

PoS Commissioner's meeting, Aug 11, 2020. Bernedine Lund, resident of Federal Way and member of 350 Seattle

Three comments/recommendations today:

### **1 Noise monitor data:**

As you may already know, I have been downloading and using PoS noise monitor data to estimate the number of flights. Using this data has been difficult at times because it does not seem that the noise monitor company is doing any quality control on the data they submit to the Port. Missing data and 2-4% flight duplicates (with different times and SEL levels at the same noise monitor) seem very unprofessional and not something for which the company would want to be known. For example, data is currently for May-June 2020 for Monitor #9 – Beacon Hill. See the Data Comments on the attached tables showing annual estimated flights 2015-2020

I strongly recommend that you include language in the contract to include monitoring and investigating missing data and data anomalies.

### **2 DNL noise calculation**

You also must be aware of the controversy over the FAA's calculation of the DNL noise measure. If you tried to come up with a calculation that was insensitive to periodic rising and falling noise levels and increases in number of noise events, you only need to look at the formula for the FAA's DNL calculation.

Please push the FAA to develop a more realistic noise measure that is more representative of what we are hearing. Although the 2018 FAA reauthorization bill requested the FAA to examine and develop a more realistic measure, the FAA did not change it.

Also consider asking your staff to develop a more realistic noise metric. Your staff have already explained that noise monitors are not good at picking up the low rumble noise we often hear. How could that be better measured? The noise metric would be more representative per hour and not per 24 hour period.

### **3 Supersonic flights**

Lance Lyttle recently mentioned that the company developing supersonic flights (that hold at most 50 passengers) asked for Sea-Tac to accept the flights beginning in the fall 2021. Boom Industries, funded by wealthy investors, is developing the planes, and has already asked and/or already had the FAA change its policies to allow testing of such flights.

Please reconsider and refuse this request. Neither SeaTac nor the world need supersonic flights that are primarily aimed at the super-elite and wealthy flyers.

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### **Noise monitor data issues**

See the attached tables showing the number of flights as measured by the PoS noise monitors for Nov 2015 through June 2020. The data is taken from the PoS web site that is available to the public.

A list of data issues is described on each of the following tables. The tables start with 2020 and go back to 2015, as the more recent issues seem more pertinent than older issues. For reference, the PoS map of the monitor placement follows the tables. The noise monitor company has already updated at least one missing data issue, due to connectivity issues, and I did not keep track of those issues.

2020 – Jan-June  
2019 – Jan-Dec  
2018 – Jan-Dec  
2017 – Jan-Dec  
2016 – Jan-Dec  
2015 – Nov-Dec

The last page shows a partial list of duplicate flights so you can see how they appear in the data. Duplicates happen when the same noise monitor picks up the sound from a flight more than once. All or most flights are counted by more than one noise monitor as the flight moves over the series of monitors. I counted a duplicate report of a flight as one that was within one minute of a previous or next report, having the same Monitor #, and the same Flight ID. These duplicates frequently have different SEL levels, most likely depending on how close the flight is to the noise monitor.

**Number of Flights<sup>1</sup> Measured by PoS Noise Monitors  
2020 Jan-June**

Noise Monitors		2020												Ave # flights/month	Ave # flights/day	
Site <sup>2</sup>	#	Jan	Fed	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Jan-Jun 2020		
Air Cargo 4, SeaTac	#01	4,263	5,033	7,620	5,471	4,979	6,788							22,387	3,731	124
Maple Leaf Reservoir, Seattle	#03	1,243	723	482	73	101	173							2,521	420	14
C Blain School, Seattle	#04b	122	110	116	53	43	52							401	67	2
Median Ele, Medina	#05	87	616	866	419	775	1,052							1,988	331	11
Hamilton View Park, SW, Seattle	#06	13	36	83	33	42	53							165	28	1
Central Area Sr Center, Seattle	#07	336	447	304	117	214	311							1,204	201	7
Mercer View Community Center	#08	8	39	5	1	14	5							53	9	0
Beacon Hill Reservoir	#09	29,711	25,077	19,233	5,224	See Data Notes	For 4 months:							79,245	19,811	660
Brighton Playfield, S Seattle	#10	567	693	520	222	5,067	7,745							2,002	334	11
Beverly Pk School, SeaTac	#11	16,758	15,207	13,556	4,512	5,067	7,745							50,033	8,339	278
S 126, Burien	#12	2,551	3,493	4,654	2,817	2,509	3,373							13,515	2,253	75
Cedarhurst Middle Sch, Bruien	#13	12,447	10,859	8,209	2,093	2,535	3,955							33,608	5,601	187
N Clear Zone, SeaTac	#14	12,884	10,494	9,038	3,008	2,837	4,586							35,424	5,904	197
Sylvester Mid Sch, Burien	#15	389	264	171	91	139	115							915	153	5
Chinook Mid Sch, SeaTac	#16	1,840	1,460	623	89	117	101							4,012	669	22
S 207th St, SeaTac	#17	15,605	14,793	13,812	4,953	5,343	7,728							49,163	8,194	273
S 226 St, Des Moines	#18	14,970	14,242	13,301	4,737	5,047	7,439							47,250	7,875	263
Midway Ele, 24 Ave S, Des Moin	#19	15,382	13,359	11,142	3,834	4,246	5,804							43,717	7,286	243
Parkside Ele, S 247, Des Moin	#20	14,302	12,382	9,828	2,946	1,522	2,302							39,458	6,576	219
Mark Twain Ele, Star Lake, FW	#21	14,387	12,019	8,934	2,461	3,016	4,383							37,801	6,300	210
Sacajawea Jr H, FW	#22	10,886	11,329	8,724	3,184	3,771	5,505							34,123	5,687	190
Meredith Hills Sch, S300, Auburn	#23	297	195	76	29	25	33							597	100	3
Twin Lakes Ele, 42 Pl SE, FW	#25	374	356	236	67	83	188							1,033	172	6
Woodmont Ele, 16 Ave S, Des M	#28	13,862	13,375	11,157	3,765	4,231	6,331							42,159	7,027	234

