2000	Washington Department of Health							No	This reference is complimentary to the discussion of noise section, and all relevant topics are currently already addressed in the analysis. The addition of this reference to the analysis would not add significant value.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Elmenhorst EM, Pennig S, Rolny V, Quehl J, Mueller U, Maass H, et al. Examining nocturnal railway noise and aircraft noise in the field: sleep, psychomotor performance, and annoyance. The Science of the total environment. 2012;424:48-56.	Dahlgren Report	No	Yes	35-80 dBA	Not available	Yes	Train noise at night in Germany was associated with higher awakening probability than seen with aircraft noise.	No	Potential for awakening attributable directly to aircraft noise, and associated studies, already discussed in analysis. This study would not add additional value.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Elmenhorst EM, Quehl J, Muller U, Basner M. Nocturnal air, road, and rail traffic noise and daytime cognitive performance and annoyance. The Journal of the Acoustical Society of America. 2014;135(1):213-22.	Dahlgren Report	Included road, railway, and aircraft traffic	Yes	Not available	Not available	No	Aircraft noise annoyance ranked above railway and road for nocturnal exposure.	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Emmett EA, Shofer FS, Zhang H, Freeman D, Desai C, Shaw LM. Community exposure to perfluorooctanoate: relationships between serum concentrations and exposure sources. Journal of occupational and environmental medicine/American College of Occupational and Environmental Medicine. 2006;48(8):759.	Dahlgren Report	No	No	NA	Unknown	No	Article is related to an ingredient in fire-fighting foam and not noise exposure.			Reviewed and not added to the analysis in the Final Environmental Impact Statement
EPA U. Protective noise levels. 1978;550/9-79-100:1-28.	Dahlgren Report	NA	NA	NA	NA	No	Reference document that is too old for consideration.			Reviewed and not added to the analysis in the Final Environmental Impact Statement
Eriksson C RMPGHAOCGBG. Aircraft noise and incidence of hypertension. Epidemiology (Cambridge, Mass). 2005;18(6)::716-21.	Dahlgren Report	Yes	Yes	50-70 dBA	Yes	No		No	A newer 2010 paper by the same author already in analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Eriksson C, Bluhm G, Hilding A, Ostenson CG, Pershagen G. Aircraft noise and incidence of hypertension--gender specific effects. Environmental research. 2010;110(8):764-72.	Dahlgren Report	Yes	Yes	>=50dB	Yes	Already in analysis		Already in analysis		Previously included in analysis and Draft Environmental Impact Statement
Eriksson C, Rosenlund M, Pershagen G, Hilding A, Ostenson CG, Bluhm G. Aircraft noise and incidence of hypertension. Epidemiology (Cambridge, Mass). 2007;18(6):716-21.	Dahlgren Report	Yes	Yes	70->=70 dB	Yes	Already in analysis		Already in analysis	Follow-up study by the author already included in analysis (Erikkson, Bluhm & Hilding, 2010)	Previously included in analysis and Draft Environmental Impact Statement
Ettema Jh ZRL. Health effects of exposure to noise, particularly aircraft noise. International Archives of Occupational Environmental Health. 1977;40:163-84.	Dahlgren Report							No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Evans GW, Hygge S, Bullinger M. Chronic noise and psychological stress. Psychological science. 1995;6(6):333-8.	Dahlgren Report	No; ambient noise levels typical in industrial cities	Yes, but ecologic	Not available	Not available	No	Chronic noise exposure is associated with elevated neuroendocrine and cardiovascular measures, muted cardiovascular reactivity, deficits in standardized testing, poor long term memory, and low quality of life.	No		Reviewed and added to the analysis in the Final Environmental Impact Statement
Evans GW, Lercher P, Meis M, Ising H, Kofler WW. Community noise exposure and stress in children. The Journal of the Acoustical Society of America. 2001;109(3):1023-7.	Dahlgren Report	No; ambient noise levels typical in industrial cities	Yes, but ecologic	Two groups: below 50 dBA and above 60 dBA	Yes, but interaction occurred.	No	Does not provide information that is useful to the environment under consideration.			Reviewed and not added to the analysis in the Final Environmental Impact Statement
Evrard AS, Bouaoun L, Champelovier P, Lambert J, Laumon B. Does exposure to aircraft noise increase the mortality from cardiovascular disease in the population living in the vicinity of airports? Results of an ecological study in France. Noise Health. 2015;17(78):328-36.	Dahlgren Report	Yes	Yes	Averages for the three airports: 45.3 dB, 45.7 dB, 51.6 dB	Yes	No		No		Reviewed and added to the analysis in the Final Environmental Impact Statement
Evrard AS, Lefevre M, Champelovier P, Lambert J, Laumon B. Does aircraft noise exposure increase the risk of hypertension in the population living near airports in France? Occupational and environmental medicine. 2016.	Dahlgren Report	Yes	Yes	Measured in 10 dB increasing increments	Yes	Already in analysis		Already in analysis	This is already in the noise study but cited as 2015, which is correct: Evrard AS, Bouaoun L, Champelovier P, Lambert J, Laumon B. 2015. Does exposure to aircraft noise increase the mortality from cardiovascular disease in the population living in the vicinity of airports? Results of an ecological study in France. Noise Health 2015;17:328-36	Previously included in analysis and Draft Environmental Impact Statement

Article	Source	Is the exposure related to jet noise or airports?	Is the outcome due to exposure to noise?	What are the average/range of noise levels ?	Are the risk estimates precise and significant?	Medical expert: should this paper be considered for the analysis?	Medical expert notes	Noise expert: should this paper be considered for the analysis?	Noise expert notes	Final resolution and notes
Fechter Ld GCFSCJFJNKCDN-MAMPPB. Promotion of noise-induced cochlear injury by toluene and ethylbenzene in the rat. Toxicological sciences : an official journal of the Society of Toxicology. 2007;98(2):542-51. 45 of 55	Dahlgren Report	No	Combined exposure to ethylbenzene and toluene with noise exposure	93-95 dB	Not available	No	Combined exposure of ethylbenzene and toluene with 93 dB exposure yielded loss in auditory function and hair cell death	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Fidell S, Barber OS, Schultz TJ. Updating a dosage-effect relationship for the prevalence of annoyance due to general transportation noise. J Acoust Soc Am. 1991;89(1):221-233.	Washington Department of Health					No	Report and only deals with modeling to predict annoynace.	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Fidell S, Tabachnick B, Mestre V, Fidell L. Aircraft noise-induced awakenings are more reasonably predicted from relative than from absolute sound exposure levels. J Acoust Soc Am. 2013	Dahlgren Report/Washington Department of Health	Yes	Yes	Not available	Not available	Yes	Probabilities of awakening are closely related to sound exposure levels	Yes	The reference essentially supports the ANSI 2008 predictive function, utilized in the analysis, as the current best method but explains the limitations of this methodology due to habituation and self-selection in living choices. This reference would add some value to the analysis in respect to tempering the precision of the calculation as well as advising that increasing numbers of events, which populations are familiar with, may have minimal effect on awakenings.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Finegold LS. Sleep disturbance due to aircraft noise exposure. Noise Health. 2010;12(47):88-94. doi:10.4103/1463-1741.63208.	Washington Department of Health					Already in analysis		Already in analysis		Previously included in analysis and Draft Environmental Impact Statement
Floud S, Vigna-Taglianti F, Hansell A, Blangiardo M, Houthuijs D, Breugelmans O, et al. Medication use in relation to noise from aircraft and road traffic in six European countries: results of the HYENA study. Occupational and environmental medicine. 2011;68(7):518-24.	Dahlgren Report	Yes	Yes	30-35 dBA	Yes	Already in analysis	Effect of aircraft noise on the use of antihypertensive medication, but not consistent across countries	Already in analysis	The analysis already includes the HYENA study focusing on heart disease and stroke (Floud, 2013)	Previously included in analysis and Draft Environmental Impact Statement
Foertsch K, Davies P. The number-of-events as a predictor variable in aircraft noise annoyance models. Partn Proj. 2013;24.	Washington Department of Health					No	This is a modeling report, not from a peer reviewed journal. The report propses different ways to use noise data to predict annoyance.	No	This reference does not conflict with the analysis or use of DNL but does not add significant value either.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Fonseca J, Martins-dos-Santos J, Oliveira P, Laranjeira N, Aguas A, Castelo-Branco N. Noise-induced gastric lesions: a light and electron microscopy study of the rat gastric wall exposed to low frequency noise. Arquivos de gastroenterologia. 2012;49(1):82-8.	Dahlgren Report	No	Yes	Low-frequency noise	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Foraster M, Eze IC, Vienneau D, Brink M, Cajochen C, Caviezel S, et al. Long-term transportation noise annoyance is associated with subsequent lower levels of physical activity. Environ Int. 2016;91:341-9. 44 of 55	Dahlgren Report	Included road, railway, and aircraft traffic	No	Not used	Yes	No	Long term noise annoyance reduced physical activity.	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Foraster M. Is it traffic-related air pollution or road traffic noise, or both? Key questions not yet settled. Int J Public Health. 2013;58:647-648.	Washington Department of Health					No	Editorial	No	This reference would not add significant value to the analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Foud S, Vigna-Taglianti F, Hansell A, et al. Medication use in relation to noise from aircraft and road traffic in six European countries: results of the Hyena study. Occup Environ Med. 2011.	Washington Department of Health					No	Hypertension is related to exposure to noise. Use of hypertension drugs is related to hypertension. No real finding here. Same issues with collinearity as other HYENA studies.	Yes	Hard to draw strong conclusion of causal link between aircraft noise exposure and hypertension and/or anxiety from this reference. This reference would support a discussion in the analysis of this nature but could not lead it. If non-auditory health effects discussion is to be expanded, then this reference may provide some value; otherwise, much less so. Similar reference already in analysis.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Franks JR, Merry C. Preventing Occupatipnal Hearing loss: A Practical Guide. US Dept. of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Division of Biomedical and Behavioral Science, Physical Agents Effects Branch; 1996.	Washington Department of Health	No				Yes	Background/Informative only	No	The reference focus is for occupational hearing protection administration and doesn't add significant value to the analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Franssen EA, van Wiechen CM, Nagelkerke NJ, Lebret E. Aircraft noise around a large international airport and its impact on general health and medication use. Occupational and environmental medicine. 2004;61(5):405-13.	Dahlgren Report	Yes	Yes	41-76 dBA	Yes	Yes	None of the health indicators were associated with aircraft noise exposure during the night. Tiredness and headaches associate with aircraft noise.		More recent studies with better applicability have already been included in the analysis (e.g. Haralabidis, 2008).	Reviewed and added to the analysis in the Final Environmental Impact Statement
Fruhstorfer B HH. Extra-auditory responses to long-term intermittent noise stimulation in humans. J Appl Physiol. 1980;49(6:985-93.	Dahlgren Report	No	No	100 dB	N/a	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Fyhri A KR. Road traffic noise, sensitivity, annoyance and self-reported health--a structural equation model exercise. Environ Int. 2009;35(1:91-7.	Dahlgren Report	No	Yes	Not available	Not available	No	No relationships between noise and health complaints in Norway. Health complaints were subjective.	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Geerse GJ, van Gurp LC, Wiegant VM, Stam R. Individual reactivity to the open-field predicts the expression of cardiovascular and behavioural sensitisation to novel stress. Behav Brain Res. 2006;175(1):9-17.	Dahlgren Report	No	No	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Gille LA, Marquis-Favre C, Morel J. Testing of the European Union exposure-response relationships and annoyance equivalents model for annoyance due to transportation noises: The need of revised exposure-response relationships and annoyance equivalents model. Environ Int. 2016;94:83-94.	Dahlgren Report	Included road, railway, and aircraft traffic	Yes	Not available	Not available	No	Testing European Union exposure-response relationships to suggest revision.	No	Focused on updating EU DALY calculation by adjusting method for determining percent highly annoyed	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Goines, Lisa, RN and Hagler, Louis, MD. *Noise Pollution: A Modern Plague.* Southern Medical Journal, Volume 100: March 2007, pages 287-294.	USEPA Reg 10		No	No	No	Yes	Background/Informative only			Reviewed and not added to the analysis in the Final Environmental Impact Statement
Griefahn BaM, A. Noise-Induced Sleep Disturbances and their Effects on Health. Journal of Sound and Vibration. 1978;59(1):99-106.	Dahlgren Report	No	Yes	Not available	Not available	Already in analysis	Acoustical stimuli causing disturbances of rest and sleep are extremely annoying.	Already in analysis		Previously included in analysis and Draft Environmental Impact Statement
Gue M, Fioramonti J, Frexinos J, Alvinerie M, Bueno L. Influence of acoustic stress by noise on gastrointestinal motility in dogs. Dig Dis Sci. 1987;32(12):1411-7.	Dahlgren Report	No	Yes	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement

Article	Source	Is the exposure related to jet noise or airports?	Is the outcome due to exposure to noise?	What are the average/range of noise levels ?	Are the risk estimates precise and significant?	Medical expert: should this paper be considered for the analysis?	Medical expert notes	Noise expert: should this paper be considered for the analysis?	Noise expert notes	Final resolution and notes
Guoqing D, Xiaoyi L, Xiang S, Zhengguang L, Qili L. Investigation of the relationship between aircraft noise and community annoyance in China. Noise Health. 2012;14(57):52-7.	Dahlgren Report	Yes	Yes	Annoyance threshold was 73.7 dB. Range of 50-75	Yes	Yes	Annoyance threshold of aircraft noise was 73.7 dB, which is lower than the 75 dB standard limit for aircraft noise in the study area.	No	The 73.7 WECPNL correlates approximately to 60 DNL. US utilizes DNL, which is thoroughly discussed in analysis. This study focuses on annoyance using the metric LWECPN. Conclusions regardin LWECPN cannot be directed translated to DNL, so this study can't be utlized in the noise study beyond supporting the conclusion that greater noise levels result in greater annoyance	Reviewed and not added to the analysis in the Final Environmental Impact Statement
H. M.E. Miedema & H. Voss, "Noise sensitivity and reactions to noise and other environmental conditions," J. Acoust. Soc. Am. 113(3), March 2003, pp. 1492 to 1504.	Independent									Reviewed and added to the analysis in the Final Environmental Impact Statement
Haines MM, Stansfeld SA, Job RF, Berglund B, Head J. A follow-up study of effects of chronic aircraft noise exposure on child stress responses and cognition. International journal of epidemiology. 2001;30(4):839-45.	Dahlgren Report	Yes	Yes	>66 dB and <57 dB	No	Already in analysis		Already in analysis		Previously included in analysis and Draft Environmental Impact Statement
Hallback M, Jones JV, Bianchi G, Folkow B. Cardiovascular control in the Milan strain of spontaneously hypertensive rat (MHS) at "rest" and during acute mental "stress". Acta Physiol Scand. 1977;99(2):208-16.	Dahlgren Report	No	No	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Hammersen F, Niemann H, Hoebel J. Environmental Noise Annoyance and Mental Health in Adults: Findings from the Cross-Sectional German Health Update (GEDA) Study 2012. Int J Environ Res Public Health. 2016;13(10):954.	Washington Department of Health					No	The findings were inconsistent with other studies and the entire basis is self-report.	No	High noise annoyance from environmental noise and mental health are not discussed in the analysis. This reference does not provide added value to the analysis.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Hansell AL, Blangiardo M, Fortunato L, Floud S, de Hoogh K, Fecht D, et al. Aircraft noise and cardiovascular disease near Heathrow airport in London: small area study. BMJ. 2013;347:f5432.	Dahlgren Report/ Washington Department of Health	Yes	Yes	Daytime: <=51 and >63; Nightime: <= 50, 50-55, >55	Some significant results	Already in analysis		Already in analysis		Previously included in analysis and Draft Environmental Impact Statement
Haralabidis AS, Dimakopoulou K, Velonaki V, et al. Can exposure to noise affect the 24 h blood pressure profile? Results from the HYENA study. J Epidemiol Community Health. 2011;65(6):535- 541.	Washington Department of Health					Already in analysis		Already in analysis		Previously included in analysis and Draft Environmental Impact Statement
Haralabidis AS, Dimakopoulou K, Vigna-Taglianti F, Giampaolo M, Borgini A, Dudley ML, et al. Acute effects of night-time noise exposure on blood pressure in populations living near airports. Eur Heart J. 2008;29(5):658-64.	Dahlgren Report	Yes	Yes	>35 dB	Yes	Already in analysis		Already in analysis		Previously included in analysis and Draft Environmental Impact Statement
Hardoy MC, Carta MG, Marci AR, Carbone F, Cadeddu M, Kovess V, et al. Exposure to aircraft noise and risk of psychiatric disorders: the Elmas survey--aircraft noise and psychiatric disorders. Soc Psychiatry Psychiatr Epidemiol. 2005;40(1):24-6.	Dahlgren Report	Yes	Yes	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Harlan WR, Sharrett AR, Weill H, Turino GM, Borhani NO, Resnekov L. Impact of the environment on cardiovascular disease. Report of the American Heart Association Task Force on environment and the cardiovascular system. Circulation 1981 Jan;63(1):243A-246A. 1981.	Dahlgren Report									Reviewed and not added to the analysis in the Final Environmental Impact Statement
Heinonen-Guzejev M VHSM-RHHKKMKJ. The association of noise sensitivity with coronary heart and cardiovascular mortality among Finnish adults. The Science of the total environment. 2007;372(2-3):406-12.	Dahlgren Report	No	Yes		No	No	Only found increased risk among noise-sensitive women	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Henderson D, Hamernik RP, Sitler RW. Audiometric and histological correlates of exposure to 1-msec noise impulses in the chinchilla. The Journal of the Acoustical Society of America. 1974;56(4):1210-21.	Dahlgren Report	No	Yes	155, 161, or 166 dB	Not available	No	The chinchillas with 155 dB had no pTS, some of the chinchilla's with 161 dB had PTS, and the chinchillas with 166 dB had a median of 5-15 dB PTS	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Herbold M HHWKU. Effects of road traffic noise on prevalence of hypertension in men: results of the Luebeck Blood Pressure Study. Soz Praventivmed. 1989;;34(1)::19-23. 48 of 55	Dahlgren Report	No	Yes	Categorized by high and low groups	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Hessel Pa S-CGK. Occupational noise exposure and blood pressure: longitudinal and cross-sectional observations in a group of underground miners. Archives of environmental health. 1994;;49(2)::128-34.	Dahlgren Report	No	Yes	<=85, 86-99, >=100 dB	No	No	non-signficant results	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Hohmann C, Grabenhenrich L, de Kluizenaar Y, et al. Health effects of chronic noise exposure in pregnancy and childhood: a systematic review initiated by ENRIECO. Intl Hyg Environ Health. 2013;216(3):217-2 29. doi:10.1016/j.ijheh.2012.06.001.	Washington Department of Health					No	Inconclusive fidnings of a meta-analysis. Individual papers with a rating of 2+ should be reviewed if this is a concern.	No	Currently, this topic is not included in the analysis because no link had been identified and may not be necessary.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Holt JB, Zhang X, Sizov N, Croft JB. Airport noise and self-reported sleep insufficiency, United States, 2008 and 2009. Prev Chronic Dis 2015	Dahlgren Report/Washington Department of Health	Yes	Yes	55-over 65 dBA	Yes	Yes	This paper provides another methods for assessing noise exposures and specific heath outcomes. No significant differences between noise exposure zones and outside zones when controlling for socioeconomic status.	Yes	References suggest that sleep disturbance is not as sensitive to DNL as previously suggested, perhaps due to habituation. Candidate to add to analysis	Reviewed and added to the analysis in the Final Environmental Impact Statement
Huang D, Song X, Cui Q, Tian J, Wang Q, Yang K. Is there an association between aircraft noise exposure and the incidence of hypertension? A meta-analysis of 16784 participants. Noise Health. 2015;17(75):93-7.	Dahlgren Report	Yes	Yes	20->=75 dB	YEs	Already in analysis		Already in analysis		Previously included in analysis and Draft Environmental Impact Statement
Huang EI, Durrant JD, Boston JR. Will diminishing cochlear delay affect speech perception in noise? Int J Audiol. 2015;54(8):562-7.	Dahlgren Report	No	No	N/A	No	No	No statistical difference between delay conditions and speech treatments	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Hume K. Sleep disturbance due to noise: current issues and future research. Noise Health. 2010;12(47):70-76. doi:10.4103/1463-1741.63206.	Washington Department of Health					No	Another review article from the same journal.	No	Document did not include sufficient specificity regarding noise analysis or other topics appropriate in the analysis.	Reviewed and not added to the analysis in the Final Environmental Impact Statement

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Hume Kl, Brink M, Basner M. Effects of environmental noise on sleep. Noise Health. 2012;14(61):297.	Washington Department of Health					No	Paper does not provide any new inforamtion and is more a commentary on the regulations and policies in Europe.	No	This references would not add significant value to the analysis, but a few of the sources may (e.g. WHO night guidelines). The value of these cited sources have been addressed separately.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Hurtley C. Night Noise Guidelines for Europe. WHO Regional Office Europe; 2009.	Washington Department of Health					Already in analysis		Already in analysis	Cited as WHO. (2009). "Night Noise Guidelines for Europe," World Health Organization.	Previously included in analysis and Draft Environmental Impact Statement
Hwang BF, Chang TY, Cheng KY, Liu CS. Gene-environment interaction between angiotensinogen and chronic exposure to occupational noise contribute to hypertension. Occupational and environmental medicine. 2012;69(4):236-42.	Dahlgren Report	Yes	Yes	30-130 dB	Yes	Yes		Yes		Reviewed and added to the analysis in the Final Environmental Impact Statement
Hygge S. Classroom experiments on the effects of different noise sources and sound levels on long-term recall and recognition in children. Applied Cognitive Psychology. 2003;17(8):895-914.	Dahlgren Report	Yes	Yes	66 dBA	No	no	Simulations were not realistic for jet noise expected at airports.	No	Appears to be based on the original (Hygge, S., G.W. Evans, & M. Bullinger, 2002.), which is already addressed in the analysis.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Ishida A, Matsui T, Yamamura K. The effects of low-frequency ultrasound on the inner ear: an electrophysiological study using the guinea pig cochlea. Eur Arch Otorhinolaryngol. 1993;250(1):22-6.	Dahlgren Report	No	Yes	10 kHz to 28 kHz	Not available	No	Low frequency ultrasound below 100 dB induced significant changes in cochlear microphonic	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Ising H, Kruppa B. *Health effects caused by noise: Evidence in the literature from the past 25 years.* Noise Health, 2004; 6: 5-13.	USEPA Reg 10	It's mentioned; a summary of the results of another study		maximum levels 55 dBA; mean 30 dBA	This is not a study	Yes	Background/Informative only	No	Several of the studies discussed in this document are already reviewed directly in analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Ising H, Rebentisch E, Babisch W, Curio I, Sharp D, Baumgärtner H. Medically relevant effects of noise from military low-altitude flights—results of an interdisciplinary pilot study. Environ Int. 1990;16(4):411-23.	Dahlgren Report	Yes	Yes	Unknown	Unknown	No		No	The "low-altitude military flights" consisted of events with sound level increases of up to 75 dB/s. NASWI operations-generated sound level increase is an order of magnitude smaller, so this study not readily applicable.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Ising H, Rebentisch E, Poustka F, Curio I. Annoyance and health risk caused by military low-altitude flight noise. Int Arch Occup Environ Health. 1990;62(5):357-363.	Dahlgren Report/ Washington Department of Health	Yes. Military flight noise	Yes	Not available	Not available		Ear symptoms were only higher in areas with flight noise exceeding 115 dBA	No	This study appears to evaluate military-training-route-type aircraft noise, which typically includes significantly faster rise-time rates than other flight activity. Although the sound levels in the vicinity of NASWI are relatively high, the rise-time rate is slow and typical of that in areas surrounding a civil/commercial airfield. Due to this difference in rise-time, this reference would not be of particular applicability to the analysis and therefore would not significant value; The 'low-altitude military flights' consisted of events with sound level increases of up to 75 d B/s. NASWI operations generated sound level increase an order of magnitude smaller so this study not readily applicable.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Jakovljevic B, Paunovic K, Belojevic G. Road-traffic noise and factors influencing noise annoyance in an urban population. Environ Int. 2009;35(3):552-6.	Dahlgren Report	No	Yes	N/A	Yes	No	Increased annoyance with regard to orientation of rooms toward street, time in apartment during the day, noise sensitivity, and night traffic noise.	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Jarup L BWHDPGKKCEDMLSPSISWBOBG. Hypertension and exposure to noise near airports: the HYENA study. Environmental health perspectives. 2008;116(3):329-33.	Dahlgren Report	Yes	Yes	Not provided	Yes	Yes	The Ors are quick low, though significant.	No	HYENA study already included in analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Jarup L, Dudley M, Babisch W, Houthuijs D, Swart W, Pershagen G. Hypertension and exposure to noise near airports-the HYENA study. Epidemiology. 2007;18(5):S137.	Dahlgren Report/Washington Department of Health	Yes	Yes	<50, >60 dB	Yes	Already in analysis		Already in analysis	The 2008 publication of this reference is already in the analysis	Previously included in analysis and Draft Environmental Impact Statement
Job R. Community response to noise: A review of factors influencing the relationship between noise exposure and reaction. J Acoust Soc Am. 1988;83(3):991-1001.	Washington Department of Health							No	Doesn't add significant value to analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Jonsson AHL. Prolonged exposure to a stressful stimulus (noise) as a cause of raised blood pressure in man. The Lancet. 1977:86-7.	Dahlgren Report	No	Yes	>=65 dB	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Kaltenbach M, Maschke C, Klinke R. Health consequences of aircraft noise. Deutsches Arzteblatt international. 2008;105(31-32):548-56.	Dahlgren Report	Yes	Yes	Daytime: 60 dB; nightime: 45 dB	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Kalyoncu D, Urganci N, Calis AB, Ozbal A. Sensorineural hearing loss in pediatric patients with inflammatory bowel disease. Dig Dis Sci. 2010;55(1):150-2.	Dahlgren Report	No	no	NA	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Karmody CS, Valdez TA, Desai U, Blevins NH. Sensorineural hearing loss in patients with inflammatory bowel disease. Am J Otolaryngol. 2009;30(3):166-70.	Dahlgren Report	No	No	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Kasicka-Jonderko A, Jonderko K, Dolinski K, Dolinski M, Kaminska M, Szymszal M, et al. Extracirculatory effects of noise of various frequency spectra in humans--effect of pink and blue noise on gastric myoelectrical activity and gastrointestinal passage of nutrients. Journal of smooth muscle research = Nihon Heikatsukin Gakkai kikanshi. 2007;43(1):25-42.	Dahlgren Report	No	No	NA	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Katsouyanni K, Dadum E, Dudley M-L, et al. Hypertension and exposure to noise near airports: the HYENA study. Environ Health Perspect. 2008	Washington Department of Health					No	Authors acknowledge that there was collinearity (r = 0.8), but did not address how it was managed in the analysis; could really impact the validity of the analysis.	Yes	May add some value to more general discussion in the analysis regarding stress response to noise. Similar reference in analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Kavoussi N. The relationship between the length of exposure to noise and the incidence of hypertension at a silo in Terran. Med Lavoro. 1973;64(7-8):292-5.	Dahlgren Report	Yes	Yes	N/A	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement

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Kawada T. Noise and health-Sleep disturbance in adults. J Occup Health. 2011;53(6):413-416.	Washington Department of Health					No	No a research paper. Summary of impressions using studies.	No	Consistent with analysis of potential for awakening, and doesn't add significant additional information	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Kim CY, Ryu JS, Hong SS. Effect of air-craft noise on gastric function. Yonsei medical journal. 1968;9(2):149-54.	Dahlgren Report	No	no	NA	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Kim SJ, Chai SK, Lee KW, Park JB, Min KB, Kil HG, et al. Exposure-Response Relationship Between Aircraft Noise and Sleep Quality: A Community-based Cross-sectional Study. Osong public health and research perspectives. 2014;5(2):108-14.	Dahlgren Report/ Washington Department of Health	Yes. Military airfield exposure	Yes	Proximity to airfield.	Yes	Yes	Sleep disturbance was 2.6 fold higher in the low exposure group and 3.5 fold higher in the high exposure group.		Relationship between aircraft noise and sleep disturbance already established in analysis (includes Finegold, 1994), which found correlation between interior SEL and percent awakening. This study doesn't add any new information to the topic	Reviewed and added to the analysis in the Final Environmental Impact Statement
Klatte M, Bergstrom K, Lachmann T. Does noise affect learning? A short review on noise effects on cognitive performance in children. Front Psychol. 2013;4:578.	Dahlgren Report	Summary articles that included airport noise	Yes	Summary article	NA	Yes	Good summary of the literature.	Yes	Reference consistent with analysis of classroom learning, which considers both single-event disruptions as well as averaged sound levels.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Kmietowicz Z. Aircraft noise is linked to raised risk of cardiovascular disease. BMJ. 2013;347:f6082.	Dahlgren Report							No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Koch S, Haesler E, Tiziani A, Wilson J. Effectiveness of sleep management strategies for residents of aged care facilities: findings of a systematic review. J Clin Ntlfs. 2006;15(10):1267-1275.	Washington Department of Health					No	Meta-analysis to find assessment methods, not to confirm injury.	No	This reference focuses on assessing and diagnosing sleep problems and is not directly relevant to the analysis, so would not add value.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Kraus KS, Canlon B. Neuronal connectivity and interactions between the auditory and limbic systems. Effects of noise and tinnitus. Hear Res. 2012;288(1-2):34-46.	Dahlgren Report	No; biologic response to noise	NA	biology paper	NA	No	Maybe. Not sure of value for the analysis as it is more background.			Reviewed and not added to the analysis in the Final Environmental Impact Statement
Krysa I. The effect of noise on learning and retention. Act Nerv Super (Praha). 1983;25(4):299-303.	Dahlgren Report	No	Yes	81-82 dBA	NA	No	Paper had a very small sample size and did not use exposures similar to airports.			Reviewed and not added to the analysis in the Final Environmental Impact Statement
Kwak KM, Ju YS, Kwon YJ, Chung YK, Kim BK, Kim H, et al. The effect of aircraft noise on sleep disturbance among the residents near a civilian airport: a cross-sectional study. Annals of occupational and environmental medicine. 2016;28(1):38.	Dahlgren Report/ Washington Department of Health	Yes	Yes	Not directly measured. Used noise maps publicly available	Yes	Yes	Insomnia and hypersomnia was higher in the aircraft noise exposure group		The use of the cumulative day and night metric (WECPNL) makes isolating the effects from nightime flights difficult. The conclusion "higher WECPNL (or DNL)" increases prevalence of sleep disturbance is already addressed in the analysis, and this reference doesn't add any new information or value.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Lang T, Fouriaud C, Jacquinet-Salord MC. Length of occupational noise exposure and blood pressure. Int Arch Occup Environ Health 1992;63(6):369-72. 1992.	Dahlgren Report	No	Yes	>=85 dB	Yes	No	longitudinal study not relevant to acute noise	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Laszlo H, McRobie E, Stansfeld S, Hansell A. Annoyance and other reaction measures to changes in noise exposure-A review. *Sci Total Environ.* 2012;435:551-562.	Washington Department of Health					Yes	This paper addresses the priamry issue with noise - annoyance and speaks to the lack of control the public perceives as a contributory factor.	Yes	May add value to discussion of Shultz curve update/validating, particularly regarding limitations of dose-response curve relationship, and provides insight when annoyance doesn't follow DNL	Reviewed and added to the analysis in the Final Environmental Impact Statement
Lee EY, Jerrett M, Ross Z, Coogan PF, Seto EY. Assessment of traffic-related noise in three cities in the United States. Environmental research. 2014;132C:182-9.	Dahlgren Report	No	No	NA	NA	No		No	Not applicable	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Lee Jh KWYSRCNLCR. Cohort study for the effect of chronic noise exposure on blood pressure among male workers in Busan, Korea. American journal of industrial medicine. 2009.	Dahlgren Report	No	Yes	<60 dB	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Lekaviciute J, Argalasova-Sobotova L. Environmental noise and annoyance in adults: research in Central, Eastern and South-Eastern Europe and Newly Independent States. Noise Health. 2013;15(62):42-54.	Dahlgren Report	No	Yes	Varies	N/A	No	Review of articles mostly related to road traffic noise in Eastern Europe.	No	Analysis of health effects due to Lnight and Lden better addressed in other studies more directly. No significant value added	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Leon Bluhm G BNNERM. Road traffic noise and hypertension. Occupational and environmental medicine. 2007;64(2):122-6.	Dahlgren Report	No	Yes	<45 dB, >65dB	Yes	No	prolonged exposure to road noise for 10+ years	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Lepore GEaS. Nonauditory Effects of Noise on Children: A Critical Review. Children's Environments. 1993;10(1):31-51.	Dahlgren Report	No; summary article	Yes	NA	Unknown	Yes	Only for background.			Reviewed and not added to the analysis in the Final Environmental Impact Statement
Leventhall H. Low frequency noise and annoyance. Noise Health. 2004;6(23):59	Washington Department of Health					Yes	This paper provides another methods for assessing noise exposures and specific heath outcomes.	Yes	Analysis may benefit from additional discussion of low-frequency noise and annoyance, which could occur beyond the 65 dB DNL; analysis would benefit from additional discussion regarding annoyance from low-frequency noise, which would occur outside the 65 DNL. This reference (particularly citations used) may be appropriate to include in the literature review section of the analysis. -People that suffer from hearing loss (age related or otherwise) tend to loose mid and higher frequency ranges first. May explain why the older age group is bother most by low frequency noise.	Reviewed and added to the analysis in the Final Environmental Impact Statement

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Liberman MC. Noise-Induced Hearing Loss: Permanent Versus Temporary Threshold Shifts and the Effects of Hair Cell Versus Neuronal Degeneration. *Adv Exp Med Biol*. 2016;875:1-7. doi: 10.1007/978-1-4939-2981-8_1.	Washington Department of Health	No	No	N/A		Yes	Background/Informative only	Yes	Not clear how applicable the results of this study are to humans. If true, potential for hearing could be expanded to include decreases in speech discriminations. However, there are currently no methods to estimate this effect in occupational exposure settings nor standards for environmental assessments of aircraft noise exposure, so this reference would not change impact analysis. If other research supports the reference conclusion, then there may be some value of including in general background discussion.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Lilliy J. Whidbey Island Military Jet Noise Measurements.; 2013	Washington Department of Health							Yes	Aircraft measurements typically utilize fast response (0.125 second) vs slow response (1 second). The calculated Ldn in Table 4 appears to be based on incorrect assumptions that may need to be addressed directly in the analysis.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Liu C, Fuertes E, Tiesler CM, Birk M, Babisch W, Bauer CP, et al. The associations between traffic-related air pollution and noise with blood pressure in children: results from the GINIplus and LISAplus studies. Int J Hyg Environ Health. 2014;217(4-5):499-505.	Dahlgren Report	No	Yes	N/A	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Liu J, Xu M, Ding L, Zhang H, Pan L, Liu Q, et al. Prevalence of hypertension and noise-induced hearing loss in Chinese coal miners. Journal of Thoracic Disease. 2016;8(3):422-9.	Dahlgren Report	No	No	N/A	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Matsui T, Uehara T, Miyakita T, Hiramatsu K, Yamamoto T. Dose-response relationship between hypertension and aircraft noise exposure around Kadena airfield in Okinawa. 2004.	Dahlgren Report	Yes	Yes	60-72 dB	Yes	Already in analysis		Already in analysis	This is already in the noise study but cited as 2008, which is correct: Matsui, T., T. Uehara, T. Miyakita, K. Hiramatsu and T. Yamamoto. 2008. "Dose-response relationship between hypertension and aircraft noise exposure around Kadena airfield in Okinawa", 9th International Congress on Noise as a Public Health Problem (ICBEN) 2008, Foxwoods, CT.	Previously included in analysis and Draft Environmental Impact Statement
McCann SMRABYEHSHA. Adrenalectomy and blood pressure of rats subjected to auditory stimulation. American Journal Physiology. 1948;155:128-31.	Dahlgren Report	No	No	N/A	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
McNamee R BGDWMCN. Occupational noise exposure and ischaemic heart disease mortality. Occupational and environmental medicine. 2006;63:813-9. 50 of 55	Dahlgren Report	Yes	Yes	<85 dB	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Medoff HSBAM. Blood pressure in rats subjected to audiogenic stimulation. American Journal of Physiology. 1945;193:300-5.	Dahlgren Report	No	No	N/A	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Meline J, Van Hulst A, Thomas F, Chaix B. Road, rail, and air transportation noise in residential and workplace neighborhoods and blood pressure (RECORD Study). Noise Health. 2015;17(78):308-19.	Dahlgren Report	No	Yes	30-80 dB	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Michalak R, Ising H, Rebentisch E. Acute circulatory effects of military low-altitude flight noise. International archives of occupational and environmental health. 1990;62(5):365-72.	Dahlgren Report	Yes	Yes	Lmax 99-114 dB	N/A	No	noise simulations used and study population was comprised of 70-89 year olds	No	This study analyzed fast rise-time sounds, consistent with MTR-type activity operating at high sub-sonic speeds, which are not applicable to any activity addressed in the analysis.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Miedema H, Oudshoorn C. Annoyance from transportation noise: relationships with exposure metrics DNL and DENL and their confidence intervals. *Environ Health Perspect*. 2001;109(4):409.	Washington Department of Health	Yes	Yes; annoyance from transportation noise, including airports	45-75 DENL, DNL	P-values are significant. There is a significant between-study variation for aircraft and road traffic, but the within-study variation is much larger	Yes	Only explores model of the distribution of noise annoyance with the mean varying as a function of noise exposure- Subjective. Study is not applicable to local, complaint type situations.	Yes	The analysis computes people exposed to various DNL ranges but doesn't clearly translate to counts of people HA. Regarding updating/validating the Shultz curve (annoyance vs DNL), this reference may add value to include briefly in the analysis, although it does not drastically conflict with existing methodologies.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Mintchev MP, Girard A, Bowes KL. Nonlinear adaptive noise compensation in electrogastrograms recorded from healthy dogs. IEEE Trans Biomed Eng. 2000;47(2):239-48.	Dahlgren Report	No	No	NA	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
More SR. Aircraft Noise Characteristics and Metrics; 2011	Washington Department of Health							No	This dissertation provides good background information on noise but would not add significant value to the analysis.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Morrell MJ, Finn L, Kim H, Peppard PE, Badr MS, Young T. Sleep fragmentation, awake blood pressure, and sleep-disordered breathing in a population-based study. American journal of respiratory and critical care medicine. 2000;162(6):2091-6.	Dahlgren Report	No	No	NA	Unknown	No				Reviewed and not added to the analysis in the Final Environmental Impact Statement
Moslehi A, Nabavizadeh-Rafsanjani F, Keshavarz M, Rouhbakhsh N, Sotudeh M, Salimi E. Traffic noise exposure increases gastric acid secretion in rat. Acta medica Iranica. 2010;48(2):77-82.	Dahlgren Report	No	Yes	N/A	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement

Article	Source	Is the exposure related to jet noise or airports?	Is the outcome due to exposure to noise?	What are the average/range of noise levels ?	Are the risk estimates precise and significant?	Medical expert: should this paper be considered for the analysis?	Medical expert notes	Noise expert: should this paper be considered for the analysis?	Noise expert notes	Final resolution and notes
Munzel T, Gori T, Babisch W, Basner M. Cardiovascular effects of environmental noise exposure. Eur Heart J. 2014;35(13):829-36.	Dahlgren Report/Washington Department of Health	Yes	Yes	55 dB	Borderline significant for ORs for risk of arterial hypertension and coronary heart disease from exposure to aircraft noise	Yes	Most useful sumary report on cardiovascular effects		Several of the underlying studies supporting this document (i.e. Haralabidis, 2008 and WHO, 1999/2011) are already included in the analysis. Although the OR may have been statistically significant, a direct causal relationship is less clear. This reference may provide some value in a general sense to describe the current state of scientific study and research on the topic of non-auditory health effects, specifically CVD, due to environmental noise exposure.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Muzet A. Environmental noise, sleep and health. Sleep Medicine Reviews. 2007;11:135-42.	Dahlgren Report	No	No	N/A	N/A	Yes	Background information on environmental noise and health		Draws from studies already included in analysis directly, such as WHO, 2000, etc.	Reviewed and added to the analysis in the Final Environmental Impact Statement
N. Miller, N. Sizov, S. Lor, ands D. Cantor, "New Research on Community Reaction to Aircraft Noise in the United States," 11th International Congress on Noise as a Public Health Problem (ICBEN) 2014, Nara, Japan	Independent									Reviewed and added to the analysis in the Final Environmental Impact Statement
National Academies of Sciences, Engineering, and Medicine. 2017. *Assessing Aircraft Noise Conditions Affecting Student Learning–Case Studies* . Washington, DC: The National Academies Press. https://doi.org/10.17226/24941.	Independent							Yes		Reviewed and added to the analysis in the Final Environmental Impact Statement
Ndrepepa A, Twardella D. Relationship between noise annoyance from road traffic noise and cardiovascular diseases: a meta-analysis. Noise Health. 2011; 13(52):251	Washington Department of Health					No	meta-analysis of only 8 articles and the study types were varied.	No	Confirms the analysis conclusion that noise exposure may lead to stress, which may lead to additional health effects including CVD. This reference doesn't add additional or new value beyond others considered.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Neus H RHSW. Traffic noise and hypertension: an epidemiological study on the role of subjective reactions. International archives of occupational and environmental health. 1983;51:223-9. 47 of 55	Dahlgren Report	No	Yes	>73 dB	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Ni Ch CZYZYZJWPJJLNWJLCKZZZZY. Associations of blood pressure and arterial compliance with occupational noise exposure in female workers of textile mill. Chinese Medical Journal. 2007;120(15):1309-13.	Dahlgren Report	No	Yes	80.1-113.5 dB	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Nomura K, Nakao M, Morimoto T. Effect of smoking on hearing loss: quality assessment and meta- analysis. Prev Med. 2005;40(2):138-144.	Washington Department of Health					No	Meta-analysis or significant original studies.	No	Reference does not address noise so would not add value to analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Orban E, McDonald K, Sutcliffe R, et al. Residential Road Traffic Noise and High Depressive Symptoms after Five Years of Follow-up: Results from the Heinz Nixdorf Recall Study. Environ Health Perspect. 2016;124(5):578-585.	Washington Department of Health					No	Road noise study.	No	The analysis does not discuss depression as a non-auditory health effect. This reference does not provide added value to the analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Passchier-Vermeer W PWF. Noise exposure and public health. Environ Health Perspectives. 2000;108(1):123-31.	Dahlgren Report	No	Yes	Unknown	NA	No	review paper without much substance.	No		Reviewed and added to the analysis in the Final Environmental Impact Statement
Passchier-Vermeer W, Passchier WF. Noise exposure and public health. *Environ Health Perspect. 2000;108 Suppl 1:123-131.*	Dahlgren Report/ Washington Department of Health	Yes	Yes	Depends on health outcome looking at	Doesn't provide		Background/Informative only	Yes	PHL not inconsistent with analysis. Although DNL analysis of significant impact begins at 65 dB, supplemental metrics address areas outside of 65 DNL. This supports the display of 55 DNL as comparison for proposed action but not necessarily as a criteria for significant impact. Need to review source for 70 Ldn affecting hypertension to determine applicability; may need to include in analysis literature review section. -analysis sleep disturbance analyzes both the SEL and number of events occurring at each SEL using a curve fit. Reference does not conflict with analysis methodology although slight differences in thresholds found may exist. -analysis threshold for classroom Leq already lower than referenced 66 dBA -reference does not conflict with analysis PHL approach	Reviewed and added to the analysis in the Final Environmental Impact Statement
Pattenden S. Air traffic noise and hypertension in Stockholm County. Occupational and environmental medicine. 2001;58(12):761.	Dahlgren Report	Yes	Yes	N/A	N/A	No	Editorial paper	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Paunovic K, Stansfeld S, Clark C, Belojevic G. Epidemiological studies on noise and blood pressure in children: Observations and suggestions. Environ Int. 2011;37(5):1030-41.	Dahlgren Report	Yes	Yes	Varying exposure levels; some studies only used modeled effects	Some; meta-analysis included studies with non-significant results	Yes		No	Blood pressure changes in children due to aircraft noise not drastically different from correlations found in other studies for all people	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Pearson T, Campbell MJ, Maheswaran R. Acute effects of aircraft noise on cardiovascular admissions - an interrupted time-series analysis of a six-day closure of London Heathrow Airport caused by volcanic ash. Spatial and spatio-temporal epidemiology. 2016;18:38-43.	Dahlgren Report	Yes	Yes	55 dB	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Perron S, Tetreault LF, King N, Plante C, Smargiassi A. Review of the effect of aircraft noise on sleep disturbance in adults. Noise Health. 2012;14(57):58-67.	Dahlgren Report/Washington Department of Health	Yes	Yes	N/A	N/A	Yes	Review of aircraft noise and sleep disturbance; Crtieria for including articles in review was explicit. Findings were not specuflative and centered on the studies themselves. Nothing new here.	Yes	Consistent with analysis of sleep disturbance discussion. May be worth a mention in analysis	Reviewed and added to the analysis in the Final Environmental Impact Statement

