

Interim Analysis of Operations and Complaints at East Hampton Airport

January 1 – July 31, 2017

September 19, 2017

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Interim Analysis Overview

- Background
- Helpful definitions
- Interim review of 2017 operations and comparisons to 2014, 2015 and 2016 for selected aircraft types
- Interim review of 2017 complaints and comparisons to 2014, 2015, and 2016 for selected aircraft types
- Interim review of 2017 Air Noise Report complaints associated with specific aircraft types

Background

- Collected most recently available year-to-date complaint and operations data associated with HTO for 2017 (January 1, 2017 – July 31, 2017)
 - HTO Operations data collected from Vector
 - Complaint data collected from PlaneNoise and Air Noise Report
 - These data sources are consistent with prior analysis conducted by HMMH at HTO for 2014, 2015, and 2016
- Analyzed complaint and operations data for comparison against calendar years 2014, 2015, and 2016
- Goal to evaluate interim 2017 HTO complaints and operations trends through mid-summer

Helpful Definitions

- “2017 Year-To-Date”: The period for which 2017 operations and complaint data was available (January 1, 2017 through July 31, 2017)
- “Noisy aircraft”: Aircraft with 91.0 EPNdB or higher published approach level
- “Land planes”: Fixed-wing aircraft that land on runways and cannot land on water
- “Sea planes”: Fixed-wing aircraft that can land on water and also (in most cases) on land
- “Multiple”: A complaint or operation attributable to more than one category of aircraft or helicopter
- “Undefined”: A complaint or operation that was not attributable to an aircraft or helicopter category

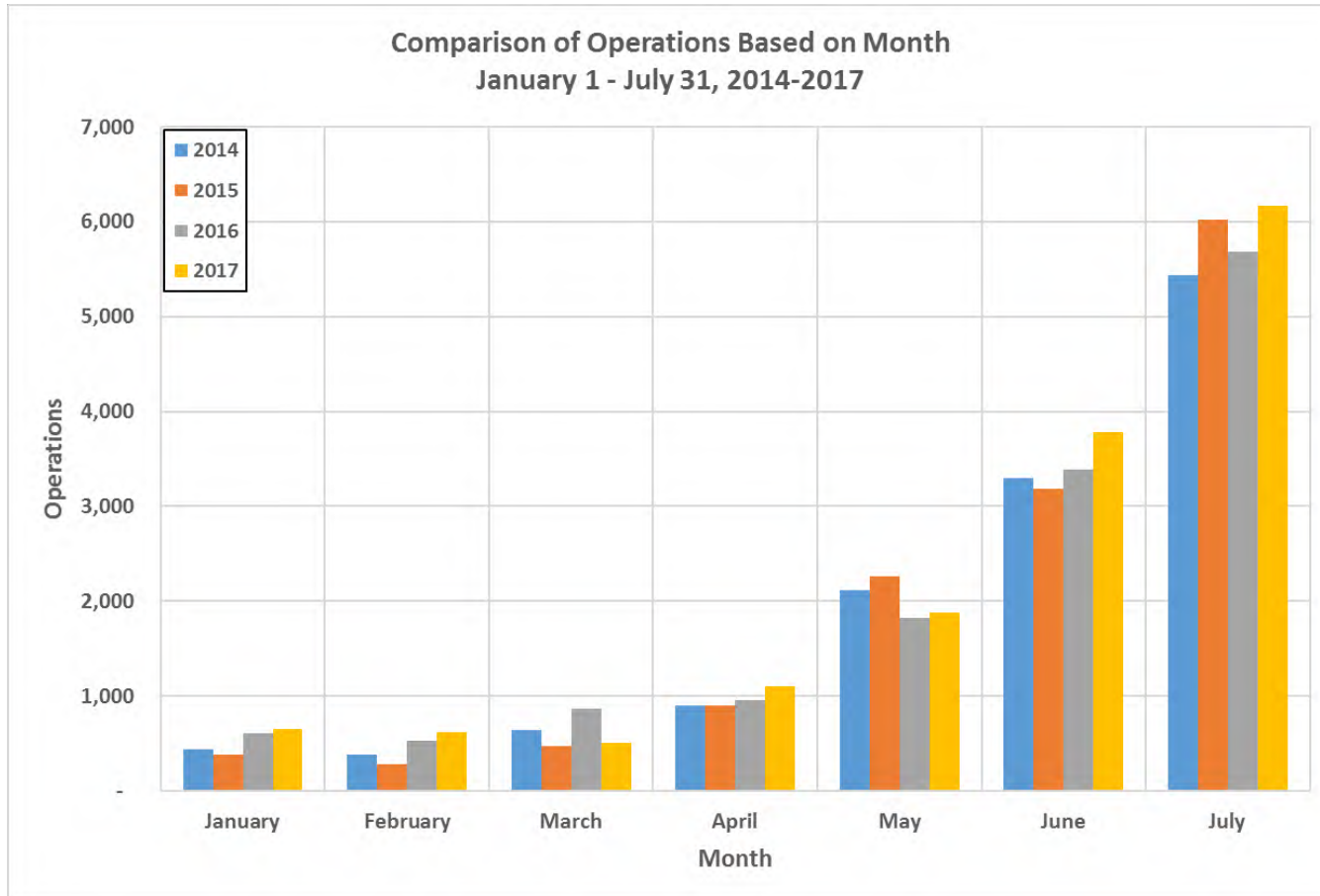


2017 Year-To-Date Operations Operation Levels Top Level Observations

- Comparison to January 1 through July 31, 2016 operations levels
 - Overall activity increased by 835 operations (6%)
 - The biggest increase in operations occurred during the month of July, where activity increased by 480 operations (8%) relative to July 2016
 - Operations decreased in the month of March, where activity decreased by 357 operations (41%) relative to March 2016
- Total operations for 2017 appear to be on pace for an increase over 2016 levels given current trends



Monthly Operations Data: Jan 1-July 31, 2014-2017



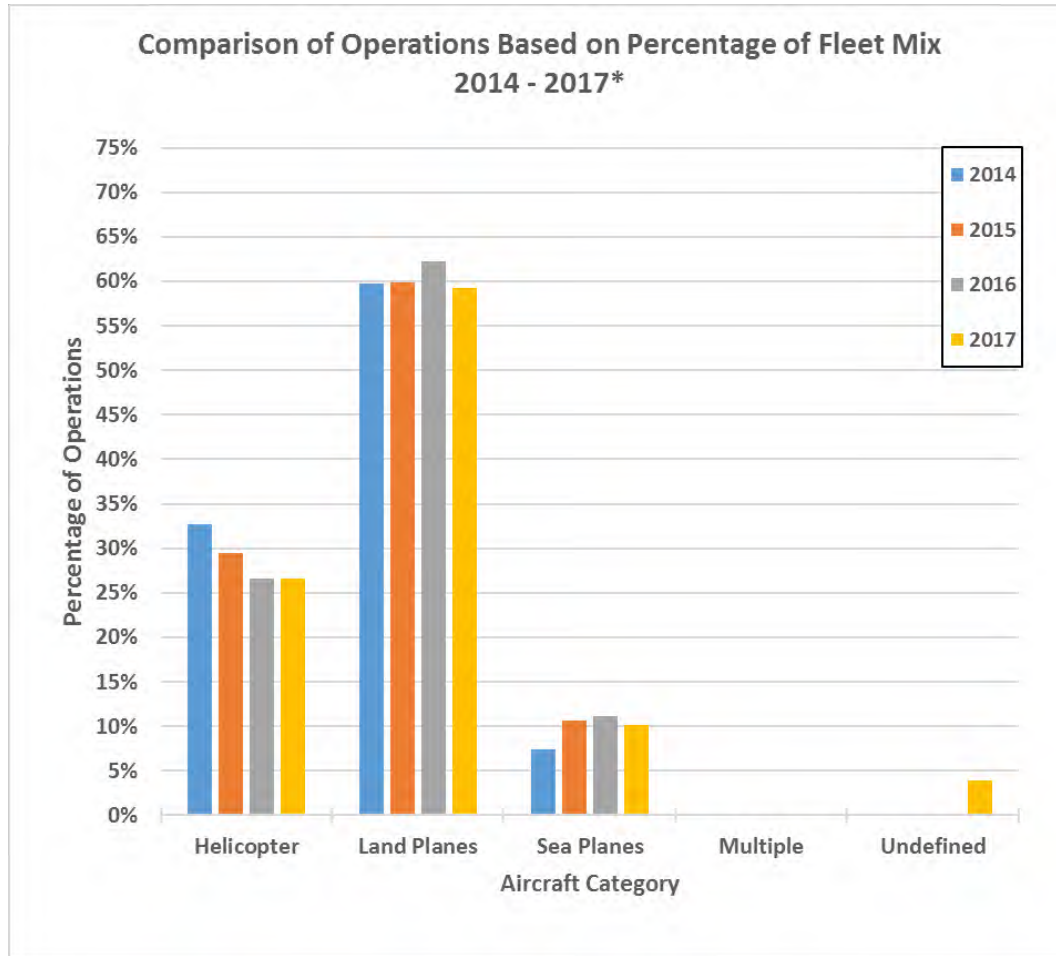
* 2017 Data only available for the period of January 1, 2017 – July 31, 2017