**General Comments**

- 1 - Count of SEL measures used to estimate count of flights; some flights are counted 2 or more times, giving an overestimate of 2-4% of flights
- 2 - See Noise Monitor Map for location of noise monitors.

**Data Notes - see outlined boxes in table**

**May and June:** Monitor #9 is not transmitting data; PoS staff report that they may recover the data once the link to the PoS program is reestablished.

## Number of Flights<sup>1</sup> Measured by PoS Noise Monitors 2019 Jan-Dec

Noise Monitors		2019												Total 2019	Ave # flights/ Mo	Ave # flight/ Day
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec			
Site <sup>2</sup>	#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total 2019	Ave # flights/ Mo	Ave # flight/ Day
Air Cargo 4, SeaTac	#01	11,929	8,798	14,792	11,630	12,456	10,458	7060	7371	5686	6830	8203	3,941	109,154	9,096	299
Maple Leaf Reservoir, Seattle	#03	714	361	505	737	476	631	588	410	607	780	425	1,158	7,392	616	20
C Blain School, Seattle	#04b	102	67	72	95	79	83	92	83	85	98	86	147	1,089	91	3
Median Ele, Medina	#05	861	1,895	2,874	1,875	2,565	1,710	1248	1938	1477	1239	2323	262	20,267	1,689	56
Hamilton View Park, SW, Seattle	#06	47	59	80	48	104	65	67	58	57	56	63	19	723	60	2
Central Area Sr Center, Seattle	#07	496	696	1,224	778	1,286	870	1,154	1,120	994	550	1,065	522	10,755	896	29
Mercer View Community Center	#08	12	5	8	16	20	4	21	13	5	9	7	14	134	11	0
Beacon Hill Reservoir	#09	10,883	18,575	20,960	22,067	9,141	18,367	17,181	14,172	14,454	17,001	20,753	27,509	211,063	17,589	578
Brighton Playfield, S Seattle	#10	515	537	580	592	603	582	852	738	641	690	753	724	7,807	651	21
Beverly Pk School, SeaTac	#11	16,064	13,450	15,639	15,763	16,785	17,629	18,900	18,586	16,897	16,844	15,644	17,361	199,562	16,630	547
S 126, Burien	#12	4,662	5,567	8,102	6,542	7,867	6,538	7,194	8,161	5,466	6,135	7,478	3,042	76,754	6,396	210
Cedarhurst Middle Sch, Bruien	#13	11,460	8,841	10,075	11,698	12,099	12,003	12,582	12,493	12,244	11,720	11,585	12,850	139,650	11,638	383
N Clear Zone, SeaTac	#14	14,311	11,524	13,179	15,135	14,383	14,082	13,410	13,089	11,688	11,653	11,115	11,642	155,211	12,934	425
Sylvester Mid Sch, Burien	#15	2,849	369	344	455	423	270	173	210	315	344	394	490	6,636	553	18
Chinook Mid Sch, SeaTac	#16	1,642	859	704	1,312	1,419	1,376	222	91	923	1,263	953	1,155	11,919	993	33
S 207th St, SeaTac	#17	15,668	13,675	15,892	15,997	17,295	18,114	19,211	19,549	17,369	17,339	15,774	16,381	202,264	16,855	554
S 226 St, Des Moines	#18	14,811	13,057	15,480	15,341	16,644	17,523	18,619	19,028	16,806	16,655	15,645	15,824	195,433	16,286	535
Midway Ele, 24 Ave S, Des Moin	#19	12,580	9,557	9,470	11,432	11,654	13,946	14,712	13,630	14,145	13,677	10,721	16,070	151,594	12,633	415
Parkside Ele, S 247, Des Moin	#20	11,982	8,933	9,379	10,993	11,275	13,410	14,469	13,387	13,449	12,621	9,998	15,202	145,098	12,092	398
Mark Twain Ele, Star Lake, FW	#21	11,619	8,125	8,643	10,419	10,109	12,536	12,199	12,371	12,939	12,040	9,481	14,881	135,362	11,280	371
Sacajawea Jr H, FW	#22	12,121	10,717	13,450	13,264	14,748	15,431	16,063	16,665	14,502	13,825	13,757	13,684	168,227	14,019	461
Meredith Hills Sch, S300, Auburn	#23	139	170	144	132	115	166	218	101	252	293	114	243	2,087	174	6
Twin Lakes Ele, 42 PI SE, FW	#25	358	230	343	272	404	454	366	238	366	391	236	653	4,311	359	12
Woodmont Ele, 16 Ave S, Des Moin	#28	13,906	12,089	14,350	14,803	16,292	16,854	18,050	18,273	16,186	9,078	14,764	15,361	180,006	15,001	493

