



# Centennial Airport Monthly Noise Report



**June 2023**

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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.

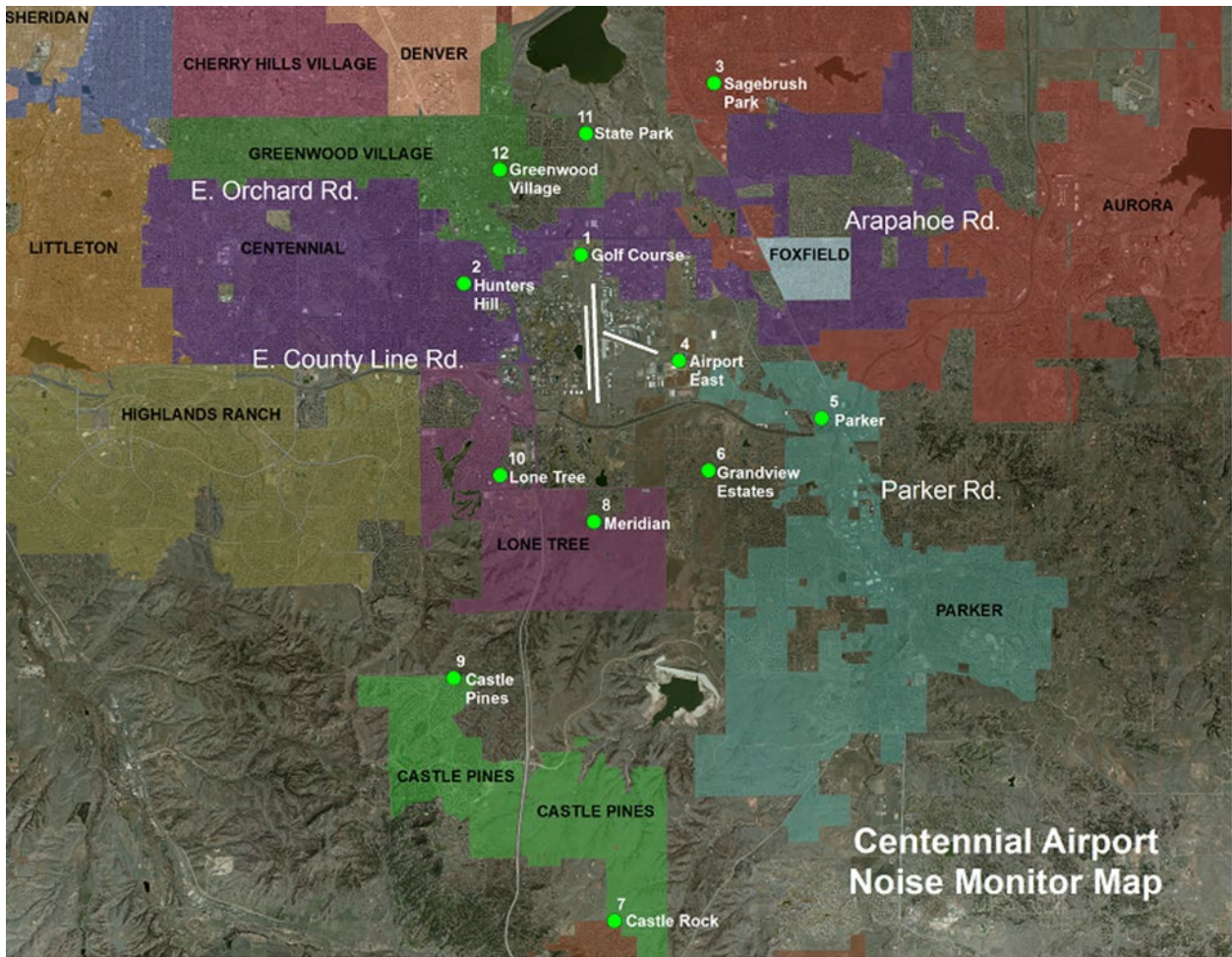
**Visual Flight Rules (VFR)** – A set of regulations under which a pilot operates an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going. A flight plan is not required when the pilot is operating under Visual Flight Rules.

