Observations on Issues Relative to a Contemplated Voluntary Curfew at VNY

Prepared for

Van Nuys Airport Citizens Advisory Committee, Ad Hoc Committee Considering the Imposition of a Voluntary Curfew

by

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Observations on Issues Relative to a Contemplated Voluntary Curfew at VNY (Sep 6, 2019 Version)

This is a statement relative to the Data and Analyses presented for discussions at the Ad Hoc Committee of the VNY Citizens Advisory Council regarding evaluation of a voluntary overnight curfew at VNY.

All data used in the analyses Contained herein are based solely on publicly available source data.

It is essential, before giving any consideration to the proposed Curfew, that the problem driving the proposal be thoroughly examined. The proposed curfew has been suggested as a reliable fix to the problem exclusively in the context of the realities.

- 1. The public visiting meetings of the VNY CAC have expressed serious concern about turbine aircraft noise. Three primary issues are, in this case, causal to the perception of aircraft noise.
 - A. Numbers of turbine operations. During 2018, the last year of the recovery from the Recession that actually began at VNY in 2006, Turbine Operations were 17% higher than in 2017. That dramatic increase is undoubtedly contributory to the perception of noise problem, because the community had lived in an environment of turbine operations reduced by 30% during the recession for 11 years.
 - B. <u>Departure Routes</u>. There appear to have been some changes in patterns flown on departure, (See CAC 8/6/19 LAWA Request: Potential VNY (PPRRY) Replacement SIDs. This gives traffic spread and appears to have been effective since June 2019.
 - C. Night time ops. LAWA Total Ops 2018 262903. The public have used this value to assess their local noise exposure daily and nightly. This produces a fallacious accounting of Turbine Aircraft overflights. The actual 2018 count of Turbine operations was 58,036. And to assess the impact of Turbine Aircraft departures one needs to reference that statistic which is reported by LAWA to be 2,338 departures exclusive of Medical flights. An attached analysis gives a clear and accurate assessment of the real circumstance of Turbine overflights from VNY. That analysis demonstrates that the average daily exposure to overnight overflights is 2.7 departures per overflight area. Examining nighttime departures indicates that more than half of the flights occur during the first hour of the period and the last hour of the period, indicating that 1.4 flights, per overflight area occur in the middle of the night.
- 2. The current mandatory nighttime curfew at VNY bans aircraft departures of with Part 36 departure levels >74 dbA A State of California chart of Comparative Noise Levels notes two important facts. Normal Speech is approximately 70 dbA, and, an increase of 3 dbA is "barely perceptible to the human ear." Thus there should be very minor community noise disturbance from nighttime departures given the current curfew limit of <74dbA. This level was set with community participation as part of a Part 150/161 process.
- 3. Voluntary Total Curfew. The VNY Curfew has exemptions for Military, public safety, and air ambulances. These departures must be exempt from a voluntary curfew. It must also be noted that 50% of nighttime departures occur in the first and last hour of the curfew period, they must be considered to be of low impact on sleep periods. The net of the exemptions and marginal hour

departures amount to 59.2% of nighttime departures and further diminish the yield of the proposed curfew. Additionally after hours departures are not capriciously undertaken, and are driven, for the most part, by important business needs. In the face of the voluntary nature of the curfew, and the key driver of these departures being important business needs, there is significant for very little broad adoption of the curfew. There is one last element of a voluntary curfew that I believe the community doesn't appreciate. If such a curfew is adopted, it is only natural to expect broad adherence. If acceptance of the voluntary curfew is weak, this will be to the serious discredit of all involved.

The Impact of Origin and Destination on Overnight Departures

The impact of **origin and destination on after hours departures, is important at VNY, more so than at TEB**. A table of world around destinations and was built based on time to depart to permit arrival at business destinations given arrival times of 9:00A and 6:00P for both TEB and VNY. This table and accompanying schedule of computation factor, demonstrates the above observations. At TEB the picture of is different, and that difference shows very good reason that TEB as a weak comparable airport for purposes of examining an overnight curfew.

The Voluntary Curfew Proposal

Operations at TEB highlight why TEB is a poor choice as a comparable airport, except for the fact that they have a badly needed overnight voluntary overnight Curfew. A vast part of the argument for an overnight curfew at VNY based on TEB omits the relative noise issues at the two airports. There is a vast difference between the tempo of operations at TEB (141,000 annually at TEB and 58,000 at VNY.) TEB has two runways servicing Business Jets, and VNY has just one. But5 a major difference can be seen in the noise profiles of the two airports. The maximum daytime departure noise level is 90/95 dbA at TEB, and just 77 at VNY, or 2.8 times more noise at TEB than is experienced at VNY. Nighttime noise level allowed at TEB is also higher than that allowed at VNY (TEB 80 dbA vs. VNY 73.9 dbA respectively,) and that makes TBE 1.2 time noisier than VNY. VNY is one of the few airports in California that complies with the state noise code, but TEB would have real difficulty getting a variance for their noise production. That is very compelling reason for their curfew, especially when one considers their tempo of operations.