Article	Source	Is the exposure related to jet noise or airports?	Is the outcome due to exposure to noise?	What are the average/range of noise levels ?	Are the risk estimates precise and significant?	Medical expert: should this paper be considered for the analysis?	Medical expert notes	Noise expert: should this paper be considered for the analysis?	Noise expert notes	Final resolution and notes
Peters A, von Klot S, Heier M, Trentinaglia I, Hormann A, Wichmann HE, et al. Exposure to traffic and the onset of myocardial infarction. The New England journal of medicine. 2004;351(17):1721-30.	Dahlgren Report	No	Yes	N/A	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Pipkin A Ebey's Landing National Historical Reserve: Acoustical Monitoring Report. 2016	Washington Department of Health							Yes	The 35 dB level identified by the author as potentially causing adverse blood pressure effects while sleeping was referring to the Haralabidis study. However, the 35 dB level was simply the threshold for counting noise events and not necessarily a threshold of adverse effects. Many events exceeded this threshold significantly. Additionally, the Haralibidis study found no link between nightime noise and aircraft events but instead with traffic noise. "The pooled estimates from all 4 centers show that the only noise indicator associated consistently with decrease in BP dipping is higher road traffic noise during the study night. The effect is statistically significant only on diastolic dipping and shows that a 5 dB increase in measured road traffic noise during the study night is associated with 0.8 % less dipping in diastolic BP." This difference could be due to the continuous vs intermittent nature of the sound sources. It is important to point out that the 45 dBA interior nighttime level identified by the author and in the WHO recommendation (Berglund, 1999) is not a threshold of significance for adverse health effects but merely a target to strive for by administrators. The author's background appears to be in biology and natural resource with limited noise experience which may explain why the above thresholds were selected. It is not clear whether the Ldn computed utilizes the DNL nighttime period or the NPS period. The above items may need to be addressed in the analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Prieve BA, Yanz JL. Age-dependent changes in susceptibility to ototoxic hearing loss. Acta Otolaryngol (Stockh) 1984 Nov-Dec;98(5-6):428-38. 1984.	Dahlgren Report	No	No	N/A	N/A	No	Age-dependent changes in susceptibility to ototoxic hearing loss in mice exist	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Prior H. Effects of the acoustic environment on learning in rats. Physiol Behav. 2006;87(1):162-5.	Dahlgren Report	No; rat study with continuous noise levels	Yes	unknown	NA	No	Rat study with no clear association with the environment in question.			Reviewed and not added to the analysis in the Final Environmental Impact Statement
Pujol S, Levain JP, Houot H, Petit R, Berthillier M, Defrance J, et al. Association between ambient noise exposure and school performance of children living in an urban area: a cross-sectional population-based study. Journal of urban health : bulletin of the New York Academy of Medicine. 2014;91(2):256-71.	Dahlgren Report	No, but aircraft noise could be a contributor	Yes	38-71 dBA, at home and school	Yes	Yes	Only for background.	Yes	Brief mention in learning effects discussion	Reviewed and added to the analysis in the Final Environmental Impact Statement
Pyko A, Eriksson C, Oftedal B, et al. Exposure to traffic noise and markers of obesity. *Occup Environ Med.* 2015;72(8):594-601. doi:l0.1136/oemed-2014-102516.	Washington Department of Health	Traffic noise: road traffic is the dominating source, followed by railway and aircraft noise	Yes	Road/Railway traffic noise: <45 dB-≥55 dB. Aircraft Noise around Stockholm's Arland Airport (range): 50-65 dB, to account for a decline in exposure preceding the follow-up survey (due to people moving), the exposure was estimated as an average for the time period. For participants who had changed their address between the baseline and follow-up surveys, a time-weighted average of exposure was calculated: avg: 48-49 db. A second airport in Stockholm City, used mainly for regional air traffic, only 13 participants in study were exposed to aircraft noise ≥50 dB	No significant interactions were observed between exposure to road traffic noise and other risk factors in relation to central obesity, except for age. Sleep disturbances were not associated with central obesity in the fully adjusted model; data were not shown.	No	Sometimes with certain p-values that are significant they don't report CI's and in their tables they do not report p-values with confidence intervals, and those that do report confidence intervals throughout the results are not strong and close to 1.	No	Although relationship may be statistically significant, from a study standpoint, it doesn't appear to be correlated strongly enough to justify analyzing as a potentially significant effect of EIS action. Additionally, road noise characteristics can vary greatly from military airfield noise; particularly the durations of noise events are sporadic at NASWI, while road noise may be fairly constant. Suggest time-above comparison to confirm.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Rabinowitz PM. Noise-induced hearing loss. *Am Fam Physician.* 2000;61(9):2759-2760.	Washington Department of Health	No	This is not a study; it provides a short overview of two individual case studies	This is not a study	This is not a study	Yes	Background/Informative only	No	Does not add any additional value to the analysis that hasn't already been covered by existing references	Reviewed and not added to the analysis in the Final Environmental Impact Statement

Article	Source	Is the exposure related to jet noise or airports?	Is the outcome due to exposure to noise?	What are the average/range of noise levels ?	Are the risk estimates precise and significant?	Medical expert: should this paper be considered for the analysis?	Medical expert notes	Noise expert: should this paper be considered for the analysis?	Noise expert notes	Final resolution and notes
Ragettli MS, Goudreau S, Plante C, Perron S, Fournier M, Smargiassi A. Annoyance from Road Traffic, Trains, Airplanes and from Total Environmental Noise Levels. Int J environ Res Public Health. 2015	Dahlgren Report/Washington Department of Health	Include road, railway, and aircraft traffic	Yes	50.1 dBA-78.7 dBA	Yes	No	Montreal residents living near busy roads, main railway lines, as well as within and close to the Montreal airport are annoyed by transportation noise. Percentage of people disturbed by noise significantly decreased as distance to roads or airports increased.	No	Not particularly valuable regarding annoyance rates from noise exposure (highly annoyed vs Leq/Lden), so this reference would not add significant value to the analysis. Utilized the Land Use Regression (LUR) statistical model for sound exposure estimates. LUR is still in development and designed specifically for road noise. Insufficient evidence for applicability to aircraft noise.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Rathsam J, Loubeau A, Klos J. Effects of indoor rattle sounds on annoyance caused by sonic booms. The Journal of the Acoustical Society of America. 2015;138(1):EL43-8.	Dahlgren Report	Yes	Yes	Not available	Not available	No	Results provide community annoyance models that include the effects of indoor rattle sounds.	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Ray Rl BJVEHH. Cardiovascular effects of noise during complex task performance. International Journal of Psychophysiology. 1984;1:335-40.	Dahlgren Report	No	Yes	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Regecova V, Kellerova E. Effects of urban noise pollution on blood pressure and heart rate in preschool children. J Hypertens. 1995;13(4):405-12.	Dahlgren Report	No; ambient noise levels typical in industrial cities	Yes	Only mentioned >60 dBA in abstract	NA	No				Reviewed and not added to the analysis in the Final Environmental Impact Statement
Reinis S. Acute changes in animal inner ears due to simulated sonic booms. The Journal of the Acoustical Society of America. 1976;60(1):133-8.	Dahlgren Report	Sonic booms	Yes	Not available	Not available	No	Mice exposed to sonic booms has bleeding in the inner ear	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Rhee MY, Kim HY, Roh SC, Kim HJ, Kwon HJ. The effects of chronic exposure to aircraft noise on the prevalence of hypertension. Hypertension research : official journal of the Japanese Society of Hypertension. 2008;31(4):641-7.	Dahlgren Report	Yes	Yes	88-115 dB	Yes	Yes		Yes	Compares exposure to helicopter noise and jet noise to control. Higher ORs for helicopter noise	Reviewed and added to the analysis in the Final Environmental Impact Statement
Ristovska G, Laszlo HE, Hansell AL. Reproductive outcomes associated with noise exposure-a systematic review of the literature. *Int 1Environ Res Public Health.* 2014; 11(8):7931-7952.	Washington Department of Health	Yes; meta-analysis: 6 out of 23 studies evaluated aircraft noise; 14 studies were summaries of occupational noise exposure	Yes	<65dBA, 75-95 dBA, 75-100 dBA, >85 dBA etc. Mean value and standard deviation of individual exposure was 67.9 dBA (52.4 dBA-86.8 dBA)	No; not the studies pertaining to noise exposure and reproductive outcomes	No	A major limitation of the study investigated was the exposure assessment.	No	Outdoor noise levels in off-station areas in the vicinity of NASWI could potentially affect LBW. However, when building attenuation is taken into consideration, the indoor sounds would be sufficiently low (Leq(indoor)<65) to not cause LBW.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Ristovska G, Lekaviciute J. Environmental noise and sleep disturbance: research in Central, Eastern and South-Eastern Europe and Newly Independent States. Noise Health. 2013;15(62):6-11. doi:10.4103/1463-1741.107147.	Washington Department of Health					No	Review article with no real purpose.	No	Consistent with analysis potential for awakening, and doesn't add significant additional information	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Rosenlund M BNPGJLBG. Increased prevalence of hypertension in population exposed to aircraft noise. Occupational and environmental medicine. 2001;58:769-73.	Dahlgren Report	Yes	Unknown	50-75 dBA	Yes	Already in analysis		Already in analysis		Previously included in analysis and Draft Environmental Impact Statement
Ryan AF, Kujawa SG, Hammill T, Le Prell C, Kil J. Temporary and Permanent Noise-induced Threshold Shifts: A Review of Basic and Clinical Observations. Otol Neurotol Off Publ AM Otol Soc AM Neurotol Soc Eur Acad Otol 2016	Washington Department of Health							No	Consistent with analysis PHL, and doesn't add significant additional value to analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Rylander R. Noise, Stress, and Annoyance. Noise & Vibration Worldwide. 2006.	Dahlgren Report	Sound in general	Yes	Not available	Not available	No	Noise is interpreted in the central nervous system, generating secondary and tertiary reactions that are not controlled by the brain cortex.	No	Summary of info on noise and annoyance, which are already covered in analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Salomons EM, Jansses SA. Practical ranges of loudness levels of various types of environmental noise, including traffic noise, aircraft noise, and industrial noise. Int J Environ Res Public Health. 2011;8(6):1847-1864	Washington Department of Health					No		No	Provides useful information about the need to consider noise beyond A-weighted. Supports providing Growler frequency spectrum plot (C-weighted or unweighted) for comparison to other aircraft. Doesn't provide sufficient evidence to justify C-weighted contour computation or extensive analysis. Less value to add reference to analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Sayapathi BS, Su AT, Koh D. The effectiveness of applying different permissible exposure limits in preserving the hearing threshold level: A systematic review. *J Occup Health.* 2014;56(1):1·11.	Washington Department of Health	No	Yes	≤85 dBA and >85 dBA	Systematic review; some were, but the majority--if they were significant--had wide confidence intervals			No	Consistent with analysis PHL methodology, reference would not add significant value to analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Sbihi H DHWDPA. Hypertension in noise-exposed sawmill workers: a cohort study. Occupational and environmental medicine. 2008;65:643-6.	Dahlgren Report	No	Yes	>85 dB	Yes	No	the article covers prolonged noise exposure in a confined occupational environment	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Scheibe F, Haupt H, Ludwig C. Intensity-dependent changes in oxygenation of cochlear perilymph during acoustic exposure. Hear Res. 1992;63(1-2):19-25.	Dahlgren Report	No	Yes	85-90 dB SPL	Not available	No	Intracochlear oxygenation plays an important role in inner ear physiology during acoustic stimulation	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Scheibe F, Haupt H, Ludwig C. Intensity-related changes in cochlear blood flow in the guinea pig during and following acoustic exposure. Eur Arch Otorhinolaryngol. 1993;250(5):281-5.	Dahlgren Report	No	Yes	85-125 dB SPL	Not available	No	Intensity-related effects of acoustic exposure on the cochlear microcirculation in mice.	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Schmidt F, Kolle K, Kreuder K, Schnorbus B, Wild P, Hechtner M, et al. Nighttime aircraft noise impairs endothelial function and increases blood pressure in patients with or at high risk for coronary artery disease. Clin Res Cardiol. 2015;104(1):23-30.	Dahlgren Report	Yes	YEs	39-46 dB	Yes	Yes		Yes		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Schmidt FP, Basner M, Kroger G, Weck S, Schnorbus B, Muttray A, et al. Effect of nighttime aircraft noise exposure on endothelial function and stress hormone release in healthy adults. Eur Heart J. 2013;34(45):3508-14a.	Dahlgren Report	Yes	Yes	60 dB	Yes	No	Focuses mostly on sleep disturbance and endothelial dysfunction	No	Not really applicable; one night of noise exposure to random individuals. Does not account for habituation effects found in other research	Reviewed and not added to the analysis in the Final Environmental Impact Statement

Article	Source	Is the exposure related to jet noise or airports?	Is the outcome due to exposure to noise?	What are the average/range of noise levels ?	Are the risk estimates precise and significant?	Medical expert: should this paper be considered for the analysis?	Medical expert notes	Noise expert: should this paper be considered for the analysis?	Noise expert notes	Final resolution and notes
Schneider A HRI-MAZWSGSRRRCJPMBOGWGPM. Changes in deceleration capacity of heart rate and heart rate variability induced by ambient air pollution in individuals with coronary artery disease. Part Fibre Toxicol. 2010;7:29.	Dahlgren Report	No	No	N/A	N/A	No	Not related to noise or airports	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Schomer, Paul D. Criteria for Assessment of noise annoyance. Received 2004 March 31; revised 2005 January 16; accepted 2005 September 2002; Noise Control Eng J. 2005 July-Aug	Independent									Reviewed and added to the analysis in the Final Environmental Impact Statement
Schreckenberg, M. Meis, C. Kahl, C. Peschel, and T. Eikmann, “Aircraft Noise and Quality of Life around Frankfurt Airport,” Int. J. Environ. Res. Public Health, 2010, 7, pp. 3382-3405.	Independent									Reviewed and added to the analysis in the Final Environmental Impact Statement
Schulte W, Otten H. Results of a low-altitude flight noise study in Germany: long-term extraaural effects. Schriftenr Ver Wasser Boden Lufthyg. 1993;88:322-38.	Dahlgren Report	Yes	Yes	N/A	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Schultz TJ. Synthesis of social surveys on noise annoyance. The Journal of the Acoustical Society of America. 1978;64(2):377-405.	Dahlgren Report	Yes	Yes. Relationship for predicting community annoyance due to all kinds of transportation noise.	Not available	Not available	Already in analysis	Relationship for predicting community annoyance due to all kinds of transportation noise. Highly cited by others in the field.	Already in analysis		Previously included in analysis and Draft Environmental Impact Statement
Schwartz J, Litonjua A, Suh H, Verrier M, Zanobetti A, Syring M, et al. Traffic related pollution and heart rate variability in a panel of elderly subjects. Thorax. 2005;60(6):455-61.	Dahlgren Report	No	No	N/A	Yes	No	Not related to noise or aiports and population is elderly	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Seabi J, Cockcroft K, Goldschagg P, Greyling M. The impact of aircraft noise exposure on South African children's reading comprehension: the moderating effect of home language. Noise Health. 2012;14(60):244-52.	Dahlgren Report	Yes	Yes	69 dBA average, 95 dBA peak	Yes	No	There were methodological problems with the study that the authors did not address.			Reviewed and not added to the analysis in the Final Environmental Impact Statement
Seabi J. An epidemiological prospective study of children's health and annoyance reactions to aircraft noise exposure in South Africa. Int J Environ Res Public Health. 2013;10(7):2760-77.	Dahlgren Report/Washington Department of Health	Yes	Yes	54-97 dB	No	No	Report is elementary in its analysis and some values are outside expected levels.	No	Although this study supports the idea that chronic noise exposure does not have any negative effects on health of children, the exposure levels were not high enough to cover all areas at NASWI. May not add significant value to analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Seidler A, Hegewald J, Seidler AL, et al. Association between aircraft, road and railway traffic noise and depression in a large case-control study based on secondary data. Environ Res. 2017;152:263- 271. doi:10.1016/j.envres.2016.10.017.	Washington Department of Health					No	Ecologic exposure assessment. Results not consistent for exposure to high noise levels.	No	Reference did not include any new information and wouldn't add significant value to the analysis. Several of the citations, which are included in this literature review, are candidates for inclusion in the analysis regarding non-auditory health effects	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Seidler A, Wagner M, Schubert M, Droge P, Pons-Kuhnemann J, Swart E, et al. Myocardial Infarction Risk Due to Aircraft, Road, and Rail Traffic Noise. Deutsches Arzteblatt international. 2016;113(24):407-14.	Dahlgren Report	Yes	Yes	Maximum noise level: >60 dB	No	Yes		Yes	Although this doesn't provide any new info beyond the EIS text (which includes Haralabidis, 2008), it is more recent so could be added to summary of "recent studies."	Reviewed and added to the analysis in the Final Environmental Impact Statement
Seidler A, Wagner M, Schubert M, Droge P, Romer K, Pons-Kuhnemann J, et al. Aircraft, road and railway traffic noise as risk factors for heart failure and hypertensive heart disease-A case-control study based on secondary data. Int J Hyg Environ Health. 2016;219(8):749-58.	Dahlgren Report	Yes	Yes	increasing 10 dB increments	Yes	Yes		Yes	Topic already covered in analysis, but this is a more recent study	Reviewed and added to the analysis in the Final Environmental Impact Statement
Selander J, Bluhm G, Theorell T, et al. Saliva cortisol and exposure to aircrarft noise in six European countries. Environ Health Perspect. 2009	Washington Department of Health					No	Inconclusive paper.	Yes	May add some value to more general discussion in the analysis regarding stress response to noise. Similar reference in analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Serrano S, Karr C, Beaudet N. Chronic Aircraft Noise Exposure and Children's Health: A Review of the Literature and Comparison to Whidbey Island Situation. Pediatric Environmental Health Specialty Unity, University of Washinton: 2013	Washington Department of Health							Yes	The maximum permissible level cited (55 day/45 night) applies to a residential noise source received at a neighboring residential location. Report compares outdoor sound levels to indoor thresholds (learning, sleep, etc.) without adjustment for building attenuation. This is a Powerpoint slide and would not be considered peer reviewed research so not appropriate for inclusion in the analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Shepherd D, Dirks K, Welch D, McBride D, Landon J. The Covariance between Air Pollution Annoyance and Noise Annoyance, and Its Relationship with Health-Related Quality of Life. Int J Environ Res Public Health. 2016;13(8):792.	Dahlgren Report	Yes	Yes. No significant difference between air pollution and noise annoyance ratings in New Zealand cities. Air pollution and noise impact (in New Zealand) health independently	~62 (Legislated to be below 75 dBA) in "Airport" sample	No	No	No significant difference between air pollution and noise annoyance ratings in New Zealand cities. Air pollution and noise impact (in New Zealand) health independently	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Singh Ap RRMBMRNHS. Effect of chronic and acute exposure to noise on phsiological functions in man. International archives of occupational and environmental health. 1982;50:169-74.	Dahlgren Report	No	Yes	88-107 dB	Yes	No	Occupational noise related	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Sorensen M. Aircraft noise exposure and hypertension. Occupational and environmental medicine. 2016.	Dahlgren Report	No	No	N/A, editorial commentary	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement

Article	Source	Is the exposure related to jet noise or airports?	Is the outcome due to exposure to noise?	What are the average/range of noise levels ?	Are the risk estimates precise and significant?	Medical expert: should this paper be considered for the analysis?	Medical expert notes	Noise expert: should this paper be considered for the analysis?	Noise expert notes	Final resolution and notes
Stansfeld S A, Haines M M, Burr M, Berry B, Lercher P. A review of environmental noise and mental health.Noise Health; 2000; 2:1-8	Independent								Review paper with source papers already included in analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Stansfeld S, Clark C. Health Effects of Noise Exposure in Children. Curr Environ Health Rep. 2015;2(2):171-178	Dahlgren Report/Washington Department of Health	Yes, but the article is a summary of other articles	Yes	Unknown	NA	Yes	Good summary paper	Yes	In general, this reference found similar effects in children as in adults and doesn't add much value to analysis. One item worth considering to add to the analysis literature review is the "5dBA LAeq16 increase in aircraft noise associated with 2-month delay in reading age" (similar to analysis classroom learning analysis) by including the source document Stansfeld, Berglund Aircraft and road traffic noise and children's cognition and health...; The original papers discussed are, for the most part, already included. Can also add this as a citation.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Stansfeld S, Crombie R. Cardiovascular effects of environmental noise: research in the United Kingdom. Noise Health. 2011	Washington Department of Health/Dalgren Report	Yes	Yes	Unknown (linear model suggests increased risk with every 10 dB increase of noise)	Borderline significance	Yes	Review article. Better to cite original research.	Yes	This reference may add some value to the analysis of non-auditory health effects in a more general sense and discussion, but no strong correlation was found.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Stansfeld S, Hygge S, Clark C, Alfred T. Night time aircraft noise exposure and children's cognitive performance. Noise Health. 2010	Washington Department of Health					No	No validation and more hypothesis generating	Yes	This reference and/or the two studies analyzed in this reference do provide additional value--specifically, that noise at school is a significant factor in child learning, while nighttime noise at home is not. May be a candidate to include in analysis, although similar publications already exist in the analysis	Reviewed and added to the analysis in the Final Environmental Impact Statement
Stansfeld S. Airport noise and cardiovascular disease. BMJ. 2013;347:f5752.	Dahlgren Report	Yes	Yes	45-70 dB	No	No	It goes into detail about the lack of studies around exposure to airport noise and poor health outcomes as well as the lack of evidence to link hypertension with airport noise.	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Stansfeld Sa MMP. Noise pollution: non-auditory effects on health. British Medical Bulletin. 2003;68:243-57.	Dahlgren Report	Included aircraft and traffic	Yes	N/A	N/A	Yes	In children, chronic aircraft noise exposure impairs reading comprehension and long-term memory, and may be associated with raised blood pressure.	Yes	Adds some background info	Reviewed and added to the analysis in the Final Environmental Impact Statement
Stansfeld SA, Shipley M. Noise sensitivity and future risk of illness and mortality. *Sci Total Environ. 2015;520: 114-119. doi:10.1016/j.scitotenv .2015.03.053.*	Washington Department of Health					No	Good use of a cohort study to study changes over many years. But each phase was cross-sectional and unable to separate noise exposure to mental health outcomes: Is an anxious person more likely to be annoyed by noise, or does annoying noise make a person anxious?	No	Reference does not conflict with the analysis but doesn't add significant value.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Summers RW, Harker L. Ulcerative colitis and sensorineural hearing loss: is there a relationship? J Clin Gastroenterol. 1982;4(3):251-2.	Dahlgren Report	No	no	NA	No	No	Case report of a single patient	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Sung JH, Lee J, Park SJ, Sim CS. Relationship of Transportation Noise and Annoyance for Two Metropolitan Cities in Korea: Population Based Study. PLoS One. 2016;11(12):e0169035.	Dahlgren Report	Included road, railway, and aircraft traffic. Transportation noise identified as aircraft and road traffic noise	Yes. Transportation noise levels (in two Korean cities) were significantly associated with annoyance in adults	55-65 dBA	Yes	No	Transportation noise levels (in two Korean cities) were significantly associated with annoyance in adults.	No	Correlation between transportation noise and annoyance thoroughly covered in analysis; this would not add any new information	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Swift H. *A Review of the Literature Related to Potential Hea {L] Th Effects of Aircraft Noise.* Partnership for AiR Transportation Noise and Emissions Reduction Massachusetts Institute of Technology; 2010.	Washington Department of Health	Title is misleading, if the exposure is sleep disturbance and health effects	Not really; I feel like the article is insinuating that aircraft noise results in sleep disturbance	None were given	The only odds ratios presented in this study were odds ratios or relative risks for developing diabetes for various sleep patterns, not necessarily pertaining to noise or aircraft noise exposure.	Yes	Background/Informative only	Yes	SID and SFI could provide additional useful information an quality of sleep. May be particularly important since many of the non-auditory health effects are linked to decreases in sleep quality. Original source(s) of blood pressure increase may be applicable to include in analysis literature review text. Reference does not conflict with sleep analysis methodology. This reference was not published in a peer-reviewed journal, so it does not meet the criteria for inclusion.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Talbott EO, Gibson LB, Burks A, Engberg R, McHugh KP. Evidence for a dose-response relationship between occupational noise and blood pressure. Archives of environmental health. 1999;54(2):71-8.	Dahlgren Report	No	Yes	<= 83, >= 89 dB	Yes	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Tanyel M, Lee KY, Chey WY, Chitrapu PR. Multistage enhancement of surface recordings of canine gastric electrical signals. Ann Biomed Eng. 1993;21(4):337-50.	Dahlgren Report	No	No	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Taylor J. Noise: a new cardiovascular risk factor. Eur Heart J. 2014;35(13):821-2.	Dahlgren Report							No	News article about politics of airport expansion; appears to use info from Munzel, 2014	Reviewed and not added to the analysis in the Final Environmental Impact Statement

Article	Source	Is the exposure related to jet noise or airports?	Is the outcome due to exposure to noise?	What are the average/range of noise levels ?	Are the risk estimates precise and significant?	Medical expert: should this paper be considered for the analysis?	Medical expert notes	Noise expert: should this paper be considered for the analysis?	Noise expert notes	Final resolution and notes
Tetreault l-F, Perron S, Smargiassi A. Cardiovascular health, traffic-related air pollution and noise: are associations mutually confounded? A systematic review. Int J Public Health. 2013;58(5):649- 666.	Washington Department of Health					No	Review article of health effects that may be compounded by pollution. While little compoudning was found, the exposure assessment limited the studies.	No	This reference would not add significant value to the analysis	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Tetreault L-F, Plante C, Perron S, Goudreau S, King N, Smargiassi A. Risk assessment of aircraft noise on sleep in Montreal. Can J public health Rev Can Sante Publique. 2012	Washington Department of Health					No	Predicitive study that did not offer any validation.	No	Not inconsistent with sleep disturbance analysis, and this reference wouldn't add any additional value.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Tiesler CM, Birk M, Thiering E, Kohlböck G, Koletzko S, Bauer C-P, et al. Exposure to road traffic noise and children's behavioural problems and sleep disturbance: Results from the GINIplus and LISAplus studies. Environmental research. 2013;123:1-8.	Dahlgren Report	No	Yes	5-11.2 dBA	Yes	No	Road traffic noise at home may be related to increased hyperactivity and more emotional symptoms in children	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Tomei F TEPBBTPAP. Study of some cardiovascular parameters after chronic exposure to noise. International Journal of Cardiology. 1991;33:393-400.	Dahlgren Report	No	Yes	N/A	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Tomei F, De Sio S, Tomao E, Anzelmo V, Baccolo TP, Ciarrocca M, et al. Occupational exposure to noise and hypertension in pilots. Int J Environ Health Res. 2005;15(2):99-106.	Dahlgren Report	Yes	Yes	60-115 dB		No		No	Compared pilots of C130s to pilots of F104s. Are there other differences between the two work environments beyond noise level (stress, g-loads, etc.) that the study was unable to account for? Better studies of assessing aircraft overflight noise and hypertension exist in the analysis already.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Tomei F, Tomao E, Papaleo B, Baccolo TP, Alfi P. Study of some cardiovascular parameters after chronic exposure to noise. Int J Cardiol. 1991;33(3):393-9.	Dahlgren Report	No	Yes	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Trimmel M, Atzlsdorfer J, Tupy N, Trimmel K. Effects of low intensity noise from aircraft or from neighbourhood on cognitive learning and electrophysiological stress responses. Int J Hyg Environ Health. 2012;215(6):547-54.	Dahlgren Report	Yes	Yes	45 dBA peak, once per minute	Unknown	Yes	Sample size was very small.	Yes	Did simulate aircraft overflight events once per minute at 48 dBA--a rate much more frequent than NASWI but still adds to cognitive effects discussion	Reviewed and added to the analysis in the Final Environmental Impact Statement
Turnovska T, Staykova J, Petkov T. Health assessment of populations living close to the airport of Bourgas, Bulgaria. Arhiv za Higijenu Rada I Toksikologiju/Archives of Industrial Hygiene and Toxicology. 2004;55(1):5-10.	Dahlgren Report	Yes	Yes	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Valenti VE, Guida HL, Frizzo AC, Cardoso AC, Vanderlei LC, Abreu LC. Auditory stimulation and cardiac autonomic regulation. Clinics (Sao Paulo). 2012;67(8):955-8.	Dahlgren Report	No	Yes	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
van Kamp I, Davies H. Noise and health in vulnerable groups: a review. Noise Health. 2013;15(64):153-159. doi:10.4103/1463-174l .112361.	Washington Department of Health					No	Summary article of studies already published.	No	Reference would not provide significant value to analysis	Reviewed and added to the analysis in the Final Environmental Impact Statement
Van Kempen E, Babisch W. The quantitative relationship between road traffic noise and hypertension: a meta-analysis. Journal of hypertension. 2012;30(6):1075-86.	Dahlgren Report	No	Yes	45-75 dB	Yes	No		No	Road traffic noise	Reviewed and not added to the analysis in the Final Environmental Impact Statement
van Kempen Emm KHBHCACBSBAMdHAEM. The association between noise exposure and blood pressure and ischemic heart disease: a meta-analysis. Environ Health Perspectives. 2002;110(3):307-17.	Dahlgren Report	No	Yes	50-116 dB	No	No		No		Reviewed and added to the analysis in the Final Environmental Impact Statement
Vera MN, Vila J, Godoy JF. Cardiovascular effects of traffic noise: the role of negative self-statements. Psychol Med. 1994;24(4):817-27.	Dahlgren Report	No	Yes	N/A	N/A	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Vienneau D, Perez L, Schindler C, Lieb C, Sommer H, Probst-Hensch N, et al. Years of life lost and morbidity cases attributable to transportation noise and air pollution: A comparative health risk assessment for Switzerland in 2010. Int J Hyg Environ Health. 2015;218(6):514-21.	Dahlgren Report	No	Yes	48 dB	No	No		No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
Vienneau D, Perez L, Schindler C, Probst-Hensch N, Röösli M, editors. The relationship between traffic noise exposure and ischemic heart disease: a meta-analysis'. 42nd International Congress and Exposition on Noise Control Engineering; 2013.	Dahlgren Report	No	Yes	risk estimates reported per 10 dB increase	Yes	Already in analysis		Already in analysis		Previously included in analysis and Draft Environmental Impact Statement
Vienneau D, Schindler C, Perez L, Probst-Hensch N, Roosli M. The relationship between transportation noise exposure and ischemic heart disease: a meta-analysis. Environ Res. 2015	Washington Department of Health	No; meta-analysis	Yes	NA	Unknown	No	Meta-analysis	Yes	With a fairly weak correlation between IHD and noise exposure, it is unclear what value this reference would add to the analysis other than to describe the current state of scientific research on the topic, which may be of some value.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Westman Jc WJR. Noise and stress: A comprehensive approach. Environmental health perspectives. 1981;41:291-309.	Dahlgren Report	No	No	N/A	N/A	No	Comprehensive approach to noise and stress	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement
WHO (2010), *Burden of Disease from Environmental Noise: Quantification of Healthy Life Years Lost in Europe,* The World Health Organization (www.euro.who.int); at www .euro.who.int/ _ data/assets/pdf _file/0008/136466/e94888.pdf.	Dahlgren Report/ Washington Department of Health/USEPA Reg 10	It's mentioned	This is not a study; it is more like an evidence-based informational article on health effects due to environmental noise and how to quantify these effects	This is not a study	This is not a study	Already in analysis	Already in noise study but cited as the more recent: WHO. (2011). "Burden of Disease from Environmental Noise," World Health Organization	Already in analysis		Previously included in analysis and Draft Environmental Impact Statement

Article	Source	Is the exposure related to jet noise or airports?	Is the outcome due to exposure to noise?	What are the average/range of noise levels ?	Are the risk estimates precise and significant?	Medical expert: should this paper be considered for the analysis?	Medical expert notes	Noise expert: should this paper be considered for the analysis?	Noise expert notes	Final resolution and notes
World Health Organization. Burden of disease from environmental noise-Quantification of healthy life years lost in Europe. *WHO Reg Off Eur Bonn.* 2011.	Washington Department of Health	It's mentioned	This is not a study; it is more like an evidence-based informational article on health effects of environmental noise and how to quantify these effects	This is not a study	This is not a study	Already in analysis		Already in analysis	This report focused on the calculation of disability-adjusted life years (DALYs) due to noise exposure, which is a methodology not currently used for noise impact analysis under NEPA.	Previously included in analysis and Draft Environmental Impact Statement
Wright B, Peters E, Ettinger U, Kuipers E, Kumari V. Understanding noise stress-induced cognitive impairment in healthy adults and its implications for schizophrenia. Noise Health. 2014;16(70):166- 176. doi:10.4103/1463-1741.134917.	Washington Department of Health					No	Summary article that does not represent original analysis.	No	This reference serves primarily to guide future research and would not add value to the analysis of potential for impacts due to noise.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Wu Tn KYCCPY. Study of noise exposure and high blood pressure in shipyard workers. American journal of industrial medicine. 1987;12:431-8. 46 of 55	Dahlgren Report	No	Yes	>85 dB	Yes	No		No	Assessed continuous sound exposure	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Wunderli JM, Pieren R, Habermacher M, Vienneau D, Cajochen C, Probst-Hensch N, et al. Intermittency ratio: A metric reflecting short-term temporal variations of transportation noise exposure. Journal of exposure science & environmental epidemiology. 2016;26(6):575-85.	Dahlgren Report	Included road, railway, and aircraft traffic	Yes	30-70 dBA	No	No	In the presence of elevated background noise (road traffic), aircraft flyover events can be masked, resulting in a reduction of intermittency ratio.	No	The study reviews a proposed metric (Intermittency Ratio) that is defined as the ratio of the event-based sound energy to the overall sound energy. Insufficient evidence at this time to utilize IR for impact analysis in NEPA.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
YAMANAKA K W-N, f. KOBAYASHI, S. KANADA, M. TANAHASHI, T. MURAMATSU AND S. YAMADA. CRITERIA FOR ACCEPTABLE LEVELS OF THE SHINKANSEN SUPER EXPRESS TRAIN NOISE AND VIBRATION IN RESIDENTIAL AREAS. Journal of Sottnd and Vibration. 1982;84(4):573-91.	Dahlgren Report	No	Yes, but ecologic	Unknown	NA	No	Train noise was correlated to health conditions.			Reviewed and not added to the analysis in the Final Environmental Impact Statement
Zaharna M, Guilleminault C. Sleep, noise and health: review. Noise Health. 2010	Washington Department of Health						Medical article on the impact of noise on sleep and the health impact of less sleep.	Yes	The analysis focuses on direct effects of noise (sleep disturbance, speech interference, etc.), while this reference discusses secondary potential effect of sleep disturbance. This information could potentially be added to the analysis discussion, but additional review of the sources cited would be required.	Reviewed and added to the analysis in the Final Environmental Impact Statement
Zaporozhets O, Tokarev V, Attenborough K. Aircraft Noise: Assessment, Prediction and Control. CRC Press; 2011	Washington Department of Health							No	The types of noise controls addressed, for the most part, have either been done or are not practical at reducing noise from military overflights. This reference would not add significant value to the analysis.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Zhang Y, Beesoon S, Zhu L, Martin JW. Biomonitoring of perfluoroalkyl acids in human urine and estimates of biological half-life. Environmental science & technology. 2013;47(18):10619-27.	Dahlgren Report	No	No	NA	Unknown	No	Article is related to an ingredient in fire-fighting foam and not noise exposure.			Reviewed and not added to the analysis in the Final Environmental Impact Statement
Zhao Y, Zhang S, Selvin S, Spear RC. A dose-response relationship for occupational noise-induced hypertension. Schriftenr Ver Wasser Boden Lufthyg. 1993;88:189-207.	Dahlgren Report	No	No	unknown	no	no				Reviewed and not added to the analysis in the Final Environmental Impact Statement
Zhao YM, Zhang SZ, Selvin S, Spear RC. A dose response relation for noise induced hypertension. Br J Ind Med. 1991;48(3):179-84.	Dahlgren Report	No	Yes	75-104 dB	No	No		No	Studied industrial noise comprised of continuous SPLs, which are readily applied to intermittent aircraft noise. More applicable studies already included in analysis.	Reviewed and not added to the analysis in the Final Environmental Impact Statement
Zijlema WL, Morley DW, Stolk RP, Rosmalen JG. Noise and somatic symptoms: A role for personality traits? Int J Hyg Environ Health. 2015;218(6):543-9.	Dahlgren Report	No	Yes	N/A	N/A	No	Personality factors, hostility, and vulnerability to stress did not modify the relationship between road traffic noise exposure and somatic symptom reporting	No		Reviewed and not added to the analysis in the Final Environmental Impact Statement

Appendix B
Air Emissions Calculations

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Aircraft and Personnel Loading by Alternative for the EA 18G (Growler) Operations at NAS Whidbey Island Complex: Ault Field and and OLF Coupeville

EIS Alternative	Description	Aircraft Loading	Total VAQ Aircraft	Personnel Loading	Total Personnel
Baseline		9 carrier squadrons (45 aircraft) 3 expeditionary squadrons (15 aircraft) 1 Reserve Squadron (5 aircraft) 1 training squadron (17 aircraft)	82	• 517 Officer • 3,587 Enlisted	4,104
Alternative 1	Expand carrier capabilities by adding three additional aircraft to each existing carrier squadron and augmenting the FRS with eight additional aircraft (a net increase of 35 aircraft).	9 carrier squadrons (72 aircraft) 3 expeditionary squadrons (15 aircraft) 1 Reserve Squadron (5 aircraft) 1 training squadron (25 aircraft)	117 (+35)	• 597 Officer • 3,842 Enlisted	4,439 (+335)
Alternative 2	Expand expeditionary and carrier capabilities by establishing two new expeditionary squadrons, adding two additional aircraft to each existing carrier squadron, and augmenting the FRS with eight additional aircraft (a net increase of 36 aircraft).	9 carrier squadrons (63 aircraft) 5 expeditionary squadrons (25 aircraft) 1 Reserve Squadron (5 aircraft) 1 training squadron (25 aircraft)	118 (+36)	• 619 Officer • 4,113 Enlisted	4,732 (+628)
Alternative 3	Expand expeditionary and carrier capabilities by adding three additional aircraft to each existing expeditionary squadron, adding two additional aircraft to each existing carrier squadron, and augmenting the FRS with nine additional aircraft (a net increase of 36 aircraft).	9 carrier squadrons (63 aircraft) 3 expeditionary squadrons (24 aircraft) 1 Reserve Squadron (5 aircraft) 1 training squadron (26 aircraft)	118 (+36)	• 597 Officer • 3,848 Enlisted	4,445 (+341)

No Action: 30% FCLP at Coupville, 70% at Ault Field
Scenario A: 80% FCLP at Coupville, 20% at Ault Field
Scenario B: 50% FCLP at Coupville, 50% at Ault Field
Scenario C: 20% FCLP at Coupville, 80% at Ault Field
Scenario D: 30% FCLP at Coupville, 70% at Ault Field
Scenario E: 70% FCLP at Coupville, 30% at Ault Field

EA-18 G (Growler) (F414-GE-400 Engines) Emission Factors

Flight Operation	Fuel used (lbs)	Emissions from Single Flight Operation[1,2,3,4] (lb/op)						
		CO	NO_x	VOC[4]	SO_2[5]	$PM_{2.5}$	PM_{10}	CO_2
Straight-In Arrival LTO[1]	2413	210.67	29.16	79.04	3.16	17.62	17.62	7285.16
Break Arrival LTO[1]	2329	211.83	29.23	79.70	3.05	16.95	16.95	7014.30
OLF LTO[2]	1,383	112.53	25.79	4.14	1.81	6.60	6.60	4215.07
Touch-and-Go/FCLP[3]	706	0.50	14.47	0.09	0.92	3.95	3.95	2249.53
Depart&Reenter/ GCA Box (GCA Pattern)[3]	1411	1.01	28.95	0.20	1.85	7.89	7.89	4499.05
3.0 minutes at 85%N2 (Approach)[2]	517	0.37	7.63	0.07	0.68	3.39	3.39	1649.71
3.5	Minutes interfacility flight, Ault Field to Coupeville							
3.5 minutes at 85%N2 (Approach)[2]	603.17	0.44	8.90	0.10	0.79	3.96	3.96	1924.66

Notes:

[1] Fuel used and Emission factors for "Straight-In Arrival LTO," and "Break Arrival LTO" for F414-GE-400 Engines for operations at NAS Whidbey Island based on Table S-1, AESO Memorandum Report No. 9815, Rev I, June 2017, Except adjusted to reduce Max Power Time in mode during Take off from 30 seconds to 20 seconds, per email from CDR Sean Michaels, May 12, 2016.

