



# Centennial Airport Monthly Noise Report



**April 2024**

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**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<sub>max</sub>)** – 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.

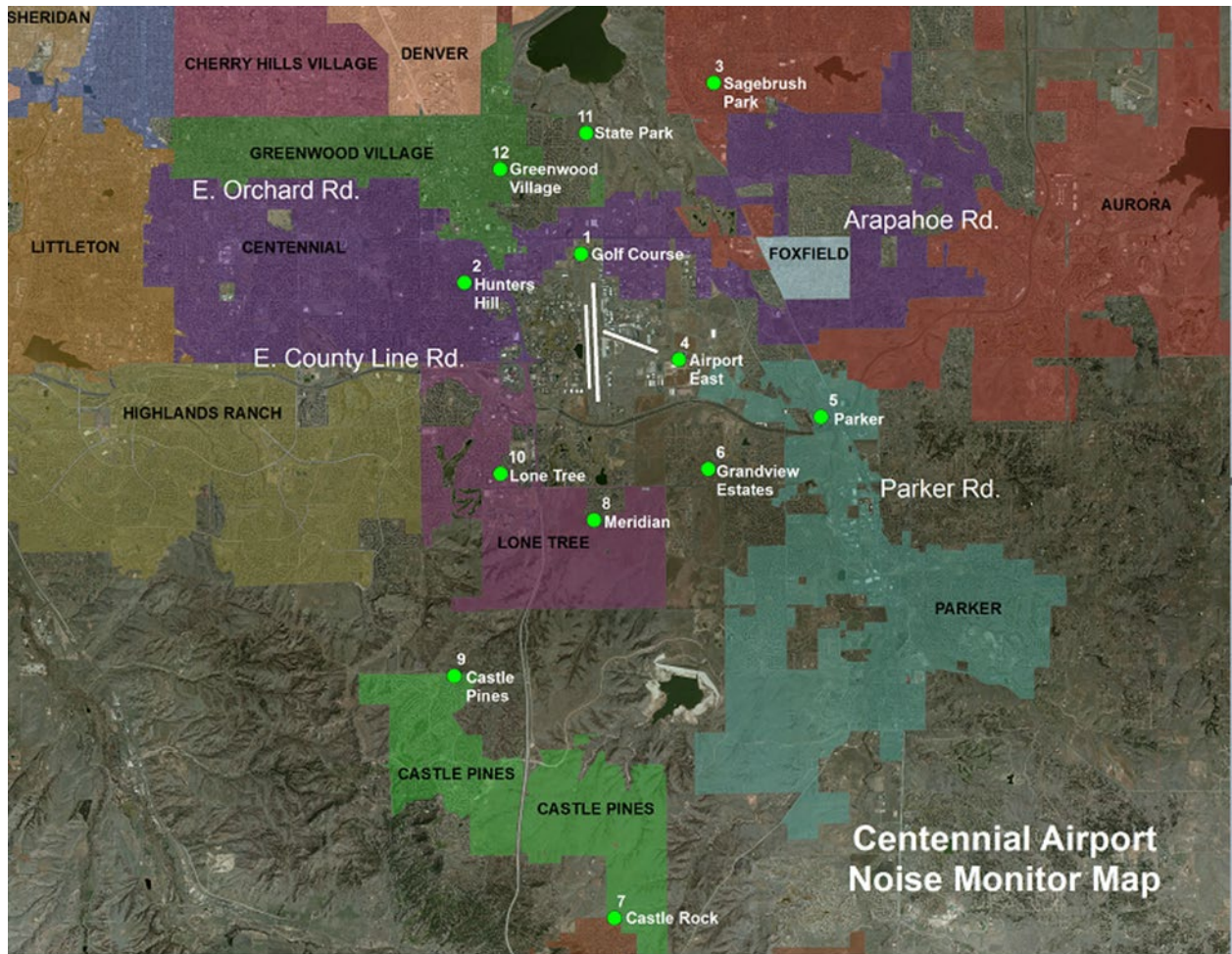
**Visual Flight Rules (VFR)** – A set of regulations under which a pilot operates an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going. A flight plan is not required when the pilot is operating under Visual Flight Rules.

