



CENTENNIAL AIRPORT COMMUNITY NOISE ROUNDTABLE

AGENDA

September 3, 2025

6:30 p.m. – 8:30 p.m.

Centennial Airport, 7565 S. Peoria Street, Unit D9, Englewood, CO 80112

Chair: Chris Eubanks **Vice Chair:** Pam Thompson **Treasurer:** Andy Jones **Secretary:** Alison Biggs

**Members' Representatives and Alternate Representatives are requested to attend all meetings in person.
Members of the public may attend meetings in person, or virtually.**

CACNR Mission:

CACNR will bring together airport, community, FAA, and aviation industry representatives to collaboratively identify and discuss noise issues at Centennial Airport and recommend courses of action that could reduce noise over affected communities.

Centennial Airport Noise Complaint Hotline – 303-790-4709

Denver International Airport Noise Complaint Hotline – 303-342-2380

1. CALL TO ORDER AND DETERMINATION OF QUORUM:

<i>Arapahoe County:</i>	Rhonda Fields/Leroy Evans	<i>Foxfield:</i>	Pam Thompson/Frank Lawrence
	Sreenivasan Alakappan/Vacant	<i>Greenwood Village:</i>	Donna Johnston/John Jackson
<i>Douglas County:</i>	Abe Laydon/Dan Avery	<i>Highlands Ranch Metro Dist.</i>	Andy Jones/Renee Anderson
	Alison Biggs/Mark Adams	<i>Lone Tree:</i>	Mike Anderson/Chuck Darnell
<i>Elbert County:</i>	Mike Buck/Shawn Fletcher	<i>Parker:</i>	Emily Hogan/Michael Lawson
	Brenda Dyche/Deidre Dyche	<i>ACPAA:</i>	Michael Fronapfel/Zach Gabehart
<i>Aurora:</i>	Brad Pierce/Maurice Healy	<i>AOPA:</i>	John Hirshman/Joe Patton
<i>Castle Pines:</i>	Chris Eubanks/Ron Cole	<i>CABA:</i>	Don Kuskie/Mike Straka
<i>Castle Rock:</i>	Laura Cavey/Sandy Vossler	<i>CDOT Aeronautics Div</i>	Todd Green/Vacant
<i>Centennial:</i>	Don Sheehan/Amy Sharp	<i>Wings Over the Rockies:</i>	Bill Wasmund/Vacant
<i>Cherry Hills Village</i>	Dave Heller/Doug Robinson		

2. CONSENT AGENDA: (items here may be moved to Agenda Item #3, on the request of any CACNR Representative)

- A. DRAFT MINUTES, August 6, 2025 – Alison Biggs, Secretary
- B. TREASURER'S REPORT, August 2025 – Andy Jones, Treasurer, Zach Gabehart, ACPAA Staff

3. ITEMS REMOVED FROM CONSENT AGENDA:

4. NOISE REPORTS: Zach Gabehart, ACPAA Staff

- A. July 2025
- B. July 2025 3 Towers Area Portable Noise Monitor

5. PUBLIC COMMENT: (3 minutes per person time limit; 30-minute overall time limit):

- A. RECEIVED BY CACNR
 - 1. Repeated Noise Concern/Complaint Over Tallman Gulch Residential Community in Parker
- B. MEETING ATTENDEES /VIRTUAL ATTENDEES

6. CACNR STUDY GROUP COMMITTEE: Brad Pierce, Chris Eubanks, Mike Fronapfel

7. PART 150 STUDY UPDATE/PROGRESS:

- A. UPDATE/SCHEDULE – Zach Gabehart
- B. NOISE CONTOURS FOR 55 & 60 DNL – Kate Andrus
- C. PART 150 NOISE COMPATIBILITY STUDY ADVISORY COMMITTEE – Chris Eubanks

8. EXECUTIVE COMMITTEE:

- A. ACPAA MEETINGS – August 14, 2025, Pam Thompson
- B. CACNR FEES – Andy Jones
- C. WEBMASTER – Chris Eubanks
- D. WORK PROGRAM – Alison Biggs
- E. OTHER

9. **REPRESENTATIVES' COMMENTS:**
 - A. COLORADO MUNICIPAL LEAGUE – anyone
10. **AIRPORT DIRECTOR:** Mike Fronapfel
 - A. FLIGHT SCHOOL ACTIVITY/NEXT MEETING DATE
 - B. AVIATION FUEL SALES
 - C. LEGISLATIVE/LOBBYING
 - D. COLORADO MUNICIPAL LEAGUE
 - E. COMMUNITY RELATED ACTIVITY
 - F. OTHER
11. **OLD BUSINESS:**
12. **NEW BUSINESS:**
13. **PUBLIC COMMENT EXTENSION IF NEEDED:** (3 minutes per person time limit):
14. **FINAL REPRESENTATIVES' COMMENTS IF NEEDED:**
15. **RECOMMENDATIONS TO ACPAA AND OTHERS TO POTENTIALLY REDUCE NOISE OVER AFFECTED COMMUNITIES:**
16. **NEXT MEETINGS:**
 - A. **CACNR** –

Oct. 1, 2025	6:30 p.m.	7565 South Peoria Street, Englewood, CO 80112
Nov. 5, 2025	6:30 p.m.	7565 South Peoria Street, Englewood, CO 80112
Dec. 3, 2025	6:30 p.m.	7565 South Peoria Street, Englewood, CO 80112
 - B. **ACPAA** –

Sept 11, 2025	3:00 p.m.	7565 South Peoria Street, Englewood, CO 80112, Pam Thompson for CACNR
Oct. 9, 2025	3:00 p.m.	7565 South Peoria Street, Englewood, CO 80112, Pam Thompson for CACNR
Nov. 13, 2025	3:00 p.m.	7565 South Peoria Street, Englewood, CO 80112, Pam Thompson for CACNR
Dec. 11, 2025	3:00 p.m.	7565 South Peoria Street, Englewood, CO 80112, Pam Thompson for CACNR
- C. PART 150 NOISE COMPATIBILITY STUDY ADVISORY COMMITTEE –**
17. **ADJOURN:**



CENTENNIAL AIRPORT COMMUNITY NOISE ROUNDTABLE MINUTES

DRAFT

August 6, 2025

Chair: Chis Eubanks **Vice Chair:** Pam Thompson **Treasurer:** Andy Jones **Secretary:** Alison Biggs

VISION – QUIETER SKIES FOR OUR COMMUNITIES

MISSION – CACNR WILL BRING TOGETHER AIRPORT, COMMUNITY, FAA, AND AVIATION INDUSTRY REPRESENTATIVES TO COLLABORATIVELY IDENTIFY AND DISCUSS NOISE ISSUES AT CENTENNIAL AIRPORT AND RECOMMEND COURSES OF ACTION THAT COULD REDUCE NOISE OVER AFFECTED COMMUNITIES.

1. **CALL TO ORDER, ROLL CALL, and QUORUM:** The meeting was called to order at 6:31 p.m. by Chair Chris Eubanks. The following were in attendance, and a quorum was present:

Arapahoe County:	Rhonda Fields	Foxfield:	Pam Thompson
Douglas County:	Dan Avery	Greenwood Village:	Donna Johnston
Douglas County:	Alison Biggs	Parker:	Emily Hogan (virtual)
Elbert County:	Brenda Dyche	ACPAA:	Mike Fronapfel
Aurora:	Brad Pierce	AOPA:	John Hirshman
Castle Pines:	Chris Eubanks	CABA:	Don Kuskie
Centennial:	Amy Tharp		

Also present: Elbert County Alternate Representative Deidre Dyche; Joe Patton, with CABA; ACPAA Alternate Zach Gabehart; and ACPAA Staff Matt Frenette and Lauren Wiarda.

Absent: Arapahoe County:	Sreenivasan Alakappan/Vacant	Highlands Ranch:	Andy Jones
Elbert County:	Mike Buck/Shawn Fletcher	Lone Tree:	Mike Anderson
Castle Rock:	Laura Cavey/Sandy Vossler	CDOT Aeronautics Div:	Todd Green/Vacant
Cherry Hills Village	Dave Heller/Doug Robinson	Wings Over the Rockies:	Bill Wasmund

Representative Brenda Dyche and Alternate Representative Deidre Dyche from new Member Elbert County were welcomed!

2. **CONSENT AGENDA:** The Consent Agenda included the Draft CACNR Minutes from June 4, 2025; a Treasurer's Report from August 1, 2025 showing a balance of \$35,710.99.13; Noise Reports from May and June 2025 and the Portable Noise Monitor Report from Elizabeth, Co under the 3 Towers Practice Box, July 1, 2025. At the request of Alison Biggs, the Treasurer's Report and the Portable Noise Monitor Report were taken off the Consent Agenda. On the motion of Donna Johnston, duly seconded, the remainder of the Consent Agenda was approved.

The May 2025 Noise Report included the following information:

May Local Operations:	13,711	May Total Operations:	27,847
Year to Date Local Operations:	62,234	Year to Date Total Operations:	126,596

27,847 Total Operations in May resulted in 1,033 complaints from 72 households.

May Noise Events:

May Total:		May 60 – 69 db:		May 70 – 79 db:		May 80 – 89 db:	
Golf Course	10,576	Meridian	7,192	Golf Course	3,760	Airport East	443
Meridian	9,151	Golf Course	6,547	Meridian	1,847	Golf Course	264
Parker	2,822	Parker	2,526	Airport East	818	Lone Tree	118
Airport East	2,746	Lone Tree	1,950	State Park	705	Meridian	101
Lone Tree	2,643	State Park	1,614	Lone Tree	564	Portable Station	14
State Park	2,330	Portable Station	1,522	Portable Station	321	Greenwood Village	13
Portable Station	1,858	Airport East	1,433	Parker	293	State Park	11
Grandview Estates	1,551	Grandview Estates	1,409	Grandview Estates	137	Hunters Hill	10
Castle Rock	1,271	Castle Rock	1,210	Greenwood Village	112	Grandview Estates	5
Greenwood Village	1,038	Greenwood Village	911	Castle Rock	61	Parker	3
Hunters Hill	686	Hunters Hill	630	Hunters Hill	46	Castle Pines	0
Castle Pines	265	Castle Pines	246	Castle Pines	19	Castle Rock	0
Sagebrush Park	147	Sagebrush Park	133	Sagebrush Park	14	Sagebrush Park	0

May Noise Events in the 90+ decibel range: Airport East – 52 Meridian – 11 Golf Course – 5 Greenwood Village – 2 Lone Tree – 2
Portable Station – 1

May Noise Complaints and		Numbers of Households:		YTD Complaints and		Numbers of Households:	
Unincorporated Arapahoe County	247 (24%)	Greenwood Village	20 (28%)	UAC	1,438 (33%)	UAC	38 (27%)
Other	199 (19%)	UAC	17 (24%)	Parker	495 (13%)	Greenwood	32 (23%)
Greenwood Village	194 (19%)	Other	8 (11%)	Other	485 (13%)	UDC	20 (14%)
Parker	191 (19%)	Denver	6 (8%)	Greenwood	468 (12%)	Other	14 (10%)
Centennial	104 (10%)	UDC	6 (8%)	Centennial	408 (11%)	Centennial	10 (7%)
Unincorporated Douglas County	62 (6%)	Centennial	4	UDC	384	Lone Tree	8
Aurora	12	Highlands Ranch	4	HR	59	Denver	7
Denver	9	Lone Tree	2	Denver	30	Highlands	5
Highlands Ranch	7	Aurora	1	Aurora	22	Castle Rock	3
Lone Tree	3	Castle Rock	1	Castle Rock	15	Aurora	2
Castle Rock	1	Parker	1	Lone Tree	12	Parker	1
Castle Pines	0	Castle Pines	0	Castle Pines	0	Castle Pines	0
Cherry Hills Village	0	Cherry Hills Village	0	CHV	0	CHV	0

Year to Date, the top five households complaining were:

Household #1 724 (19%) Unincorporated Arapahoe County
Household #2 495 (13%) Parker
Household #3 443 (12%) Other

Household #4 361 (9%) Centennial

Household #5 324 (8%) Unincorporated Arapahoe County

In May, 82 noise complaint responses were completed from 1,033 noise complaints, with 75 of those from email and 7 from telephone.

In May, 946 complaints were received from 7:00 a.m. – 9:59 p.m. – 92%, and
87 complaints were received from 10:00 p.m. – 6:59 a.m. – 8%.

In May, props accounted for **91% of the complaints by aircraft type**; **jets** accounted for **8% of the complaints**, and **helicopters** caused **1%**. Comparatively, **Year to Date** figures showed propellers had caused 92% of the complaints; jets caused 7%, and helicopters caused 1%

In May, training was responsible for **59% of the complaints**, **departures** were responsible for **29% of the complaints**, and **arrivals** were responsible for **12% of the complaints**. Comparatively, **Year to Date** figures showed training had caused 45% of the complaints, departures had caused 35%, and arrivals had caused 20%.

A graph was provided showing the **April number of complaints by the hour** in which they were made, with a peak at 11:00 a.m. and again a rapid decrease at 3:00 p.m.

The map of household locations and numbers of complaints was included, as was the May Radar Track Density Map.