### General Comments

- Count of SEL measures used to estimate count of flights; some flights are counted 2 or more times, giving an overestimate of 2-4% of flights
- See Noise Monitor Map for location of noise monitors.

### Data Notes - see outlined boxes in table

March: Monitor #15 missing data from 7 - 31st, 25 consecutive days

May: Monitor #9 missing data for days 13 - 26, 14 consecutive days

Oct: Monitor #28 has about 9,000 flights when the average per month is 15,000. Not sure of the reason for the decrease.

**Number of Flights<sup>1</sup> Measured by PoS Noise Monitors  
2018 Jan-Dec**

Noise Monitors		2018												Total 2018	Ave # flights/ Mo	Ave # flight/ Day
		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec			
Site <sup>2</sup>	#	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total 2018	Ave # flights/ Mo	Ave # flight/ Day
Air Cargo 4, SeaTac	#01	11,404	12,387	14,015	13,518	15,006	13,547	16,097	14,409	14,753	12,396	14,888	9,408	161,828	13,486	450
Maple Leaf Reservoir, Seattle	#03	1,103	510	806	894	477	600	274	248	343	462	631	933	7,281	607	20
C Blain School, Seattle	#04b	101	69	100	98	95	65	58	56	78	75	98	136	1,029	86	3
Median Ele, Medina	#05	755	904	1,751	1,600	1,614	1,652	3,104	2,634	1,956	1,376	1,037	699	19,082	1,590	53
Hamilton View Park, SW, Seattle	#06	48	52	52	34	76	54	116	61	60	48	35	49	685	57	2
Central Area Sr Center, Seattle	#07	676	480	1,067	608	582	958	1,362	1,407	1,134	803	525	494	10,096	841	28
Mercer View Community Center	#08	292	119	142	305	20	37	56	35	29	18	15	34	1,102	92	3
Beacon Hill Reservoir	#09	28,877	23,342	24,790	24,238	18,623	19,436	18,059	19,545	18,189	20,766	22,079	26,805	264,749	22,062	735
Brighton Playfield, S Seattle	#10	603	459	617	575	663	1,261	1,164	584	577	543	708	960	8,714	726	24
Beverly Pk School, SeaTac	#11	15,441	13,240	15,417	15,800	16,268	17,326	18,077	18,092	16,274	16,709	15,692	16,509	194,845	16,237	541
S 126, Burien	#12	4,470	4,805	6,425	6,419	4,153	5,693	10,192	9,268	5,738	4,496	3,862	4,453	69,974	5,831	194
Cedarhurst Middle Sch, Bruien	#13	12,263	9,850	11,582	11,858	10,716	11,351	10,541	11,336	12,289	13,700	13,297	12,495	141,278	11,773	392
N Clear Zone, SeaTac	#14	19,640	15,392	16,442	17,772	14,778	15,795	16,387	17,273	13,734	11,592	13,475	15,068	187,348	15,612	520
Sylvester Mid Sch, Burien	#15	2,580	501	897	893	744	421	633	466	423	1,062	1,535	1,518	11,673	973	32
Chinook Mid Sch, SeaTac	#16	2,161	2,030	1,928	1,720	1,752	938	268	200	1,131	1,459	1,548	1,684	16,819	1,402	47
S 207th St, SeaTac	#17	14,329	12,921	15,332	15,794	17,178	18,228	19,478	19,800	16,875	17,342	15,544	16,096	198,917	16,576	553
S 226 St, Des Moines	#18	13,736	12,399	14,732	15,169	16,247	16,894	18,485	18,513	15,757	15,661	14,576	15,477	187,646	15,637	521
Midway Ele, 24 Ave S, Des Moin	#19	12,796	10,409	11,713	11,550	6,109	10,689	12,067	12,067	11,228	11,691	11,298	13,552	116,993	11,699	390
Parkside Ele, S 247, Des Moin	#20	12,119	9,889	11,264	11,029	11,682	12,958	11,159	11,585	10,662	11,073	10,672	12,917	137,009	11,417	381
Mark Twain Ele, Star Lake, FW	#21	11,885	9,194	10,752	10,412	7,905	11,337	10,053	10,572	9,843	10,303	10,062	12,661	124,979	10,415	347
Sacajawea Jr H, FW	#22	11,381	10,261	13,168	12,882	15,045	14,785	16,520	16,192	13,807	13,648	11,929	12,928	162,546	13,546	452
Meredith Hills Sch, S300, Auburn	#23	79	111	86	102	107	66	83	87	115	129	97	224	1,286	107	4
Twin Lakes Ele, 42 Pl SE, FW	#25	379	312	384	300	620	569	427	372	296	303	289	420	4,671	389	13
Woodmont Ele, 16 Ave S, Des Moin	#28	12,920	11,566	14,218	14,432	15,740	16,082	17,397	17,424	14,932	14,892	13,589	14,712	177,904	14,825	494

