



MONTHLY | **March 2019**

Noise Report



Centennial Airport
Arapahoe County Public Airport Authority

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2 DEFINITIONS

A-weighted Sound Level – A measure of sound level with weighted frequency characteristics that correspond to human subjective response to noise.

Arrival – The act of an aircraft approaching and landing at an airport.

Ambient Noise Level – The level of noise that is all-encompassing within a given environment for which a single source cannot be determined. It is usually a composite of sounds from many and varied sources near to and far from the noise monitor.

Community Noise Event Level (CNEL) – The average sound level over a 24-hour period, with a penalty of 10dB for nighttime hours between 10:00 PM and 7:00 AM.

Day Night Average Sound Level (DNL) – A measure of the average noise level over a 24-hour day. It is the 24-hour, logarithmic (or energy) average, A-weighted sound pressure level with a 10-decibel penalty applied to the nighttime event levels that occur between 10:00 PM and 7:00 AM.

Decibel (dB) – A logarithmic quantity reflecting the ratio of the sound pressure of the source to a reference pressure. This results in a sound pressure level of about 0 dB for the quietest sounds that we can detect and sound pressure levels of about 120 dB for the loudest sounds that can be heard without pain.

Departure – The act of an aircraft taking flight and leaving the airport.

Energy-Averaged Sound Pressure Level (Leq) – The value or level of a steady, non-fluctuating sound that represents the same sound energy as the actual time-varying sound evaluated over the same time period.

Flight Track – The path along the ground followed by an aircraft in flight.

Instrument Flight Rules (IFR) Rules and regulations established by the FAA to govern flight under conditions in which flight by outside visual reference is not safe. IFR flight depends upon flying by reference to instruments, and navigation is accomplished by reference to electronic signals. It is also a term used by pilots and controllers to indicate the type of flight plan an aircraft is flying, such as an IFR or VFR flight plan.

Local Operations – Operations in the local traffic pattern or within sight of the airport; flight in local practice areas within a 20 mile radius; execute simulated instrument approaches or low airport passes.

Maximum Noise Level (L_{max}) – The peak noise level for a single noise event.

Noise Exposure – The cumulative sound energy affecting a person over a specified period of time.

Overflight – Aircraft flight originating and terminating outside the area that transits the airspace without landing.

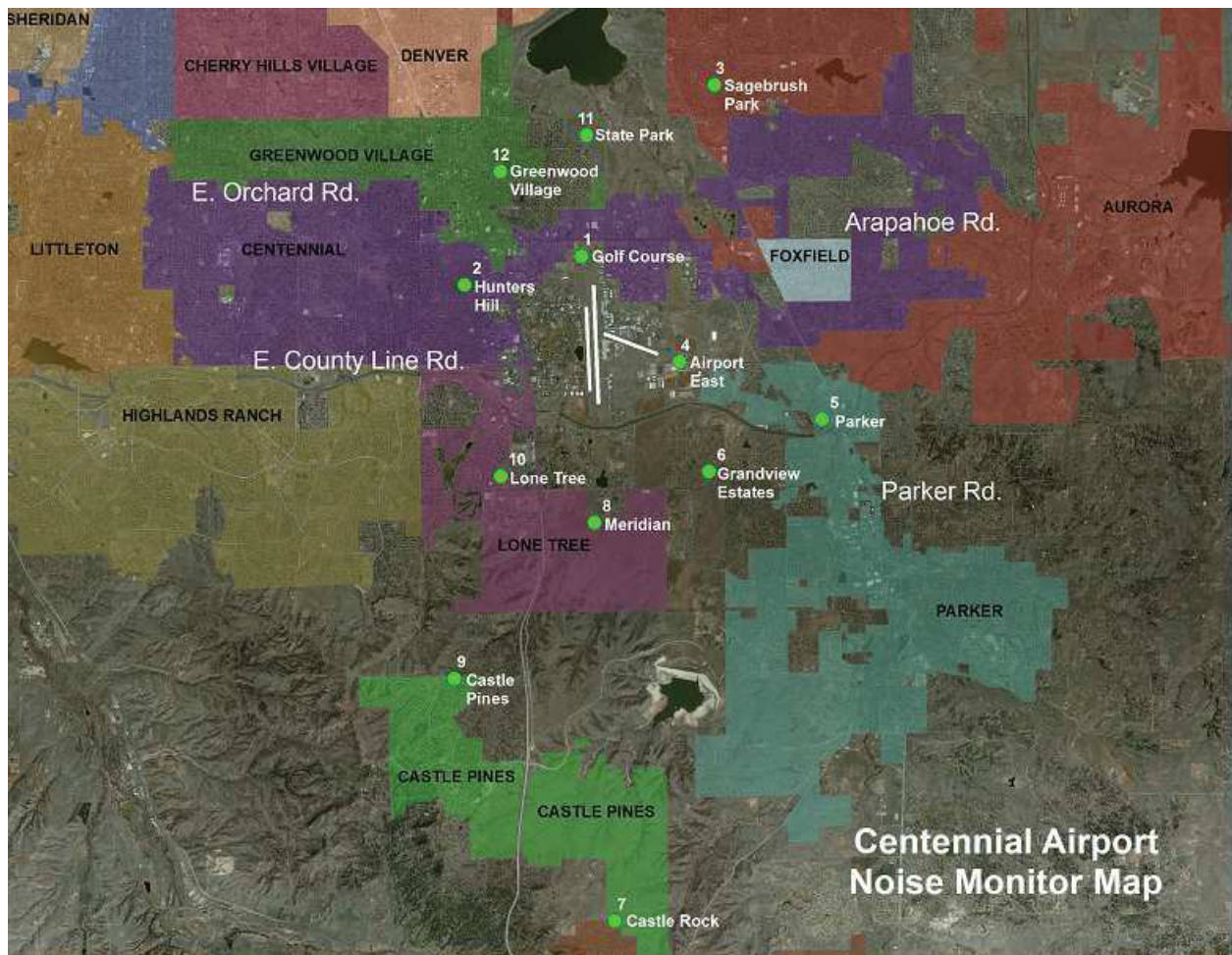
Visual Flight Rules (VFR) – A set of regulations under which a pilot operates an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going. A flight plan is not required when the pilot is operating under Visual Flight Rules.