In the Voluntary Curfew proposal, a landmark study of noise generally, presented an updated Version of the Schultz Curve. It suggested that the curve demonstrated the need for a Voluntary Curfew. However, the presentation omitted the fact that Dr. Schultz's work, the most widely regarded work noise work, demonstrated the fact that there is a vast difference among people relative to their noise sensitivity. Dr. Schultz's 1978 work indicated that 12.5% the public complained of irritation from noise at 65 dbA. The later work cited in the Voluntary Curfew Proposal that 12.5% should be increased to 20%. At issue is an increase of 7.5%, but what is most important is the fact that that noise level remains at 65 dbA, a level just above the level of speech. If 20% of the population complains at 65dbA that indicates that at that level 80% of the population is indifferent to noise at what is virtually the level of speech. Emphasizing this point, and validating it, was a 1997 study done by an independent consulting firm that studied of people's perceptions of aircraft noise all across the Valley. In that study, it was noted that citizens randomly selected all across the Valley rated aircraft noise as falling below the indifference level in all Council Districts except one bordering on Burbank Airport, and in that District they reported a level that was .17 (3.4%) above the indifference level.

Another very notable difference not noted in the Voluntary Curfew argument relative to TEB is that TEB has 116 based "jet airplanes," vs. 185 (2017 Data) at VNY. That suggests that TEB has a very high level

of itinerant operations, and the unfamiliarity of pilots from outside the area might contribute to the issue causing the Airport to have adopted a voluntary curfew.

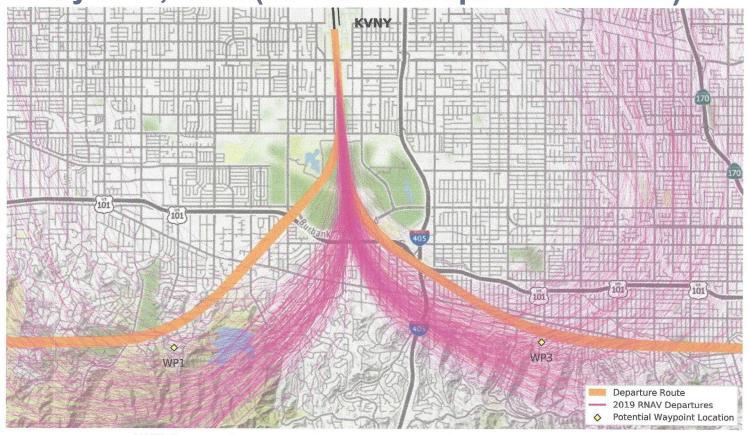
Summary

It is clear that the issue of comparability between TEB and VNY as, justification for a Voluntary Curfew is not sufficiently strong to support the argument.

There are alternatives for alleviating the conditions about which complaints have been registered in the hands of the VNY CAC. While the VNY CAC has gone to its limit in causing changes to alter departure routes, we continue to support that effort, and will continue to do so, just as has BUR and many home owners groups in the area. But I have suggested in the past and continue to do so, that affected persons seek out temporary measures. The cheapest and simplest, protection from sleep intrusion is quality ear plugs. White noise can also be helpful. Other more drastic measures including double glazed windows, and for those persons with serious conditions there is increased home insulation such as was provided in Burbank some years ago, airway vent baffles and modified air conditioning and heating systems designed to impede noise intrusion. I, as a result of chemotherapy suffered from insomnia and was forced to use a physician prescribed sleep aide. I don't recommend that path due to the temporary after effects.

I strongly recommend that my colleagues on the CAC reject the Voluntary Curfew in large measure because I don't believe that it will the expected and bring sufficient relief, if any, to the public and they will accuse us of having sold them "a bill of goods." Thank you.

May 1-14, 2019 (Simulated Departure Tracks)



NOTE: The orange lines, and their width, are for reference only and are not intended to depict a flight corridor or boundary





Los Angeles World Airports (LAWA) Traffic Comparison (TCOM) Van Nuys Airport

Calendar YTD January to December

	Dec-2018	Dec-2017	% Change		Jan-2018 to Dec-2018	Jan-2017 to Dec-2017	% Change
Passenger Traffic Totals				and a second			
Domestic	0	0	0.00 %		0	0	0.00 %
International	0	0	0.00 %		0	0	0.00 %
Total	0	0	0.00 %	-	0	0	0.00 %
Domestic Passengers							i
Scheduled Carriers	0	0	0.00 %		0	0	0.00 %
Commuter Carriers	0	0	0.00 %		0	0	0.00 %
Charter Carriers	0	0	0.00 %	ques	0	0	0.00 %
Total	0	0	0.00 %		0	0	0.00 %
International Passengers							
Miscellaneous	0	0	0.00 %		0	0	0.00 %
All Other Terminals	0	0	0.00 %		0	0	0.00 %
Total	0	0	0.00 %		0	0	0.00 %
US Customs Arrivals by T	<u>'erminal</u>						
Miscellaneous	0	0	0.00 %		0	0	0.00 %
All Other Terminals	0	0	0.00 %		0	0	0.00 %
Total	0	0	0.00 %		0	0	0.00 %
Air Cargo (Tons)							
Mail	0	0	0.00 %		0	0	0.00 %
Freight	0	0	0.00 %		0	0	0.00 %
Total	0	0	0.00 %		0	0	0.00 %
FAA Aircraft Movement							
Air Carrier	6	2	200.00 %		196	58	237.93 %
Air Taxi	2,209	1,935	14.16 %		27,365	20,384	34.25 %
General Aviation	17,179	15,974	7.54 %		227,599	203,416	11.89 %
Military	54	34	58.82 %		695	540	28.70 %
Total	19,448	17,945	8.38 %		255,855	224,398	14.02 %
After Hours Operations							
Total	483	593	-18.55 %		7,048	6,925	1.78 %
Total FAA and After Hours							
Total	19,931	18,538	7.51 %		262,903	231,323	13.65 %