**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

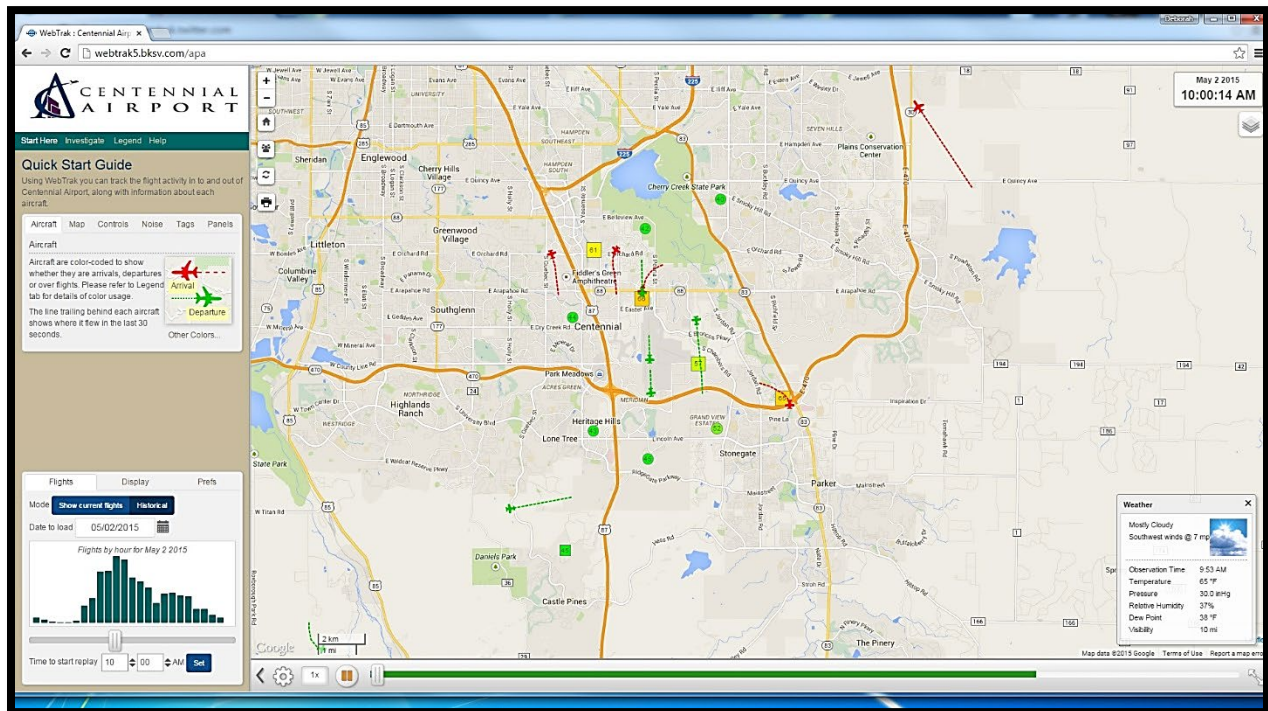
Centennial Airport's (KAPA) Noise and Operations Monitoring System (ANOMS) is a new state of the art system that enables the Arapahoe County Public Airport Authority to monitor and better understand aircraft noise in the vicinity of Centennial Airport. This system is comprised of 12 fixed noise monitoring 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:

[https://webtrak.emsbk.com/apa?fbclid=IwAR1xnXwQ2sVwisSZ\\_szUAIHFtyYBNI\\_ZTACOI1PF7ZSH8PPbBxORnnaidUUE](https://webtrak.emsbk.com/apa?fbclid=IwAR1xnXwQ2sVwisSZ_szUAIHFtyYBNI_ZTACOI1PF7ZSH8PPbBxORnnaidUUE)