**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

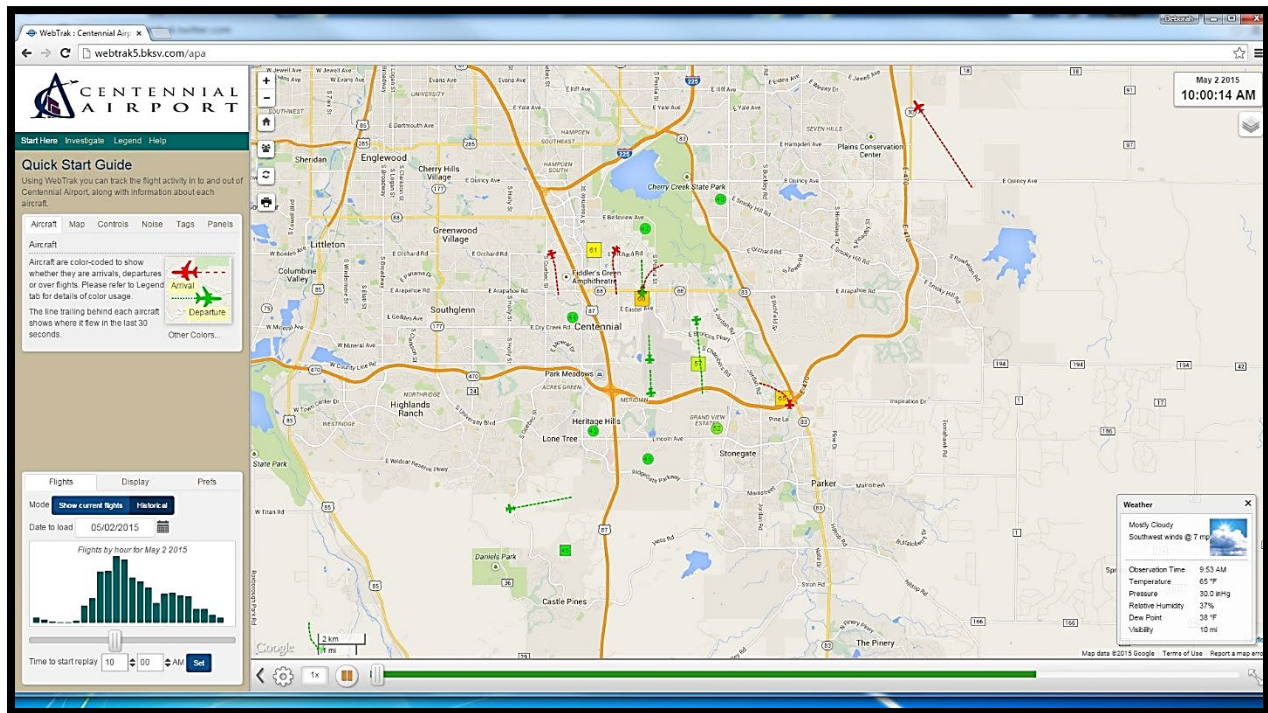
## 3 ABOUT APA'S NOISE MONITORING PROGRAM

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 ININERANT				LOCAL		
	AIR TAXI	G.A.	MILITARY	TOTAL INTINERANT	AIR TAXI	G.A.	MILITARY	TOTAL	G.A.	MILITARY	TOTAL LOCAL
January	2,304	3,055	99	5,458	896	5,213	69	6,178	11,936	25	11,961
February	2,180	2,883	123	5,186	1,046	5,388	85	6,519	12,426	20	12,446
March	2,512	3,260	187	5,959	1,555	5,523	100	7,178	14,989	20	15,009
April	2,152	2,693	144	4,989	1,616	6,550	137	8,303	16,940	40	16,980
May	2,556	3,026	175	5,757	1,542	5,734	116	7,392	17,833	21	17,854
June	2,584	3,338	165	6,087	1,544	6,277	159	7,980	16,101	31	16,132
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>14,288</b>	<b>18,255</b>	<b>893</b>	<b>33,436</b>	<b>8,199</b>	<b>34,685</b>	<b>666</b>	<b>43,550</b>	<b>90,225</b>	<b>157</b>	<b>90,382</b>