**General Comments**

- 1 - Count of SEL measures used to estimate count of flights; some flights are counted 2 or more times, giving an overestimate of 2-4% of flights
- 2 - See Noise Monitor Map for location of noise monitors.

**Data Notes** - see outlines boxes

April 23-30 and May 1-8 for Monitor #7 have no data, 16 continuous days

May 17-31 for Monitor #12 have no data, 14 continuous days

May 17-31, all of June, and July 1-2 for Monitor #19 have no data, 47 consecutive days

## Number of Flights<sup>1</sup> Measured by PoS Noise Monitors 2017 Jan-Dec

Noise Monitors		2017												Ave # flights/ Mo	Ave # flights /Day	
Site <sup>2</sup>	#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total 2017		
Air Cargo 4, SeaTac	#01	15,894	12,996	12,904	13,490	15,015	14,951	17,190	18,376	14,492	13,248	10,272	12,045	170,873	14,239	468
Maple Leaf Reservoir, Seattle	#03	415	552	845	867	759	625	148	212	376	566	1,106	637	7,108	592	19
C Blain School, Seattle	#04b	55	72	108	122	77	77	69	37	60	65	129	91	962	80	3
Median Ele, Medina	#05	1,488	979	486	929	2,256	2,202	3,180	3,671	1,956	1,859	472	1,259	20,737	1,728	57
Hamilton View Park, SW, Seattle	#06	91	64	31	77	93	120	191	200	55	95	52	71	1,140	95	3
Central Area Sr Center, Seattle	#07	623	650	515	609	1,204	1,152	1,475	1,675	934	1,133	682	661	11,313	943	31
Mercer View Community Center	#08	9	30	38	60	162	123	89	138	88	141	798	213	1,889	157	5
Beacon Hill Reservoir	#09	18,338	20,405	26,657	19,926	16,487	15,584	13,402	13,403	14,084	19,272	25,413	25,494	228,465	19,039	626
Brighton Playfield, S Seattle	#10	679	622	725	800	1,184	935	921	775	587	697	681	590	9,196	766	25
Beverly Pk School, SeaTac	#11	13,112	12,496	15,547	14,481	15,139	15,827	16,252	15,905	14,816	15,154	15,144	15,170	179,043	14,920	491
S 126, Burien	#12	6,509	4,418	3,658	5,123	-	1,979	11,436	12,543	7,300	7,053	2,555	6,106	68,680	5,723	188
Cedarhurst Middle Sch, Bruien	#13	7,732	7,990	10,575	9,698	10,796	11,001	11,048	10,538	9,974	11,766	11,445	11,621	124,184	10,349	340
N Clear Zone, SeaTac	#14	12,415	11,451	17,685	16,412	15,719	16,621	16,319	16,128	14,387	15,338	17,404	14,539	184,418	15,368	505
Sylvester Mid Sch, Burien	#15	247	232	180	978	584	389	462	481	684	885	2,009	2,090	9,221	768	25
Chinook Mid Sch, SeaTac	#16	1,048	1,180	2,009	1,456	1,726	1,128	301	203	1,378	1,879	1,980	1,509	15,797	1,316	43
S 207th St, SeaTac	#17	13,187	11,739	13,833	14,045	15,371	16,559	17,436	18,306	15,529	15,044	14,184	15,140	180,373	15,031	494
S 226 St, Des Moines	#18	12,571	11,070	12,988	13,208	14,540	15,582	16,786	17,392	14,533	14,685	13,195	14,360	170,910	14,243	468
Midway Ele, 24 Ave S, Des Moin	#19	8,959	9,644	12,936	11,124	10,614	11,173	9,446	7,884	10,711	11,075	13,247	11,459	128,272	10,689	351
Parkside Ele, S 247, Des Moin	#20	8,065	8,605	11,892	11,066	9,783	10,553	9,087	7,782	9,918	10,361	12,264	10,836	120,212	10,018	329
Mark Twain Ele, Star Lake, FW	#21	7,290	8,252	11,572	10,521	8,767	9,559	7,923	6,575	9,030	9,675	12,103	10,235	111,502	9,292	305
Sacajawea Jr H, FW	#22	9,593	8,804	10,229	10,314	13,156	14,286	15,538	16,431	13,366	12,735	10,689	12,360	147,501	12,292	404
Meredith Hills Sch, S300, Auburn	#23	79	90	87	98	110	90	381	72	83	97	121	98	1,406	117	4
Twin Lakes Ele, 42 Pl SE, FW	#25	508	458	458	516	687	590	471	349	524	487	522	390	5,960	497	16
Woodmont Ele, 16 Ave S, Des Moir	#28	10,992	10,136	12,374	12,474	14,053	15,008	15,994	16,007	13,676	13,826	12,384	13,658	160,582	13,382	440

