DATE: February 2, 2017

TO: Mark Reichin
Propeller Airports LLC

FROM: Paul Dunholter, P.E.
BridgeNet International

SUBJECT: Snohomish County Airport Commercial Service EA Noise Assessment - **Response to Comments**

BACKGROUND

The following memo is a response to the comments outlined in the memo "Recommended revisions to noise analysis in EA/FONSI to support incorporation into SEPA" prepared by Jason Volt on September 16, 2016. The memo listed 12 comments that are addressed below. In addition to the response to the comments, the noise contours from the Environmental Assessment (EA) were updated using the FAA's new AEDT noise model. The results of contour updates are presented in a separate memo report dated February 1, 2017, "Snohomish County Airport (Paine Field) AEDT Noise Contour Update."

The contour update included modeling the original commercial aircraft studied in the NEPA EA as well as alternative commercial aircraft. The "original commercial aircraft" refers to the Q400 regional turbo prop aircraft and MD83 commercial aircraft assumed in the EA, while "Current Generation" refers to the EMB175 regional aircraft and 737800 commercial aircraft that reflect common aircraft used today and assumed to be in service within the planning horizon of the NEPA EA. The Maximum Throughput was also evaluated in that memo for both the assumptions presented in the EA and with an assumed higher level of activity.

RESPONSE TO COMMENTS

1. Why are counts of operations in the base case (2008) higher than future year 2013 or future year 2018 operations? This is not intuitive. Existing operations numbers should be explained when the report is updated with the base case of 2016 or 2017.

   As is the case with the national trend, general aviation (GA) operations have tended to decrease at airports around the Country, and the majority of operations at PAE are general aviation. The actual operation counts since the time of the EA supports that prediction; in 2015 (last full year of data) the total operations at the airport were less than the base year 2008. According to the FAA Operations Network Airport Activity Report (OPSNET), the total 2015 operations at PAE was 112,788 annual operations. This compares to the 143,722 annual operations in 2008. The EA forecasted 113,787 annual operations for 2018. The most recent prediction of future operations at the airport (FAA Terminal Area Forecast (TAF)) estimates 103,100 annual operations for 2018. In summary, the EA forecast of the future operational levels are consistent with the operation levels that have actually occurred at the airport.

2. The total number of operations in 2008 is higher than in 2013 or 2018. But, less land area is enclosed by the 65-decibel day/night noise level (65 DNL) contour in 2008 compared to 2013 or 2018. Does the 79% increase in air carrier service offset/exceed the effects of the decrease in General Aviation (GA) service? Operations factors of this kind should be explained once the model is updated.

   In general, the air carrier category of aircraft is predominately commercial-size turbine jets that generate significantly more noise than the smaller GA piston engine aircraft. The corporate jet category of aircraft also generates higher noise levels then the smaller piston aircraft. Thus, the noise contours increase in size in the future as a result of the forecast growth of air carrier category operations. This more than offsets the forecast reduction in smaller piston general aviation aircraft operations. These comments must be read in conjunction with the aircraft expected to serve the proposed project. *See* Response No. 9, *infra*.

   The future out-year noise contours for the EA (and updated using the AEDT noise model) were generated based upon the EA forecast operations assumptions for 2018. These forecast operations predicted future activity levels in terms of total operations and operations by category and type of aircraft. These categories include general aviation, corporate jets, Boeing, air taxi and military. These 2018 forecast operations were compared to the most recent 12 months (November 2015 through October 2016) of the large aircraft (commercial, air taxi, corporate aircraft, military) activity at the airport from the Traffic Flow Management System Counts (TFMSC) which does not include operations from small aircraft flying visual flight rules but do include most aircraft that operate in the National Airspace System (NAS) and the aircraft that that dominate the noise contours. The results show that the current operations and the forecast 2018 operations are similar in terms of total large aircraft activity and types of activity. This data is presented in the attached Figure A.

