

Summary of Monthly Noise Report Comparison of December 2020 to 2019

Page 1: The total number of 7 a.m. to 11 p.m. operations increased 3.4% in December 2020, as compared to December 2019. Singles (including touch-and-goes) increased 22.5% compared to December 2019. Turbo activity decreased 24.2% while Jet activity decreased 15.8%. Helicopter activity had a 2.8% decrease in activity. Night activity decreased from 184 operations in December 2019, to 111 operations in December 2020.

Page 2: Civilian departure EXP, using the Aviation Environmental Design Tool (AEDT) Version 2d, was 106.7 decibels in December 2020.

Pages 3a-c: EXP using AEDT 2d calculations for December 2020 are on pages 3 a-c.

Page 4: The top graph provides a visual picture of the changes in departure EXP over the past 24 months, showing the ups and downs since December 2018 for civilian, military and total EXP. It demonstrates the wide variability in military departure EXP, which ranged from a new low of 60.4 dB (December 2021) to 110.2 dB (August 2019). Civilian departure EXP ranged between a peak of 108.2 dB (May 2019) to a low of 101.0 dB (April 2020). Beginning in January 2020, AEDT 2d is being used to calculate noise values.

The bottom graph indicates trends since December 2015, with each point on the graph representing the interval average for the previous 12 months. The military interval average decreased from mid-2015 until mid-2016, then increased through early 2018 and remained somewhat steady until a small decline at the end of 2018. A steady decrease occurred throughout 2019, dropping sharply at the end of 2020 after October. The civilian interval average does not demonstrate the pronounced ups and downs seen in the military interval average, but it demonstrates an even trend in 2015, and a downward to even trend from 2016 through 2019. There was a downward trend throughout 2020.

Page 5: There was an increase in noise disturbance reports from 157 in December 2019 to 179 in December 2020, made by 26 separate callers.

Page 6: In December 2020, when compared to December 2019, there was a decrease in DNL of 4.4 dB at Site 31 (Airfield), a decrease of 2.0 dB at Site 32 (Airfield), an increase of 0.7 dB at Site 33 (Lincoln), a decrease of 0.4 dB at Site 34 (Bedford), a decrease of 0.9 dB at Site 35 (Lexington) and an increase of 1.3 dB at Site 36 (Concord). There were zero days that had a DNL above 70 in December. Site 31 was inoperable due to a damaged windscreen that was repaired on December 16th and noise readings for those dates were not included in the report calculations. Site 34 was inoperable due to a loose power cord beginning on December 23rd. The remaining monitors were 100% operational throughout the month.

2020 - to - DATE PRELIMINARY REPORT
 (All data is reviewed for the Annual Noise Report--data for 2019-2020 may be adjusted.)

Prepared December 2020

MONTHLY STATISTICS REPORT - HANSCOM FIELD

2019 FROM FAA TOWER REPORTS & ESTIMATES (7 A.M.-11 P.M)								
	CIVILIAN					MILITARY	TOTAL	
	LOCAL	SINGLES	TWIN PISTON	TURBO	JET	HELI		
January	2657	1414	207	481	2583	755	18	8,115
February	3140	1720	173	406	2500	723	33	8,695
March	3559	2229	237	488	2701	749	40	10,003
April	3179	1952	290	524	2622	773	99	9,439
May	4147	2987	389	743	2888	823	36	12,013
June	4282	3130	345	766	2733	784	42	12,082
July	5090	3701	354	794	2225	877	58	13,099
August	4759	3567	394	780	2368	847	62	12,777
September	4652	3598	310	777	2589	815	60	12,801
October	3242	2377	331	734	3187	848	64	10,783
November	3376	2398	296	621	2995	771	40	10,497
December	2524	1397	269	566	2821	777	23	8,377
TOTAL	44,607	30,470	3,595	7,680	32,212	9,542	575	128,681

2020 FROM FAA TOWER REPORTS & ESTIMATES (7 A.M.-11 P.M)								
	CIVILIAN					MILITARY	TOTAL	
	LOCAL	SINGLES	TWIN PISTON	TURBO	JET	HELI		
January	3167	1704	232	523	2461	774	43	8,904
February	3124	1769	246	446	2569	715	58	8,927
March	2515	1371	253	369	2172	737	38	7,455
April	624	102	177	150	605	640	60	2,358
May	717	446	217	271	1167	776	58	3,652
June	2970	1841	338	533	1654	787	16	8,139
July	4286	2621	303	601	1628	808	32	10,279
August	4608	2913	358	556	1840	809	39	11,123
September	4154	2726	370	647	1793	807	74	10,571
October	3754	2271	357	538	2057	790	93	9,860
November	3566	2498	329	428	2077	738	43	9,679
December	2998	1807	283	429	2374	755	15	8,661
TOTAL	36,483	22,069	3,463	5,491	22,397	9,136	569	99,608

Note: The 2019 figures are preliminary. All 2019 data will be reviewed before publication of the 2019 annual noise report.