2017 Year-To-Date Operations Fleet Mix Top Level Observations

- General 2017 year-to-date fleet mix observations
 - Land planes were the largest category of aircraft operating at HTO with of 59% (8,704) of all aircraft operations
 - Helicopters were the second largest category, with 27% (3,913) of all aircraft operations
 - Sea planes were the third largest category, with 10% (1,497) of all operations
 - Undefined aircraft represented the remaining 4% (585) of all operations
- Comparison to calendar-year 2016 operations fleet mix
 - The percentage of land planes in the fleet mix decreased by 3%
 - The percentage of helicopters in the fleet remained constant
 - The percentage of sea planes in the fleet mix decreased by 1%
 - The percentage of undefined aircraft in the fleet mix increased by 4%
- The 2017 year-to-date operations fleet mix at HTO appears to be largely the same as in 2016
- The increase in undefined operations may be attributable to the newness of the data, and may decrease as the data is further augmented and processed following the summer season



Calendar Year Operations Data: 2014-2017*



* 2017 Data only available for the period of January 1, 2017 – July 31, 2017

HTO Complaint Reporting System Review

- HTO currently tracks noise complaints from two systems:
 - PlaneNoise
 - Town has been under contract since 2012
 - Utilizes a combination of web, e-mail, and phone portals for complaint entry
 - All complaints are address based
 - Commercial product
 - Air Noise Report – A new complaint system which became fully operational in late June of 2016
 - Utilizes a web portal for complaint entry
 - Complaints can be filed based on the location of an aircraft (Mapped) or based on an address (Manual)
 - Operated and maintained by NYC resident concerned about helicopter noise
 - Not commercially available for sale
- Our analysis combines complaint data collected by both systems

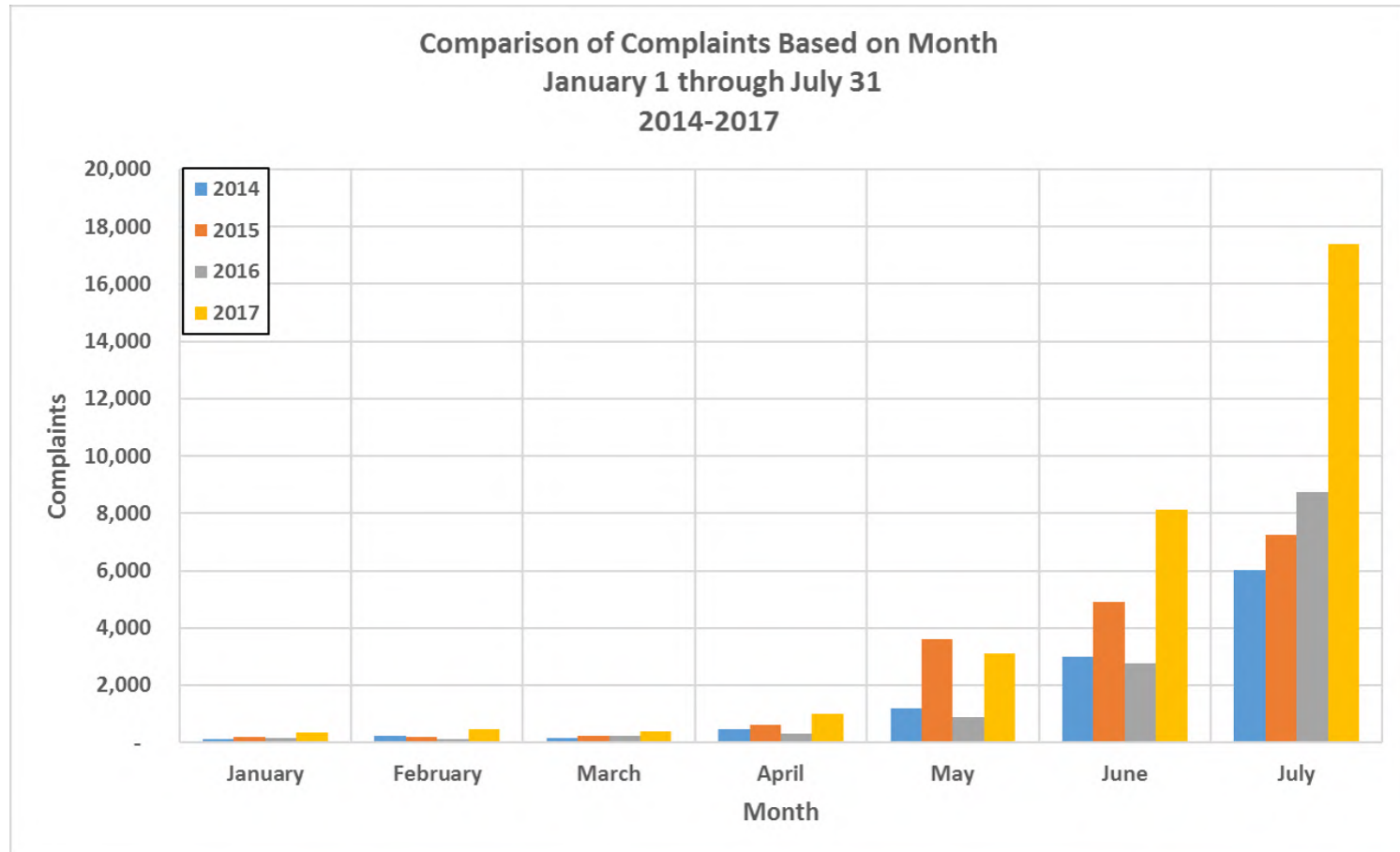


2017 Year-to-Date Complaints Monthly Complaint Levels Top Level Observations

- Comparison to January 1 through July 31, 2016 complaints
 - Overall complaints increased by 17,587 (133%)
 - The biggest increase in complaints occurred during the month of July, where complaints increased by 8,650 (99%) relative to July 2016
 - Complaints increased in every month by at least 63% relative to 2016
 - Biggest increase in use of Air Noise Report, which makes submitting complaints “easier”
- Total complaints for 2017 have already exceeded calendar year 2016 levels with 5 months of 2017 remaining