	IFR OVERFLIGHTS				VFR OVERFLIGHTS				TOTAL OPERATIONS	
	AIR TAXI	G.A.	MILITARY	TOTAL INTINERANT	AIR TAXI	G.A.	MILITARY	TOTAL		
January	2	4	4	10	43	73	11	127	January	23,734
February	6	4	2	12	31	80	1	112	February	24,275
March	0	0	3	3	24	90	4	118	March	28,267
April	3	5	2	10	37	79	13	129	April	30,411
May	1	5	0	6	32	120	8	160	May	31,169
June	2	9	1	12	29	87	6	122	June	30,333
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>14</b>	<b>27</b>	<b>12</b>	<b>53</b>	<b>196</b>	<b>529</b>	<b>43</b>	<b>768</b>	<b>Y-T-D Totals</b>	<b>168,189</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:

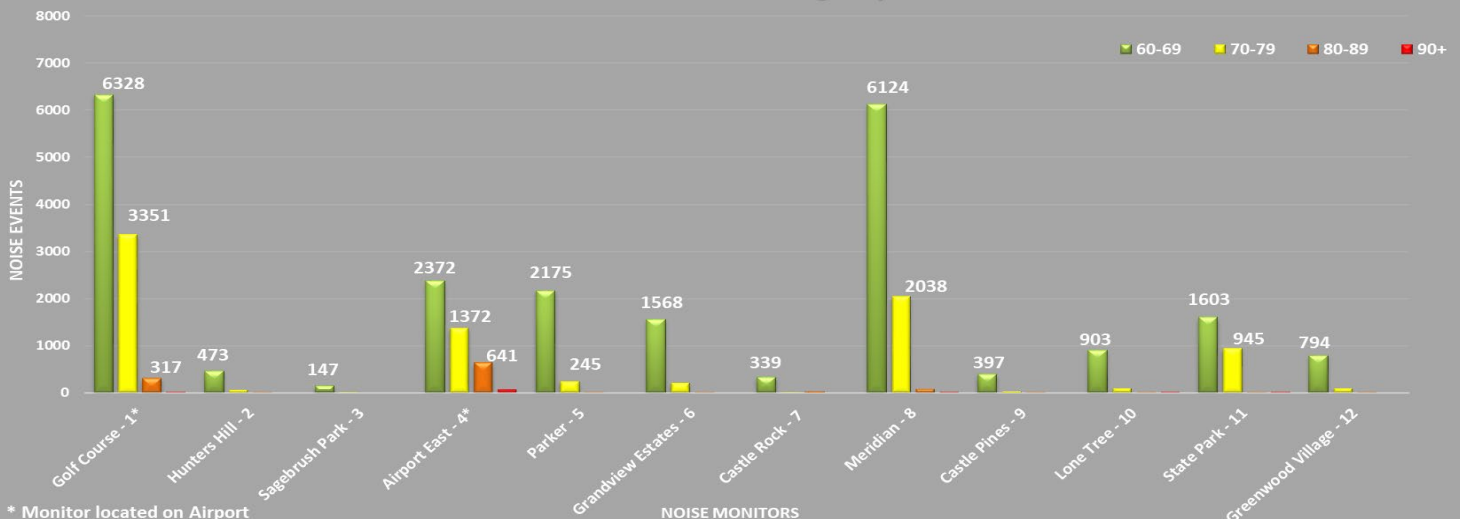
First, the noise event must exceed the ambient noise level. This number varies at every monitor, but is generally greater than 50-55db. Secondly, the noise event must last longer than 5 seconds. Lastly, using radar data, the system must correlate an aircraft with the noise event. This ensures that the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

June 2023 Aircraft Noise Event Decibel Range By Monitor					
Monitor	60-69	70-79	80-89	90+	Totals
Golf Course- 1*	6328	3351	317	10	10006
Hunters Hill- 2	473	58	6	0	537
Sagebrush Park- 3	147	20	0	0	167
Airport East- 4*	2372	1372	641	58	4443
Parker- 5	2175	245	2	0	2422
Grandview Estates- 6	1568	207	7	0	1782
Castle Rock- 7	339	10	24	0	373
Meridian- 8	6124	2038	86	6	8254
Castle Pines- 9	397	26	1	0	424
Lone Tree- 10	903	89	4	2	998
State Park- 11	1603	945	9	3	2560
Greenwood Village- 12	794	98	7	0	899
<b>Totals</b>	<b>23223</b>	<b>8459</b>	<b>1104</b>	<b>79</b>	<b>32865</b>