Sound Exposure Level (SEL) – The total energy in the A-weighted sound level measured during a transient noise event. SEL accounts for both the duration and the loudness of a noise event.

Overview

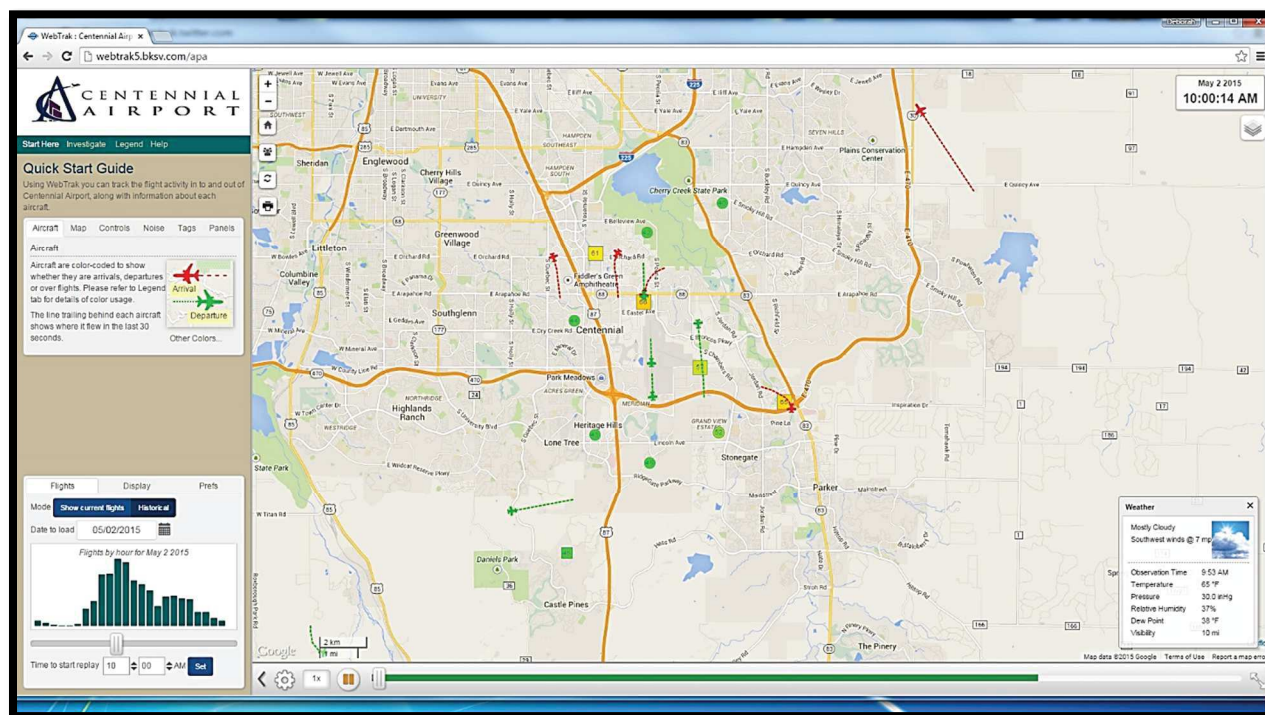
3 ABOUT APA'S NOISE MONITORING PROGRAM

Centennial Airport's (KAPA) Noise and Operations Monitoring System (ANOMS) is a new state of the art system that enables the Arapahoe County Public Airport Authority to monitor and better understand aircraft noise in the vicinity of Centennial Airport. This system is comprised of 12 fixed noise monitoring terminals in the community, as well as 2 portable monitors that are available for short term monitoring anywhere in the community.



4 ABOUT WEBTRAK™

As part of an ongoing program, Centennial Airport now offers an online tracking system for the movement of flights and air traffic patterns within the Denver Metro area. **WebTrak** Flight Tracking and Noise Information System allows concerned individuals to research data about flights to and from Centennial Airport, Denver International Airport, Rocky Mountain Metropolitan Airport, Front Range Airport and Buckley Air Force Base, as well as any transitional air traffic through the region.