3. A sentence in Section 5.1 states, "These noise contours are supplemented in this study with calculated noise levels for selected points on the ground." There is no reference to a table showing these levels. The levels for the nearest sensitive receptors should be included to demonstrate that the future increase conforms to allowable FAA increase thresholds (e.g. 3 decibel (dB) for the 60 DNL contour), and characterize whether the increase would be perceptible or noticeable.

The AEDT noise model allows for the generation of noise contours or grid point predictions. As requested in the above comment, grid representative receptor locations were identified to illustrate the change in noise levels for the various operational scenarios that have been presented. Six locations were used and are presented graphically on a base map with the No Action 2018 updated noise contour in Figure B. Site N1 and S1 are locations north and south of the airport that is exposed to noise levels greater than 65 DNL. These sites are non- residential land uses. Sites N2 and S2 are locations north and south of the airport exposed to noise levels between 60 and 65 DNL. These sites are non-residential land uses. Sites N3 and S3 are locations north and south of the airport that are exposed to noise levels between 55 DNL and 60 DNL. These locations are at residential land uses.

The various scenarios and associated assumptions are listed below; noise contours and grid locations analysis were completed for each of these cases. The results of the grid location analysis is presented in Table A. The table presents the DNL noise level for the 2018 updated No Action case and the delta increase in DNL under thresholds of significance that would occur with each of the operational scenarios that were evaluated as follows. A more detailed description to these assumptions is contained in the Noise Contour Update Memo.

2018 Updated No Action

- *Updated Model to Actual Boeing Aircraft, No Substitutions*

2018 Original Commercial Aircraft

- *Updated Model to Actual Boeing Aircraft, No Substitutions*
- *Original Commercial Operations (Q400 and MD83)*
- *Original Max Throughput of **12** departures per day (6 Regional and 6 Commercial)*

2018 Study of updated Commercial Aircraft that could replace original type equipment

- *Updated Model to Actual Boeing Aircraft, No Substitutions*
- *Current Generation Commercial Operations (EMB175 and 737800)*
- *Original Max Throughput of **12** departures per day (6 Regional and 6 Commercial)*
- *Revised Max Throughput of **16** departures per day (8 Regional and 8 Commercial)*

Table A
Representative Receptor Grid Locations

	2018	2018 Original Commercial		2018 Revised Commercial		
Grid Site ID	No Action DNL	With Project Delta	Max Throughput Delta	With Project Delta	Max Throughput Delta	Revised Max Delta
N1	65.1	0.3	0.7	0.4	1.0	1.4
N2	62.9	0.3	0.8	0.4	1.0	1.5
N3	55.5	0.6	1.4	0.4	1.3	1.9
S1	65.2	0.3	0.8	0.5	0.8	1.2
S2	62.7	0.4	1.0	0.5	0.9	1.2
S3	55.5	0.5	1.3	0.4	1.0	1.4

Source: BridgeNet International, January 1017

Per *FAA Order 1050.1F*, *Environmental Impacts: Policies and Procedures Table 4-1*, and in accordance with *FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, there are thresholds of significance defined at the greater than 65 DNL, 65 – 60 DNL, and the 60 – 45 DNL levels. For an action to reach the threshold of significance, the proposed action would have to be an increase for a noise sensitive land use by 1.5 dB or more at the 65 DNL noise contour or higher, 3 dB or more at the 60 – 65 DNL range, and 5 dB or more at the 45 to 60 DNL range. Standard FAA practice for environmental studies is to create noise contours at 65 DNL or greater, and then use grid point analysis to determine significance of the changes in noise at locations beyond the 65 DNL contour when an impact with the 65 DNL is identified. The decibel increases as a result of the introduction of commercial service are all below the FAA's thresholds of significance. This is the case for the project conditions, the original Maximum Throughput conditions, and the new Revised Maximum Throughput conditions.