VNY After Hours Departures and Area Overflight Analysis

Seps	Jan	Feb	Mar	Apr	Мау	Jun	100	Aug	Sep	Oct	Nov	Dec	Tots
2200-2300	40	46	41	35	38	46	26	37	36	41	39	30	455
2300-2400	28	26	30	18	27	35	24	27	25	26	31	21	318
2400-0100	12	00	11	20	18	10	15	15	14	16	14	18	171
0100-0200	12	12	17	11	12	00	16	77	15	12	10	12	148
0200-0300	00	6	H	100	10	2	00	10	12	11	6	9	117
0300-0400	14	7	6	7	ത	2	6	00	ന	0	m	11	91
0400-0500	20	7	6		9	7	16	12	11	O	7	თ	124
0200-0600	31	31	28	26	32	22	19	20	26	22	18	23	298
0020-0090	68	80	72	55	80	43	99	00	65	78	89	89	852
Check Tot	254	226	228	201	232	178	199	228	207	224	199	198	2574
Less Meds	-34	-17	-16	-19	<u>.</u>	-12	-16	-21	-23	-15	-21	-27	-236
Tot Contr	220	209	212	182	217	166	183	207	184	209	178	171	2338
Total Controllable Turbine Ops Total Ops Pist & Other Ops	e Turbine O	sd	58036 Aft 262903 Aft 204867 Aft	58036 After hours Pctage 262903 After hours Pctage 204867 After hours Pctage	986 986 986	5532 7048 1516	0.09532 P 0.026808 0.0074	0.09532 Plus Uncontrollable .026808 0.0074	ollable	-447	0.103022		
Departures Only Controllable Deps Per Year	s Per Year		2338	Daily=	6.41	No./S	No./So. Mix = 1	15%/85%	South =	5.44			
			Per Ove	Left Hand/Right Hand Traffic [East/West Departure Routing] Over Flts/Departure Route	t Hand Traf irture Rout	fic [East/V e	Vest Depart	ture Routing		50.00% Each	ach		

Time Distribution of Nighttime Ops

	Ops	%
First Hour of the Proposed Curfew Period	455	
Last Hour of the Proposed Curfew Period	852	
	1307	50.8%
Total Ops During Proposed Curfew Period	2574	
During Other Hours of Proposed Curfew	1267	49.2%



LOUDNESS COMPARISON CHART (dBA)

Common Outdoor Activities Noise Level (dBA)

Common Indoor Activities

Rock Band Jet Fly-over at 1000 ft 110 100 Gas Lawn Mower at 3 ft 90 Food Blender at 3 ft Garbage Disposal at 3 ft Diesel Truck at 50 ft at 50 mph 80 Noisy Urban Area, Daytime Vacuum Cleaner at 10 ft Gas Lawn Mower at 100 ft 70 Normal Speech at 3 ft Commercial Area Heavy Traffic at 300 ft 60 Large Business Office Quiet Urban, Daytime Dishwasher Next Room 50 Quiet Urban, Nighttime Theater. 40 Quiet Suburban, Nighttime Large Conference Room (Background) Library 30 Quiet Rural, Nighttime Bedroom at Night, Concert Hall (Background) 20 Broadcast/Recording Studio 10 0 Lowest Threshold of Human Hearing Lowest Threshold of Human Hearing

An increase of 3 dBA is barely perceptible to the human ear.







Time of Departure Computation Chart

TEB	ore Singapore	At	,23 4806,23	.77 5628.77	588 8.218588	512 9.62512	_				21.843		100	8 17			~	4 14			1 11	24 10		21 8		19 6	18 5	17 4	16 3	15 2	14 1	13 24			10 21		17		0
TEB	Singapore	At	34 4806.23	24 5628.77	28 8.218588	66 9.62512	-		н		69 21.84371			17	16	15	14	13	12	11	10	6	60	7	9	۲O	4	ന	2	~1	24						7	CT	
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TEB	Tokyo	VNV	4 2448.34	5463.24	7 4.186628	0 9342066					7 18.02869	6		18	17	16	15	14	13	12	11	10															L	n	
TEB	London		3463.4		5.922367		5 00036	3.3223		5 2.5	8.422367		1800	00				4 1																			1	n	
TEB	London		3463.4		5.922367		20002		0	2.5	8.422367	6	006					7	.,			24																m	
TEB	VNV		2448.34		4,186628	C	0000001	4.100020	0	0	4.186628	4.25	1800	17	16	15	14																						
TEB			2448.34		4.186628		0.0000	4.180028	0	0	4.186628	4.25	006	80	7	9	ŝ																				,	m	
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VNY	poore		5463.24	3297.34	9.342066	200000	3.030400	14.98047	— I	ന	18.98047	19	006	00	7	9	ιΩ	4	ന	2	-	24	23	22	21												3	15	
VNY V	0		5463.24		9.342066		0 0000	9.342066	0	3.5	12.84207	13	1800	17	16	15	14	13	12	11	10	6	00	7	9												ē	16	
	c		5463.24		9.342066				0	3,5		13	006	90	7	9	S	4	m	2	(-1	24	23	22	21	1												16	
Y	20		5452.3		9 323358 0			9.323358	0	2.5			1800	17	16	15	14	13	12	H	10	O	00	_	. 19	•												ορ	
VNV	uo		5452.3		9 373358 9			9.323358 9	0	2.5			900	00	7	9	00	4	m	2		24	23	22	1 2	don sile												ထု	
VNV			2448 34		A 186628 Q			4.186628 9.	0	0	4.186628 1.		1800	17	16	15	14																					ကု	
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Time	Comptor*	COUNTR									9	e Hrs.*	,																								o)	Dest to Local	
200		Via Via	Dictory	Vis Distance	Via Distance	ame	Via Air Time	Tot Air Time	Refuel Time	Cust/Com Time	Total Travel Time	Adjusted Tvl Tme Hrs.*	Arr Time	,																			1				Time Difference	Des	