How to participate

The general public may use **WebTrak** to investigate a noise or flight that occurred near their location. The system also simplifies the process of filing a noise complaint, offering an easy, online option for residents to register concerns regarding noise levels at the following web addresses:

APA WebTrak: <http://webtrak.bksv.com/apa>

Centennial Airport Website: <http://www.centennialairport.com>

In addition, noise complaints can also be submitted on our noise hotline:

APA Noise Hotline:
303-790-4709

5 OPERATIONS STATISTICS

	IFR ITINERANT				VFR ININERANT				LOCAL		
	AIR TAXI	G.A.	MILITARY	TOTAL INTINERANT	AIR TAXI	G.A.	MILITARY	TOTAL	G.A.	MILITARY	TOTAL LOCAL
January	2,142	3,332	98	5,572	460	7,586	68	8,114	11,190	45	11,235
February	2,122	3,206	157	5,485	425	6,566	97	7,088	9,406	53	9,459
March	2,394	3,658	116	6,168	347	7,898	118	8,363	12,487	38	12,525
April				0				0			0
May				0				0			0
June				0				0			0
July				0				0			0
August				0				0			0
September				0				0			0
October				0				0			0
November				0				0			0
December				0				0			0
Y-T-D Totals	6,658	10,196	371	17,225	1,232	22,050	283	23,565	33,083	136	33,219

	IFR OVERFLIGHTS				VFR OVERFLIGHTS					TOTAL OPERATIONS
	AIR TAXI	G.A.	MILITARY	TOTAL INTINERANT	AIR TAXI	G.A.	MILITARY	TOTAL		
January	2	15	7	24	127	242	18	387	January	25,332
February	2	11	4	17	111	166	6	283	February	22,332
March	5	16	7	28	111	259	16	386	March	27,470
April				0				0	April	
May				0				0	May	
June				0				0	June	
July				0				0	July	
August				0				0	August	
September				0				0	September	
October				0				0	October	
November				0				0	November	
December				0				0	December	
Y-T-D Totals	9	42	18	69	349	667	40	1,056	Y-T-D Totals	75,134

Definitions

Air Taxi – A company that operates aircraft that carry cargo or mail, or passengers on an on demand or charter basis.

General Aviation (G.A.) – All civil aviation operations other than scheduled air services and non-scheduled air transport operations for remuneration or hire.

Local – Operations are performed by aircraft which operate in the local traffic pattern or within sight of the airport; flight in local practice areas located within a 20-mile radius of the airport; execute simulated instrument approaches or low passes at the airport.

IFR Itinerant – Operations other than local operations conducted under Instrument Flight Rules.

VFR Itinerant – Operations other than local operations conducted under Visual Flight Rules.

Overflight – Operation performed by aircraft that transit the area and did not originate or did not terminate within the airspace.

6 NOISE MONITOR REPORTS

The following data displays the amount and associated decibel level of aircraft noise events at a given monitor. An aircraft noise event must contain the following characteristics:

First, the noise event must exceed the ambient noise level. This number varies at every monitor, but is generally greater than 50-55db. Secondly, the noise event must last longer than 5 seconds. Lastly, using radar data, the system must correlate an aircraft with the noise event. This ensures that the sound is not associated with a 'community noise event' such as a lawn mowers or emergency sirens.

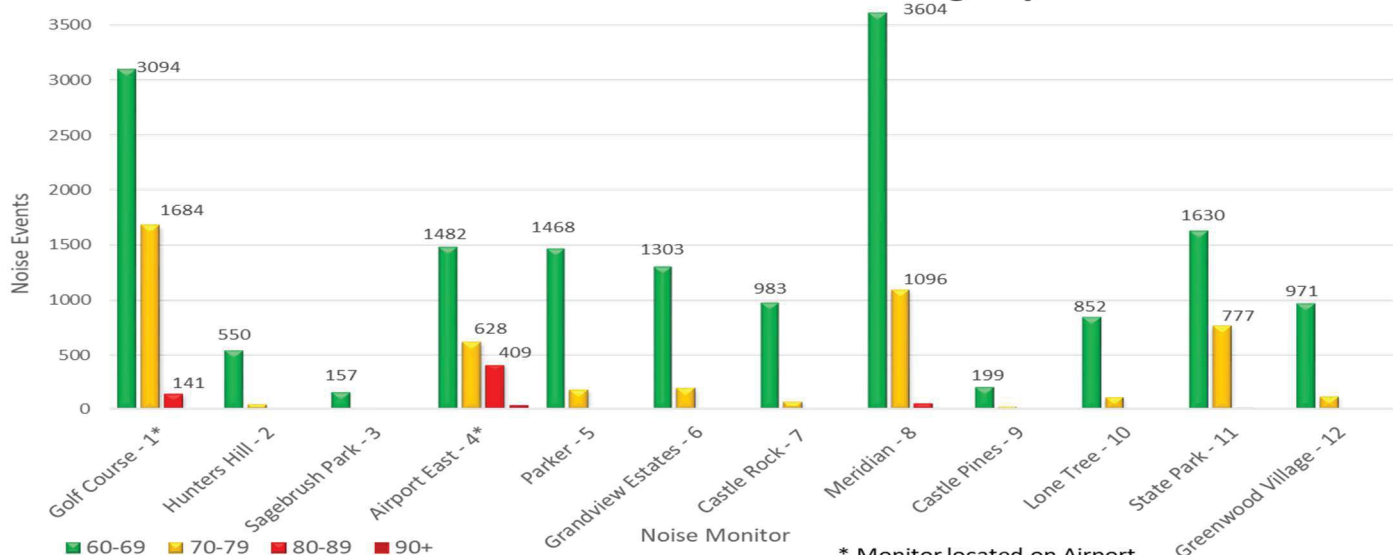
The information below reflects only aircraft noise events as described above.