The June 2025 Noise Report included the following information:

June Local Operations:	12,078	June Total Operations:	26,524
Year to Date Local Operations:	74,312	Year to Date Total Operations:	153,120

26,524 Total Operations in June resulted in 895 complaints from 68 households.

June Noise Events:

June Total:		June 60 – 69 db:		June 70 – 79 db:		June 80 – 89 db:	
Golf Course	8,861	Meridian	6,296	Golf Course	3,219	Airport East	613
Meridian	7,940	Golf Course	5,452	Meridian	1,557	Lone Tree	281
Lone Tree	3,014	Parker	2,703	Airport East	940	Golf Course	187
Parker	2,974	Lone Tree	1,864	Lone Tree	854	Meridian	83
Airport East	2,904	State Park	1,775	State Park	823	State Park	14
State Park	2,613	Grandview Estates	1,318	Parker	269	Portable Station	10
Grandview Estates	1,435	Airport East	1,315	Portable Station	247	Grandview Estates	7
Portable Station	1,431	Portable Station	1,172	Grandview Estates	110	Hunters Hill	5
Castle Rock	1,002	Castle Rock	942	Greenwood Village	97	Greenwood Village	4
Greenwood Village	843	Greenwood Village	742	Castle Rock	60	Parker	2
Hunters Hill	579	Hunters Hill	525	Hunters Hill	49	Sagebrush Park	2
Castle Pines	305	Castle Pines	277	Castle Pines	27	Castle Pines	1
Sagebrush Park	143	Sagebrush Park	124	Sagebrush Park	17	Castle Rock	0

June Noise Events in the 90+ decibel range: Airport East – 36 Lone Tree – 154 Meridian – 4 Golf Course – 3 Portable Station – 2
State Park – 1

June Noise Complaints and		Numbers of Households:		YTD Complaints and		Number of Households:	
Greenwood Village	226 (25%)	UAC	18 (26%)	UAC	1,630 (35%)	UAC	41 (26%)
Other	223 (25%)	Greenwood Village	13 (19%)	Other	709 (15%)	GV	32 (20%)
Unincorporated Arapahoe County	199 (22%)	Other	9 (13%)	Greenwood	694 (15%)	UDC	21 (13%)
Centennial	181 (12%)	Centennial	6 (9%)	Centennial	519 (11%)	Other	15 (10%)
Unincorporated Douglas County	88 (10%)	Lone Tree	5 (8%)	Parker	499 (10%)	Centennial	13 (8%)
Aurora	10	UDC	5	UDC	473	Lone Tree	12
Denver	9	Denver	3	HR	65	Denver	7
Lone Tree	7	Highlands Ranch	3	Denver	38	HR	6
Castle Rock	6	Parker	3	Aurora	32	Parker	4

Cherry Hills Village	6	Aurora	1	Castle Rock	21	Castle Rock	3
Highlands Ranch	6	Castle Rock	1	Lone Tree	19	Aurora	2
Parker	4	Cherry Hills Village	1	CHV	6	CHV	1
Castle Pines	0	Castle Pines	0	Castle Pines	0	Castle Pines	0

Year to Date, the top five households complaining were:

Household #1 797 (17%) Unincorporated Arapahoe County
Household #2 642 (14%) Other
Household #3 495 (10%) Parker

Household #4 453 (10%) Centennial
Household #5 374 (8%) Greenwood Village

In June, of 895 noise complaints, 98 noise complaint responses were completed 96 of those requested from email and 2 from telephone.

In June, 750 complaints were received from 7:00 a.m. – 9:59 p.m. – 84%, and
145 complaints were received from 10:00 p.m. – 6:59 a.m. – 16%.

In June, props accounted for **84% of the complaints by aircraft type; jets** accounted for **14% of the complaints**, and **helicopters caused 2%**. Comparatively, **Year to Date** figures showed propellers had caused 91% of the complaints; jets caused 8%, and helicopters caused 1%

In June, training was responsible for **50% of the complaints**, **departures** were responsible for **33% of the complaints**, and **arrivals** were responsible for **17% of the complaints**. Comparatively, **Year to Date** figures showed training had caused 34% of the complaints, departures had caused 47%, and arrivals had caused 19%.

A graph was provided showing the **June number of complaints by the hour** in which they were made, with a peak at 11:00 a.m. followed by a decrease.

The map of household locations and numbers of complaints was included, as was the June Radar Track Density Map.

3. ITEM REMOVED FROM THE CONSENT AGENDA:

A. Questions about the Treasurer's Report included an inquiry if the invoices from N.O.I.S.E. and the Colorado Municipal League (CML) had been received. Brad Pierce indicated he would check with N.O.I.S.E.

At some point after the budget had been approved, it had been noted most of the jurisdictions belong to CML, so there was perhaps no need for CACNR to also belong. Following discussion, it was agreed those who belong could/should/would bring anything pertinent to CACNR's attention. Mike Fronapfel would also include anything from CML with his report.

Request was made that the report show what the expenditures had been made under the "Reserve" category. That would be done for the future. To date, \$500 had been to the memorial fund for Bob Dubek, and the remainder was a gift for Matt Frenette's baby.

B. Regarding the report of portable noise monitor that had been placed in Elizaeth, Colorado under the 3 Towers practice box, it was clarified the flight track data was for the whole month of June. Request was made for the colors in the Airport Operations within 1 NM Radius of NMT" to be made a little more distinct from one another, particularly the arrival and training colors.

Zach Gabehart was asked to provide his comments about the report. He noted the July report from this monitor would be brought to the September CACNR meeting. In June, the 24 hour average aircraft DNL was 41.6, compared to 37.3 at the same location in November. Additionally, the average aircraft peak noise level event was 59 decibels, up about two decibels. That might be expected with the increase in airport operations during the summer months instead of November.

The majority of the noise events were in the 60 to 69 decibel range, a few in 70 to 79. There were two non-Centennial Airport related aircraft that produced noise events between 80 and 89 decibels and there were none in the 90 plus decibel range. Those figures were similar to November's. There were about 200 more noise events than reported in November, expected due to the seasonal time of training.

The Elbert County Representatives were asked if they had comments or questions about the report. The main observation was there were a lot of planes over the houses, and something needed to be figured out to help with that.

The Chair indicated he would like to remove the noise report from the consent agenda, as seemingly every month it is pulled off the consent agenda for further discussion. Response was the preparation of the agenda was one of the duties of the Chair, as spelled out in the Bylaws, so this could be done easily if he wished. Both the regular monthly noise reports and reports of the portable noise monitor would be moved to a separate spot on the agenda. This met with the agreement of the group.

On the motion of Pam Thompson, duly seconded, the Treasurer's Report and the Noise reports were approved.

4. PUBLIC COMMENT:

A. MEETING ATTENDEES/VIRTUAL ATTENDEES –

1. Randy Johnson from Louviers recorded 485 training flights in June and submitted 57 complaints to Centennial Airport and 5 complaints to Rocky Mountain Airport. He showed an illustration of flight paths over his home, which showed that some pilots seemed to be deliberately turning and flying over his home. He had communicated with airport staff about this. He did want to note that some pilots do seem to be trying to avoid flying over homes.

He had seen an electric plane and wondered how quickly flight schools might embrace that technology, as they already have funds invested in the noisier planes they have. However, it might be worth using some of their profits to invest in electric planes in the spirit of being up-to-date, and of being good neighbors.

Johnson noted that Rocky Mountain airport had cut back on the plane flying south, particularly after 6:00 p.m. There had been one as early as 6:00 a.m., however. There was clarification that the radar track density map shows the concentration of flights, but does not provide information of the numbers of flights making up that concentration. It also shows the concentration based on the filter used, so some flights over an area may not show up if the filter is not set to do so.

2. Bette Todd indicated she would like to hold her comments until Agenda item #13.

B. RECEIVED BY CACNR –

1. The email coming out of Elbert County noted the height of the aircraft flying over homes was less than 1000 feet. The homes situated in that area are sitting at approximately 6,800 feet and flights were coming in at about 7,500 feet. Because of DIA, there is an 8,000 foot ceiling. Question was asked if there was anything we could do to help with this problem. Could flight perhaps come in from the west rather than the north? Mike Fronapfel noted that the DIA airspace actually goes all the way to the foothills, so that airspace restriction would apply whichever direction was used. Any difference to help around Centennial and the training boxes here would require a redesign of the DIA airspace, something which actually may be considered by the FAA within the next five years. Centennial is hoping to move to Class C airspace from its current Class D. Class C airspace would give a little bit more positive control and a little bit more control of the flow of traffic coming in and out of Centennial.

Typically, the tower handles local traffic around the airport, then when it goes outside of that, it goes to TRACON and they do the approach and departure control, and when it goes beyond that it goes to the Enroute Center, and they deal between the TRACON airspaces. So Fronapfel felt there could be some opportunity in the future to revisit the airspace around Centennial, to give it more control of approaches and departures, and to also revisit what they require for approaches out east and over the Three Towers and Elizabeth areas as well. In the past, Centennial had been included in those considerations and would include what was being heard from the communities and what was felt would be best for the operations here.

Over populated areas, the requirement is that aircraft stay over 1,000 feet, but in rural areas, they just have to be 500 feet from any object on the ground. The problem is there is not really a specific definition of where that crossover is between rural and suburban or highly congested areas. That becomes problematic, especially when there is development in some of these flight training boxes; at what point is the FAA considering it urbanized and it has to be 1,000 feet versus 500? To get a clear answer, the FAA would have to write it into the regulations.

Question was asked was there any way to identify repeat offenders to ask for more consideration of those on the ground. The same aircraft might be identified, but not necessarily individual pilots. There could also be a difference between those flying to and from a practice area and those actually practicing maneuvers, which would likely be noisier. If the problem was primarily practicing maneuvers, calling the FAA would not really change anything but there might be some way to speak with pilots to suggest trying to be more mindful of the homes they are practicing over.

At this point, Joe Patton was introduced. He was a pilot attending the meeting at the invitation of Don Kuskie. He indicated if he wanted to practice maneuvers, he would go a little bit further south and east; it is about ten minutes further but is also more rural there.

2. Dan Avery indicated the WebTrak issue had been resolved.

3. Similarly the difficulty with the noise hotline not operating correctly had been resolved by a change on the correspondent's end.

5. CACNR STUDY GROUP COMMITTEE:

Chair Brad Pierce reported the study group was continuing to meet and a quick summary of the history of the group was provided. Its main focus lately had been on creating a dashboard and working with the vendor on what metrics to measure.

The recent meeting of the flight schools had been on June 25th, with 18 flight school representatives attending. The next meeting would be September 24th.

Pierce then proceeded to review aspects of the Committee's second quarter 2025 report; new information was highlighted in blue in the written report which had been included in the pre-meeting mailing. In summary,

- touch and go operations on the extended pattern traffic declined noticeably in Q2 2025, totaling about 7,600 aircraft, a 32% reduction from about 11,000 aircraft in Q2 2024. The percentage of these operations or the proportion of these operations also dropped from 52.7 to 41.3, reflecting signs of success from the committee's mitigation efforts.

- Nine nighttime outlier aircraft had been identified and contacted by the noise environmental specialists and reminded of the voluntary noise abatement guidelines.

- For the first six months of 2024 versus the first six months of 2025, there were about 21,000 flights in '24 v. 15,000 in 2025; the share of aircraft entering the study area fell from 51.7% to 42.6%

- The trend analysis from July, 2023 when the Committee was formed through June, 2025 confirmed an overall decline
- Noted that higher airport operations were typically accompanied by increased touch and go activity underscoring the significant role those operations play in overall traffic. Weather challenges also play a role, with May having several rainy days limiting the touch and go activity.

- A chart was provided showing total airport operations from July 2023 to the current, with the total touch and go aircraft entering the study area during that same time frame.

- Consistently throughout the report, there was data showing a probable positive correlation between the number of aircraft and touch and goes entering the study area and the mitigation strategies put in place by the Committee, as well as the meetings with the flight schools.

Although not shown in the report, it was noted that the noise complaints from the study area had decreased during the last

year, and elected officials from that area had reported hearing fewer complaints from their residents. It was also noted there were other factors which might play a role in the overall picture of change, such as whether the airport traffic was in north flow or south flow per the direction of the wind, or whether the airport had a shortage of air traffic controllers in the tower.

It was cautioned that as more controllers were trained and the tower was appropriately staffed, there would be increased opportunity for increased touch and go operations. The dashboard may help the airport and the flight schools and the round table understand what is going on and which schools are doing a better job of staying out of the study area and which could use a little bit more assistance with recognizing the need to keep out of that area. As more controllers are in place, managing expectations will become more challenging.

It was again noted that for the last several months, the administration in Washington, DC had not allowed the FAA to participate in committee meetings, or in any other aspect related to the airport, including the Part 150 study. Its absence had been caused for no obvious reason and was extremely unfortunate. The airport was working with its lobbyists and Colorado's elected officials in an attempt to get the FAA back at the table with the Study Group Committee and the Part 150 study. The FAA is the agency which controls and manages the airspace and it is needed to be part of the solution to the problem surrounding Centennial Airport.

Question was asked if there was any way CACNR might assist with the effort to get the FAA back. Fronapfel discussed the work being done with and by the lobbying group, and the concern being expressed by the length of time of the FAA's absence and the difficulty in achieving progress. He was encouraged to include the concerns of the community as expressed through CACNR in any of those discussions and actions.