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NIGHT OPERATIONS (11 p.m.-7 a.m.)

	2015	2016	2017	2018	2019	2020	2020 EXMPT
	(inc. exempt)	(inc. exempt)	(inc. exempt)	(inc. exempt)	(inc. exempt)	(inc. exempt)	
January	150	152	167	207	187	152	45
February	164	142	182	213	194	163	48
March	166	149	171	206	184	122	35
April	189	189	175	187	214	49	31
May	200	148	224	224	240	65	33
June	176	175	190	217	192	110	52
July	180	154	205	196	228	132	62
August	152	181	150	182	172	151	61
September	178	172	184	186	211	147	50
October	191	220	214	277	227	170	62
November	171	189	213	206	243	123	68
December	141	170	151	158	184	111	42
TOTAL TO-DATE	2058	2041	2226	2459	2476	1495	589

Exempt includes: Medical emergency, FAA, CAP, military, & based operators with ATC, mechanical, or weather delays.

NOISE DISTURBANCE REPORTS

	2015	2016	2017	2018	2019	2020
January	14	55	24	30	67	228
February	14	28	33	29	58	246
March	22	23	22	35	147	166
April	30	23	43	29	221	62
May	56	34	46	64	228	54
June	36	73	99	58	301	146
July	39	29	60	56	197	141
August	50	46	111	73	168	104
September	61	39	58	70	214	315
October	35	30	50	82	237	159
November	37	27	40	59	259	219
December	33	20	14	62	157	179
TOTAL- to-date	427	427	600	647	2,254	2,019

CIVILIAN DEPARTURE EXP COMPARISON

	2008	2009	2010	2011	2012	2013	2014
Jan.	109.6 dB	108.2 dB	109.6 dB	109.6 dB	107.8 dB	107.7 dB	107.6 dB
Feb.	111.5 dB	108.1 dB	108.9 dB	110.1 dB	109.5 dB	108.5 dB	108.3 dB
Mar.	110.8 dB	110.6 dB	109.5 dB	109.3 dB	109.5 dB	107.8 dB	108.0 dB
Apr.	110.8 dB	110.5 dB	110.3 dB	109.2 dB	109.2 dB	108.7 dB	108.1 dB
May	111.3 dB	109.9 dB	110.4 dB	109.6 dB	108.7 dB	108.4 dB	109.0 dB
June	110.8 dB	109.1 dB	109.3 dB	109.1 dB	108.6 dB	109.7 dB	108.0 dB
July	110.0 dB	109.1 dB	108.4 dB	108.2 dB	107.6 dB	108.3 dB	107.8 dB
Aug.	109.0 dB	108.4 dB	108.4 dB	108.5 dB	108.2 dB	108.3 dB	107.6 dB
Sept.	109.9 dB	108.9 dB	109.0 dB	110.2 dB	108.4 dB	108.6 dB	109.1 dB
Oct.	109.7 dB	109.0 dB	109.1 dB	108.6 dB	108.5 dB	109.4 dB	109.0 dB
Nov.	110.0 dB	108.9 dB	109.3 dB	108.8 dB	109.1 dB	108.6 dB	108.3 dB
Dec.	109.5 dB	109.1 dB	108.8 dB	107.5 dB	107.2 dB	108.7 dB	107.6 dB
ANNUAL EXP	110.2 dB	109.2 dB	109.3 dB	109.1 dB	108.5 dB	108.6 dB	108.2 dB
ANNUAL OPERATIONS	165,889	149,911	163,737	162,999	166,214	154,251	134,295