Monthly Complaint Data: January 1-July 31, 2014-2017



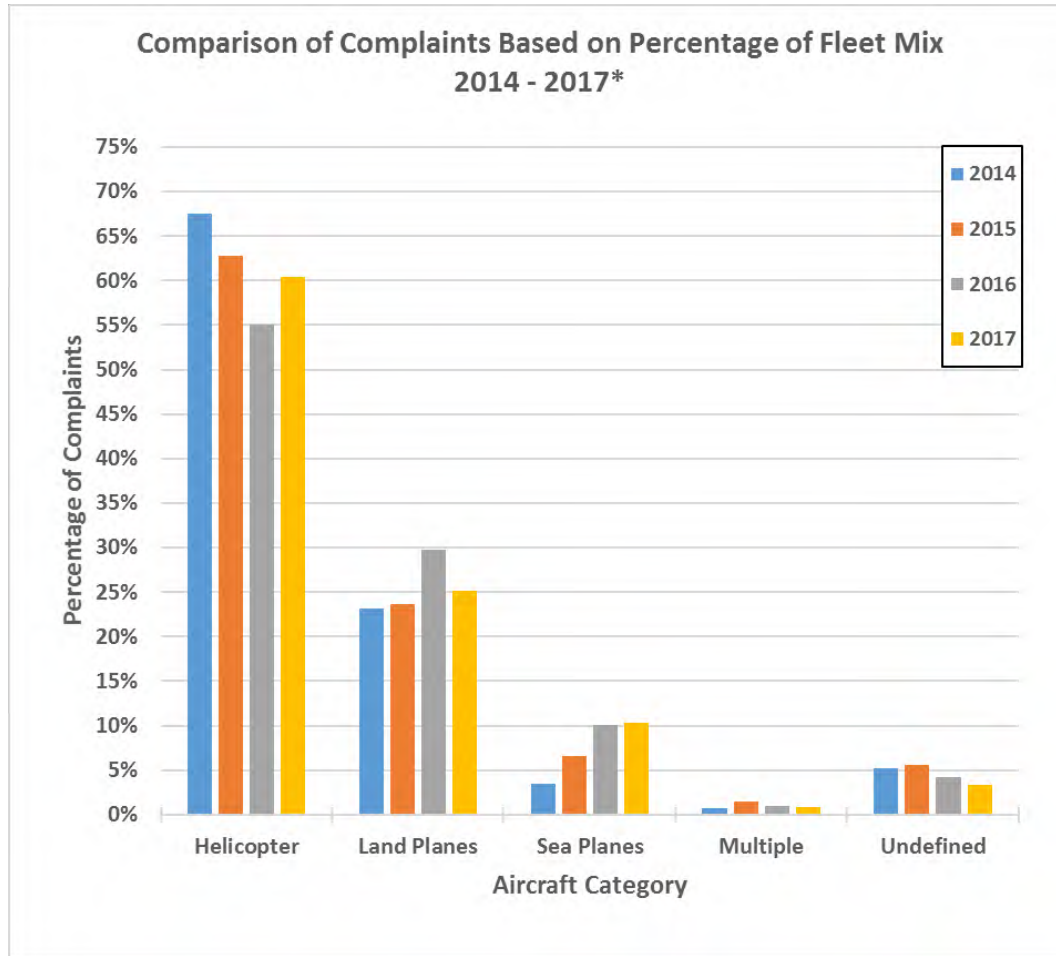
2017 Year-to-Date Complaints

Aircraft Category Top Level Observations

- General 2017 year-to-date fleet mix observations
 - Helicopters were the most complained about category of aircraft operating at HTO with 60% (18,608) of all aircraft complaints
 - Land planes were the second largest category, with 25% (7,755) of all aircraft complaints
 - Sea planes were the third largest category, with 10% (3,172) of all complaints
 - Multiple aircraft represented 1% (246) of all complaints
 - Undefined aircraft represented the remaining 3% (1,040) of all complaints
- Comparison to calendar-year 2016 complaint fleet mix
 - The percentage of complaints filed against helicopters increased by 5%
 - The percentage of complaints filed against land planes decreased by 5%
 - The percentage of complaints filed against sea planes remained constant
 - The percentage of complaints filed against multiple aircraft remained constant
 - The percentage of complaints filed against undefined aircraft decreased by 1%
- The 2017 year-to-date mix of complaints filed based on aircraft category have remained largely consistent with 2016. However, there was a small shift in the proportion of complaints away from land planes to helicopters



Calendar Year Complaint Data: 2014-2017*



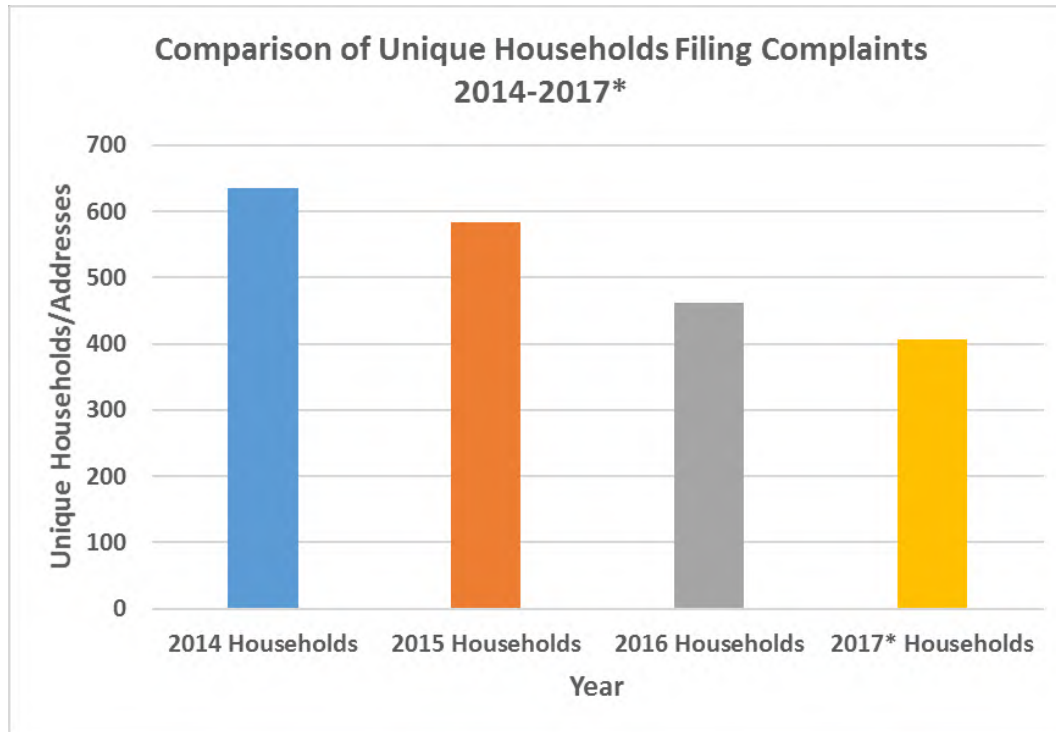
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Interim HTO Address-based Complaint Analysis

- Only some HTO complaints contain address/household information
 - All PlaneNoise complaints – anonymized address latitude and longitude
 - Air Noise Report Manual complaints – anonymized address latitude and longitude
- Other HTO complaints do not contain address information
 - Air Noise Report Mapped complaints
 - Latitude and longitude of aircraft location when complaint is filed
 - No address information is provided when a complaint is filed
- Air Noise Report Mapped complaints were omitted from this analysis as a specific address/household could not be identified for each complaint



2017 Year-to-Date Unique Households Filing Complaints



*2017 Data only available for the period of January 1, 2017 – July 31, 2017.
Does Not include complaint locations filed from Air Noise Report Mapped complaints