**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 ITINERANT				LOCAL		
	AIR TAXI	G.A.	MILITARY	TOTAL ITINERANT	AIR TAXI	G.A.	MILITARY	TOTAL	G.A.	MILITARY	TOTAL LOCAL
January	2,483	2,640	172	5,295	1,607	5,408	132	7,147	13,881	2	13,883
February	2,374	2,702	161	5,237	1,709	5,384	83	7,176	13,797	2	13,799
March	2,527	2,771	133	5,431	1,947	6,487	89	8,523	16,676	13	16,689
April	2,246	2,606	140	4,992	1,591	5,580	105	7,276	15,502	29	15,531
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
<b>Y-T-D Totals</b>	<b>9,630</b>	<b>10,719</b>	<b>606</b>	<b>20,955</b>	<b>6,854</b>	<b>22,859</b>	<b>409</b>	<b>30,122</b>	<b>59,856</b>	<b>46</b>	<b>59,902</b>

	IFR OVERFLIGHTS				VFR OVERFLIGHTS				TOTAL OPERATIONS	
	AIR TAXI	G.A.	MILITARY	TOTAL INTINERANT	AIR TAXI	G.A.	MILITARY	TOTAL		
January	3	4	4	11	35	61	12	108	January	26,444
February	4	8	1	13	21	36	5	62	February	26,287
March	0	10	1	11	31	31	6	68	March	30,722
April	3	5	3	11	39	47	4	90	April	27,900
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	
<b>Y-T-D Totals</b>	<b>10</b>	<b>27</b>	<b>9</b>	<b>46</b>	<b>126</b>	<b>175</b>	<b>27</b>	<b>328</b>	<b>Y-T-D Totals</b>	<b>111,353</b>

### 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:

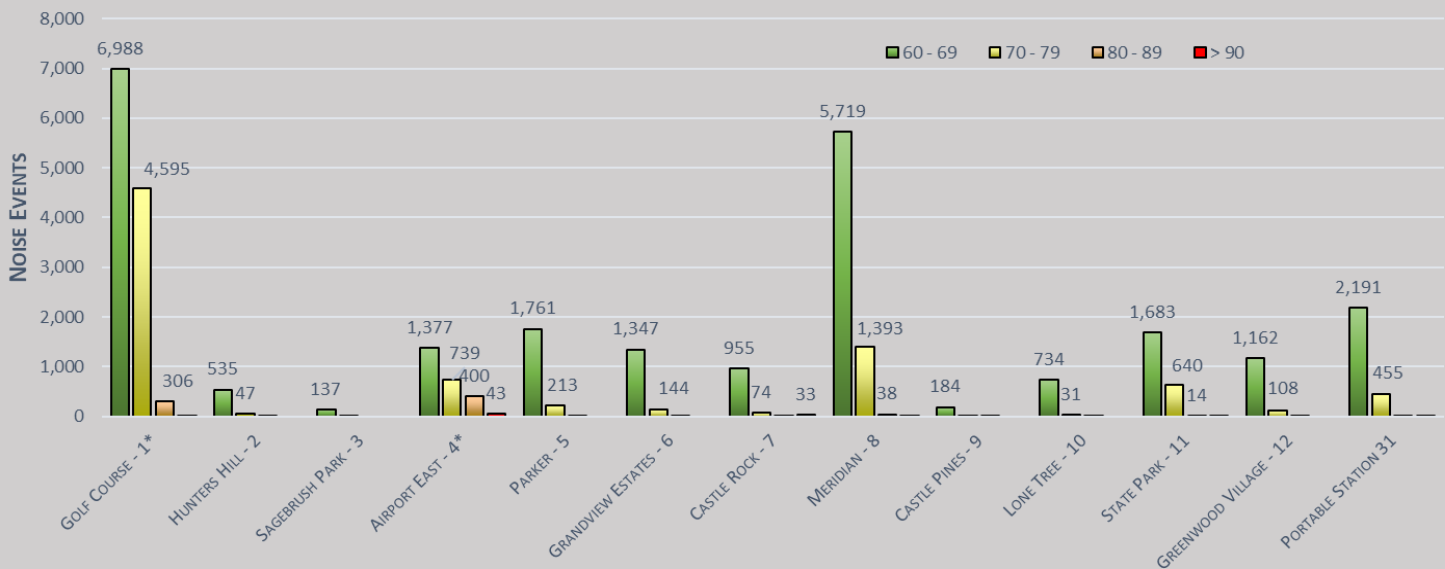
First, the noise event must exceed the ambient noise level. This number varies at every monitor, but is generally greater than 50-55db. Secondly, the noise event must last longer than 5 seconds. Lastly, using radar data, the system must correlate an aircraft with the noise event. This ensures that the 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.