[2]Estimated Air Emissions for a Single F/A-18 LTO Cycle with straight in Arrival--At OLF (no Startup/Taxi/Refuel) and "3.0 minutes at 85%N2"using Table 5 of AESO Memorandum Report No. 9815, Rev I, June 2017. Emissions for interfacility flight based on ratio of # of minutes from Ault field to Coupeville/ 3.

[3] Emission factors for "Touch-and-Go" and "GCA Box" from AESO Memorandum Report No. 9933, Revision E November 2015.

[4] VOC emissions = 1.15 x THC emissions as reported in Table S-1, AESO Memorandum Report No. 9815, Rev I, June, 2017 as noted for reporting VOCs as defined by the EPA.

[5] SO2 Emission Factor based on fuel used (lbs) from Table S-1, AESO Memorandum Report No. 9933, Revision E November 2015 and AESO Memorandum Report No. 9815, Rev I, June, 2017 and SO2 factor of 1.31 lbs/1000 lbs JP-5 fuel for operations after 2016 in AESO Memorandum report No 2012-01E, April, 2017

Emission Factors for EA-18G (F414-GE-400 Engines) In-Frame Aircraft Maintenance, per test

Test Type	# tests	Fuel used (lbs)	Emissions from Maintenance Tests[1,2] (lb/test)						
			CO	NOx	VOC[3]	SO_2	PM2.5	PM10	CO2
Water Wash	1.0	132.0	11.41	0.47	8.71	0.17	1.47	1.47	369.57
Low Power, one engine	1.0	364.07	34.16	1.21	26.12	0.48	4.40	4.40	1085.62
Low Power, two engines	1.0	711.67	68.29	2.31	52.24	0.93	8.79	8.79	2119.19
High Power (two engines)	1.0	6375.13	1043.01	90.67	63.89	8.35	19.61	19.61	18505.40

[1] Fuel used and Emission factors for Estimated annual maintenance operations per test, per engine based on ratio of data from Table 9 of AESO Memorandum Report No. 9815, Rev I, June 2017. *See table below*

[3] VOC emissions = 1.15 x THC emissions as noted for reporting VOCs as defined by the EPA.

Emission Factors for EA-18G In-Frame Aircraft Maintenance, Annual estimates per aircraft[1]

Test Type	Annual # tests	# engines in use	Fuel used (lbs)	Emissions from Maintenance Test (lb/aircraft-yr)[1,2]						
				CO	NOx	HC	SO_2	PM2.5	PM10	CO2
Water Wash	1.0	1.0	132	11.41	0.47	7.57	0.17	1.47	1.47	369.57
Low Power, 1 engine	15.0	1.0	5461	512.45	18.11	340.70	7.15	65.95	65.95	16284.26
Low Power, 2 engines	30.0	2.0	21,350	2048.81	69.38	1362.69	27.97	263.71	263.71	63575.80
High Power	8.0	2.0	51,001	8344.08	725.39	444.43	66.81	156.87	156.87	148043.20

Notes:

[1] From Table 9, AESO Memorandum Report No. 9815, Rev I, June 2017.

[2] SO2 Emission Factor based on fuel used (lbs) from Table 9, AESO Memorandum Report No. 9815, Rev I, June, 2017 and SO2 factor of 1.31 lbs/1000 lbs JP-5 fuel for operations after 2016 in AESO Memorandum report No 2012-01E, April 2017

Estimated Air Emissions for a Single F/A-18G LTO Cycle with straight in Arrival--At OLF (no Startup/Taxi/Refuel)

Flight Operation and Flight Mode	Engine Power Setting[1]	No. of Engines in Use[1]	Time-In Mode per Engine (min)[2]	Fuel Flow Rate per Engine (lb/hr)[1]	Fuel Used (lbs)[4,8]	Emission Indexes[2] (pounds per 1,000 pounds fuel) EI CO	EI NO_x	EI HC	EI SO_2[9]	EI PM_{10}	CO2	Emissions from Single Flight Operation[5] (lb/ op) CO	NO_x	VOC[10]	SO_2	PM_{10}	CO2
Departure																	
Engine Run up	80	2	0.5	3079.00	51	1.86	8.98	0.14	1.31	8.780	3205	0.10	0.46	0.01	0.07	0.45	164.46
Take off[6,11,12]	Max	2	0.33	35763.00	397	274.97	9.67	4.87	1.31	2.950	2712	109.26	3.84	2.23	0.52	1.17	1077.66
Climb out[7]	95	2	1.0	11320.00	377	0.7	36.29	0.12	1.31	2.950	3179	0.26	13.69	0.05	0.49	1.11	1199.62
Departure Total					**826**							**109.62**	**18.00**	**2.29**	**1.08**	**2.74**	**2441.74**
Arrival																	
Approach	85	2	3.0	5169.00	517	0.72	14.75	0.12	1.31	6.56	3191	0.37	7.62	0.07	0.68	3.39	1649.58
On Runway	G Idle	2	1.0	695.00	23	98.18	3.18	65.33	1.31	12.64	2973	2.27	0.07	1.74	0.03	0.29	68.88
Unstick	75	2	0.3	1720.00	17	15.2	5.58	1.98	1.31	10.73	3190	0.26	0.10	0.04	0.02	0.18	54.86
Arrival Total					**557**							**2.91**	**7.79**	**1.85**	**0.73**	**3.87**	**1773.33**
LTO Total					**1,383**							**112.5**	**25.8**	**4.1**	**1.8**	**6.6**	**4,215.1**

Source: Table 5, AESO Memorandum Report No. 9815, Rev I, June 2017(except SO2 emission factors)

F/A-18E/F Notes:

1) Estimated from 1998 F/A-18A,B,C, D pilot interviews, which are on file at AESO.
2) Source for all non APU fuel flow and emission indexes: *Gaseous and Particulate Emission Indexes for the F414-GE-400 Turbofan Engine*; Aircraft Environmental Support Office; FRCSW, San Diego, CA., February 2011, AESO Memorandum Report No. 9725, Revision D
3) The APU fuel flow and emission index data is manufacturer information provided by Rick Stanley (36-200 Project Engineer).
4) Fuel used = fuel flow x time-in-mode / 60 x no. of engines in use.
5) Emissions = fuel used / 1,000 x emission index.
6) Takeoff is from brake release to 500 feet above ground level.
7) Climbout is from 500 feet above ground level to 3,000 feet above ground level. Climbout time-in-mode reflects an unrestricted climbout departure corridor. Climbout time-in-mode may be longer if departure corridor is restricted in regards to climbout rate and/or hold down altitude.
8) For F/A-18E/F, the maximum internal fuel load is 14,460 lbs. The maximum fuel load is 24,272 lbs with 3 external tanks.

9) SO2 Emission Factor for JP-5 fuel as recommended for operations after 2016 in AESO Memorandum report No 2012-01E, April 2017

10) VOC emissions = 1.15 x THC emissions as reported in Table S-1, AESO Memorandum Report No. 9815, Rev I, June, 2017 as noted for reporting VOCs as defined by the EPA.

11) Time in Mode for Max (Afterburner) power setting has been adjusted from 30 seconds to 20 seconds, per email from CDR Sean Michaels, May 12, 2016.

12) AB PM 10 and 2.5 data not provided in AESO Memo N. 9815. Per Xu Li-Jones (AESO) comments (6/22/2016), 2.95 lbs/1000 gal fuel is used.

Estimated Change in Air Emissions for a Single F/A-18G LTO Cycle: adjustment of Max Take off Afterburner use

Flight Operation and Flight Mode	Engine Power Setting[1]	No. of Engines in Use[1]	Time-In Mode per Engine (min)[2]	Fuel Flow Rate per Engine (lb/hr)[1]	Fuel Used (lbs)[4,8]	Emission Indexes[2] (pounds per 1,000 pounds fuel) EI CO	EI NO_x	EI HC	EI SO_2[9]	EI PM_{10}	CO2	Emissions from Single Flight Operation[5] (lb/ op) CO	NO_x	VOC[10]	SO_2	PM_{10}	CO2
AESO Estimated Take off	Max	2	0.50	35763.00	596	274.97	9.67	4.87	1.31	2.950	2712	163.90	5.76	3.34	0.78	1.76	1616.49
NAS Whidbey Island Estimated Take off	Max	2	0.33	35763.00	397	274.97	9.67	4.87	1.31	2.950	2712	109.26	3.84	2.23	0.52	1.17	1077.66
Difference			0.17	0.00	198.68							54.63	1.92	1.11	0.26	0.59	538.83

Adjusted EA-18 G (Growler) (F414-GE-400 Engines) Emission Factors

Flight Operation	Fuel used (lbs)	Emissions from Single Flight Operation (lb/op) CO	NO_x	VOC[3]	SO_2[4]	$PM_{2.5}$	PM_{10}	CO_2
AESO Estimated Straight-In Arrival LTO[1]	2612	265.30	31.08	80.16	3.42	18.21	18.21	7823.99
NAS Whidbey Island Estimated Take off[2]	2413	210.67	29.16	79.04	3.16	17.62	17.62	7285.16
AESO Estimated Break Arrival LTO[1]	2528	266.46	31.15	80.81	3.31	17.54	17.54	7553.13
NAS Whidbey Island Break Arrival LTO[2]	2329	211.83	29.23	79.70	3.05	16.95	16.95	7014.30

[1] Fuel used and Emission factors for "Straight-In Arrival LTO," and "Break Arrival LTO" for F414-GE-400 Engines from Table ES-1, AESO Memorandum Report No. 9815, Rev I, June, 2017, except SO2 and VOC.

[2] Fuel used and Emission factors for "Straight-In Arrival LTO," and "Break Arrival LTO" for F414-GE-400 Engines for operations at NAS Whidbey Island adjusted to reduce Max Power Time in mode during Take off from 30 seconds to 20 seconds, per email from CDR Sean Michaels, May 12, 2016.

[3] VOC emissions = 1.15 x THC emissions as reported in Table S-1, AESO Memorandum Report No. 9815, Rev I,June, 2017 as noted

[4] SO2 Emission Factor based on fuel used (lbs) from Table S-1, AESO Memorandum Report No. 9815, Rev I, June, 2017 and SO2 factor of 1.31 lbs/1000 lbs JP-5 fuel for operations after 2016 in AESO Memorandum report No 2012-01E, April 2017

Baseline Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	45	17	5	15	82
Departures	5,088	6,581	1,225	1,622	14,516
Interfacility Departures	174	192	16	0	382
Straight in Arrivals	1,786	2,712	434	577	5,509
Overhead Break Arrivals	2,980	3,650	725	943	8,298
IFR Arrivals	317	219	64	99	699
Interfacility Arrivals	174	192	17	0	383
FCLP Ops[2]	7,571	7,303	215	0	15,089
Touch & Go Ops[2]	2,881	5,463	510	593	9,447
Depart-Re-enter Ops[2]	1,701	0	428	529	2,658
GCA pattern Ops[2]	3,808	5,732	523	584	10,647
Total	**26,480**	**32,044**	**4,157**	**4,947**	**67,628**
OLF Coupeville					
Interfacility Departures	174	192	17	0	383
Interfacility Arrivals	174	192	17	0	383
FCLP Ops[2]	2,441	2,685	229	0	5,355
Total	**2,789**	**3,069**	**263**	**0**	**6,121**
Maintenance Run Ups (Ault Field)[3]					
Water Wash					82
Low Power, one engine					1,230
Low Power, two engines					2,460
High Power, two engines					656
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab Fops_BaselineAveMaxYr2, file Ops Tables AveYr_BL_20171018.xlsx, as of 12/8/2016. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington, Wyle Laboratories, 2017.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Baseline maintenance run ups from Baseline Static Ops.lxs from Wyle, 12/16/2015

[4] Out-of-Frame testing of F414 engines is not at performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Baseline Average Year Emissions NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3]						
			CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	5,509	13,294,962	580.29	80.32	217.72	8.71	48.54	48.54	20,066.98
Break Arrival LTO[2]	9,380	21,848,990	993.47	137.08	373.78	14.31	79.51	79.51	32,897.07
FCLP[4]	7,545	5,326,417	1.89	54.58	0.35	3.49	14.90	14.90	8,485.79
Touch-and-Go[4]	4,724	3,334,791	1.18	34.17	0.22	2.18	9.33	9.33	5,312.83
Depart and Re-enter[4]	1,329	1,875,219	0.67	19.24	0.13	1.23	5.24	5.24	2,989.62
GCA Pattern[4]	5,324	7,511,459	2.69	77.06	0.52	4.92	21.00	21.00	11,975.35
Total Emissions for Ault Field Flight Operation		**53,191,837.4**	**1,580.2**	**402.5**	**592.7**	**34.8**	**178.5**	**178.5**	**81,727.6**
NOLF Coupeville									
Interfacility LTO2	383	529,798	21.55	4.94	0.79	0.35	1.26	1.26	807.19
FCLP[4]	5,355	3,780,630	1.34	38.74	0.25	2.48	10.58	10.58	6,023.12
Interfacility Transit	383	231,013	0.08	1.70	0.02	0.15	0.76	0.76	368.57
Total Emissions for Coupeville Flight Operatior		**4,541,440.4**	**23.0**	**45.4**	**1.1**	**3.0**	**12.6**	**12.6**	**7,198.9**
Maintenance Operations									
Water Wash	82	10,824	0.47	0.019	0.36	0.007	0.06	0.06	15.15
Low Power, one engine	1,230	447,802	21.01	0.74	16.06	0.29	2.70	2.70	667.65
Low Power, two engines	2,460	1,750,700	84.00	2.84	64.25	1.15	10.81	10.81	2,606.61
High Power, two engines	656	4,182,082	342.11	29.74	20.95	2.74	6.43	6.43	6,069.77
Total Emissions for Maintenance Operations		**6,391,408.0**	**447.6**	**33.3**	**101.6**	**4.2**	**20.0**	**20.0**	**9,359.2**
Total		**64,124,685.7**	**2,050.7**	**481.2**	**695.4**	**42.0**	**211.1**	**211.1**	**98,285.7**
		9,443,989.06 gallons of fuel							

Notes:

[1] See Previous Table of this Appendix for Estimated Operations

[2] All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

[3] Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

[4] Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3]						
			CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
All Personnel	4,104	25,650,000	75.07	8.88	1.63	0.07	88.56	9.81	10,022.77

[1] Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Existing Mobile Emissions

Activity	Emissions (tpy)						
	CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,580.19	402.45	592.72	34.84	178.53	178.53	81,727.63
OLF Coupville Aircraft Flight Operations	23.0	45.4	1.1	3.0	12.6	12.6	7,198.9
Aircraft Maintenance Operations	447.6	33.3	101.6	4.2	20.0	20.0	9,359.2
Personnel Commute	75.07	8.88	1.63	0.07	88.56	9.81	10,022.77
Total	**2,125.81**	**490.07**	**697.04**	**42.07**	**299.70**	**220.95**	**108,308.46**

No Action Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

Ault Field	EA18G (Growler) Operations CVW	FRS	RES	EXP	EA-18G Total
# Squadrons	9	1	1	3	14
# Aircraft	45	17	5	15	82
Departures	5,092	6,587	1,226	1,623	14,528
Interfacility Departures	197	206	19	0	422
Straight in Arrivals	1,790	2,698	418	611	5,517
Overhead Break Arrivals	3,009	3,659	727	918	8,313
IFR Arrivals	287	229	81	89	686
Interfacility Arrivals	197	208	19	0	424
FCLP Ops[2]	5,609	5,589	63	0	11,261
Touch & Go Ops[2]	3,011	5,484	532	527	9,554
Depart-Re-enter Ops[2]	1,738	0	459	537	2,734
GCA pattern Ops[2]	4,019	5,774	540	520	10,853
Total	**24,949**	**30,434**	**4,084**	**4,825**	**64,292**
OLF Coupeville					
Interfacility Departures	197	208	19	0	424
Interfacility Arrivals	197	206	19	0	422
FCLP Ops[2]	2,452	2,583	239	0	5,274
Total	**2,846**	**2,997**	**277**	**0**	**6,120**
Maintenance Run Ups (Ault Field)[3]					
Water Wash					82
Low Power, one engine					1,230
Low Power, two engines					2,460
High Power, two engines					656
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab Fops_NoActionAveYr3, file Ops Tables AveYr_NoAc20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington, Wyle Laboratories, 2017.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Baseline maintenance run ups from Baseline Static Ops.lxs from Wyle, 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

No Action Average Year Air Emissions NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3]						
			CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	5,517	13,314,268	581.13	80.43	218.04	8.72	48.62	48.62	20,096.12
Break Arrival LTO[2]	9,423	21,949,151	998.03	137.71	375.50	14.38	79.88	79.88	33,047.88
FCLP[4]	5,631	3,975,133	1.41	40.74	0.26	2.60	11.12	11.12	6,332.99
Touch-and-Go[4]	4,777	3,372,562	1.19	34.56	0.22	2.21	9.43	9.43	5,373.00
Depart and Re-enter[4]	1,367	1,928,837	0.69	19.79	0.13	1.26	5.39	5.39	3,075.10
GCA Pattern[4]	5,427	7,656,792	2.74	78.55	0.53	5.02	21.41	21.41	12,207.05
Total Emissions for Ault Field Flight Operations		**52,196,742.5**	**1,585.2**	**391.8**	**594.7**	**34.2**	**175.8**	**175.8**	**80,132.1**
NOLF Coupeville									
Interfacility LTO2	424	586,512	23.86	5.47	0.88	0.38	1.40	1.40	893.59
FCLP[4]	5,274	3,723,444	1.32	38.16	0.24	2.44	10.42	10.42	5,932.01
Interfacility Transit	424	255,743	0.09	1.89	0.02	0.17	0.84	0.84	408.03
Total Emissions for Coupeville Flight Operations		**4,565,698.8**	**25.3**	**45.5**	**1.1**	**3.0**	**12.7**	**12.7**	**7,233.6**
Maintenance Operations									
Water Wash	82	10,824	0.47	0.019	0.36	0.007	0.06	0.06	15.15
Low Power, one engine	1,230	447,802	21.01	0.74	16.06	0.29	2.70	2.70	667.65
Low Power, two engines	2,460	1,750,700	84.00	2.84	64.25	1.15	10.81	10.81	2,606.61
High Power, two engines	656	4,182,082	342.11	29.74	20.95	2.74	6.43	6.43	6,069.77
Total In-frame Maintenance Operations		6,391,408	447.59	33.35	101.63	4.19	20.01	20.01	9,359
Total Emissions for Maintenance Operations		**6,391,408.0**	**447.6**	**33.3**	**101.6**	**4.2**	**20.0**	**20.0**	**9,359.2**
Total		**63,153,849.3**	**2,058.0**	**470.6**	**697.4**	**41.4**	**208.5**	**208.5**	**96,725.0**

9,301,008.73 gallons of fuel

Notes:

[1] See Previous Table of this Appendix for Estimated Operations

[2] All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

[3] Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

[4] Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3]						
			CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,104	25,650,000	75.07	8.88	1.63	0.07	88.56	9.81	10,022.77

[1] Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

[2] See Table X of this Appendix for calculations and emission factors

Emissions Summary

Activity	Emissions (tpy)						
	CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,585.19	391.78	594.68	34.19	175.85	175.85	80,132.13
OLF Coupville Aircraft Flight Operations	25.3	45.5	1.1	3.0	12.7	12.7	7,233.6
Aircraft Maintenance Operations	447.6	33.3	101.6	4.2	20.0	20.0	9,359.2
Personnel Commute	75.07	8.88	1.63	0.07	88.56	9.81	10,022.77
Total	**2,133.11**	**479.52**	**699.08**	**41.43**	**297.08**	**218.32**	**106,747.73**

Alternative 1A Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

Ault Field	EA 18G (Growler) Operations CVW	FRS	RES	EXP	EA-18G Total
# Squadrons	9	1	1	3	14
# Aircraft	72	25	5	15	117
Departures	8,011	6,011	1,236	1,641	16,899
Interfacility Departures	974	564	13	0	1,551
Straight in Arrivals	2,837	2,473	407	593	6,310
Overhead Break Arrivals	4,647	3,290	748	928	9,613
IFR Arrivals	528	249	81	121	979
Interfacility Arrivals	974	566	15	0	1,555
FCLP Ops[2]	3,866	2,140	139	0	6,145
Touch & Go Ops[2]	5,373	5,388	561	559	11,881
Depart-Re-enter Ops[2]	2,669	0	448	536	3,653
GCA pattern Ops[2]	7,724	5,744	565	553	14,586
Total	**37,603**	**26,425**	**4,213**	**4,931**	**73,172**
OLF Coupeville					
Interfacility Departures	974	564	13	0	1,551
Interfacility Arrivals	974	566	15	0	1,555
FCLP Ops[2]	13,633	7,909	207	0	21,749
Total	**15,581**	**9,039**	**235**	**0**	**24,855**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					117
Low Power, one engine					1,755
Low Power, two engines					3,510
High Power, two engines					936
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt1AAveYr, workbook Ops Tables AveYr_Alt1_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 1A Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3]						
			CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,310	15,228,028	664.66	92.00	249.38	9.97	55.60	55.60	22,984.68
Break Arrival LTO[2]	12,147	28,294,210	1,286.54	177.52	484.04	18.53	102.97	102.97	42,601.36
FCLP[4]	3,073	2,169,185	0.77	22.23	0.14	1.42	6.07	6.07	3,455.84
Touch-and-Go[4]	5,941	4,193,993	1.49	42.98	0.27	2.75	11.73	11.73	6,681.67
Depart and Re-enter[4]	1,827	2,577,192	0.92	26.44	0.18	1.69	7.21	7.21	4,108.76
GCA Pattern[4]	7,293	10,290,423	3.68	105.57	0.71	6.74	28.77	28.77	16,405.79
Total Emissions for Ault Field Flight Operations		**62,753,030.2**	**1,958.1**	**466.7**	**734.7**	**41.1**	**212.3**	**212.3**	**96,238.1**
NOLF Coupeville									
Interfacility LTO2	1,551	2,145,472	87.27	20.00	3.21	1.41	5.12	5.12	3,268.79
FCLP[4]	21,749	15,354,794	5.44	157.35	1.00	10.06	42.95	42.95	24,462.51
Interfacility Transit	1,551	935,512	0.34	6.90	0.07	0.61	3.07	3.07	1,492.58
Total Emissions for Coupeville Flight Operations		**18,435,778.0**	**93.0**	**184.3**	**4.3**	**12.1**	**51.1**	**51.1**	**29,223.9**
Maintenance Operations									
Water Wash	117	15,444	0.67	0.027	0.51	0.010	0.09	0.09	21.62
Low Power, one engine	1,755	638,937	29.98	1.06	22.92	0.42	3.86	3.86	952.63
Low Power, two engines	3,510	2,497,950	119.86	4.06	91.67	1.64	15.43	15.43	3,719.18
High Power, two engines	936	5,967,117	488.13	42.44	29.90	3.91	9.18	9.18	8,660.53
Total In-frame Maintenance Operations		9,119,448	639	48	145	6	29	29	13,354
Total Emissions for Maintenance Operations		**9,119,448.0**	**638.6**	**47.6**	**145.0**	**6.0**	**28.5**	**28.5**	**13,354.0**
Total		**90,308,256.2**	**2,689.7**	**698.6**	**884.0**	**59.2**	**292.0**	**292.0**	**138,815.9**

13,300,185.00 total gallons of fuel

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3]						
			CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,439	27,743,750	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 1A

Activity	Emissions (tpy)						
	CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,958.05	466.73	734.73	41.10	212.35	212.35	96,238.09
OLF Coupville Aircraft Flight Operations	93.0	184.3	4.3	12.1	51.1	51.1	29,223.9
Aircraft Maintenance Operations	638.6	47.6	145.0	6.0	28.5	28.5	13,354.0
Employee Commute	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91
Total	**2,770.92**	**708.17**	**885.78**	**59.22**	**387.83**	**302.65**	**149,656.83**

Alternative 1B Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	72	25	5	15	117
Departures	7,940	5,964	1,227	1,623	16,754
Interfacility Departures	612	347	13	0	972
Straight in Arrivals	2,777	2,441	409	596	6,223
Overhead Break Arrivals	4,635	3,287	740	927	9,589
IFR Arrivals	528	236	78	99	941
Interfacility Arrivals	612	347	13	0	972
FCLP Ops[2]	9,762	5,602	175	0	15,539
Touch & Go Ops[2]	5,373	5,388	561	559	11,881
Depart-Re-enter Ops[2]	2,669	0	448	536	3,653
GCA pattern Ops[2]	7,724	5,744	565	553	14,586
Total	**42,632**	**29,356**	**4,229**	**4,893**	**81,110**
OLF Coupeville					
Interfacility Departures	612	347	13	0	972
Interfacility Arrivals	612	346	14	0	972
FCLP Ops[2]	8,559	4,849	189	0	13,597
Total	**9,783**	**5,542**	**216**	**0**	**15,541**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					117
Low Power, one engine					1,755
Low Power, two engines					3,510
High Power, two engines					936
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt1BAveYr, workbook Ops Tables AveYr_Alt1_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 1B Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,223	15,018,070	655.49	90.73	245.94	9.84	54.84	54.84	22,667.78
Break Arrival LTO[2]	11,502	26,791,800	1,218.22	168.09	458.34	17.55	97.50	97.50	40,339.24
FCLP[4]	7,770	5,485,267	1.94	56.21	0.36	3.59	15.34	15.34	8,738.86
Touch-and-Go[4]	5,941	4,193,993	1.49	42.98	0.27	2.75	11.73	11.73	6,681.67
Depart and Re-enter[4]	1,827	2,577,192	0.92	26.44	0.18	1.69	7.21	7.21	4,108.76
GCA Pattern[4]	7,293	10,290,423	3.68	105.57	0.71	6.74	28.77	28.77	16,405.79
Total Emissions for Ault Field Flight Operations		**64,356,744.4**	**1,881.7**	**490.0**	**705.8**	**42.2**	**215.4**	**215.4**	**98,942.1**
NOLF Coupeville									
Interfacility LTO2	972	1,344,551	54.69	12.53	2.01	0.88	3.21	3.21	2,048.52
FCLP[4]	13,597	9,599,482	3.40	98.37	0.63	6.29	26.85	26.85	15,293.43
Interfacility Transit	972	586,278	0.21	4.32	0.05	0.38	1.92	1.92	935.39
Total Emissions for Coupeville Flight Operations		**11,530,311.4**	**58.3**	**115.2**	**2.7**	**7.6**	**32.0**	**32.0**	**18,277.3**
Maintenance Operations									
Water Wash	117	15,444	0.67	0.027	0.51	0.010	0.09	0.09	21.62
Low Power, one engine	1,755	638,937	29.98	1.06	22.92	0.42	3.86	3.86	952.63
Low Power, two engines	3,510	2,497,950	119.86	4.06	91.67	1.64	15.43	15.43	3,719.18
High Power, two engines	936	5,967,117	488.13	42.44	29.90	3.91	9.18	9.18	8,660.53
Total In-frame Maintenance Operations		9,119,448	639	48	145	6	29	29	13,354
Total Emissions for Maintenance Operations		**9,119,448.0**	**638.6**	**47.6**	**145.0**	**6.0**	**28.5**	**28.5**	**13,354.0**
Total		**85,006,503.8**	**2,578.7**	**652.8**	**853.5**	**55.7**	**275.9**	**275.9**	**130,573.4**
		12,519,367.28 total gallons of fuel							

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,439	27,743,750	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 1B

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,881.75	490.02	705.80	42.15	215.39	215.39	98,942.09
OLF Coupville Aircraft Flight Operations	58.3	115.2	2.7	7.6	32.0	32.0	18,277.3
Aircraft Maintenance Operations	638.6	47.6	145.0	6.0	28.5	28.5	13,354.0
Employee Commute	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91
Total	**2,659.88**	**662.44**	**855.26**	**55.75**	**371.72**	**286.54**	**141,414.30**

Alternative 1C Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	72	25	5	15	117
Departures	7,953	5,962	1,228	1,624	16,767
Interfacility Departures	243	136	11	0	390
Straight in Arrivals	2,816	2,432	413	590	6,251
Overhead Break Arrivals	4,631	3,315	737	935	9,618
IFR Arrivals	505	216	78	100	899
Interfacility Arrivals	244	137	11	0	392
FCLP Ops[2]	15,609	9,067	175	0	24,851
Touch & Go Ops[2]	5,373	5,388	561	559	11,881
Depart-Re-enter Ops[2]	2,669	0	448	536	3,653
GCA pattern Ops[2]	7,724	5,744	565	553	14,586
Total	**47,767**	**32,397**	**4,227**	**4,897**	**89,288**
OLF Coupeville					
Interfacility Departures	243	136	11	0	390
Interfacility Arrivals	244	137	11	0	392
FCLP Ops[2]	3,404	1,903	138	0	5,445
Total	**3,891**	**2,176**	**160**	**0**	**6,227**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					117
Low Power, one engine					1,755
Low Power, two engines					3,510
High Power, two engines					936
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt1CAveYr, workbook Ops Tables AveYr_Alt1_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 1C Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,251	15,085,642	658.44	91.14	247.05	9.88	55.08	55.08	22,769.77
Break Arrival LTO[2]	10,909	25,410,516	1,155.42	159.43	434.71	16.64	92.47	92.47	38,259.50
FCLP[4]	12,426	8,772,403	3.11	89.90	0.57	5.75	24.54	24.54	13,975.77
Touch-and-Go[4]	5,941	4,193,993	1.49	42.98	0.27	2.75	11.73	11.73	6,681.67
Depart and Re-enter[4]	1,827	2,577,192	0.92	26.44	0.18	1.69	7.21	7.21	4,108.76
GCA Pattern[4]	7,293	10,290,423	3.68	105.57	0.71	6.74	28.77	28.77	16,405.79
Total Emissions for Ault Field Flight Operations		**66,330,168.5**	**1,823.1**	**515.4**	**683.5**	**43.4**	**219.8**	**219.8**	**102,201.3**
NOLF Coupeville									
Interfacility LTO2	392	542,247	22.06	5.05	0.81	0.36	1.29	1.29	826.15
FCLP[4]	5,445	3,844,170	1.36	39.39	0.25	2.52	10.75	10.75	6,124.35
Interfacility Transit	390	235,235	0.08	1.74	0.02	0.15	0.77	0.77	375.31
Total Emissions for Coupeville Flight Operations		**4,621,652.1**	**23.5**	**46.2**	**1.1**	**3.0**	**12.8**	**12.8**	**7,325.8**
Maintenance Operations									
Water Wash	117	15,444	0.67	0.027	0.51	0.010	0.09	0.09	21.62
Low Power, one engine	1,755	638,937	29.98	1.06	22.92	0.42	3.86	3.86	952.63
Low Power, two engines	3,510	2,497,950	119.86	4.06	91.67	1.64	15.43	15.43	3,719.18
High Power, two engines	936	5,967,117	488.13	42.44	29.90	3.91	9.18	9.18	8,660.53
Total In-frame Maintenance Operations		9,119,448	639	48	145	6	29	29	13,354
Total Emissions for Maintenance Operations		**9,119,448.0**	**638.6**	**47.6**	**145.0**	**6.0**	**28.5**	**28.5**	**13,354.0**
Total		**80,071,268.6**	**2,485.2**	**609.2**	**829.6**	**52.4**	**261.2**	**261.2**	**122,881.0**

11,792,528.51 total gallons of fuel

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,439	27,743,750	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 1C

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,823.06	515.45	683.49	43.45	219.81	219.81	102,201.25
OLF Coupville Aircraft Flight Operations	23.5	46.2	1.08	3.0	12.8	12.8	7,325.8
Aircraft Maintenance Operations	638.6	47.6	145.0	6.0	28.5	28.5	13,354.0
Employee Commute	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91
Total	**2,566.39**	**618.82**	**831.35**	**52.52**	**356.97**	**271.79**	**133,721.93**

Alternative 1D Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	72	25	5	15	117
Departures	8,011	6,011	1,236	1,641	16,899
Interfacility Departures	853	494	11	0	1,358
Straight in Arrivals	2,837	2,473	407	593	6,310
Overhead Break Arrivals	4,647	3,290	748	928	9,613
IFR Arrivals	528	249	81	121	979
Interfacility Arrivals	853	495	13	0	1,361
FCLP Ops[2]	5,800	3,210	209	0	9,219
Touch & Go Ops[2]	5,373	5,388	561	559	11,881
Depart-Re-enter Ops[2]	2,669	0	448	536	3,653
GCA pattern Ops[2]	7,724	5,744	565	553	14,586
Total	**39,295**	**27,354**	**4,279**	**4,931**	**75,859**
OLF Coupeville					
Interfacility Departures	853	494	11	0	1,358
Interfacility Arrivals	853	495	13	0	1,361
FCLP Ops[2]	11,929	6,920	182	0	19,031
Total	**13,635**	**7,909**	**206**	**0**	**21,750**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					117
Low Power, one engine					1,755
Low Power, two engines					3,510
High Power, two engines					936
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt1DAveYr, workbook Ops Tables AveYr_Alt1_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 1D Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,310	15,228,028	664.66	92.00	249.38	9.97	55.60	55.60	22,984.68
Break Arrival LTO[2]	11,953	27,842,322	1,265.99	174.69	476.31	18.24	101.32	101.32	41,920.97
FCLP[4]	4,610	3,254,307	1.15	33.35	0.21	2.13	9.10	9.10	5,184.60
Touch-and-Go[4]	5,941	4,193,993	1.49	42.98	0.27	2.75	11.73	11.73	6,681.67
Depart and Re-enter[4]	1,827	2,577,192	0.92	26.44	0.18	1.69	7.21	7.21	4,108.76
GCA Pattern[4]	7,293	10,290,423	3.68	105.57	0.71	6.74	28.77	28.77	16,405.79
Total Emissions for Ault Field Flight Operations		**63,386,264.8**	**1,937.9**	**475.0**	**727.1**	**41.5**	**213.7**	**213.7**	**97,286.5**
NOLF Coupeville									
Interfacility LTO2	1,358	1,878,499	76.41	17.51	2.81	1.23	4.48	4.48	2,862.03
FCLP[4]	19,031	13,435,886	4.76	137.69	0.88	8.80	37.59	37.59	21,405.40
Interfacility Transit	1,358	819,100	0.30	6.04	0.06	0.54	2.69	2.69	1,306.85
Total Emissions for Coupeville Flight Operations		**16,133,485.1**	**81.5**	**161.2**	**3.7**	**10.6**	**44.8**	**44.8**	**25,574.3**
Maintenance Operations									
Water Wash	117	15,444	0.67	0.027	0.51	0.010	0.09	0.09	21.62
Low Power, one engine	1,755	638,937	29.98	1.06	22.92	0.42	3.86	3.86	952.63
Low Power, two engines	3,510	2,497,950	119.86	4.06	91.67	1.64	15.43	15.43	3,719.18
High Power, two engines	936	5,967,117	488.13	42.44	29.90	3.91	9.18	9.18	8,660.53
Total In-frame Maintenance Operations		9,119,448	639	48	145	6	29	29	13,354
Total Emissions for Maintenance Operations		**9,119,448.0**	**638.6**	**47.6**	**145.0**	**6.0**	**28.5**	**28.5**	**13,354.0**
Total		**88,639,197.9**	**2,658.0**	**683.8**	**875.8**	**58.1**	**287.0**	**287.0**	**136,214.7**
		13,054,373.77 total gallons of fuel							

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,439	27,743,750	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 1D

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,937.89	475.02	727.07	41.52	213.74	213.74	97,286.47
OLF Coupville Aircraft Flight Operations	81.5	161.2	3.7	10.6	44.8	44.8	25,574.3
Aircraft Maintenance Operations	638.6	47.6	145.0	6.0	28.5	28.5	13,354.0
Employee Commute	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91
Total	**2,739.18**	**693.45**	**877.59**	**58.13**	**382.84**	**297.66**	**147,055.61**

Alternative 1E Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	72	25	5	15	117
Departures	7,953	5,962	1,228	1,624	16,767
Interfacility Departures	365	205	17	0	587
Straight in Arrivals	2,816	2,432	413	590	6,251
Overhead Break Arrivals	4,631	3,315	737	935	9,618
IFR Arrivals	505	216	78	100	899
Interfacility Arrivals	367	206	17	0	590
FCLP Ops[2]	13,659	7,934	153	0	21,746
Touch & Go Ops[2]	5,373	5,388	561	559	11,881
Depart-Re-enter Ops[2]	2,669	0	448	536	3,653
GCA pattern Ops[2]	7,724	5,744	565	553	14,586
Total	**46,062**	**31,402**	**4,217**	**4,897**	**86,578**
OLF Coupeville					
Interfacility Departures	365	205	17	0	587
Interfacility Arrivals	367	206	17	0	590
FCLP Ops[2]	4,864	2,637	172	0	7,673
Total	**5,596**	**3,048**	**206**	**0**	**8,850**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					117
Low Power, one engine					1,755
Low Power, two engines					3,510
High Power, two engines					936
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt1EAveYr, workbook Ops Tables AveYr_Alt1_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 1E Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,251	15,085,642	658.44	91.14	247.05	9.88	55.08	55.08	22,769.77
Break Arrival LTO[2]	11,107	25,871,720	1,176.39	162.32	442.60	16.95	94.15	94.15	38,953.92
FCLP[4]	10,873	7,676,338	2.72	78.67	0.50	5.03	21.47	21.47	12,229.57
Touch-and-Go[4]	5,941	4,193,993	1.49	42.98	0.27	2.75	11.73	11.73	6,681.67
Depart and Re-enter[4]	1,827	2,577,192	0.92	26.44	0.18	1.69	7.21	7.21	4,108.76
GCA Pattern[4]	7,293	10,290,423	3.68	105.57	0.71	6.74	28.77	28.77	16,405.79
Total Emissions for Ault Field Flight Operations		**65,695,308.2**	**1,843.6**	**507.1**	**691.3**	**43.0**	**218.4**	**218.4**	**101,149.5**
NOLF Coupeville									
Interfacility LTO2	587	811,987	33.03	7.57	1.21	0.53	1.94	1.94	1,237.12
FCLP[4]	7,673	5,417,138	1.92	55.51	0.35	3.55	15.15	15.15	8,630.32
Interfacility Transit	587	354,059	0.13	2.61	0.03	0.23	1.16	1.16	564.89
Total Emissions for Coupeville Flight Operations		**6,583,184.2**	**35.1**	**65.7**	**1.6**	**4.3**	**18.3**	**18.3**	**10,432.3**
Maintenance Operations									
Water Wash	117	15,444	0.67	0.027	0.51	0.010	0.09	0.09	21.62
Low Power, one engine	1,755	638,937	29.98	1.06	22.92	0.42	3.86	3.86	952.63
Low Power, two engines	3,510	2,497,950	119.86	4.06	91.67	1.64	15.43	15.43	3,719.18
High Power, two engines	936	5,967,117	488.13	42.44	29.90	3.91	9.18	9.18	8,660.53
Total In-frame Maintenance Operations		9,119,448	639	48	145	6	29	29	13,354
Total Emissions for Maintenance Operations		**9,119,448.0**	**638.6**	**47.6**	**145.0**	**6.0**	**28.5**	**28.5**	**13,354.0**
Total		**81,397,940.4**	**2,517.3**	**620.4**	**837.9**	**53.3**	**265.2**	**265.2**	**124,935.8**

11,987,914.63 total gallons of fuel

Notes:

[1] See Previous Table of this Appendix for Estimated Operations

[2] All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

[3] Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

[4] Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,439	27,743,750	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91

[1] Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 1E

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,843.64	507.11	691.31	43.03	218.42	218.42	101,149.47
OLF Coupville Aircraft Flight Operations	35.1	65.7	1.6	4.3	18.3	18.3	10,432.3
Aircraft Maintenance Operations	638.6	47.6	145.0	6.0	28.5	28.5	13,354.0
Employee Commute	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91
Total	**2,598.54**	**629.99**	**839.68**	**53.39**	**361.02**	**275.83**	**135,776.67**

NAS Whidbey Island Complex Annual GHG Emissions, Alternative 1

Emission Source	CO2 Emissions (Metric TPY)						
	Existing	No Action	Alt 1A	Alt 1B	Alt 1C	Alt 1D	Alt 1E
Stationary Sources							
tewide Total GHG Emissions (2016 Reported)	13,575	13,575					
New Electricity Building Use (Indirect)	**0**	**0**	181	181	181	181	181
New Natural Gas Building Use (Direct)	**0**	**0**	276	276	276	276	276
Total Change in Stationary CO_2 Emissions (MTPY)			456	456	456	456	456
% increase in Stationary CO_2 Emissions			3%	3%	3%	3%	3%
Mobile Sources							
Aircraft Operations	89,145	87,730	125,906	118,430	111,453	123,547	113,317
GSE Emissions	130	131	161	155	150	160	152
Personnel Commute Emissions	9,091	9,091	9,833	9,833	9,833	9,833	9,833
Total Mobile CO_2 Emissions (MTPY)	98,366	96,951	135,900	128,418	121,436	133,539	123,301
Change in Mobile CO_2 Emissions			38,949	31,467	24,485	36,588	26,350
% increase in Mobile CO_2 Emissions			40%	32%	25%	37%	27%
Total Change in Emissions (Stationary and Mobile)			39,405	31,923	24,941	37,044	26,807
2013 Total CO2e from all sources in Washington State[1]			94,400,000				
Change in Emissions (Stationary and Mobile) as % of Total 2013 CO2e Emissions in Washington State			0.04%	0.03%	0.03%	0.04%	0.03%
2013 Total CO2 from Transportation in Washington State[1]			40,400,000				
Change in Mobile Emissions as % of Total 2013 Transportation CO2e Emissions in Washington State			0.10%	0.08%	0.06%	0.09%	0.07%
2013 Total CO2e from Aircraft in Washington State[1]			6,570,000				
Change in Aircraft Emissions as % of Total 2013 Aircraft CO2e Emissions in Washington State			0.59%	0.48%	0.37%	0.56%	0.40%

