



Centennial Airport Monthly Noise Report



November 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_{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.

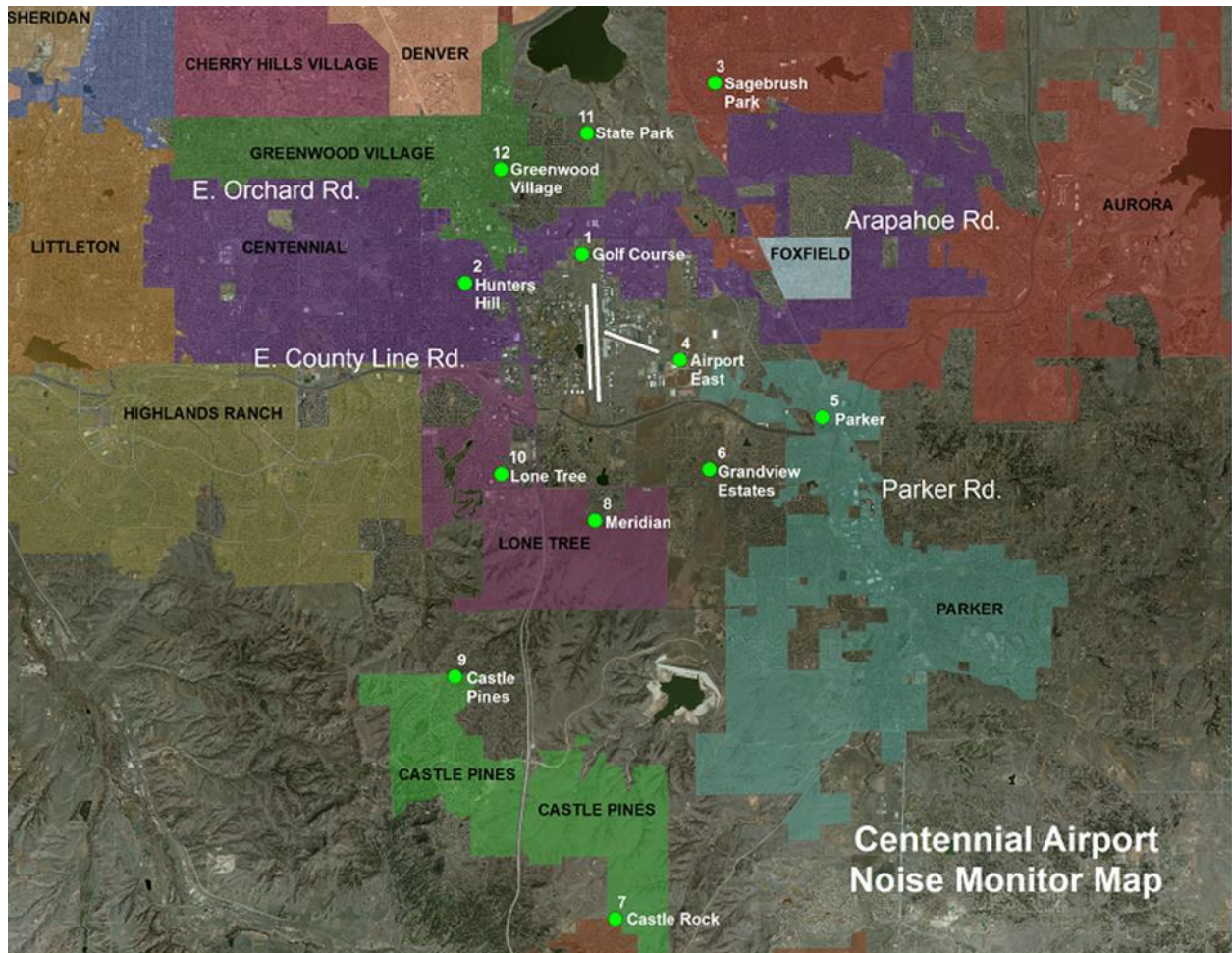
Visual Flight Rules (VFR) – A set of regulations under which a pilot operates an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going. A flight plan is not required when the pilot is operating under Visual Flight Rules.