Automated Aircraft Noise Event Decibel Range By Monitor					
Monitor	60-69	70-79	80-89	90+	Totals
Golf Course- 1*	6,988	4,595	306	6	11,895
Hunters Hill- 2	535	47	2	0	584
Sagebrush Park- 3	137	9	0	0	146
Airport East- 4*	1,377	739	400	43	2,559
Parker- 5	1,761	213	8	0	1,982
Grandview Estates- 6	1,347	144	4	0	1,495
Castle Rock- 7	955	74	9	33	1,071
Meridian- 8	5,719	1,393	38	3	7,153
Castle Pines- 9	184	14	1	0	199
Lone Tree- 10	734	31	1	0	766
State Park- 11	1,683	640	14	2	2,339
Greenwood Village- 12	1,162	108	4	0	1,274
Portable Station 31	2,191	455	12	1	2,659
<b>Totals</b>	<b>24,773</b>	<b>8,462</b>	<b>799</b>	<b>88</b>	<b>34,122</b>

\*Monitor located on Airport

### April 2024 Automated Aircraft Noise Event dB Range by Monitor



\* Monitor located on Airport

NOISE MONITORS

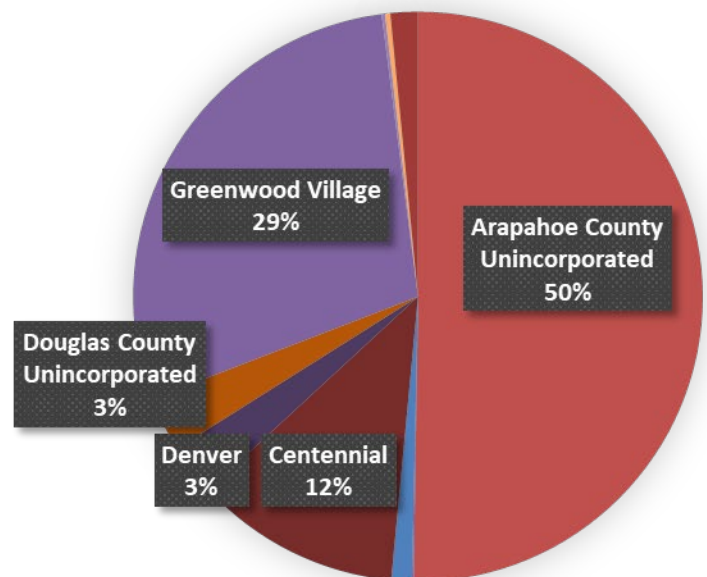
## 7 APRIL 2024 NOISE COMPLAINT STATISTICS

In April, Centennial Airport received 1,031 complaints from 78 households.