1 . Inventory 1990-2013 (2016). Report to the Legislature on Washington Greenhouse Gas Emissions Inventory: 2010 – 2013 (Publication 16-02-025) October 2016. Retrieved March 29, 2018 from: https://fortress.wa.gov/ecy/publications/documents/1602025.pdf

Key:

TPY = Tons per year

CO_2e = Carbon Dioxide Equivalent

GHG = Greenhouse Gas

metric tons per short ton = 0.907

Alternative 2A Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	5	16
# Aircraft	63	25	5	25	118
Departures	7,424	6,044	1,236	2,711	17,415
Interfacility Departures	901	566	14	0	1,481
Straight in Arrivals	2,662	2,469	433	966	6,530
Overhead Break Arrivals	4,298	3,360	721	1,584	9,963
IFR Arrivals	463	216	82	161	922
Interfacility Arrivals	903	566	14	0	1,483
FCLP Ops[2]	3,631	2,158	147	0	5,936
Touch & Go Ops[2]	5,052	5,432	489	882	11,855
Depart-Re-enter Ops[2]	2,456	0	453	950	3,859
GCA pattern Ops[2]	7,214	5,795	507	875	14,391
Total	**35,004**	**26,606**	**4,096**	**8,129**	**73,835**
OLF Coupeville					
Interfacility Departures	901	566	14	0	1,481
Interfacility Arrivals	903	566	14	0	1,483
FCLP Ops[2]	12,641	7,919	205	0	20,765
Total	**14,445**	**9,051**	**233**	**0**	**23,729**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt2AAveYr, workbook Ops Tables AveYr_Alt2_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 2A Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,530	15,758,958	687.83	95.20	258.07	10.32	57.54	57.54	23,786.05
Break Arrival LTO[2]	12,368	28,808,989	1,309.94	180.75	492.85	18.87	104.84	104.84	43,376.44
FCLP[4]	2,968	2,095,408	0.74	21.47	0.14	1.37	5.86	5.86	3,338.30
Touch-and-Go[4]	5,928	4,184,815	1.48	42.89	0.27	2.74	11.71	11.71	6,667.04
Depart and Re-enter[4]	1,930	2,722,525	0.97	27.93	0.19	1.78	7.61	7.61	4,340.46
GCA Pattern[4]	7,196	10,152,851	3.63	104.15	0.70	6.65	28.39	28.39	16,186.46
Total Emissions for Ault Field Flight Operations		**63,723,544.4**	**2,004.6**	**472.4**	**752.2**	**41.7**	**216.0**	**216.0**	**97,694.7**
NOLF Coupeville									
Interfacility LTO2	1,481	2,048,643	83.33	19.10	3.06	1.34	4.89	4.89	3,121.26
FCLP[4]	20,765	14,660,090	5.19	150.23	0.96	9.60	41.01	41.01	23,355.75
Interfacility Transit	1,481	893,290	0.32	6.59	0.07	0.59	2.93	2.93	1,425.21
Total Emissions for Coupeville Flight Operations		**17,602,022.5**	**88.8**	**175.9**	**4.1**	**11.5**	**48.8**	**48.8**	**27,902.2**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**90,522,958.8**	**2,737.5**	**696.3**	**902.6**	**59.3**	**293.6**	**293.6**	**139,065.1**

13,331,805.42 total gallons of fuel

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,732	29,575,000	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 2A

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	2,004.61	472.40	752.23	41.74	215.95	215.95	97,694.75
OLF Coupville Aircraft Flight Operations	88.8	175.9	4.1	11.5	48.8	48.8	27,902.2
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47
Total	**2,824.10**	**706.55**	**904.44**	**59.37**	**395.69**	**304.89**	**150,621.53**

Alternative 2B Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	5	16
# Aircraft	63	25	5	25	118
Departures	7,360	5,992	1,224	2,687	17,263
Interfacility Departures	564	350	14	0	928
Straight in Arrivals	2,627	2,465	425	942	6,459
Overhead Break Arrivals	4,322	3,328	729	1,588	9,967
IFR Arrivals	410	198	71	158	837
Interfacility Arrivals	564	350	14	0	928
FCLP Ops[2]	9,047	5,612	176	0	14,835
Touch & Go Ops[2]	5,052	5,432	489	882	11,855
Depart-Re-enter Ops[2]	2,456	0	453	950	3,859
GCA pattern Ops[2]	7,214	5,795	507	875	14,391
Total	**39,616**	**29,522**	**4,102**	**8,082**	**81,322**
OLF Coupeville					
Interfacility Departures	564	350	13	0	927
Interfacility Arrivals	564	350	14	0	928
FCLP Ops[2]	7,889	4,907	187	0	12,983
Total	**9,017**	**5,607**	**214**	**0**	**14,838**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt2BAveYr, workbook Ops Tables AveYr_Alt2_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 2B Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,459	15,587,612	680.35	94.17	255.27	10.21	56.92	56.92	23,527.43
Break Arrival LTO[2]	11,732	27,327,543	1,242.58	171.46	467.51	17.90	99.45	99.45	41,145.89
FCLP[4]	7,418	5,236,755	1.85	53.67	0.34	3.43	14.65	14.65	8,342.94
Touch-and-Go[4]	5,928	4,184,815	1.48	42.89	0.27	2.74	11.71	11.71	6,667.04
Depart and Re-enter[4]	1,930	2,722,525	0.97	27.93	0.19	1.78	7.61	7.61	4,340.46
GCA Pattern[4]	7,196	10,152,851	3.63	104.15	0.70	6.65	28.39	28.39	16,186.46
Total Emissions for Ault Field Flight Operations		**65,212,100.5**	**1,930.9**	**494.3**	**724.3**	**42.7**	**218.7**	**218.7**	**100,210.2**
NOLF Coupeville									
Interfacility LTO2	927	1,282,304	52.16	11.95	1.92	0.84	3.06	3.06	1,953.68
FCLP[4]	12,983	9,165,998	3.25	93.93	0.60	6.00	25.64	25.64	14,602.82
Interfacility Transit	927	559,136	0.20	4.12	0.04	0.37	1.83	1.83	892.08
Total Emissions for Coupeville Flight Operations		**11,007,437.2**	**55.6**	**110.0**	**2.6**	**7.2**	**30.5**	**30.5**	**17,448.6**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**85,416,929.6**	**2,630.6**	**652.3**	**873.1**	**55.9**	**278.0**	**278.0**	**131,126.9**
		12,579,812.91	total gallons of fuel						

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,732	29,575,000	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 2B

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,930.88	494.26	724.28	42.71	218.72	218.72	100,210.22
OLF Coupville Aircraft Flight Operations	55.6	110.0	2.6	7.2	30.5	30.5	17,448.6
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47
Total	**2,717.13**	**662.50**	**874.97**	**56.02**	**380.17**	**289.36**	**142,683.38**

Alternative 2C Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	5	16
# Aircraft	63	25	5	25	118
Departures	7,360	5,993	1,223	2,693	17,269
Interfacility Departures	225	136	10	0	371
Straight in Arrivals	2,639	2,465	417	972	6,493
Overhead Break Arrivals	4,307	3,338	729	1,570	9,944
IFR Arrivals	415	189	77	151	832
Interfacility Arrivals	226	136	10	0	372
FCLP Ops[2]	14,384	9,148	201	0	23,733
Touch & Go Ops[2]	5,052	5,432	489	882	11,855
Depart-Re-enter Ops[2]	2,456	0	453	950	3,859
GCA pattern Ops[2]	7,214	5,795	507	875	14,391
Total	**44,278**	**32,632**	**4,116**	**8,093**	**89,119**
OLF Coupeville					
Interfacility Departures	225	136	10	0	371
Interfacility Arrivals	226	136	11	0	373
FCLP Ops[2]	3,160	1,895	146	0	5,201
Total	**3,611**	**2,167**	**167**	**0**	**5,945**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt2CAveYr, workbook Ops Tables AveYr_Alt2_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 2C Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,493	15,669,665	683.93	94.66	256.61	10.26	57.22	57.22	23,651.27
Break Arrival LTO[2]	11,148	25,967,222	1,180.73	162.92	444.24	17.01	94.50	94.50	39,097.71
FCLP[4]	11,867	8,377,749	2.97	85.85	0.55	5.49	23.44	23.44	13,347.02
Touch-and-Go[4]	5,928	4,184,815	1.48	42.89	0.27	2.74	11.71	11.71	6,667.04
Depart and Re-enter[4]	1,930	2,722,525	0.97	27.93	0.19	1.78	7.61	7.61	4,340.46
GCA Pattern[4]	7,196	10,152,851	3.63	104.15	0.70	6.65	28.39	28.39	16,186.46
Total Emissions for Ault Field Flight Operations		**67,074,826.3**	**1,873.7**	**518.4**	**702.6**	**43.9**	**222.9**	**222.9**	**103,290.0**
NOLF Coupeville									
Interfacility LTO2	371	513,198	20.87	4.78	0.77	0.34	1.23	1.23	781.90
FCLP[4]	5,201	3,671,906	1.30	37.63	0.24	2.41	10.27	10.27	5,849.90
Interfacility Transit	371	223,775	0.08	1.65	0.02	0.15	0.73	0.73	357.02
Total Emissions for Coupeville Flight Operations		**4,408,879.0**	**22.3**	**44.1**	**1.0**	**2.9**	**12.2**	**12.2**	**6,988.8**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**80,681,097.3**	**2,540.1**	**610.5**	**849.8**	**52.8**	**263.9**	**263.9**	**123,746.9**
		11,882,341.28 total gallons of fuel							

Notes:

[1] See Previous Table of this Appendix for Estimated Operations

[2] All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

[3] Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

[4] Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,732	29,575,000	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47

[1] Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 2C

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,873.72	518.41	702.56	43.93	222.86	222.86	103,289.97
OLF Coupville Aircraft Flight Operations	22.3	44.1	1.0	2.9	12.2	12.2	6,988.8
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47
Total	**2,626.62**	**620.70**	**851.71**	**52.92**	**366.00**	**275.19**	**135,303.36**

Alternative 2D Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	5	16
# Aircraft	63	25	5	25	118
Departures	7,424	6,044	1,236	2,711	17,415
Interfacility Departures	789	495	13	0	1,297
Straight in Arrivals	2,662	2,469	433	966	6,530
Overhead Break Arrivals	4,298	3,360	721	1,584	9,963
IFR Arrivals	463	216	82	161	922
Interfacility Arrivals	790	495	13	0	1,298
FCLP Ops[2]	5,447	3,238	221	0	8,906
Touch & Go Ops[2]	5,052	5,432	489	882	11,855
Depart-Re-enter Ops[2]	2,456	0	453	950	3,859
GCA pattern Ops[2]	7,214	5,795	507	875	14,391
Total	**36,595**	**27,544**	**4,168**	**8,129**	**76,436**
OLF Coupeville					
Interfacility Departures	789	495	13	0	1,297
Interfacility Arrivals	790	495	13	0	1,298
FCLP Ops[2]	11,062	6,929	180	0	18,171
Total	**12,641**	**7,919**	**206**	**0**	**20,766**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt2DAveYr, workbook Ops Tables AveYr_Alt2_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 2D Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO$_x$	VOC	SO$_2$	PM$_{10}$	PM$_{2.5}$	CO$_2$
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,530	15,758,958	687.83	95.20	258.07	10.32	57.54	57.54	23,786.05
Break Arrival LTO[2]	12,183	28,378,065	1,290.35	178.05	485.48	18.59	103.27	103.27	42,727.61
FCLP[4]	4,453	3,143,818	1.11	32.22	0.20	2.06	8.79	8.79	5,008.58
Touch-and-Go[4]	5,928	4,184,815	1.48	42.89	0.27	2.74	11.71	11.71	6,667.04
Depart and Re-enter[4]	1,930	2,722,525	0.97	27.93	0.19	1.78	7.61	7.61	4,340.46
GCA Pattern[4]	7,196	10,152,851	3.63	104.15	0.70	6.65	28.39	28.39	16,186.46
Total Emissions for Ault Field Flight Operations		**64,341,030.8**	**1,985.4**	**480.4**	**744.9**	**42.1**	**217.3**	**217.3**	**98,716.2**
NOLF Coupeville									
Interfacility LTO2	1,297	1,794,118	72.98	16.73	2.68	1.18	4.28	4.28	2,733.47
FCLP[4]	18,171	12,828,726	4.54	131.47	0.84	8.40	35.89	35.89	20,438.10
Interfacility Transit	1,297	782,307	0.28	5.77	0.06	0.51	2.56	2.56	1,248.14
Total Emissions for Coupeville Flight Operations		**15,405,151.7**	**77.8**	**154.0**	**3.6**	**10.1**	**42.7**	**42.7**	**24,419.7**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**88,943,574.4**	**2,707.3**	**682.4**	**894.7**	**58.3**	**288.8**	**288.8**	**136,604.0**
		13,099,200.95 total gallons of fuel							

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO$_x$	HC	SO$_2$	PM$_{10}$	PM$_{2.5}$	CO$_2$
Associated Personnel	4,732	29,575,000	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 2D

Activity	Emissions (tpy) CO	NO$_x$	HC	SO$_2$	PM$_{10}$	PM$_{2.5}$	CO$_2$
Ault Field Aircraft Flight Operations	1,985.38	480.44	744.92	42.14	217.32	217.32	98,716.20
OLF Coupville Aircraft Flight Operations	77.8	154.0	3.6	10.1	42.7	42.7	24,419.7
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47
Total	**2,793.83**	**692.63**	**896.63**	**58.33**	**390.96**	**300.16**	**148,160.49**

Alternative 2E Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	5	16
# Aircraft	63	25	5	25	118
Departures	7,360	5,993	1,223	2,693	17,269
Interfacility Departures	339	205	15	0	559
Straight in Arrivals	2,639	2,465	417	972	6,493
Overhead Break Arrivals	4,307	3,338	729	1,570	9,944
IFR Arrivals	415	189	77	151	832
Interfacility Arrivals	339	205	17	0	561
FCLP Ops[2]	12,586	8,004	175	0	20,765
Touch & Go Ops[2]	5,052	5,432	489	882	11,855
Depart-Re-enter Ops[2]	2,456	0	453	950	3,859
GCA pattern Ops[2]	7,214	5,795	507	875	14,391
Total	**42,707**	**31,626**	**4,102**	**8,093**	**86,528**
OLF Coupeville					
Interfacility Departures	339	205	17	0	561
Interfacility Arrivals	339	205	15	0	559
FCLP Ops[2]	4,741	2,843	219	0	7,803
Total	**5,419**	**3,253**	**251**	**0**	**8,923**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt2EAveYr, workbook Ops Tables AveYr_Alt2_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 2E Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,493	15,669,665	683.93	94.66	256.61	10.26	57.22	57.22	23,651.27
Break Arrival LTO[2]	11,337	26,407,463	1,200.75	165.68	451.77	17.30	96.10	96.10	39,760.56
FCLP[4]	10,383	7,330,045	2.60	75.12	0.48	4.80	20.51	20.51	11,677.87
Touch-and-Go[4]	5,928	4,184,815	1.48	42.89	0.27	2.74	11.71	11.71	6,667.04
Depart and Re-enter[4]	1,930	2,722,525	0.97	27.93	0.19	1.78	7.61	7.61	4,340.46
GCA Pattern[4]	7,196	10,152,851	3.63	104.15	0.70	6.65	28.39	28.39	16,186.46
Total Emissions for Ault Field Flight Operations		**66,467,363.2**	**1,893.4**	**510.4**	**710.0**	**43.5**	**221.5**	**221.5**	**102,283.7**
NOLF Coupeville									
Interfacility LTO2	561	776,022	31.57	7.23	1.16	0.51	1.85	1.85	1,182.33
FCLP[4]	7,803	5,508,918	1.95	56.45	0.36	3.61	15.41	15.41	8,776.54
Interfacility Transit	561	338,377	0.12	2.50	0.03	0.22	1.11	1.11	539.87
Total Emissions for Coupeville Flight Operations		**6,623,316.5**	**33.6**	**66.2**	**1.5**	**4.3**	**18.4**	**18.4**	**10,498.7**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**82,288,071.6**	**2,571.1**	**624.6**	**857.8**	**53.9**	**268.7**	**268.7**	**126,250.5**
		12,119,009.07 total gallons of fuel							

Notes:

[1] See Previous Table of this Appendix for Estimated Operations

[2] All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

[3] Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

[4] Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,732	29,575,000	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47

[1] Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 2E

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,893.37	510.43	710.02	43.54	221.53	221.53	102,283.67
OLF Coupville Aircraft Flight Operations	33.6	66.2	1.5	4.3	18.4	18.4	10,498.7
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47
Total	**2,657.65**	**634.85**	**859.69**	**53.98**	**370.81**	**280.01**	**137,806.97**

NAS Whidbey Island Complex Annual GHG Emissions, Alternative 2

Emission Source	CO2 Emissions (Metric TPY) Existing	No Action	Alt 2A	Alt 2B	Alt 2C	Alt 2D	Alt 2E
Stationary Sources							
e Total GHG Emissions (2014 Reported)	13,575	13,575					
New Electricity Building Use (Indirect)	**0**	**0**	181	181	181	181	181
New Natural Gas Building Use (Direct)	**0**	**0**	276	276	276	276	276
Total Change in Stationary CO_2 Emissions (MTPY)			456	456	456	456	456
% increase in Stationary CO_2 Emissions			3%	3%	3%	3%	3%
Mobile Sources							
Aircraft Operations	89,145	87,730	126,132	118,932	112,238	123,900	114,509
GSE Emissions	130	131	165	159	154	164	156
Personnel Commute Emissions	9,091	9,091	10,482	10,482	10,482	10,482	10,482
Total Mobile CO2 Emissions (MTPY)	**98,366**	**96,951**	**136,779**	**129,573**	**122,875**	**134,545**	**125,147**
Change in Mobile CO_2 Emissions			**39,828**	**32,622**	**25,924**	**37,594**	**28,196**
% increase in Mobile CO2 Emissions			**40%**	**33%**	**26%**	**38%**	**29%**
Total Change in Emissions (Stationary and Mobile)			**40,284**	**33,078**	**26,380**	**38,051**	**28,652**
2013 Total CO2e from all sources in Washington State[1]			94,400,000				
Change in Emissions (Stationary and Mobile) as % of Total 2013 CO2e Emissions in Washington State			0.04%	0.04%	0.03%	0.04%	0.03%
2013 Total CO2 from Transportation in Washington State[1]			40,400,000				
Change in Mobile Emissions as % of Total 2013 Transportation CO2e Emissions in Washington State			0.10%	0.08%	0.06%	0.09%	0.07%
2013 Total CO2e from Aircraft in Washington State[1]			6,570,000				
Change in Aircraft Emissions as % of Total 2013 Aircraft CO2e Emissions in Washington State			0.61%	0.50%	0.39%	0.57%	0.43%

1 . Inventory 1990-2013 (2016). Report to the Legislature on Washington Greenhouse Gas Emissions Inventory: 2010 – 2013 (Publication 16-02-025) October 2016. Retrieved March 29,

metric tons per short ton 0.907

TPY = Tons per year

CO_2e = Carbon Dioxide Equivalent

GHG = Greenhouse Gas

Alternative 3A Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	63	24	5	26	118
Departures	7,442	6,047	1,239	2,628	17,356
Interfacility Departures	899	568	12	0	1,479
Straight in Arrivals	2,650	2,471	437	948	6,506
Overhead Break Arrivals	4,318	3,359	731	1,511	9,919
IFR Arrivals	475	218	70	169	932
Interfacility Arrivals	898	568	13	0	1,479
FCLP Ops[2]	3,647	2,132	146	0	5,925
Touch & Go Ops[2]	4,935	5,406	535	951	11,827
Depart-Re-enter Ops[2]	2,491	0	434	804	3,729
GCA pattern Ops[2]	7,089	5,901	552	938	14,480
Total	**34,844**	**26,670**	**4,169**	**7,949**	**73,632**
OLF Coupeville					
Interfacility Departures	898	568	13	0	1,479
Interfacility Arrivals	899	568	12	0	1,479
FCLP Ops[2]	12,583	7,949	182	0	20,714
Total	**14,380**	**9,085**	**207**	**0**	**23,672**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt3AAveYr, workbook Ops Tables AveYr_Alt3_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 3A Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3]						
			CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,506	15,701,038	685.30	94.85	257.12	10.28	57.33	57.33	23,698.63
Break Arrival LTO[2]	12,330	28,720,475	1,305.92	180.20	491.34	18.81	104.52	104.52	43,243.16
FCLP[4]	2,963	2,091,525	0.74	21.43	0.14	1.37	5.85	5.85	3,332.12
Touch-and-Go[4]	5,914	4,174,931	1.48	42.78	0.27	2.73	11.68	11.68	6,651.30
Depart and Re-enter[4]	1,865	2,630,810	0.94	26.99	0.18	1.72	7.36	7.36	4,194.24
GCA Pattern[4]	7,240	10,215,640	3.66	104.80	0.71	6.69	28.56	28.56	16,286.56
Total Emissions for Ault Field Flight Operations		**63,534,418.2**	**1,998.0**	**471.1**	**749.8**	**41.6**	**215.3**	**215.3**	**97,406.0**
NOLF Coupeville									
Interfacility LTO2	1,479	2,045,876	83.22	19.07	3.06	1.34	4.88	4.88	3,117.04
FCLP[4]	20,714	14,624,084	5.18	149.87	0.95	9.58	40.91	40.91	23,298.38
Interfacility Transit	1,479	892,084	0.32	6.58	0.07	0.58	2.92	2.92	1,423.29
Total Emissions for Coupeville Flight Operations		**17,562,043.6**	**88.7**	**175.5**	**4.1**	**11.5**	**48.7**	**48.7**	**27,838.7**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**90,293,853.8**	**2,730.8**	**694.6**	**900.1**	**59.1**	**292.8**	**292.8**	**138,712.8**
		13,298,063.89 total gallons of fuel							

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3]						
			CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,445	27,781,250	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 3A

Activity	Emissions (tpy)						
	CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,998.04	471.05	749.76	41.62	215.30	215.30	97,406.01
OLF Coupville Aircraft Flight Operations	88.7	175.5	4.1	11.5	48.7	48.7	27,838.7
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56
Total	**2,812.15**	**704.18**	**901.86**	**59.21**	**388.73**	**303.44**	**149,568.38**

Alternative 3B Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	63	24	5	26	118
Departures	7,450	6,053	1,240	2,631	17,374
Interfacility Departures	561	351	13	0	925
Straight in Arrivals	2,643	2,474	424	929	6,470
Overhead Break Arrivals	4,327	3,319	743	1,518	9,907
IFR Arrivals	480	260	73	184	997
Interfacility Arrivals	561	351	13	0	925
FCLP Ops[2]	9,034	5,587	175	0	14,796
Touch & Go Ops[2]	4,935	5,406	535	951	11,827
Depart-Re-enter Ops[2]	2,491	0	434	804	3,729
GCA pattern Ops[2]	7,089	5,901	552	938	14,480
Total	**39,571**	**29,702**	**4,202**	**7,955**	**81,430**
OLF Coupeville					
Interfacility Departures	561	351	13	0	925
Interfacility Arrivals	561	351	13	0	925
FCLP Ops[2]	7,858	4,914	180	0	12,952
Total	**8,980**	**5,616**	**206**	**0**	**14,802**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt3BAveYr, workbook Ops Tables AveYr_Alt3_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 3B Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3]						
			CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,470	15,614,159	681.51	94.33	255.70	10.23	57.01	57.01	23,567.50
Break Arrival LTO[2]	11,829	27,553,487	1,252.86	172.87	471.37	18.05	100.27	100.27	41,486.08
FCLP[4]	7,398	5,222,988	1.85	53.52	0.34	3.42	14.61	14.61	8,321.01
Touch-and-Go[4]	5,914	4,174,931	1.48	42.78	0.27	2.73	11.68	11.68	6,651.30
Depart and Re-enter[4]	1,865	2,630,810	0.94	26.99	0.18	1.72	7.36	7.36	4,194.24
GCA Pattern[4]	7,240	10,215,640	3.66	104.80	0.71	6.69	28.56	28.56	16,286.56
Total Emissions for Ault Field Flight Operations		**65,412,014.2**	**1,942.3**	**495.3**	**728.6**	**42.8**	**219.5**	**219.5**	**100,506.7**
NOLF Coupeville									
Interfacility LTO2	925	1,279,537	52.05	11.93	1.91	0.84	3.05	3.05	1,949.47
FCLP[4]	12,952	9,144,112	3.24	93.71	0.60	5.99	25.58	25.58	14,567.96
Interfacility Transit	925	557,929	0.20	4.12	0.04	0.37	1.83	1.83	890.16
Total Emissions for Coupeville Flight Operations		**10,981,578.3**	**55.5**	**109.8**	**2.6**	**7.2**	**30.5**	**30.5**	**17,407.6**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**85,590,984.4**	**2,641.9**	**653.0**	**877.4**	**56.1**	**278.8**	**278.8**	**131,382.4**

12,605,446.90 total gallons of fuel

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3]						
			CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,445	27,781,250	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 3B

Activity	Emissions (tpy)						
	CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,942.29	495.30	728.58	42.84	219.49	219.49	100,506.69
OLF Coupville Aircraft Flight Operations	55.5	109.8	2.6	7.2	30.5	30.5	17,407.6
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56
Total	**2,723.18**	**662.66**	**879.14**	**56.13**	**374.67**	**289.38**	**142,237.93**

Alternative 3C Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	63	24	5	26	118
Departures	7,390	6,003	1,231	2,608	17,232
Interfacility Departures	225	135	10	0	370
Straight in Arrivals	2,652	2,487	412	940	6,491
Overhead Break Arrivals	4,297	3,306	728	1,498	9,829
IFR Arrivals	440	210	91	170	911
Interfacility Arrivals	226	135	10	0	371
FCLP Ops[2]	14,341	9,132	199	0	23,672
Touch & Go Ops[2]	4,935	5,406	535	951	11,827
Depart-Re-enter Ops[2]	2,491	0	434	804	3,729
GCA pattern Ops[2]	7,089	5,901	552	938	14,480
Total	**44,086**	**32,715**	**4,202**	**7,909**	**88,912**
OLF Coupeville					
Interfacility Departures	225	135	10	0	370
Interfacility Arrivals	226	135	10	0	371
FCLP Ops[2]	3,157	1,892	136	0	5,185
Total	**3,608**	**2,162**	**156**	**0**	**5,926**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt3CAveYr, workbook Ops Tables AveYr_Alt3_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 3C Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,491	15,664,838	683.72	94.63	256.53	10.26	57.20	57.20	23,643.99
Break Arrival LTO[2]	11,111	25,881,037	1,176.81	162.38	442.76	16.95	94.19	94.19	38,967.95
FCLP[4]	11,836	8,356,216	2.96	85.63	0.54	5.47	23.38	23.38	13,312.72
Touch-and-Go[4]	5,914	4,174,931	1.48	42.78	0.27	2.73	11.68	11.68	6,651.30
Depart and Re-enter[4]	1,865	2,630,810	0.94	26.99	0.18	1.72	7.36	7.36	4,194.24
GCA Pattern[4]	7,240	10,215,640	3.66	104.80	0.71	6.69	28.56	28.56	16,286.56
Total Emissions for Ault Field Flight Operations		**66,923,472.5**	**1,869.6**	**517.2**	**701.0**	**43.8**	**222.4**	**222.4**	**103,056.8**
NOLF Coupeville									
Interfacility LTO2	370	511,815	20.82	4.77	0.77	0.34	1.22	1.22	779.79
FCLP[4]	5,185	3,660,610	1.30	37.51	0.24	2.40	10.24	10.24	5,831.91
Interfacility Transit	370	223,172	0.08	1.65	0.02	0.15	0.73	0.73	356.06
Total Emissions for Coupeville Flight Operations		**4,395,596.5**	**22.2**	**43.9**	**1.0**	**2.9**	**12.2**	**12.2**	**6,967.8**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**80,516,461.0**	**2,535.9**	**609.1**	**848.3**	**52.7**	**263.3**	**263.3**	**123,492.6**
		11,858,094.40 total gallons of fuel							

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,445	27,781,250	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 3C

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,869.57	517.22	701.00	43.83	222.36	222.36	103,056.75
OLF Coupville Aircraft Flight Operations	22.2	43.9	1.0	2.9	12.2	12.2	6,967.8
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56
Total	**2,617.16**	**618.76**	**850.03**	**52.81**	**359.27**	**273.97**	**134,348.17**

Alternative 3D Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

Ault Field	CVW	FRS	RES	EXP	EA-18G Total
	EA 18G (Growler) Operations				
# Squadrons	9	1	1	3	14
# Aircraft	63	24	5	26	118
Departures	7,442	6,047	1,239	2,628	17,356
Interfacility Departures	786	498	11	0	1,295
Straight in Arrivals	2,650	2,471	437	948	6,506
Overhead Break Arrivals	4,318	3,359	731	1,511	9,919
IFR Arrivals	475	218	70	169	932
Interfacility Arrivals	786	498	12	0	1,296
FCLP Ops[2]	5,471	3,199	219	0	8,889
Touch & Go Ops[2]	4,935	5,406	535	951	11,827
Depart-Re-enter Ops[2]	2,491	0	434	804	3,729
GCA pattern Ops[2]	7,089	5,901	552	938	14,480
Total	**36,443**	**27,597**	**4,240**	**7,949**	**76,229**
OLF Coupeville					
Interfacility Departures	786	498	11	0	1,295
Interfacility Arrivals	786	498	12	0	1,296
FCLP Ops[2]	11,010	6,955	159	0	18,124
Total	**12,582**	**7,951**	**182**	**0**	**20,715**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt3DAveYr, workbook Ops Tables AveYr_Alt3_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 3D Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,506	15,701,038	685.30	94.85	257.12	10.28	57.33	57.33	23,698.63
Break Arrival LTO[2]	12,147	28,294,210	1,286.54	177.52	484.04	18.53	102.97	102.97	42,601.36
FCLP[4]	4,445	3,137,817	1.11	32.16	0.20	2.06	8.78	8.78	4,999.02
Touch-and-Go[4]	5,914	4,174,931	1.48	42.78	0.27	2.73	11.68	11.68	6,651.30
Depart and Re-enter[4]	1,865	2,630,810	0.94	26.99	0.18	1.72	7.36	7.36	4,194.24
GCA Pattern[4]	7,240	10,215,640	3.66	104.80	0.71	6.69	28.56	28.56	16,286.56
Total Emissions for Ault Field Flight Operations		**64,154,445.3**	**1,979.0**	**479.1**	**742.5**	**42.0**	**216.7**	**216.7**	**98,431.1**
NOLF Coupeville									
Interfacility LTO2	1,295	1,791,352	72.86	16.70	2.68	1.17	4.28	4.28	2,729.26
FCLP[4]	18,124	12,795,544	4.53	131.13	0.83	8.38	35.79	35.79	20,385.24
Interfacility Transit	1,295	781,101	0.28	5.76	0.06	0.51	2.56	2.56	1,246.22
Total Emissions for Coupeville Flight Operations		**15,367,996.8**	**77.7**	**153.6**	**3.6**	**10.1**	**42.6**	**42.6**	**24,360.7**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**88,719,834.0**	**2,700.8**	**680.7**	**892.4**	**58.1**	**288.1**	**288.1**	**136,259.9**
		13,066,249.49 total gallons of fuel							

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,445	27,781,250	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 3D

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,979.03	479.10	742.54	42.02	216.67	216.67	98,431.10
OLF Coupville Aircraft Flight Operations	77.7	153.6	3.6	10.1	42.6	42.6	24,360.7
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56
Total	**2,782.10**	**690.30**	**894.12**	**58.18**	**384.02**	**298.73**	**147,115.47**

Alternative 3E Average Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	63	24	5	26	118
Departures	7,390	6,003	1,231	2,608	17,232
Interfacility Departures	338	203	15	0	556
Straight in Arrivals	2,652	2,487	412	940	6,491
Overhead Break Arrivals	4,297	3,306	728	1,498	9,829
IFR Arrivals	440	210	91	170	911
Interfacility Arrivals	339	203	16	0	558
FCLP Ops[2]	12,549	7,991	174	0	20,714
Touch & Go Ops[2]	4,935	5,406	535	951	11,827
Depart-Re-enter Ops[2]	2,491	0	434	804	3,729
GCA pattern Ops[2]	7,089	5,901	552	938	14,480
Total	**42,520**	**31,710**	**4,188**	**7,909**	**86,327**
OLF Coupeville					
Interfacility Departures	338	203	15	0	556
Interfacility Arrivals	339	203	16	0	558
FCLP Ops[2]	4,736	2,839	205	0	7,780
Total	**5,413**	**3,245**	**236**	**0**	**8,894**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt3EAveYr, workbook Ops Tables AveYr_Alt3_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 3E Average Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,491	15,664,838	683.72	94.63	256.53	10.26	57.20	57.20	23,643.99
Break Arrival LTO[2]	11,298	26,316,620	1,196.62	165.11	450.21	17.24	95.77	95.77	39,623.79
FCLP[4]	10,357	7,312,042	2.59	74.93	0.48	4.79	20.46	20.46	11,649.19
Touch-and-Go[4]	5,914	4,174,931	1.48	42.78	0.27	2.73	11.68	11.68	6,651.30
Depart and Re-enter[4]	1,865	2,630,810	0.94	26.99	0.18	1.72	7.36	7.36	4,194.24
GCA Pattern[4]	7,240	10,215,640	3.66	104.80	0.71	6.69	28.56	28.56	16,286.56
Total Emissions for Ault Field Flight Operations		**66,314,880.7**	**1,889.0**	**509.3**	**708.4**	**43.4**	**221.0**	**221.0**	**102,049.1**
NOLF Coupeville									
Interfacility LTO2	556	769,106	31.28	7.17	1.15	0.50	1.84	1.84	1,171.79
FCLP[4]	7,780	5,492,680	1.95	56.29	0.36	3.60	15.37	15.37	8,750.67
Interfacility Transit	556	335,361	0.12	2.47	0.03	0.22	1.10	1.10	535.06
Total Emissions for Coupeville Flight Operations		**6,597,146.2**	**33.3**	**65.9**	**1.5**	**4.3**	**18.3**	**18.3**	**10,457.5**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**82,109,418.9**	**2,566.4**	**623.2**	**856.2**	**53.8**	**268.1**	**268.1**	**125,974.7**
		12,092,697.92	total gallons of fuel						114,259.03

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,445	27,781,250	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 3E

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,889.01	509.25	708.38	43.44	221.02	221.02	102,049.06
OLF Coupville Aircraft Flight Operations	33.3	65.9	1.5	4.3	18.3	18.3	10,457.5
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56
Total	**2,647.75**	**632.79**	**857.93**	**53.85**	**364.04**	**278.74**	**136,830.24**

NAS Whidbey Island Complex Annual GHG Emissions, Alternative 3

Emission Source	CO2 Emissions (Metric TPY)						
	Existing	No Action	Alt 3A	Alt 3B	Alt 3C	Alt 3D	Alt 3E
Stationary Sources							
Sitewide Total GHG Emissions (2014 Reported)	13,575	13,575					
New Electricity Building Use (Indirect)	**0**	**0**	181	181	181	181	181
New Natural Gas Building Use (Direct)	**0**	**0**	276	276	276	276	276
Total Change in Stationary CO_2 Emissions (MTPY)			456	456	456	456	456
% increase in Stationary CO_2 Emissions			3%	3%	3%	3%	3%
Mobile Sources							
Aircraft Operations	89,145	87,730	125,813	119,164	112,008	123,588	114,259
GSE Emissions	130	131	165	160	154	167	160
Personnel Commute Emissions	9,091	9,091	9,846	9,846	9,846	9,846	9,846
Total Mobile CO2 Emissions (MTPY)	**98,366**	**96,951**	**135,823**	**129,170**	**122,008**	**133,601**	**124,265**
Change in Mobile CO_2 Emissions		**-1,415**	**38,872**	**32,219**	**25,057**	**36,650**	**27,314**
% increase in Mobile CO2 Emissions			**40%**	**33%**	**25%**	**37%**	**28%**
Total Change in Emissions (Stationary and Mobile)			**39,329**	**32,675**	**25,513**	**37,106**	**27,770**
2013 Total CO2e from all sources in Washington State[1]			94,400,000				
Change in Emissions (Stationary and Mobile) as % of Total 2013 CO2e Emissions in Washington State			0.04%	0.03%	0.03%	0.04%	0.03%
2013 Total CO2 from Transportation in Washington State[1]			40,400,000				
Change in Mobile Emissions as % of Total 2013 Transportation CO2e Emissions in Washington State			0.10%	0.08%	0.06%	0.09%	0.07%
2013 Total CO2e from Aircraft in Washington State[1]			6,570,000				
Change in Aircraft Emissions as % of Total 2013 Aircraft CO2e Emissions in Washington State			0.59%	0.49%	0.38%	0.56%	0.42%

1 . Inventory 1990-2013 (2016). Report to the Legislature on Washington Greenhouse Gas Emissions Inventory: 2010 – 2013 (Publication 16-02-025) October 2016. Retrieved March 29, 2018

metric tons per short ton 0.907

TPY = Tons per year

CO_2e = Carbon Dioxide Equivalent

GHG = Greenhouse Gas

Onroad Vehicle Exhaust Emission Factors

Equipment Type	Fuel Type	Exhaust Emission Factor[1] (g/VMT)									Road Dust Emission Factor[d] (g/VMT)		Total PM Emission Factor[e] (g/VMT)	
		VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	CH4	N2O	CO_2	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Cars and Light Trucks	Gasoline	0.06	2.66	0.31	0.0024	0.0066	0.0058	0.0038	0.0021	354	3.13	0.341	3.13	0.347
Delivery Vehicles	Diesel	0.28	1.10	8.06	0.158	0.17	0.17			1,400	3.13	0.341	3.30	0.511

Notes:

1. MOVES Onroad run for analysis year 2017, Island Count, WA. Includes weekdays and weekends, January through December, all hours of day. 'Cars and Light Trucks' Assumes 50% Passenger Car, 50% Passenger Truck

d. See emission factor derivation table below.

e. Sum of exhaust and road dust emission factors.