March 2019 Aircraft Noise Event Decibel Range By Monitor					
Monitor	60-69	70-79	80-89	90+	Totals
Golf Course - 1*	3094	1684	141	13	4932
Hunters Hill - 2	550	51	1	0	602
Sagebrush Park - 3	157	21	0	0	178
Airport East - 4*	1482	628	409	34	2553
Parker - 5	1468	176	2	0	1646
Grandview Estates - 6	1303	193	9	0	1505
Castle Rock - 7	983	73	1	9	1066
Meridian - 8	3604	1096	55	6	4761
Castle Pines - 9	199	25	0	0	224
Lone Tree - 10	852	109	0	0	961
State Park - 11	1630	777	16	1	2424
Greenwood Village - 12	971	119	2	0	1092
Totals	16293	4952	636	63	21944

*Monitor located on Airport

Noise Monitor Offline 3/17-3/25

March 2019 Aircraft Noise Event dB Range by Monitor

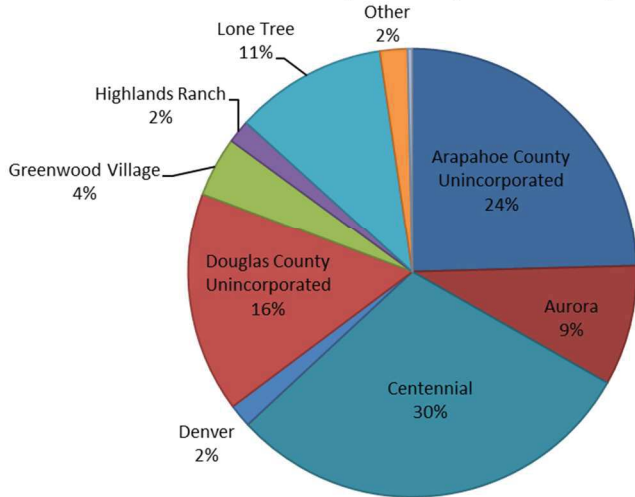


* Monitor located on Airport

7 MARCH 2019 NOISE COMPLAINTS

For the month of March, Centennial Airport received 301 complaints from 36 households.

March 2019 Complaints per Municipality



Noise Complaints Response Requested

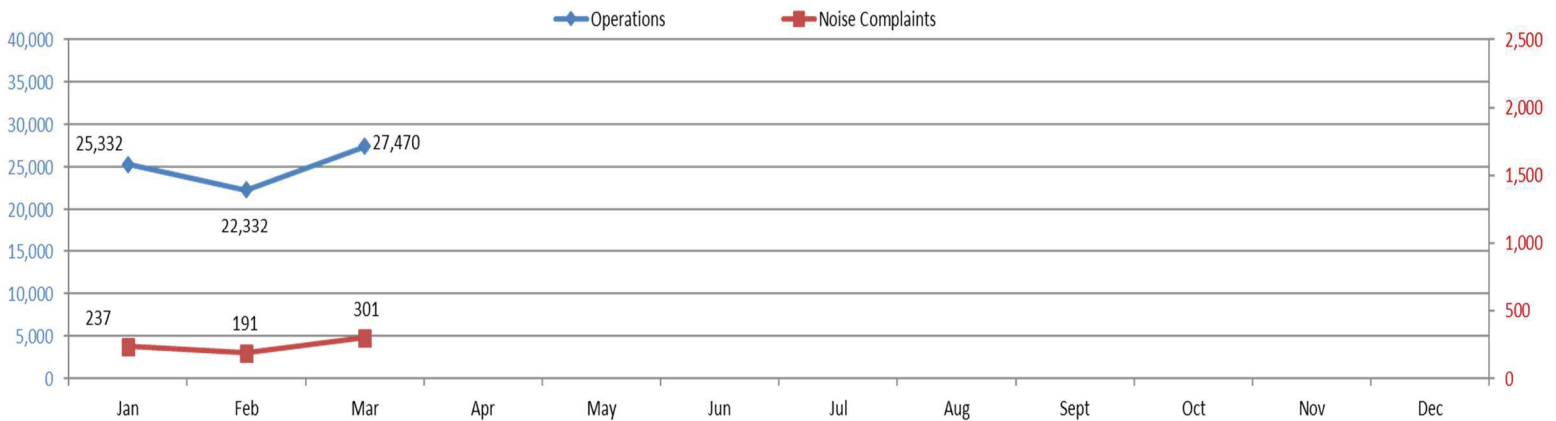
Email	3
Phone	4
Total	7

March 2019 Noise Complaints			YTD	
Municipality	Complaints	Households	Complaints	Households
Arapahoe County Unincorporated	74	7	134	11
Aurora	26	1	91	1
Castle Pines	0	0	0	0
Castle Rock	0	0	0	0
Centennial	90	5	171	7
Cherry Hills Village	0	0	0	0
Denver	5	3	6	4
Douglas County Unincorporated	48	3	215	6
Greenwood Village	13	6	30	8
Highlands Ranch	5	3	8	5
Lone Tree	33	5	60	5
Parker	1	1	6	2
Other	6	2	8	2
Total	301	36	729	51