**General Comments**

- 1 - Count of SEL used to estimate count of flights
- 2 - See Noise Monitor Map to see location of noise monitor in relation to Sea-Tac Airport.

**Data notes - see outlined boxes**

May 1-31 and June 1-23 has missing data for Monitor #12, 54 consecutive days.

July - Aug: Monitor #16 for July-Aug has far fewer flights than any of the other months, not sure why: Change in flight pattern for 2 months?

July: Monitor #23 has a total of 381 flights, about 3x the number of other months. Two consecutive days, July 26-27 have 149 and 146 flights identified. Of the 149 flights on July 26, 41 flights were reported an additional 58 times, a few up to 3-4 times. This is

then 149 - 57 = 92 flights, with a 57/92 = 62% duplicate rate, much higher than the usual 2-4%. July 27 had a similar high duplicate rate. Several other months had missing data for 3-5 days, but the number of flights is low and missing 1-2 days appeared normal.

**Number of Flights<sup>1</sup> Measured by PoS Noise Monitors  
2016 Jan-Dec**

Noise Monitors		2016												Total 2016	Ave # mo	Ave # day
Site <sup>2</sup>	#	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec			
Air Cargo 4, SeaTac	#01	12,911	11,982	15,135	16,759	18,576	14,965	16,525	18,732	14,392	13,191	11,594	14,493	179,255	14,938	491
Maple Leaf Reservoir, Seattle	#03	514	383	508	316	244	456	288	270	393	743	667	529	5,311	443	15
C Blain School, Seattle	#4/#4b	65	48	57	69	79	75	59	50	59	87	101	80	829	69	2
Mercer View Community Center	#05	623	576	1,119	1,823	2,484	2,361	1,729	3,100	1,827	884	254	1,284	18,064	1,505	49
Hamilton View Park, SW, Seattle	#06	155	60	140	103	145	149	102	122	82	46	34	59	1,197	100	3
Central Area Sr Center, Seattle	#07	534	559	619	857	1,022	999	734	1,328	917	748	346	683	9,346	779	26
Median Ele, Medina	#08	4	12	38	17	23	17	26	76	25	71	47	20	376	31	1
Beacon Hill Reservoir	#09	23,121	20,494	22,307	15,365	14,089	15,246	13,226	13,136	13,364	18,962	20,525	23,228	213,063	17,755	584
Brighton Playfield, S Seattle	#10	737	733	1,045	920	1,256	1,014	937	731	767	773	684	761	10,358	863	28
Beverly Pk School, SeaTac	#11	13,637	12,449	14,171	14,328	14,197	15,673	16,446	15,597	13,890	15,346	14,875	14,903	175,512	14,626	481
S 126, Burien	#12	3,896	3,842	5,591	5,524	8,278	8,154	7,538	8,932	6,637	4,045	2,911	5,132	70,480	5,875	193
Cedarhurst Middle Sch, Bruen	#13	8,926	8,661	10,200	10,144	9,962	10,582	9,685	9,780	8,988	10,163	9,352	9,697	116,140	9,678	318
N Clear Zone, SeaTac	#14	13,095	14,386	16,171	10,411	14,071	3,450	13,848	16,004	13,433	16,115	15,237	16,068	162,289	13,524	445
Sylvester Mid Sch, Burien	#15	2,576	1,321	2,647	692	532	481	226	389	469	1,709	181	177	11,400	950	31
Chinook Mid Sch, SeaTac	#16	1,837	2,185	2,818	1,188	1,857	1,558	315	275	1,456	2,122	1,371	1,128	18,110	1,509	50
S 207th St, SeaTac	#17	12,649	11,438	13,487	14,172	15,160	16,170	17,013	17,458	14,467	14,320	12,947	13,729	173,010	14,418	474
S 226 St, Des Moines	#18	11,500	10,562	12,363	13,292	14,196	15,154	15,935	16,725	13,776	13,331	12,235	13,030	162,099	13,508	444
Midway Ele, 24 Ave S, Des Moin	#19	11,395	10,216	11,192	9,244	9,251	10,821	12,760	9,373	10,195	12,461	12,756	11,111	130,775	10,898	358
Parkside Ele, S 247, Des Moin	#20	10,022	9,027	9,807	8,401	8,385	9,752	11,944	8,709	9,176	11,237	11,522	10,199	118,181	9,848	324
Mark Twain Ele, Star Lake, FW	#21	9,814	8,816	9,625	7,736	7,267	8,852	10,567	7,501	8,480	10,875	11,223	9,729	110,485	9,207	303
Sacajawea Jr H, FW	#22	9,528	8,639	10,352	11,335	12,675	13,651	14,031	15,564	12,664	11,335	8,779	11,013	139,566	11,631	382
Meredith Hills Sch, S300, Auburn	#23	106	41	94	49	53	58	70	54	70	97	93	64	849	71	2
Twin Lakes Ele, 42 Pl SE, FW	#25	402	322	556	372	340	475	362	231	382	563	552	529	5,086	424	14
Woodmont Ele, 16 Ave S, Des Moin	#28	10,975	10,144	11,753	12,177	13,347	14,225	14,967	15,017	12,909	12,371	11,480	12,118	151,483	12,624	415