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

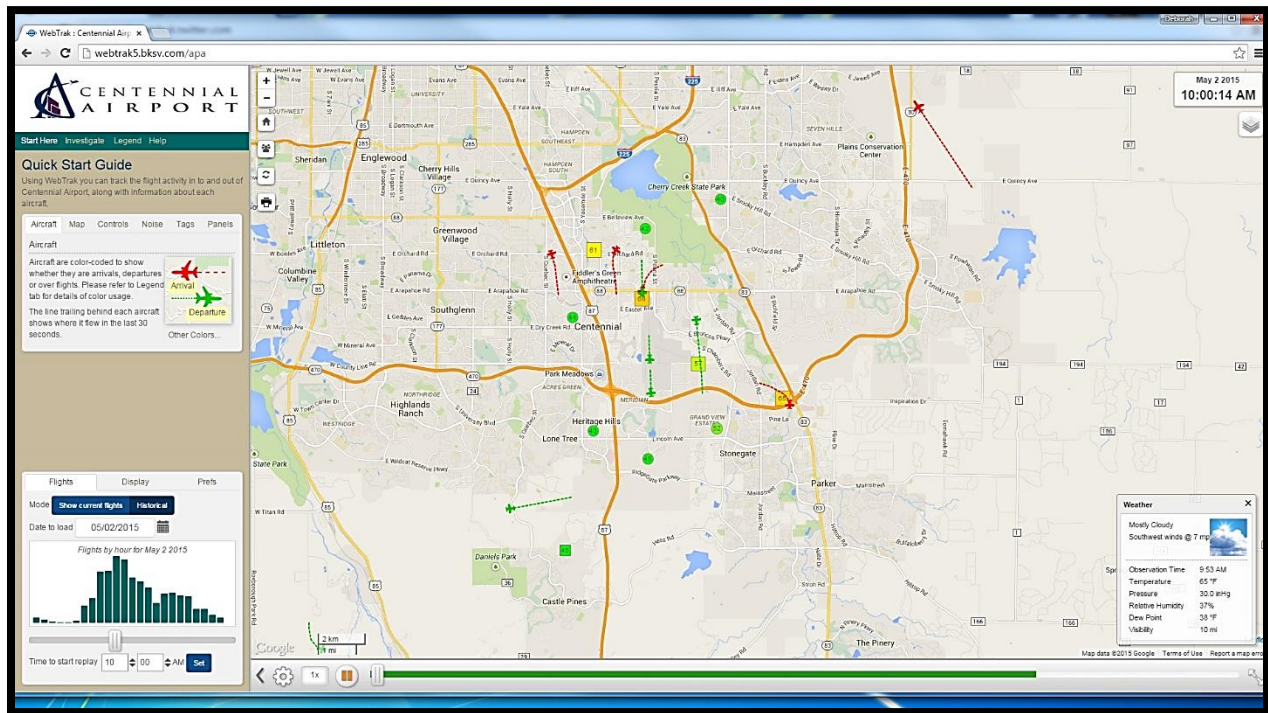
3 ABOUT APA'S NOISE MONITORING PROGRAM

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:

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	2,304	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	2,524	3,341	189	6,054	1,999	8,004	131	10,134	18,733	53	18,786
August	2,536	3,434	245	6,215	2,283	8,727	118	11,128	21,173	29	21,202
September	2,718	3,332	198	6,248	2,293	8,159	87	10,539	17,465	43	17,508
October	2,655	3,229	202	6,086	2,238	7,472	111	9,821	14,216	44	14,260
November	2,506	2,811	182	5,499	1,911	6,055	109	8,075	15,878	23	15,901
December				0				0			0
Y-T-D Totals	27,227	34,402	1,909	63,538	18,923	73,102	1,222	93,247	177,690	349	178,039

	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	6	12	3	21	28	138	7	173	July	35,168
August	8	12	5	25	32	86	7	125	August	38,695
September	3	4	1	8	53	109	4	166	September	34,469
October	3	8	2	13	35	80	8	123	October	30,303
November	1	7	12	20	31	87	11	129	November	29,624
December				0				0	December	
Y-T-D Totals	35	70	35	140	375	1,029	80	1,484	Y-T-D Totals	336,448