Paved Roads - Emission Factor Derivation

$E = (k(sL/2)^{0.65}(W/3)^{1.5}-C)$ AP-42 Section 13.2.1 (11/06 version)

where:
E = particulate emission factor (lb/VMT)
k = particle size multiplier
sL = road surface silt loading (g/m^2)
W = average vehicle weight (tons)
C = emission factor for 1980's vehicle fleet exhaust, break wear and tire wear

Parameter	Units	PM_{10}	$PM_{2.5}$	Reference
Mean Vehicle Weight	tons	3	3	Assumption
k factor	g/VMT	7.3	1.1	Table 13.2-1.1
Silt Loading, sL	g/m^2	0.6	0.6	Table 13.2.1-3
Emission factor, C	g/VMT	0.2119	0.1617	Table 13.2.1-2
Emission factor, E	g/VMT	3.13	0.341	Table 13.2.1-3

Ground Transportation Vehicle Emissions for Existing POV: Growler Squadron Personnel only

Source	# of vehicles[2]	Avg Daily mileage	Annual days of Commute	Total Annual Miles[3]	Emission Factors (lbs/mi)[1] VOC	CO	NO_x	SO_2	CO_2	PM_{10}	$PM_{2.5}$	Emissions (tpy) VOC	CO	NO_x	SO_2	CO_2	PM_{10}	$PM_{2.5}$
No Action																		
Total Military and Non Military Personnel	4,104	25	250	25,650,000	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	1.63	75.07	8.88	0.067	10023	88.56	9.81
Alternative 1																		
Total Military and Non Military Personnel	4,439	25	250	27,743,750	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	1.77	81.20	9.61	0.072	10841	95.79	10.61
Change in Personnel	335	25	250	2,093,750	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	0.13	6.13	0.73	0.005	818	7.23	0.80
Alternative 2																		
Total Military and Non Military Personnel	4,732	25	250	29,575,000	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	1.88	86.56	10.24	0.077	11556	102.12	11.31
Change in Personnel	628	25	250	3,925,000	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	0.25	11.49	1.36	0.010	1534	13.55	1.50
Alternative 3																		
Total Military and Non Military Personnel	4,445	25	250	27,781,250	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	1.77	81.31	9.62	0.072	10856	95.92	10.63
Change in Personnel	341	25	250	2,131,250	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	0.14	6.24	0.74	0.006	833	7.36	0.82

[1] See Emission factors in Previous Table of this Appendix

[2] Assumes one vehicle per person, based on Total Military personnel at NAS Whidbey island, revised 2017

[3] Based on 250 days for commute

GSE Equipment Exhaust Emission Factors and Estimated Emissions

Equipment types, sizes, operations, ratio to LTOs and emission factors from those listed for NAS Lemoore in Navy F-35c West Coast Conformity Determination
All NAS Whidbey Equipment types, sizes, operations and emissions estimated based NAS LeMoore data and ratio of NAS Whidbey LTOs to NAS LeMoore LTOs
NAS Whidbey LTOs = Departures + Interfacility Departures

GSE Equipment Exhaust Emission Factors **LeMoore Baseline LTO: 32966**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Load Factor	Emission factors: NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr): NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	72.29	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	1,160.76	24.18	657.76	0.50	38.69	37.48	172,174.30	9.84	4.41	173,734.55
Tow Tractor	192	1	0.0003	10.67	0.93	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.32	0.01	0.38	0.00	0.00	0.00	100.38	0.01	0.00	101.29
Turbine	396	5	0.0002	22.00	0.25	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.51	0.03	0.35	0.00	0.00	0.00	284.41	0.02	0.01	286.99
Air Compressor	58	2	0.0002	3.22	1.53	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.64	0.01	0.36	0.00	0.02	0.02	100.38	0.01	0.00	101.29
Hydraulic Power Supply	111	37	0.0010	6.17	5.56	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	43.21	1.54	52.09	0.04	0.17	0.17	12,875.60	0.74	0.33	12,992.28
Aircon	210	8	0.0003	11.67	0.85	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	1.45	0.07	0.98	0.00	0.01	0.01	803.05	0.05	0.02	810.33
MEPP	215	37	0.0080	11.94	22.19	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	179.57	9.24	121.47	0.27	1.32	1.32	99,538.27	5.69	2.55	100,440.29
	Total Equipment:	138														Totals in lbs	**1,386.46**	**35.09**	**833.40**	**0.80**	**40.22**	**39.01**				
																Totals in Tons	**0.69**	**0.02**	**0.42**	**0.00**	**0.02**	**0.02**				
																Total Metric tons							**285.88**	**0.02**	**0.01**	
																Total MT CO2e										**288.47**

		CO_2	CH_4	N_2O
GWP		1	25	298

EPA, 2016.U.S. Inventory of Greenhouse Gas Emissions and Sinks 1990-2014, April 2016. Accessed March 21, 2018 at https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2014
(latest final report: Draft 2016 inventory was released February 6, 2018)

GSE Equipment Exhaust Emission Factors **NAS Whidbey Baseline LTOs: 14,898**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors: NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr): NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	32.67	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	524.57	10.93	297.26	0.22	17.49	16.94	77,809.04	4.45	1.99	78,514.15
Tow Tractor	192	1	0.0003	10.67	0.42	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.14	0.01	0.17	0.00	0.00	0.00	45.36	0.00	0.00	45.78
Turbine	396	5	0.0002	22.00	0.12	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.23	0.01	0.16	0.00	0.00	0.00	128.53	0.01	0.00	129.70
Air Compressor	58	2	0.0002	3.22	0.69	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.29	0.01	0.16	0.00	0.01	0.01	45.36	0.00	0.00	45.78
Hydraulic Power Supply	111	37	0.0010	6.17	2.51	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	19.53	0.69	23.54	0.02	0.08	0.08	5,818.74	0.33	0.15	5,871.47
Aircon	210	8	0.0003	11.67	0.38	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.65	0.03	0.44	0.00	0.00	0.00	362.92	0.02	0.01	366.20
MEPP	215	37	0.0080	11.94	10.03	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	81.15	4.18	54.90	0.12	0.60	0.60	44,983.35	2.57	1.15	45,390.99
	Total Equipment:	138														Totals in lbs	**626.57**	**15.86**	**376.63**	**0.36**	**18.18**	**17.63**				
																Totals in Tons	**0.31**	**0.01**	**0.19**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**129.19**	**0.01**	**0.00**	
																Total MT CO2e										**130.36**

GSE Equipment Exhaust Emission Factors **NAS Whidbey No Action LTOs: 14,950**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors: NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr): NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	32.78	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	526.40	10.97	298.29	0.22	17.55	17.00	78,080.62	4.46	2.00	78,788.19
Tow Tractor	192	1	0.0003	10.67	0.42	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.15	0.01	0.17	0.00	0.00	0.00	45.52	0.00	0.00	45.94
Turbine	396	5	0.0002	22.00	0.12	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.23	0.01	0.16	0.00	0.00	0.00	128.98	0.01	0.00	130.15
Air Compressor	58	2	0.0002	3.22	0.70	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.29	0.01	0.16	0.00	0.01	0.01	45.52	0.00	0.00	45.94
Hydraulic Power Supply	111	37	0.0010	6.17	2.52	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	19.60	0.70	23.62	0.02	0.08	0.08	5,839.05	0.33	0.15	5,891.97
Aircon	210	8	0.0003	11.67	0.38	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.66	0.03	0.44	0.00	0.00	0.00	364.18	0.02	0.01	367.48
MEPP	215	37	0.0080	11.94	10.06	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	81.44	4.19	55.09	0.12	0.60	0.60	45,140.36	2.58	1.16	45,549.42
	Total Equipment:	138														Totals in lbs	**628.76**	**15.91**	**377.94**	**0.37**	**18.24**	**17.69**				
																Totals in Tons	**0.31**	**0.01**	**0.19**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**129.64**	**0.01**	**0.00**	
																Total MT CO2e										**130.82**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 1A: 18,450**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors: NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr): NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	40.46	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	649.64	13.53	368.13	0.28	21.65	20.98	96,360.36	5.51	2.47	97,233.59
Tow Tractor	192	1	0.0003	10.67	0.52	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.21	0.00	0.00	0.00	56.18	0.00	0.00	56.69
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.29	0.01	0.19	0.00	0.00	0.00	159.18	0.01	0.00	160.62
Air Compressor	58	2	0.0002	3.22	0.86	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.36	0.01	0.20	0.00	0.01	0.01	56.18	0.00	0.00	56.69
Hydraulic Power Supply	111	37	0.0010	6.17	3.11	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	24.18	0.86	29.15	0.02	0.10	0.10	7,206.05	0.41	0.18	7,271.36
Aircon	210	8	0.0003	11.67	0.47	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.81	0.04	0.55	0.00	0.01	0.01	449.44	0.03	0.01	453.51
MEPP	215	37	0.0080	11.94	12.42	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	100.50	5.17	67.99	0.15	0.74	0.74	55,708.34	3.18	1.43	56,213.17
	Total Equipment:	138														Totals in lbs	**775.96**	**19.64**	**466.43**	**0.45**	**22.51**	**21.83**				
																Totals in Tons	**0.39**	**0.01**	**0.23**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**160.00**	**0.01**	**0.00**	
																Total MT CO2e										**161.45**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 1B: 17,726**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors: NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr): NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	38.87	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	624.15	13.00	353.68	0.27	20.80	20.15	92,579.07	5.29	2.37	93,418.03
Tow Tractor	192	1	0.0003	10.67	0.50	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.17	0.01	0.20	0.00	0.00	0.00	53.98	0.00	0.00	54.46
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	152.93	0.01	0.00	154.32
Air Compressor	58	2	0.0002	3.22	0.83	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.34	0.01	0.19	0.00	0.01	0.01	53.98	0.00	0.00	54.46
Hydraulic Power Supply	111	37	0.0010	6.17	2.99	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.23	0.83	28.01	0.02	0.09	0.09	6,923.28	0.40	0.18	6,986.02
Aircon	210	8	0.0003	11.67	0.46	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.78	0.04	0.53	0.00	0.01	0.01	431.81	0.02	0.01	435.72
MEPP	215	37	0.0080	11.94	11.93	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	96.56	4.97	65.32	0.15	0.71	0.71	53,522.27	3.06	1.37	54,007.30
	Total Equipment:	138														Totals in lbs	**745.51**	**18.87**	**448.12**	**0.43**	**21.63**	**20.98**				
																Totals in Tons	**0.37**	**0.01**	**0.22**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**153.72**	**0.01**	**0.00**	
																Total MT CO2e										**155.11**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 1C: 17,157**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors: NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr): NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	37.62	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	604.11	12.59	342.33	0.26	20.14	19.51	89,607.31	5.12	2.30	90,419.33
Tow Tractor	192	1	0.0003	10.67	0.48	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.17	0.01	0.20	0.00	0.00	0.00	52.24	0.00	0.00	52.72
Turbine	396	5	0.0002	22.00	0.13	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.27	0.01	0.18	0.00	0.00	0.00	148.02	0.01	0.00	149.36
Air Compressor	58	2	0.0002	3.22	0.80	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.33	0.01	0.19	0.00	0.01	0.01	52.24	0.00	0.00	52.72
Hydraulic Power Supply	111	37	0.0010	6.17	2.89	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	22.49	0.80	27.11	0.02	0.09	0.09	6,701.04	0.38	0.17	6,761.77
Aircon	210	8	0.0003	11.67	0.44	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.75	0.04	0.51	0.00	0.01	0.01	417.94	0.02	0.01	421.73
MEPP	215	37	0.0080	11.94	11.55	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	93.46	4.81	63.22	0.14	0.69	0.69	51,804.22	2.96	1.33	52,273.68
	Total Equipment:	138														Totals in lbs	**721.58**	**18.26**	**433.74**	**0.42**	**20.93**	**20.30**				
																Totals in Tons	**0.36**	**0.01**	**0.22**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**148.78**	**0.01**	**0.00**	
																Total MT CO2e										**150.13**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 1D: 18,257**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors									Emissions (lbs/yr)									MT/year
								NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	CO_2e
Tow Tractor	88	48	0.0107	4.89	40.03	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	642.84	13.39	364.28	0.27	21.43	20.76	95,352.37	5.45	2.44	96,216.46
Tow Tractor	192	1	0.0003	10.67	0.51	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.21	0.00	0.00	0.00	55.59	0.00	0.00	56.10
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	157.51	0.01	0.00	158.94
Air Compressor	58	2	0.0002	3.22	0.85	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.35	0.01	0.20	0.00	0.01	0.01	55.59	0.00	0.00	56.10
Hydraulic Power Supply	111	37	0.0010	6.17	3.08	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.93	0.85	28.85	0.02	0.09	0.09	7,130.67	0.41	0.18	7,195.29
Aircon	210	8	0.0003	11.67	0.47	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.80	0.04	0.54	0.00	0.01	0.01	444.74	0.03	0.01	448.77
MEPP	215	37	0.0080	11.94	12.29	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	99.45	5.12	67.27	0.15	0.73	0.73	55,125.59	3.15	1.41	55,625.14
	Total Equipment:	138														Totals in lbs	**767.84**	**19.43**	**461.55**	**0.45**	**22.27**	**21.60**				
																Totals in Tons	**0.38**	**0.01**	**0.23**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**158.32**	**0.01**	**0.00**	
																Total MT CO2e										**159.76**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 1E: 17,354**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors									Emissions (lbs/yr)									MT/year
								NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	CO_2e
Tow Tractor	88	48	0.0107	4.89	38.05	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	611.05	12.73	346.26	0.26	20.37	19.73	90,636.19	5.18	2.32	91,457.54
Tow Tractor	192	1	0.0003	10.67	0.49	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.17	0.01	0.20	0.00	0.00	0.00	52.84	0.00	0.00	53.32
Turbine	396	5	0.0002	22.00	0.13	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.27	0.01	0.18	0.00	0.00	0.00	149.72	0.01	0.00	151.08
Air Compressor	58	2	0.0002	3.22	0.81	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.34	0.01	0.19	0.00	0.01	0.01	52.84	0.00	0.00	53.32
Hydraulic Power Supply	111	37	0.0010	6.17	2.93	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	22.75	0.81	27.42	0.02	0.09	0.09	6,777.99	0.39	0.17	6,839.41
Aircon	210	8	0.0003	11.67	0.45	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.76	0.04	0.52	0.00	0.01	0.01	422.74	0.02	0.01	426.57
MEPP	215	37	0.0080	11.94	11.68	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	94.53	4.87	63.95	0.14	0.70	0.70	52,399.05	2.99	1.34	52,873.89
	Total Equipment:	138														Totals in lbs	**729.86**	**18.47**	**438.72**	**0.42**	**21.17**	**20.54**				
																Totals in Tons	**0.36**	**0.01**	**0.22**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**150.49**	**0.01**	**0.00**	
																Total MT CO2e										**151.86**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 2A: 18,896**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors									Emissions (lbs/yr)									MT/year
								NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	CO_2e
Tow Tractor	88	48	0.0107	4.89	41.43	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	665.34	13.86	377.03	0.28	22.18	21.48	98,689.73	5.64	2.53	99,584.06
Tow Tractor	192	1	0.0003	10.67	0.53	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.22	0.00	0.00	0.00	57.54	0.00	0.00	58.06
Turbine	396	5	0.0002	22.00	0.15	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.29	0.02	0.20	0.00	0.00	0.00	163.03	0.01	0.00	164.50
Air Compressor	58	2	0.0002	3.22	0.88	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.37	0.01	0.21	0.00	0.01	0.01	57.54	0.00	0.00	58.06
Hydraulic Power Supply	111	37	0.0010	6.17	3.19	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	24.77	0.88	29.86	0.02	0.10	0.10	7,380.25	0.42	0.19	7,447.13
Aircon	210	8	0.0003	11.67	0.49	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.83	0.04	0.56	0.00	0.01	0.01	460.31	0.03	0.01	464.48
MEPP	215	37	0.0080	11.94	12.72	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	102.93	5.30	69.63	0.16	0.76	0.76	57,055.00	3.26	1.46	57,572.03
	Total Equipment:	138														Totals in lbs	**794.71**	**20.11**	**477.70**	**0.46**	**23.05**	**22.36**				
																Totals in Tons	**0.40**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**163.86**	**0.01**	**0.00**	
																Total MT CO2e										**165.35**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 2B: 18,191**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors									Emissions (lbs/yr)									MT/year
								NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	CO_2e
Tow Tractor	88	48	0.0107	4.89	39.89	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	640.52	13.34	362.96	0.27	21.35	20.68	95,007.66	5.43	2.43	95,868.63
Tow Tractor	192	1	0.0003	10.67	0.51	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.21	0.00	0.00	0.00	55.39	0.00	0.00	55.89
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	156.94	0.01	0.00	158.37
Air Compressor	58	2	0.0002	3.22	0.85	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.35	0.01	0.20	0.00	0.01	0.01	55.39	0.00	0.00	55.89
Hydraulic Power Supply	111	37	0.0010	6.17	3.07	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.84	0.85	28.75	0.02	0.09	0.09	7,104.90	0.41	0.18	7,169.28
Aircon	210	8	0.0003	11.67	0.47	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.80	0.04	0.54	0.00	0.01	0.01	443.13	0.03	0.01	447.15
MEPP	215	37	0.0080	11.94	12.24	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	99.09	5.10	67.03	0.15	0.73	0.73	54,926.31	3.14	1.41	55,424.05
	Total Equipment:	138														Totals in lbs	**765.06**	**19.36**	**459.88**	**0.44**	**22.19**	**21.53**				
																Totals in Tons	**0.38**	**0.01**	**0.23**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**157.75**	**0.01**	**0.00**	
																Total MT CO2e										**159.18**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 2C: 17,640**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors									Emissions (lbs/yr)									MT/year
								NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	CO_2e
Tow Tractor	88	48	0.0107	4.89	38.68	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	621.12	12.94	351.97	0.27	20.70	20.06	92,129.91	5.26	2.36	92,964.80
Tow Tractor	192	1	0.0003	10.67	0.50	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.17	0.01	0.20	0.00	0.00	0.00	53.71	0.00	0.00	54.20
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.27	0.01	0.19	0.00	0.00	0.00	152.19	0.01	0.00	153.57
Air Compressor	58	2	0.0002	3.22	0.82	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.34	0.01	0.19	0.00	0.01	0.01	53.71	0.00	0.00	54.20
Hydraulic Power Supply	111	37	0.0010	6.17	2.97	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.12	0.82	27.87	0.02	0.09	0.09	6,889.69	0.39	0.18	6,952.12
Aircon	210	8	0.0003	11.67	0.45	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.78	0.04	0.52	0.00	0.01	0.01	429.71	0.02	0.01	433.60
MEPP	215	37	0.0080	11.94	11.87	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	96.09	4.95	65.00	0.14	0.71	0.71	53,262.60	3.04	1.36	53,745.27
	Total Equipment:	138														Totals in lbs	**741.89**	**18.78**	**445.95**	**0.43**	**21.52**	**20.87**				
																Totals in Tons	**0.37**	**0.01**	**0.22**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**152.97**	**0.01**	**0.00**	
																Total MT CO2e										**154.36**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 2D: 18,712**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors									Emissions (lbs/yr)									MT/year
								NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	CO_2e
Tow Tractor	88	48	0.0107	4.89	41.03	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	658.86	13.73	373.36	0.28	21.96	21.28	97,728.73	5.58	2.50	98,614.36
Tow Tractor	192	1	0.0003	10.67	0.53	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.22	0.00	0.00	0.00	56.98	0.00	0.00	57.49
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.29	0.01	0.20	0.00	0.00	0.00	161.44	0.01	0.00	162.90
Air Compressor	58	2	0.0002	3.22	0.87	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.36	0.01	0.21	0.00	0.01	0.01	56.98	0.00	0.00	57.49
Hydraulic Power Supply	111	37	0.0010	6.17	3.16	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	24.53	0.87	29.57	0.02	0.10	0.10	7,308.38	0.42	0.19	7,374.61
Aircon	210	8	0.0003	11.67	0.48	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.82	0.04	0.56	0.00	0.01	0.01	455.82	0.03	0.01	459.96
MEPP	215	37	0.0080	11.94	12.60	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	101.93	5.25	68.95	0.15	0.75	0.75	56,499.42	3.23	1.45	57,011.43
	Total Equipment:	138														Totals in lbs	**786.98**	**19.92**	**473.05**	**0.46**	**22.83**	**22.14**				
																Totals in Tons	**0.39**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**162.27**	**0.01**	**0.00**	
																Total MT CO2e										**163.74**

GSE Equipment Exhaust Emission Factors — **NAS Whidbey Alt 2E: 17,828**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	39.09	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	627.74	13.08	355.72	0.27	20.92	20.27	93,111.79	5.32	2.39	93,955.58
Tow Tractor	192	1	0.0003	10.67	0.50	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.17	0.01	0.21	0.00	0.00	0.00	54.29	0.00	0.00	54.78
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	153.81	0.01	0.00	155.20
Air Compressor	58	2	0.0002	3.22	0.83	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.35	0.01	0.20	0.00	0.01	0.01	54.29	0.00	0.00	54.78
Hydraulic Power Supply	111	37	0.0010	6.17	3.01	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.37	0.83	28.17	0.02	0.09	0.09	6,963.12	0.40	0.18	7,026.22
Aircon	210	8	0.0003	11.67	0.46	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.78	0.04	0.53	0.00	0.01	0.01	434.29	0.02	0.01	438.23
MEPP	215	37	0.0080	11.94	12.00	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	97.11	5.00	65.69	0.15	0.71	0.71	53,830.26	3.08	1.38	54,318.07
	Total Equipment:	138														Totals in lbs	749.80	18.98	450.70	0.44	21.75	21.10				
																Totals in Tons	0.37	0.01	0.23	0.00	0.01	0.01				
																Total Metric tons							154.60	0.01	0.00	
																Total MT CO2e										156.00

GSE Equipment Exhaust Emission Factors — **NAS Whidbey Alt 3A: 18,835**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	41.30	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	663.19	13.82	375.81	0.28	22.11	21.42	98,371.14	5.62	2.52	99,262.58
Tow Tractor	192	1	0.0003	10.67	0.53	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.22	0.00	0.00	0.00	57.35	0.00	0.00	57.87
Turbine	396	5	0.0002	22.00	0.15	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.29	0.02	0.20	0.00	0.00	0.00	162.50	0.01	0.00	163.97
Air Compressor	58	2	0.0002	3.22	0.88	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.37	0.01	0.21	0.00	0.01	0.01	57.35	0.00	0.00	57.87
Hydraulic Power Supply	111	37	0.0010	6.17	3.18	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	24.69	0.88	29.76	0.02	0.10	0.10	7,356.42	0.42	0.19	7,423.09
Aircon	210	8	0.0003	11.67	0.48	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.83	0.04	0.56	0.00	0.01	0.01	458.82	0.03	0.01	462.98
MEPP	215	37	0.0080	11.94	12.68	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	102.60	5.28	69.40	0.15	0.75	0.75	56,870.81	3.25	1.46	57,386.18
	Total Equipment:	138														Totals in lbs	792.15	20.05	476.16	0.46	22.98	22.29				
																Totals in Tons	0.40	0.01	0.24	0.00	0.01	0.01				
																Total Metric tons							163.33	0.01	0.00	
																Total MT CO2e										164.81

GSE Equipment Exhaust Emission Factors — **NAS Whidbey Alt 3B: 18,299**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	40.12	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	644.32	13.42	365.12	0.28	21.48	20.81	95,571.72	5.46	2.45	96,437.80
Tow Tractor	192	1	0.0003	10.67	0.51	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.21	0.00	0.00	0.00	55.72	0.00	0.00	56.23
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	157.87	0.01	0.00	159.31
Air Compressor	58	2	0.0002	3.22	0.85	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.35	0.01	0.20	0.00	0.01	0.01	55.72	0.00	0.00	56.23
Hydraulic Power Supply	111	37	0.0010	6.17	3.09	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.99	0.85	28.92	0.02	0.09	0.09	7,147.08	0.41	0.18	7,211.84
Aircon	210	8	0.0003	11.67	0.47	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.80	0.04	0.54	0.00	0.01	0.01	445.76	0.03	0.01	449.80
MEPP	215	37	0.0080	11.94	12.32	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	99.68	5.13	67.43	0.15	0.73	0.73	55,252.40	3.16	1.42	55,753.10
	Total Equipment:	138														Totals in lbs	769.61	19.48	462.61	0.45	22.33	21.65				
																Totals in Tons	0.38	0.01	0.23	0.00	0.01	0.01				
																Total Metric tons							158.69	0.01	0.00	
																Total MT CO2e										160.12

GSE Equipment Exhaust Emission Factors — **NAS Whidbey Alt 3C: 17,602**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	38.60	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	619.78	12.91	351.21	0.26	20.66	20.01	91,931.44	5.25	2.35	92,764.53
Tow Tractor	192	1	0.0003	10.67	0.50	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.17	0.01	0.20	0.00	0.00	0.00	53.60	0.00	0.00	54.08
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.27	0.01	0.19	0.00	0.00	0.00	151.86	0.01	0.00	153.24
Air Compressor	58	2	0.0002	3.22	0.82	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.34	0.01	0.19	0.00	0.01	0.01	53.60	0.00	0.00	54.08
Hydraulic Power Supply	111	37	0.0010	6.17	2.97	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.07	0.82	27.81	0.02	0.09	0.09	6,874.85	0.39	0.18	6,937.15
Aircon	210	8	0.0003	11.67	0.45	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.77	0.04	0.52	0.00	0.01	0.01	428.78	0.02	0.01	432.67
MEPP	215	37	0.0080	11.94	11.85	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	95.88	4.94	64.86	0.14	0.71	0.71	53,147.87	3.04	1.36	53,629.50
	Total Equipment:	138														Totals in lbs	740.29	18.74	444.99	0.43	21.48	20.83				
																Totals in Tons	0.37	0.01	0.22	0.00	0.01	0.01				
																Total Metric tons							152.64	0.01	0.00	
																Total MT CO2e										154.03

GSE Equipment Exhaust Emission Factors — **NAS Whidbey Alt 3D: 18,651**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	40.90	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	656.72	13.68	372.14	0.28	21.89	21.21	97,410.14	5.57	2.50	98,292.88
Tow Tractor	192	1	0.0003	10.67	0.52	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.22	0.00	0.00	0.00	56.79	0.00	0.00	57.31
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.29	0.01	0.20	0.00	0.00	0.00	160.91	0.01	0.00	162.37
Air Compressor	58	2	0.0002	3.22	0.87	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.36	0.01	0.20	0.00	0.01	0.01	56.79	0.00	0.00	57.31
Hydraulic Power Supply	111	37	0.0010	6.17	3.15	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	24.45	0.87	29.47	0.02	0.10	0.10	7,284.56	0.42	0.19	7,350.57
Aircon	210	8	0.0030	11.67	4.80	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	8.20	0.42	5.54	0.01	0.06	0.06	4,543.38	0.26	0.12	4,584.56
MEPP	215	37	0.0080	11.94	12.55	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	101.60	5.23	68.73	0.15	0.75	0.75	56,315.24	3.22	1.44	56,825.57
	Total Equipment:	138														Totals in lbs	791.79	20.23	476.50	0.47	22.81	22.12				
																Totals in Tons	0.40	0.01	0.24	0.00	0.01	0.01				
																Total Metric tons							165.83	0.01	0.00	
																Total MT CO2e										167.33

GSE Equipment Exhaust Emission Factors — **NAS Whidbey Alt 3E: 17,788**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	39.00	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	626.33	13.05	354.92	0.27	20.88	20.23	92,902.88	5.31	2.38	93,744.77
Tow Tractor	192	1	0.0003	10.67	0.50	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.17	0.01	0.21	0.00	0.00	0.00	54.16	0.00	0.00	54.66
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	153.47	0.01	0.00	154.86
Air Compressor	58	2	0.0002	3.22	0.83	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.34	0.01	0.20	0.00	0.01	0.01	54.16	0.00	0.00	54.66
Hydraulic Power Supply	111	37	0.0010	6.17	3.00	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.32	0.83	28.11	0.02	0.09	0.09	6,947.49	0.40	0.18	7,010.45
Aircon	210	8	0.0030	11.67	4.57	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	7.82	0.40	5.29	0.01	0.06	0.06	4,333.16	0.25	0.11	4,372.42
MEPP	215	37	0.0080	11.94	11.97	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	96.89	4.99	65.55	0.15	0.71	0.71	53,709.48	3.07	1.38	54,196.20
	Total Equipment:	138														Totals in lbs	755.15	19.30	454.45	0.44	21.75	21.10				
																Totals in Tons	0.38	0.01	0.23	0.00	0.01	0.01				
																Total Metric tons							158.15	0.01	0.00	
																Total MT CO2e										159.59

Total Change in Criteria Pollutant and GHG Emissions,Average Operations, All Alternatives

Alternative	Emissions (tpy)[2]						MT CO2e
	NO_x	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Alternative 1 A	229.1	190.3	638.1	18.0	90.8	84.4	39,405
Alternative 1 B	183.3	159.8	527.0	14.5	74.7	68.2	31,923
Alternative 1 C	139.7	135.9	433.5	11.3	59.9	53.5	24,941
Alternative 1 D	214.3	182.1	606.3	16.9	85.8	79.4	37,044
Alternative 1 E	150.9	144.2	465.7	12.1	64.0	57.5	26,807
Alternative 2 A	227.5	209.0	691.2	18.1	98.6	86.6	40,284
Alternative 2 B	183.4	175.9	584.3	14.8	83.1	71.1	33,078
Alternative 2 C	141.6	152.6	493.8	11.7	68.9	56.9	26,380
Alternative 2 D	213.5	197.6	661.0	17.1	93.9	81.9	38,051
Alternative 2 E	155.7	160.6	524.8	12.7	73.8	61.7	28,652
Alternative 3 A	225.1	202.8	679.3	17.9	91.7	85.1	39,329
Alternative 3 B	183.6	180.1	590.3	14.9	77.6	71.1	32,675
Alternative 3 C	139.6	154.6	484.3	11.5	62.2	55.7	25,513
Alternative 3 D	211.2	198.7	649.2	16.9	87.0	80.4	37,106
Alternative 3 E	153.7	162.5	514.9	12.6	67.0	60.4	27,770

Total Change in GHG Emissions, All Alternatives

Alternative/Scenario	*Average Operations*	*High-Tempo Operations*	*Percent Difference*
	MT CO_2e		
Alternative 1			
Scenario A	39,405	40,828	4%
Scenario B	31,923	32,770	3%
Scenario C	24,941	25,254	1%
Scenario D	37,044	38,254	3%
Scenario E	26,807	27,854	4%
Scenario A	40,284	42,538	6%
Scenario B	33,078	34,653	5%
Scenario C	26,380	27,407	4%
Scenario D	38,051	40,047	5%
Scenario E	28,652	29,889	4%
Scenario A	39,329	40,702	3%
Scenario B	32,675	33,690	3%
Scenario C	25,513	25,982	2%
Scenario D	37,106	38,209	3%
Scenario E	27,770	28,463	2%

Key:

CO_2e = carbon dioxide equivalent

MT = metric ton

Aircraft and Personnel Loading by Alternative for the EA 18G (Growler) Operations at NAS Whidbey Island Complex: Ault Field and and OLF Coupeville

EIS Alternative	Description	Aircraft Loading	Total VAQ Aircraft	Personnel Loading	Total Personnel
Baseline		9 carrier squadrons (45 aircraft) 3 expeditionary squadrons (15 aircraft) 1 Reserve Squadron (5 aircraft) 1 training squadron (17 aircraft)	82	• 517 Officer • 3,587 Enlisted	4,104
Alternative 1	Expand carrier capabilities by adding three additional aircraft to each existing carrier squadron and augmenting the FRS with eight additional aircraft (a net increase of 35 aircraft).	9 carrier squadrons (72 aircraft) 3 expeditionary squadrons (15 aircraft) 1 Reserve Squadron (5 aircraft) 1 training squadron (25 aircraft)	117 (+35)	• 597 Officer • 3,842 Enlisted	4,439 (+335)
Alternative 2	Expand expeditionary and carrier capabilities by establishing two new expeditionary squadrons, adding two additional aircraft to each existing carrier squadron, and augmenting the FRS with eight additional aircraft (a net increase of 36 aircraft).	9 carrier squadrons (63 aircraft) 5 expeditionary squadrons (25 aircraft) 1 Reserve Squadron (5 aircraft) 1 training squadron (25 aircraft)	118 (+36)	• 619 Officer • 4,113 Enlisted	4,732 (+628)
Alternative 3	Expand expeditionary and carrier capabilities by adding three additional aircraft to each existing expeditionary squadron, adding two additional aircraft to each existing carrier squadron, and augmenting the FRS with nine additional aircraft (a net increase of 36 aircraft).	9 carrier squadrons (63 aircraft) 3 expeditionary squadrons (24 aircraft) 1 Reserve Squadron (5 aircraft) 1 training squadron (26 aircraft)	118 (+36)	• 597 Officer • 3,848 Enlisted	4,445 (+341)

No Action: 30% FCLP at Coupville, 70% at Ault Field
Scenario A: 80% FCLP at Coupville, 20% at Ault Field
Scenario B: 50% FCLP at Coupville, 50% at Ault Field
Scenario C: 20% FCLP at Coupville, 80% at Ault Field

EA-18 G (Growler) (F414-GE-400 Engines) Emission Factors

Flight Operation	Fuel used (lbs)	Emissions from Single Flight Operation[1,2,3,4] (lb/op)						
		CO	NO_x	VOC[4]	SO_2	$PM_{2.5}$	PM_{10}	CO_2
Straight-In Arrival LTO[1]	2413	210.67	29.16	79.04	3.16	17.62	17.62	7285.16
Break Arrival LTO[1]	2329	211.83	29.23	79.70	3.05	16.95	16.95	7014.30
OLF LTO[2]	1,383	112.53	25.79	4.14	1.81	6.60	6.60	4215.07
Touch-and-Go/FCLP[3]	706	0.50	14.47	0.09	0.92	3.95	3.95	2249.53
Depart&Reenter/ GCA Box (GCA Pattern)[3]	1411	1.01	28.95	0.20	1.85	7.89	7.89	4499.05
3.0 minutes at 85%N2 (Approach)[2]	517	0.37	7.63	0.07	0.68	3.39	3.39	1649.71
3.5	Minutes interfacility flight, Ault Field to Coupeville							
3.5 minutes at 85%N2 (Approach)[2]	603.17	0.44	8.90	0.10	0.79	3.96	3.96	1924.66

Notes:

[1] Fuel used and Emission factors for "Straight-In Arrival LTO," and "Break Arrival LTO" for F414-GE-400 Engines for operations at NAS Whidbey Island based on Table S-1, AESO Memorandum Report No. 9815, Rev I, June 2017, Except adjusted to reduce Max Power Time in mode during Take off from 30 seconds to 20 seconds, per email from CDR Sean Michaels, May 12, 2016.

[2]Estimated Air Emissions for a Single F/A-18 LTO Cycle with straight in Arrival--At OLF (no Startup/Taxi/Refuel) and "3.0 minutes at 85%N2"using Table 5 of AESO Memorandum Report No. 9815, Rev I, June 2017. Emissions for interfacility flight based on ratio of # of minutes from Ault field ot Coupeville/ 3.

[3] Emission factors for "Touch-and-Go" and "GCA Box" from AESO Memorandum Report No. 9933, Revision E November 2015.

[4] VOC emissions = 1.15 x THC emissions as reported in Table S-1, AESO Memorandum Report No. 9815, Rev I, June, 2017 as noted for reporting VOCs as defined by the EPA.

[5] SO2 Emission Factor based on fuel used (lbs) from Table S-1, AESO Memorandum Report No. 9933, Revision E November 2015 and AESO Memorandum Report No. 9815, Rev I, June, 2017 and SO2 factor of 1.31 lbs/1000 lbs JP-5 fuel for operations after 2016 in AESO Memorandum report No 2012-01E, April, 2017

Emission Factors for EA-18G (F414-GE-400 Engines) In-Frame Aircraft Maintenance, per test

Test Type	# tests	Fuel used (lbs)	Emissions from Maintenance Tests[1,2] (lb/test)						
			CO	NOx	VOC[3]	SO_2	PM2.5	PM10	CO2
Water Wash	1.0	132.0	11.41	0.47	8.71	0.17	1.47	1.47	369.57
Low Power, one engine	1.0	364.07	34.16	1.21	26.12	0.48	4.40	4.40	1085.62
Low Power, two engines	1.0	711.67	68.29	2.31	52.24	0.93	8.79	8.79	2119.19
High Power (two engines)	1.0	6375.13	1043.01	90.67	63.89	8.35	19.61	19.61	18505.40

[1] Fuel used and Emission factors for Estimated annual maintenance operations per test, per engine based on ratio of data from Table 9 of AESO Memorandum Report No. 9815, Rev I, June 2017. *See table below*

[3] VOC emissions = 1.15 x THC emissions as noted for reporting VOCs as defined by the EPA.

Emission Factors for EA-18G In-Frame Aircraft Maintenance, Annual estimates per aircraft[1]

Test Type	Annual # tests	# engines in use	Fuel used (lbs)	Emissions from Maintenance Test (lb/aircraft-yr)[1,2]						
				CO	NOx	HC	SO_2	PM2.5	PM10	CO2
Water Wash	1.0	1.0	132	11.41	0.47	7.57	0.17	1.47	1.47	369.57
Low Power, 1 engine	15.0	1.0	5461	512.45	18.11	340.70	7.15	65.95	65.95	16284.26
Low Power, 2 engines	30.0	2.0	21,350	2048.81	69.38	1362.69	27.97	263.71	263.71	63575.80
High Power	8.0	2.0	51,001	8344.08	725.39	444.43	66.81	156.87	156.87	148043.20

Notes:

[1] From Table 9, AESO Memorandum Report No. 9815, Rev I, June 2017.

[2] SO2 Emission Factor based on fuel used (lbs) from Table 9, AESO Memorandum Report No. 9815, Rev I, June, 2017 and SO2 factor of 1.31 lbs/1000 lbs JP-5 fuel for operations after 2016 in AESO Memorandum report No 2012-01E, April 2017

Estimated Air Emissions for a Single F/A-18G LTO Cycle with straight in Arrival--At OLF (no Startup/Taxi/Refuel)

Flight Operation and Flight Mode	Engine Power Setting[1]	No. of Engines in Use[1]	Time-In Mode per Engine (min)[2]	Fuel Flow Rate per Engine (lb/hr)[1]	Fuel Used (lbs)[4,8]	Emission Indexes[2] (pounds per 1,000 pounds fuel) EI CO	EI NO_x	EI HC	EI SO_2[9]	EI PM_{10}	CO2	Emissions from Single Flight Operation[5] (lb/ op) CO	NO_x	VOC[10]	SO_2	PM_{10}	CO2
Departure																	
Engine Run up	80	2	0.5	3079.00	51	1.86	8.98	0.14	1.31	8.780	3205	0.10	0.46	0.01	0.07	0.45	164.46
Take off[6,11,12]	Max	2	0.33	35763.00	397	274.97	9.67	4.87	1.31	2.950	2712	109.26	3.84	2.23	0.52	1.17	1077.66
Climb out[7]	95	2	1.0	11320.00	377	0.7	36.29	0.12	1.31	2.950	3179	0.26	13.69	0.05	0.49	1.11	1199.62
Departure Total					**826**							**109.62**	**18.00**	**2.29**	**1.08**	**2.74**	**2441.74**
Arrival																	
Approach	85	2	3.0	5169.00	517	0.72	14.75	0.12	1.31	6.56	3191	0.37	7.62	0.07	0.68	3.39	1649.58
On Runway	G Idle	2	1.0	695.00	23	98.18	3.18	65.33	1.31	12.64	2973	2.27	0.07	1.74	0.03	0.29	68.88
Unstick	75	2	0.3	1720.00	17	15.2	5.58	1.98	1.31	10.73	3190	0.26	0.10	0.04	0.02	0.18	54.86
Arrival Total					**557**							**2.91**	**7.79**	**1.85**	**0.73**	**3.87**	**1773.33**
LTO Total					**1,383**							**112.5**	**25.8**	**4.1**	**1.8**	**6.6**	**4,215.1**

Source: Table 5, AESO Memorandum Report No. 9815, Rev I, June 2017(except SO2 emission factors)

F/A-18E/F Notes:

1) Estimated from 1998 F/A-18A,B,C, D pilot interviews, which are on file at AESO.
2) Source for all non APU fuel flow and emission indexes: *Gaseous and Particulate Emission Indexes for the F414-GE-400 Turbofan Engine*; Aircraft Environmental Support Office; FRCSW, San Diego, CA., February 2011, AESO Memorandum Report No. 9725, Revision D
3) The APU fuel flow and emission index data is manufacturer information provided by Rick Stanley (36-200 Project Engineer).
4) Fuel used = fuel flow x time-in-mode / 60 x no. of engines in use.
5) Emissions = fuel used / 1,000 x emission index.
6) Takeoff is from brake release to 500 feet above ground level.
7) Climbout is from 500 feet above ground level to 3,000 feet above ground level. Climbout time-in-mode reflects an unrestricted climbout departure corridor. Climbout time-in-mode may be longer if departure corridor is restricted in regards to climbout rate and/or hold down altitude.
8) For F/A-18E/F, the maximum internal fuel load is 14,460 lbs. The maximum fuel load is 24,272 lbs with 3 external tanks.

9) SO2 Emission Factor for JP-5 fuel as recommended for operations after 2016 in AESO Memorandum report No 2012-01E, April 2017
10) VOC emissions = 1.15 x THC emissions as reported in Table S-1, AESO Memorandum Report No. 9815, Rev I, June, 2017 as noted for reporting VOCs as defined by the EPA.
11) Time in Mode for Max (Afterburner) power setting has been adjusted from 30 seconds to 20 seconds, per email from CDR Sean Michaels, May 12, 2016.
12) AB PM 10 and 2.5 data not provided in AESO Memo N. 9815. Per Xu Li-Jones (AESO) comments (6/22/2016), 2.95 lbs/1000 gal fuel is used.

Estimated Change in Air Emissions for a Single F/A-18G LTO Cycle: adjustment of Max Take off Afterburner use

Flight Operation and Flight Mode	Engine Power Setting[1]	No. of Engines in Use[1]	Time-In Mode per Engine (min)[2]	Fuel Flow Rate per Engine (lb/hr)[1]	Fuel Used (lbs)[4,8]	Emission Indexes[2] (pounds per 1,000 pounds fuel) EI CO	EI NO_x	EI HC	EI SO_2[9]	EI PM_{10}	CO2	Emissions from Single Flight Operation[5] (lb/ op) CO	NO_x	VOC[10]	SO_2	PM_{10}	CO2
AESO Estimated Take off	Max	2	0.50	35763.00	596	274.97	9.67	4.87	1.31	2.950	2712	163.90	5.76	3.34	0.78	1.76	1616.49
NAS Whidbey Island Estimated Take off	Max	2	0.33	35763.00	397	274.97	9.67	4.87	1.31	2.950	2712	109.26	3.84	2.23	0.52	1.17	1077.66
Difference			0.17	0.00	198.68							54.63	1.92	1.11	0.26	0.59	538.83

Adjusted EA-18 G (Growler) (F414-GE-400 Engines) Emission Factors

Flight Operation	Fuel used (lbs)	Emissions from Single Flight Operation (lb/op) CO	NO_x	VOC[3]	SO_2[4]	$PM_{2.5}$	PM_{10}	CO_2
AESO Estimated Straight-In Arrival LTO[1]	2612	265.30	31.08	80.16	3.42	18.21	18.21	7823.99
NAS Whidbey Island Estimated Take off[2]	2413	210.67	29.16	79.04	3.16	17.62	17.62	7285.16
AESO Estimated Break Arrival LTO[1]	2528	266.46	31.15	80.81	3.31	17.54	17.54	7553.13
NAS Whidbey Island Break Arrival LTO[2]	2329	211.83	29.23	79.70	3.05	16.95	16.95	7014.30

[1] Fuel used and Emission factors for "Straight-In Arrival LTO," and "Break Arrival LTO" for F414-GE-400 Engines from Table ES-1, AESO Memorandum Report No. 9815, Rev I, June, 2017, except SO2 and VOC.

[2] Fuel used and Emission factors for "Straight-In Arrival LTO," and "Break Arrival LTO" for F414-GE-400 Engines for operations at NAS Whidbey Island adjusted to reduce Max Power Time in mode during Take off from 30 seconds to 20 seconds, per email from CDR Sean Michaels, May 12, 2016.