**General Comments**

- 1 - Count of SEL measures used to estimate count of flights; some flights are counted 2 or more times, giving an overestimate of 2-4% of flights
- 2 - See Noise Monitor Map for location of noise monitors.

**Data Notes**

Jan-July: Uses Monitors #4 + #4b  
 July - Dec: Uses Monitor # 4b

Nov 2015 to Nov 2016: the initial review of the data showed SEL values up to 300+. PoS staff asked the noise monitoring company to look at the noise data and evaluate. The company found an error in the algorithm that calculates the SEL value, corrected it, and submitted revised data that is used in the current tables.

**Number of Flights<sup>1</sup> Measured by PoS Noise Monitors  
2015 Nov-Dec**

Noise Monitors		2015				
Site <sup>2</sup>	#	Nov	Dec	Total 2 Mo	Ave # flights/Mo	Ave # flights/ Day
Air Cargo 4, SeaTac	#01	12,274	12,388	24,662	12,331	404
Maple Leaf Reservoir, Seattle	#03	338	650	988	494	16
C Blain School, Seattle	#04	50	45	95	48	2
Median Ele, Medina	#05	1,250	718	1,968	984	32
Hamilton View Park, SW, Seattle	#06	68	222	290	145	5
Central Area Sr Center, Seattle	#07	687	522	1,209	605	20
Mercer View Community Center	#08	33	11	44	22	1
Beacon Hill Reservoir	#09	19,613	25,040	44,653	22,327	732
Brighton Playfield, S Seattle	#10	889	745	1,634	817	27
Beverly Pk School, SeaTac	#11	12,825	14,520	27,345	13,673	448
S 126, Burien	#12	5,855	4,490	10,345	5,173	170
Cedarhurst Middle Sch, Bruien	#13	9,290	10,044	19,334	9,667	317
N Clear Zone, SeaTac	#14	14,516	16,809	31,325	15,663	514
Sylvester Mid Sch, Burien	#15	855	2,019	2,874	1,437	47
Chinook Mid Sch, SeaTac	#16	2,095	2,582	4,677	2,339	77
S 207th St, SeaTac	#17	12,578	13,179	25,757	12,879	422
S 226 St, Des Moines	#18	11,521	12,077	23,598	11,799	387
Midway Ele, 24 Ave S, Des Moin	#19	9,306	11,616	20,922	10,461	343
Parkside Ele, S 247, Des Moin	#20	8,446	10,258	18,704	9,352	307
Mark Twain Ele, Star Lake, FW	#21	8,528	10,433	18,961	9,481	311
Sacajawea Jr H, FW	#22	9,660	9,558	19,218	9,609	315
Meredith Hills Sch, S300, Auburn	#23	88	157	245	123	4
Twin Lakes Ele, 42 Pl SE, FW	#25	301	343	644	322	11
Woodmont Ele, 16 Ave S, Des Moin	#28	10,935	11,505	22,440	11,220	368