4. Because land use within the 65 DNL is considered compatible with the project, the FAA does not require consideration of land use within the 60 DNL. However, a discussion of the 60 DNL contour is recommended, along with a discussion of noise levels at selected ground points within the 60 DNL contour representing the nearest noise sensitive receptors to illustrate that the future increases associated with introduction of commercial service would be less than 3 dB and not perceptible at sensitive uses within the contour.

The information requested in Comment 4 is presented in the above response to Comment 3.

5. Nighttime operations should be discussed specifically, in terms of existing and future operations. Given that nighttime operations are projected to increase slightly, it is recommended that a qualitative discussion for the potential for sleep disturbance should be added, to show that the effect was considered.

   The DNL noise metric includes a weighting factor for operations that occur during the nighttime hours. The FAA defines nighttime as the hours between 10:00 pm and 7:00 am. For operations that occur during the nighttime hours, they are weighted by a factor of 10 to account for the increased sensitivity associated with nighttime operations. The potential for night operations was factored into the study in the revised Throughput assumptions that included eight departures and eight landings per day of both the 737800 and EMB175 aircraft. The study assumed the potential of one departure and one arrival of the 737800 aircraft could occur in the nighttime hours while two departures and one arrival of the EMB175 aircraft could occur in the nighttime hours. When nighttime operations do occur for commercial service operations, they are generally in the hour before 7 a.m. or the hour after 10 p.m.

6. A sentence in Section 3.1.2 states, "This is an increase… from the base year 2008." Based on the data in Table 1 this is a decrease, not an increase. This statement should be verified with supporting data for all analyzed years in tables when the model is updated. The same applies to Section 3.1.4.

   As identified in the comment, the report contained a typo. The operations decreased, not increased. The correct operations were reflected in the original and updated analysis.

7. The analysis for base year and future year cases in Section 3 states operations were derived from "forecasting methodology" but is not explained further. This methodology used should be described in detail, particularly since operations decreased from the base year.

   The forecast methodology was presented in the NEPA EA document (Section B), and was not a task of the noise study. The forecast was based upon the FAA Terminal Area Forecast (TAF) at the time, and information gathered from operators at the airport such as Boeing Aircraft Corporation.

8. Section 3.1.3 describes DNL modeling results and refers to Figure D6 in the Environmental Consequences Chapter: "A comparison of the Future Year 2013 No Action DNL noise contours with the 2013 Preferred Alternative DNL noise contours shows that there is less than a 1.5 dB increase in the 65 DNL noise contour and less than a 3 dB increase in the 60 DNL noise contour." An increase in noise levels cannot be derived from contours of absolute noise level. To quantify the increase in noise level, noise level increase contours or selected ground points must be used. Further, no 60 DNL contours are shown on any of the figures in Section D of the EA. The 60 DNL contour should be added to the figures, and a table of selected point sound levels should be added.

   A grid point analysis of the new AEDT noise contours that includes locations beyond the 65 DNL is presented in the response to Comment 3.

9. As background, the analysis should discuss phase-out/phase-in of Stage 2/Stage 3/Stage 4 aircraft, and information relevant to aircraft used at Paine Field as applicable for compliance with ANCA and the FAA Modernization and Reform Act.

Since the study was prepared, the FAA Modernization and Reform Act phased out Stage 2 aircraft under 75,000 lbs. The only aircraft that were affected by this phase out in the study were Stage 2 corporate jets (Gulfstream II/III and Learjet 24/25 series). These operations were a small part of the overall 2008 operations and were not included in the future year 2018 forecast because they were expected to be retired from the fleet through natural attrition. There are also a small number of hush kit Stage 3 aircraft that were built originally as Stage 2 aircraft. These aircraft are not required to be phased out, but their operations are minimal. There is currently no Stage 3 phase out scheduled or planned in the United States.

The fleet of jet aircraft has become quieter as each new generation of aircraft is developed. The new generation regional jets and narrow body commercial jets are just entering service. These aircraft are quieter than the current aircraft that they will eventually replace; however, these new aircraft are not yet in the noise models.