Distance/Time Comparisons VNY and TEB

G 550 NBAA Theoretical Range= Mach/MPH Conversion

Mach 1 = 731 Stat MPH G 550 Speed = Mach 0.8 NM = 1.151 Statute Miles 5864.466 Stat Mi.

.8 Mach = NBAA Spd

584.8

12501 Kilometers

621.35 MPH

0.85

6750 Naut Mi

"@.80 Mach

Gulfstream G550

Business jet

Gulfstream G550™ Large Cabin

Proven performance. With robust capabilities, flexible configurations and the maximum payload in its class, the G550 propels your mission.

6,750 NM (12,501 km) Maximum Range³

UP TO 4 Living Areas

0.885 Maximum Mach

¹NBAA IFR theoretical range at Mach 0.85 with 8 passengers, 4 crew and NBAA IFR reserves. Actual range will be affected by ATC routing, operating speed, weather, outfitting options and other factors.

²NBAA IFR theoretical range at Mach 0.85 with 8 passengers, 3 crew and NBAA IFR reserves. Actual range will be affected by ATC routing, operating speed, weather, outfitting options and other factors.

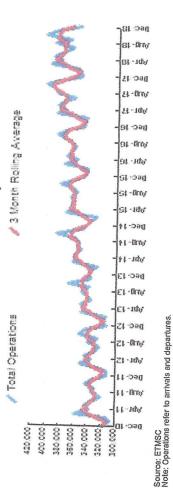
³NBAA IFR theoretical range at Mach 0.80 with 8 passengers, 4 crew and NBAA IFR reserves. Actual range will be affected by ATC routing, operating speed, weather, outfitting options and other factors.

⁴NBAA IFR theoretical range at Mach 0.80 with 4 passengers, 2 crew and NBAA IFR reserves. Actual range will be affected by ATC routing, operating speed, weather, outfitting options and other factors.

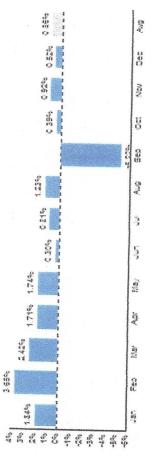
⁵NBAA IFR theoretical range with 8 passengers, 4 crew and NBAA IFR reserves. Actual range will be affected by ATC routing, operating speed, weather, outfitting options and other factors. ⁶NBAA IFR theoretical range with 8 passengers, 3 crew and NBAA IFR reserves. Actual range will be affected by ATC routing, operating speed, weather, outfitting options and other factors. ⁷NBAA IFR theoretical range with 4 passengers, 2 crew and NBAA IFR reserves. Actual range will be affected by ATC routing, operating speed, weather, outfitting options and other factors. ⁷NBAA IFR theoretical range with 4 passengers, 2 crew and NBAA IFR reserves. Actual range will be affected by ATC routing, operating speed, weather, outfitting options and other factors. ⁷NBAA IFR theoretical range with 4 passengers, 2 crew and NBAA IFR reserves. Actual range will be affected by ATC routing, operating speed, weather, outfitting options and other factors.