CIVILIAN DEPARTURE EXP COMPARISON

	2015	2016	2017	2018	2019	2020	2019-2020 Difference
Jan.	107.3 dB	107.9 dB	107.3 dB	106.8 dB*	106.7 dB*	106.2 dB*	-0.5
Feb.	107.8 dB	107.6 dB	107.6 dB	107.3 dB*	107.1 dB*	107.2 dB*	0.1
Mar.	108.1 dB	107.5 dB	107.7 dB	107.9 dB*	107.1 dB*	105.7 dB*	-1.4
Apr.	108.4 dB	107.7 dB	108.4 dB	107.2 dB*	107.5 dB*	101.0 dB*	-6.5
May	108.2 dB	107.8 dB	107.8 dB*	107.9 dB*	108.2 dB*	105.1 dB*	-3.2
June	108.1 dB	108.2 dB	107.8 dB*	107.6 dB*	108.1 dB*	105.1 dB*	-3.0
July	108.0 dB	106.8 dB	106.7 dB*	106.7 dB*	108.0 dB*	105.7 dB*	-2.3
Aug.	108.0 dB	107.5 dB	106.2 dB*	106.3 dB*	106.8 dB*	106.0 dB*	-0.8
Sept.	108.0 dB	108.1 dB	107.5 dB*	107.1 dB*	107.4 dB*	105.9 dB*	-1.5
Oct.	108.3 dB	108.2 dB	107.4 dB*	107.9 dB*	107.6 dB*	106.3 dB*	-1.3
Nov.	108.9 dB	108.7 dB	107.2 dB*	107.3 dB*	107.2 dB*	106.1 dB*	-1.1
Dec.	107.6 dB	107.7 dB	106.4 dB*	106.7 dB*	106.8 dB*	106.7 dB*	-0.1
ANNUAL EXP	108.0 dB	107.8 dB	107.3 dB	107.2 dB*	107.4 dB	105.6 dB	
ANNUAL OPERATIONS	128,249	122,027	128,598	121,661	128,681	99,608	

* Beginning in Jan 2020, AEDT 2d is used to calculate SEL values

EXP for 12/1/2020 through 12/31/2020

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Group Number	Stage	Rep Type	Cat ID	Sector	Departures					Arrivals					Partial EXP
					SEL	Day	10 PM to 11 PM	11 PM to 7 AM	EXP	SEL	Day	10 PM to 11 PM	11 PM to 7 AM	EXP	
1	9	C525, C500, C501	J	CIV	87.10	2.16	0.00	0.16	92.87	85.50	2.00	0.03	0.29	92.68	95.79
2	9	C560	J	CIV	89.00	1.23	0.03	0.00	90.90	86.60	1.23	0.00	0.03	88.50	92.87
2M	9	UC-35 [MIL]	J	MIL	89.00	0.00	0.00	0.00	0.00	86.60	0.00	0.00	0.00	0.00	0.00
3	9	LJ35, LJ45, H25B, H25	J	CIV	91.10	6.74	0.03	0.10	100.15	88.20	6.55	0.13	0.19	98.10	102.25
3M	9	C-21 [MIL]	J	MIL	91.10	0.00	0.00	0.00	0.00	88.20	0.00	0.00	0.00	0.00	0.00
4	9	DA02	J	CIV	95.50	0.00	0.00	0.00	0.00	98.90	0.00	0.00	0.00	0.00	0.00
4M	9	HU25 [MIL]	J	MIL	95.50	0.00	0.00	0.00	0.00	98.90	0.00	0.00	0.00	0.00	0.00
5	9	LJ25, LJ24, H25A	J	CIV	104.90	0.00	0.03	0.00	99.99	99.80	0.03	0.00	0.00	84.89	100.12
5M	9	T-37, T38 [MIL]	J	MIL	104.90	0.00	0.00	0.00	0.00	99.80	0.00	0.00	0.00	0.00	0.00
6	9	BAC-111	J	CIV	96.10	0.00	0.00	0.00	0.00	99.90	0.00	0.00	0.00	0.00	0.00
7	9	GLF3	J	CIV	81.80	0.06	0.00	0.00	69.90	88.20	0.06	0.00	0.00	76.30	77.19
7M	9	GLF3 [MIL]	J	MIL	81.80	0.00	0.00	0.00	0.00	88.20	0.00	0.00	0.00	0.00	0.00
8	9	GLF4	J	CIV	81.80	2.45	0.03	0.06	87.14	88.20	2.45	0.03	0.06	93.54	94.44
8M	9	C20B, GLF4 [MIL]	J	MIL	81.80	0.00	0.00	0.00	0.00	88.20	0.00	0.00	0.00	0.00	0.00
9	9	CL30, CL60, CRJ1	J	CIV	86.60	4.61	0.03	0.19	94.97	87.60	4.61	0.16	0.06	95.97	98.51
10	9	CL61, CRJ2, CRJ7	J	CIV	84.30	0.84	0.06	0.00	86.01	88.40	0.90	0.00	0.00	87.96	90.10
11	9	Unknown/Misc. Jets	J	CIV	95.80	0.00	0.00	0.00	0.00	88.70	0.00	0.00	0.00	0.00	0.00
11M	9	Unknown/Misc. Jets [MI	J	MIL	100.20	0.00	0.00	0.00	0.00	92.20	0.00	0.00	0.00	0.00	0.00
13	9	C141 [MIL]-OBSOLETE	J	MIL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	9	DC-9	J	CIV	94.60	0.00	0.00	0.00	0.00	92.30	0.00	0.00	0.00	0.00	0.00
14M	9	C9, T-43 [MIL]	J	MIL	99.20	0.00	0.00	0.00	0.00	94.20	0.00	0.00	0.00	0.00	0.00
15	9	B707-OBSOLETE	J	CIV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15M	9	C-5A, KC-135 [MIL]	J	MIL	103.50	0.00	0.00	0.00	0.00	107.80	0.00	0.00	0.00	0.00	0.00
17	9	Helicopters	H	CIV	83.50	12.07	0.10	0.35	95.70	87.90	12.14	0.03	0.35	99.94	101.33
17M	9	Helicopters [MIL]	H	MIL	89.40	0.00	0.00	0.00	0.00	89.20	0.00	0.00	0.00	0.00	0.00
18	9	C130, Hvy Turboprops	T	CIV	92.50	0.00	0.00	0.00	0.00	95.80	0.00	0.00	0.00	0.00	0.00
18M	9	C130, P3 [MIL]	T	MIL	92.50	0.00	0.00	0.00	0.00	95.80	0.00	0.00	0.00	0.00	0.00
19	9	C441, Twin Turboprops	T	CIV	75.30	0.40	0.00	0.03	73.91	84.10	0.40	0.00	0.03	82.71	83.25
19M	9	C12 [MIL turboprops]	T	MIL	75.30	0.03	0.00	0.00	60.39	84.10	0.03	0.00	0.00	69.19	69.72