10. Noise levels from construction equipment at receptor locations should be disclosed. The document should include an analysis of noise levels from construction at the nearest sensitive receptor locations, and assess significance of impacts from construction noise. This information should be included even though construction may be done entirely during exempt hours.

Construction impacts were presented in the NEPA EA document. The noise associated with construction is considered to be minimal in that the terminal is located near the center of the air field, between the parallel runways, and not located near residential land use. The nearest residential land use is approximately 0.6 miles from the terminal site. The terminal is a minimal construction design that is estimated to last roughly 4 months. Any construction would be subject to compliance with the County Noise Ordinance.

11. An analysis address significance of future operations noise due to traffic generated at the terminal due to the introduction of commercial operations. Noise levels and project noise level increases due to increased traffic operations at the nearest noise sensitive receptors should be disclosed.

The noise report was tasked to address aircraft operations only. Street volume activity was analyzed in the traffic study element of the NEPA EA document. In response to this comment, the traffic information presented in the traffic report was used to estimate the potential changes in vehicular traffic noise. The traffic report estimated the peak hour traffic distribution associated with the vehicle traffic from commercial service operations. The data show traffic volumes for "without" and "with" future project conditions for various street segments that would be utilized by vehicles driving to and from the proposed terminal. The street segments that have residential land uses located adjacent to the street are listed below in Table B, along with the future traffic volumes. The results presented in Table C show the Peak Hour LEQ (Noise Equivalent Level) for with and without project conditions at the property line of the nearest residential land use located on each of the street segments. The data show that the project will result in a potential increase in the traffic DNL noise level of 0.2 decibels or less. This increase is less than 3 dB, which is considered a threshold of significance for traffic noise impacts.

Table B
Future Vehicle Traffic Volumes

Roadway	Type	Future		Speed (mph)
		Without Project	With Project	
Beverly Park Road NE of 525	Arterial	2,312	2,340	35
525 S of Beverly Park Road	Arterial	3,962	3,980	40
525 S of Harbor Pointe Boulevard	Arterial	3,644	3,636	40
Airport Road N or Beverly Park Road	Arterial	2,261	2,367	35

Table C
Future Vehicle Traffic Noise Levels

Roadway Segment	Noise Level (dB Leq) at the Proposed Project's Nearest Residential Property Line		Change Due To Project
	Without Project	With Project	
525 S of Beverly Park Road and Beverly Park Road NE of 525	61.1	61.1	0.0
Beverly Park Road W of Airport Road and Airport Road S of Beverly Park Road	62.6	62.8	0.2
525 S of Harbour Pointe Road	56.7	56.7	0.0

12. The full noise analysis of the terminal capacity/maximum throughput scenario in Appendix P of the EA should be incorporated in the Noise Study Report. Note that the section concludes that the 65 DNL would not encompass any noise sensitive uses. However the analysis included in Appendix P does not demonstrate this, even though the 65 DNL would be 53 acres larger than the preferred alternative.

    The updated noise contour analysis used the AEDT noise model, and evaluated both the 2018 preferred alternative and the Appendix P Maximum Throughput alternative. The results showed that the Maximum Throughput Alternative contours are larger than the Preferred contours, but did not result in any noise sensitive land uses within the 65 DNL noise contour. In addition to the Appendix P assumptions for Maximum Throughput, the study also prepared a revised Maximum Throughput scenario that increased the commercial operations from six departures for each aircraft to eight departures for each aircraft, along with more of the commercial operations in the night time period. These contours were larger in size then the original Maximum Throughput contours, but did not result in an increase that included noise sensitive land use within the 65 DNL. The results in Table A presented the relative change in noise associated with this alternative. The Noise Contour memo also presented the relative change in size of the 65 DNL noise contour for these alternatives.