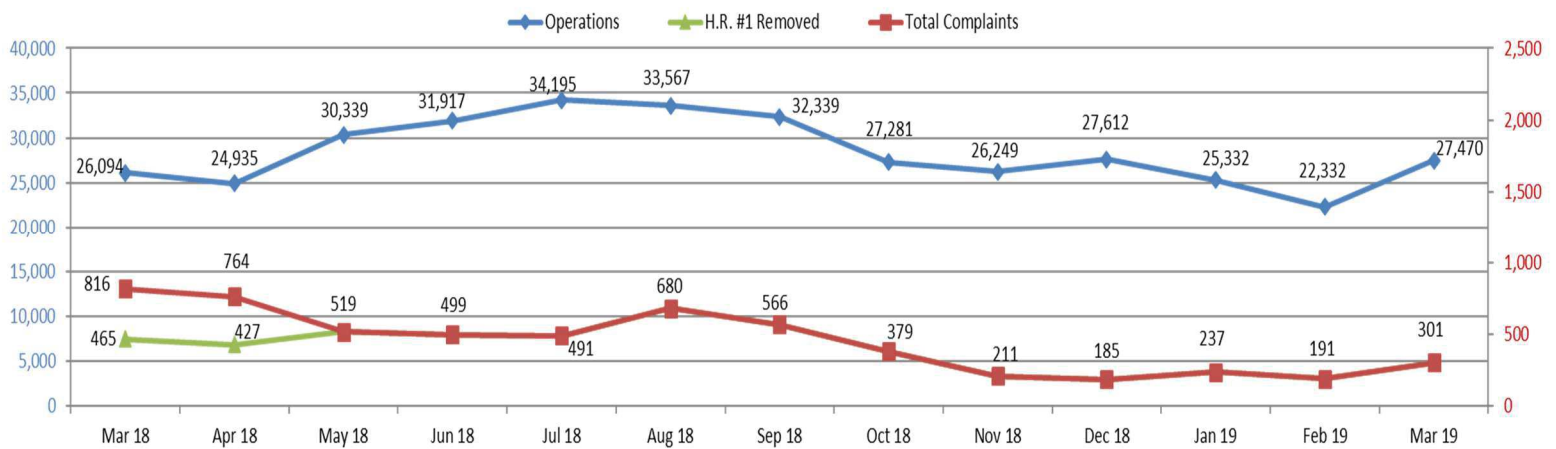
Month Comparison: 2019 Noise Calls - Daytime vs. Nighttime

Time Complaint Received	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	2018 YTD
Day Hours (7:00 am - 9:59pm)	203	166	277										646
Night Hours (10:00 pm - 6:59 am)	34	25	24										83
TOTAL	237	191	301	0	0	0	0	0	0	0	0	0	729