EXP for 12/1/2020 through 12/31/2020

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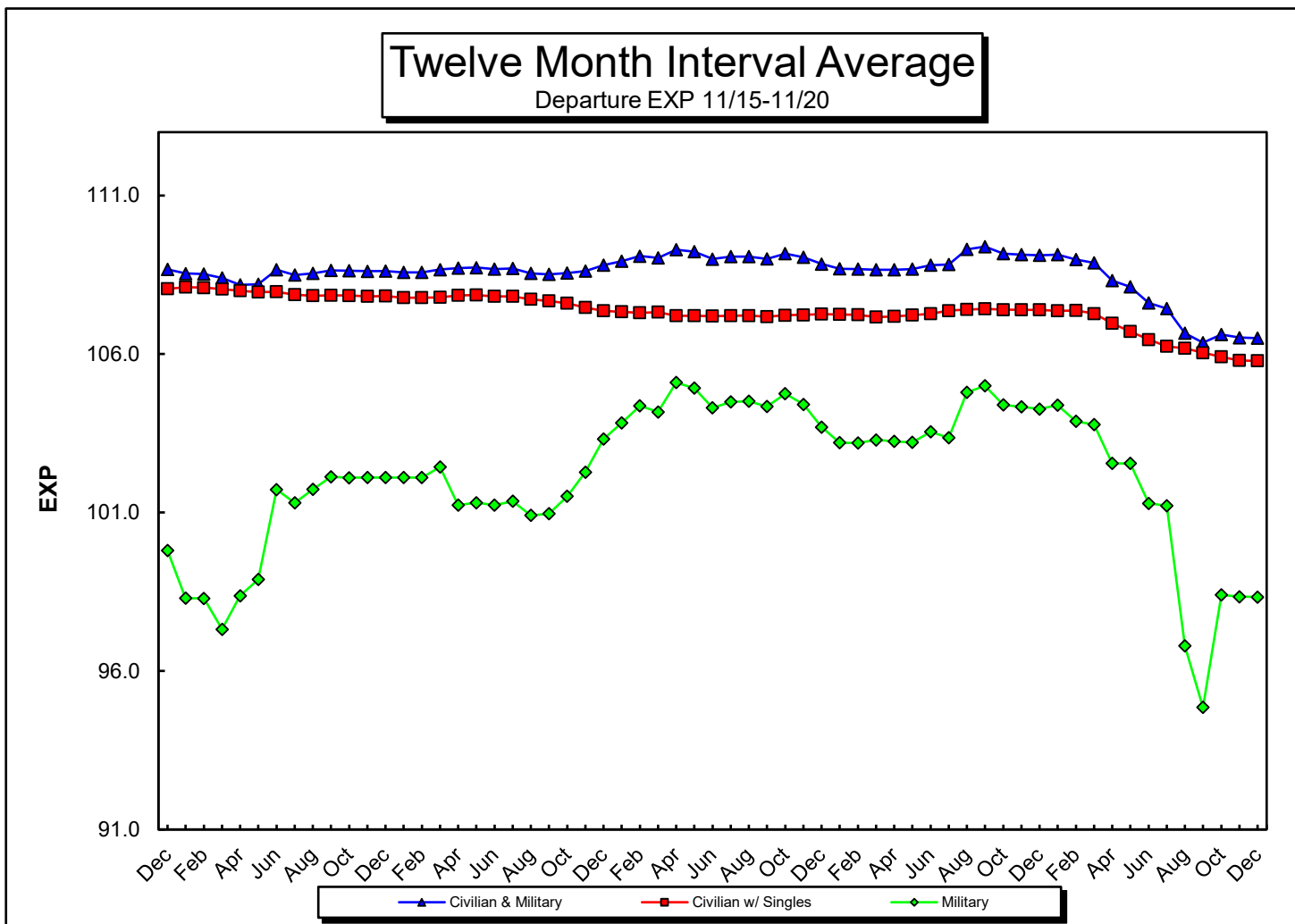
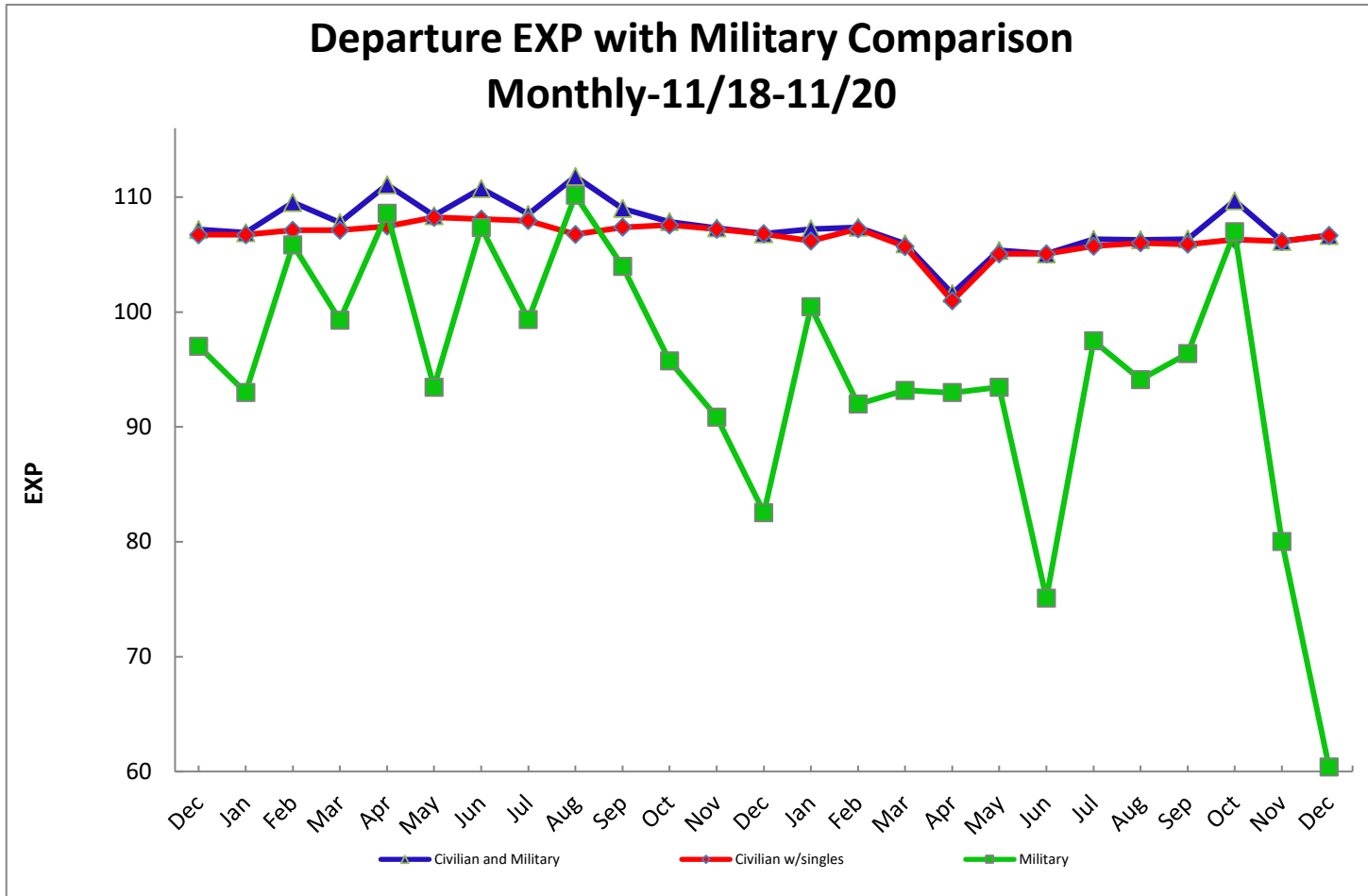
Group Number	Stage	Rep Type	Cat ID	Sector	Departures					Arrivals					Partial EXP
					SEL	Day	10 PM to 11 PM	11 PM to 7 AM	EXP	SEL	Day	10 PM to 11 PM	11 PM to 7 AM	EXP	
20	9	Twin-engine Piston	W	CIV	82.70	4.47	0.03	0.10	90.30	85.90	4.56	0.00	0.03	92.79	94.73
20M	9	Twin-engine Piston [MIL]	W	MIL	82.70	0.00	0.00	0.00	0.00	85.90	0.00	0.00	0.00	0.00	0.00
21	9	SINGLES (includes loca	S	CIV	78.90	81.41	0.00	0.32	98.18	81.90	81.51	0.13	0.10	101.13	102.91
21M	9	SINGLES [MIL]	S	MIL	78.90	0.00	0.00	0.00	0.00	81.90	0.00	0.00	0.00	0.00	0.00
22	9	ASTR, G150, G280, W	J	CIV	90.80	0.42	0.00	0.00	87.03	84.80	0.42	0.00	0.00	81.03	88.00
24	9	A10, EA6, F16 etc. [MIL]	J	MIL	116.00	0.00	0.00	0.00	0.00	93.40	0.00	0.00	0.00	0.00	0.00