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

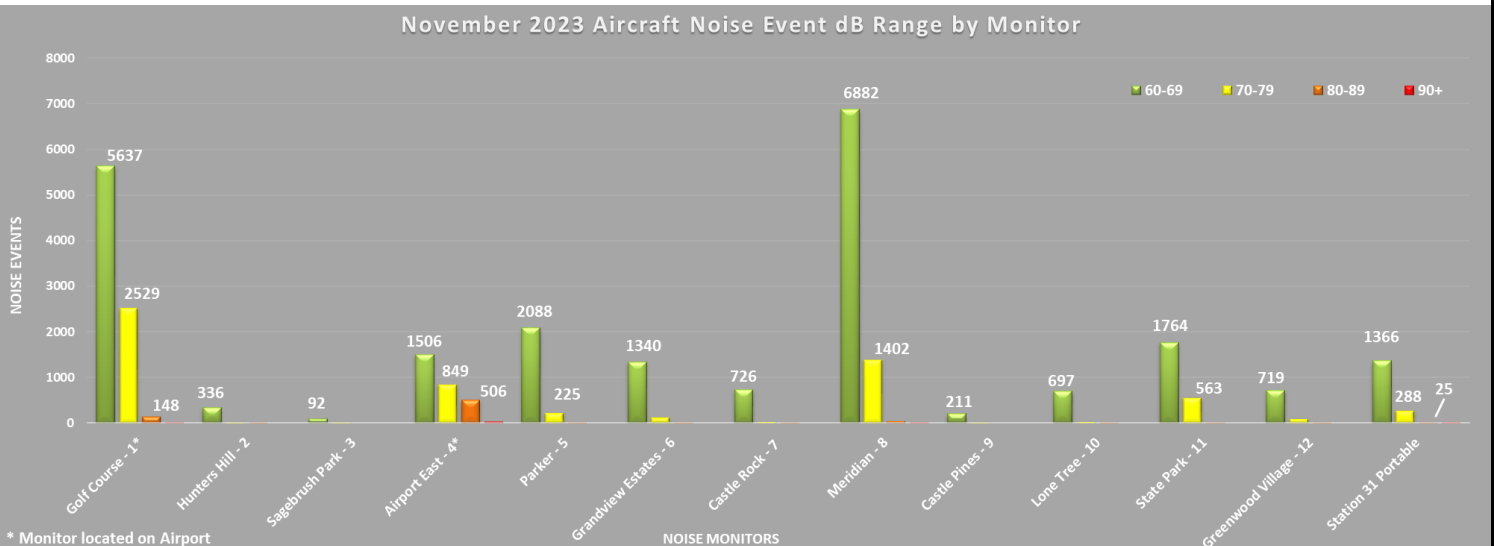
The following data displays the amount and associated decibel level of aircraft noise events at a given monitor. An aircraft noise event must contain the following characteristics:

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.

November 2023 Aircraft Noise Event Decibel Range By Monitor					
Monitor	60-69	70-79	80-89	90+	Totals
Golf Course- 1*	5637	2529	148	2	8316
Hunters Hill- 2	336	25	4	0	365
Sagebrush Park- 3	92	8	0	0	100
Airport East- 4*	1506	849	506	36	2897
Parker- 5	2088	225	1	0	2314
Grandview Estates- 6	1340	130	2	0	1472
Castle Rock- 7	726	39	1	0	766
Meridian- 8	6882	1402	46	4	8334
Castle Pines- 9	211	14	0	0	225
Lone Tree- 10	697	33	1	0	731
State Park- 11	1764	563	8	0	2335
Greenwood Village- 12	719	97	6	0	822
Portable Station 31	1366	288	25	2	1681
Totals	23364	6202	748	44	30358