Question was asked when Centennial might expect additional air traffic controllers. Four were currently in training and expected to be certified before the end of the year. Another four would likely be certified closer to next summer. However, Centennial is a very busy tower, and all eight may not actually end up working here; if six were added it would be considered a lot of progress. Full staffing for this tower is 24, and there are currently 15 or 16. Without full staffing, there is a pull back of the services the controllers can provide, such as a cessation or slowing in pattern traffic. The air traffic controller staff is a problem throughout the country, needing to be addressed by the administration.

A new FAA administrator has been sworn in, Brian Bedford, prior CEO of Republic Airlines. A replacement for Grady Stone, the regional administrator with whom we had worked and who retired, will need to be appointed. Much historical knowledge and relationships have been lost recently, and new relationships will have to be developed. Fronapfel had communicated questions to Bedford during his confirmation hearing, through Senator Hickenlooper, and he will be attempting to meet with Bedford when he is in DC for an airport law conference in October.

6. PART 150 STUDY UPDATE/PROGRESS:

5. Zach Gabehart indicated they were looking at some potential alternatives and doing some preliminary modeling to take to the Noise Compatibility Study Advisory Group, to then further those modeling ideas. There had been an FAA approved operations forecast, and the FAA had reviewed the draft noise contours. However, the week prior to this meeting, the FAA had learned about the new JSX operations approved for Centennial Airport and now wished to have those operations reflected in the Part 150 study. Staff was therefore working with the airport's consultants to include those operations for 2030 and 2035, and then would rerun the draft noise contours. The FAA had indicated as long as it saw the JSX operations reflected in the revised forecasts, it would give immediate reapproval of the forecasts and the noise contours. The modeling which had begun would also have to be started over because the differing operations would have to be included. The target for the next public meeting would hopefully remain in the Fall.

Question was asked how many CACNR Representatives had really looked at the original forecasts that the FAA approved that the airport is going to have to redo? Question was asked if CACNR had ever received the forecasts. Response was no, but they were on the website. Following a brief discussion, a suggestion was made to ask for a more in-depth report on what would be included in the revised forecasts when they were done, because so much of the Part 150 Study would be based on the forecasts. Opinion was expressed that CACNR needs to understand what the future of the airport is being anticipated by the airport, before it is approved. There was a reminder that the consultants had come to a CACNR meeting to go over the forecast when it had been completed, although there seemed to be little recollection of that presentation. That could be done again once the JSX information had been entered, so CACNR would know what the airport plans to look like, much like the airport's Master plan which has never been considered by CACNR either.

Further discussion indicated the public should know what was envisioned for the future. However, it was reported that even people who are on the Part 150 Noise Compatibility Study Advisory Committee have no idea what is going on because it is so rushed; they do not get information in time before the meetings to adequately consider content. It would seem reasonable for them to know what is going on, and for CACNR to know what is going on. On request, Mike Fronapfel indicated it could be arranged to have the consultants attend a future CACNR meeting to bring a report on the updated forecast being used for the Part 150 study. That could possibly be done for the October 1, 2025 CACNR meeting.

B. PART 150 NOISE COMPATIBILITY STUDY ADVISORY COMMITTEE – Chris Eubak, no report

C. NOISE CONTOURS FOR 55 & 60 DNL – Kate Andrus, no report. It was noted this had been omitted from the agenda by an oversight. A report from Andrus might be tied into the overall restriction on FAA interactions with airports. The contours would also be changed with the addition of JSX, as would any overlay maps which were to have been prepared as well. Perhaps all of this could be included in the October presentation by the consultants.

7. EXECUTIVE COMMITTEE:

A. ACPAA – Pam Thompson indicated she knew Mike Fronapfel would be speaking on JSX later, but she had spoken in opposition to it on behalf of the roundtable, primarily about the number of flights and noise abatement concerns. It was difficult for her to comment further, as CACNR had not been made aware of the JSX plans and the fact that they had already been approved by the

ACPAA before its June meeting. She did remind them that when the original Part 150 was done, the main noise concern had been about jets, which JSX would be using. The JSX Representative attending the meeting replied that in Orange County, the private pilot jet services went down 17% because of the services JSX offered. The JSX representative seemed to have some kind of answer for any concerns she raised about noise. It had appeared that JSX would definitely be operating out of Centennial Airport.

Question was asked if Thompson had spoken on behalf of CACNR, as the questioner did not agree with that since CACNR had not had an opportunity to discuss JSX. Response was her comments were related to noise abatement because any time a plane is put in the air, it would create noise for someone somewhere, and CACNR is well known for its concerns about noise. Questioner wanted to make sure Thompson had not advocated against JSX without the rest of the roundtable weighing in; she had only highlighted some noise concerns. It would have been difficult for her to do more than that because although some CACNR Representatives and others did have concerns, CACNR knew nothing officially about JSX even though ACPAA had already approved its operation at the airport. The Chair indicated he had wanted to give the airport's Executive Director the opportunity to talk about JSX first at this CACNR meeting.

B. **CACNR FEES** – no report

C. **WEBMASTER** – Chris Eubanks indicated he was raising the white flag with the website, as it was much more complex than he had originally envisioned. The Executive Committee will be looking into finding a new webmaster. He also noted that the renewal of the domain name and web hosting site were coming up. In the past, Brad Pierce had used his personal credit card for such fees and gotten reimbursed, but arrangements had been made to use the airport's credit card, with the funds then being taken out of CACNR's account on CACNR's approval.

CACNR Representatives were asked to let the Executive Committee know of any webmasters they knew of who might be interested/available to take on CACNR's website.

D. **WORK PROGRAM** – Alison Biggs indicated she had provided a summary draft Work Program for the committee's reaction. One response had been received, although from a different one than before. So, it was still a work in progress. Reactions will continue to be shared with that group; categories may be developed; and a face-to-face meeting may be in the offing.

With agreement, the agenda was reordered to move to the report of the Airport Director,

10. **AIRPORT DIRECTOR:** Mike Fronapfel

A. **JSX UPDATE** – Fronapfel began with a discussion of the background of aspects of this matter.

➤ Centennial Airport is the only airport in the country which can say no to scheduled air carrier service and still remain in the good graces of the FAA and still continue to receive federal funding. This was worked on primarily with Greenwood Village beginning in 2000.

➤ An airline had approached Centennial Airport about beginning commercial service here, and the community and the airport board were opposed and refused the airline access. The airline filed a Part 16 complaint with the FAA, which was fought all the way to the U.S. supreme Court, which refused to hear the case and referred it back to the Appellate Court. That court found that Centennial was in default of the Federal grant assurances at the time.

➤ Centennial Airport and Greenwood Village hired a consultant and a lobbyist, and the law was rewritten to exclude Centennial from the rule which had been used against it. It basically said that if an airport is within 25 miles of a commercial service airport that doesn't contribute to the overall delays in the NAS system and it continues to maintain over 300,000 operations a year, scheduled service airlines can be kept out.

➤ Coming into the more current time, companies such as JSX and Retrieve Air are called 380 operators – not considered scheduled service commercial airlines. 380 airlines do publish flights on their websites where tickers can be booked – from the public and community standpoint they are the same as a commercial airline. But they are regulated in a different way.

➤ A 380 operation does the scheduling of the seats and the flights, but then a 135 charter organization actually does the flights. They are limited to 30 seat aircraft but can fly in and out of an airport to multiple destinations.

➤ Centennial did have a 380 operator here at one time called Denver Air Connection which has transferred to a 121 with an air carrier service out of DIA

➤ Centennial also has Retrieve Air, doing two flights similar to what JSX does. A month after Retrieve Air came to Centennial, JSX applied to also be a 380 operator,

Fronapfel then commented that even if Centennial did not want 380 operators to come, the airport board could not tell any of them no without violating the grant assurances. The airport is required under the grant assurances to accept any traffic that it can safely accommodate here, provided they're following all the airport's rules and regulations. Saying no to JSX would have been problematic and could have resulted in another lawsuit.

He then further commented he thought JSX would be a good addition to Centennial for a few different reasons. There would potentially be about a 1% increase in operations over currently. Projected out to 2035, it could be up to 3% of overall operations. The aircraft that they operate are Embraer 145 aircraft, equivalent to a Stage 4 jet aircraft no different than any business jet that currently operate at Centennial Airport. While prior noise complaints had been about jets, since 2015 there had been a shift to the point that now most complaints come about propeller aircraft.

Other positives from Fronapfel's viewpoint included JSX would give the community more convenient options to fly out of Centennial. Initially, JSX is only going to be operating out of Scottsdale Airport and Dallas, Burbank, and Vegas. Dallas and Burbank are on a seasonal basis only, so Vegas and Scottsdale, are the two primaries. and then seasonally it will be Vegas and Scottsdale with the addition of Dallas and Burbank. JSX does operate these services out of lots of different general aviation airports across the country and are the most well-known and most respected of the 380 operators.

JSX had been operating at Rocky Mountain Metropolitan Airport for the last two or three year, moving to Centennial because it wasn't profitable to operate out of there, and when they did an analysis of their customers, they found that most of their customers were coming from the south end of town.

Price-wise, JSX falls at about the price of a business class ticket so it is not an economy airline but is for those wanting to arrive 20-30minutes before the flight, have more space in the aircraft with fewer other passengers, and have it be more accommodating to bringing a dog along. They reportedly have better in-flight service with catering of food and beverages, and bags fly free. Fronapfel indicated that different days might have different prices, but a round trip to Vegas might be around seven hundred dollars.

Other points made included;

- JSX would begin operating out of Centennial on September 10
- JSX is aware of Centennial's noise abatement procedures and reportedly views them as mandatory instead of voluntary
- Most of the JSX flights will be in the middle of the day, and they will not be doing any super early or late night flights
- JSX has been giving the airport updated information related to the Part 150 study
- Fronapfel felt JSX would be willing to address any problem issues which might arise

Finally, he indicated the airport was pretty excited to have JSX serve the community around the airport, which would hopefully appreciate a bit more the benefits of having a general aviation airport in the community.

Bill Wasmund could not be at this meeting but had submitted discussion points he asked to be shared with CACNR. They were distributed at the meeting, and included the following -

*"JetSuiteX (JSX) recently began public air service out of Centennial Airport. Operating as a public charter, JSX utilizes a Part 135 air carrier certificate (commuter and on-demand operations) to offer **scheduled flights** from KAPA to several locations. This allows them to operate from private terminals and bypass some of the more stringent security measures (TSA) and minimum pilot flight hours (1500) required for Part 121 carriers. The FAA is currently reviewing these operations, specifically addressing the "public charter loophole" that JSX has been utilizing.*

"Here's a more detailed explanation:

- **"Part 135 vs. Part 121:** Part 121 governs scheduled airlines with larger aircraft, while Part 135 is typically for on-demand charter and smaller aircraft operations.
- **"JSX's Model:** JSX operates scheduled passenger service under Part 135, but they sell individual seats on flights that are technically chartered by their own "public charter" entity (Delux Public Charter). This allows them to offer scheduled service on aircraft with greater than 9 seats with certain advantages, like operating from private terminals and potentially bypassing some TSA security procedures. In addition, this model currently allows them to operate 30 seat aircraft.
- **"The "Loophole":** The core issue is whether a company can offer 30 seat scheduled, air carrier service while operating under the less stringent Part 135 regulations (no dispatcher requirement, hire pilots with less than 1500 hours, no TSA requirement)
- **"FAA Review:** The FAA is looking into this, potentially leading to changes in how Part 135 public charters are regulated, possibly requiring them to adhere to more of the Part 121 standards.

"Notes:

- "FAA re-authorization bill 2024 regarding aircraft dispatchers
- "Rule to amend 14 CFR part 110 defining "Scheduled", "On-Demand", "Supplemental", and "Public Charter" operations making a requirement for air carriers operating scheduled flights under part 135 to employ dispatchers as well as operational control systems defined for air carriers operating under Part 121.
- "Discussion regarding safety management for air carriers operating scheduled service under part 135 for 10-30 seat aircraft
- "JSX primarily operates with two types of Embraer regional jets: the ERJ-135 and ERJ-145. These aircraft are configured with 30 seats. Airlines are able to operate scheduled flights as a Part 135 operator, but only if planes have under 10 seats. So how is JSX able to do this with 30-seat aircraft? It's because **JSX claims that it's not a scheduled operator, but rather that it's an on-demand operator. On-demand operations can be conducted on aircraft with up to 30 seats; the key is that as an on-demand operator, your primary business model can't be operating scheduled flights. How is that possible, when JSX has a clearly published schedule? It's because there are actually two companies involved — JSX sells scheduled flights operating under part 135, while a company named Delux Public Charter operates the JSX flight as an on-demand carrier allowing up to 30 seats.**
- "For comparison, Denver Air Connection operates under both 135 and 121 and does not utilize the loophole currently in use by JSX. They operate ERJ-145 (30 - 50 seat), Fairchild Swearingen Metroliner (19 Seat), and Embraer-120 Brasilia (30 seat) aircraft. They operate under TSA regulations, require aircraft dispatchers, and a 1500 hour minimum pilot time requirement.
- "Why has KAPA entered into an agreement with a scheduled air carrier operator (utilizing an FAA loophole) when management has stated that the airport would not entertain scheduled air carrier service of any kind.
- "Does this open the door for possible litigation from other scheduled air carriers wishing to operate out of KAPA?"