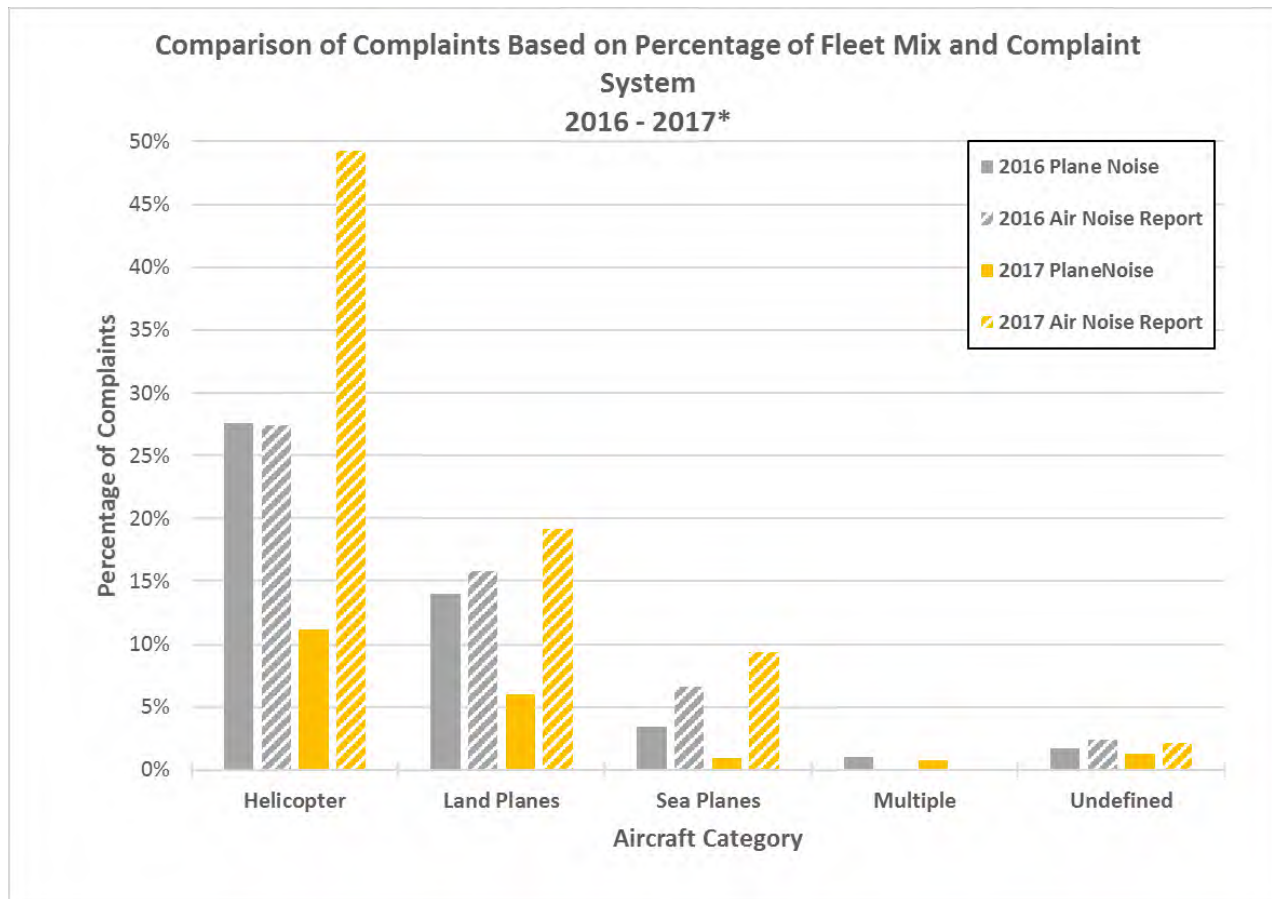


2017 Year-to-Date Complaints Method of Reporting Top Level Observations

- General 2017 year-to-date method of reporting observations
 - 80% (24,623) of all complaints were filed through Air Noise Report
 - 20% (6,198) of all complaints were filed through PlaneNoise
- The method of reporting complaints continued to shift from PlaneNoise to Air Noise Report as was the trend in 2016
 - The proportion of total complaints filed through PlaneNoise decreased by 28% and shifted to being filed through Air Noise Report



2017 Year-to-Date Complaints by Reporting System



* 2017 Data only available for the period of January 1, 2017 – July 31, 2017

Interim 2017 Year-to-Date Air Noise Report Complaint Aircraft Type Analysis

- Only Air Noise Report Mapped complaints contain specific aircraft type information
 - PlaneNoise and Air Noise Report manual complaints allow for a selection of an aircraft category, but specific aircraft types are not provided
 - Air Noise Report Mapped complaints utilize aircraft ADS-B and MODE S information (if equipped) to identify specific aircraft type and registration based on publically available FAA data
 - Air Noise Report Mapped complaint aircraft type and registration data allows for matching with the Vector system for matching with HTO operations
- This analysis examines the top 20 helicopter and fixed-wing aircraft types for which mapped complaints were filed in Air Noise Report for 2017 year-to-date and compares them to operations associated with those types at HTO



Top-Level Observations Drawn from Air Noise Report Mapped Complaints Regarding Specific Aircraft Types

- The Sikorsky S76 (a “noisy” helicopter) was the aircraft model that led to the most complaints
 - S76s performed the most total operations of any aircraft model
- The Cessna Caravan C208 seaplane (not in the “noisy” category) was the aircraft model that led to the second most complaints
 - C208s performed the second most total operations of any aircraft model
- The Bell B407 helicopter (not in the “noisy” category) was the aircraft type that led to the third most complaints
 - B407s performed the second most total operations of any helicopter model
- The 2017 data reconfirm that complaints are a function of aircraft noisiness and frequency of operation