[3] VOC emissions = 1.15 x THC emissions as reported in Table S-1, AESO Memorandum Report No. 9815, Rev I,June, 2017 as noted for

[4] SO2 Emission Factor based on fuel used (lbs) from Table S-1, AESO Memorandum Report No. 9815, Rev I, June, 2017 and SO2 factor of 1.31 lbs/1000 lbs JP-5 fuel for operations after 2016 in AESO Memorandum report No 2012-01E, April 2017

Baseline High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	45	17	5	15	82
Departures	4,766	6,556	1,207	1,933	14,462
Interfacility Departures	166	198	19	0	383
Straight in Arrivals	1,655	2,652	418	716	5,441
Overhead Break Arrivals	2,766	3,635	712	1,075	8,188
IFR Arrivals	338	269	74	140	821
Interfacility Arrivals	166	198	18	0	382
FCLP Ops[2]	9,544	7,510	170	0	17,224
Touch & Go Ops[2]	3,030	5,422	542	644	9,638
Depart-Re-enter Ops[2]	1,504	0	410	624	2,538
GCA pattern Ops[2]	4,062	5,656	552	634	10,904
Total	**27,997**	**32,096**	**4,122**	**5,766**	**69,981**
OLF Coupeville					
Interfacility Departures	166	198	18	0	382
Interfacility Arrivals	166	198	19	0	383
FCLP Ops[2]	2,332	2,764	259	0	5,355
Total	**2,664**	**3,160**	**296**	**0**	**6,120**
Maintenance Run Ups (Ault Field)[3]					
Water Wash					82
Low Power, one engine					1,230
Low Power, two engines					2,460
High Power, two engines					656
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab Fops_BaselineAveMaxYr2, file Ops Tables MaxYr_BL_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington, Wyle Laboratories, 2017.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Baseline maintenance run ups from Baseline Static Ops.lxs from Wyle, 12/16/2015

[4] Out-of-Frame testing of F414 engines is not at performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Baseline High Tempo Year Emissions NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3]						
			CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	5,441	13,130,856	573.12	79.33	215.03	8.60	47.95	47.95	19,819.28
Break Arrival LTO[2]	9,391	21,874,613	994.64	137.24	374.22	14.33	79.61	79.61	32,935.65
FCLP[4]	8,612	6,080,072	2.15	62.31	0.40	3.98	17.01	17.01	9,686.48
Touch-and-Go[4]	4,819	3,402,214	1.20	34.87	0.22	2.23	9.52	9.52	5,420.24
Depart and Re-enter[4]	1,269	1,790,559	0.64	18.37	0.12	1.17	5.01	5.01	2,854.65
GCA Pattern[4]	5,452	7,692,772	2.75	78.92	0.53	5.04	21.51	21.51	12,264.41
Total Emissions for Ault Field Flight Operations		**53,971,085.8**	**1,574.5**	**411.0**	**590.5**	**35.4**	**180.6**	**180.6**	**82,980.7**
NOLF Coupeville									
Interfacility LTO2	382	528,414	21.49	4.93	0.79	0.35	1.26	1.26	805.08
FCLP[4]	5,355	3,780,630	1.34	38.74	0.25	2.48	10.58	10.58	6,023.12
Interfacility Transit	382	230,410	0.08	1.70	0.02	0.15	0.76	0.76	367.61
Total Emissions for Coupeville Flight Operation		**4,539,453.9**	**22.9**	**45.4**	**1.1**	**3.0**	**12.6**	**12.6**	**7,195.8**
Maintenance Operations									
Water Wash	82	10,824	0.47	0.019	0.36	0.007	0.06	0.06	15.15
Low Power, one engine	1,230	447,802	21.01	0.74	16.06	0.29	2.70	2.70	667.65
Low Power, two engines	2,460	1,750,700	84.00	2.84	64.25	1.15	10.81	10.81	2,606.61
High Power, two engines	656	4,182,082	342.11	29.74	20.95	2.74	6.43	6.43	6,069.77
Total Emissions for Maintenance Operations		**6,391,408.0**	**447.6**	**33.3**	**101.6**	**4.2**	**20.0**	**20.0**	**9,359.2**
Total		**64,901,947.7**	**2,045.0**	**489.7**	**693.2**	**42.5**	**213.2**	**213.2**	**99,535.7**

9,558,460.63 gallons of fuel

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3]						
			CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
All Personnel	4,104	25,650,000	75.07	8.88	1.63	0.07	88.56	9.81	10,022.77

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Existing Mobile Emissions

Activity	Emissions (tpy)						
	CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,574.51	411.03	590.53	35.35	180.59	180.59	82,980.71
OLF Coupville Aircraft Flight Operations	22.9	45.4	1.1	3.0	12.6	12.6	7,195.8
Aircraft Maintenance Operations	447.6	33.3	101.6	4.2	20.0	20.0	9,359.2
Personnel Commute	75.07	8.88	1.63	0.07	88.56	9.81	10,022.77
Total	**2,120.09**	**498.63**	**694.85**	**42.58**	**301.76**	**223.01**	**109,558.47**

No Action High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	45	17	5	15	82
Departures	4,783	6,564	1,207	1,938	14,492
Interfacility Departures	197	206	19	0	422
Straight in Arrivals	1,730	2,687	404	722	5,543
Overhead Break Arrivals	2,775	3,650	720	1,100	8,245
IFR Arrivals	275	227	81	111	694
Interfacility Arrivals	197	208	19	0	424
FCLP Ops[2]	7,256	6,566	178	0	14,000
Touch & Go Ops[2]	3,056	5,558	530	676	9,820
Depart-Re-enter Ops[2]	1,524	0	468	664	2,656
GCA pattern Ops[2]	4,214	5,830	564	670	11,278
Total	**26,007**	**31,496**	**4,190**	**5,881**	**67,574**
OLF Coupeville					
Interfacility Departures	197	208	19	0	424
Interfacility Arrivals	197	206	19	0	422
FCLP Ops[2]	2,452	2,583	239	0	5,274
Total	**2,846**	**2,997**	**277**	**0**	**6,120**
Maintenance Run Ups (Ault Field)[3]					
Water Wash					82
Low Power, one engine					1,230
Low Power, two engines					2,460
High Power, two engines					656
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab Fops_NoActionMaxYr3, file Ops Tables MaxYr_NoAc20171018.xlsx, Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington, Wyle Laboratories, 2017.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Baseline maintenance run ups from Baseline Static Ops.lxs from Wyle, 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

No Action High Tempo Year Air Emissions NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	5,543	13,377,014	583.87	80.81	219.07	8.76	48.84	48.84	20,190.82
Break Arrival LTO[2]	9,363	21,809,392	991.67	136.83	373.11	14.29	79.37	79.37	32,837.45
FCLP[4]	7,000	4,942,000	1.75	50.65	0.32	3.24	13.83	13.83	7,873.36
Touch-and-Go[4]	4,910	3,466,460	1.23	35.52	0.23	2.27	9.70	9.70	5,522.60
Depart and Re-enter[4]	1,328	1,873,808	0.67	19.22	0.13	1.23	5.24	5.24	2,987.37
GCA Pattern[4]	5,639	7,956,629	2.85	81.62	0.55	5.21	22.25	22.25	12,685.07
Total Emissions for Ault Field Flight Operations		**53,425,303.2**	**1,582.0**	**404.7**	**593.4**	**35.0**	**179.2**	**179.2**	**82,096.7**
NOLF Coupeville									
Interfacility LTO2	424	586,512	23.86	5.47	0.88	0.38	1.40	1.40	893.59
FCLP[4]	5,274	3,723,444	1.32	38.16	0.24	2.44	10.42	10.42	5,932.01
Interfacility Transit	424	255,743	0.09	1.89	0.02	0.17	0.84	0.84	408.03
Total Emissions for Coupeville Flight Operations		**4,565,698.8**	**25.3**	**45.5**	**1.1**	**3.0**	**12.7**	**12.7**	**7,233.6**
Maintenance Operations									
Water Wash	82	10,824	0.47	0.019	0.36	0.007	0.06	0.06	15.15
Low Power, one engine	1,230	447,802	21.01	0.74	16.06	0.29	2.70	2.70	667.65
Low Power, two engines	2,460	1,750,700	84.00	2.84	64.25	1.15	10.81	10.81	2,606.61
High Power, two engines	656	4,182,082	342.11	29.74	20.95	2.74	6.43	6.43	6,069.77
Total In-frame Maintenance Operations		6,391,408	447.59	33.35	101.63	4.19	20.01	20.01	9,359
Total Emissions for Maintenance Operations		**6,391,408.0**	**447.6**	**33.3**	**101.6**	**4.2**	**20.0**	**20.0**	**9,359.2**
Total		**64,382,410.0**	**2,054.9**	**483.5**	**696.2**	**42.2**	**211.9**	**211.9**	**98,689.5**
		9,481,945.51 gallons of fuel							

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,104	25,650,000	75.07	8.88	1.63	0.07	88.56	9.81	10,022.77

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

2 See Table X of this Appendix for calculations and emission factors

Emissions Summary

Activity	Emissions (tpy) CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,582.04	404.66	593.40	34.99	179.22	179.22	82,096.66
OLF Coupville Aircraft Flight Operations	25.3	45.5	1.1	3.0	12.7	12.7	7,233.6
Aircraft Maintenance Operations	447.6	33.3	101.6	4.2	20.0	20.0	9,359.2
Personnel Commute	75.07	8.88	1.63	0.07	88.56	9.81	10,022.77
Total	**2,129.96**	**492.41**	**697.80**	**42.24**	**300.45**	**221.70**	**108,712.26**

Alternative 1A High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

Ault Field	EA 18G (Growler) Operations CVW	FRS	RES	EXP	EA-18G Total
# Squadrons	9	1	1	3	14
# Aircraft	72	25	5	15	117
Departures	7,516	5,961	1,212	1,946	16,635
Interfacility Departures	1,137	556	16	0	1,709
Straight in Arrivals	2,670	2,439	399	721	6,229
Overhead Break Arrivals	4,388	3,309	759	1,088	9,544
IFR Arrivals	459	213	54	137	863
Interfacility Arrivals	1,137	556	15	0	1,708
FCLP Ops[2]	4,550	2,147	141	0	6,838
Touch & Go Ops[2]	5,576	5,331	582	656	12,145
Depart-Re-enter Ops[2]	2,525	0	407	602	3,534
GCA pattern Ops[2]	8,226	5,722	580	646	15,174
Total	**38,184**	**26,234**	**4,165**	**5,796**	**74,379**
OLF Coupeville					
Interfacility Departures	1,137	556	16	0	1,709
Interfacility Arrivals	1,137	556	15	0	1,708
FCLP Ops[2]	15,908	7,780	215	0	23,903
Total	**18,182**	**8,892**	**246**	**0**	**27,320**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					117
Low Power, one engine					1,755
Low Power, two engines					3,510
High Power, two engines					936
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt1AMaxYr, workbook Ops Tables MaxYr_Alt1_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 1A High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,229	15,032,550	656.13	90.81	246.18	9.85	54.89	54.89	22,689.63
Break Arrival LTO[2]	12,115	28,219,671	1,283.15	177.05	482.77	18.48	102.70	102.70	42,489.13
FCLP[4]	3,419	2,413,814	0.85	24.74	0.16	1.58	6.75	6.75	3,845.57
Touch-and-Go[4]	6,073	4,287,185	1.52	43.93	0.28	2.81	11.99	11.99	6,830.14
Depart and Re-enter[4]	1,767	2,493,237	0.89	25.58	0.17	1.63	6.97	6.97	3,974.91
GCA Pattern[4]	7,587	10,705,257	3.83	109.82	0.74	7.01	29.93	29.93	17,067.15
Total Emissions for Ault Field Flight Operations		**63,151,713.9**	**1,946.4**	**471.9**	**730.3**	**41.4**	**213.2**	**213.2**	**96,896.5**
NOLF Coupeville									
Interfacility LTO2	1,709	2,364,031	96.16	22.04	3.53	1.55	5.64	5.64	3,601.78
FCLP[4]	23,903	16,875,518	5.98	172.94	1.10	11.05	47.21	47.21	26,885.26
Interfacility Transit	1,709	1,030,812	0.37	7.60	0.08	0.68	3.38	3.38	1,644.62
Total Emissions for Coupeville Flight Operations		**20,270,361.1**	**102.5**	**202.6**	**4.7**	**13.3**	**56.2**	**56.2**	**32,131.7**
Maintenance Operations									
Water Wash	117	15,444	0.67	0.027	0.51	0.010	0.09	0.09	21.62
Low Power, one engine	1,755	638,937	29.98	1.06	22.92	0.42	3.86	3.86	952.63
Low Power, two engines	3,510	2,497,950	119.86	4.06	91.67	1.64	15.43	15.43	3,719.18
High Power, two engines	936	5,967,117	488.13	42.44	29.90	3.91	9.18	9.18	8,660.53
Total In-frame Maintenance Operations		9,119,448	639	48	145	6	29	29	13,354
Total Emissions for Maintenance Operations		**9,119,448.0**	**638.6**	**47.6**	**145.0**	**6.0**	**28.5**	**28.5**	**13,354.0**
Total		**92,541,523.0**	**2,687.5**	**722.1**	**880.0**	**60.6**	**298.0**	**298.0**	**142,382.1**

13,629,090.28 total gallons of fuel

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,439	27,743,750	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 1A

Activity	Emissions (tpy) CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,946.37	471.94	730.30	41.36	213.23	213.23	96,896.52
OLF Coupville Aircraft Flight Operations	102.5	202.6	4.7	13.3	56.2	56.2	32,131.7
Aircraft Maintenance Operations	638.6	47.6	145.0	6.0	28.5	28.5	13,354.0
Employee Commute	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91
Total	**2,768.70**	**731.71**	**881.79**	**60.69**	**393.81**	**308.63**	**153,223.05**

Alternative 1B High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	72	25	5	15	117
Departures	7,470	5,926	1,208	1,934	16,538
Interfacility Departures	698	355	14	0	1,067
Straight in Arrivals	2,627	2,447	382	725	6,181
Overhead Break Arrivals	4,303	3,221	754	1,072	9,350
IFR Arrivals	539	258	73	136	1,006
Interfacility Arrivals	698	355	14	0	1,067
FCLP Ops[2]	11,316	5,583	178	0	17,077
Touch & Go Ops[2]	5,576	5,331	582	656	12,145
Depart-Re-enter Ops[2]	2,525	0	407	602	3,534
GCA pattern Ops[2]	8,226	5,722	580	646	15,174
Total	**43,978**	**29,198**	**4,192**	**5,771**	**83,139**
OLF Coupeville					
Interfacility Departures	698	355	14	0	1,067
Interfacility Arrivals	698	355	14	0	1,067
FCLP Ops[2]	9,772	4,977	202	0	14,951
Total	**11,168**	**5,687**	**230**	**0**	**17,085**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					117
Low Power, one engine					1,755
Low Power, two engines					3,510
High Power, two engines					936
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt1BMaxYr, workbook Ops Tables MaxYr_Alt1_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 1B High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,181	14,916,710	651.07	90.12	244.28	9.77	54.47	54.47	22,514.79
Break Arrival LTO[2]	11,423	26,607,784	1,209.86	166.94	455.19	17.43	96.83	96.83	40,062.18
FCLP[4]	8,539	6,028,181	2.13	61.78	0.39	3.95	16.86	16.86	9,603.81
Touch-and-Go[4]	6,073	4,287,185	1.52	43.93	0.28	2.81	11.99	11.99	6,830.14
Depart and Re-enter[4]	1,767	2,493,237	0.89	25.58	0.17	1.63	6.97	6.97	3,974.91
GCA Pattern[4]	7,587	10,705,257	3.83	109.82	0.74	7.01	29.93	29.93	17,067.15
Total Emissions for Ault Field Flight Operations		**65,038,354.6**	**1,869.3**	**498.2**	**701.1**	**42.6**	**217.1**	**217.1**	**100,053.0**
NOLF Coupeville									
Interfacility LTO2	1,067	1,475,963	60.04	13.76	2.21	0.97	3.52	3.52	2,248.74
FCLP[4]	14,951	10,555,406	3.74	108.17	0.69	6.91	29.53	29.53	16,816.36
Interfacility Transit	1,067	643,579	0.23	4.75	0.05	0.42	2.11	2.11	1,026.81
Total Emissions for Coupeville Flight Operations		**12,674,948.2**	**64.0**	**126.7**	**2.9**	**8.3**	**35.2**	**35.2**	**20,091.9**
Maintenance Operations									
Water Wash	117	15,444	0.67	0.027	0.51	0.010	0.09	0.09	21.62
Low Power, one engine	1,755	638,937	29.98	1.06	22.92	0.42	3.86	3.86	952.63
Low Power, two engines	3,510	2,497,950	119.86	4.06	91.67	1.64	15.43	15.43	3,719.18
High Power, two engines	936	5,967,117	488.13	42.44	29.90	3.91	9.18	9.18	8,660.53
Total In-frame Maintenance Operations		9,119,448	639	48	145	6	29	29	13,354
Total Emissions for Maintenance Operations		**9,119,448.0**	**638.6**	**47.6**	**145.0**	**6.0**	**28.5**	**28.5**	**13,354.0**
Total		**86,832,750.8**	**2,571.9**	**672.4**	**849.0**	**56.9**	**280.8**	**280.8**	**133,498.8**

12,788,328.53 total gallons of fuel

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,439	27,743,750	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 1B

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,869.30	498.16	701.06	42.60	217.06	217.06	100,052.97
OLF Coupville Aircraft Flight Operations	64.0	126.7	2.9	8.3	35.2	35.2	20,091.9
Aircraft Maintenance Operations	638.6	47.6	145.0	6.0	28.5	28.5	13,354.0
Employee Commute	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91
Total	**2,653.14**	**682.03**	**850.78**	**56.95**	**376.56**	**291.38**	**144,339.74**

Alternative 1C High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	72	25	5	15	117
Departures	7,513	5,939	1,212	1,940	16,604
Interfacility Departures	274	143	12	0	429
Straight in Arrivals	2,674	2,399	417	727	6,217
Overhead Break Arrivals	4,322	3,295	731	1,060	9,408
IFR Arrivals	517	246	64	152	979
Interfacility Arrivals	274	143	11	0	428
FCLP Ops[2]	18,092	9,068	151	0	27,311
Touch & Go Ops[2]	5,576	5,331	582	656	12,145
Depart-Re-enter Ops[2]	2,525	0	407	602	3,534
GCA pattern Ops[2]	8,226	5,722	580	646	15,174
Total	**49,993**	**32,286**	**4,167**	**5,783**	**92,229**
OLF Coupeville					
Interfacility Departures	274	143	12	0	429
Interfacility Arrivals	274	143	11	0	428
FCLP Ops[2]	3,831	1,999	159	0	5,989
Total	**4,379**	**2,285**	**182**	**0**	**6,846**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					117
Low Power, one engine					1,755
Low Power, two engines					3,510
High Power, two engines					936
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt1CMaxYr, workbook Ops Tables MaxYr_Alt1_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 1C High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3]						
			CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,217	15,003,590	654.86	90.64	245.70	9.83	54.78	54.78	22,645.92
Break Arrival LTO[2]	10,815	25,191,560	1,145.46	158.05	430.97	16.50	91.68	91.68	37,929.83
FCLP[4]	13,656	9,640,783	3.41	98.80	0.63	6.31	26.97	26.97	15,359.23
Touch-and-Go[4]	6,073	4,287,185	1.52	43.93	0.28	2.81	11.99	11.99	6,830.14
Depart and Re-enter[4]	1,767	2,493,237	0.89	25.58	0.17	1.63	6.97	6.97	3,974.91
GCA Pattern[4]	7,587	10,705,257	3.83	109.82	0.74	7.01	29.93	29.93	17,067.15
Total Emissions for Ault Field Flight Operations		**67,321,611.5**	**1,810.0**	**526.8**	**678.5**	**44.1**	**222.3**	**222.3**	**103,807.2**
NOLF Coupeville									
Interfacility LTO2	428	592,045	24.08	5.52	0.89	0.39	1.41	1.41	902.02
FCLP[4]	5,989	4,228,234	1.50	43.33	0.28	2.77	11.83	11.83	6,736.22
Interfacility Transit	429	258,759	0.09	1.91	0.02	0.17	0.85	0.85	412.84
Total Emissions for Coupeville Flight Operations		**5,079,037.8**	**25.7**	**50.8**	**1.2**	**3.3**	**14.1**	**14.1**	**8,051.1**
Maintenance Operations									
Water Wash	117	15,444	0.67	0.027	0.51	0.010	0.09	0.09	21.62
Low Power, one engine	1,755	638,937	29.98	1.06	22.92	0.42	3.86	3.86	952.63
Low Power, two engines	3,510	2,497,950	119.86	4.06	91.67	1.64	15.43	15.43	3,719.18
High Power, two engines	936	5,967,117	488.13	42.44	29.90	3.91	9.18	9.18	8,660.53
Total In-frame Maintenance Operations		9,119,448	639	48	145	6	29	29	13,354
Total Emissions for Maintenance Operations		**9,119,448.0**	**638.6**	**47.6**	**145.0**	**6.0**	**28.5**	**28.5**	**13,354.0**
Total		**81,520,097.2**	**2,474.3**	**625.2**	**824.7**	**53.4**	**265.0**	**265.0**	**125,212.2**
		12,005,905.34	total gallons of fuel						

Notes:

[1] See Previous Table of this Appendix for Estimated Operations

[2] All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

[3] Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

[4] Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3]						
			CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,439	27,743,750	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91

[1] Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 1C

Activity	Emissions (tpy)						
	CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,809.98	526.83	678.49	44.10	222.33	222.33	103,807.17
OLF Coupville Aircraft Flight Operations	25.7	50.8	1.18	3.3	14.1	14.1	8,051.1
Aircraft Maintenance Operations	638.6	47.6	145.0	6.0	28.5	28.5	13,354.0
Employee Commute	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91
Total	**2,555.48**	**634.77**	**826.44**	**53.47**	**360.76**	**275.58**	**136,053.12**

Alternative 1D High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	72	25	5	15	117
Departures	7,516	5,961	1,212	1,946	16,635
Interfacility Departures	995	487	14	0	1,496
Straight in Arrivals	2,670	2,439	399	721	6,229
Overhead Break Arrivals	4,388	3,309	759	1,088	9,544
IFR Arrivals	459	213	54	137	863
Interfacility Arrivals	995	487	13	0	1,495
FCLP Ops[2]	6,825	3,221	212	0	10,258
Touch & Go Ops[2]	5,576	5,331	582	656	12,145
Depart-Re-enter Ops[2]	2,525	0	407	602	3,534
GCA pattern Ops[2]	8,226	5,722	580	646	15,174
Total	**40,175**	**27,170**	**4,232**	**5,796**	**77,373**
OLF Coupeville					
Interfacility Departures	995	487	14	0	1,496
Interfacility Arrivals	995	487	13	0	1,495
FCLP Ops[2]	13,920	6,808	188	0	20,916
Total	**15,910**	**7,782**	**215**	**0**	**23,907**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					117
Low Power, one engine					1,755
Low Power, two engines					3,510
High Power, two engines					936
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt1DMaxYr, workbook Ops Tables MaxYr_Alt1_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 1D High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,229	15,032,550	656.13	90.81	246.18	9.85	54.89	54.89	22,689.63
Break Arrival LTO[2]	11,902	27,723,527	1,260.59	173.94	474.28	18.16	100.89	100.89	41,742.10
FCLP[4]	5,129	3,621,074	1.28	37.11	0.24	2.37	10.13	10.13	5,768.92
Touch-and-Go[4]	6,073	4,287,185	1.52	43.93	0.28	2.81	11.99	11.99	6,830.14
Depart and Re-enter[4]	1,767	2,493,237	0.89	25.58	0.17	1.63	6.97	6.97	3,974.91
GCA Pattern[4]	7,587	10,705,257	3.83	109.82	0.74	7.01	29.93	29.93	17,067.15
Total Emissions for Ault Field Flight Operations		**63,862,829.5**	**1,924.2**	**481.2**	**721.9**	**41.8**	**214.8**	**214.8**	**98,072.8**
NOLF Coupeville									
Interfacility LTO2	1,496	2,069,392	84.17	19.29	3.09	1.36	4.94	4.94	3,152.87
FCLP[4]	20,916	14,766,696	5.23	151.33	0.96	9.67	41.31	41.31	23,525.58
Interfacility Transit	1,496	902,337	0.33	6.66	0.07	0.59	2.96	2.96	1,439.65
Total Emissions for Coupeville Flight Operations		**17,738,425.2**	**89.7**	**177.3**	**4.1**	**11.6**	**49.2**	**49.2**	**28,118.1**
Maintenance Operations									
Water Wash	117	15,444	0.67	0.027	0.51	0.010	0.09	0.09	21.62
Low Power, one engine	1,755	638,937	29.98	1.06	22.92	0.42	3.86	3.86	952.63
Low Power, two engines	3,510	2,497,950	119.86	4.06	91.67	1.64	15.43	15.43	3,719.18
High Power, two engines	936	5,967,117	488.13	42.44	29.90	3.91	9.18	9.18	8,660.53
Total In-frame Maintenance Operations		9,119,448	639	48	145	6	29	29	13,354
Total Emissions for Maintenance Operations		**9,119,448.0**	**638.6**	**47.6**	**145.0**	**6.0**	**28.5**	**28.5**	**13,354.0**
Total		**90,720,702.7**	**2,652.6**	**706.1**	**871.0**	**59.4**	**292.6**	**292.6**	**139,544.9**
		13,360,928.23	total gallons of fuel						

Notes:

[1] See Previous Table of this Appendix for Estimated Operations

[2] All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

[3] Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

[4] Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,439	27,743,750	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91

[1] Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 1D

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,924.24	481.20	721.89	41.83	214.81	214.81	98,072.85
OLF Coupville Aircraft Flight Operations	89.7	177.3	4.1	11.6	49.2	49.2	28,118.1
Aircraft Maintenance Operations	638.6	47.6	145.0	6.0	28.5	28.5	13,354.0
Employee Commute	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91
Total	**2,733.79**	**715.66**	**872.79**	**59.49**	**388.36**	**303.18**	**150,385.82**

Alternative 1E High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	72	25	5	15	117
Departures	7,513	5,939	1,212	1,940	16,604
Interfacility Departures	411	215	18	0	644
Straight in Arrivals	2,674	2,399	417	727	6,217
Overhead Break Arrivals	4,322	3,295	731	1,060	9,408
IFR Arrivals	517	246	64	152	979
Interfacility Arrivals	411	215	17	0	643
FCLP Ops[2]	15,831	7,935	132	0	23,898
Touch & Go Ops[2]	5,576	5,331	582	656	12,145
Depart-Re-enter Ops[2]	2,525	0	407	602	3,534
GCA pattern Ops[2]	8,226	5,722	580	646	15,174
Total	**48,006**	**31,297**	**4,160**	**5,783**	**89,246**
OLF Coupeville					
Interfacility Departures	411	215	18	0	644
Interfacility Arrivals	411	215	17	0	643
FCLP Ops[2]	5,747	2,999	239	0	8,985
Total	**6,569**	**3,429**	**274**	**0**	**10,272**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					117
Low Power, one engine					1,755
Low Power, two engines					3,510
High Power, two engines					936
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt1EMaxYr, workbook Ops Tables MaxYr_Alt1_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 1E High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3]						
			CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,217	15,003,590	654.86	90.64	245.70	9.83	54.78	54.78	22,645.92
Break Arrival LTO[2]	11,030	25,692,363	1,168.23	161.20	439.53	16.83	93.50	93.50	38,683.87
FCLP[4]	11,949	8,435,994	2.99	86.45	0.55	5.53	23.60	23.60	13,439.82
Touch-and-Go[4]	6,073	4,287,185	1.52	43.93	0.28	2.81	11.99	11.99	6,830.14
Depart and Re-enter[4]	1,767	2,493,237	0.89	25.58	0.17	1.63	6.97	6.97	3,974.91
GCA Pattern[4]	7,587	10,705,257	3.83	109.82	0.74	7.01	29.93	29.93	17,067.15
Total Emissions for Ault Field Flight Operations		**66,617,625.6**	**1,832.3**	**517.6**	**687.0**	**43.6**	**220.8**	**220.8**	**102,641.8**
NOLF Coupeville									
Interfacility LTO2	644	890,834	36.24	8.30	1.33	0.58	2.13	2.13	1,357.25
FCLP[4]	8,985	6,343,410	2.25	65.01	0.41	4.15	17.75	17.75	10,106.01
Interfacility Transit	644	388,439	0.14	2.87	0.03	0.25	1.27	1.27	619.74
Total Emissions for Coupeville Flight Operations		**7,622,683.8**	**38.6**	**76.2**	**1.8**	**5.0**	**21.1**	**21.1**	**12,083.0**
Maintenance Operations									
Water Wash	117	15,444	0.67	0.027	0.51	0.010	0.09	0.09	21.62
Low Power, one engine	1,755	638,937	29.98	1.06	22.92	0.42	3.86	3.86	952.63
Low Power, two engines	3,510	2,497,950	119.86	4.06	91.67	1.64	15.43	15.43	3,719.18
High Power, two engines	936	5,967,117	488.13	42.44	29.90	3.91	9.18	9.18	8,660.53
Total In-frame Maintenance Operations		9,119,448	639	48	145	6	29	29	13,354
Total Emissions for Maintenance Operations		**9,119,448.0**	**638.6**	**47.6**	**145.0**	**6.0**	**28.5**	**28.5**	**13,354.0**
Total		**83,359,757.4**	**2,509.6**	**641.4**	**833.8**	**54.6**	**270.5**	**270.5**	**128,078.8**

12,276,842.03 total gallons of fuel

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3]						
			CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,439	27,743,750	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 1E

Activity	Emissions (tpy)						
	CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,832.32	517.62	686.98	43.63	220.78	220.78	102,641.80
OLF Coupville Aircraft Flight Operations	38.6	76.2	1.8	5.0	21.1	21.1	12,083.0
Aircraft Maintenance Operations	638.6	47.6	145.0	6.0	28.5	28.5	13,354.0
Employee Commute	81.20	9.61	1.77	0.07	95.79	10.61	10,840.91
Total	**2,590.77**	**650.99**	**835.53**	**54.67**	**366.27**	**281.09**	**138,919.68**

NAS Whidbey Island Complex Annual GHG Emissions, Alternative 1

Emission Source	Existing	No Action	Alt 1A	Alt 1B	Alt 1C	Alt 1D	Alt 1E
	CO2 Emissions (Metric TPY)						
Stationary Sources							
tewide Total GHG Emissions (2014 Reported)	13,575	13,575					
New Electricity Building Use (Indirect)	**0**	**0**	181	181	181	181	181
New Natural Gas Building Use (Direct)	**0**	**0**	276	276	276	276	276
Total Change in Stationary CO_2 Emissions (MTPY)			456	456	456	456	456
% increase in Stationary CO_2 Emissions			3%	3%	3%	3%	3%
Mobile Sources							
Aircraft Operations	0	0	0	0	0	0	0
GSE Emissions	130	131	161	154	149	159	151
Personnel Commute Emissions	0	0	0	0	0	0	0
Total Mobile CO_2 Emissions (MTPY)	130	131	161	154	149	159	151
Change in Mobile CO_2 Emissions			30	24	19	28	20
% increase in Mobile CO_2 Emissions			23%	18%	14%	22%	16%
Total Change in Emissions (Stationary and Mobile)			486	480	475	484	477
2013 Total CO2e from all sources in Washington State[1]			94,400,000				
Change in Emissions (Stationary and Mobile) as % of Total 2013 CO2e Emissions in Washington State			0.00%	0.00%	0.00%	0.00%	0.00%
2013 Total CO2 from Transportation in Washington State[1]			40,400,000				
Change in Mobile Emissions as % of Total 2013 Transportation CO2e Emissions in Washington State			0.00%	0.00%	0.00%	0.00%	0.00%
2013 Total CO2e from Aircraft in Washington State[1]			6,570,000				
Change in Aircraft Emissions as % of Total 2013 Aircraft CO2e Emissions in Washington State			0.00%	0.00%	0.00%	0.00%	0.00%

1 . Inventory 1990-2013 (2016). Report to the Legislature on Washington Greenhouse Gas Emissions Inventory: 2010 – 2013 (Publication 16-02-025) October 2016. Retrieved March 29, 2018 from: https://fortress.wa.gov/ecy/publications/documents/1602025.pdf

Key:

TPY = Tons per year

CO_2e = Carbon Dioxide Equivalent

GHG = Greenhouse Gas

metric tons per short ton = 0.907

Alternative 2A High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	5	16
# Aircraft	63	25	5	25	118
Departures	7,006	6,030	1,221	3,197	17,454
Interfacility Departures	1,055	564	12	0	1,631
Straight in Arrivals	2,479	2,486	432	1,135	6,532
Overhead Break Arrivals	4,098	3,337	699	1,873	10,007
IFR Arrivals	428	208	90	188	914
Interfacility Arrivals	1,055	564	12	0	1,631
FCLP Ops[2]	4,022	2,224	167	0	6,413
Touch & Go Ops[2]	5,210	5,452	469	1,026	12,157
Depart-Re-enter Ops[2]	2,282	0	439	1,128	3,849
GCA pattern Ops[2]	7,675	5,735	483	1,018	14,911
Total	**35,310**	**26,600**	**4,024**	**9,565**	**75,499**
OLF Coupeville					
Interfacility Departures	1,055	564	12	0	1,631
Interfacility Arrivals	1,055	564	12	0	1,631
FCLP Ops[2]	14,766	7,916	183	0	22,865
Total	**16,876**	**9,044**	**207**	**0**	**26,127**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt2AAveYr, workbook Ops Tables MaxYr_Alt2_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 2A High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,532	15,763,784	688.04	95.23	258.15	10.33	57.56	57.56	23,793.34
Break Arrival LTO[2]	12,552	29,237,583	1,329.43	183.44	500.18	19.15	106.40	106.40	44,021.75
FCLP[4]	3,207	2,263,789	0.80	23.20	0.15	1.48	6.33	6.33	3,606.56
Touch-and-Go[4]	6,079	4,291,421	1.52	43.98	0.28	2.81	12.01	12.01	6,836.88
Depart and Re-enter[4]	1,925	2,715,470	0.97	27.86	0.19	1.78	7.59	7.59	4,329.21
GCA Pattern[4]	7,456	10,519,711	3.77	107.92	0.73	6.89	29.41	29.41	16,771.33
Total Emissions for Ault Field Flight Operations		**64,791,757.3**	**2,024.5**	**481.6**	**759.7**	**42.4**	**219.3**	**219.3**	**99,359.1**
NOLF Coupeville									
Interfacility LTO2	1,631	2,256,135	91.77	21.03	3.37	1.48	5.39	5.39	3,437.39
FCLP[4]	22,865	16,142,690	5.72	165.43	1.05	10.57	45.16	45.16	25,717.75
Interfacility Transit	1,631	983,765	0.35	7.26	0.08	0.64	3.23	3.23	1,569.56
Total Emissions for Coupeville Flight Operations		**19,382,590.0**	**97.8**	**193.7**	**4.5**	**12.7**	**53.8**	**53.8**	**30,724.7**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**93,371,739.2**	**2,766.5**	**723.3**	**910.4**	**61.2**	**301.9**	**301.9**	**143,551.9**

13,751,360.71 total gallons of fuel

Notes:

[1] See Previous Table of this Appendix for Estimated Operations

[2] All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

[3] Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

[4] Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,732	29,575,000	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47

[1] Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 2A

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	2,024.53	481.62	759.68	42.44	219.30	219.30	99,359.07
OLF Coupville Aircraft Flight Operations	97.8	193.7	4.5	12.7	53.8	53.8	30,724.7
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47
Total	**2,853.02**	**733.57**	**912.31**	**61.24**	**403.98**	**313.18**	**155,108.34**

Alternative 2B High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	5	16
# Aircraft	63	25	5	25	118
Departures	6,939	5,970	1,211	3,159	17,279
Interfacility Departures	657	349	14	0	1,020
Straight in Arrivals	2,445	2,483	419	1,098	6,445
Overhead Break Arrivals	4,018	3,270	700	1,823	9,811
IFR Arrivals	478	216	91	238	1,023
Interfacility Arrivals	657	350	14	0	1,021
FCLP Ops[2]	10,496	5,660	180	0	16,336
Touch & Go Ops[2]	5,210	5,452	469	1,026	12,157
Depart-Re-enter Ops[2]	2,282	0	439	1,128	3,849
GCA pattern Ops[2]	7,675	5,735	483	1,018	14,911
Total	**40,857**	**29,485**	**4,020**	**9,490**	**83,852**
OLF Coupeville					
Interfacility Departures	657	349	14	0	1,020
Interfacility Arrivals	657	350	14	0	1,021
FCLP Ops[2]	9,195	4,904	198	0	14,297
Total	**10,509**	**5,603**	**226**	**0**	**16,338**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt2BAveYr, workbook Ops Tables MaxYr_Alt2_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 2B High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,445	15,553,826	678.88	93.96	254.71	10.19	56.79	56.79	23,476.43
Break Arrival LTO[2]	11,855	27,614,049	1,255.61	173.25	472.41	18.09	100.49	100.49	41,577.27
FCLP[4]	8,168	5,766,608	2.04	59.10	0.38	3.78	16.13	16.13	9,187.08
Touch-and-Go[4]	6,079	4,291,421	1.52	43.98	0.28	2.81	12.01	12.01	6,836.88
Depart and Re-enter[4]	1,925	2,715,470	0.97	27.86	0.19	1.78	7.59	7.59	4,329.21
GCA Pattern[4]	7,456	10,519,711	3.77	107.92	0.73	6.89	29.41	29.41	16,771.33
Total Emissions for Ault Field Flight Operations		**66,461,084.0**	**1,942.8**	**506.1**	**728.7**	**43.5**	**222.4**	**222.4**	**102,178.2**
NOLF Coupeville									
Interfacility LTO2	1,020	1,410,949	57.39	13.15	2.11	0.92	3.37	3.37	2,149.68
FCLP[4]	14,297	10,093,682	3.57	103.44	0.66	6.61	28.24	28.24	16,080.77
Interfacility Transit	1,020	615,230	0.22	4.54	0.05	0.40	2.02	2.02	981.58
Total Emissions for Coupeville Flight Operations		**12,119,861.0**	**61.2**	**121.1**	**2.8**	**7.9**	**33.6**	**33.6**	**19,212.0**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**87,778,337.0**	**2,648.1**	**675.2**	**877.8**	**57.5**	**284.8**	**284.8**	**134,858.3**

12,927,590.13 total gallons of fuel

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,732	29,575,000	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 2B

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,942.79	506.07	728.69	43.53	222.43	222.43	102,178.21
OLF Coupville Aircraft Flight Operations	61.2	121.1	2.8	7.9	33.6	33.6	19,212.0
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47
Total	**2,734.62**	**685.43**	**879.64**	**57.57**	**386.96**	**296.16**	**146,414.80**

Alternative 2C High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	5	16
# Aircraft	63	25	5	25	118
Departures	6,949	5,987	1,211	3,176	17,323
Interfacility Departures	264	135	10	0	409
Straight in Arrivals	2,488	2,443	406	1,127	6,464
Overhead Break Arrivals	4,000	3,318	699	1,838	9,855
IFR Arrivals	462	226	106	212	1,006
Interfacility Arrivals	264	135	10	0	409
FCLP Ops[2]	16,678	9,237	225	0	26,140
Touch & Go Ops[2]	5,210	5,452	469	1,026	12,157
Depart-Re-enter Ops[2]	2,282	0	439	1,128	3,849
GCA pattern Ops[2]	7,675	5,735	483	1,018	14,911
Total	**46,272**	**32,668**	**4,058**	**9,525**	**92,523**
OLF Coupeville					
Interfacility Departures	264	135	10	0	409
Interfacility Arrivals	265	135	10	0	410
FCLP Ops[2]	3,709	1,884	130	0	5,723
Total	**4,238**	**2,154**	**150**	**0**	**6,542**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt2CAveYr, workbook Ops Tables MaxYr_Alt2_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 2C High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,464	15,599,679	680.88	94.24	255.46	10.22	56.96	56.96	23,545.64
Break Arrival LTO[2]	11,270	26,251,399	1,193.65	164.70	449.10	17.19	95.54	95.54	39,525.59
FCLP[4]	13,070	9,227,420	3.27	94.56	0.60	6.04	25.81	25.81	14,700.68
Touch-and-Go[4]	6,079	4,291,421	1.52	43.98	0.28	2.81	12.01	12.01	6,836.88
Depart and Re-enter[4]	1,925	2,715,470	0.97	27.86	0.19	1.78	7.59	7.59	4,329.21
GCA Pattern[4]	7,456	10,519,711	3.77	107.92	0.73	6.89	29.41	29.41	16,771.33
Total Emissions for Ault Field Flight Operations		**68,605,098.8**	**1,884.1**	**533.3**	**706.4**	**44.9**	**227.3**	**227.3**	**105,709.3**
NOLF Coupeville									
Interfacility LTO2	409	565,763	23.01	5.27	0.85	0.37	1.35	1.35	861.98
FCLP[4]	5,723	4,040,438	1.43	41.41	0.26	2.65	11.30	11.30	6,437.03
Interfacility Transit	409	246,695	0.09	1.82	0.02	0.16	0.81	0.81	393.59
Total Emissions for Coupeville Flight Operations		**4,852,896.1**	**24.5**	**48.5**	**1.1**	**3.2**	**13.5**	**13.5**	**7,692.6**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**82,655,386.8**	**2,552.7**	**629.7**	**853.7**	**54.1**	**269.6**	**269.6**	**126,870.0**

12,173,105.57 total gallons of fuel

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,732	29,575,000	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 2C

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,884.05	533.26	706.36	44.94	227.32	227.32	105,709.33
OLF Coupville Aircraft Flight Operations	24.5	48.5	1.1	3.2	13.5	13.5	7,692.6
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47
Total	**2,639.23**	**639.99**	**855.62**	**54.22**	**371.69**	**280.89**	**138,426.50**

Alternative 2D High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	5	16
# Aircraft	63	25	5	25	118
Departures	7,006	6,030	1,221	3,197	17,454
Interfacility Departures	923	494	11	0	1,428
Straight in Arrivals	2,479	2,486	432	1,135	6,532
Overhead Break Arrivals	4,098	3,337	699	1,873	10,007
IFR Arrivals	428	208	90	188	914
Interfacility Arrivals	923	494	11	0	1,428
FCLP Ops[2]	6,033	3,336	251	0	9,620
Touch & Go Ops[2]	5,210	5,452	469	1,026	12,157
Depart-Re-enter Ops[2]	2,282	0	439	1,128	3,849
GCA pattern Ops[2]	7,675	5,735	483	1,018	14,911
Total	**37,057**	**27,572**	**4,106**	**9,565**	**78,300**
OLF Coupeville					
Interfacility Departures	923	494	11	0	1,428
Interfacility Arrivals	924	494	11	0	1,429
FCLP Ops[2]	12,920	6,927	160	0	20,007
Total	**14,767**	**7,915**	**182**	**0**	**22,864**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt2DAveYr, workbook Ops Tables MaxYr_Alt2_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 2D High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,532	15,763,784	688.04	95.23	258.15	10.33	57.56	57.56	23,793.34
Break Arrival LTO[2]	12,349	28,764,732	1,307.93	180.47	492.09	18.84	104.68	104.68	43,309.80
FCLP[4]	4,810	3,395,860	1.20	34.80	0.22	2.22	9.50	9.50	5,410.12
Touch-and-Go[4]	6,079	4,291,421	1.52	43.98	0.28	2.81	12.01	12.01	6,836.88
Depart and Re-enter[4]	1,925	2,715,470	0.97	27.86	0.19	1.78	7.59	7.59	4,329.21
GCA Pattern[4]	7,456	10,519,711	3.77	107.92	0.73	6.89	29.41	29.41	16,771.33
Total Emissions for Ault Field Flight Operations		**65,450,977.0**	**2,003.4**	**490.3**	**751.7**	**42.9**	**220.8**	**220.8**	**100,450.7**
NOLF Coupeville									
Interfacility LTO2	1,428	1,975,329	80.35	18.41	2.95	1.29	4.72	4.72	3,009.56
FCLP[4]	20,007	14,124,942	5.00	144.75	0.92	9.25	39.51	39.51	22,503.17
Interfacility Transit	1,428	861,322	0.31	6.35	0.07	0.56	2.82	2.82	1,374.21
Total Emissions for Coupeville Flight Operations		**16,961,592.6**	**85.7**	**169.5**	**3.9**	**11.1**	**47.1**	**47.1**	**26,886.9**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**91,609,961.6**	**2,733.2**	**707.8**	**901.8**	**60.0**	**296.6**	**296.6**	**140,805.7**
		13,491,894.19	total gallons of fuel						

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,732	29,575,000	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 2D

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	2,003.43	490.26	751.66	42.87	220.75	220.75	100,450.68
OLF Coupville Aircraft Flight Operations	85.7	169.5	3.9	11.1	47.1	47.1	26,886.9
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47
Total	**2,819.74**	**718.01**	**903.73**	**60.08**	**398.71**	**307.91**	**152,362.19**