\*Monitor located on Airport

June 2023 Aircraft Noise Event dB Range by Monitor



\* Monitor located on Airport

NOISE MONITORS

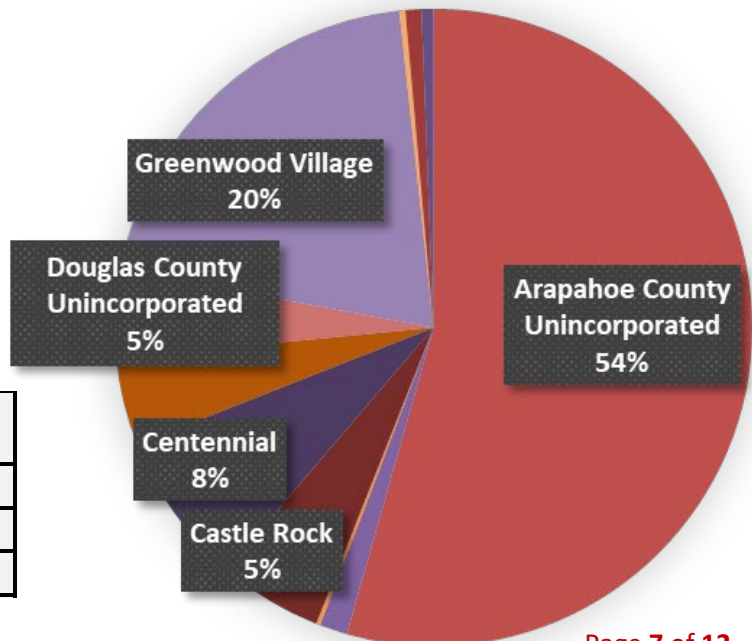
## 7 JUNE 2023 NOISE COMPLAINT STATISTICS

In June, Centennial Airport received 1,107 complaints from 137 households.

June Noise Complaints			YTD		Population
Municipality	Complaints	Households	Complaints	Households	Census 2020
Arapahoe County Unincorporated	539	69	2255	126	98,066
Aurora	14	6	39	8	386,261
Castle Pines	2	2	5	3	11,036
Castle Rock	52	4	133	6	73,158
Centennial	77	5	402	9	108,418
Cherry Hills Village	0	0	0	0	6,442
Denver	44	3	44	3	715,522
Douglas County Unincorporated	44	11	171	13	276,493*
Greenwood Village	202	22	1499	58	15,691
Highlands Ranch	3	3	13	5	103,444
Lone Tree	8	5	25	9	14,253
Parker	116	5	229	9	58,512
Other	6	4	65	20	UNK
<b>Total</b>	<b>1,107</b>	<b>137</b>	<b>4,880</b>	<b>269</b>	<b>1,867,296</b>

\*Douglas County Unincorporated Population with Highlands Ranch Removed

Complaints per Municipality



June 2023 Noise Complaint Responses Completed	
Email	80
Phone	8
<b>Total</b>	<b>88</b>

Time Complaint Received	June
Day Hours (7:00 am - 9:59pm)	917
Night Hours (10:00 pm - 6:59 am)	190
<b>TOTAL</b>	<b>1,107</b>