Discussion



Appendix: Additional 2017 Year-to-Date HTO Operations Tables and Graphics

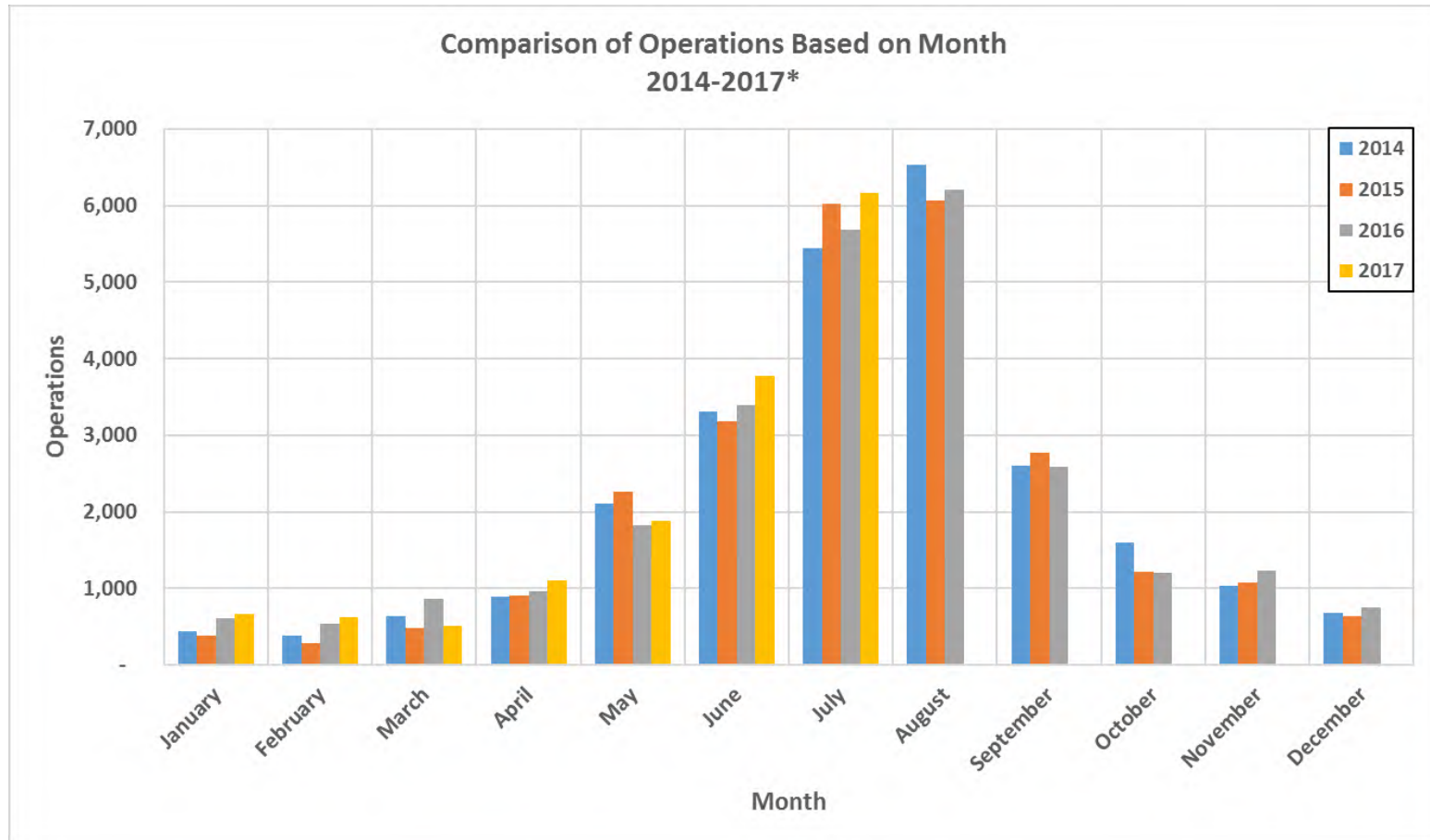


Monthly Operations Data: 2014-2017*

Month	2014 Operations	2015 Operations	2016 Operations	2017* Operations	2014 - 2015 Numerical/ Percentage Change	2015-2016 Numerical/ Percentage Change	2016 – 2017* Numerical/ Percentage Change
January	434	380	610	657	-54/-12%	230/61%	47/8%
February	386	276	534	622	-110/-28%	258/93%	88/16%
March	636	474	862	505	-162/-25%	388/82%	-357/-41%
April	896	902	956	1,098	6/1%	54/6%	142/15%
May	2,110	2,260	1,828	1,874	150/7%	-432/-19%	46/3%
June	3,302	3,186	3,388	3,777	-116/-4%	202/6%	389/11%
July	5,440	6,026	5,686	6,166	586/11%	-340/-6%	480/8%
Subtotal	13,204	13,504	13,864	14,699	300/2%	360/3%	835/6%
August	6,538	6,060	6,206	N/A	-478/-7%	146/2%	N/A
September	2,602	2,774	2,582	N/A	172/7%	-192/-7%	N/A
October	1,594	1,220	1,204	N/A	-374/-23%	-16/-1%	N/A
November	1,028	1,068	1,234	N/A	40/4%	166/16%	N/A
December	674	634	746	N/A	-40/-6%	112/18%	N/A
Subtotal	12,436	11,756	11,972	N/A	-680/-5%	216/2%	N/A
Grand Total	25,640	25,260	25,836	14,699	-380/-1%	576/2%	N/A

* 2017 Data only available for the period of January 1, 2017 – July 31, 2017

Monthly Operations Data: 2014-2017*



* 2017 Data only available for the period of January 1, 2017 – July 31, 2017

Calendar Year Operations Data: 2014-2017*

Aircraft Category	2014 Operations	2015 Operations	2016 Operations	2017* Operations	2014 Percentage of Operations	2015 Percentage of Operations	2016 Percentage of Operations	2017* Percentage of Operations
Helicopter	8,396	7,438	6,856	3,913	33%	29%	27%	27%
Land Planes	15,318	15,114	16,086	8,704	60%	60%	62%	59%
Sea Planes	1,914	2,702	2,894	1,497	7%	11%	11%	10%
Multiple	0	0	0	0	0%	0%	0%	0%
Undefined	12	6	0	585	0%	0%	0%	4%
Total	25,640	25,260	25,836	14,699	100%	100%	100%	100%

Aircraft Category	2014 Percentage of Operations	2015 Percentage of Operations	2016 Percentage of Operations	2017* Percentage of Operations	2014-2015 Percentage Change	2015-2016 Percentage Change	2016-2017* Percentage Change
Helicopter	33%	29%	27%	27%	-3%	-3%	0%
Land Planes	60%	60%	62%	59%	0%	2%	-3%
Sea Planes	7%	11%	11%	10%	3%	1%	-1%
Multiple	0%	0%	0%	0%	0%	0%	0%
Undefined	0%	0%	0%	4%	0%	0%	4%
Total	100%	100%	100%	100%	0%	0%	0%

* 2017 Data only available for the period of January 1, 2017 – July 31, 2017

Appendix: Additional 2017 Year-to-Date HTO Complaints Tables and Graphics

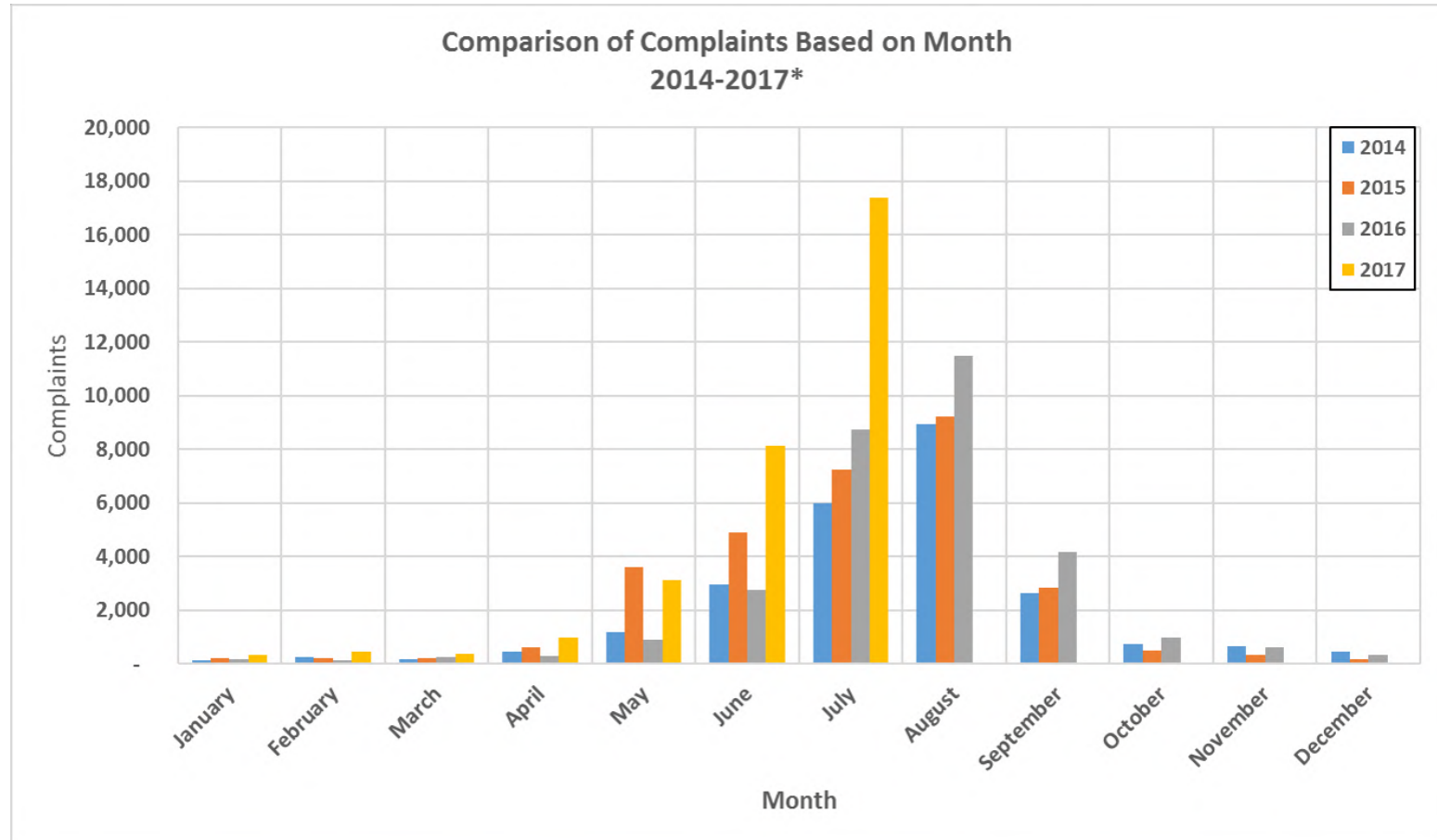


Monthly Complaint Data: 2014-2017*

Month	2014 Complaints	2015 Complaints	2016 Complaints	2017* Complaints	2014 - 2015 Numerical/ Percentage Change	2015-2016 Numerical/ Percentage Change	2016 – 2017* Numerical/ Percentage Change
January	119	207	164	351	88/74%	-43/-21%	187/114%
February	241	196	131	457	-45/-19%	-65/-33%	326/249%
March	160	230	239	389	70/44%	9/4%	150/63%
April	466	629	300	987	163/35%	-329/-52%	687/229%
May	1,199	3,602	904	3,120	2403/200%	-2698/-75%	2216/245%
June	2,982	4,896	2,767	8,138	1914/64%	-2129/-43%	5371/194%
July	6,009	7,240	8,729	17,379	1231/20%	1489/21%	8650/99%
Subtotal	11,176	17,000	13,234	30,821	5824/52%	-3766/-22%	17587/133%
August	8,950	9,243	11,473	N/A	293/3%	2230/24%	N/A
September	2,656	2,858	4,159	N/A	202/8%	1301/46%	N/A
October	755	483	997	N/A	-272/-36%	514/106%	N/A
November	655	333	616	N/A	-322/-49%	283/85%	N/A
December	456	177	332	N/A	-279/-61%	155/88%	N/A
Subtotal	13,472	13,094	17,577	N/A	-378/-3%	4483/34%	N/A
Grand Total	24,648	30,094	30,811	30,821	5446/22%	717/2%	N/A