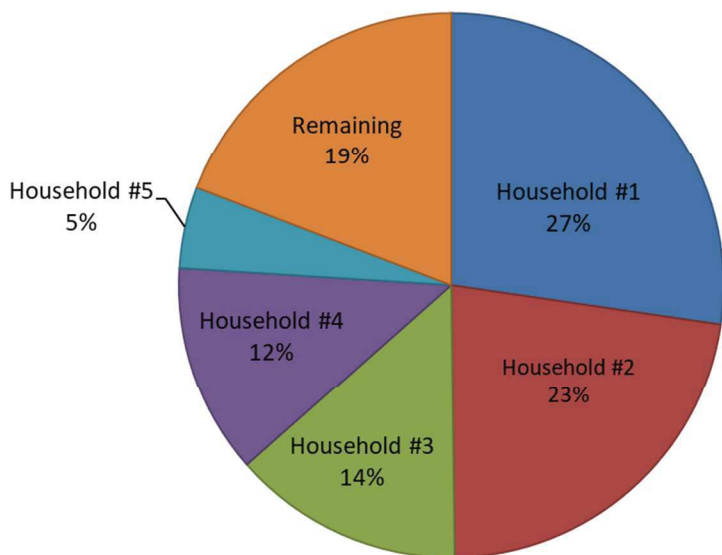
Current 12 Month Trend



Previous Year 13 Month Trend

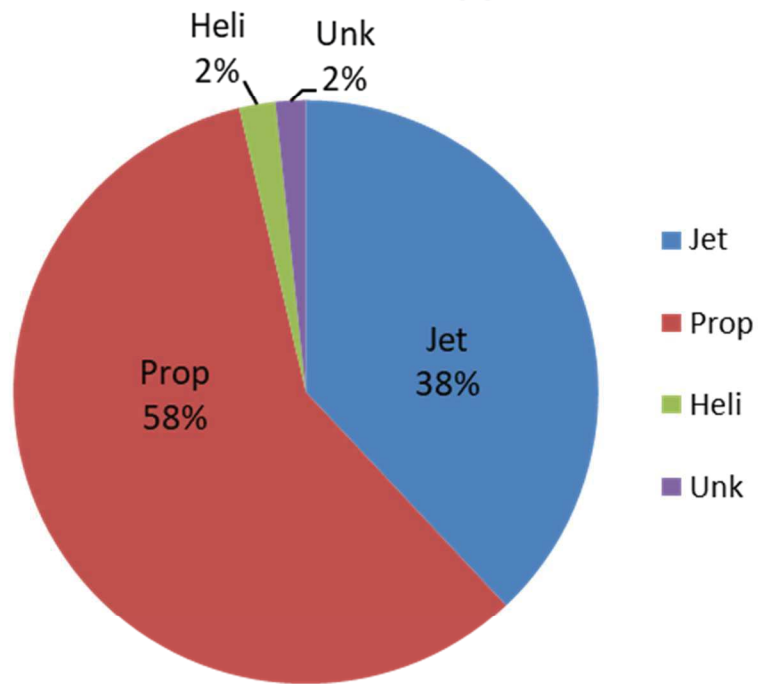


2019 YTD Top 5 Household Complaints

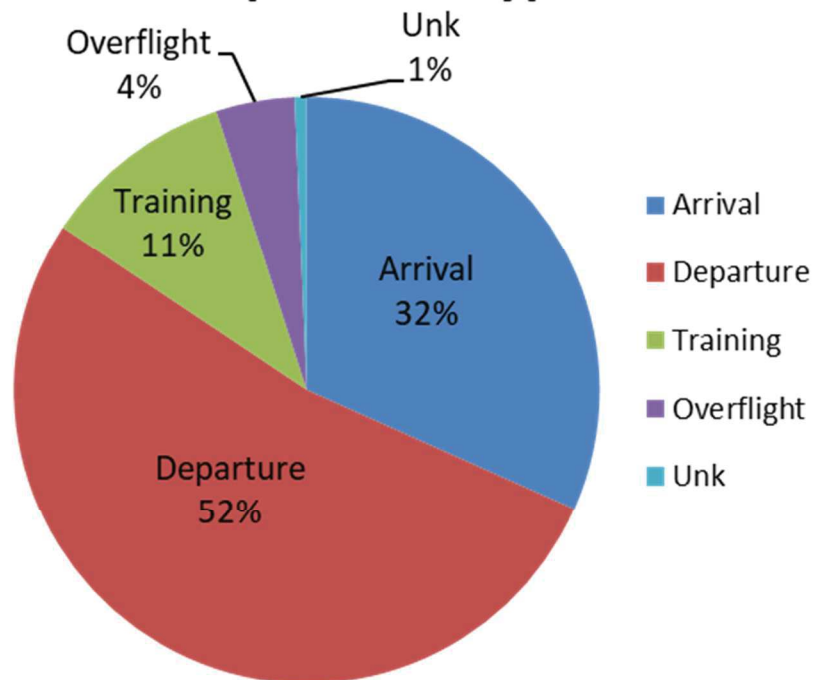


YTD Top 5 Household Complaints		
Household	Complaints	Municipality
Household #1	199	Douglas County Unincorporated
Household #2	164	Centennial
Household #3	100	Arapahoe County Unincorporated
Household #4	91	Aurora
Household #5	35	Lone Tree
Remaining	140	
Total	729	