Federal Aviation Administration - Business Jet Report : January 2019 Issue

1. Total Business Jet Operations



2. Year Over Year Change in Business Jet Operations Jan 18 - Dec 18 vs. Jan 17 - Dec 17



Source: ETMSC

3. Monthly Trends

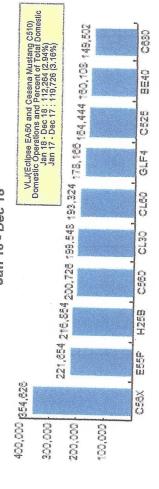
Month 2018-2013 Change 2017-2017 Change 2017-2017 Change Change 2017-2017 Change Change 2017-2017 Change						Domestic				
353,994 347,614 1.84% 297,162 291,776 1.85% 56,832 55,838 365,904 343,368 3.85% 300,924 289,696 3.88% 54,960 53,672 395,808 386,464 2.42% 329,128 322,960 1.91% 66,890 63,604 390,586 374,200 1.71% 320,610 313,664 2.21% 59,976 60,536 391,594 384,882 1.74% 330,942 324,304 2.05% 60,652 60,778 364,714 361,778 0.30% 316,182 316,106 0.34% 60,248 60,182 390,528 387,788 -1.23% 335,052 330,508 1.77% 56,540 56,336 367,228 387,788 -1.23% 315,776 54,94 57,726 50,336 367,528 387,788 -2.36 60,43% 51,762 50,778 56,540 56,340 367,066 383,546 0.32% 325,046 0.48% 51,762 <th>MOTH</th> <th>2018-2018</th> <th>2017-2017</th> <th>Change</th> <th></th> <th>2017-2017</th> <th>Change</th> <th></th> <th>2004 7 5007</th> <th>Change</th>	MOTH	2018-2018	2017-2017	Change		2017-2017	Change		2004 7 5007	Change
355,904 343,368 3.65% 300,924 289,696 3.88% 54,990 53,972 395,808 386,464 2.42% 329,128 322,960 1.91% 66,680 63,672 380,586 374,200 1.71% 320,610 313,664 2.21% 59,976 60,536 391,594 384,882 1.74% 330,942 324,304 2.05% 60,652 60,578 364,714 381,778 0.31% 307,720 304,082 375,288 60,182 390,52 385,44 1.23% 335,052 315,776 55,540 55,540 55,36 367,52 387,788 -5.22% 315,776 335,710 5,94% 51,326 402,306 400,728 335,710 5,94% 51,326 50,78 387,06 383,546 0.33% 56,540 56,38 387,06 383,546 0.48% 56,540 56,38 387,06 383,546 0.548% 56,500 383,958 <td< td=""><td>Jan</td><td>353,994</td><td>-</td><td>1.84%</td><td>297,162</td><td>291,776</td><td>1.85%</td><td></td><td>55 838</td><td>1 780%</td></td<>	Jan	353,994	-	1.84%	297,162	291,776	1.85%		55 838	1 780%
395,808 386,464 2.42% 329,128 322,960 1.91% 66,680 63,604 380,586 374,200 1.71% 320,610 313,664 2.21% 59,976 60,536 391,594 384,882 1.74% 330,942 324,304 2.05% 60,652 60,578 376,430 375,288 0.30% 316,182 315,106 0.34% 60,248 60,182 390,592 384,714 381,778 0.81% 307,720 304,062 12.7% 56,994 57,726 390,592 387,58 335,052 335,062 12.7% 56,940 55,36 397,52 345,330 4,35 335,710 5,94% 51,726 53,078 402,306 400,728 0.39% 345,330 0,43% 54,964 56,306 353,958 352,114 0.52% 296,684 296,448 60,462 58,500 353,958 352,114 0.52% 296,684 296,488 56,500 58,500	Feb	355,904		3.65%	300,924	289,696	3.88%		53,672	2000
380,586 374,200 1.71% 320,610 313,684 2.21% 59,976 60,536 314,594 384,882 1.74% 330,942 324,304 2.05% 60,652 60,578 376,430 375,288 0.30% 316,182 315,106 0.34% 60,248 60,182 390,592 386,471 381,778 0.81% 307,720 304,052 1.21% 56,994 57,726 390,592 385,444 1.23% 335,052 330,608 1.37% 55,540 55,336 367,528 387,788 -5.22% 315,776 339,710 5,94% 51,752 52,078 40,2,306 400,728 0.39% 347,322 345,830 0.43% 54,964 54,984 54,964 54,964 54,964 54,964 55,306 353,958 352,114 0.52% 296,694 295,048 60,462 58,500 353,958 352,114 0.52% 296,694 295,048 60,462 58,500 353,958 352,114 0.52% 296,700 0.80% 696,364 699,914 68	Mar	395,808		2.42%	329,128	322,960	1.91%	66,680	63 504	2000
391,594 384,882 1.74% 330,942 324,304 2.05% 60,652 60,578 376,430 375,288 0.30% 316,182 315,106 0.34% 60,248 60,182 364,714 361,778 0.81% 325,022 330,508 1.23% 325,022 330,508 1.27% 56,994 57,726 390,592 385,748 5.22% 315,776 335,770 5.94% 51,752 52,078 402,306 400,728 0.39% 345,820 40,48% 54,828 385,958 385,144 0.52% 296,994 295,048 60,462 56,500 353,958 352,114 0.52% 296,994 295,048 60,65% 56,500	Apr	380,586		1.71%	320,610	313,664	2.21%	59,976	60.536	70 CO O.
376,430 375,288 0.30% 316,182 315,108 0.34% 60,248 60,124 60,182 364,714 361,778 0.81% 307,720 304,062 1.21% 66,924 57,726 390,592 385,844 1.23% 335,062 330,508 137% 55,540 56,336 367,528 387,786 -5.22% 315,776 335,710 -6.94% 61,752 52,078 402,306 400,728 0.39% 347,322 345,830 0.43% 61,862 53,078 387,060 383,546 0.92% 326,598 325,046 0.49% 60,462 58,500 353,958 352,114 0.52% 296,694 295,048 0.56% 57,264 57,066 4,520,474 4,483,614 0.82% 3,824,110 3,793,700 0.80% 696,364 698,514	May	391,594		1.74%	330,942	324,304	2.05%	60.652	60,578	0.42%
364,714 361,778 0.81% 307,720 304,062 1.21% 66,994 57,726 390,592 385,844 1.23% 335,062 330,508 1.37% 55,540 56,394 367,528 387,788 -5.22% 315,776 335,710 -6.94% 61,752 52,078 402,306 400,728 0.39% 347,322 345,830 0.43% 54,884 54,884 387,060 383,546 0.92% 326,598 326,046 0.49% 60,462 58,500 353,958 352,114 0.52% 296,694 296,048 0.56% 57,264 57,066 4,520,474 4,483,614 0.82% 3,824,110 3,793,700 0.80% 696,364 698,314	Jun	376,430		0.30%	316,182	315,108	0.34%	60.248	60.182	0 440%
390,592 385,844 1.23% 335,052 330,508 1.37% 55,540 56,308 367,528 387,788 -5.22% 315,776 -394% 61,752 52,078 402,306 400,728 0.39% 347,322 345,830 0.43% 54,984 54,984 387,060 383,546 0.92% 326,598 325,046 0.48% 60,482 58,500 353,958 352,114 0.52% 296,694 296,048 0.56% 57,264 57,066 4,520,474 4,483,614 0.82% 3,824,110 3,793,700 0.80% 698,364 689,914	Jul	364,714		0.81%	307,720		1.21%	56,994	57.728	1 27%
367,528 387,788 -5.22% 315,776 -5.94% 51,752 50,784 402,306 400,728 0.39% 347,322 345,830 0.43% 54,984 54,984 387,060 383,546 0.92% 326,588 325,046 0.48% 60,462 58,500 353,958 352,114 0.52% 296,694 295,048 0.56% 57,264 57,066 4,520,474 4,483,614 0.82% 3,824,110 3,793,700 0.80% 696,364 689,374	Aug	390,592	385,844	1.23%	335,052		1.37%	55.540	58.336	0 2704
402,306 400,728 0.39% 347,322 345,830 0.43% 54,984 54,984 54,984 54,984 54,984 56,984 56,984 56,188 387,060 383,548 35,5046 0.48% 60,462 58,500 35,504 57,264 57,066 4,483,514 0.52% 296,694 296,048 0.56% 57,264 57,066 4,483,514 0.82% 3,824,110 3,793,700 0.80% 698,364 689,914 689,914	Sep	367,528		-5.22%	315,776	335,710	-5.94%	51.752	52 07B	0.00
387,060 383,546 0.92% 326,598 325,046 0.48% 60,462 65,60 353,958 352,114 0.52% 296,694 295,048 0.56% 57,264 57,066 4,520,474 4,483,614 0.82% 3,824,110 3,793,700 0.80% 696,364 688,914	Oct	402,306	400,728	0,39%	347,322	345,830	0.43%	54 984	5.4 BOB	0 4664
353,958 352,114 0.52% 296,694 295,048 0.59% 57,264 67,066 4,520,474 4,483,614 0.82% 3,824,110 3,793,700 0.80% 696,364 689,914	Nov	387,060	383,546	0.92%	326,598	325,046	0.48%	60.462	58 500	2 28.9%
4,520,474 4,483,614 0.82% 3,824,110 3,793,700 0.80% 696,364 689,914	Dec	353,958	352,114	0.52%	296,694	295,048	0.56%	57.264	57,066	0.35%
	Total	4,520,474	4,483,614	0.82%	3,824,110	3,793,700	0.80%	696,364	689.914	0.93%