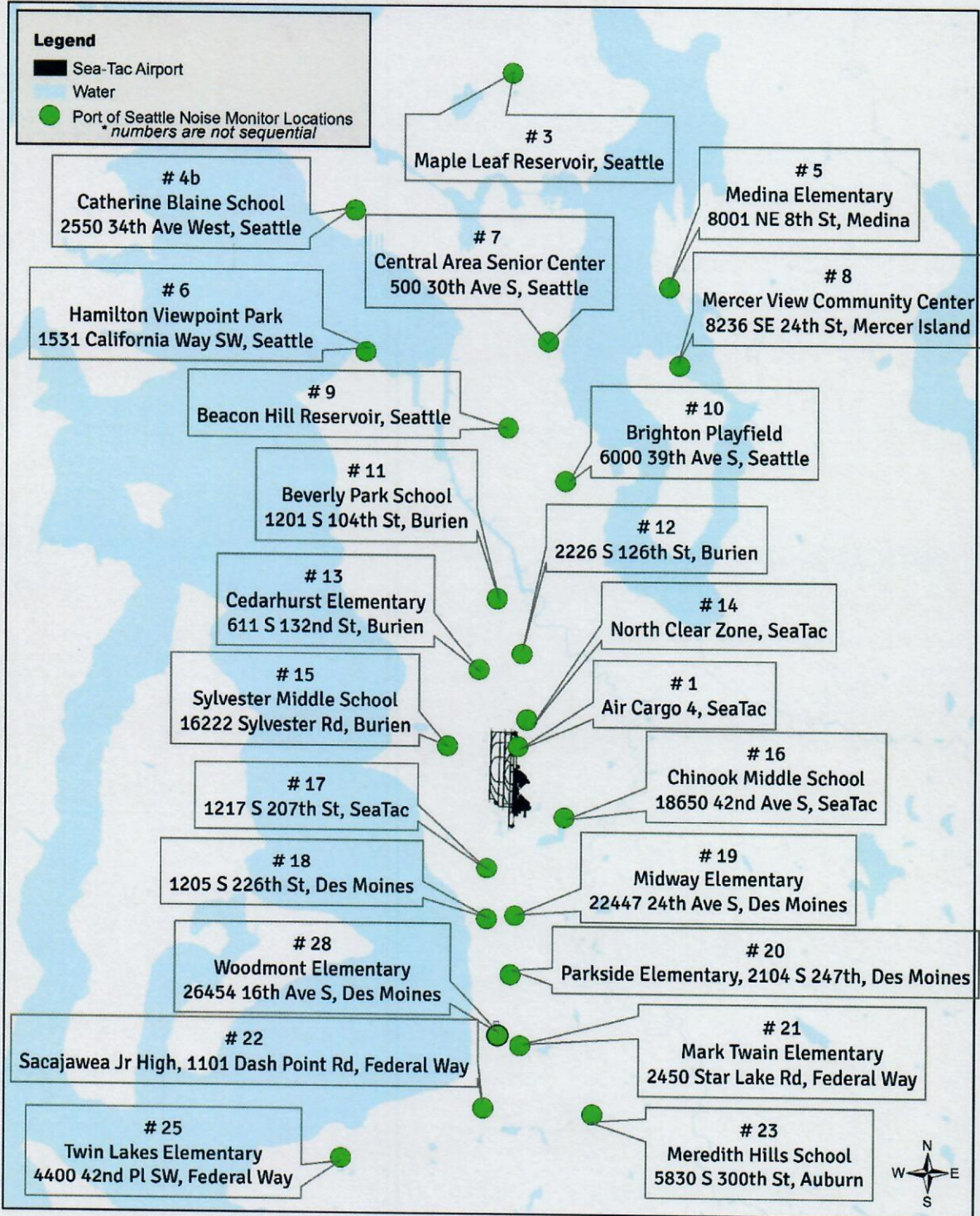
General Comments

- 1 - Count of SEL measures used to estimate count of flights; some flights are counted 2+, giving an overestimate of 2-4% of flights
- 2 - See Noise Monitor Map for location of noise monitors.

**Data Notes:** See 2016 chart and notes for Nov-Dec SEL errors..



## Seattle - Tacoma International Airport Noise Monitor Locations



**Sample of the duplicate measures from a noise meter (2017 July 26th)** just so you can see what the data looks like. Although the time and SEL is often different the flight ID is the same, different by seconds.