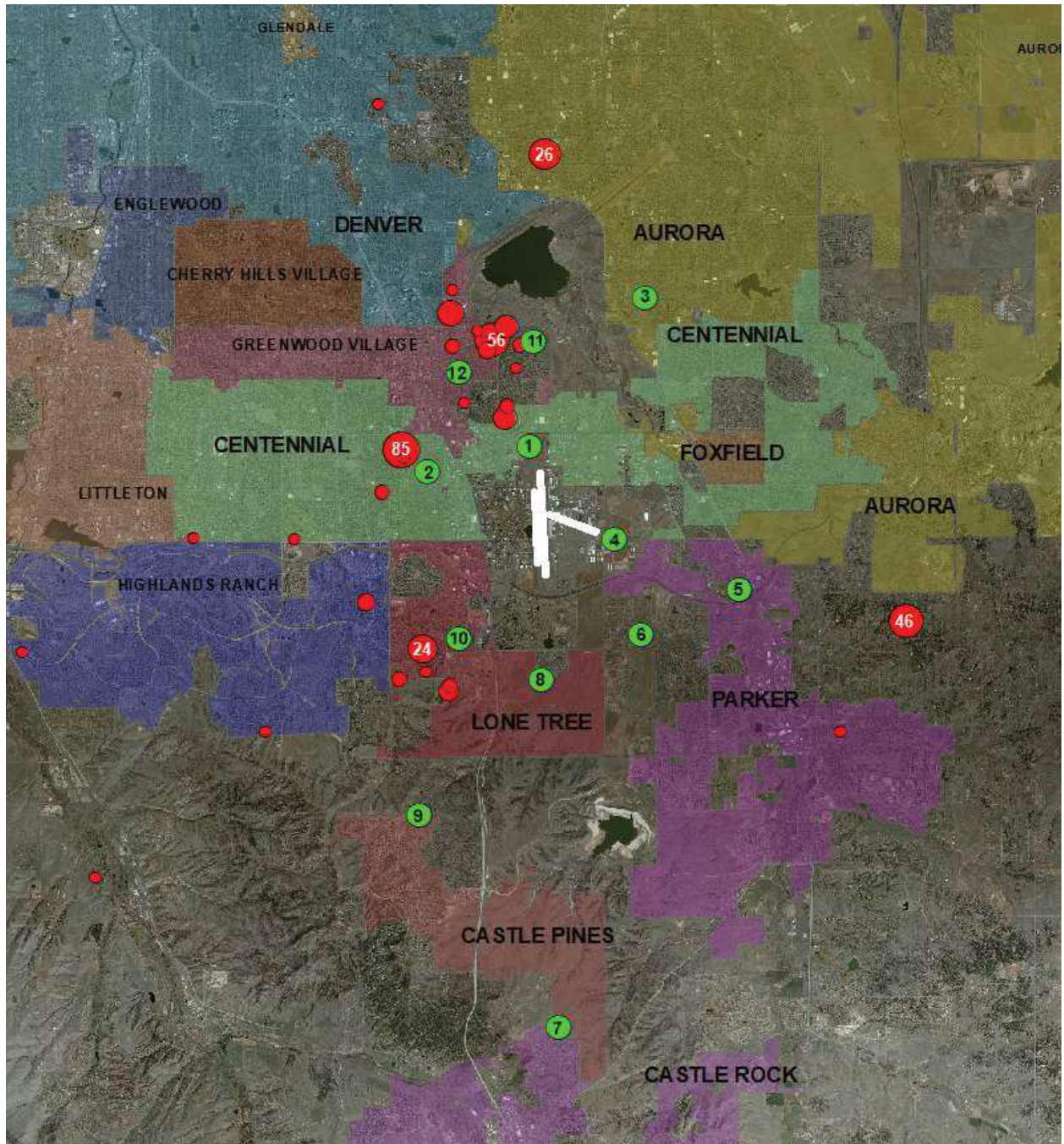
March 2019 Complaints by Aircraft Type



March 2019 Complaints by Operation Type



8 COMPLAINT MAP



March 2019 Complaints

*5 households outside map

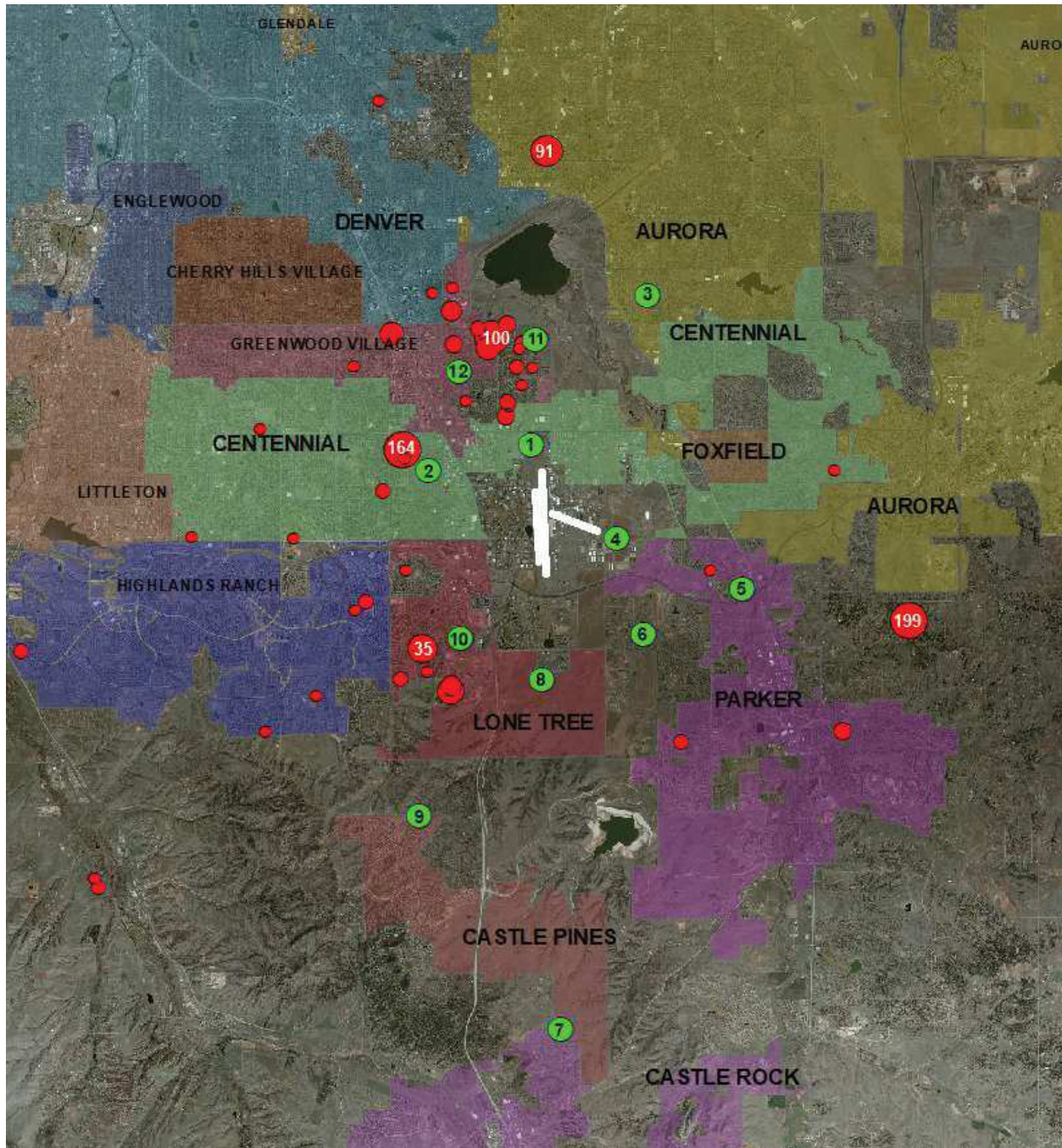
MAP LEGEND:

Green = Noise Monitor Locations

Red = Household Complaint Locations.