4.Overall Trends (Calendar Year)

		Operations	Change	Operations	Change	Change Or Store Change Change	Change
	2005	4,727,826		4,191,692)	536,134	
	2006	4,745,746	0.38%	4,166,506	-0.60%	579,240	8.04%
	2007	4,824,960	1.67%	4,180,510	0.34%	644,450	11.26%
	2008	4,291,104	-11.06%	3,681,606 -11.93%	-11.93%	609,498	-5.42%
	2009	3,449,204 -19,62%	-19,62%	2,929,476 -20.43%	-20.43%	519,728	
	2010	3,842,314	11.40%	3,212,132	9.65%	630,182	21.25%
	2011	3,955,400	2.84%	3,323,596	3.47%	631,804	0.26%
	2012	3,982,236	0.68%	3,315,438	-0.25%	666,798	5.54%
	2013	4,072,848	2.28%	3,394,942	2.40%	677,906	1.67%
	2014	4,235,910	4.00%	3,527,038	3,89%	708,872	4.57%
	2015	4,291,174	1.30%	3,605,060	2.21%	686,114	-3.21%
	2016	4,349,740	1.36%	3,667,338	1.73%	682,402	-0.54%
	2017	4,483,614	3.08%	3,793,700	3,45%	689,914	1.10%
	2018*	4,520,474		3,824,110		696,364	
PER F	Year to date						

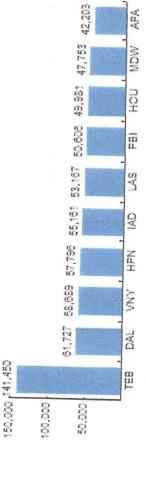
* - Year to date Source: ETMSC Note: International flights include US to Foreign, Foreign to US and all foreign operations.

5.Top Ten Aircraft for Domestic Business Jet Operations Jan 18 - Dec 18



Source: ETMSC

6. Top Ten Airports for Domestic Business Jet Operations Jan 18 - Dec 18



irport Risk Analysis

gh density IFR operations, complex departure procedures, some arrivals olve visual maneuvering around obstacles.

oise Considerations

om the Gulfstream Noise Information Manual: "A voluntary ban on all Stage 2 craft operations at all times is in effect. Runway 24 is the noise sensitive nway, and noise violations are issued to aircraft that exceed the noise limit by 1B on departure. A noise violation lasts for two years, and if an aircraft ceived three violations in a two year period, that aircraft will be banned rmanently from the airport. Additionally, a voluntary ban on all non-essential erations between 2300 – 0600 local is in effect. Gulfstream recommends that liet Flying procedures are used at all times for both arrivals and departures."

departure noise limit of" [is in effect]:"

- 80.0 dB(A) from Runway 24, during 2200 0700 local
- 90.0 dB(A) from Runway 24, 0700 2200 local *
- 95.0 dB(A) for Runways 01, 19 and 06, at all times.

ie airport publishes 2300, not 2200.