Date/Time (copy of Date/Ti	Time	Airport	oise Monitr	Flight ID	Operation	Flight type	Equipment	Runway	SEL	
7/26/2017	26-Jul	8:29:08 AM	SEA	SEA23	ASA956	Departure	Passenger	B738	16L	88
7/26/2017	26-Jul	8:29:26 AM	SEA	SEA23	ASA956	Departure	Passenger	B738	16L	87
7/26/2017	26-Jul	8:29:35 AM	SEA	SEA23	ASA956	Departure	Passenger	B738	16L	78
7/26/2017	26-Jul	8:29:55 AM	SEA	SEA23	UAL294	Departure	Passenger	B739	16L	89
7/26/2017	26-Jul	8:30:17 AM	SEA	SEA23	QXE2419	Departure	Passenger	DH8D	16L	90
7/26/2017	26-Jul	8:31:58 AM	SEA	SEA23	QXE2768	Departure	Passenger	E75L	16C	82
7/26/2017	26-Jul	8:32:14 AM	SEA	SEA23	QXE2768	Departure	Passenger	E75L	16C	77
7/26/2017	26-Jul	8:32:59 AM	SEA	SEA23	ASA83	Departure	Passenger	B739	16L	90
7/26/2017	26-Jul	8:39:30 AM	SEA	SEA23	UAL1121	Departure	Passenger	A320	16L	86
7/26/2017	26-Jul	8:39:40 AM	SEA	SEA23	UAL1121	Departure	Passenger	A320	16L	96
7/26/2017	26-Jul	8:40:41 AM	SEA	SEA23	ABX904	Departure	Cargo	B762	16L	93
7/26/2017	26-Jul	8:41:14 AM	SEA	SEA23	ABX904	Departure	Cargo	B762	16L	87
7/26/2017	26-Jul	8:41:24 AM	SEA	SEA23	ABX904	Departure	Cargo	B762	16L	89
7/26/2017	26-Jul	8:41:43 AM	SEA	SEA23	ABX904	Departure	Cargo	B762	16L	93
7/26/2017	26-Jul	8:43:27 AM	SEA	SEA23	ASA754	Departure	Passenger	B739	16L	90
7/26/2017	26-Jul	8:44:04 AM	SEA	SEA23	ASA754	Departure	Passenger	B739	16L	90
7/26/2017	26-Jul	8:44:44 AM	SEA	SEA23	ASA612	Departure	Passenger	B739	16L	90
7/26/2017	26-Jul	8:44:58 AM	SEA	SEA23	ASA612	Departure	Passenger	B739	16L	84
7/26/2017	26-Jul	8:45:15 AM	SEA	SEA23	ASA612	Departure	Passenger	B739	16L	87
7/26/2017	26-Jul	8:46:32 AM	SEA	SEA23	ASA320	Departure	Passenger	B739	16C	89
7/26/2017	26-Jul	8:46:52 AM	SEA	SEA23	ASA320	Departure	Passenger	B739	16C	91
7/26/2017	26-Jul	8:47:53 AM	SEA	SEA23	ASA792	Departure	Passenger	B739	16L	92
7/26/2017	26-Jul	8:48:30 AM	SEA	SEA23	ASA792	Departure	Passenger	B739	16L	80
7/26/2017	26-Jul	8:48:38 AM	SEA	SEA23	ASA332	Departure	Passenger	B738	16L	100
7/26/2017	26-Jul	8:54:01 AM	SEA	SEA23	QXE2441	Departure	Passenger	DH8D	16L	82
7/26/2017	26-Jul	8:54:46 AM	SEA	SEA23	AAR241	Departure	Cargo	B744	16L	88
7/26/2017	26-Jul	8:55:32 AM	SEA	SEA23	AAR241	Departure	Cargo	B744	16L	95
7/26/2017	26-Jul	9:01:06 AM	SEA	SEA23	SKW4628	Departure	Passenger	CRJ7	16C	101
7/26/2017	26-Jul	9:04:12 AM	SEA	SEA23	ASA38	Departure	Passenger	B738	16L	87
7/26/2017	26-Jul	9:04:21 AM	SEA	SEA23	ASA38	Departure	Passenger	B738	16L	99
7/26/2017	26-Jul	9:08:51 AM	SEA	SEA23	SWA2235	Departure	Passenger	B738	16L	81
7/26/2017	26-Jul	9:09:04 AM	SEA	SEA23	SWA2235	Departure	Passenger	B738	16L	87
7/26/2017	26-Jul	9:09:42 AM	SEA	SEA23	QXE2473	Departure	Passenger	DH8D	16L	84
7/26/2017	26-Jul	9:09:56 AM	SEA	SEA23	QXE2473	Departure	Passenger	DH8D	16L	83
7/26/2017	26-Jul	9:10:13 AM	SEA	SEA23	QXE2473	Departure	Passenger	DH8D	16L	85
7/26/2017	26-Jul	9:10:25 AM	SEA	SEA23	QXE2473	Departure	Passenger	DH8D	16L	88
7/26/2017	26-Jul	9:11:52 AM	SEA	SEA23	DAL2639	Departure	Passenger	B739	16L	83