**Larger dots equate to more complaints for that particular household

9 YTD COMPLAINT MAP



YTD 2019 Complaints

*5 households outside map

MAP LEGEND:

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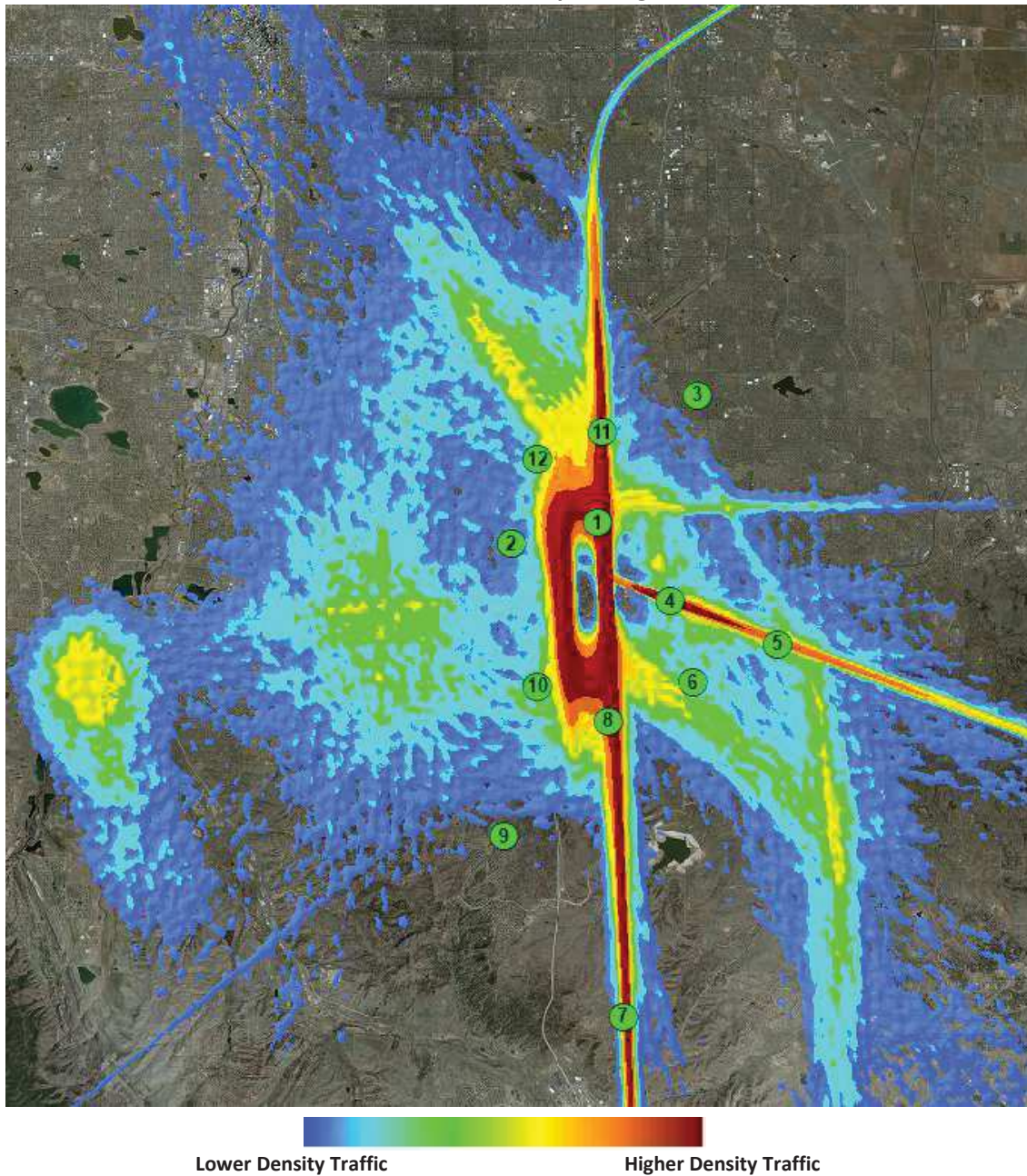
Red = Household Complaint Locations.

**Larger dots equate to more complaints for that particular household

10 RADAR TRACK DENSITY MAP

The following map takes all of the flight track data for the given time period and creates a line density plot. This enables everyone to have a better understanding of where the flight tracks are at, while allowing for historical comparisons. Dark red in the middle of the picture shows the highest density of flight tracks over the runways. The colors gradually move out to blue as the least dense.

March 2019 Centennial Airport Flight Tracks



11 NOTES AND DISCLAIMER

This report is for informational use only. Every effort has been made to ensure the accuracy of this data; however, the material may be altered as new information is added or updated in the system.

Centennial Airport disclaims any responsibility or liability for any direct or indirect damages resulting from the use of this data. We hope this information provides you with a valuable tool in which to review noise data and characteristics in your area. If you have questions or concerns, please contact the Centennial Airport Noise office at **303-790-0598**.



Noise Hotline: 303-790-4709

www.centennialairport.com