April Noise Complaints			YTD		Population
Municipality	Complaints	Households	Complaints	Households	
Arapahoe County Unincorporated	518	31	1,784	44	98,066
Aurora	1	1	11	4	399,913
Castle Pines	0	0	3	2	14,000
Castle Rock	12	3	38	4	86,000
Centennial	120	3	300	6	108,422
Cherry Hills Village	0	0	0	0	6,442
Denver	30	2	112	2	715,522
Douglas County Unincorporated	32	4	133	8	276,493*
Greenwood Village	297	25	1,307	43	15,691
Highlands Ranch	2	1	5	3	103,444
Lone Tree	3	3	8	6	14,253
Parker	0	0	20	4	68,000
Other	16	5	77	17	UNK
<b>Total</b>	<b>1,031</b>	<b>78</b>	<b>3,798</b>	<b>143</b>	<b>1,906,246</b>

\*Douglas County Unincorporated Population with Highlands Ranch Removed

Complaints per Municipality

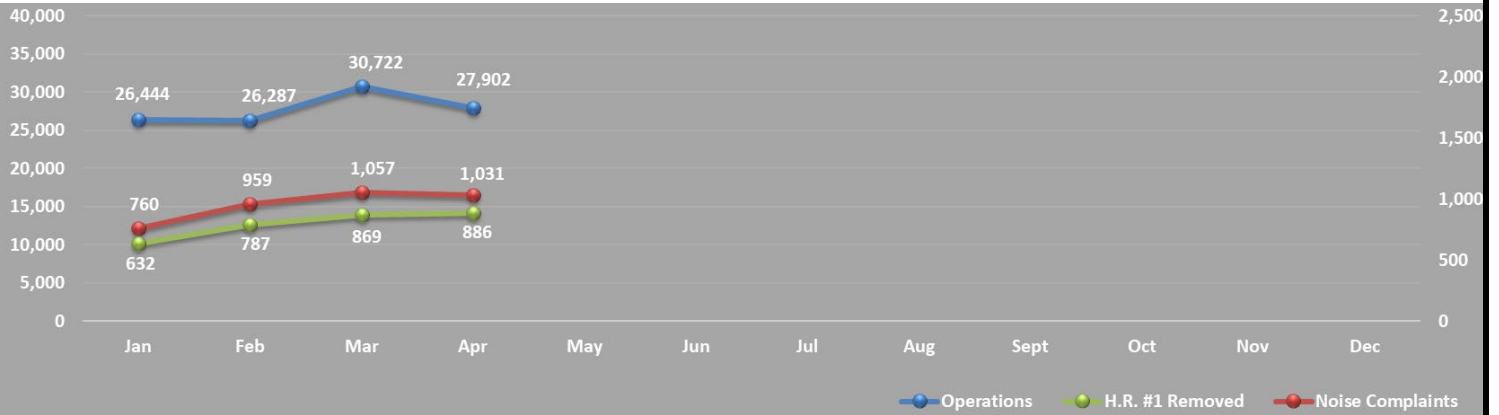


April 2024 Noise Complaint Responses Completed	
Email	46
Phone	13
<b>Total</b>	<b>59</b>

Time Complaint Received	Apr
Day Hours (7:00 am - 9:59pm)	986
Night Hours (10:00 pm - 6:59 am)	45
<b>TOTAL</b>	<b>1,031</b>