Note: the Teterboro Airport Quiet Flying Program provides for two exceptions the Runway 24 noise restriction:

- If Runway 19 is officially closed, by NOTAM, the applicable maximum noise level for Runway 24 shall be 95 dB(A).
- If the cross-wind component existing at the time of an intended Runway 19 takeoff exceeds the maximum allowable cross-wind component as listed in the operator's handbook for the aircraft being used, the applicable maximum noise level for Runway 24 shall be 95 dB(A).

iere is a third exception. From the Teterboro Noise Abatement Manager:

• Pilots can request a flight test, or "noise plot", for the purpose of evaluating their noise abatement procedures. Pilots can use plots for two different departures without the risk of a noise violation if they exceed the noise limit. To request a plot simply contact the Noise Office at (201) 393-0399 or noiseoffice@teb.com prior to departure. You can also contact the Ops department. Noise Office staff will contact you with your noise reading within 1-2 business days. After the first two plots, pilots can continue to request plots for their own information (since aircraft performance varies based on atmospheric conditions and weight) although they will be subject to a violation if they exceed the limit.

terboro is also pretty good about updating its information here: tps://whispertrack.com/airports/KTEB (https://whispertrack.com/airports/TEB).

450 Notes

ote that a G450 Stage IV levels are:

- 89.5 EPNdB Lateral/Full Power
- 92.3 EPNdB Approach
- 76.2 EPNdB Flyover

Ilfstream no longer offers specialized noise abatement procedures for U.S. rcraft, but they do have an excellent JAA procedure that may be of use to you. e: G450 Noise Abatement Procedures 450_noise_abatement_procedures.htm).

G450 may or may not trip the noise sensors, depending on weight and

DTHR.

Runway 6/24

Dimensions: 6013 x 150 ft. / 1833 x 46 m

Surface: asphalt/grooved, in good condition

Weight bearing capacity: PCN 35 /F/C/X/T

Single wheel: 50.0

Double wheel: 100.0

Runway edge lights: high intensity

RUNWAY 6

Latitude: 40-50.803708N

Longitude: 074-04.217632W

Elevation: 4.9 ft.

Traffic pattern: left

Runway heading: 060 magnetic, 048 true

Declared distances: TORA:6013 TODA:6013 ASDA:6013

LDA:6013

Markings: precision, in good condition

Visual slope indicator:

RVR equipment: touchdown, rollout

Approach lights: MALSR: 1,400 foot medium intensity

approach lighting system with runway

alignment indicator lights

Runway end identifier lights: yes

Centerline lights: yes

Touchdown point: yes, lighted

Instrument approach: ILS

Obstructions: 148 ft. tree, 5950 ft. from runway, 1293 ft.

left of centerline, 38:1 slope to clear

RUNWAY 24 40-51.464388N 074-03.245750W

6.8 ft. left

240 magnetic, 228 true TORA:6013 TODA:6013 ASDA:6013 LDA:6013 precision, in good condition

4-light PAPI on left (3.20 degrees

glide path)

yes yes

yes, no lights

77 ft. tree, 1705 ft. from runway, 462 ft. left of centerline, 19:1 slope

19nm SE R04R/2800V5500FT +RA BR 8KN009 OVC019 22/22 A2987 RMK AO2 TWR VIS 2 P0011 T02170217

TAF

281416Z 2814/2918 08006KT P6SM SCT020 BKN050 TEMPO 2815/2819 - SHRA BKN020 FM281900 VRB04KT 6SM SHRA BR KTEB

OVC020 FM290000 32004KT P65M -SHRA SCT025 OVC060 FM290300 32007KT P6SM BKN120 FM290600 33009KT P6SM FEW120 SCT250

FM291100 30011KT P6SM SCT250 281416Z 2814/2918 05010KT P6SM VCSH SCT020 BKN050 TEMPO 2815/2819 -SHRA BKN020 KLGA

FM281900 VRB05KT 6SM SHRA BR OVC020 FM290100 33006KT P6SM -SHRA SCT020 OVC035 FM290600 33009KT P6SM BKN090 FM291100 34012KT P6SM SCT250

281416Z 2814/2918 07007KT

Z81416Z Z8147Z316 U/UU/N1
11nm SW P6SM SCT020 BKN050 TEMPO
2815/2819 - SHRA BKN020
FM281900 VRB05KT 6SM SHRA BR
OVC025 FM290000 33005KT P6SM SHRA SCT025 OVC050 FM290300 34007KT P6SM BKN150 FM290600 35009KT P6SM FEW150 SCT250 FM291100 32013KT P6SM SCT250

272143Z 2722/2824 14008KT P6SM FEW025 BKN150 FM280900 09005KT P6SM SCT015 OVC025 TEMPO 2809/2813 5SM BR BKN015 FM281500 10008KT P6SM OVC020 FM281800 12008KT P6SM VCSH