Questions and comments followed:

- There had been numerous calls from people who were initially involved in the lawsuit and getting the Zero Seat Law passed, and who considered it a huge victory to have no scheduled service at Centennial
- But now they had to read it in the paper that it all seemed to be starting over again
- Super disappointment that CACNR and the community were not informed beforehand that this was going to happen
- There is now a major lost trust factor, destroying many of the positives resulting from CACNR's work on noise reduction, particularly in the Greenwood Village area
- There is a feeling that Centennial was a general aviation airport but has now become a commercial airport due to the scheduled commercial service – if it looks like a duck and quacks like a duck and acts like a duck, it is a duck
- Loophole or not, there was surprise the airport board went ahead and approved something like this when it was such a big deal years ago; there is a lack of comfort with this
- This has been done before, when Denver Air Connection came in and was approved by the board; it operated for a couple years
- This seems different because there is so much advertising going on, it feels like flying with United or Delta nationwide except it is easier to get on, no security, frequent flyer miles available, etc. It was clarified TSX does have security, just not at the level of TSA at DIA
- Mixing 135 and 121 with 380 to allow what is going on seems to be in violation of the Zero Seat law. Response was that the Zero Seat law only applies to 121 scheduled service air carriers. Here, the 380 sets the flights up and then they charter with a 135 operator to do the flights themselves.
- Why is 380 needed if 135 allows them to do what they are already doing? Per the FAA regulations, for them to operate, they have to have both a 380 operator and a 135.
- The other airports where JSX operates do not function under the Zero Seat law, so the concerns here do not exist elsewhere.
- The FAA does not define what JSX is doing through 380 and 135 as scheduled service. It only defines 121 operators, commercial service operators, as scheduled service
- Other concerns included that of pilots who did not like to have to wait for the scheduled charter flights which would apparently have priority due to their published schedules. Major airlines are concerned about the competition from the easier access scheduled airlines.. There are apparently union concerns as well
- The 380 operation is permitted under the rules and regulations at Centennial and that has always been the case
- Will this more public push overtly open the door for more airlines to bring scheduled service to Centennial since no one can be denied if they are using 380 and 135? Response was this was doubtful as there is not that big a market demand
- In some areas where JSX operates, there has been a reduction in regular charter traffic – one aircraft carrying 30 people might replace 15 aircraft carrying 2 people each, for example
- Disappointment that this flies in the face of the Zero Seat law; it would have been nice if the airport board had considered challenging it. Fronapfel indicated he would pass that thought on to the board.
- Preliminary talks with JSX started earlier in the year. CACNR was reportedly told it was planning to come to Centennial, but details about the charter operations had possibly not been provided because there had not been much detail available at the time. There was no recollection of this in relation to any 2025 CACNR minutes.
- Retrieve Air was the other scheduled charter service operating at Centennial. The business model is similar to JSX but it is geared to people who wish to travel with their dogs. There are two flights a week and it was approved in April. For an additional cost, JSX will also accept dogs.
- There was a rumor the FAA might change the loophole to not allow this kind of charter scheduling. However, VP Vance reportedly likes using JSX, so that project could be shelved.

Motion was made by Pam Thompson to extend the meeting time by 30 minutes. Motion was seconded and carried.

Fronapfel continued with other aspects of his report. There had been significant departure delays lately, and work was being done with the tower to try to alleviate that. It was likely related to the personnel shortage both here and at TRACON. The hotel was open and seemed to be doing fairly well. Charity event season was beginning, including Wings of Hope for pancreatic cancer research; the annual Morgan Adams event; Challenger for special needs children; and Angel Flight which basically uses charter aircraft or personally owned aircraft to transport critically ill children back and forth to hospitals across the country. The 5K run in June successfully raised \$85,000, to be distributed as reported at previous CACNR meetings.

Zach Gabehart reported that in March, Centennial was approached by a Swiss aerospace company that makes electric power plants compatible with an airplane called the Bristol B-23 Energic, a common flight training aircraft in Europe. It wanted to bring its electric demo aircraft here on its tour across America.

Gabehart had worked on the logistics to make that happen, and to be able to demonstrate the technology to the airport's tenants, others from airport across the front range, and community members and elected officials. The aircraft has a 70 minute endurance which is anticipated to go to 90 minutes by the end of next year. Certification for use is estimated to be completed by the end of next year as well. The technology is designed to be engine and battery drop in replacement for gas powered aircraft.

Test flights had been made over several of the noise monitors here, and some of the monitors had not even picked up the electric plane. The electric engines perform well during hot weather and are consistently quieter wherever flown. One flight school based here even signed a letter of intent to purchase at least one such aircraft. Expected delivery is about two years out.

Also, BioAirspace based at Centennial is working on a similar trainer aircraft. The airport is also partnering with Cosmic Aerospace which is doing a commuter size 24 passenger electric aircraft. Centennial Airport needs to determine the needed infrastructure to support electric aircraft, so they will come here; they would have a much lower environmental impact on the community,

13. PUBLIC COMMENT EXTENSION IF NEEDED:

Bette Todd's comments are summarized below. She indicated she had been around when the community was up in arms about the possibility of scheduled commercial flights in and out of Centennial Airport and when the Zero Seat law was passed. There were thousands of dollars spent by the municipalities trying to oppose the scheduled service that John Andrews was trying to put in place. And the group did a great job of coming to consensus because the pilots at the airport finally realized that they didn't want to be waiting in line behind commercial service. Together, the airport and the users of the airport and the communities went to Washington and passed the Zero Seat law – a Federal law and not just an FAA regulation.

This is a federal law that allowed Centennial to not take on scheduled service carriers. And there seemed to be no doubt that JSX was a scheduled service carrier, with its schedule to named destinations advertised heavily on line. Todd noted she had read Part 380 and the definition of a charter flight is pretty clear, but she could find no place where it says that a charter flight has scheduled flights for which one could buy a ticket. A charter flight means a flight operated under the terms of a charter contract between a direct air carrier and its customer. It does not include scheduled air transportation, scheduled foreign air transportation, or non-scheduled cargo air transportation sold on an individually ticketed or individually way-billed basis. That seemed to spell it out pretty clearly, but that is exactly what it appears is happening here with JSX. What just got approved is exactly what the community and the airport went to Washington to prevent.

There was concern this would be seen as the biggest breach of public trust ever committed by this airport. Question was asked if ACPAA really understood all that had happened which resulted in the passage of the Zero Seat law. And the airport's right to follow the law in relation to the grant assurances should have been made abundantly clear over the years since the law took effect.

When the flight school originally came to the airport, there were only one or two small ones, but now the communities are facing much noise from many more flight schools and they have become one of the biggest problems here. Similarly, it would seem the door had been opened for many more such airlines to come here under the guise of being charter airlines but with scheduled service to specified locations. What's the difference between that and a commercial airline?

Todd expressed concern the JSX approval would likely not sit well with the community. It would be interesting to see how the courts would define a charter flight. She had looked at considerable information since word of this action had become known and still could not come to the conclusion that it was in the best interest of the airport or the public.

8. REPRESENTATIVES' COMMENTS:

Brad Pierce had shared a recent news alert from N.O.I.S.E. (the National Organization to Ensure a Sound Controlled Environment). The main topic was supersonic non-military aircraft which had been banned over land. An Executive Order had now been signed asking the FAA to relook at that. Proposed legislation in the House of Representatives calls on the FAA to issue regulations within one year to permit operations at speeds of Mach 1 or more over U.S. land without special authorization as long as no sonic boom reaches the ground. There will likely be more on this in the coming months.

9. 2nd QUARTER LAND USE REFERRALS:

Zach Gabehart reported for the 2nd quarter of 2025, the airport authority had received 15 total land use referrals. Of those, three were approved as submitted, 11 were subject to comments, and one was not recommended. For reference, the large majority of the ones that were subject to comments related to such things as height restrictions. The one development that was not recommended was a proposal for the demolition of an existing building and replacing it with multi-family residential units, basically at Havana and Arapahoe in very close proximity to the airport. Although it was opposed by the airport, it was subsequently approved by the City of Centennial.

Question was asked if the airport had been able to testify to the city about the reasons for its disapproval. Airport concerns had been spelled out in writing, but it had not testified in this particular case.

11. OLD BUSINESS – None

12. NEW BUSINESS – None

13. FINAL REPRESENTATIVES' COMMENTS:

14. RECOMMENDATIONS TO ACPAA & OTHERS TO POTENTIALLY REDUCE NOISE OVER AFFECTED COMMUNITIES: None

15. NEXT MEETINGS:

A, CACNR –	September 3, 2025	6:30 p.m.	7565 South Peoria Street, Englewood, CO 80112
	October 1, 2025	6:30 p.m.	7565 South Peoria Street, Englewood, CO 80112
	November 5, 2025	6:30 p.m.	7565 South Peoria Street, Englewood, CO 80112
	December 3, 2025	6:30 p.m.	7565 South Peoria Street, Englewood, CO 80112

- B. ACPAA – August 14, 2025 3:00 p.m. 7565 South Peoria Street, Englewood, CO 80112, Pam Thompson for CACNR
Sept. 11, 2025 3:00 p.m. 7565 South Peoria Street, Englewood, CO 80112, Pam Thompson for CACNR
Oct. 9, 2025 3:00 p.m. 7565 South Peoria Street, Englewood, CO 80112, Pam Thompson for CACNR
Nov. 13, 2025 3:00 p.m. 7565 South Peoria Street, Englewood, CO 80112, Pam Thompson for CACNR
Dec. 11, 2025 3:00 p.m. 7565 South Peoria Street, Englewood, CO 80112, Pam Thompson for CACNR

5. PART 150 MEETINGS –

16. **ADJOURNMENT:** The meeting was adjourned at 8:42 p.m.

Alison Biggs, Secretary

CENTENNIAL AIRPORT COMMUNITY NOISE ROUNDTABLE		2025 BUDGET - Approved October 2, 2024; Updated as of 08/29/2025		
		BUDGET	ACTUAL	
INCOME:			as of 08/29/2025	NOTES
CARRY OVER FROM PRIOR YEAR		\$ 24,000.00	\$24,448.97	Carry over from 2024
ACPAA		\$ 10,000.00	\$10,000.00	
CACNR REGULAR MEMBERS		\$ 7,000.00	\$7,000.00	12 Regular Members to be invoiced at 1/2 past regular amount (\$500 for Cities and Towns; \$1,000 for Counties)
TOTAL INCOME:		\$ 41,000.00	\$41,448.97	
EXPENDITURES:				
WORK PROGRAM:				
TEAM EXPENDITURES		\$ 10,000		Community Outreach; Incentive Program(s); Fly Quiet; Practice Areas; Noise Monitors; Legislative/Governmental Affairs
WEBSITE		\$ 2,100	\$862.29	Webmaster; Website Domain and Hosting Renewal
EXECUTIVE/WORK PLAN		\$ 500		Annual Report
CONFERENCES:				
2 Reps to UC Davis Symposium		\$ 5,000	\$4,806.84	** Estimate based on prior symposiums
2 Reps to 2 N.O.I.S.E. Conferences		\$ 4,000		** Estimate based on prior years when conferences were held
CONSULTATION/EDUCATION:		\$ 4,000		Projects with consultants for entire Roundtable
MEMBERSHIP DUES:		\$ 1,000		N.O.I.S.E.
		\$ 325		CML
ADMINISTRATIVE:		\$ 2,000		Consultation on Work Plan
		\$ 3,000		Legal
ADMINISTRATIVE		\$ 1,650		Meeting Space
		\$ 1,500		Recorder
RESERVE		\$ 2,000.00	\$606.14	Donation in Memory of B. Doubek and Baby Gift for M. Frenette for presently unidentified and unanticipated expenses and/or CACNR activities consistent with the approved Work Plan.
TOTAL EXPENDITURES:		\$ 37,075.00	(6,275.27)	
CARRY OVER TO 2025		\$ 3,925.00	\$35,173.70	Actual to be determined at the end of 2025
** Usually includes registration, travel, ground transportation, lodging, meals.				
FRAME OF REFERENCE: The MOU Funding Structure adopted 12/13/2018 called for an initial two-year funding mechanism. "Thereafter, CACNR will provide ACPAA and each Regular Member with a report on the previous year's expenditures, and an annual invoice accompanied by a proposed budget indicating how the requested funds would be utilized, so that funds could be appropriated for the coming year."				



CENTENNIAL
AIRPORT®

CENTENNIAL AIRPORT
**JULY 2025
NOISE REPORT**



Visit Our Website
centennialairport.com

1. TABLE OF CONTENTS

2. Definitions3

3. About APA’s Noise Monitoring Program4

4. About WebTrak™5

5. Operations Statistics6

6. Noise Monitor Reports7

7. Current Month Noise Complaint Statistics8-9

8. YTD Noise Complaint Statistics10-12

9. Radar Track Density.....13

10. Notes and Disclaimer.....14

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.