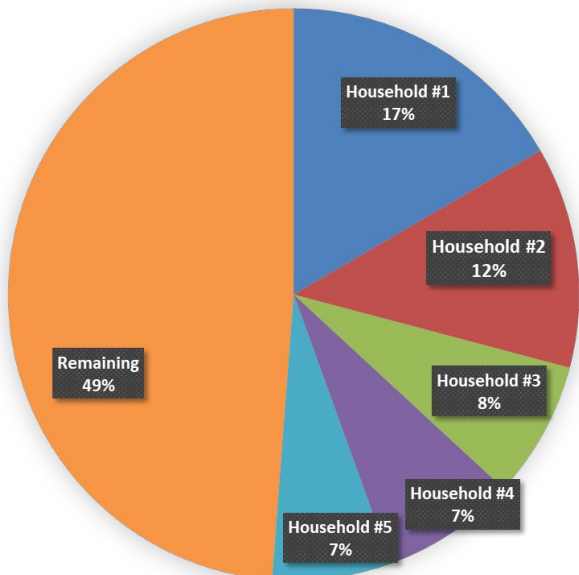
## Current 12 Month Trend



## Previous Year 13 Month Trend



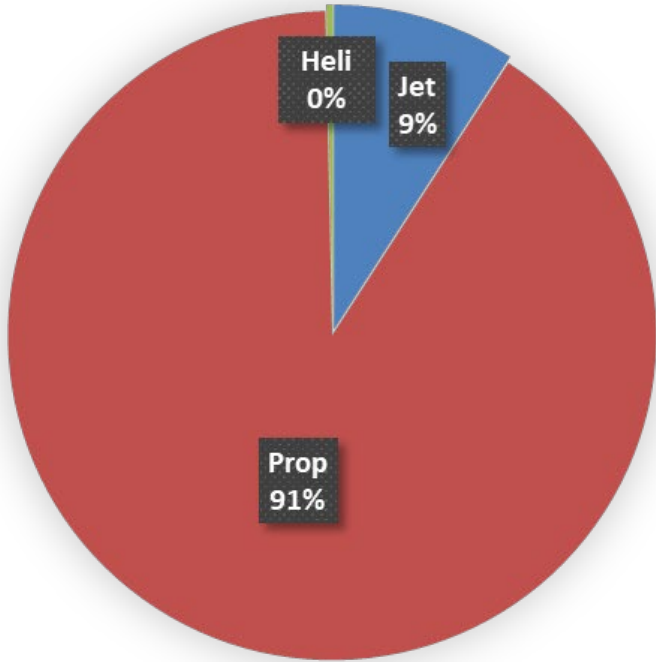
### Top 5 Household Complaints YTD



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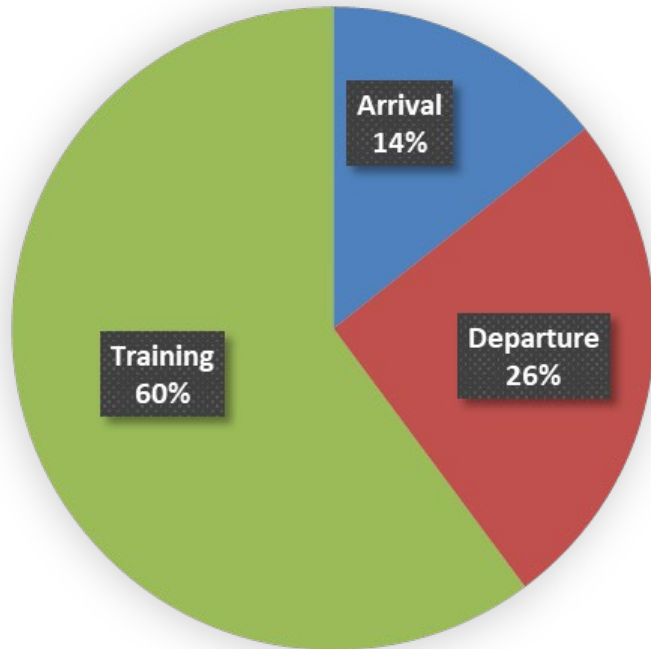
Household	Complaints	Resides In
Household #1	631	Arapahoe County
Household #2	475	Greenwood Village
Household #3	294	Greenwood Village
Household #4	289	Centennial
Household #5	256	Arapahoe County
Remaining	1,853	
<b>Total</b>	<b>3,798</b>	