Figure A - TFMSC Report (Airport)

From 11/2015 To 10/2016 | Airport=PAE

#	Aircraft	Total Operations
1	-1 - unknown	66
2	A109 - Agusta SAAF-109	1
3	A124 - Antonov AN-124 Ruslan	39
4	A320 - Airbus A320 All Series	7
5	A321 - Airbus A321 All Series	3
6	A332 - Airbus A330-200	7
7	AA1 - American AA-1 Trainer	12
8	AA5 - American AA-5 Traveler	22
9	AC11 - North American Commander 112	1
10	AC45 - unknown	1
11	AC50 - Aero Commander 500	4
12	AC90 - Gulfstream Commander	7
13	AEST - Piper Aero Star	1
14	AS65 - Aérospatiale AS-366	4
15	ASTR - IAI Astra 1125	14
16	B190 - Beech 1900/C-12J	5
17	B26 - Douglas TB-26 Invader	1
18	B350 - Beech Super King Air 350	17
19	B36T - Allison 36 Turbine Bonanza	22
20	B378 - Boeing 737-800	1
21	B429 - Bell 429	2
22	B722 - Boeing 727-200	2
23	B733 - Boeing 737-300	89
24	B734 - Boeing 737-400	28
25	B736 - Boeing 737-600	12
26	B737 - Boeing 737-700	408
27	B738 - Boeing 737-800	576
28	B739 - Boeing 737-900	153
29	B744 - Boeing 747-400	3
30	B747 - Boeing 747 All Series	3
31	B748 - Boeing 747-8	96
32	B752 - Boeing 757-200	8
33	B762 - Boeing 767-200	81
34	B763 - Boeing 767-300	124
35	B772 - Boeing 777-200	50
36	B773 - Boeing 777-300	201
37	B777 - Boeing 777-300	1
38	B77L - Boeing 777-200LRF/LR	35
39	B77W - Boeing 777-300ER	490
40	B787 - Boeing 787	2
41	B788 - Boeing 787-800	191
42	B789 - Boeing 787-9 Dreamliner	522
43	BE10 - Beech King Air 100 A/B	24
44	BE19 - Beech 19 Sport	1
45	BE20 - Beech 200 Super King	60

46 BE23 - Beech 23 Sundowner	1
47 BE24 - Beech 24 Sierra	23
48 BE30 - Raytheon 300 Super King Air	13
49 BE33 - Beech Bonanza 33	101
50 BE35 - Beech Bonanza 35	135
51 BE36 - Beech Bonanza 36	78
52 BE40 - Raytheon/Beech Beechjet 400/T-1	38
53 BE50 - Beech Twin Bonanza	3
54 BE55 - Beech Baron 55	21
55 BE58 - Beech 58	20
56 BE60 - Beech 60 Duke	5
57 BE76 - Beech 76 Duchess	48
58 BE95 - Beech 95 Travel Air	26
59 BE99 - Beech Airliner 99	27
60 BE9L - Beech King Air 90	293
61 BE9T - Beech F90 King Air	6
62 BL17 - Bellanca Viking	2
63 BLCF - Boeing 747 Large Cargo Freighter	680
64 C130 - Lockheed 130 Hercules	6
65 C150 - Cessna 150	5
66 C152 - Cessna 152	2
67 C17 - Boeing Globemaster 3	2
68 C172 - Cessna Skyhawk 172/Cutlass	1,525
69 C177 - Cessna 177 Cardinal	16
70 C180 - Cessna 180	7
71 C182 - Cessna Skylane 182	257
72 C185 - Cessna Skywagon 185	9
73 C2 - Grumman C-2 Greyhound	2
74 C205 - Cessna 205	25
75 C206 - Cessna 206 Stationair	39
76 C207 - Cessna Turbo Stationair 7	4
77 C208 - Cessna 208 Caravan	109
78 C210 - Cessna 210 Centurion	54
79 C240 - Cessna TTx Model T240	3
80 C25A - Cessna Citation CJ2	88
81 C25B - Cessna Citation CJ3	31
82 C25C - Cessna Citation CJ4	23
83 C2TX - unknown	1
84 C303 - Cessna T303 Crusader	4
85 C310 - Cessna 310	14
86 C320 - Cessna Skyknight	2
87 C337 - Cessna Turbo Super Skymaster	18
88 C340 - Cessna 340	73
89 C414 - Cessna Chancellor 414	52
90 C421 - Cessna Golden Eagle 421	12
91 C425 - Cessna 425 Corsair	47
92 C441 - Cessna Conquest	11
93 C501 - Cessna I/SP	37
94 C510 - Cessna Citation Mustang	134
95 C525 - Cessna CitationJet/CJ1	72
96 C550 - Cessna Citation II/Bravo	74
97 C560 - Cessna Citation V/Ultra/Encore	32