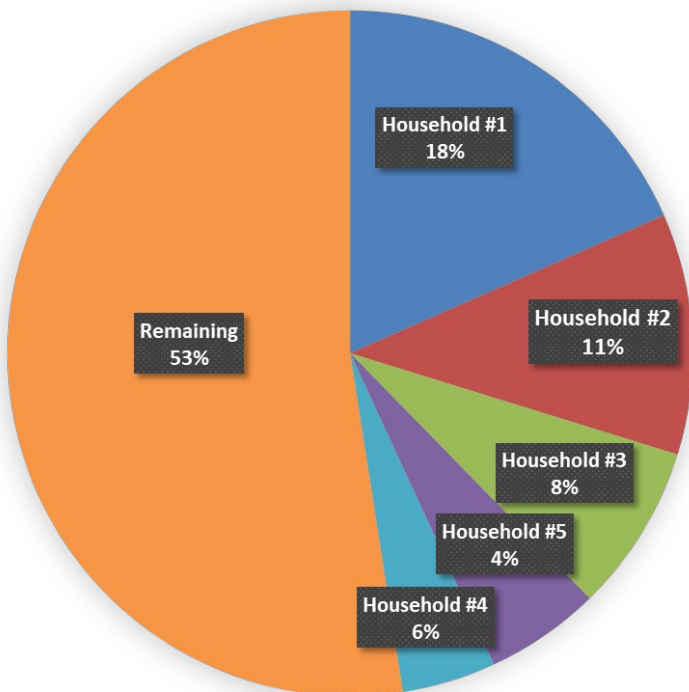
## Current 12 Month Trend



## Previous Year 13 Month Trend



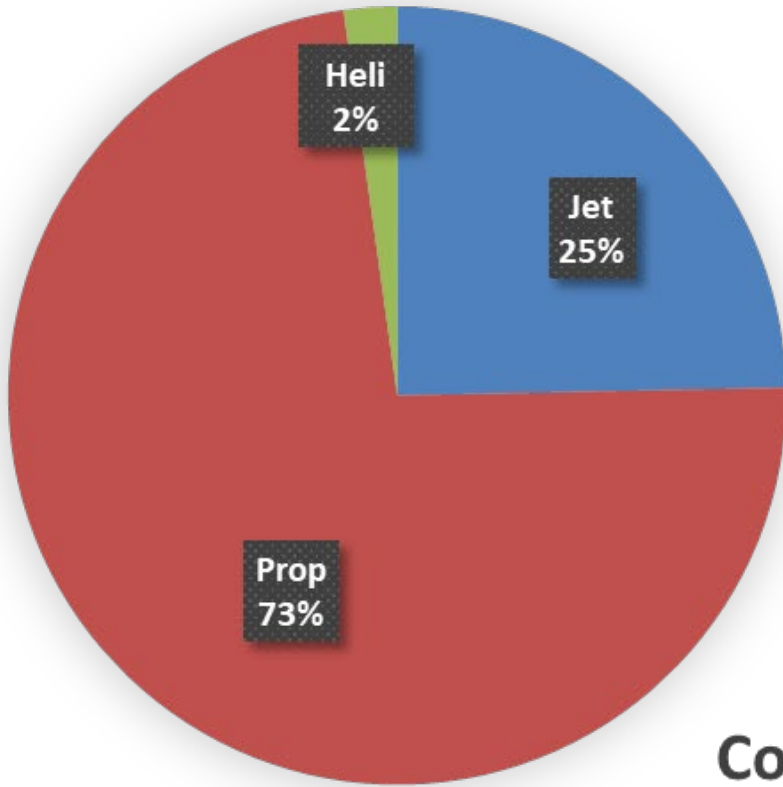
## Top 5 Household Complaints YTD



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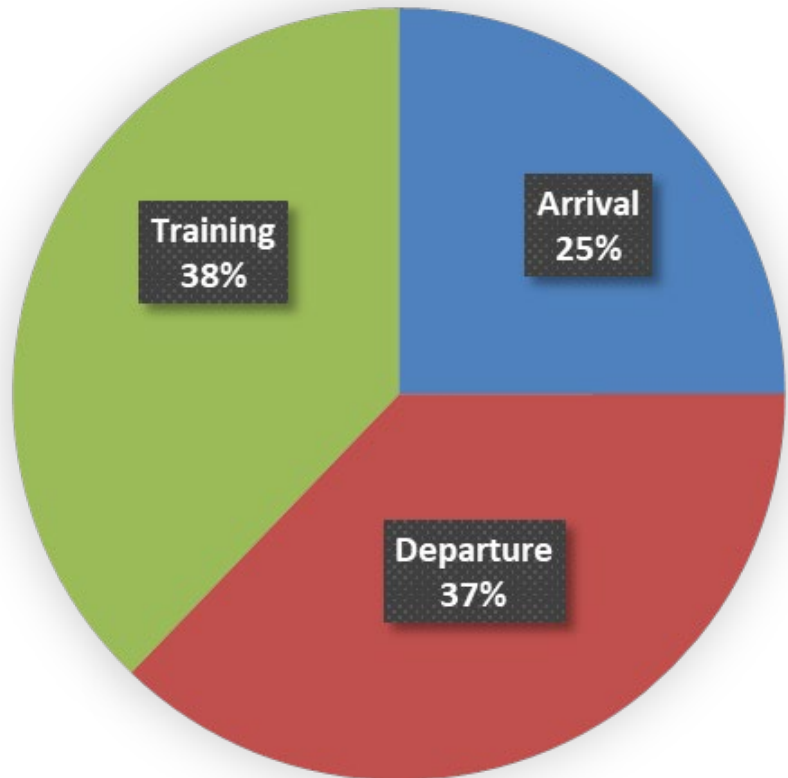
Household	Complaints	Households
Household #1	898	Greenwood Village
Household #2	555	Arapahoe County
Household #3	386	Centennial
Household #4	265	Arapahoe County
Household #5	216	Parker
Remaining		2,560
<b>Total</b>		<b>4,880</b>