### Complaints by Aircraft Type

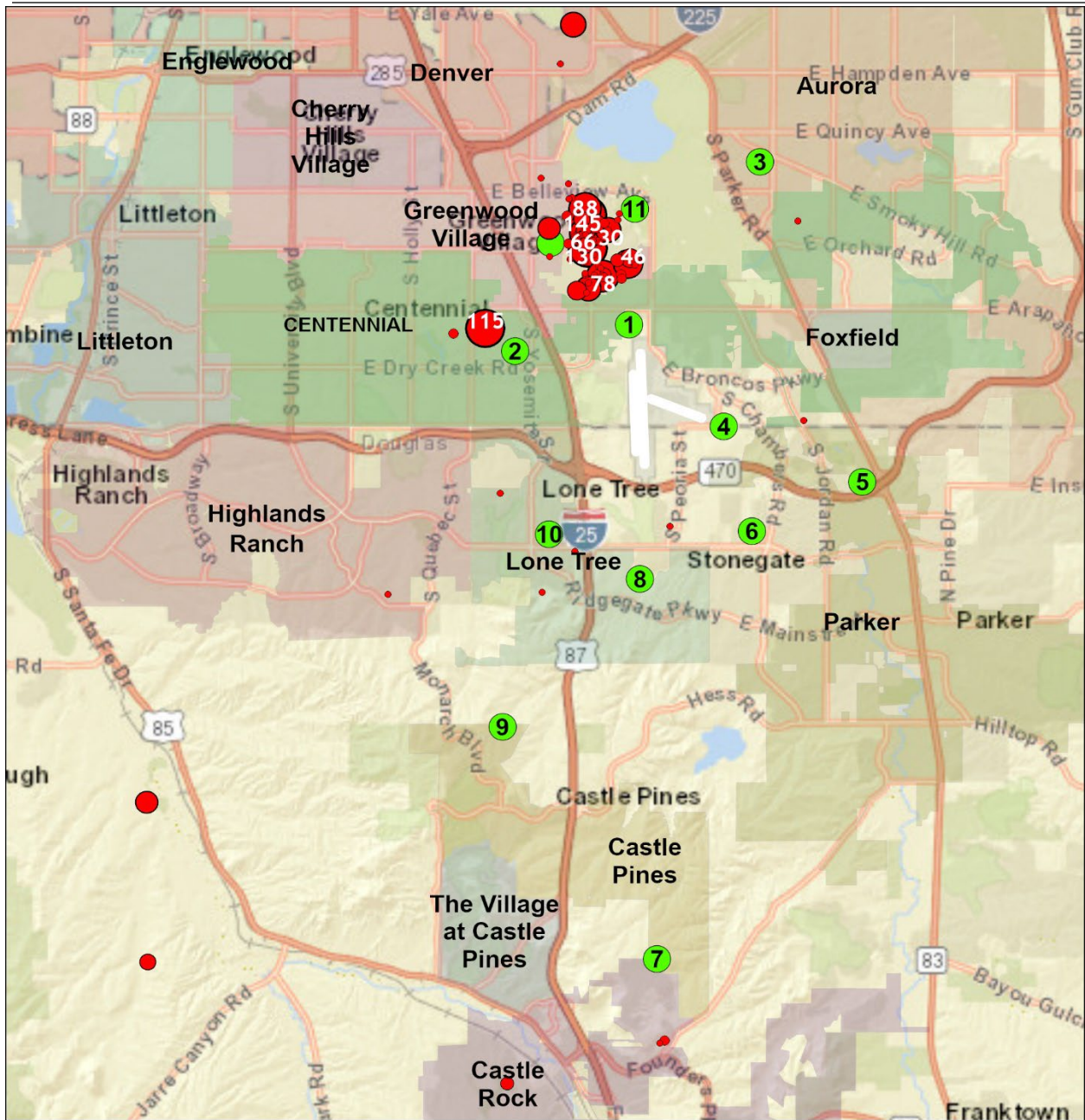


\*#1 Household Removed

### Complaints by Operation Type



## 8 CENTENNIAL AIRPORT COMPLAINT MAP



**April 2024 Complaints**



\*Larger dots equate to more complaints for that household.