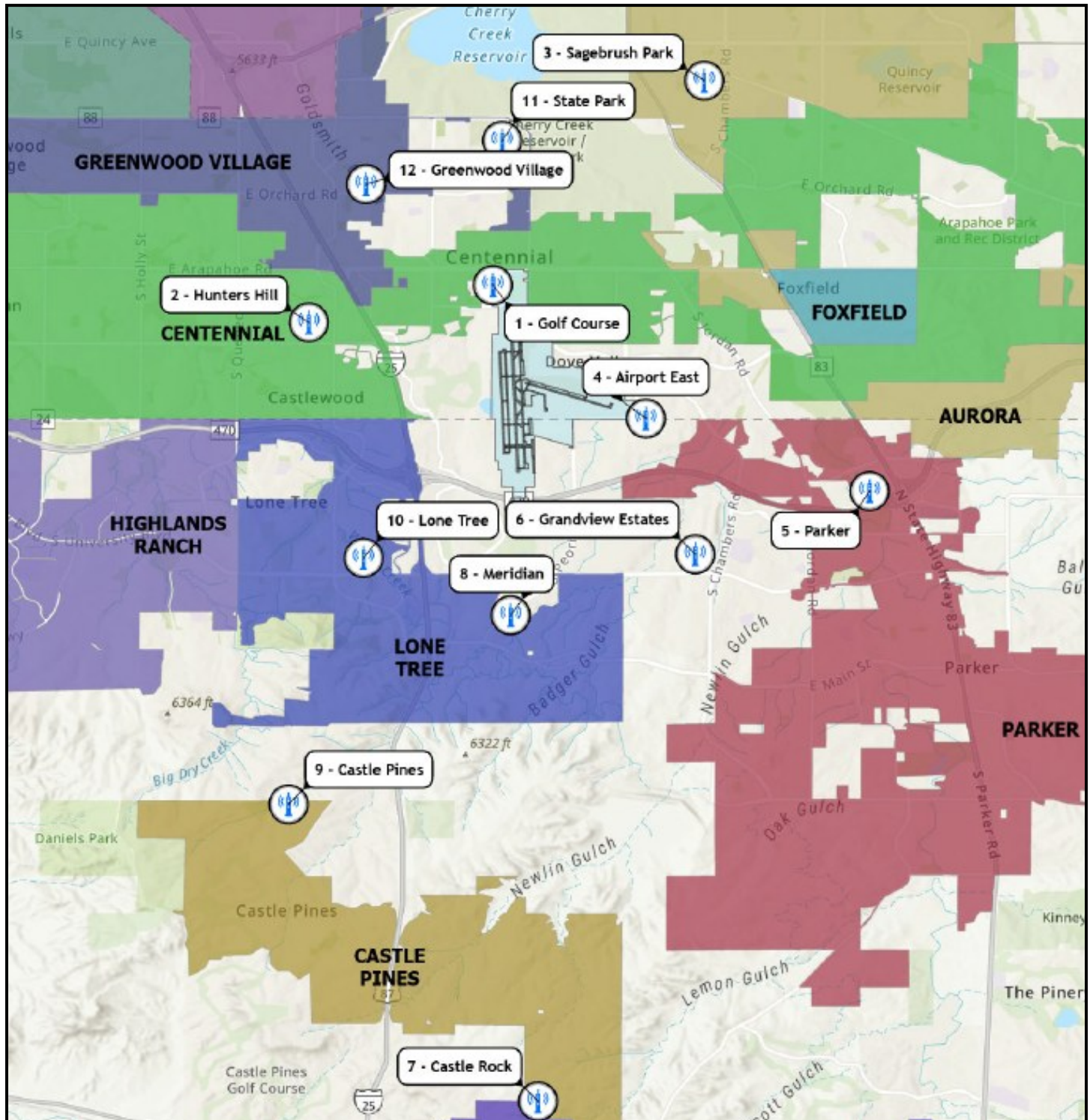
Overflight – Aircraft flight originating and terminating outside the area that transits the airspace without landing.

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.

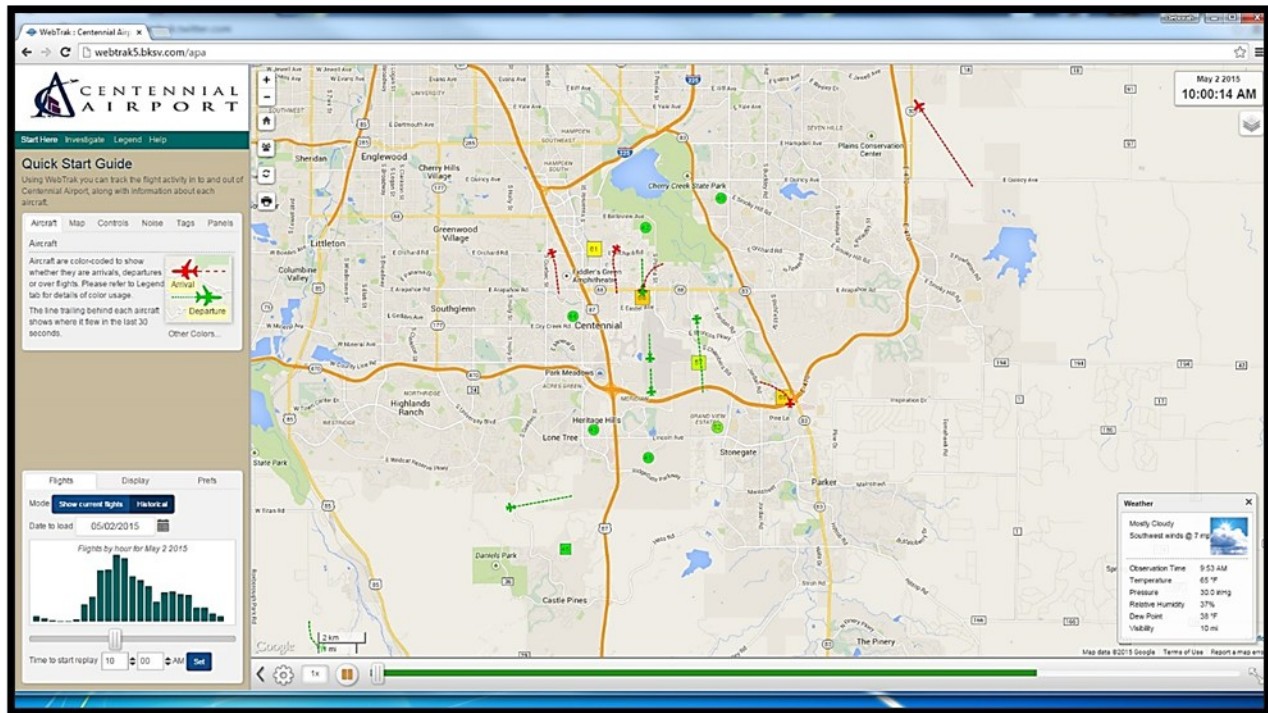
3. ABOUT APA's NOISE MONITORING PROGRAM

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 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, Colorado Air & Space Port and Buckley Space 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;

WebTrak: <https://webtrak.emsbk.com/apa>

Additional Noise Information: <https://centennialairport.com/track-and-report-noise>

Scan here to view Centennial Airport's
Voluntary Noise Abatement Information



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	2,634	2,546	131	5,311	1,559	5,291	77	6,927	11,197	2	11,199
February	2,509	2,499	134	5,142	1,488	5,097	84	6,669	11,271	6	11,277
March	2,682	2,896	124	5,702	1,731	5,897	83	7,711	13,120	15	13,135
April	2,405	2,562	161	5,128	1,706	5,418	89	7,213	12,912	0	12,912
May	2,644	2,939	164	5,747	1,826	6,358	84	8,268	13,704	7	13,711
June	2,833	3,052	241	6,126	1,724	6,426	80	8,230	12,056	22	12,078
July	2,874	3,195	196	6,265	1,938	7,010	84	9,032	12,140	3	12,143
August				0				0			0
September				0				0			0
October				0				0			0
November				0				0			0
December				0				0			0
Y-T-D Totals	18,581	19,689	1,151	39,421	11,972	41,497	581	54,050	86,400	55	86,455

	IFR OVERFLIGHTS				VFR OVERFLIGHTS					TOTAL OPERATIONS
	AIR TAXI	G.A.	MILITARY	TOTAL ITINERANT	AIR TAXI	G.A.	MILITARY	TOTAL		
January	6	3	2	11	31	49	2	82	January	23,530
February	0	3	1	4	35	53	6	94	February	23,186
March	7	6	1	14	29	53	3	85	March	26,647
April	6	2	2	10	41	72	10	123	April	25,386
May	7	13	2	22	30	64	5	99	May	27,847
June	7	6	1	14	36	37	3	76	June	26,524
July	4	8	2	14	49	81	8	138	July	27,592
August				0				0	August	
September				0				0	September	
October				0				0	October	
November				0				0	November	
December				0				0	December	
Y-T-D Totals	37	41	11	89	251	409	37	697	Y-T-D Totals	180,712

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.

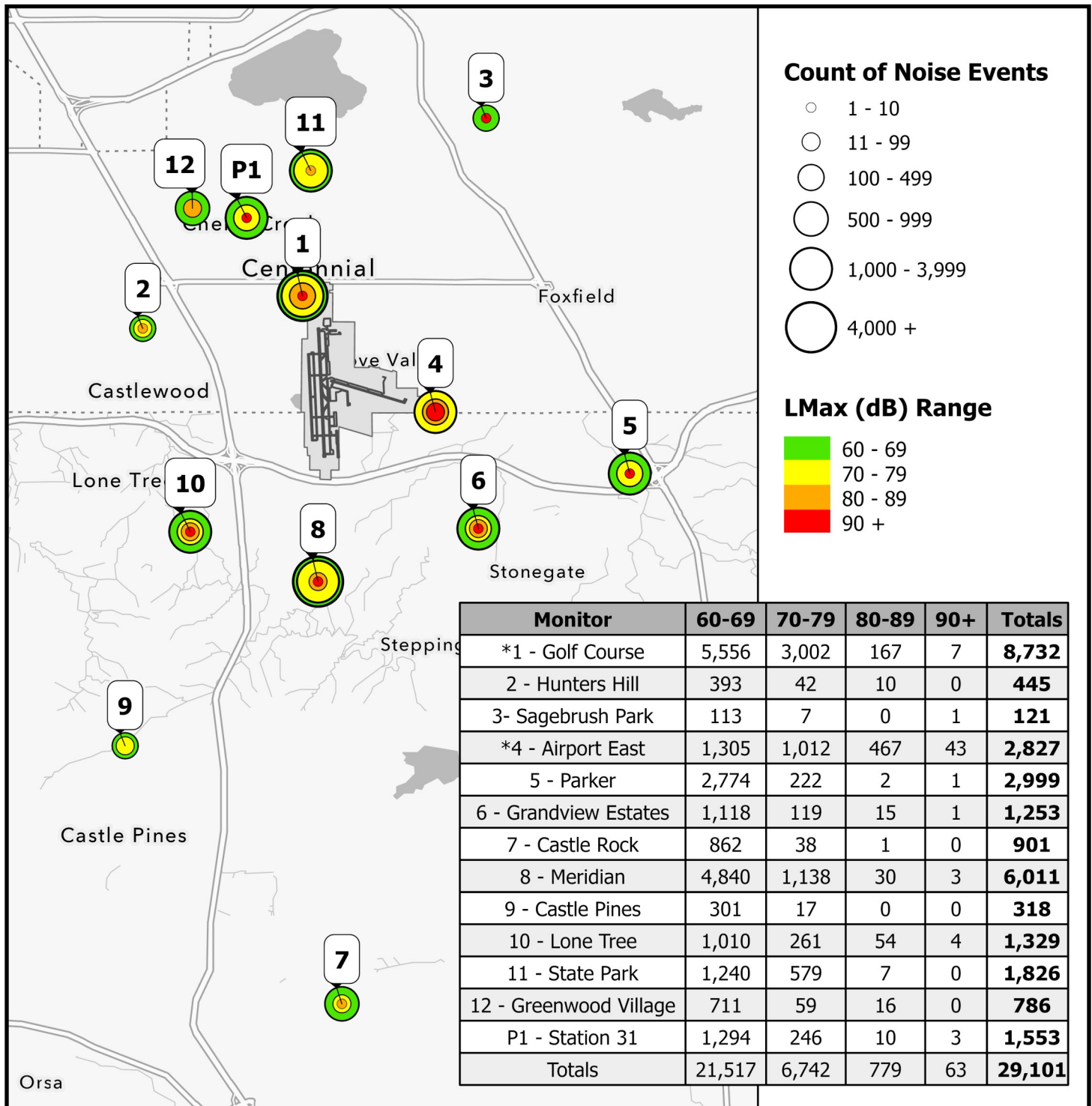
VFR Itinerant – Operations other than local operations conducted under Visual Flight Rules.

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

6. NOISE MONITOR REPORT

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.