*Monitor located on Airport



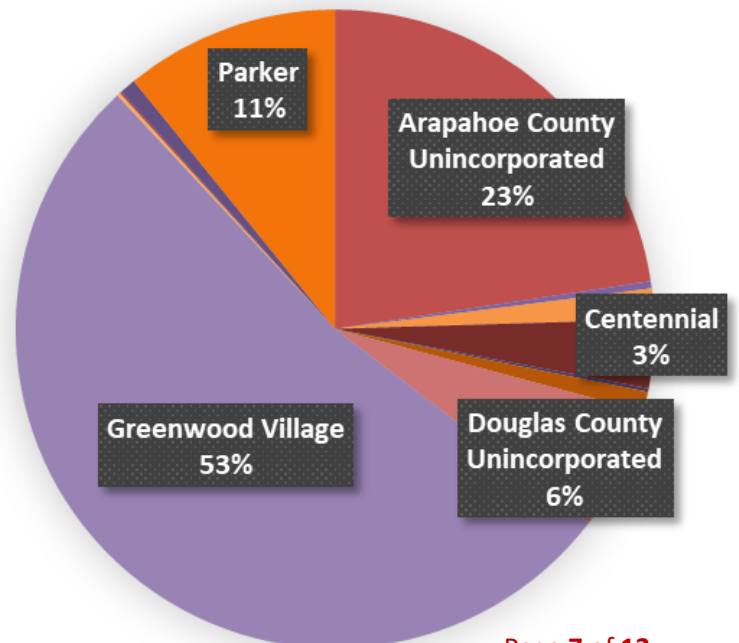
7 NOVEMBER 2023 NOISE COMPLAINT STATISTICS

In November, Centennial Airport received 1,097 complaints from 48 households.

November Noise Complaints			YTD		Population
Municipality	Complaints	Households	Complaints	Households	
Arapahoe County Unincorporated	248	18	4,278	170	98,066
Aurora	4	1	68	11	399,913
Castle Pines	0	0	10	5	14,000
Castle Rock	17	3	428	9	82,000
Centennial	38	3	935	22	108,422
Cherry Hills Village	2	1	4	1	6,442
Denver	11	1	163	4	715,522
Douglas County Unincorporated	68	4	448	20	276,493*
Greenwood Village	578	8	3,386	99	15,691
Highlands Ranch	2	1	51	12	103,444
Lone Tree	1	1	51	14	14,253
Parker	119	2	1,220	20	68,000
Other	9	5	119	31	UNK
Total	1,097	48	11,161	418	1,867,296