Alternative 2E High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	5	16
# Aircraft	63	25	5	25	118
Departures	6,949	5,987	1,211	3,176	17,323
Interfacility Departures	396	203	15	0	614
Straight in Arrivals	2,488	2,443	406	1,127	6,464
Overhead Break Arrivals	4,000	3,318	699	1,838	9,855
IFR Arrivals	462	226	106	212	1,006
Interfacility Arrivals	398	203	15	0	616
FCLP Ops[2]	14,593	8,082	197	0	22,872
Touch & Go Ops[2]	5,210	5,452	469	1,026	12,157
Depart-Re-enter Ops[2]	2,282	0	439	1,128	3,849
GCA pattern Ops[2]	7,675	5,735	483	1,018	14,911
Total	**44,453**	**31,649**	**4,040**	**9,525**	**89,667**
OLF Coupeville					
Interfacility Departures	396	203	15	0	614
Interfacility Arrivals	396	203	15	0	614
FCLP Ops[2]	5,564	2,826	195	0	8,585
Total	**6,356**	**3,232**	**225**	**0**	**9,813**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt2EAveYr, workbook Ops Tables MaxYr_Alt2_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 2E High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,464	15,599,679	680.88	94.24	255.46	10.22	56.96	56.96	23,545.64
Break Arrival LTO[2]	11,477	26,733,567	1,215.58	167.73	457.35	17.51	97.29	97.29	40,251.57
FCLP[4]	11,436	8,073,816	2.86	82.74	0.53	5.29	22.59	22.59	12,862.81
Touch-and-Go[4]	6,079	4,291,421	1.52	43.98	0.28	2.81	12.01	12.01	6,836.88
Depart and Re-enter[4]	1,925	2,715,470	0.97	27.86	0.19	1.78	7.59	7.59	4,329.21
GCA Pattern[4]	7,456	10,519,711	3.77	107.92	0.73	6.89	29.41	29.41	16,771.33
Total Emissions for Ault Field Flight Operations		**67,933,663.3**	**1,905.6**	**524.5**	**714.5**	**44.5**	**225.8**	**225.8**	**104,597.4**
NOLF Coupeville									
Interfacility LTO2	614	849,336	34.55	7.92	1.27	0.56	2.03	2.03	1,294.03
FCLP[4]	8,585	6,061,010	2.15	62.11	0.39	3.97	16.96	16.96	9,656.11
Interfacility Transit	614	370,344	0.13	2.73	0.03	0.24	1.21	1.21	590.87
Total Emissions for Coupeville Flight Operations		**7,280,690.3**	**36.8**	**72.8**	**1.7**	**4.8**	**20.2**	**20.2**	**11,541.0**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**84,411,745.6**	**2,586.5**	**645.2**	**862.5**	**55.3**	**274.8**	**274.8**	**129,606.5**
		12,431,774.02	total gallons of fuel						

Notes:

[1] See Previous Table of this Appendix for Estimated Operations

[2] All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

[3] Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

[4] Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,732	29,575,000	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47

[1] Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 2E

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,905.57	524.46	714.53	44.50	225.85	225.85	104,597.45
OLF Coupville Aircraft Flight Operations	36.8	72.8	1.7	4.8	20.2	20.2	11,541.0
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	86.56	10.24	1.88	0.08	102.12	11.31	11,556.47
Total	**2,673.04**	**655.46**	**864.36**	**55.37**	**376.95**	**286.15**	**141,163.02**

NAS Whidbey Island Complex Annual GHG Emissions, Alternative 2

Emission Source	CO2 Emissions (Metric TPY)						
	Existing	No Action	Alt 2A	Alt 2B	Alt 2C	Alt 2D	Alt 2E
Stationary Sources							
e Total GHG Emissions (2014 Reported)	13,575	13,575					
New Electricity Building Use (Indirect)	**0**	**0**	181	181	181	181	181
New Natural Gas Building Use (Direct)	**0**	**0**	276	276	276	276	276
Total Change in Stationary CO_2 Emissions (MTPY)			456	456	456	456	456
% increase in Stationary CO_2 Emissions			3%	3%	3%	3%	3%
Mobile Sources							
Aircraft Operations	90,279	89,511	130,202	122,317	115,071	127,711	117,553
GSE Emissions	130	131	167	160	155	165	157
Personnel Commute Emissions	9,091	9,091	10,482	10,482	10,482	10,482	10,482
Total Mobile CO2 Emissions (MTPY)	**99,499**	**98,733**	**140,850**	**132,958**	**125,708**	**138,358**	**128,192**
Change in Mobile CO_2 Emissions			**42,118**	**34,226**	**26,975**	**39,625**	**29,459**
% increase in Mobile CO2 Emissions			**42%**	**34%**	**27%**	**40%**	**30%**
Total Change in Emissions (Stationary and Mobile)			**42,574**	**34,682**	**27,432**	**40,082**	**29,916**
2013 Total CO2e from all sources in Washington State[1]			94,400,000				
Change in Emissions (Stationary and Mobile) as % of Total 2013 CO2e Emissions in Washington State			0.05%	0.04%	0.03%	0.04%	0.03%
2013 Total CO2 from Transportation in Washington State[1]			40,400,000				
Change in Mobile Emissions as % of Total 2013 Transportation CO2e Emissions in Washington State			0.10%	0.08%	0.07%	0.10%	0.07%
2013 Total CO2e from Aircraft in Washington State[1]			6,570,000				
Change in Aircraft Emissions as % of Total 2013 Aircraft CO2e Emissions in Washington State			0.64%	0.52%	0.41%	0.60%	0.45%

1 . Inventory 1990-2013 (2016). Report to the Legislature on Washington Greenhouse Gas Emissions Inventory: 2010 – 2013 (Publication 16-02-025) October 2016. Retrieved March 29, 2018 from: https://fortress.wa.gov/ecy/publications/documents/1602025.pdf

metric tons per short ton 0.907

TPY = Tons per year

CO_2e = Carbon Dioxide Equivalent

GHG = Greenhouse Gas

Alternative 3A High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	63	24	5	26	118
Departures	6,955	5,973	1,212	2,694	16,834
Interfacility Departures	1,058	565	13	0	1,636
Straight in Arrivals	2,503	2,413	426	918	6,260
Overhead Break Arrivals	3,894	3,292	715	1,773	9,674
IFR Arrivals	557	268	71	281	1,177
Interfacility Arrivals	1,059	565	13	0	1,637
FCLP Ops[2]	4,120	2,205	142	0	6,467
Touch & Go Ops[2]	5,050	5,312	531	1,041	11,934
Depart-Re-enter Ops[2]	2,311	0	444	1,019	3,774
GCA pattern Ops[2]	7,546	5,794	545	1,025	14,910
Total	**35,053**	**26,387**	**4,112**	**8,751**	**74,303**
OLF Coupeville					
Interfacility Departures	1,058	565	13	0	1,636
Interfacility Arrivals	1,059	565	13	0	1,637
FCLP Ops[2]	14,829	7,905	182	0	22,916
Total	**16,946**	**9,035**	**208**	**0**	**26,189**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt3AAveYr, workbook Ops Tables MaxYr_Alt3_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 3A High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,260	15,107,362	659.39	91.27	247.40	9.90	55.16	55.16	22,802.55
Break Arrival LTO[2]	12,488	29,088,507	1,322.65	182.50	497.63	19.05	105.86	105.86	43,797.29
FCLP[4]	3,234	2,282,851	0.81	23.39	0.15	1.50	6.39	6.39	3,636.93
Touch-and-Go[4]	5,967	4,212,702	1.49	43.17	0.27	2.76	11.78	11.78	6,711.47
Depart and Re-enter[4]	1,887	2,662,557	0.95	27.31	0.18	1.74	7.44	7.44	4,244.85
GCA Pattern[4]	7,455	10,519,005	3.76	107.91	0.73	6.89	29.41	29.41	16,770.21
Total Emissions for Ault Field Flight Operations		**63,872,983.9**	**1,989.1**	**475.6**	**746.4**	**41.8**	**216.0**	**216.0**	**97,963.3**
NOLF Coupeville									
Interfacility LTO2	1,636	2,263,052	92.05	21.10	3.38	1.48	5.40	5.40	3,447.93
FCLP[4]	22,916	16,178,696	5.73	165.80	1.05	10.60	45.26	45.26	25,775.11
Interfacility Transit	1,636	986,781	0.36	7.28	0.08	0.65	3.24	3.24	1,574.37
Total Emissions for Coupeville Flight Operations		**19,428,528.2**	**98.1**	**194.2**	**4.5**	**12.7**	**53.9**	**53.9**	**30,797.4**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**92,498,904.1**	**2,731.3**	**717.7**	**897.1**	**60.6**	**298.7**	**298.7**	**142,228.8**
		13,622,813.56	total gallons of fuel						

Notes:

[1] See Previous Table of this Appendix for Estimated Operations

[2] All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

[3] Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

[4] Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,445	27,781,250	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56

[1] Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 3A

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,989.06	475.56	746.37	41.84	216.05	216.05	97,963.31
OLF Coupville Aircraft Flight Operations	98.1	194.2	4.5	12.7	53.9	53.9	30,797.4
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56
Total	**2,812.60**	**727.34**	**898.90**	**60.66**	**394.66**	**309.36**	**153,084.38**

Alternative 3B High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

Ault Field	EA 18G (Growler) Operations CVW	FRS	RES	EXP	EA-18G Total
# Squadrons	9	1	1	3	14
# Aircraft	63	24	5	26	118
Departures	6,943	5,964	1,210	3,101	17,218
Interfacility Departures	657	354	12	0	1,023
Straight in Arrivals	2,528	2,432	416	1,087	6,463
Overhead Break Arrivals	3,899	3,216	722	1,752	9,589
IFR Arrivals	514	316	72	262	1,164
Interfacility Arrivals	657	353	12	0	1,022
FCLP Ops[2]	10,576	5,655	139	0	16,370
Touch & Go Ops[2]	5,050	5,312	531	1,041	11,934
Depart-Re-enter Ops[2]	2,311	0	444	1,019	3,774
GCA pattern Ops[2]	7,546	5,794	545	1,025	14,910
Total	**40,681**	**29,396**	**4,103**	**9,287**	**83,467**
OLF Coupeville					
Interfacility Departures	657	354	12	0	1,023
Interfacility Arrivals	657	353	12	0	1,022
FCLP Ops[2]	9,209	4,955	166	0	14,330
Total	**10,523**	**5,662**	**190**	**0**	**16,375**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt3BAveYr, workbook Ops Tables MaxYr_Alt3_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 3B High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,463	15,597,266	680.77	94.23	255.43	10.22	56.95	56.95	23,542.00
Break Arrival LTO[2]	11,775	27,427,704	1,247.14	172.08	469.22	17.97	99.82	99.82	41,296.70
FCLP[4]	8,185	5,778,610	2.05	59.22	0.38	3.78	16.17	16.17	9,206.20
Touch-and-Go[4]	5,967	4,212,702	1.49	43.17	0.27	2.76	11.78	11.78	6,711.47
Depart and Re-enter[4]	1,887	2,662,557	0.95	27.31	0.18	1.74	7.44	7.44	4,244.85
GCA Pattern[4]	7,455	10,519,005	3.76	107.91	0.73	6.89	29.41	29.41	16,770.21
Total Emissions for Ault Field Flight Operations		**66,197,843.4**	**1,936.2**	**503.9**	**726.2**	**43.4**	**221.6**	**221.6**	**101,771.4**
NOLF Coupeville									
Interfacility LTO2	1,023	1,415,099	57.56	13.19	2.12	0.93	3.38	3.38	2,156.01
FCLP[4]	14,330	10,116,980	3.58	103.68	0.66	6.63	28.30	28.30	16,117.88
Interfacility Transit	1,023	617,040	0.22	4.55	0.05	0.40	2.02	2.02	984.46
Total Emissions for Coupeville Flight Operations		**12,149,118.4**	**61.4**	**121.4**	**2.8**	**8.0**	**33.7**	**33.7**	**19,258.4**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**87,544,353.7**	**2,641.6**	**673.3**	**875.3**	**57.3**	**284.1**	**284.1**	**134,497.9**
		12,893,130.15	total gallons of fuel						

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,445	27,781,250	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 3B

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,936.17	503.93	726.21	43.36	221.57	221.57	101,771.43
OLF Coupville Aircraft Flight Operations	61.4	121.4	2.8	8.0	33.7	33.7	19,258.4
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56
Total	**2,722.93**	**682.96**	**877.05**	**57.41**	**379.99**	**294.69**	**145,353.44**

Alternative 3C High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	63	24	5	26	118
Departures	6,912	5,923	1,205	3,082	17,122
Interfacility Departures	265	135	10	0	410
Straight in Arrivals	2,470	2,478	414	1,122	6,484
Overhead Break Arrivals	3,949	3,210	703	1,736	9,598
IFR Arrivals	493	233	88	225	1,039
Interfacility Arrivals	266	135	10	0	411
FCLP Ops[2]	16,839	9,198	153	0	26,190
Touch & Go Ops[2]	5,050	5,312	531	1,041	11,934
Depart-Re-enter Ops[2]	2,311	0	444	1,019	3,774
GCA pattern Ops[2]	7,546	5,794	545	1,025	14,910
Total	**46,101**	**32,418**	**4,103**	**9,250**	**91,872**
OLF Coupeville					
Interfacility Departures	265	135	10	0	410
Interfacility Arrivals	266	135	10	0	411
FCLP Ops[2]	3,720	1,886	130	0	5,736
Total	**4,251**	**2,156**	**150**	**0**	**6,557**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt3CAveYr, workbook Ops Tables MaxYr_Alt3_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 3C High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,484	15,647,945	682.99	94.53	256.26	10.25	57.14	57.14	23,618.49
Break Arrival LTO[2]	11,048	25,734,291	1,170.14	161.46	440.25	16.86	93.65	93.65	38,747.00
FCLP[4]	13,095	9,245,070	3.27	94.74	0.60	6.06	25.86	25.86	14,728.80
Touch-and-Go[4]	5,967	4,212,702	1.49	43.17	0.27	2.76	11.78	11.78	6,711.47
Depart and Re-enter[4]	1,887	2,662,557	0.95	27.31	0.18	1.74	7.44	7.44	4,244.85
GCA Pattern[4]	7,455	10,519,005	3.76	107.91	0.73	6.89	29.41	29.41	16,770.21
Total Emissions for Ault Field Flight Operations		**68,021,569.8**	**1,862.6**	**529.1**	**698.3**	**44.6**	**225.3**	**225.3**	**104,820.8**
NOLF Coupeville									
Interfacility LTO2	410	567,146	23.07	5.29	0.85	0.37	1.35	1.35	864.09
FCLP[4]	5,736	4,049,616	1.43	41.50	0.26	2.65	11.33	11.33	6,451.65
Interfacility Transit	410	247,298	0.09	1.82	0.02	0.16	0.81	0.81	394.56
Total Emissions for Coupeville Flight Operations		**4,864,060.5**	**24.6**	**48.6**	**1.1**	**3.2**	**13.5**	**13.5**	**7,710.3**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**82,083,022.3**	**2,531.3**	**625.7**	**845.7**	**53.8**	**267.6**	**267.6**	**125,999.2**

12,088,810.35 total gallons of fuel

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,445	27,781,250	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 3C

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,862.61	529.13	698.30	44.55	225.29	225.29	104,820.82
OLF Coupville Aircraft Flight Operations	24.6	48.6	1.1	3.2	13.5	13.5	7,710.3
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56
Total	**2,612.60**	**635.35**	**847.44**	**53.84**	**363.50**	**278.20**	**136,854.78**

Alternative 3D High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	63	24	5	26	118
Departures	6,955	5,973	1,212	2,694	16,834
Interfacility Departures	926	494	11	0	1,431
Straight in Arrivals	2,503	2,413	426	918	6,260
Overhead Break Arrivals	3,894	3,292	715	1,773	9,674
IFR Arrivals	557	268	71	281	1,177
Interfacility Arrivals	927	494	11	0	1,432
FCLP Ops[2]	6,180	3,308	213	0	9,701
Touch & Go Ops[2]	5,050	5,312	531	1,041	11,934
Depart-Re-enter Ops[2]	2,311	0	444	1,019	3,774
GCA pattern Ops[2]	7,546	5,794	545	1,025	14,910
Total	**36,849**	**27,348**	**4,179**	**8,751**	**77,127**
OLF Coupeville					
Interfacility Departures	927	494	11	0	1,432
Interfacility Arrivals	926	494	11	0	1,431
FCLP Ops[2]	12,975	6,917	159	0	20,051
Total	**14,828**	**7,905**	**181**	**0**	**22,914**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt3DAveYr, workbook Ops Tables MaxYr_Alt3_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 3D High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,260	15,107,362	659.39	91.27	247.40	9.90	55.16	55.16	22,802.55
Break Arrival LTO[2]	12,283	28,610,997	1,300.94	179.51	489.46	18.74	104.12	104.12	43,078.33
FCLP[4]	4,851	3,424,453	1.21	35.09	0.22	2.24	9.58	9.58	5,455.67
Touch-and-Go[4]	5,967	4,212,702	1.49	43.17	0.27	2.76	11.78	11.78	6,711.47
Depart and Re-enter[4]	1,887	2,662,557	0.95	27.31	0.18	1.74	7.44	7.44	4,244.85
GCA Pattern[4]	7,455	10,519,005	3.76	107.91	0.73	6.89	29.41	29.41	16,770.21
Total Emissions for Ault Field Flight Operations		**64,537,076.0**	**1,967.8**	**484.3**	**738.3**	**42.3**	**217.5**	**217.5**	**99,063.1**
NOLF Coupeville									
Interfacility LTO2	1,432	1,980,862	80.57	18.47	2.96	1.30	4.73	4.73	3,017.99
FCLP[4]	20,051	14,156,006	5.01	145.07	0.92	9.27	39.60	39.60	22,552.66
Interfacility Transit	1,432	863,735	0.31	6.37	0.07	0.57	2.83	2.83	1,378.06
Total Emissions for Coupeville Flight Operations		**17,000,602.4**	**85.9**	**169.9**	**4.0**	**11.1**	**47.2**	**47.2**	**26,948.7**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**90,735,070.4**	**2,697.7**	**702.2**	**888.5**	**59.4**	**293.5**	**293.5**	**139,479.9**

13,363,044.23 total gallons of fuel

Notes:

1 See Previous Table of this Appendix for Estimated Operations

2 All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

3 Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

4 Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,445	27,781,250	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56

1 Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 3D

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,967.75	484.27	738.28	42.27	217.50	217.50	99,063.09
OLF Coupville Aircraft Flight Operations	85.9	169.9	4.0	11.1	47.2	47.2	26,948.7
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56
Total	**2,779.05**	**711.78**	**890.24**	**59.50**	**389.38**	**304.08**	**150,335.46**

Alternative 3E High Tempo Year EA-18G (Growler) Operations NAS Whidbey Island Complex

	EA 18G (Growler) Operations				
Ault Field	**CVW**	**FRS**	**RES**	**EXP**	**EA-18G Total**
# Squadrons	9	1	1	3	14
# Aircraft	63	24	5	26	118
Departures	6,912	5,923	1,205	3,082	17,122
Interfacility Departures	398	203	15	0	616
Straight in Arrivals	2,470	2,478	414	1,122	6,484
Overhead Break Arrivals	3,949	3,210	703	1,736	9,598
IFR Arrivals	493	233	88	225	1,039
Interfacility Arrivals	398	203	15	0	616
FCLP Ops[2]	14,734	8,048	134	0	22,916
Touch & Go Ops[2]	5,050	5,312	531	1,041	11,934
Depart-Re-enter Ops[2]	2,311	0	444	1,019	3,774
GCA pattern Ops[2]	7,546	5,794	545	1,025	14,910
Total	**44,261**	**31,404**	**4,094**	**9,250**	**89,009**
OLF Coupeville					
Interfacility Departures	398	203	15	0	616
Interfacility Arrivals	398	203	15	0	616
FCLP Ops[2]	5,580	2,829	195	0	8,604
Total	**6,376**	**3,235**	**225**	**0**	**9,836**
Maintenance Run Ups (at Ault Field)[3]					
Water Wash					118
Low Power, one engine					1,770
Low Power, two engines					3,540
High Power, two engines					944
Test Cell Maintenance Run Ups (at Ault Field)[4]					

[1] Operations information from Tab SEIS_Alt3EAveYr, workbook Ops Tables MaxYr_Alt3_20171018.xlsx. Preliminary data provided by Wyle from "Aircraft Noise Study for Naval Air Station Whidbey Island Complex, Washington (Wyle report X-X), Wyle Laboratories, TBD.

[2] One circuit counted at two operations (one take of and one landing), while emission factors are applied to the entire circuit--therefore reported operations on air tables will be half operations reported by noise analysis as listed in these tables

[3] Maintenance run ups from "Alternates Static Ops.xls" from Wyle 12/16/2015

[4] Out-of-Frame testing of F414 engines will not be performed at the test cell facilities at NAS Whidbey Island. All engine testing is assumed to be In-frame testing, Source: email from CDR Sean Michaels, May 11, 2016.

Alternative 3E High Tempo Year EA-18G (Growler) Air Emissions, NAS Whidbey Island Complex

Operation	No. of Operations[1]	Fuel use (lbs)	Emissions (tpy)[3] CO	NO_x	VOC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Flight Operations									
Ault Field									
Straight-In Arrival LTO[2]	6,484	15,647,945	682.99	94.53	256.26	10.25	57.14	57.14	23,618.49
Break Arrival LTO[2]	11,253	26,211,800	1,191.85	164.46	448.42	17.17	95.39	95.39	39,465.96
FCLP[4]	11,458	8,089,348	2.86	82.90	0.53	5.30	22.63	22.63	12,887.56
Touch-and-Go[4]	5,967	4,212,702	1.49	43.17	0.27	2.76	11.78	11.78	6,711.47
Depart and Re-enter[4]	1,887	2,662,557	0.95	27.31	0.18	1.74	7.44	7.44	4,244.85
GCA Pattern[4]	7,455	10,519,005	3.76	107.91	0.73	6.89	29.41	29.41	16,770.21
Total Emissions for Ault Field Flight Operations		**67,343,357.7**	**1,883.9**	**520.3**	**706.4**	**44.1**	**223.8**	**223.8**	**103,698.5**
NOLF Coupeville									
Interfacility LTO2	616	852,103	34.66	7.94	1.27	0.56	2.03	2.03	1,298.24
FCLP[4]	8,604	6,074,424	2.15	62.25	0.40	3.98	16.99	16.99	9,677.48
Interfacility Transit	616	371,551	0.13	2.74	0.03	0.24	1.22	1.22	592.80
Total Emissions for Coupeville Flight Operations		**7,298,077.2**	**36.9**	**72.9**	**1.7**	**4.8**	**20.2**	**20.2**	**11,568.5**
Maintenance Operations									
Water Wash	118	15,576	0.67	0.028	0.51	0.010	0.09	0.09	21.80
Low Power, one engine	1,770	644,398	30.23	1.07	23.12	0.42	3.89	3.89	960.77
Low Power, two engines	3,540	2,519,300	120.88	4.09	92.46	1.65	15.56	15.56	3,750.97
High Power, two engines	944	6,018,118	492.30	42.80	30.15	3.94	9.26	9.26	8,734.55
Total In-frame Maintenance Operations		9,197,392	644	48	146	6	29	29	13,468
Total Emissions for Maintenance Operations		**9,197,392.0**	**644.1**	**48.0**	**146.2**	**6.0**	**28.8**	**28.8**	**13,468.1**
Total		**83,838,826.9**	**2,564.9**	**641.2**	**854.3**	**54.9**	**272.8**	**272.8**	**128,735.2**
		12,347,397.19	total gallons of fuel						116,762.79

Notes:

[1] See Previous Table of this Appendix for Estimated Operations

[2] All LTOs represent 2 operations, a Departure and Break or Straight-In Arrival

[3] Emissions calculated using AESO Report emission factors: #Ops x EF(lbs emission/op)/2000

[4] Touch and Go/FCLP, and Depart&Reenter/GCA Pattern operations are counted as two operations in Wyle calculations, but only once for air emission calculation purposes

Employee Commute Emissions

Population	No. of Vehicles[1]	VMT	Emissions (tpy)[3] CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Associated Personnel	4,445	27,781,250	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56

[1] Based on one vehicle per person,Total Military and Non-Military personnel from NAS whidbey island loading sheet master (March 2015).xls

Total Emissions, Alternative 3E

Activity	Emissions (tpy) CO	NO_x	HC	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Ault Field Aircraft Flight Operations	1,883.91	520.28	706.39	44.11	223.80	223.80	103,698.55
OLF Coupville Aircraft Flight Operations	36.9	72.9	1.7	4.8	20.2	20.2	11,568.5
Aircraft Maintenance Operations	644.1	48.0	146.2	6.0	28.8	28.8	13,468.1
Employee Commute	81.31	9.62	1.77	0.07	95.92	10.63	10,855.56
Total	**2,646.25**	**650.83**	**856.10**	**54.99**	**368.76**	**283.46**	**139,590.72**

NAS Whidbey Island Complex Annual GHG Emissions, Alternative 3

	CO2 Emissions (Metric TPY)						
Emission Source	**Existing**	**No Action**	**Alt 3A**	**Alt 3B**	**Alt 3C**	**Alt 3D**	**Alt 3E**
Stationary Sources							
Sitewide Total GHG Emissions (2014 Reported)	13,575	13,575					
New Electricity Building Use (Indirect)	**0**	**0**	181	181	181	181	181
New Natural Gas Building Use (Direct)	**0**	**0**	276	276	276	276	276
Total Change in Stationary CO_2 Emissions (MTPY)			456	456	456	456	456
% increase in Stationary CO_2 Emissions			3%	3%	3%	3%	3%
Mobile Sources							
Aircraft Operations	90,279	89,511	129,002	121,990	114,281	126,508	116,763
GSE Emissions	130	131	162	160	153	160	155
Personnel Commute Emissions	9,091	9,091	9,846	9,846	9,846	9,846	9,846
Total Mobile CO2 Emissions (MTPY)	**99,499**	**98,733**	**139,009**	**131,995**	**124,281**	**136,514**	**126,764**
Change in Mobile CO_2 Emissions			**40,277**	**33,263**	**25,548**	**37,782**	**28,031**
% increase in Mobile CO2 Emissions			**40%**	**33%**	**26%**	**38%**	**28%**
Total Change in Emissions (Stationary and Mobile)			**40,733**	**33,719**	**26,004**	**38,238**	**28,488**
2013 Total CO2e from all sources in Washington State[1]			94,400,000				
Change in Emissions (Stationary and Mobile) as % of Total 2013 CO2e Emissions in Washington State			0.04%	0.04%	0.03%	0.04%	0.03%
2013 Total CO2 from Transportation in Washington State[1]			40,400,000				
Change in Mobile Emissions as % of Total 2013 Transportation CO2e Emissions in Washington State			0.10%	0.08%	0.06%	0.09%	0.07%
2013 Total CO2e from Aircraft in Washington State[1]			6,570,000				
Change in Aircraft Emissions as % of Total 2013 Aircraft CO2e Emissions in Washington State			0.61%	0.51%	0.39%	0.58%	0.43%

1 . Inventory 1990-2013 (2016). Report to the Legislature on Washington Greenhouse Gas Emissions Inventory: 2010 – 2013 (Publication 16-02-025) October 2016. Retrieved March 29, 2018 from: https://fortress.wa.gov/ecy/publications/documents/1602025.pdf

metric tons per short ton 0.907

TPY = Tons per year

CO_2e = Carbon Dioxide Equivalent

GHG = Greenhouse Gas

Onroad Vehicle Exhaust Emission Factors

Equipment Type	Fuel Type	Exhaust Emission Factor[1] (g/VMT)									Road Dust Emission Factor[d] (g/VMT)		Total PM Emission Factor[e] (g/VMT)	
		VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	CH4	N2O	CO_2	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Cars and Light Trucks	Gasoline	0.06	2.66	0.31	0.0024	0.0066	0.0058	0.0038	0.0021	354	3.13	0.341	3.13	0.347
Delivery Vehicles	Diesel	0.28	1.10	8.06	0.158	0.17	0.17			1,400	3.13	0.341	3.30	0.511

Notes:

1. MOVES Onroad run for analysis year 2017, Island Count, WA. Includes weekdays and weekends, January through December, all hours of day. 'Cars and Light Trucks' Assumes 50% Passenger Car, 50% Passenger Truck

d. See emission factor derivation table below.

e. Sum of exhaust and road dust emission factors.

Paved Roads - Emission Factor Derivation

$E = (k(sL/2)^{0.65}(W/3)^{1.5}-C)$ AP-42 Section 13.2.1 (11/06 version)

where:
E = particulate emission factor (lb/VMT)
k = particle size multiplier
sL = road surface silt loading (g/m^2)
W = average vehicle weight (tons)
C = emission factor for 1980's vehicle fleet exhaust, break wear and tire wear

Parameter	Units	PM_{10}	$PM_{2.5}$	Reference
Mean Vehicle Weight	tons	3	3	Assumption
k factor	g/VMT	7.3	1.1	Table 13.2-1.1
Silt Loading, sL	g/m^2	0.6	0.6	Table 13.2.1-3
Emission factor, C	g/VMT	0.2119	0.1617	Table 13.2.1-2
Emission factor, E	g/VMT	3.13	0.341	Table 13.2.1-3

Ground Transportation Vehicle Emissions for Existing POV: Growler Squadron Personnel only

Source	# of vehicles[2]	Avg Daily mileage	Annual days of Commute	Total Annual Miles[3]	Emission Factors (lbs/mi)[1]							Emissions (tpy)						
					VOC	CO	NO_x	SO_2	CO_2	PM_{10}	$PM_{2.5}$	VOC	CO	NO_x	SO_2	CO_2	PM_{10}	$PM_{2.5}$
No Action																		
Total Military and Non Military Personnel	4,104	25	250	25,650,000	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	1.63	75.07	8.88	0.067	10023	88.56	9.81
Alternative 1																		
Total Military and Non Military Personnel	4,439	25	250	27,743,750	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	1.77	81.20	9.61	0.072	10841	95.79	10.61
Change in Personnel	335	25	250	2,093,750	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	0.13	6.13	0.73	0.005	818	7.23	0.80
Alternative 2																		
Total Military and Non Military Personnel	4,732	25	250	29,575,000	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	1.88	86.56	10.24	0.077	11556	102.12	11.31
Change in Personnel	628	25	250	3,925,000	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	0.25	11.49	1.36	0.010	1534	13.55	1.50
Alternative 3																		
Total Military and Non Military Personnel	4,445	25	250	27,781,250	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	1.77	81.31	9.62	0.072	10856	95.92	10.63
Change in Personnel	341	25	250	2,131,250	0.0001	0.0059	0.0007	0.000005	0.7815	0.0069	0.0008	0.14	6.24	0.74	0.006	833	7.36	0.82

[1] See Emission factors in Previous Table of this Appendix

[2] Assumes one vehicle per person, based on Total Military personnel at NAS Whidbey island, revised 2017

[3] Based on 250 days for commute

GSE Equipment Exhaust Emission Factors and Estimated Emissions

Equipment types, sizes, operations, ratio to LTOs and emission factors from those listed for NAS Lemoore in Navy F-35c West Coast Conformity Determination
All NAS Whidbey Equipment types, sizes, operations and emissions estimated based NAS LeMoore data and ratio of NAS Whidbey LTOs to NAS LeMoore LTOs
NAS Whidbey LTOs = Departures + Interfacility Departures

	CO2	CH4	N2O
GWP	1	25	298

EPA, 2016.U.S. Inventory of Greenhouse Gas Emissions and Sinks 1990-2014, April 2016. Accessed March 21, 2018 at https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2014
(latest final report: Draft 2016 inventory was released February 6, 2018)

GSE Equipment Exhaust Emission Factors **LeMoore Baseline LTO: 32966**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Load Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal
Tow Tractor	88	48	0.0107	4.89	72.29	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26
Tow Tractor	192	1	0.0003	10.67	0.93	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Turbine	396	5	0.0002	22.00	0.25	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Air Compressor	58	2	0.0002	3.22	1.53	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26
Hydraulic Power Supply	111	37	0.0010	6.17	5.56	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Aircon	210	8	0.0030	11.67	8.48	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
MEPP	215	37	0.0080	11.94	22.19	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Total Equipment:		138														

Equipment Type	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	1,160.76	24.18	657.76	0.50	38.69	37.48	172,174.30	9.84	4.41	173,734.55
Tow Tractor	0.32	0.01	0.38	0.00	0.00	0.00	100.38	0.01	0.00	101.29
Turbine	0.51	0.03	0.35	0.00	0.00	0.00	284.41	0.02	0.01	286.99
Air Compressor	0.64	0.01	0.36	0.00	0.02	0.02	100.38	0.01	0.00	101.29
Hydraulic Power Supply	43.21	1.54	52.09	0.04	0.17	0.17	12,875.60	0.74	0.33	12,992.28
Aircon	14.49	0.75	9.80	0.02	0.11	0.11	8,030.52	0.46	0.21	8,103.29
MEPP	179.57	9.24	121.47	0.27	1.32	1.32	99,538.27	5.69	2.55	100,440.29
Totals in lbs	**1,399.50**	**35.76**	**842.22**	**0.82**	**40.32**	**39.11**				
Totals in Tons	**0.70**	**0.02**	**0.42**	**0.00**	**0.02**	**0.02**				
Total Metric tons							**293.10**	**0.02**	**0.01**	
Total MT CO2e										**295.76**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Baseline LTOs: 14,845**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal
Tow Tractor	88	48	0.0107	4.89	32.55	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26
Tow Tractor	192	1	0.0003	10.67	0.42	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Turbine	396	5	0.0002	22.00	0.11	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Air Compressor	58	2	0.0002	3.22	0.69	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26
Hydraulic Power Supply	111	37	0.0010	6.17	2.50	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Aircon	210	8	0.0003	11.67	0.38	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
MEPP	215	37	0.0080	11.94	9.99	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Total Equipment:		138														

Equipment Type	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	522.70	10.89	296.20	0.22	17.42	16.88	77,532.23	4.43	1.99	78,234.83
Tow Tractor	0.14	0.01	0.17	0.00	0.00	0.00	45.20	0.00	0.00	45.61
Turbine	0.23	0.01	0.16	0.00	0.00	0.00	128.08	0.01	0.00	129.24
Air Compressor	0.29	0.01	0.16	0.00	0.01	0.01	45.20	0.00	0.00	45.61
Hydraulic Power Supply	19.46	0.69	23.46	0.02	0.08	0.08	5,798.04	0.33	0.15	5,850.58
Aircon	0.65	0.03	0.44	0.00	0.00	0.00	361.62	0.02	0.01	364.90
MEPP	80.86	4.16	54.70	0.12	0.59	0.59	44,823.32	2.56	1.15	45,229.51
Totals in lbs	**624.34**	**15.80**	**375.29**	**0.36**	**18.11**	**17.57**				
Totals in Tons	**0.31**	**0.01**	**0.19**	**0.00**	**0.01**	**0.01**				
Total Metric tons							**128.73**	**0.01**	**0.00**	
Total MT CO2e										**129.90**

GSE Equipment Exhaust Emission Factors **NAS Whidbey No Action LTOs: 14,914**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal
Tow Tractor	88	48	0.0107	4.89	32.70	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26
Tow Tractor	192	1	0.0003	10.67	0.42	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Turbine	396	5	0.0002	22.00	0.12	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Air Compressor	58	2	0.0002	3.22	0.69	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26
Hydraulic Power Supply	111	37	0.0010	6.17	2.52	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Aircon	210	8	0.0003	11.67	0.38	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
MEPP	215	37	0.0080	11.94	10.04	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Total Equipment:		138														

Equipment Type	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	525.13	10.94	297.58	0.22	17.50	16.96	77,892.60	4.45	2.00	78,598.47
Tow Tractor	0.14	0.01	0.17	0.00	0.00	0.00	45.41	0.00	0.00	45.82
Turbine	0.23	0.01	0.16	0.00	0.00	0.00	128.67	0.01	0.00	129.84
Air Compressor	0.29	0.01	0.16	0.00	0.01	0.01	45.41	0.00	0.00	45.82
Hydraulic Power Supply	19.55	0.70	23.57	0.02	0.08	0.08	5,824.99	0.33	0.15	5,877.78
Aircon	0.66	0.03	0.44	0.00	0.00	0.00	363.31	0.02	0.01	366.60
MEPP	81.24	4.18	54.96	0.12	0.60	0.60	45,031.66	2.57	1.15	45,439.74
Totals in lbs	**627.24**	**15.87**	**377.03**	**0.36**	**18.20**	**17.65**				
Totals in Tons	**0.31**	**0.01**	**0.19**	**0.00**	**0.01**	**0.01**				
Total Metric tons							**129.33**	**0.01**	**0.00**	
Total MT CO2e										**130.50**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 1A: 18,344**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal
Tow Tractor	88	48	0.0107	4.89	40.22	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26
Tow Tractor	192	1	0.0003	10.67	0.52	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Air Compressor	58	2	0.0002	3.22	0.85	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26
Hydraulic Power Supply	111	37	0.0010	6.17	3.09	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Aircon	210	8	0.0003	11.67	0.47	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
MEPP	215	37	0.0080	11.94	12.35	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Total Equipment:		138														

Equipment Type	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	645.91	13.46	366.01	0.28	21.53	20.86	95,806.75	5.47	2.45	96,674.96
Tow Tractor	0.18	0.01	0.21	0.00	0.00	0.00	55.86	0.00	0.00	56.36
Turbine	0.29	0.01	0.19	0.00	0.00	0.00	158.26	0.01	0.00	159.70
Air Compressor	0.36	0.01	0.20	0.00	0.01	0.01	55.86	0.00	0.00	56.36
Hydraulic Power Supply	24.04	0.86	28.99	0.02	0.10	0.10	7,164.65	0.41	0.18	7,229.58
Aircon	0.81	0.04	0.55	0.00	0.01	0.01	446.86	0.03	0.01	450.91
MEPP	99.92	5.14	67.59	0.15	0.73	0.73	55,388.28	3.17	1.42	55,890.21
Totals in lbs	**771.50**	**19.53**	**463.75**	**0.45**	**22.38**	**21.71**				
Totals in Tons	**0.39**	**0.01**	**0.23**	**0.00**	**0.01**	**0.01**				
Total Metric tons							**159.08**	**0.01**	**0.00**	
Total MT CO2e										**160.52**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 1B: 17,605**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal
Tow Tractor	88	48	0.0107	4.89	38.60	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26
Tow Tractor	192	1	0.0003	10.67	0.50	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Air Compressor	58	2	0.0002	3.22	0.82	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26
Hydraulic Power Supply	111	37	0.0010	6.17	2.97	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Aircon	210	8	0.0003	11.67	0.45	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
MEPP	215	37	0.0080	11.94	11.85	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Total Equipment:		138														

Equipment Type	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	619.88	12.91	351.27	0.26	20.66	20.02	91,947.11	5.25	2.36	92,780.34
Tow Tractor	0.17	0.01	0.20	0.00	0.00	0.00	53.61	0.00	0.00	54.09
Turbine	0.27	0.01	0.19	0.00	0.00	0.00	151.89	0.01	0.00	153.26
Air Compressor	0.34	0.01	0.19	0.00	0.01	0.01	53.61	0.00	0.00	54.09
Hydraulic Power Supply	23.08	0.82	27.82	0.02	0.09	0.09	6,876.02	0.39	0.18	6,938.33
Aircon	0.77	0.04	0.52	0.00	0.01	0.01	428.86	0.02	0.01	432.74
MEPP	95.90	4.94	64.87	0.14	0.71	0.71	53,156.92	3.04	1.36	53,638.64
Totals in lbs	**740.42**	**18.74**	**445.06**	**0.43**	**21.48**	**20.83**				
Totals in Tons	**0.37**	**0.01**	**0.22**	**0.00**	**0.01**	**0.01**				
Total Metric tons							**152.67**	**0.01**	**0.00**	
Total MT CO2e										**154.05**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 1C: 17,033**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal
Tow Tractor	88	48	0.0107	4.89	37.35	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26
Tow Tractor	192	1	0.0003	10.67	0.48	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Turbine	396	5	0.0002	22.00	0.13	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Air Compressor	58	2	0.0002	3.22	0.79	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26
Hydraulic Power Supply	111	37	0.0010	6.17	2.87	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Aircon	210	8	0.0003	11.67	0.44	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
MEPP	215	37	0.0080	11.94	11.47	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26
Total Equipment:		138														

Equipment Type	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	599.74	12.49	339.86	0.26	19.99	19.37	88,959.68	5.08	2.28	89,765.84
Tow Tractor	0.17	0.01	0.20	0.00	0.00	0.00	51.87	0.00	0.00	52.34
Turbine	0.27	0.01	0.18	0.00	0.00	0.00	146.95	0.01	0.00	148.28
Air Compressor	0.33	0.01	0.19	0.00	0.01	0.01	51.87	0.00	0.00	52.34
Hydraulic Power Supply	22.33	0.79	26.92	0.02	0.09	0.09	6,652.61	0.38	0.17	6,712.90
Aircon	0.75	0.04	0.51	0.00	0.01	0.01	414.92	0.02	0.01	418.68
MEPP	92.78	4.78	62.76	0.14	0.68	0.68	51,429.81	2.94	1.32	51,895.88
Totals in lbs	**716.36**	**18.13**	**430.60**	**0.42**	**20.78**	**20.16**				
Totals in Tons	**0.36**	**0.01**	**0.22**	**0.00**	**0.01**	**0.01**				
Total Metric tons							**147.71**	**0.01**	**0.00**	
Total MT CO2e										**149.05**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 1D: 18,131**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	39.76	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	638.41	13.30	361.76	0.27	21.28	20.62	94,694.30	5.41	2.43	95,552.42
Tow Tractor	192	1	0.0003	10.67	0.51	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.21	0.00	0.00	0.00	55.21	0.00	0.00	55.71
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	156.43	0.01	0.00	157.84
Air Compressor	58	2	0.0002	3.22	0.84	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.35	0.01	0.20	0.00	0.01	0.01	55.21	0.00	0.00	55.71
Hydraulic Power Supply	111	37	0.0010	6.17	3.06	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.77	0.85	28.65	0.02	0.09	0.09	7,081.46	0.40	0.18	7,145.63
Aircon	210	8	0.0003	11.67	0.47	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.80	0.04	0.54	0.00	0.01	0.01	441.67	0.03	0.01	445.67
MEPP	215	37	0.0080	11.94	12.20	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	98.76	5.08	66.81	0.15	0.73	0.73	54,745.14	3.13	1.40	55,241.24
Total Equipment:		138																								
Totals in lbs																	762.54	19.30	458.36	0.44	22.12	21.46				
Totals in Tons																	0.38	0.01	0.23	0.00	0.01	0.01				
Total Metric tons																							157.23	0.01	0.00	
Total MT CO2e																										158.65