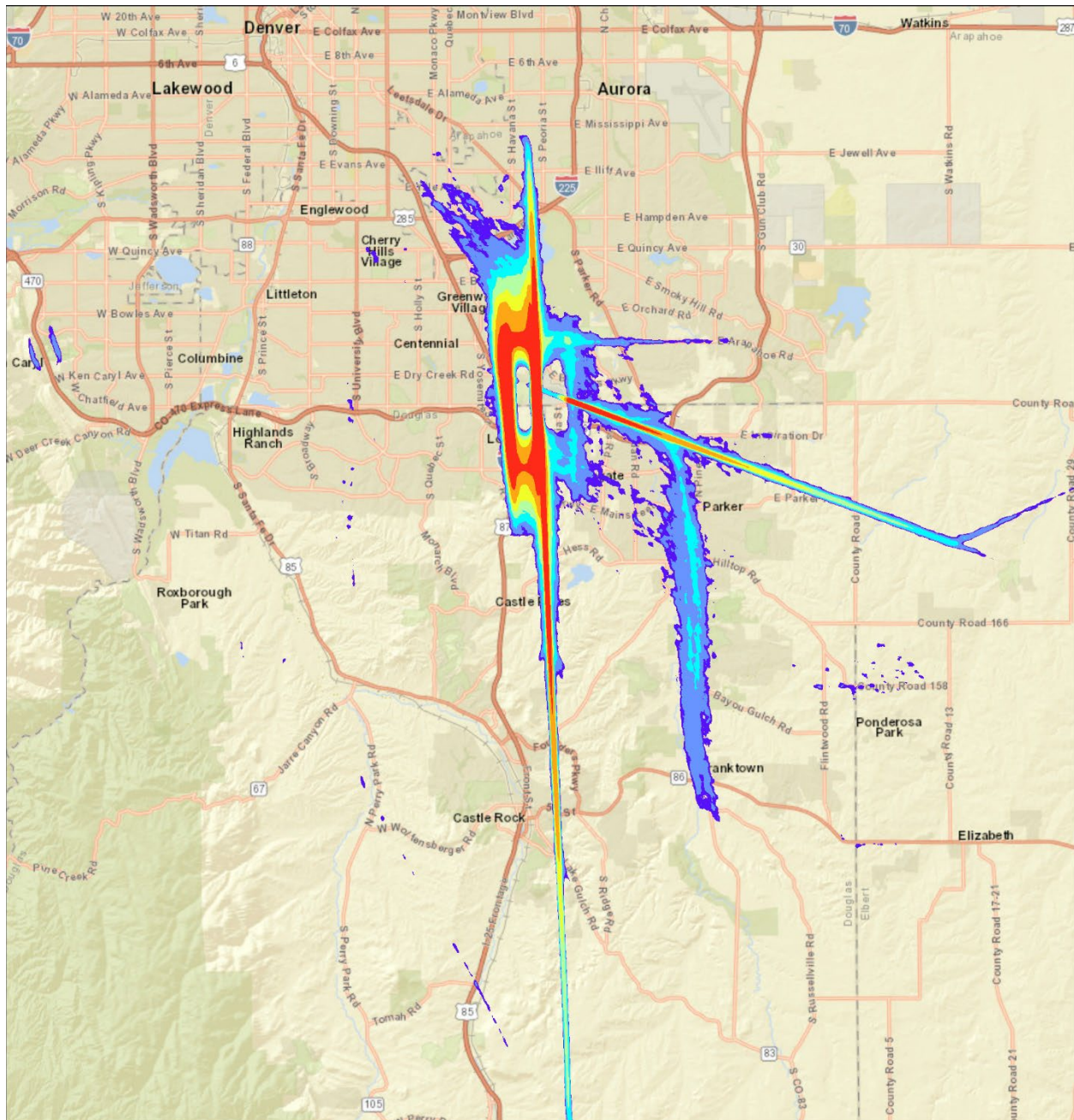
\*\*7 households not visible in map view.



## 9 CENTENNIAL AIRPORT RADAR TRACK DENSITY MAP

The following maps take all of the flight track data for the given time period and create 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.

**April 2024 Flight Tracks associated with Centennial Airport**



Lower Density Traffic

Higher Density Traffic

## 10 NOTES AND DISCLAIMER

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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](http://www.centennialairport.com)