25	9	C650	J	CIV	88.60	0.23	0.00	0.00	82.14	84.90	0.23	0.00	0.00	78.44	83.68
26	9	F2TH, F900, FA50, FA7	J	CIV	81.70	2.03	0.00	0.00	84.78	92.30	1.94	0.00	0.10	96.93	97.19
28M	9	DC3 [MIL]	W	MIL	94.80	0.00	0.00	0.00	0.00	98.10	0.00	0.00	0.00	0.00	0.00
29	9	B190, E120, D238	T	CIV	76.50	0.00	0.00	0.00	0.00	89.60	0.00	0.00	0.00	0.00	0.00
30	9	SF34	T	CIV	77.30	0.10	0.00	0.00	67.16	86.20	0.10	0.00	0.00	76.06	76.58
31	9	B727-ST2-OBSOLETE	J	CIV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	9	B727-ST3	J	CIV	103.40	0.00	0.00	0.00	0.00	97.00	0.00	0.00	0.00	0.00	0.00
33	9	BE20, BE30, DHC6, SW	T	CIV	82.10	2.39	0.00	0.00	85.88	93.50	2.29	0.06	0.03	98.63	98.85
34	9	B737 Hushkit	J	CIV	95.50	0.00	0.00	0.00	0.00	93.80	0.00	0.00	0.00	0.00	0.00
35	9	DH8	J	CIV	70.70	0.06	0.00	0.00	58.80	82.80	0.06	0.00	0.00	70.90	71.16
36	9	A319, A320, A321	J	CIV	86.90	0.03	0.00	0.00	71.99	93.10	0.03	0.00	0.00	78.19	79.12
37	9	GLF5, GLF6	J	CIV	86.20	1.23	0.06	0.03	89.61	88.70	1.26	0.06	0.00	91.49	93.66