98	C56X - Cessna Excel/XLS	99
99	C650 - Cessna III/VI/VII	34
100	C680 - Cessna Citation Sovereign	41
101	C750 - Cessna Citation X	58
102	C77R - Cessna Cardinal RG	3
103	C82R - Cessna Skylane RG	18
104	CL30 - Bombardier (Canadair) Challenger 300	75
105	CL35 - Bombardier Challenger 300	25
106	CL60 - Bombardier Challenger 600/601/604	136
107	COL3 - Lancair LC-40 Columbia 400	18
108	COL4 - Lancair LC-41 Columbia 400	34
109	CVLT - Convair CV-540/580/600/640, VC-131H	16
110	D328 - Dornier 328 Series	2
111	DA40 - Diamond Star DA40	30
112	DA42 - Diamond Twin Star	8
113	DA50 - Mystere Falcon 50 Dassault	1
114	DC91 - Boeing (Douglas) DC 9-10	26
115	DC93 - Boeing (Douglas) DC 9-30	6
116	DH8D - Bombardier Q-400	6
117	DHC2 - De Havilland Canada DHC-2 Beaver	13
118	DHC6 - DeHavilland Twin Otter	4
119	DV20 - Diamond DV-20	2
120	E135 - Embraer ERJ 135/140/Legacy	2
121	E3TF - Boeing Sentry TF33/E3C	1
122	E50P - Embraer Phenom 100	10
123	E55P - Embraer Phenom 300	32
124	E6 - Boeing E-6 Mercury	2
125	EA50 - Eclipse 500	11
126	EC35 - Eurocopter EC-135	6
127	F18 - Boeing FA-18 Hornet	14
128	F18S - F18 Hornet	6
129	F2TH - Dassault Falcon 2000	109
130	F5 - Northrop F-5 Freedom Fighter	3
131	F900 - Dassault Falcon 900	72
132	FA20 - Dassault Falcon/Mystère 20	6
133	FA50 - Dassault Falcon/Mystère 50	35
134	FA7X - Dassault Falcon F7X	4
135	G150 - Gulfstream G150	6
136	G21T - Grumman G21T Turbogoose	1
137	G280 - Gulfstream G280	6
138	G4 - Gulfstream IV	5
139	GALX - IAI 1126 Galaxy/Gulfstream G200	14
140	GB74 - unknown	1
141	GB76 - unknown	1
142	GL5T - Bombardier BD-700 Global 5000	2
143	GLAS - New Glasair	10
144	GLEX - Bombardier BD-700 Global Express	34
145	GLF3 - Gulfstream III/G300	6
146	GLF4 - Gulfstream IV/G400	139
147	GLF5 - Gulfstream V/G500	24
148	GLF6 - Gulfstream	11
149	GLSP - F-GLSP	23