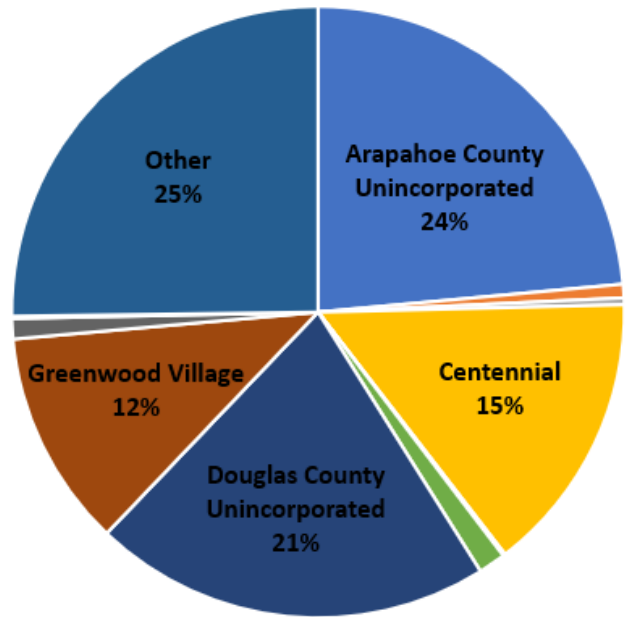
**NMT located on airport.*

NMT Downtimes: NMT 9: 7/6 - 7/9; NMT 11: 7/21 - 7/29

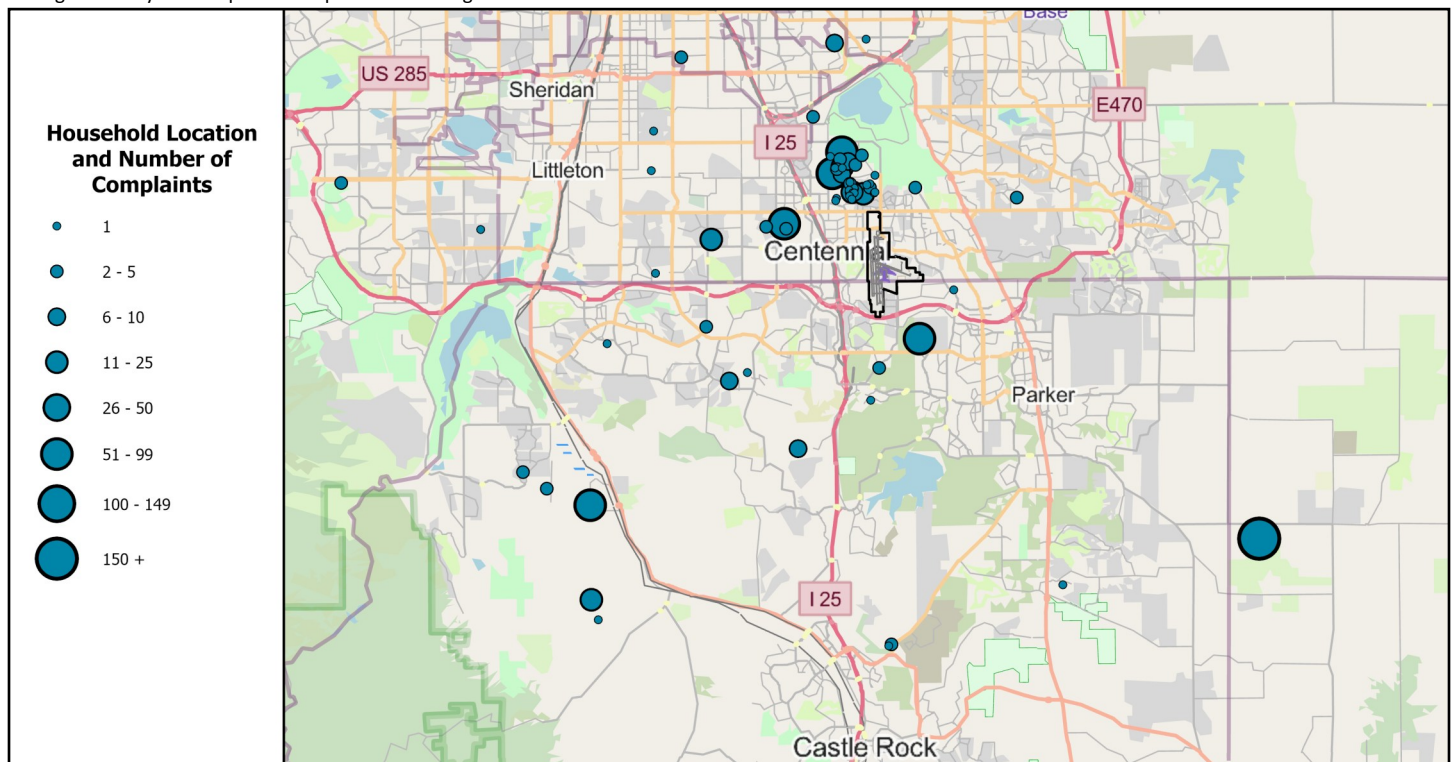
7. JULY 2025 NOISE COMPLAINT STATISTICS

Municipality	Complaints	Households	Population
Arapahoe County Unincorporated	197	24	98,066
Aurora	6	2	399,913
Castle Pines	0	0	14,000
Castle Rock	3	2	86,000
Centennial	125	7	108,422
Cherry Hills Village	1	1	6,442
Denver	12	2	715,522
Douglas County Unincorporated	176	10	276,493*
Greenwood Village	96	13	15,691
Highlands Ranch	9	3	103,444
Lone Tree	1	1	14,253
Parker	0	0	68,000
Other	211	7	-
Total	837	70	1,906,246

Complaints per Municipality

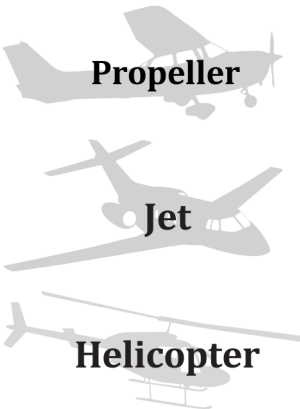


*Douglas County Unincorporated Population with Highlands Ranch Removed



7. JULY 2025 NOISE COMPLAINT STATISTICS CONT'D.

Complaint by Aircraft Type



Propeller **87%**

Jet **11%**

Helicopter **2%**

*#1 Household Removed

Complaint by Operation Type



Departures **41%**



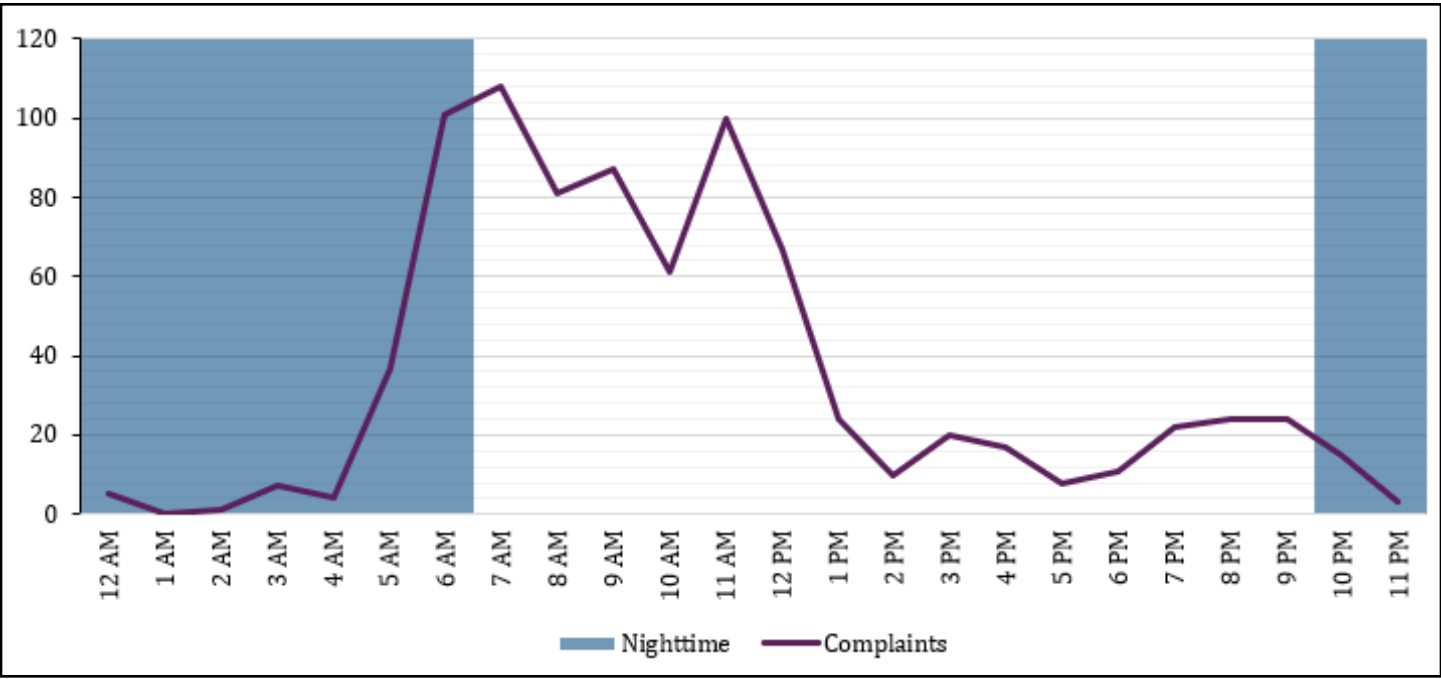
Arrivals **18%**



Training **41%**

*#1 Household Removed

Complaints by Hour



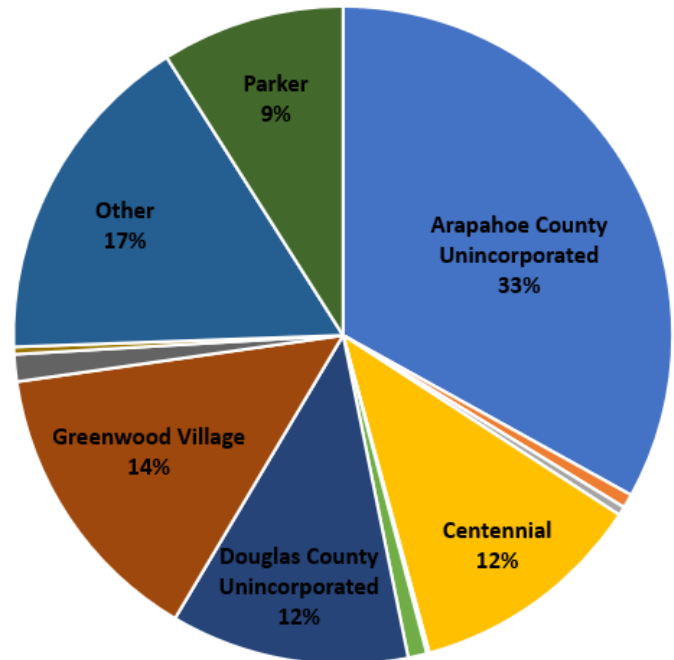
Noise Complaint Responses Completed	
Email	94
Phone	9
Total	103

Time Complaint Received	
Day (7:00 AM—9:59 PM)	664
Night (10:00 PM—6:59 AM)	173
Total	837

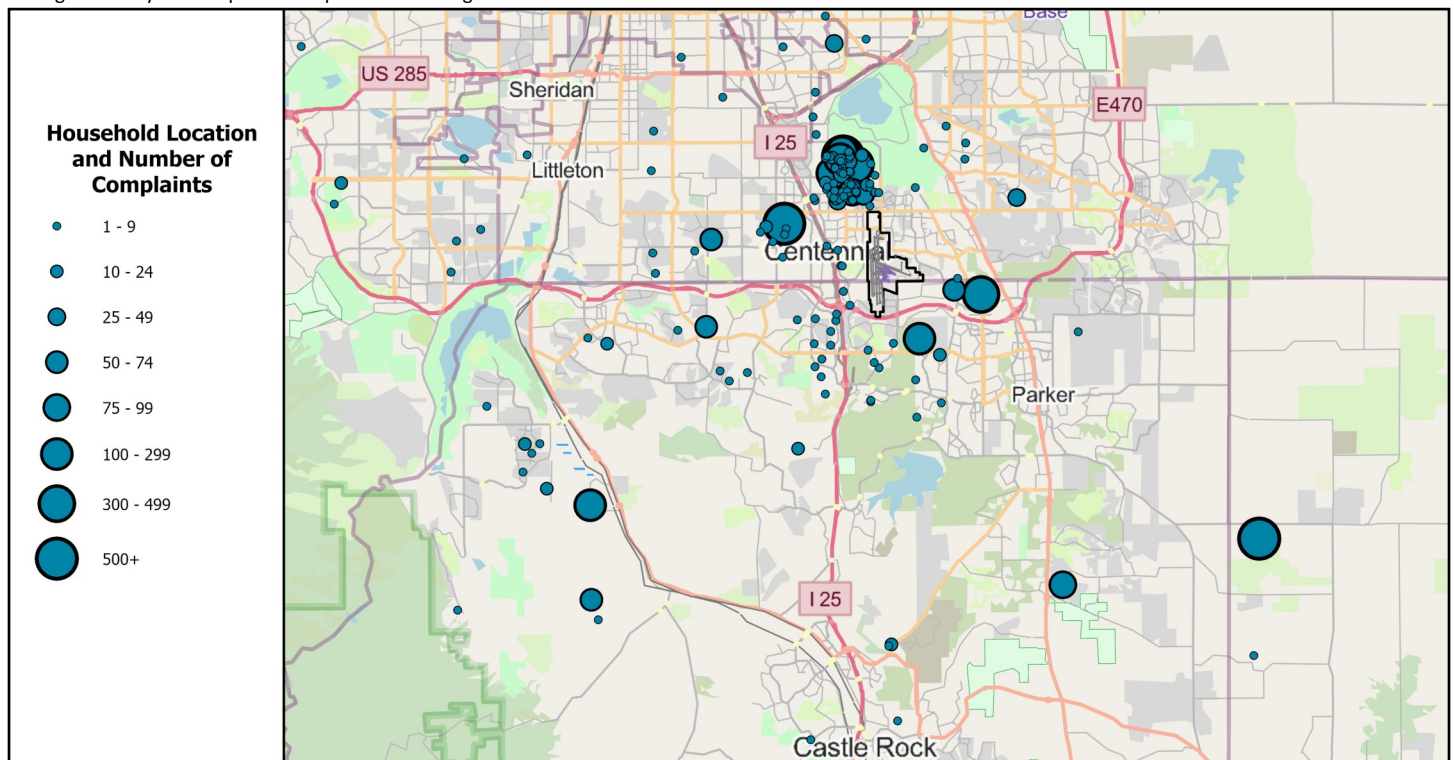
8. YEAR-TO-DATE 2025 NOISE COMPLAINT STATISTICS

Municipality	Complaints	Households	Population
Arapahoe County Unincorporated	1,836	51	98,066
Aurora	38	3	399,913
Castle Pines	0	0	14,000
Castle Rock	24	4	86,000
Centennial	644	16	108,422
Cherry Hills Village	7	2	6,442
Denver	51	8	715,522
Douglas County Unincorporated	649	24	276,493*
Greenwood Village	790	39	15,691
Highlands Ranch	74	6	103,444
Lone Tree	20	13	14,253
Parker	499	4	68,000
Other	920	17	-
Total	5,552	181	1,906,246