37M	9	C37, GLF5 [MIL]	J	MIL	86.20	0.00	0.00	0.00	0.00	88.70	0.00	0.00	0.00	0.00	0.00
39	9	GLF2	J	CIV	97.10	0.03	0.00	0.00	82.19	92.70	0.03	0.00	0.00	77.79	83.53
40	9	C750, GALX, HA4T, J32	J	CIV	81.70	3.61	0.03	0.00	87.65	92.30	3.52	0.06	0.06	99.12	99.42
41	9	B737	J	CIV	89.50	0.26	0.00	0.00	83.62	94.40	0.26	0.00	0.00	88.52	89.73
42	9	B757	J	CIV	88.20	0.16	0.00	0.03	85.05	93.40	0.10	0.00	0.10	93.67	94.23
43	9	C550, E55P, PRM1	V	CIV	83.00	2.90	0.00	0.03	88.09	90.00	2.94	0.00	0.00	94.68	95.54
44	9	C56X	J	CIV	81.40	3.35	0.00	0.03	87.06	91.20	3.29	0.10	0.00	97.49	97.87
45	9	BE40, MU30	J	CIV	91.70	1.03	0.00	0.00	91.84	87.10	1.03	0.00	0.00	87.24	93.13
46	9	C680	J	CIV	84.60	2.16	0.00	0.06	89.08	88.20	2.13	0.03	0.06	93.11	94.56
47	9	E135, E145	J	CIV	79.70	0.29	0.00	0.03	77.57	89.30	0.23	0.03	0.06	90.07	90.31
48	9	BD70, GL5T, GLEX	J	CIV	78.90	2.00	0.03	0.03	83.12	90.10	1.94	0.10	0.03	95.19	95.45