OVC020 FM282100 08008KT P65M -SHRA OVC020

NOTAMs

Click for the latest NOTAMs

NOTAMs are issued by the DoD/FAA and will open in a separate window not controlled

Airport Ownership and Management from official FAA records

Ownership: Publicly-owned

Owner: PORT AUTHORITY OF NY & NJ

4 WORLD TRADE CENTER

NEW YORK, NY 10006

Phone 212-435-3640

Manager: RENEE SPANN

90 MOONACHIE AVE

TETERBORO, NJ 07608

Phone 201-288-1775

Airport Operational Statistics

Aircraft based on the field: 140

Aircraft operations: avg 477/day *

Single engine airplanes:

54% local general aviation

Multi engine airplanes:

45% air taxi

Jet airplanes: 116

<1% military

Helicopters: 15

<1% commercial

* for 12-month period ending 31 December 2018

Additional Remarks

550-24 ENGINEERED MATERIALS ARRESTING SYSTEM (EMAS) 348 FT IN LENGTH BY 162 FT WIDTH LCTD AT DEP END

560-19 ENGINEERED MATERIALS ARRESTING SYSTEM (EMAS) 355 FT IN LENGTH BY 162 FT WIDTH LCTD AT DEP END RWY 19.

E60-96 EMAS NON-STD ARRESTING GEAR/SYSTEM: ENGINEERED MATERIALS ARRESTING SYSTEM (EMAS) 250 FT IN LENGTH BY 170 FT WIDTH LCTD AT DEP END RWY 06.

CLSD TO MOTORLESS ACFT - UNCTLD ACFT & ULTRALIGHT ACTIVITY EXCEP BY PRIOR PERMISSION.

DLY CONS CONST ACT ALL QUADRANTS.

ACFT CAPABLE OF OPERATING ABV 100,000 POUNDS MUST SUBMIT CERTIFICATION TO AMGR VERIFYING AIRCRAFT OPERATING WEIGHT IS LESS THAN 100,000 LBS. CONTACT AIRPORT OPERATIONS AT 201-288-1775 FOR

ALL ACFT AVOID HOSPITAL 1.7 MILE NORTH OF RWY 01/19.

DEER AND BIRD ACT ON AND INVOF ARPT.

HEL OPNS OVER RESIDENTIAL AREAS BLO 1000 FT MSL SHOULD BE AVOIDED.



Van Nuys Aircraft Inventory Seventeen Year History

VNY Annual Inventory 17 Year Comparison

% YoY hinc/Dec Acft Op 5.04% 1.46% -9.03%		% YoY				Sinola	Marilti								
Acft Ops Acft Ops 231,323 5.04% 220,228 1.46% 217,063 -9.03% 238,618 -12.65%		100/001	Cipalo	8.0(2.)	1242	ין פון	More		;					•	
3 5.04% 8 1.46% 3 -9.039 8 -12.65	ш	Ξ W	Engine	Engine	Flyable	Furbo	Turbo		Single Engine	Multi Engine	lotal Flyable	Gov	Prv Mil	Total Flyable	Non-
231,323 5.04% 220,228 1.46% 217,063 -9.039 238,618 -12.65 ⁶		ACT	Prop	Prop	Piston	Prop	Prop	4	Jets	Jets	Jets	Mil Jets	Jets	Heli	Flyable
220,228 1.46% 217,063 -9.03% 238,618 -12.65 ⁶	6 636	9.28%	305	53	358	œ	16		2	183	185	0	4	54	15
217,063 -9.03% 238,618 -12.65°	6 582	%00.0	270	44	314	O	14	BALLY TO SEE	2	180	182	0	Ŋ	50	13
238,618 -12.65%	6 582	0.00%	273	50	323	6	17	2	3	165	168	0	9	48	17
1001 C CT	% 582		253	52	305	oo	18	\$1400,8000,000.00	m	181	184	0	9	4	23
4/5,1/5 5.45%	599	0.00%	253	51	304	6	18	3	4	171	175	0	10	56	37
263,952 -14.91%	% 599	-5.82%	247	59	306	-	17	EXPERIENCE.	9	171	1771	0	6	54	34
310,206 -8.60%	6 636		273	68	341	=	16	2	4	180	184	0	10	57	27
339,407 -10.91%	799 %		299	29	366	5	15	TO DESCRIPTION OF THE PARTY OF	9	190	199	m	14	9	21
380,952 -5.64%	6 731	-7.47%	311	64	375	7	18	4	9	220	226	0	13	77	28
403,727 6.02%	5 790		336	78	414	5	25	\$250 PS3562	9	251	265	00	15	62	19
	6 712	-5.32%	337	75	412	5	14	19	7	183	198	00	14	09	23
400,398 -3.74%	6 752	6.06%	390	74	464	9	15		0	189	197	œ	12	50	20
415,961 -8.53%	607 9	-12.25%	362	99	428	3	23	3	-	170	179	8	14	52	24
454,753 -2.51%	808 9	0.12%	414	68	503	n	29		0	165	173	_∞	15	63	22
466,449 -7.51%	6 807	-0.25%	421	87	508	2	23	3	-	157	166	8	15	70	23
504,303 8.76%	608 (2.02%	441	06	531	8	23	Part Control (Con	0	140	152	12	15	64	21
463,665 -5.88%	6 793	0.63%	430	93	523	-	24	(4)	0	139	151	12	18	09	16