*Douglas County Unincorporated Population with Highlands Ranch Removed

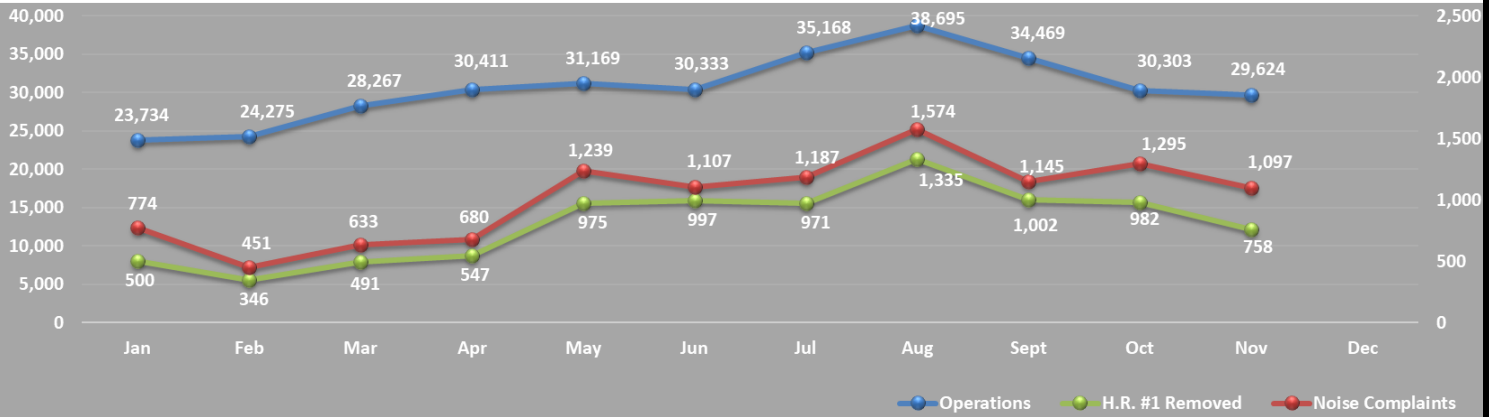
Complaints per Municipality



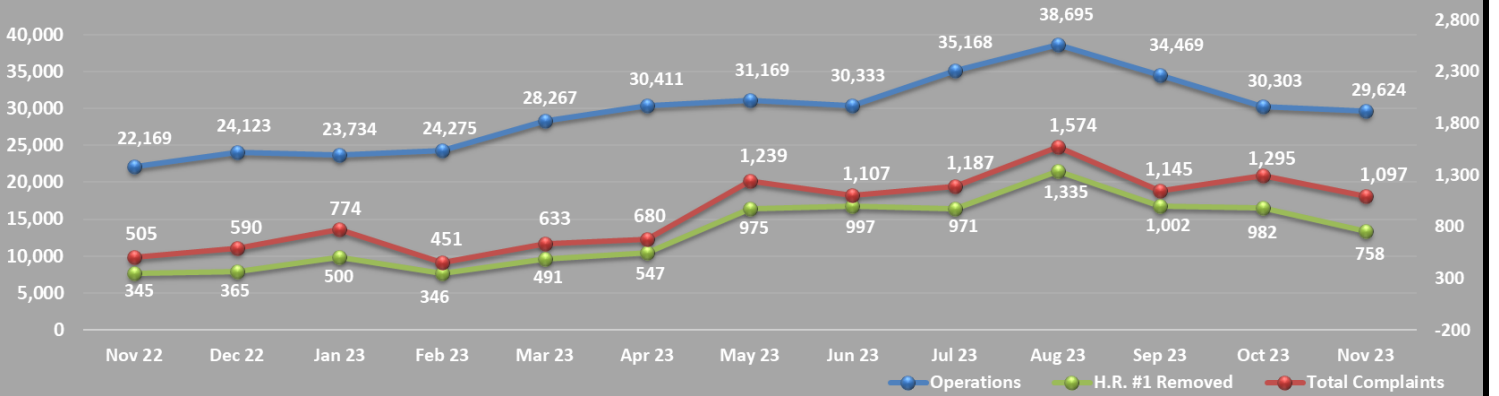
November 2023 Noise Complaint Responses Completed	
Email	40
Phone	5
Total	45

Time Complaint Received	Nov
Day Hours (7:00 am - 9:59pm)	1,018
Night Hours (10:00 pm - 6:59 am)	79
TOTAL	1,097