Complaints per Municipality

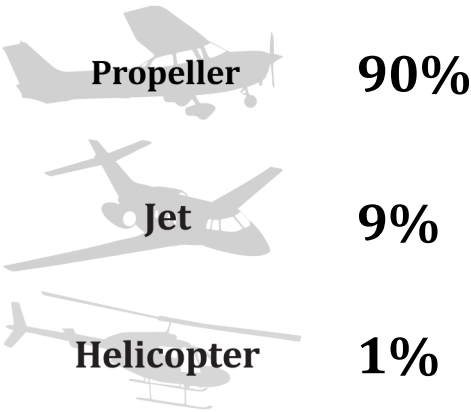


*Douglas County Unincorporated Population with Highlands Ranch Removed



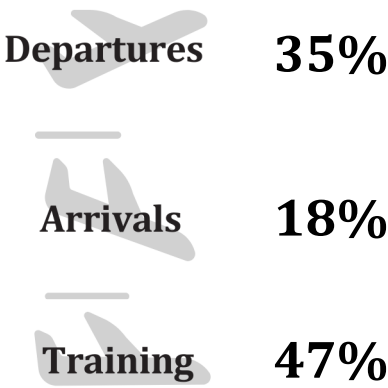
8. YEAR-TO-DATE 2025 NOISE COMPLAINT STATISTICS

Complaint by Aircraft Type



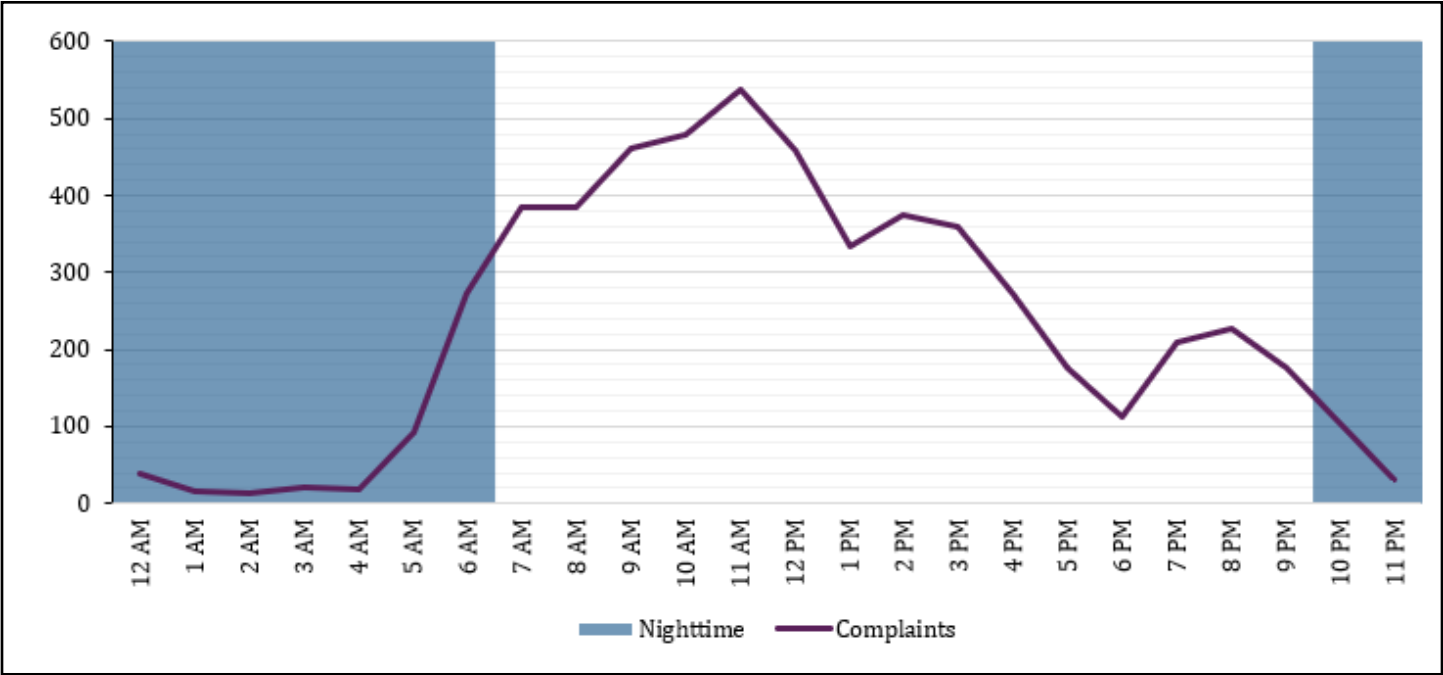
*#1 Household Removed

Complaint by Operation Type



*#1 Household Removed

Complaints by Hour

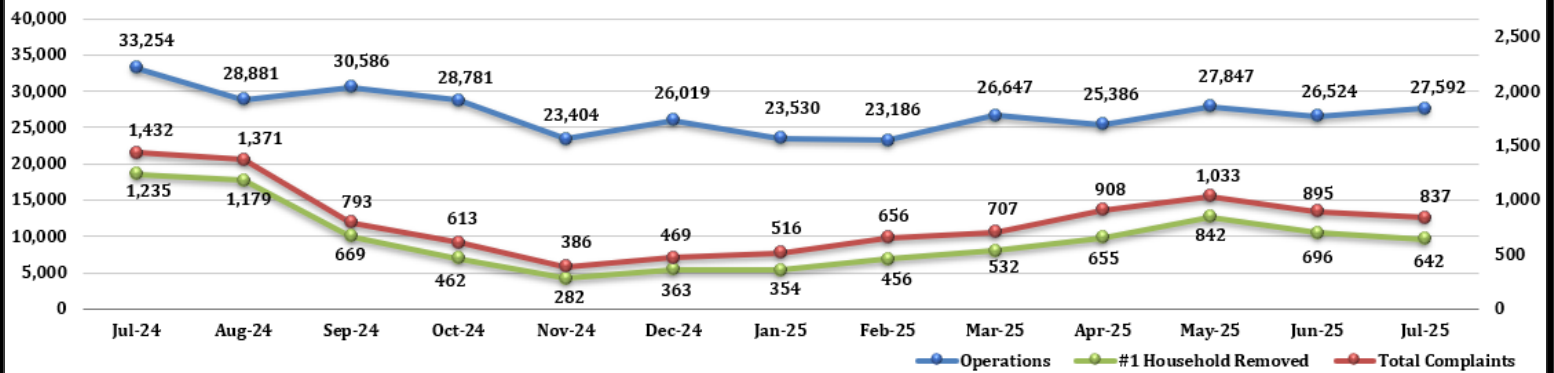


Noise Complaint Responses Completed	
Email	617
Phone	29
Total	646

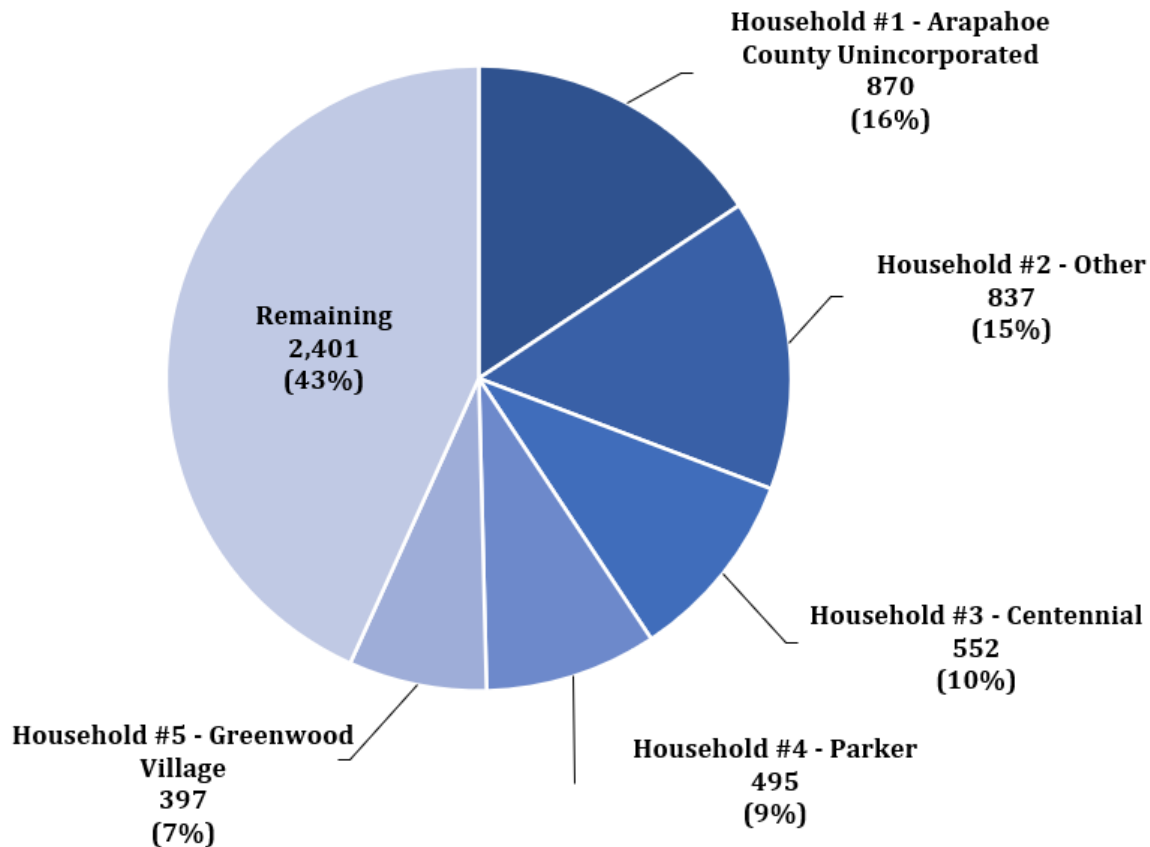
Time Complaint Received	
Day (7:00 AM—9:59 PM)	4,942
Night (10:00 PM—6:59 AM)	610
Total	5,552