150	H25B - BAe HS 125/700-800/Hawker 800	114
151	H47 - Boeing CH-47 Chinook	10
152	H60 - Sikorsky SH-60 Seahawk	77
153	H64 - Boeing AH-64 Longbow Apache	18
154	HDJT - HONDA HA-420 HondaJet	2
155	HELO - Helicoper	1
156	HXB - Experimental Aircraft	4
157	KODI - Quest Kodiak	39
158	LA4 - Lake LA-4	6
159	LGEZ - Rutan 61 Long-EZ	14
160	LJ25 - Bombardier Learjet 25	9
161	LJ31 - Bombardier Learjet 31/A/B	16
162	LJ35 - Bombardier Learjet 35/36	50
163	LJ36 - Learjet 36	1
164	LJ45 - Bombardier Learjet 45	42
165	LJ55 - Bombardier Learjet 55	6
166	LJ60 - Bombardier Learjet 60	105
167	LJ75 - Learjet 75	6
168	LNC4 - Lancair 4	1
169	LNCE - Lancair Super ES	65
170	LNP4 - Lancair Propjet four-seat	1
171	M20P - Mooney M-20C Ranger	154
172	M20T - Turbo Mooney M20K	49
173	M7 - Maule M-7-235 Orion	37
174	MU2 - Mitsubishi Marquise/Solitaire	4
175	P180 - Piaggio P-180 Avanti	6
176	P210 - Riley Super P210	52
177	P28A - Piper Cherokee	337
178	P28B - Piper Turbo Dakota	27
179	P28R - Cherokee Arrow/Turbo	34
180	P28T - Piper Arrow 4	3
181	P3 - Lockheed P-3C Orion	18
182	P32R - Piper 32	2
183	P3C - Lockheed P-3C Orion	1
184	P46T - Piper Malibu Meridian	113
185	P68 - Partenavia P68 Victor	1
186	P8 - Boeing P-8 Poseidon	6
187	PA23 - Piper PA-23	2
188	PA24 - Piper PA-24	15
189	PA27 - Piper Aztec	17
190	PA28 - Piper Cherokee	1
191	PA30 - Piper PA-30	21
192	PA31 - Piper Navajo PA-31	17
193	PA32 - Piper Cherokee Six	29
194	PA34 - Piper PA-34 Seneca	82
195	PA44 - Piper Seminole	59
196	PA46 - Piper Malibu	168
197	PAY1 - Piper Cheyenne 1	6
198	PC12 - Pilatus PC-12	243
199	PRM1 - Raytheon Premier 1/390 Premier 1	14
200	R44 - Robinson R-44 Raven	2
201	RV10 - Experimental	25

202	RV6 - AIEP Air Beetle	58
203	RV7 - Experimental RV-7	23
204	RV8 - RV-4/6/7/8; VANS	25
205	RV9 - Experimental	4
206	S22T - Cirrus SR-22 Turbo	2
207	S76 - Sikorsky S-76	2
208	SBR1 - North American Rockwell Sabre 40/60	26
209	SH36 - Shorts 360	2
210	SR20 - Cirrus SR-20	10
211	SR22 - Cirrus SR 22	176
212	SW3 - Fairchild Swearingen SA-226T/TB Merlin 3	7
213	SW4 - Swearingen Merlin 4/4A Metro2	11
214	T206 - Cessna T-206	2
215	T210 - Cessna T210M	6
216	T33 - Canadair CL-30 Silver Star	7
217	T38 - Northrop T-38 Talon	8
218	TBM7 - Socata TBM-7	7
219	TBM8 - Socata TBM-850	27
220	TEX2 - Raytheon Texan 2	1
221	UH60 - Blackhawk Helicopter	1
222	WW24 - IAI 1124 Westwind	2
Total:		**11,497**