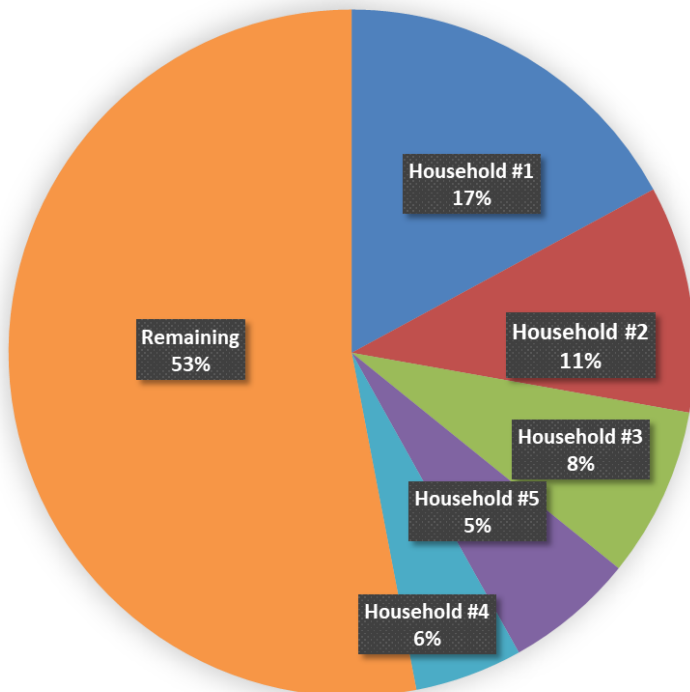
Current 12 Month Trend



Previous Year 13 Month Trend



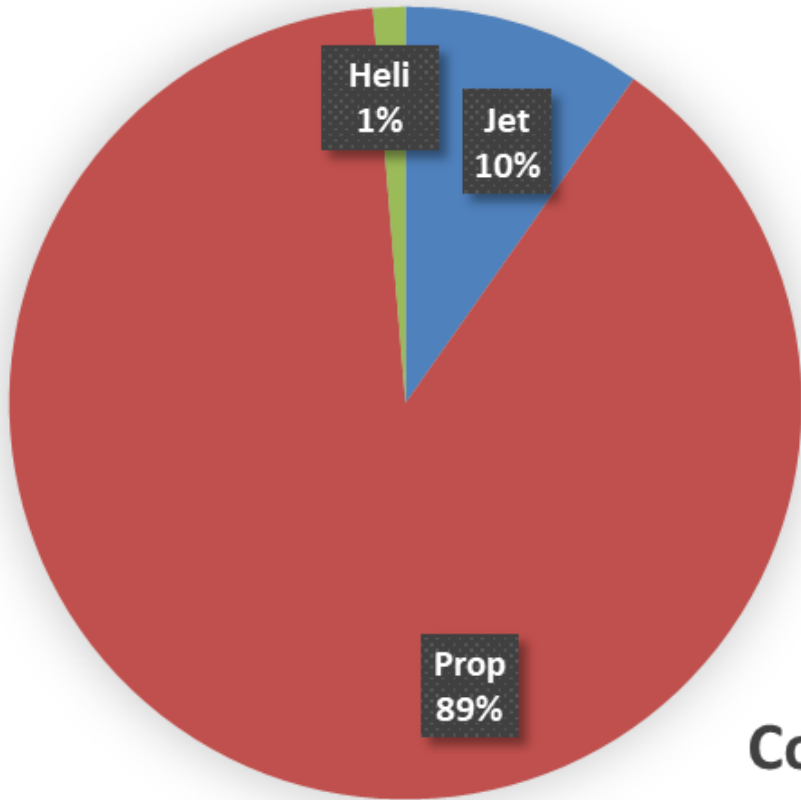
Top 5 Household Complaints YTD



Top 5 Household Complaints

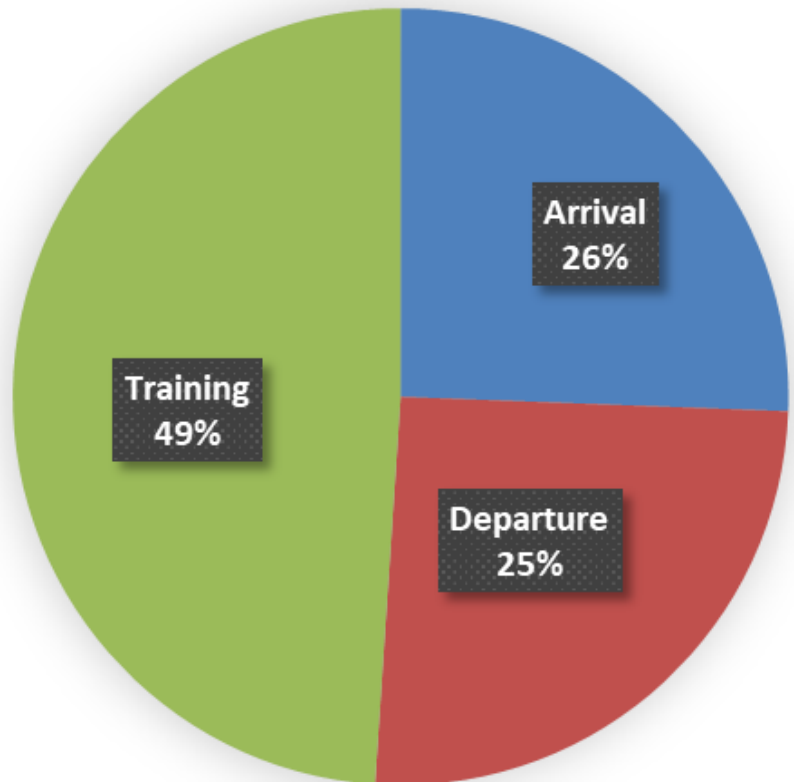
Household	Complaints	Households
Household #1	1,909	Greenwood Village
Household #2	1,193	Parker
Household #3	894	Centennial
Household #4	680	Arapahoe County
Household #5	567	Arapahoe County
Remaining		5,918
Total		11,161