EXP for 12/1/2020 through 12/31/2020

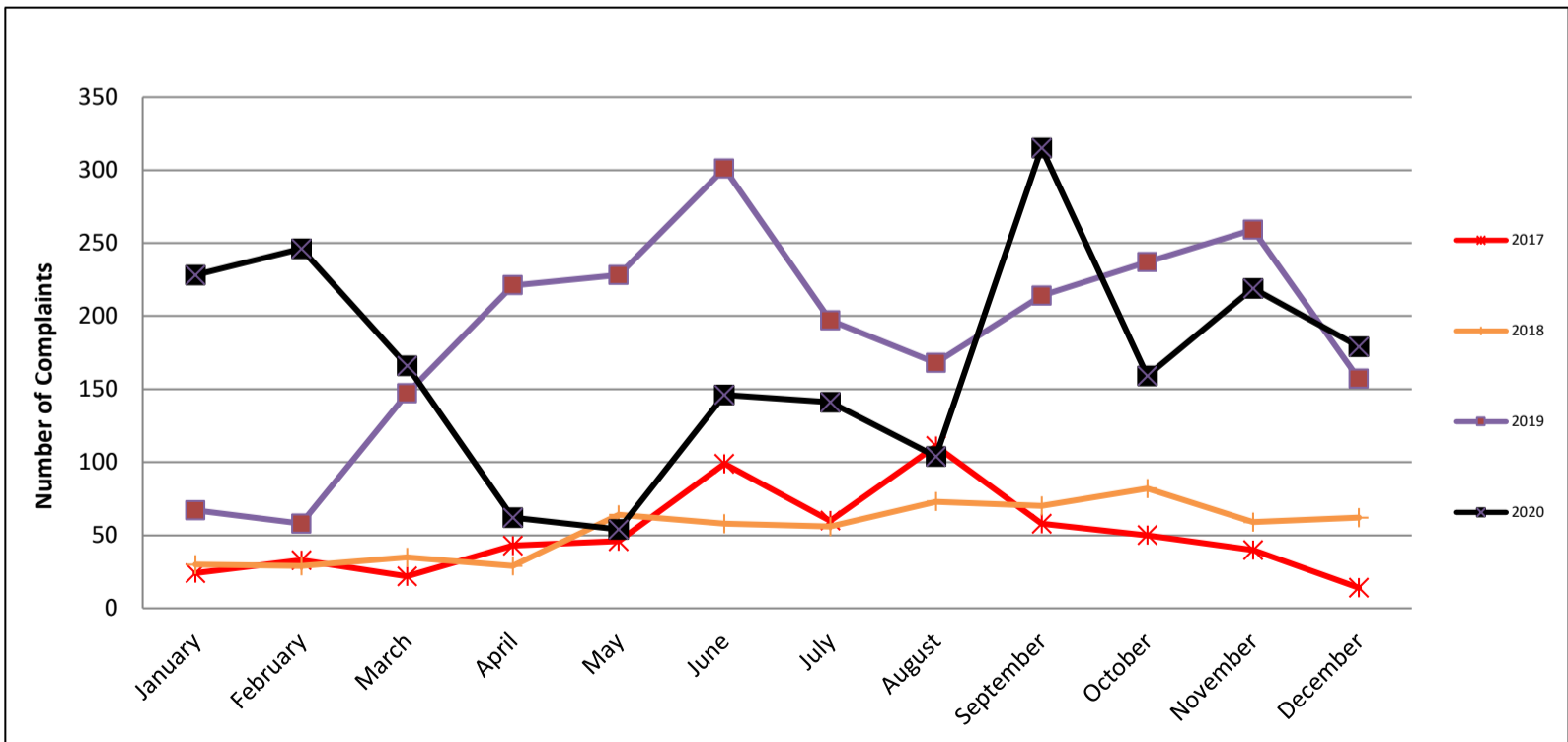
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Group Number	Stage	Rep Type	Cat ID	Sector	Departures					Arrivals					Partial EXP
					SEL	Day	10 PM to 11 PM	11 PM to 7 AM	EXP	SEL	Day	10 PM to 11 PM	11 PM to 7 AM	EXP	
49	9	C510, E500, E50P	V	CIV	82.90	0.10	0.00	0.00	72.76	85.70	0.10	0.00	0.00	75.56	77.39
50	9	EA50	V	CIV	74.50	0.13	0.00	0.03	71.05	79.00	0.16	0.00	0.00	71.08	74.07
Civil Aircraft-Excluding Singles					57.56	0.48	1.29	105.99		56.98	0.84	1.52	108.38	110.36	
Civil Aircraft					138.97	0.48	1.61	106.66		138.48	0.97	1.61	109.13	111.08	
Military Aircraft					0.03	0.00	0.00	60.39		0.03	0.00	0.00	69.19	69.72	
All Aircraft- Excluding Singles					57.59	0.48	1.29	105.99		57.01	0.84	1.52	108.38	110.36	
All Aircraft					139.00	0.48	1.61	106.66		138.52	0.97	1.61	109.13	111.08	
Total Operations					2,998	1,807	283	429	2,301	73	755	15	8,661		