### Complaints by Aircraft Type

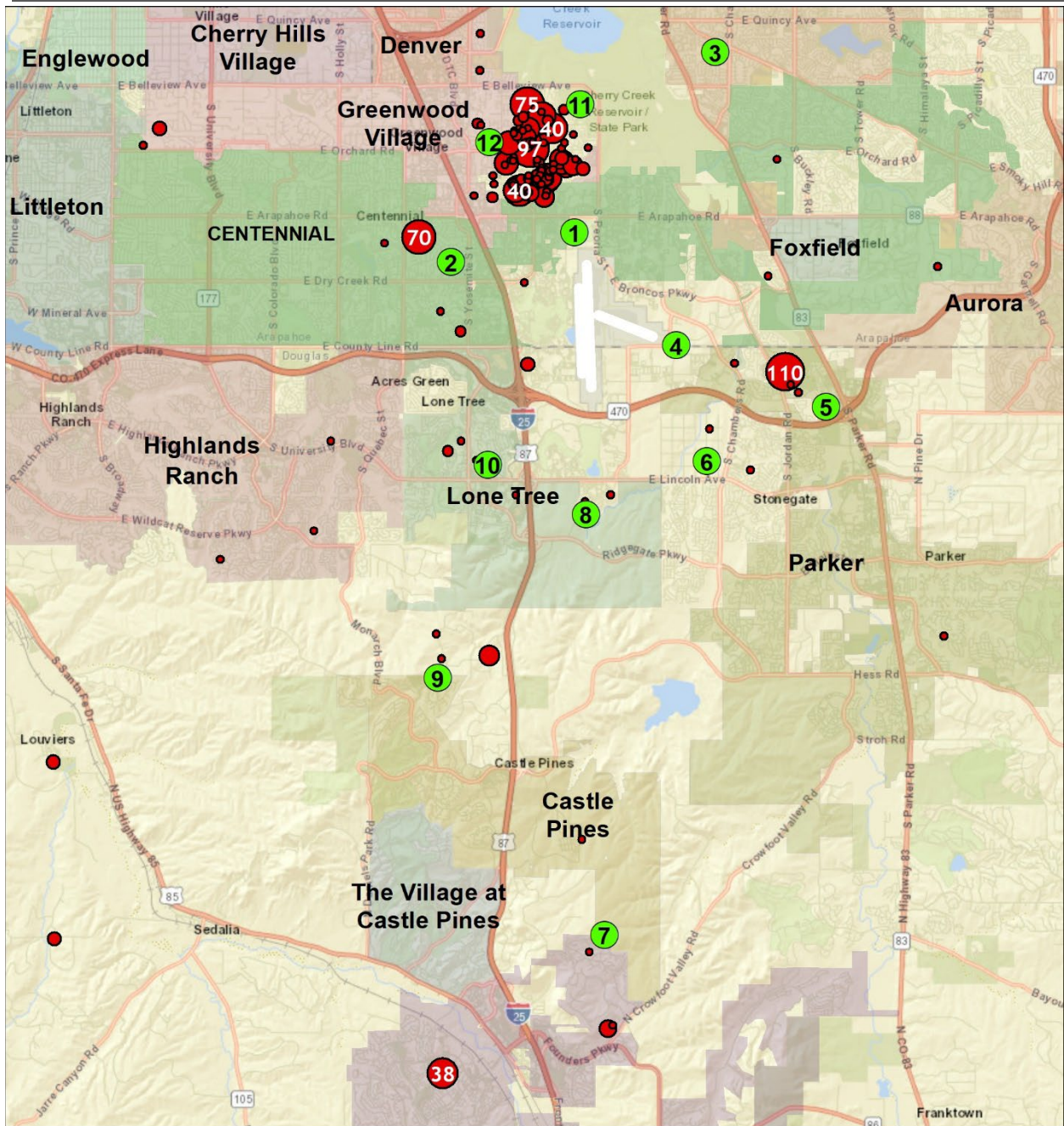


\*#1 Household Removed

### Complaints by Operation Type



# 8 CENTENNIAL AIRPORT COMPLAINT MAP



## June 2023 Complaints

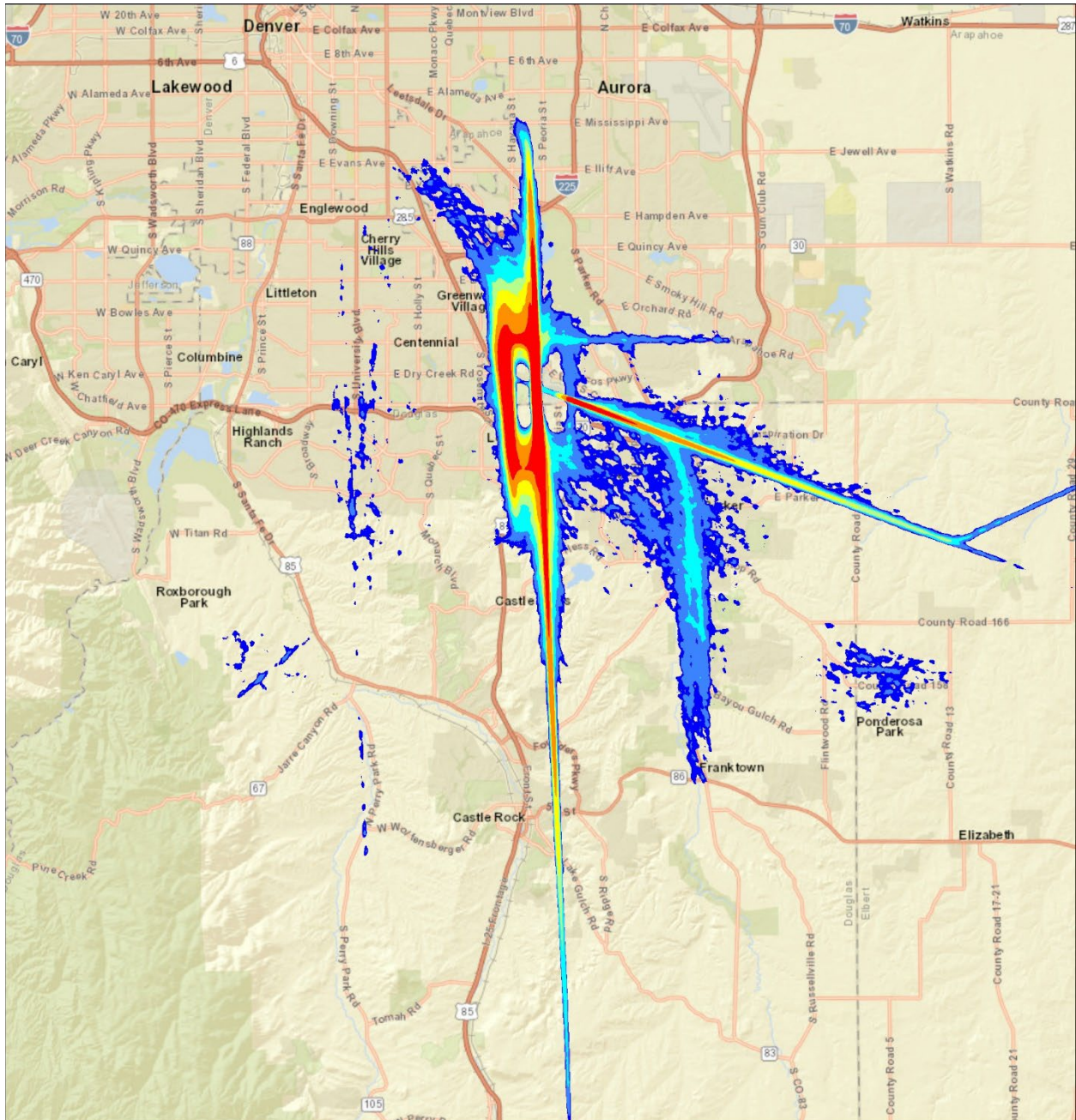


\*\*Larger dots equate to more complaints for that particular households

# 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.

June 2023 Flight Tracks associated with Centennial Airport



## 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)