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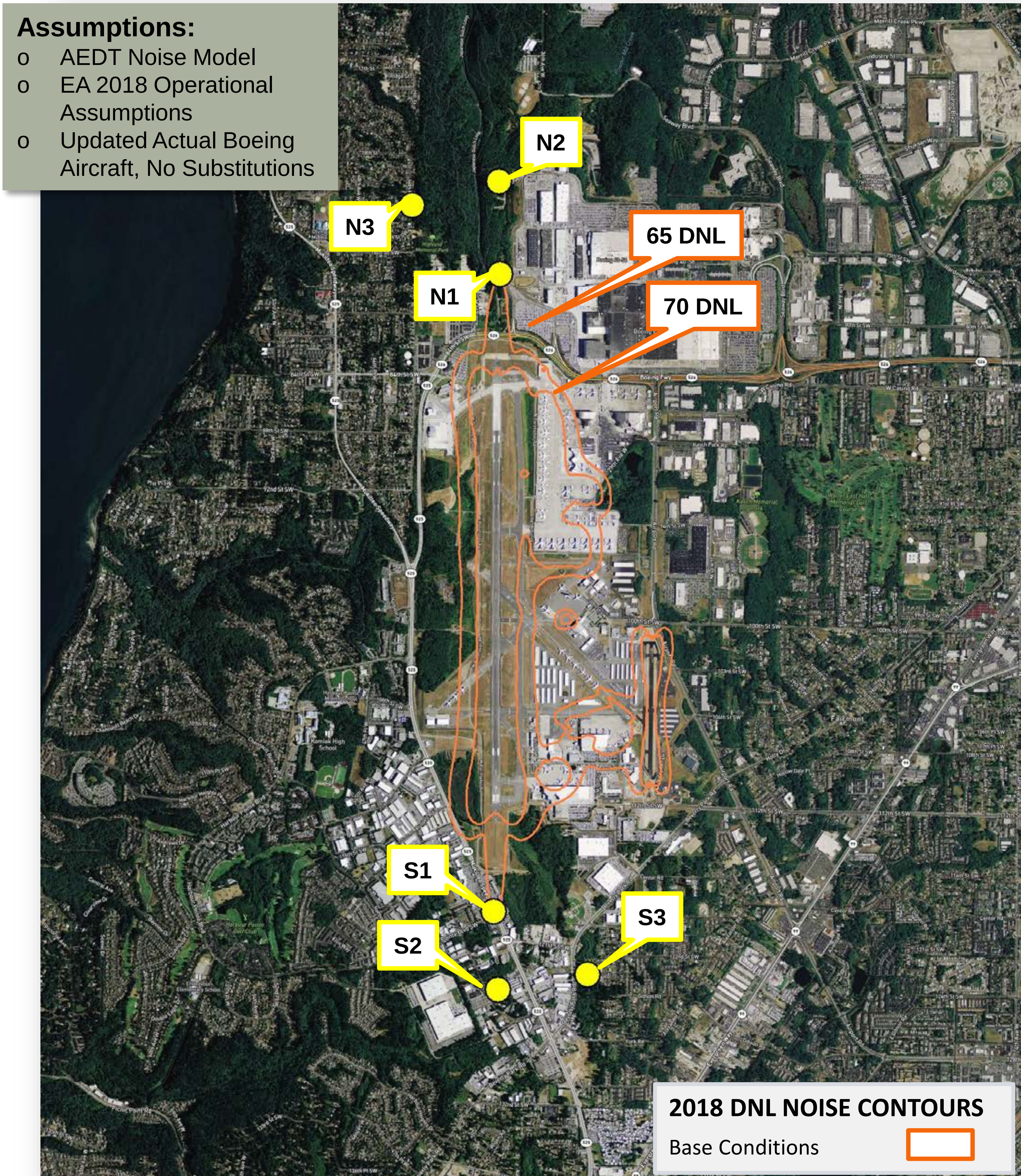
Sources: Traffic Flow Management System Counts (TFMSC), Aviation System Performance Metrics (ASPM)

Figure B

Updated 2018 Base Case Noise Contours with Representative Grid Locations

SNOHOMISH COUNTY (PAINE FIELD) AIRPORT NOISE CONTOUR UPDATE (2017)



Source: BridgeNet International 2017