* 2017 Data only available for the period of January 1, 2017 – July 31, 2017

Monthly Complaint Data: 2014-2017*



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Calendar Year Complaint Data: 2014-2017*

Aircraft Category	2014 Complaints	2015 Complaints	2016 Complaints	2017* Complaints	2014 Percentage of Complaints	2015 Percentage of Complaints	2016 Percentage of Complaints	2017* Percentage of Complaints
Helicopter	16,633	18,875	16,953	18,608	67%	63%	55%	60%
Land Planes	5,696	7,106	9,164	7,755	23%	24%	30%	25%
Sea Planes	854	1,994	3,098	3,172	3%	7%	10%	10%
Multiple	190	442	316	246	1%	1%	1%	1%
Undefined	1,275	1,677	1,280	1,040	5%	6%	4%	3%
Total	24,648	30,094	30,811	30,821	100%	100%	100%	100%

Aircraft Category	2014 Percentage of Complaints	2015 Percentage of Complaints	2016 Percentage of Complaints	2017* Percentage of Complaints	2014-2015 Percentage Change	2015-2016 Percentage Change	2016-2017* Percentage Change
Helicopter	67%	63%	55%	60%	-5%	-8%	5%
Land Planes	23%	24%	30%	25%	1%	6%	-5%
Sea Planes	3%	7%	10%	10%	3%	3%	0%
Multiple	1%	1%	1%	1%	1%	0%	0%
Undefined	5%	6%	4%	3%	0%	-1%	-1%
Total	100%	100%	100%	100%	0%	0%	0%

* 2017 Data only available for the period of January 1, 2017 – July 31, 2017

2017 Year-to-Date Complaints by Reporting System

Aircraft Category	PlaneNoise Complaints		Air Noise Report Complaints		Total HTO Complaints		Air Noise Report Percentage of HTO Complaints			PlaneNoise Percentage of HTO Complaints		
	2016	2017*	2016	2017*	2016	2017*	2016	2017*	2016 - 2017 Percentage Change	2016	2017*	2016 - 2017 Percentage Change
Helicopters	8,515	3,436	8,438	15,172	16,953	18,608	27%	49%	22%	28%	11%	-16%
Land Planes	4,304	1,840	4,860	5,915	9,164	7,755	16%	19%	3%	14%	6%	-8%
Sea Planes	1,049	289	2,049	2,883	3,098	3,172	7%	9%	3%	3%	1%	-2%
Multiple	316	246	N/A	N/A	316	246	N/A	N/A	N/A	1%	1%	0%
Undefined	536	387	744	653	1,280	1,040	2%	2%	0%	2%	1%	0%
Grand Total	14,720	6,198	16,091	24,623	30,811	30,821	52%	80%	28%	48%	20%	-28%



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Operations Compared to Complaints 2014-2017*

Aircraft Category	2014 Total Operations	2015 Total Operations	2016 Total Operations	2017* Total Operations
Helicopters	8,396	7,438	6,856	3,913
Land Planes	15,318	15,114	16,086	8,704
Sea Planes	1,914	2,702	2,894	1,497
Multiple	0	0	0	0
Undefined	12	6	0	585
Grand Total	25,640	25,260	25,836	14,699

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Helicopters	16,633	18,875	16,953	18,608
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Multiple	190	442	316	246
Undefined	1,275	1,677	1,280	1,040
Grand Total	24,648	30,094	30,811	30,821



* 2017 Data only available for the period of January 1, 2017 – July 31, 2017

Operations Compared to Complaints Percentage of Fleetmix 2014-2017*

Aircraft Category	2014 % of Total Operations	2015 % Total Operations	2016 % Total Operations	2017* % of Total Operations	2014-2015 Percentage Change in Operations Fleet Mix	2015-2016 Percentage Change in Operations Fleet Mix	2016-2017 Percentage Change in Operations Fleet Mix
Helicopters	33%	29%	27%	27%	-3%	-3%	0%
Land Planes	60%	60%	62%	59%	0%	2%	-3%
Sea Planes	7%	11%	11%	10%	3%	1%	-1%
Multiple	0%	0%	0%	0%	0%	0%	0%
Undefined	0%	0%	0%	4%	0%	0%	4%
Grand Total	100%	100%	100%	100%	0%	0%	0%

Aircraft Category	2014 % of Total Complaints	2015 % of Total Complaints	2016 % of Total Complaints	2017* % of Total Complaints	2014-2015 Percentage Change in Complaint Fleet Mix	2015-2016 Percentage Change in Complaint Fleet Mix	2016-2017 Percentage Change in Complaint Fleet Mix
Helicopters	67%	63%	55%	60%	-5%	-8%	5%
Land Planes	23%	24%	30%	25%	1%	6%	-5%
Sea Planes	3%	7%	10%	10%	3%	3%	0%
Multiple	1%	1%	1%	1%	1%	0%	0%
Undefined	5%	6%	4%	3%	0%	-1%	-1%
Grand Total	100%	100%	100%	100%	0%	0%	0%

* 2017 Data only available for the period of January 1, 2017 – July 31, 2017

Appendix: Additional 2017 Year-to-Date HTO Air Noise Report Mapped Complaints Tables



2017 Year-to-Date Unique Households Filing Complaints

- The number of unique addresses/households filing complaints decreased by 55 (12%) compared to calendar year 2016
- The number of unique households may increase over the remaining months of 2017

2014 Households	2015 Households	2016 Households	2017* Households	2014 - 2015 Numerical/Percentage Change	2015 - 2016 Numerical/Percentage Change	2016 - 2017 * Numerical/Percentage Change
635	584	462	407	-51/-8%	-122/-21%	-55/-12%



*2017 Data only available for the period of January 1, 2017 – July 31, 2017.

Top 20 Helicopter Types Associated with Air Noise Report Mapped Complaints, January 1- July 31, 2017

Helicopter Category	Helicopter Type	Complaints	HTO Operations
Noisy Helicopter	S76	4,045	1,823
Other Helicopter	B407	2,836	454
Noisy Helicopter	AS50	1,953	232
Noisy Helicopter	B430	625	238
Noisy Helicopter	AS55	566	212
Noisy Helicopter	A139	449	186
Noisy Helicopter	S92	446	98
Other Helicopter	A119	430	193
Noisy Helicopter	AS65	296	176
Noisy Helicopter	A109	220	103
Other Helicopter	EC30	166	32
Other Helicopter	R66	134	32
Noisy Helicopter	B427	120	37
Other Helicopter	R44	107	24
Other Helicopter	EC45	84	Note
Noisy Helicopter	EC55	81	11
Noisy Helicopter	B429	57	4
Other Helicopter	B06L	37	Note
Noisy Helicopter	EC35	25	8
Other Helicopter	H500	14	Note
Total		12,691	3,863