Complaints by Aircraft Type

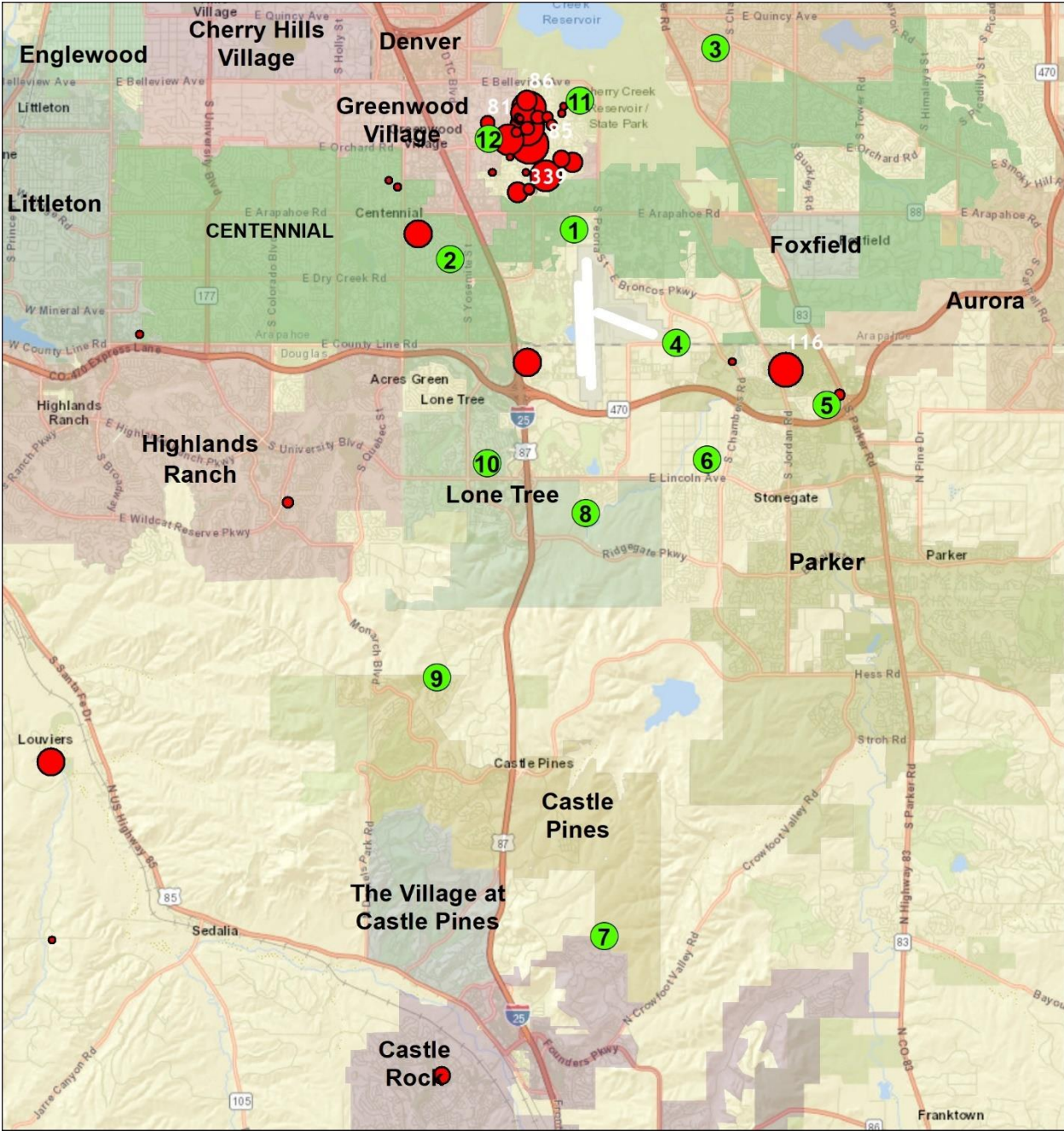


*#1
Household
Removed

Complaints by Operation Type



8 CENTENNIAL AIRPORT COMPLAINT MAP



November 2023 Complaints

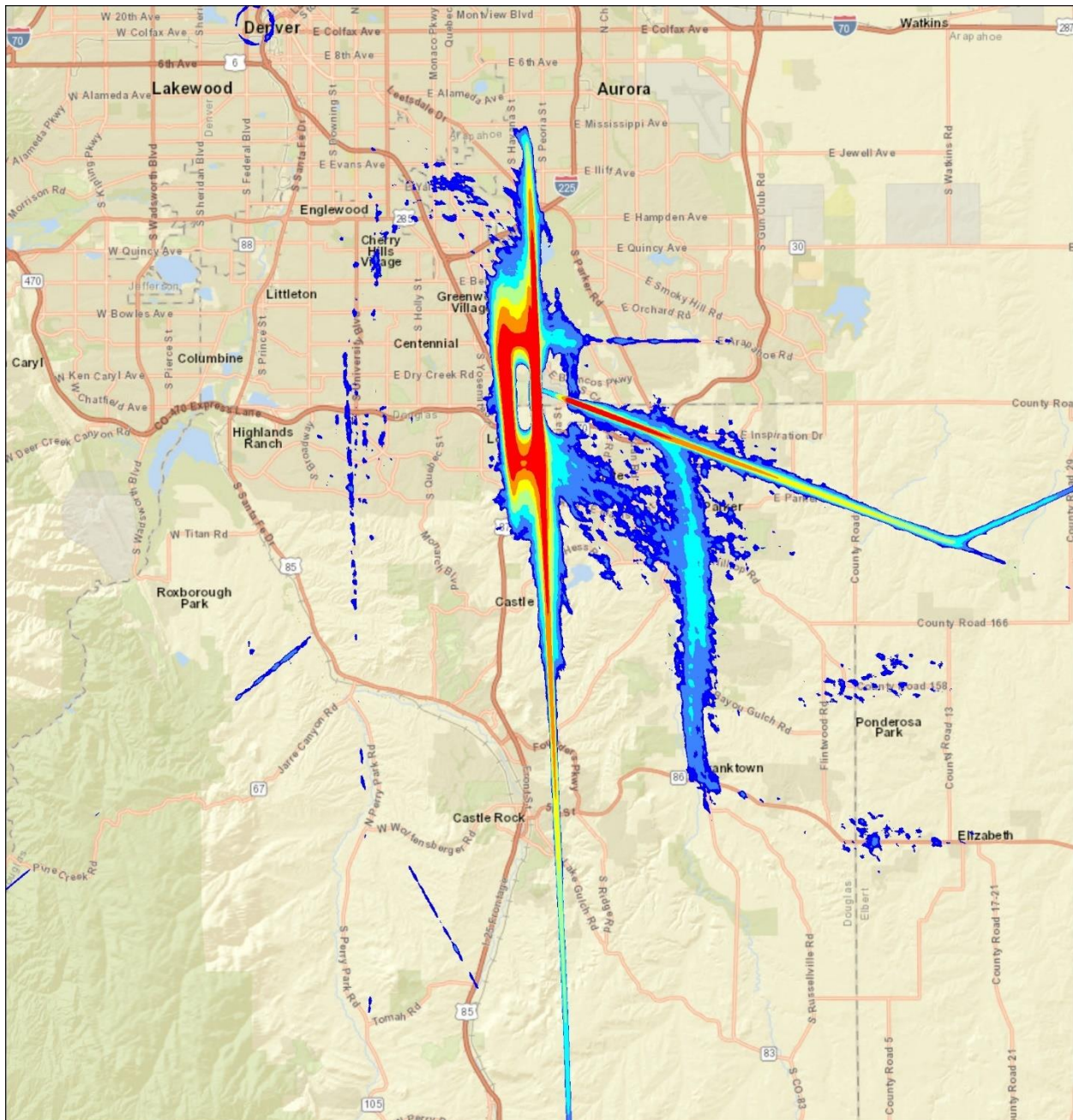


**Larger dots equate to more complaints for that particular households

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.

November 2023 Flight Tracks associated with Centennial Airport



10 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