* The value for singles does not include local flights



NOISE DISTURBANCE REPORTS					December Complaints	
	2017	2018	2019	2020	Individuals	Multiples
January	24	30	67	228	Resident 1	52
February	33	29	58	246	Resident 2	24
March	22	35	147	166	Resident 3	20
April	43	29	221	62	Resident 4	17
May	46	64	228	54	Resident 5-6	26
June	99	58	301	146	Resident 7	9
July	60	56	197	141	Resident 8	6
August	111	73	168	104	Resident 9-10	6
September	58	70	214	315	Resident 11-13	6
October	50	82	237	159	Resident 14-26	13
November	40	59	259	219		
December	14	62	157	179		
TOTAL-to-date				2,019		
TOTAL					26	179
Multiples:						93%
City					Number of Callers	
Ayer						2
Bedford						10
Chelmsford						1
Concord						3
Groton						1
Lexington						2
Lincoln						4
Sudbury						1
Winchester						2
Totals:						26



RMS ID	Location Description	Jan '19	Feb '19	Mar '19	Apr '19	May '19	Jun '19	Jul '19	Aug '19	Sep '19	Oct '19	Nov '19	Dec '19	YTD 2019
31	Concord Localizer	61.7	64.8	62.0	63.6	63.4	68.5	66.0	65.1	65.8	64.2	63.2	62.2	64.6
32	Bedford Localizer	NA	68.5	67.1	66.1	62.4	61.9	63.8	61.5	61.9	62.4	62.7	62.4	63.7
33	Lincoln--Brooks Rd	54.9	55.8	55.1	57.0	58.1	56.1	56.3	61.3	57.8	58.2	55.8	54.6	57.2
34	Bedford--DeAngelo	59.4	59.9	59.0	60.9	59.1	85.3	84.2	86.9	60.8	61.5	62.0	58.7	79.7
35	Lexington--Preston	58.1	59.1	57.3	61.0	57.5	58.1	59.5	58.8	59.1	60.1	60.3	58.6	59.1
36	Concord Wastewater	60.8	61.0	60.7	61.5	61.3	60.9	60.8	61.5	62.5	62.0	59.9	59.8	61.1

RMS ID	Location Description	Jan '20	Feb '20	Mar '20	Apr '20	May '20	Jun '20	Jul '20	Aug '20	Sep '20	Oct '20	Nov '20	Dec '20	YTD 2020
31	Concord Localizer	62.7	63.3	60.6	59.2	60.1	66.2	63.9	62.7	62.5	66.9	69.2	57.8	64.4
32	Bedford Localizer	61.0	61.6	57.0	58.8	59.1	58.9	59.5	60.2	60.5	60.4	59.6	60.4	59.7
33	Lincoln--Brooks Rd	55.7	54.9	54.4	55.0	53.5	56.6	55.7	58.7	57.2	54.7	55.0	55.3	55.8
34	Bedford--DeAngelo	59.7	60.3	60.4	60.6	60.5	60.9	61.5	61.3	61.5	60.9	61.8	58.3	60.9
35	Lexington--Preston	58.2	57.7	56.8	57.8	56.4	56.6	56.3	57.9	58.5	58.7	60.1	57.7	57.9
36	Concord Wastewater	60.1	60.2	59.8	60.7	61.0	59.9	59.4	60.8	63.7	61.7	60.3	61.2	60.9