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 1E: 17,248**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	37.82	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	607.31	12.65	344.14	0.26	20.24	19.61	90,082.58	5.15	2.31	90,898.91
Tow Tractor	192	1	0.0003	10.67	0.49	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.17	0.01	0.20	0.00	0.00	0.00	52.52	0.00	0.00	53.00
Turbine	396	5	0.0002	22.00	0.13	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.27	0.01	0.18	0.00	0.00	0.00	148.81	0.01	0.00	150.16
Air Compressor	58	2	0.0002	3.22	0.80	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.33	0.01	0.19	0.00	0.01	0.01	52.52	0.00	0.00	53.00
Hydraulic Power Supply	111	37	0.0010	6.17	2.91	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	22.61	0.80	27.26	0.02	0.09	0.09	6,736.59	0.38	0.17	6,797.63
Aircon	210	8	0.0003	11.67	0.44	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.76	0.04	0.51	0.00	0.01	0.01	420.16	0.02	0.01	423.97
MEPP	215	37	0.0080	11.94	11.61	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	93.95	4.84	63.56	0.14	0.69	0.69	52,078.99	2.98	1.33	52,550.93
Total Equipment:		138																								
Totals in lbs																	725.40	18.36	436.04	0.42	21.04	20.41				
Totals in Tons																	0.36	0.01	0.22	0.00	0.01	0.01				
Total Metric tons																							149.57	0.01	0.00	
Total MT CO2e																										150.93

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 2A: 19,085**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	41.85	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	672.00	14.00	380.80	0.29	22.40	21.70	99,676.83	5.70	2.55	100,580.11
Tow Tractor	192	1	0.0003	10.67	0.54	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.19	0.01	0.22	0.00	0.00	0.00	58.11	0.00	0.00	58.64
Turbine	396	5	0.0002	22.00	0.15	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.30	0.02	0.20	0.00	0.00	0.00	164.66	0.01	0.00	166.15
Air Compressor	58	2	0.0002	3.22	0.89	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.37	0.01	0.21	0.00	0.01	0.01	58.11	0.00	0.00	58.64
Hydraulic Power Supply	111	37	0.0010	6.17	3.22	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	25.02	0.89	30.16	0.02	0.10	0.10	7,454.07	0.43	0.19	7,521.62
Aircon	210	8	0.0003	11.67	0.49	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.84	0.04	0.57	0.00	0.01	0.01	464.91	0.03	0.01	469.12
MEPP	215	37	0.0080	11.94	12.85	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	103.96	5.35	70.33	0.16	0.76	0.76	57,625.67	3.29	1.48	58,147.88
Total Equipment:		138																								
Totals in lbs																	802.66	20.31	482.48	0.47	23.28	22.58				
Totals in Tons																	0.40	0.01	0.24	0.00	0.01	0.01				
Total Metric tons																							165.50	0.01	0.00	
Total MT CO2e																										167.00

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 2B: 18,299**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	40.12	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	644.32	13.42	365.12	0.28	21.48	20.81	95,571.72	5.46	2.45	96,437.80
Tow Tractor	192	1	0.0003	10.67	0.51	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.21	0.00	0.00	0.00	55.72	0.00	0.00	56.23
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	157.87	0.01	0.00	159.31
Air Compressor	58	2	0.0002	3.22	0.85	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.35	0.01	0.20	0.00	0.01	0.01	55.72	0.00	0.00	56.23
Hydraulic Power Supply	111	37	0.0010	6.17	3.09	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.99	0.85	28.92	0.02	0.09	0.09	7,147.08	0.41	0.18	7,211.84
Aircon	210	8	0.0003	11.67	0.47	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.80	0.04	0.54	0.00	0.01	0.01	445.76	0.03	0.01	449.80
MEPP	215	37	0.0080	11.94	12.32	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	99.68	5.13	67.43	0.15	0.73	0.73	55,252.40	3.16	1.42	55,753.10
Total Equipment:		138																								
Totals in lbs																	769.61	19.48	462.61	0.45	22.33	21.65				
Totals in Tons																	0.38	0.01	0.23	0.00	0.01	0.01				
Total Metric tons																							158.69	0.01	0.00	
Total MT CO2e																										160.12

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 2C: 17,732**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	38.88	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	624.36	13.01	353.80	0.27	20.81	20.16	92,610.41	5.29	2.37	93,449.65
Tow Tractor	192	1	0.0003	10.67	0.50	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.17	0.01	0.20	0.00	0.00	0.00	53.99	0.00	0.00	54.48
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	152.98	0.01	0.00	154.37
Air Compressor	58	2	0.0002	3.22	0.83	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.34	0.01	0.19	0.00	0.01	0.01	53.99	0.00	0.00	54.48
Hydraulic Power Supply	111	37	0.0010	6.17	2.99	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.24	0.83	28.02	0.02	0.09	0.09	6,925.62	0.40	0.18	6,988.38
Aircon	210	8	0.0003	11.67	0.46	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.78	0.04	0.53	0.00	0.01	0.01	431.95	0.02	0.01	435.87
MEPP	215	37	0.0080	11.94	11.94	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	96.59	4.97	65.34	0.15	0.71	0.71	53,540.39	3.06	1.37	54,025.58
Total Equipment:		138																								
Totals in lbs																	745.76	18.87	448.28	0.43	21.63	20.98				
Totals in Tons																	0.37	0.01	0.22	0.00	0.01	0.01				
Total Metric tons																							153.77	0.01	0.00	
Total MT CO2e																										155.16

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 2D: 18,882**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	41.40	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	664.85	13.85	376.75	0.28	22.16	21.47	98,616.61	5.64	2.53	99,510.28
Tow Tractor	192	1	0.0003	10.67	0.53	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.22	0.00	0.00	0.00	57.50	0.00	0.00	58.02
Turbine	396	5	0.0002	22.00	0.15	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.29	0.02	0.20	0.00	0.00	0.00	162.90	0.01	0.00	164.38
Air Compressor	58	2	0.0002	3.22	0.88	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.37	0.01	0.21	0.00	0.01	0.01	57.50	0.00	0.00	58.02
Hydraulic Power Supply	111	37	0.0010	6.17	3.18	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	24.75	0.88	29.84	0.02	0.10	0.10	7,374.78	0.42	0.19	7,441.61
Aircon	210	8	0.0003	11.67	0.49	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.83	0.04	0.56	0.00	0.01	0.01	459.97	0.03	0.01	464.13
MEPP	215	37	0.0080	11.94	12.71	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	102.85	5.29	69.58	0.16	0.76	0.76	57,012.73	3.26	1.46	57,529.38
Total Equipment:		138																								
Totals in lbs																	794.13	20.10	477.35	0.46	23.04	22.34				
Totals in Tons																	0.40	0.01	0.24	0.00	0.01	0.01				
Total Metric tons																							163.74	0.01	0.00	
Total MT CO2e																										165.23

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 2E: 17,937**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	39.33	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	631.57	13.16	357.89	0.27	21.05	20.39	93,681.08	5.35	2.40	94,530.02
Tow Tractor	192	1	0.0003	10.67	0.50	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.17	0.01	0.21	0.00	0.00	0.00	54.62	0.00	0.00	55.11
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	154.75	0.01	0.00	156.15
Air Compressor	58	2	0.0002	3.22	0.83	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.35	0.01	0.20	0.00	0.01	0.01	54.62	0.00	0.00	55.11
Hydraulic Power Supply	111	37	0.0010	6.17	3.03	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.51	0.84	28.34	0.02	0.09	0.09	7,005.69	0.40	0.18	7,069.18
Aircon	210	8	0.0003	11.67	0.46	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.79	0.04	0.53	0.00	0.01	0.01	436.95	0.02	0.01	440.90
MEPP	215	37	0.0080	11.94	12.07	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	97.71	5.03	66.10	0.15	0.72	0.72	54,159.37	3.09	1.39	54,650.17
	Total Equipment:	138														Totals in lbs	**754.38**	**19.09**	**453.46**	**0.44**	**21.88**	**21.23**				
																Totals in Tons	**0.38**	**0.01**	**0.23**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**155.55**	**0.01**	**0.00**	
																Total MT CO2e										**156.96**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 3A: 18,470**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	40.50	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	650.34	13.55	368.53	0.28	21.68	21.00	96,464.82	5.51	2.47	97,338.99
Tow Tractor	192	1	0.0003	10.67	0.52	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.21	0.00	0.00	0.00	56.24	0.00	0.00	56.75
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.29	0.01	0.19	0.00	0.00	0.00	159.35	0.01	0.00	160.79
Air Compressor	58	2	0.0002	3.22	0.86	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.36	0.01	0.20	0.00	0.01	0.01	56.24	0.00	0.00	56.75
Hydraulic Power Supply	111	37	0.0010	6.17	3.11	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	24.21	0.86	29.19	0.02	0.10	0.10	7,213.86	0.41	0.18	7,279.24
Aircon	210	8	0.0003	11.67	0.47	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.81	0.04	0.55	0.00	0.01	0.01	449.93	0.03	0.01	454.01
MEPP	215	37	0.0080	11.94	12.43	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	100.61	5.18	68.06	0.15	0.74	0.74	55,768.72	3.19	1.43	56,274.10
	Total Equipment:	138														Totals in lbs	**776.80**	**19.66**	**466.93**	**0.45**	**22.53**	**21.86**				
																Totals in Tons	**0.39**	**0.01**	**0.23**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**160.17**	**0.01**	**0.00**	
																Total MT CO2e										**161.62**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 3B: 18,241**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	40.00	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	642.28	13.38	363.96	0.27	21.41	20.74	95,268.80	5.44	2.44	96,132.14
Tow Tractor	192	1	0.0003	10.67	0.51	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.21	0.00	0.00	0.00	55.54	0.00	0.00	56.05
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	157.37	0.01	0.00	158.80
Air Compressor	58	2	0.0002	3.22	0.85	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.35	0.01	0.20	0.00	0.01	0.01	55.54	0.00	0.00	56.05
Hydraulic Power Supply	111	37	0.0010	6.17	3.08	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.91	0.85	28.82	0.02	0.09	0.09	7,124.42	0.41	0.18	7,188.99
Aircon	210	8	0.0003	11.67	0.47	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.80	0.04	0.54	0.00	0.01	0.01	444.35	0.03	0.01	448.38
MEPP	215	37	0.0080	11.94	12.28	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	99.36	5.11	67.22	0.15	0.73	0.73	55,077.28	3.15	1.41	55,576.39
	Total Equipment:	138														Totals in lbs	**767.17**	**19.42**	**461.14**	**0.45**	**22.25**	**21.59**				
																Totals in Tons	**0.38**	**0.01**	**0.23**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**158.18**	**0.01**	**0.00**	
																Total MT CO2e										**159.62**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 3C: 17,532**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	38.44	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	617.31	12.86	349.81	0.26	20.58	19.93	91,565.85	5.23	2.35	92,395.63
Tow Tractor	192	1	0.0003	10.67	0.49	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.17	0.01	0.20	0.00	0.00	0.00	53.38	0.00	0.00	53.87
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.27	0.01	0.18	0.00	0.00	0.00	151.26	0.01	0.00	152.63
Air Compressor	58	2	0.0002	3.22	0.82	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.34	0.01	0.19	0.00	0.01	0.01	53.38	0.00	0.00	53.87
Hydraulic Power Supply	111	37	0.0010	6.17	2.96	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	22.98	0.82	27.70	0.02	0.09	0.09	6,847.51	0.39	0.18	6,909.56
Aircon	210	8	0.0003	11.67	0.45	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.77	0.04	0.52	0.00	0.01	0.01	427.08	0.02	0.01	430.95
MEPP	215	37	0.0080	11.94	11.80	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	95.50	4.92	64.60	0.14	0.70	0.70	52,936.51	3.02	1.36	53,416.22
	Total Equipment:	138														Totals in lbs	**737.35**	**18.66**	**443.22**	**0.43**	**21.39**	**20.75**				
																Totals in Tons	**0.37**	**0.01**	**0.22**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**152.03**	**0.01**	**0.00**	
																Total MT CO2e										**153.41**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 3D: 18,265**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	40.05	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	643.12	13.40	364.44	0.27	21.44	20.77	95,394.15	5.45	2.44	96,258.62
Tow Tractor	192	1	0.0003	10.67	0.51	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.18	0.01	0.21	0.00	0.00	0.00	55.62	0.00	0.00	56.12
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	157.58	0.01	0.00	159.01
Air Compressor	58	2	0.0002	3.22	0.85	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.35	0.01	0.20	0.00	0.01	0.01	55.62	0.00	0.00	56.12
Hydraulic Power Supply	111	37	0.0010	6.17	3.08	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.94	0.85	28.86	0.02	0.09	0.09	7,133.80	0.41	0.18	7,198.44
Aircon	210	8	0.0003	11.67	0.47	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.80	0.04	0.54	0.00	0.01	0.01	444.94	0.03	0.01	448.97
MEPP	215	37	0.0080	11.94	12.29	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	99.49	5.12	67.30	0.15	0.73	0.73	55,149.74	3.15	1.41	55,649.51
	Total Equipment:	138														Totals in lbs	**768.18**	**19.44**	**461.75**	**0.45**	**22.28**	**21.61**				
																Totals in Tons	**0.38**	**0.01**	**0.23**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**158.39**	**0.01**	**0.00**	
																Total MT CO2e										**159.83**

GSE Equipment Exhaust Emission Factors **NAS Whidbey Alt 3E: 17,738**

Equipment Type	Size[1] (hp)	Number of Equipment	Gallons fuel/unit/LTO	Estimated fuel flow (gal/hr)	Annual hours per unit	Fuel Type	Factor	Emission factors NO_X g/hp-hr	VOC g/hp-hr	CO g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/gal	CH_4 g/gal	N_2O g/gal	Emissions (lbs/yr) NO_X lbs/year	VOC lbs/year	CO lbs/year	SO_2 lbs/year	PM_{10} lbs/year	$PM_{2.5}$ lbs/year	CO_2 kg/year	CH_4 kg/year	N_2O kg/year	MT/year CO_2e
Tow Tractor	88	48	0.0107	4.89	38.89	Diesel	0.36	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	624.57	13.01	353.92	0.27	20.82	20.17	92,641.74	5.29	2.37	93,481.27
Tow Tractor	192	1	0.0003	10.67	0.50	Diesel	0.36	2.27000	0.09000	2.70000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.17	0.01	0.20	0.00	0.00	0.00	54.01	0.00	0.00	54.50
Turbine	396	5	0.0002	22.00	0.14	JP-5	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.28	0.01	0.19	0.00	0.00	0.00	153.03	0.01	0.00	154.42
Air Compressor	58	2	0.0002	3.22	0.83	Diesel	0.34	4.80000	0.10000	2.72000	0.00205	0.16000	0.15500	10,150	0.58	0.26	0.34	0.01	0.19	0.00	0.01	0.01	54.01	0.00	0.00	54.50
Hydraulic Power Supply	111	37	0.0010	6.17	2.99	Diesel	0.34	2.53000	0.09000	3.05000	0.00205	0.01000	0.01000	10,150	0.58	0.26	23.25	0.83	28.03	0.02	0.09	0.09	6,927.97	0.40	0.18	6,990.75
Aircon	210	8	0.0003	11.67	0.46	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	0.78	0.04	0.53	0.00	0.01	0.01	432.10	0.02	0.01	436.01
MEPP	215	37	0.0080	11.94	11.94	Diesel	0.34	1.36000	0.07000	0.92000	0.00205	0.01000	0.01000	10,150	0.58	0.26	96.62	4.97	65.36	0.15	0.71	0.71	53,558.51	3.06	1.37	54,043.86
	Total Equipment:	138														Totals in lbs	**746.01**	**18.88**	**448.43**	**0.43**	**21.64**	**20.99**				
																Totals in Tons	**0.37**	**0.01**	**0.22**	**0.00**	**0.01**	**0.01**				
																Total Metric tons							**153.82**	**0.01**	**0.00**	
																Total MT CO2e										**155.22**

Total Change in Criteria Pollutant and GHG Emissions, High Tempo Operations, All Alternatives

Alternative	Emissions (tpy)[2]						MT CO2e
	NO_x	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Alternative 1 A	239.7	187.6	639.0	18.6	93.4	87.0	486
Alternative 1 B	190.0	156.6	523.4	14.9	76.1	69.7	480
Alternative 1 C	142.8	132.2	425.8	11.4	60.3	53.9	475
Alternative 1 D	223.7	178.6	604.1	17.4	87.9	81.5	484
Alternative 1 E	159.0	141.3	461.1	12.6	65.8	59.4	477
Alternative 2 A	241.6	218.1	723.3	19.2	103.6	91.5	42,574
Alternative 2 B	193.4	185.4	604.9	15.5	86.5	74.5	34,682
Alternative 2 C	148.0	161.4	509.5	12.1	71.3	59.2	27,432
Alternative 2 D	226.0	209.5	690.0	18.0	98.3	86.2	40,082
Alternative 2 E	163.5	170.2	543.3	13.3	76.5	64.5	29,916
Alternative 3 A	235.4	204.7	682.9	18.6	94.2	87.7	40,733
Alternative 3 B	191.0	182.9	593.2	15.3	79.6	73.0	33,719
Alternative 3 C	143.3	153.2	482.9	11.8	63.1	56.5	26,004
Alternative 3 D	219.8	196.0	649.3	17.4	89.0	82.4	38,238
Alternative 3 E	158.8	161.9	516.5	12.9	68.3	61.8	28,488

Facility Construction - NAS Whidbey Island Complex

Alternative	total sq ft	Acres
Alternative 1, 2 and 3		
Armament Storage	4,660	0.11
Hangar 12 Expansion for FRS	55,606	1.28
Mobile Maintenance Facility Storage	32,000	0.73
Temporary Hangers	43,601	1.00
Two Squadron Hangar	37,500	0.86
Total New Construction	**173,367**	**3.98**
Privately Owned Vehicle Parking Expansion	70,860	1.63
Taxiway Juliet Repair for Attrition Aircraft	173,781	3.99
New Paving	**244,641**	**5.62**
Demolition (Building 151)	38,632	0.89
Total Construction Area	**456,640**	**10.48**

Area provided based on Figure 2.3-1 of DEIS

Emission calculations assume all activities will be performed within one year

Nonroad Construction Equipment Exhaust Emission Factors

Equipment Type	Fuel Type	SCC	Size[1] (hp)	Engine Size Range[2]	Emission Factor[3] (g/hr)							Equipment Emission Rate[4] (lbs-hr)						
					VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	CO_2	VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Asphalt Paving Machine	Diesel	2270002003	100	75<hp≤100	20.460	190.904	206.642	0.289	24.693	23.952	49552.899	0.045	0.421	0.456	0.001	0.054	0.053	109.244
Paver/Roller	Diesel	2270002009	100	75<hp≤100	17.321	169.807	176.275	0.287	21.878	21.222	50475.026	0.038	0.374	0.389	0.001	0.048	0.047	111.277
Generators	Diesel	2270006005	25	16 < hp <= 25	9.478	50.640	94.054	0.085	7.420	7.197	12548.679	0.021	0.112	0.207	0.000	0.016	0.016	27.665
Air Compressors	Diesel	2270006015	40	25<hp≤40	6.361	27.166	123.285	0.112	4.087	3.965	20332.505	0.014	0.060	0.272	0.000	0.009	0.009	44.825
Tractors/Loaders/Backhoes	Diesel	2270002066	100	75<hp≤100	66.136	426.666	343.491	0.368	60.829	59.005	60459.265	0.146	0.941	0.757	0.001	0.134	0.130	133.288
Aerial Lifts (Cherry Pickers)	Diesel	2270003010	50	40<hp≤50	63.308	247.349	238.955	0.197	35.930	34.852	31438.171	0.140	0.545	0.527	0.000	0.079	0.077	69.308
Excavators	Diesel	2270002069	175	100<hp≤175	21.099	70.182	165.305	0.394	15.944	15.466	73800.564	0.047	0.155	0.364	0.001	0.035	0.034	162.700
Off-Highway Trucks	Diesel	2270002051	600	300<hp≤600	58.490	156.315	445.272	1.161	22.665	21.985	225228.578	0.129	0.345	0.982	0.003	0.050	0.048	496.536

Notes:

1. hp value set at Max of engine size range.
2. hp range used to select Emission Factors
3. Emission factors from EPA's NONROAD model (Year 2017) for Island County, Washington. VOC emissions include both Exhaust and Crankcase Emissions
4. Equipment Emission Rate = Emission Factor x 453.6 g/lb.

Onroad Vehicle Exhaust Emission Factors

Equipment Type	Fuel Type	Exhaust Emission Factor[1] (g/VMT)									Road Dust Emission Factor[d] (g/VMT)		Total PM Emission Factor[e] (g/VMT)	
		VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	CH4	N2O	CO_2	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Cars and Light Trucks	Gasoline	0.06	2.66	0.31	0.0024	0.0066	0.0058	0.0038	0.0021	354	3.13	0.341	3.13	0.347
Delivery Vehicles	Diesel	0.28	1.10	8.06	0.158	0.17	0.17			1,400	3.13	0.341	3.30	0.511

Notes:

1. MOVES Onroad run for analysis year 2017, Island Count, WA. Includes weekdays and weekends, January through December, all hours of day. 'Cars and Light Trucks' Assumes 50% Passenger Car, 50% Passenger Truck

d. See emission factor derivation table below.

e. Sum of exhaust and road dust emission factors.

Paved Roads - Emission Factor Derivation

$E = (k(sL/2)^{0.65}(W/3)^{1.5}-C)$ AP-42 Section 13.2.1 (11/06 version)

where:

E = particulate emission factor (lb/VMT)

k = particle size multiplier

sL = road surface silt loading (g/m^2)

W = average vehicle weight (tons)

C = emission factor for 1980's vehicle fleet exhaust, break wear and tire wear

Parameter	Units	PM_{10}	$PM_{2.5}$	Reference
Mean Vehicle Weight	tons	3	3	Assumption
k factor	g/VMT	7.3	1.1	Table 13.2-1.1
Silt Loading, sL	g/m^2	0.6	0.6	Table 13.2.1-3
Emission factor, C	g/VMT	0.2119	0.1617	Table 13.2.1-2
Emission factor, E	g/VMT	3.13	0.341	Table 13.2.1-3

Equipment Exhaust Emissions, Construction and Demolition Equipment Use On Site, All Alternatives

		Eqpt	Days	Emission Factors (lb/day/unit)[1]							Emissions (TPY)						
Activity	**Equipment List**	**qty**	**Used**	**VOC**	**CO**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**VOC**	**CO**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Demolition	Loader	1	60	1.17	7.52	6.06	0.01	1.07	1.04	1066.30	0.03	0.23	0.18	0.0002	0.03	0.03	31.99
	Haul Truck	1	60	1.03	2.76	7.85	0.02	0.40	0.39	3972.29	0.03	0.08	0.24	0.0006	0.01	0.01	119.17
Excavation	Backhoe Loader	1	60	1.17	7.52	6.06	0.01	1.07	1.04	1066.30	0.03	0.23	0.18	0.0002	0.03	0.03	31.99
	Haul Truck	1	60	1.03	2.76	7.85	0.02	0.40	0.39	3972.29	0.03	0.08	0.24	0.0006	0.01	0.01	119.17
Cut and fill	Tractor	1	125	1.17	7.52	6.06	0.01	1.07	1.04	1066.30	0.07	0.47	0.38	0.0004	0.07	0.07	66.64
	Excavator	1	125	0.37	1.24	2.92	0.01	0.28	0.27	1301.60	0.02	0.08	0.18	0.0004	0.02	0.02	81.35
	Water Truck	1	125	1.03	2.76	7.85	0.02	0.40	0.39	3972.29	0.06	0.17	0.49	0.0013	0.02	0.02	248.27
Trenching	Trencher	1	125	0.37	1.24	2.92	0.01	0.28	0.27	1301.60	0.02	0.08	0.18	0.0004	0.02	0.02	81.35
	Track loader	1	125	1.17	7.52	6.06	0.01	1.07	1.04	1066.30	0.07	0.47	0.38	0.0004	0.07	0.07	66.64
Grading	Grader	1	125	0.37	1.24	2.92	0.01	0.28	0.27	1301.60	0.02	0.08	0.18	0.0004	0.02	0.02	81.35
	Excavator	1	125	0.37	1.24	2.92	0.01	0.28	0.27	1301.60	0.02	0.08	0.18	0.0004	0.02	0.02	81.35
	Water Truck	1	125	1.03	2.76	7.85	0.02	0.40	0.39	3972.29	0.06	0.17	0.49	0.0013	0.02	0.02	248.27
Concrete Slab pouring	Cement Truck	1	125	1.03	2.76	7.85	0.02	0.40	0.39	3972.29	0.06	0.17	0.49	0.0013	0.02	0.02	248.27
	Compactor	1	125	1.17	7.52	6.06	0.01	1.07	1.04	1066.30	0.07	0.47	0.38	0.0004	0.07	0.07	66.64
Portable Equipment	Generator	3	125	0.17	0.89	1.66	0.00	0.13	0.13	221.32	0.03	0.17	0.31	0.0003	0.02	0.02	41.50
	Air Compressor	3	125	0.11	0.48	2.17	0.00	0.07	0.07	358.60	0.02	0.09	0.41	0.0004	0.01	0.01	67.24
Paving	Asphalt Paving Machine	1	60	0.36	3.37	3.64	0.01	0.44	0.42	873.95	0.01	0.10	0.11	0.0002	0.01	0.01	26.22
	Paver/Roller	1	60	0.31	2.99	3.11	0.01	0.39	0.37	890.21	0.01	0.09	0.09	0.0002	0.01	0.01	26.71
	Haul Truck	2	60	1.03	2.76	7.85	0.02	0.40	0.39	3972.29	0.06	0.17	0.47	0.0012	0.02	0.02	238.34
Architectural Coatings	Air Compressor	5	60	0.11	0.48	2.17	0.00	0.07	0.07	358.60	0.02	0.07	0.33	0.0003	0.01	0.01	53.79
		29								**Annual Emissions (TPY)**	**0.8**	**3.5**	**5.9**	**0.011**	**0.532**	**0.516**	**2026.2**

[1] Calculated using EPA NONROAD equipment emission rates (see Table 2.1), assuming operation for 8 hours per day.

Air Quality Calculations
EIS for the Construction and Operation of an OLF on the East Coast of the U.S.

Particulate Emissions from Construction

Activity	ACRES	ACTIVITY DAYS	BULLDOZING (LBS)(1)	PAN SCRAPING SOIL REMOV(LBS)(2)	PAN SCRAPING ETHMOVING (LBS)(3)	EMISSIONS	
						lbs	Tons
Total Disturbed Acreage	10.48	60	360	168	106	634	0.32

(1) Bulldozing dust emissions based on 8hr/activity day

(2) Soil removal dust emissions based on 20.25 VMT/acre

(3) Earthmoving dust emissions based on soil removal miles

EPA 1992 Fugitive Dust Background document (EPA-450/2-92-004) used as data reference.

VOC Emissions from Paving

Activity	Acres Paved	Emission Factor(1) (lbs/acre)	EMISSIONS	
			LBS/YR	TPY
Paving	5.62	2.62	441.4	0.221

(1) URBEMIS 9.2.4, 2007

VOC Emissions from Architectural Coatings

Activity	Sq ft surfaces[1]	Est. Paint Qty (gal)[2]	Avg VOC Content (lb/gal)	EMISSIONS	
				LBS/YR	TPY
New Built Space	520,102	1734	5	8668	4.33

[1]assumes sq ft of painted surface three times total sq ft of built space

[2]assumes one gallon covers 300 sq ft

On Road Vehicle Emissions for Construction Vehicles, Criteria Pollutants, All Alternatives

Source	# of vehicles[2]	Avg Daily mileage[3]	Total Annual Miles	Emission Factors (lbs/mi)[1]						Emissions (tpy)					
				VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$
Worker commute	29	30	217,500	0.0001	0.0059	0.0007	0.0000	0.0069	0.0008	0.01	0.64	0.08	0.001	0.75	0.08
Deliveries	2	50	25,000	0.0006	0.0024	0.0178	0.0003	0.0073	0.0011	0.01	0.03	0.22	0.004	0.09	0.01
Total Ground Vehicle Emissions										**0.02**	**0.67**	**0.30**	**0.00**	**0.84**	**0.10**

[1] See Emission factors in Table 2.2 of this Appendix
[2] See Construction Assumptions, Table 1 of this Appendix
[3] Based on use of local landfills for wastes and local sources for construction materials.

On Road Vehicle Emissions for Construction Vehicles, Greenhouse Gas Emissions, All Alternatives

Source	# of vehicles[2]	Avg Daily mileage[3]	Total Annual Miles	Emission Factors (lbs/mi)[1]			Emissions (tpy)			Emissions (MT CO2e)[4]			Total
				CH4	N2O	CO_2	CH4	N2O	CO_2	CH4	N2O	CO_2	CO_2e
Worker commute	29	30	217,500	0.000008	0.000005	0.7815	0.0225	0.1524	84.9884	0.02	0.14	77.08	77.243
Deliveries	2	50	25,000	0.000000	0.000000	3.0864	0.0000	0.0000	38.5802	0.00	0.00	34.99	34.992
Total Ground Vehicle Emissions										**0.02**	**0.14**	**112.08**	**112.24**

[1] See Emission factors in Table 2.2 of this Appendix
[2] See Construction Assumptions, Table 1 of this Appendix
[3] Based on use of local landfills for wastes and local sources for construction materials.
[4] Based on Global Warming Potential (GWP) from U.S. Inventory of Greenhouse Gas Emissions and Sinks 1990-2013, 2015.

Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013.

	CO_2	CH_4	N_2O
GWP	1	25	298

Table 6 Summary of Construction Emissions NAS Whidbey Island, All Alternatives

Activity	Emissions (TPY)						MT/year
	NO_X	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2e
Construction equipment	5.89	0.79	3.54	0.011	0.53	0.52	1,838
VOCs from paving and painting		4.55					
PM_{10} from grading and demolition					0.32	0.03	
Worker Commute and Deliveries	0.30	0.02	0.67	0.005	0.84	0.10	112
Total	**6.19**	**5.36**	**4.21**	**0.016**	**1.69**	**0.65**	**1,950**

Key:

CO = Carbon monoxide.

NOx = Nitrogen oxides.

PM_{10} = Particulate matter less than 10 microns in diameter.

Tpy = Tons per year.

VOC = Volatile organic compound.

Building Energy Use Associated with the EA 18G (Growler)Operations at NAS Whidbey Island Complex

Alternative/ Buildings	New building space (Sqft)[1]	Space Type (CBECS)[2]	CBESC 2003 Electricity Intensity (kWh/Sq ft)	CBESC 2003 Natural Gas Intensity (ccf/Sq ft)	Estimated Electricity use (kWh)[5]	% of Site total	Estimated Natural Gas Use (ccf)[4]	% of Site total
Total	**129,766**				**1,645,821**	**3.3%**	**50,063**	**2.11%**
Armament Storage	4,660	Warehouse/ Storage	7.14	0.23	23,305		763	
Hangar 12 Expansion for FRS	55,606	Other	22.44	0.68	873,443		26,313	
Mobile Maintenance Facility Storage	32,000	Warehouse/ Storage	7.14	0.23	160,032		5,242	
Two Squadron Hangar	37,500	Other	22.44	0.68	589,041		17,745	
					1,462,484.40			

1. New building space based on GIS data provided by Navy. See Chapter 2, Figures 2.3.1
2. Space type used to determine emission factors from EIA 2003 Commercial Buildings Energy Consumption Survey

3. 2003 CBECS Energy Intensity from Table E6: http://www.eia.gov/consumption/commercial/data/archive/cbecs/cbecs2003/detailed_tables_2003/2003set19/2003html/e06.html

4. 2003 CBECS Energy Intensity from Table E8: http://www.eia.gov/consumption/commercial/data/archive/cbecs/cbecs2003/detailed_tables_2003/2003set19/2003html/e08.html
5. Energy use estimated using CBECS 2003 Energy Intensity, building sq ft, and assuming a 30% improvement in energy efficiency for new buildings as required by Federal building standards https://www.energycodes.gov/energy-efficiency-standards-federal-buildings

FY15 Reported Electricity use, site wide (MMBTU)	FY15 Reported Electricity use, site wide (kWh)	FY15 Reported Natural Gas Use (MMBtu)	Estimated Natural Gas Use (ccf)[5]
171,511	50,303,662	244426	2,375,374.15

Source: NAS Whidbey Island. 2015. FY 2015 Shore Installation Energy and Water Management Annual Report

Fiscal Year	Energy Consumed (Million BTU)	Energy Intensity (Million BTU/KSF)	% Progress from Previous Year	% Progress from Baseline
FY2003 Baseline	630,431.72	179.20		
FY2015	**421,069.00**	**107.58**	**-4.17%**	**-39.97%**
FY2014	439,392.00	112.26	-4.50%	-37.35%
FY2013	460,113.02	117.56	-4.52%	-34.40%
FY2012	481,913.32	123.13	2.03%	-31.29%
FY2011	478,246.19	120.68	2.35%	-32.66%
FY2010	467,287.60	117.91	-6.22%	-34.20%
FY2009	498,278.15	125.73		-29.84%

Source: NAS Whidbey 2016. FY 2015 Shore Installation Energy and Water Management Annual Report

CBECS 2003 Energy Intensity Factors

Energy Intensity by Building Use, Existing (CBECS2003)		
Building Use	Electricity intensity (kWh/sq ft)[1]	Natural Gas Energy Intensity (cubic feet/ square foot)[2]
Education	**11.039**	**36.9**
Food Sales	**48.606**	**50.2**
Food Service	**38.089**	**141.2**
Health Care	**23.079**	**92.5**
Inpatient	**27.297**	**109.8**
Outpatient	**15.898**	**50.2**
Lodging	**13.540**	**48.9**
Mercantile	**0.000**	**32.5**
Enclosed and Strip Malls	**0.000**	**30.9**
Retail (Other Than Mall)..............	**14.362**	**33.4**
Office	**17.284**	**31.8**
Public Assembly	**12.440**	**36.4**
Public Order and Safety	**15.596**	**43.7**
Religious Worship	**4.795**	**30.3**
Service	**10.864**	**54.1**
Warehouse and Storage	**7.144**	**23.4**
Other	**22.440**	**67.6**
Vacant	**1.558**	**23.0**

1. http://www.eia.gov/consumption/commercial/data/archive/cbecs/cbecs2003/detailed_tables_2003/2003set19/2003html/e06.html
2. http://www.eia.gov/consumption/commercial/data/archive/cbecs/cbecs2003/detailed_tables_2003/2003set19/2003html/e08.html

Household Average Site Energy Consumption, 2009 RECS

West, AK,HI, OR, and WA Households (Millions)	Average Site Energy Consumption (per household)	
	Electricity (kWh)	Natural Gas (1000 cf)
4.7	12,570	73

(Table CE2.5: Household Site Fuel Consumption in the West Region, Totals and Averages, 2009, Physical Units, Final)
http://www.eia.gov/consumption/residential/data/2009/index.cfm?view=consumption#fuel-consumption

Estimated Emissions from Electricity in new buildings, NAS Whidbey Island Complex

Total Annual Increase in Electricity Use			Emissions factors (lbs/MWH)			Emissions per year (tons)		Emissions per year (MT)
Alternative	Unit	Total	NOX	SO2	CO2	NOX	SO2	CO2
All Alternatives	MWH	1,646	0.30	0.2	242	0.25	0.16	180.62

Washington Electricity Profile 2013 Edition , July 8, 2015 release

http://www.eia.gov/electricity/state/washington/index.cfm

	MWH	KWH
Net Generation	**114,172,916**	114,172,916,000

Pollutant	Emissions (see unit)	Metric tons	lbs	lbs/KWH
Sulfur Dioxide (short tons)	13259	12,026	26512599.83	0.00023221
Nitrogen Oxide (short tons)	17975	16,303	35942679.08	0.00031481
Carbon Dioxide (thousand MT)	12,543	12,543,000	27652581523	0.24219914
Sulfur Dioxide (lbs/MWh)	0.2			
Nitrogen Oxide (lbs/MWh)	0.3			
Carbon Dioxide (lbs/MWh)	242			

CO2 emission rates are the lowest in the country

Source type	MWH	%
Total electric industry	114,172,916	100%
Coal	6,740,425	5.90%
Hydroelectric	78,155,087	68.45%
Natural gas	11,424,310	10.01%
Nuclear	8,460,890	7.41%
Other	129,103	0.11%
Other biomass	283,904	0.25%
Other gas	409,786	0.36%
Petroleum	24,363	0.02%
Pumped storage	7,188	0.01%
Solar	762	0.00%
Wind	7,004,365	6.13%
Wood	1,532,734	1.34%
Total renewable	86,976,852	76.18%

Estimated Emissions from Natural Gas use in new buildings, NAS Whidbey Island Complex

Total Annual Increase in Electricity Use			Emissions per year (tons)[1]							Emissions per year (MT)
Alternative	Unit[2]	Total	NOx	VOC	CO	SO2	PM10	PM2.5	CO2	CO2
All Alternatives	MMBtu	5,151.458	0.10	0.01	0.21	0.00	0.02	0.02	303.94	275.67

1. Annual emissions (tons) = Natural Gas use in MMBtu x EF (lb/MMBtu) / 2000
2. 1 ccf = 0.1029 MMBtu

	Emissions factors (EF) (lbs/MMBtu)[1]						
Unit	NOx[2]	VOC	CO	SO2	PM10	PM2.5	CO2
Unit 3 Process 1	0.0392	0.00539	0.0824	0.000588	0.00745	0.00745	118

1. From NAS Whidbey Island's CY2014 Air Emission Inventory Report. April 9, 2015.
2. Assuming 60% NOx control from Flue gas recirculation and Low NOx Burner

Stationary VOC Emission Increase Estimates: Growler Operations

Source	*Year*	*VOC*
Gas Stations	2015	24.20
	2016	25.50
	2017	28.00
	Average	25.90
	per capita	0.00
	increase	1.64
Painting, Area Coating and Solvent use in Growler Hangars and Facilities		
	Annual	4.28
	per aircraft	0.05
	increase	1.93
Total estimated VOC increase, All Alternatives		**3.57**

Gas station average annual emissions based on reported gas station emissions from 2015, 2016, and 2017 AEI Reports
Per capita gas station emissions based on existing population at NASWI
Gas station emission increases based on largest projected increase, 628

Painting, Area Coating and Solvent Use in Growler Hangars annual emission totals based on data provided by Jen Stewart, NASWI, May 15, 2018.
Painting, Area Coating and Solvent Use in Growler Hangars based on existing and projected aircraft:

Existing Growlers	82
New Growlers	37
Population	9908
Alt 1 increase	335
Alt 2 increase	628
Alt 3 increase	341

Sources:

NASWI. (2017). *NAS Whidbey Island's CY2016 air emission inventory report.* Updated April 12, 2017.
NASWI. (2016). *NAS Whidbey Island's CY2015 air emission inventory report.* Updated April 12, 2016.
NASWI. (2018). *NAS Whidbey Island's CY2017 air emission inventory report.* April 13, 2018.
NASWI. (2018). *NAS Whidbey Island's VAQ Emissions from painting and depaining operations.* May 16, 2018.

NASWI
2015 Air Emissions Inventory Report
Facility Wide Emissions

Pollutant	Reported CY2014 Totals (TPY)	CY 2015 Emissions (TPY)							
		Boilers	Generators	Test Engines	Gas Stations	Paved/ Unpaved Roads	Area Coating and Solvent Use	Paint Booths	CY 2015 Totals
VOC	29.6	0.5	0.2	0.0	24.2	0.0	3.5	2.0	30.4
PM	18.4	0.7	0.2	0.0	0.0	7.0	1.0	0.0	8.9
PM10	15.3	0.7	0.2	0.0	0.0	4.1	1.0	0.0	6.0
PM2.5	14.2	0.7	0.2	0.0	0.0	3.4	0.5	0.0	4.8
SO2	2.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.3
NOx	7.7	3.5	2.8	1.1	0.0	0.0	0.0	0.0	7.3
CO	11.9	7.6	0.7	0.0	0.0	0.0	0.0	0.0	8.2
Ammonia	0.6	94.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NASWI
2016 Air Emissions Inventory Report
Facility Wide Emissions

Pollutant	Reported CY2015 Totals (TPY)	CY 2016 Emissions (TPY)							CY2016 Totals (TPY)
		Boilers	Generators	Test Engines	Gas Stations	Paved/ Unpaved Roads	Area Coating and Solvent Use	Paint Booths	
VOC	30.4	0.6	0.2	0.0	25.5	0.0	19.4	6.1	51.7
PM	8.9	0.8	0.1	0.0	0.0	7.5	6.3	0.2	14.9
PM10	6.0	0.8	0.3	0.0	0.0	4.2	0.0	0.0	5.3
PM2.5	4.8	0.8	0.3	0.0	0.0	3.5	0.0	0.0	4.6
SO2	0.3	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.4
NOx	7.3	4.8	2.9	1.6	0.0	0.0	0.0	0.0	9.4
CO	8.2	8.5	0.8	0.0	0.0	0.0	0.0	0.0	9.2
Ammonia	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1

NASWI
2017 Air Emissions Inventory Report
Facility Wide Emissions

Pollutant	Reported CY2016 Totals (TPY)	CY 2017 Emissions (TPY)							CY2017 Totals (TPY)
		Boilers	Generators	Test Engines	Gas Stations	Paved/ Unpaved Roads	Area Coating and Solvent Use	Paint Booths	
VOC	51.7	0.6	0.3	-	28.0	-	4.8	1.4	35.2
PM	14.9	0.9	0.2	-	-	7.3	0.0	0.0	8.4
PM10	5.3	0.9	0.4	-	-	4.2	0.0	0.0	5.5
PM2.5	4.6	0.9	0.4	-	-	3.5	0.0	0.0	4.8
SO2	0.4	0.1	0.4	-	-	-	-	-	0.5
NOx	9.4	5.6	4.3	2.1	-	-	-	-	12.1
CO	9.2	9.7	1.0	-	-	-	-	-	10.7
Ammonia	0.1	0.1	0.0	-	-	-	-	-	0.1

Summary of Increased Stationary Emissions NAS Whidbey Island Complex, All Alternatives

Activity	Emissions (TPY)						Metric tons CO2e
	NO_X	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	
Electricity Use (Indirect)	0.25	N/A	N/A	0.165	N/A	N/A	180.62
Natural Gas Use (Direct)	0.10	0.01	0.21	0.002	0.02	0.02	275.67
Painting, Solvent, and Gas Station Use		3.57					
Total	**0.35**	**3.59**	**0.21**	**0.166**	**0.02**	**0.02**	**456.29**

Key:

CO = Carbon monoxide.

NOx = Nitrogen oxides.

PM_{10} = Particulate matter less than 10 microns in diameter.

Tpy = Tons per year.

VOC = Volatile organic compound.