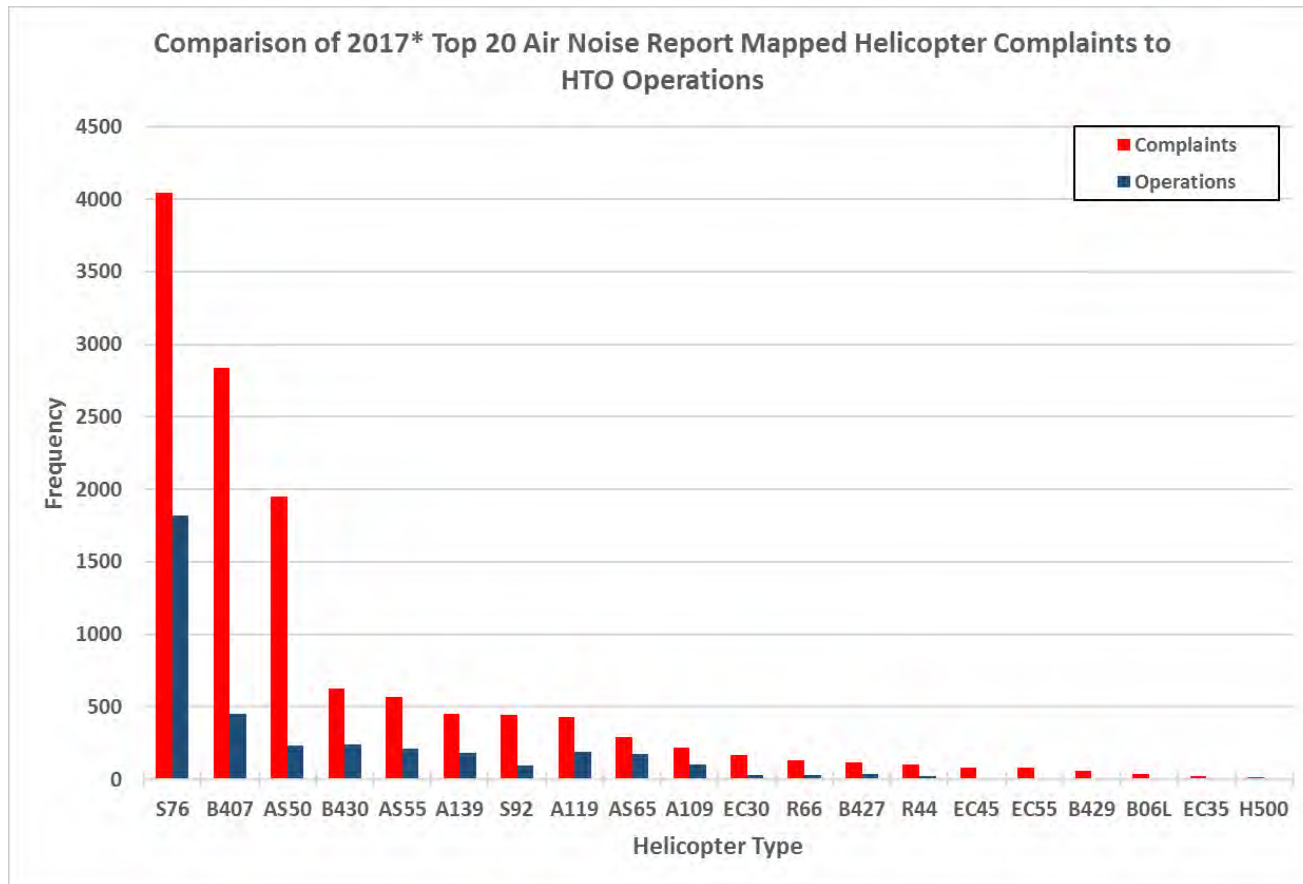


Top 20 Fixed-Wing Aircraft Types Associated with Air Noise Report Mapped Complaints, January 1- July 31, 2017

Aircraft Category	Aircraft Type	Complaints	HTO Operations
Seaplane	C208 (Sea)	2,583	1,480
Prop	SR22	284	590
Prop	PC12	242	518
Prop	C172	230	706
Prop	C182	207	436
Prop	PA32	170	156
Prop	P28A	150	487
Prop	BE36	122	408
Prop	C208 (Land)	99	66
Prop	SR20	97	99
Prop	PA34	88	295
Prop	BE35	75	35
Prop	BE58	74	344
Prop	TBM7	65	117
Prop	PA31	64	187
Prop	C210	60	64
Prop	C402	54	14
Prop	BE33	46	78
Other Jet	E50P	45	40
Prop	A1B	42	Note
Total		4,797	7,534

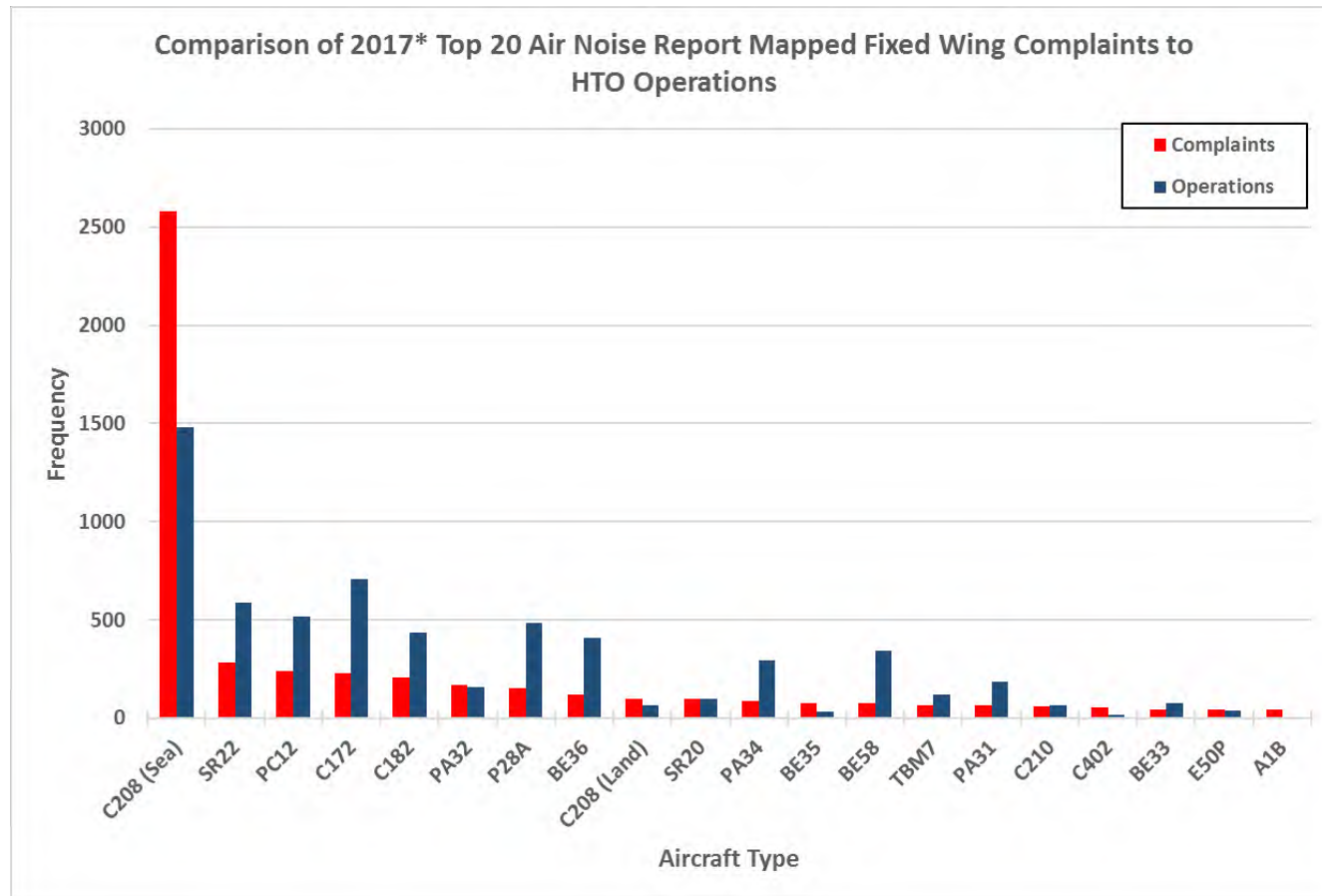


Top 20 Helicopter Types Associated with Air Noise Report Mapped Complaints, January 1- July 31, 2017



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Top 20 Fixed-Wing Aircraft Types Associated with Air Noise Report Mapped Complaints, January 1- July 31, 2017

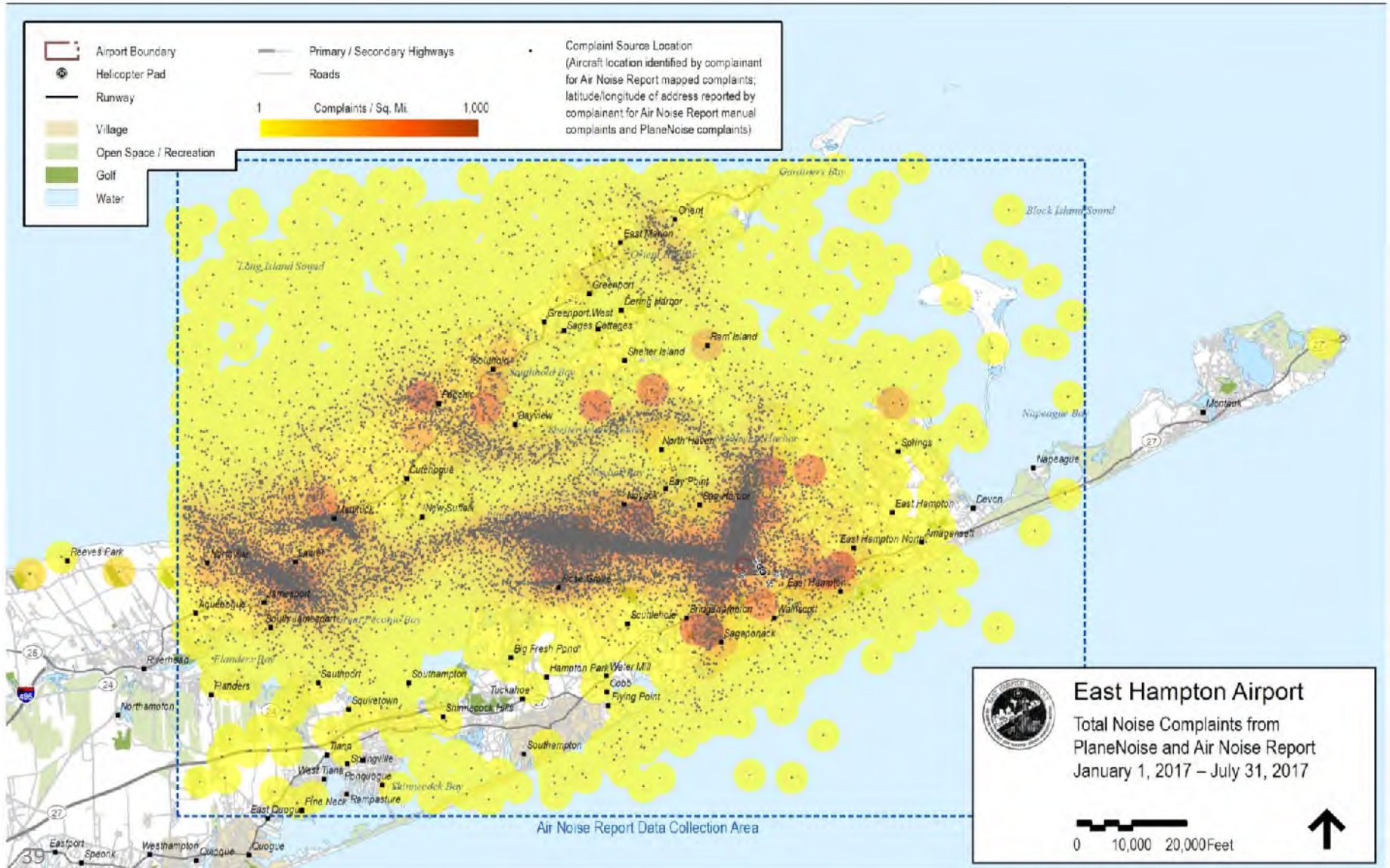


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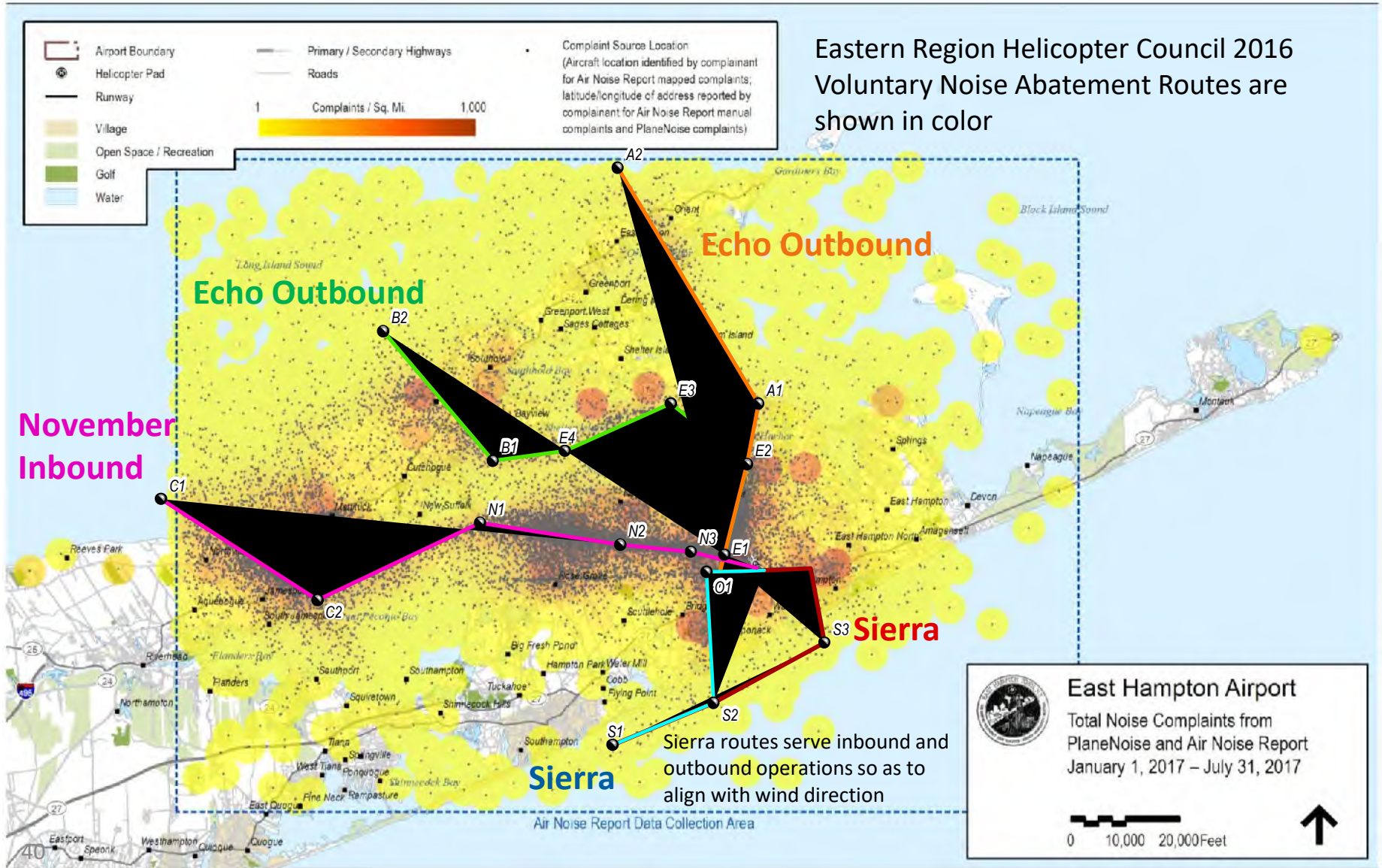
Appendix: 2017 Maps of Geographic Distributions of Complaints



All Complaints from PlaneNoise and Air Noise Report January 1- July 31, 2017 (30,821 Complaints)



All Complaints from PlaneNoise and Air Noise Report January 1- July 31, 2017 (30,821 Complaints)



Helicopter Complaints from PlaneNoise and Air Noise Report January 1- July 31, 2017 (18,608 Complaints)