8. COMPLAINT STATISTICS

13-Month Trend



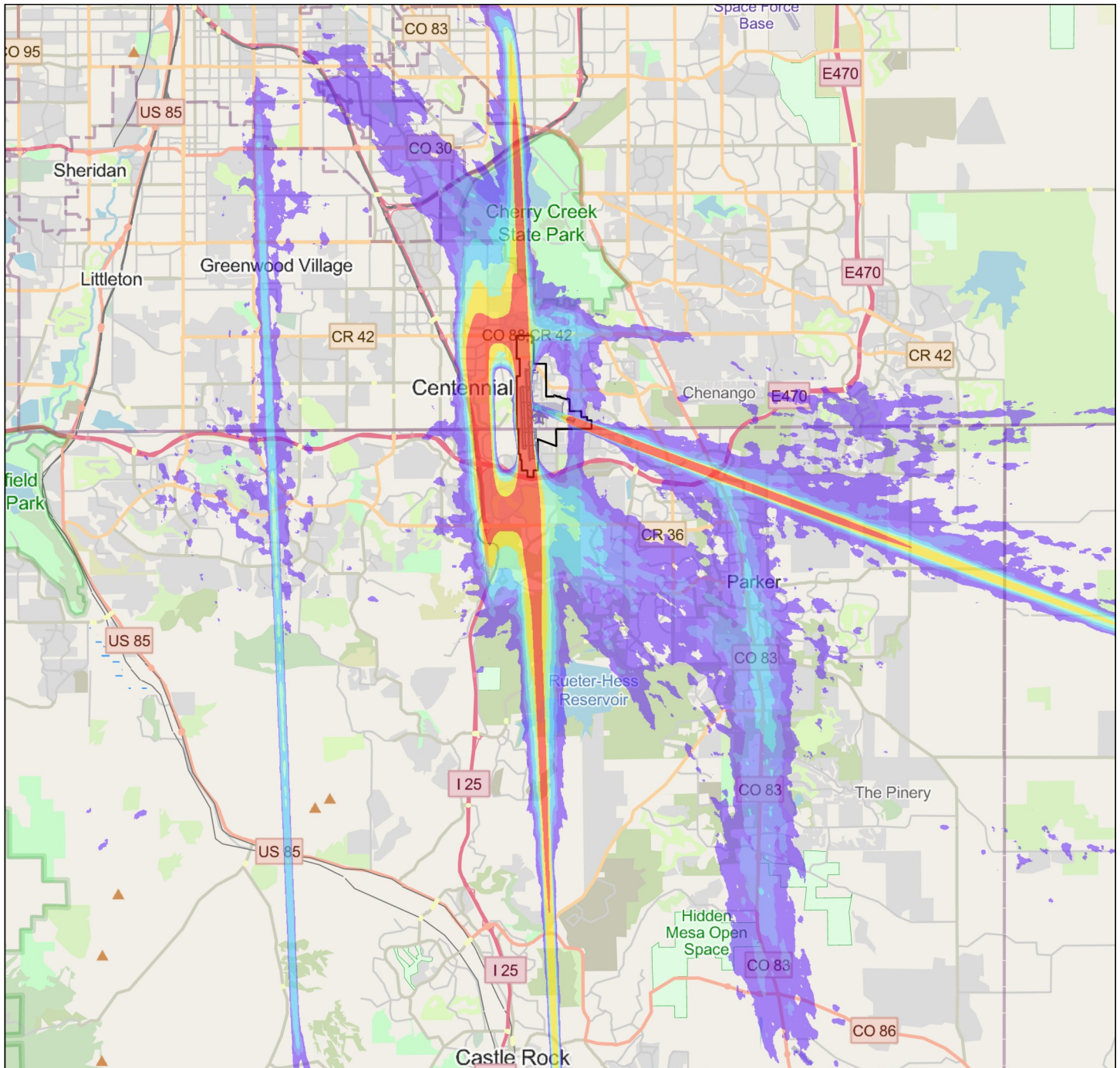
Top 5 Household Complaints YTD



9. CENTENNIAL AIRPORT RADAR TRACK DENSITY MAP

This 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.

JULY 2025



Lower Density Traffic

Higher Density

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.



**CENTENNIAL
AIRPORT**

Noise Hotline: 303-790-4709

www.centennialairport.com

CAUTION
STUDENT PILOT TRAINING AREA
PRACTICE AREA ON 122.75

CAUTION
INTENSIVE STUDENT PILOT TRAINING AREA
CTC SE PRACTICE AREA ON 122.75



CENTENNIAL AIRPORT

PORTABLE NOISE MONITOR REPORT

PORTABLE NOISE
MONITOR LOCATION:

Elizabeth, CO

(Under 3 Towers Practice Box)

REPORT DATE:

08/05/2025

Visit Our Website

centennialairport.com



1. 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.

2. NEIGHBORHOOD NOISE REPORT

Background

Installed in September of 2012, the Airport Noise and Operations Management System (ANOMS) enables Centennial Airport to monitor the amount of noise being generated over communities surrounding Centennial Airport. ANOMS collects, analyzes and processes data from multiple sources of information including a network of 12 permanent noise monitors located around Centennial Airport, noise complaints, FAA radar data and weather data. In addition, the Airport also has 2 portable noise monitors to provide aircraft noise information at specific locations that are not covered by the permanent noise monitors.

Description of Noise Monitoring Location

The portable noise monitor for this report was placed at the residence under the 3 Towers Practice Box on June 2nd, 2025. The monitor is located approximately 13.5 miles Southeast of Centennial Airport.

Noise Level Reports

The Noise Level Reports summarizes measurement results at the noise monitoring site. The data presented summarizes the noise levels and the individual measured aircraft noise events. The noise data presents the measured noise during the period of the measurements for aircraft, community, and total noise in Day-Night Average Sound Levels (DNL's). DNL is a 24-hour time-averaged logarithmic sound exposure level with a 10 decibel (dB) nighttime (10 p.m. to 7 a.m.) penalty to account for the lower ambient noise levels during the nighttime hours. Aircraft noise is noise that can be correlated to aircraft in the vicinity of the noise monitor. Community noise is noise from all other sources such as vehicles, trains, and lawn mowers that all contribute to the overall ambient noise. Total noise is noise from all the above sources.

Daily aircraft noise levels can vary day to day primarily because different runways are used under different wind conditions, which affect where the aircraft fly. The daily noise levels measured, while this monitor was at this location, are indicative of the levels during the time period when the monitor was installed. It is not necessarily representative of the noise level on an annual basis.

2. NEIGHBORHOOD NOISE REPORT CONT'D

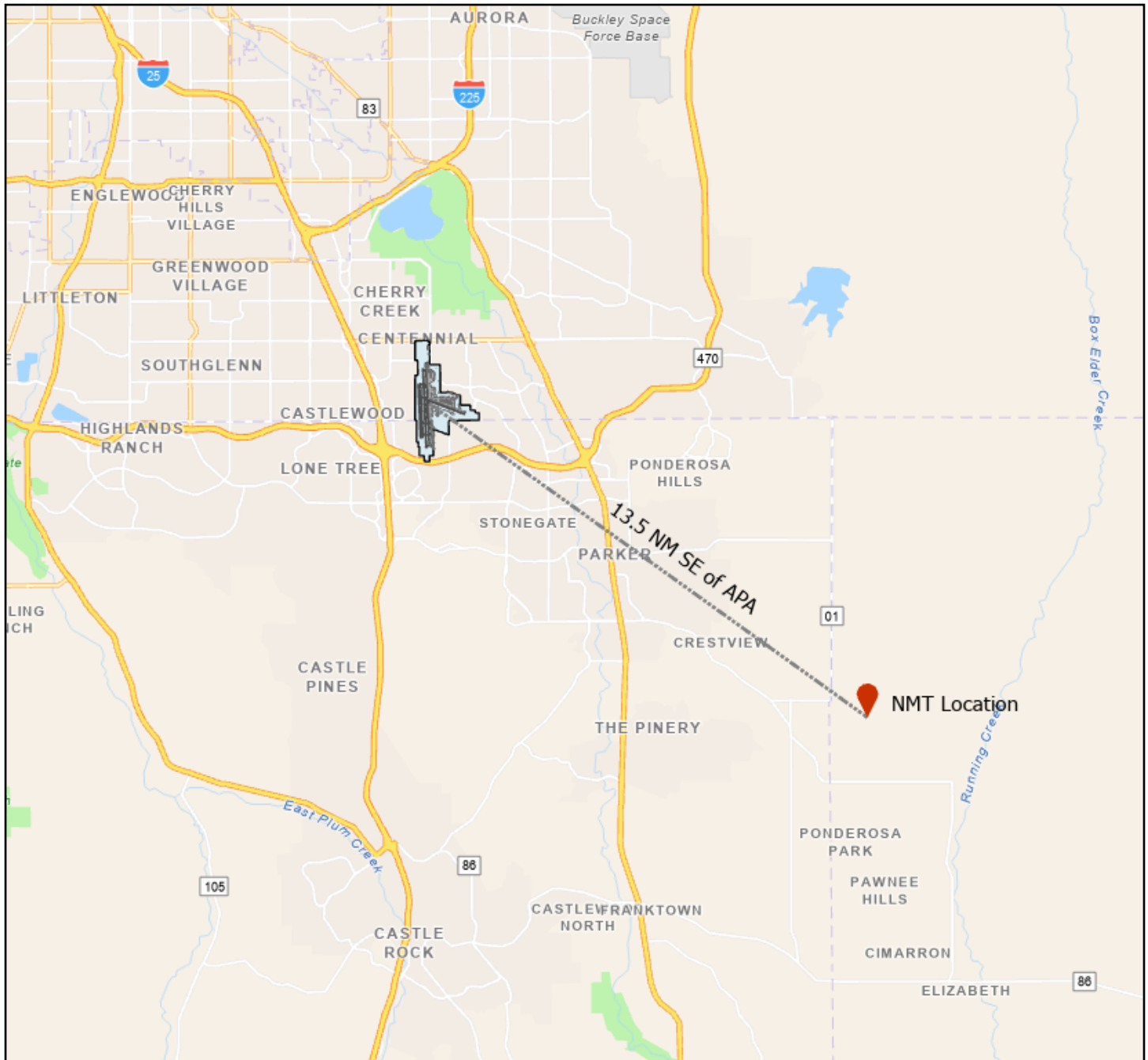
Report Date Range:

07/01/2025 - 07/31/2025

Location of Portable Monitor:

Elizabeth, CO under 3 Towers Practice Box

13.5 Miles Southeast of Centennial Airport

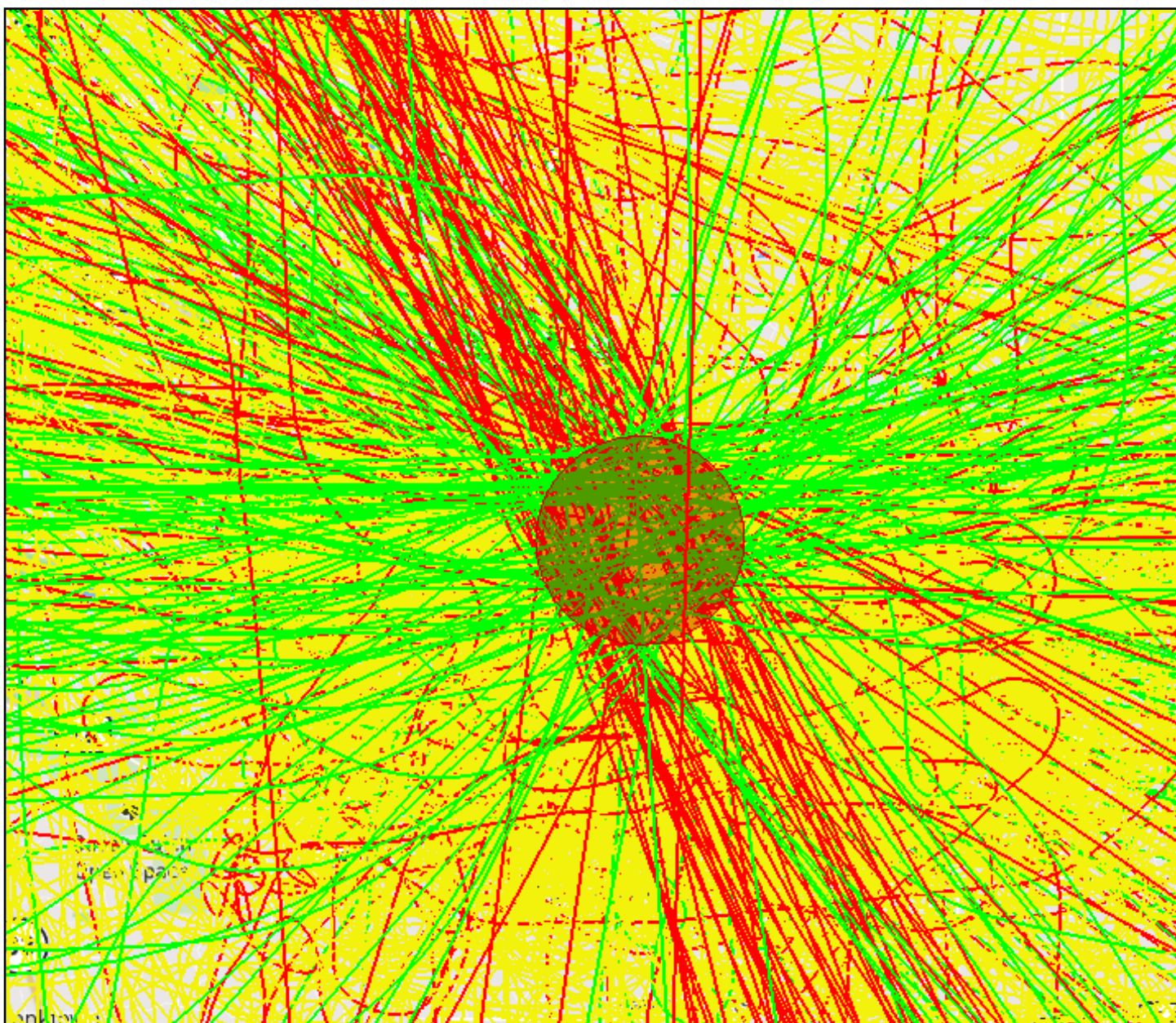


2. NEIGHBORHOOD NOISE REPORT CONT'D

Centennial Airport Associated Flight Track within 1 Mile of NMT by Aircraft Type	
Propeller	455
Jet	100
Helicopter	4
Total	559

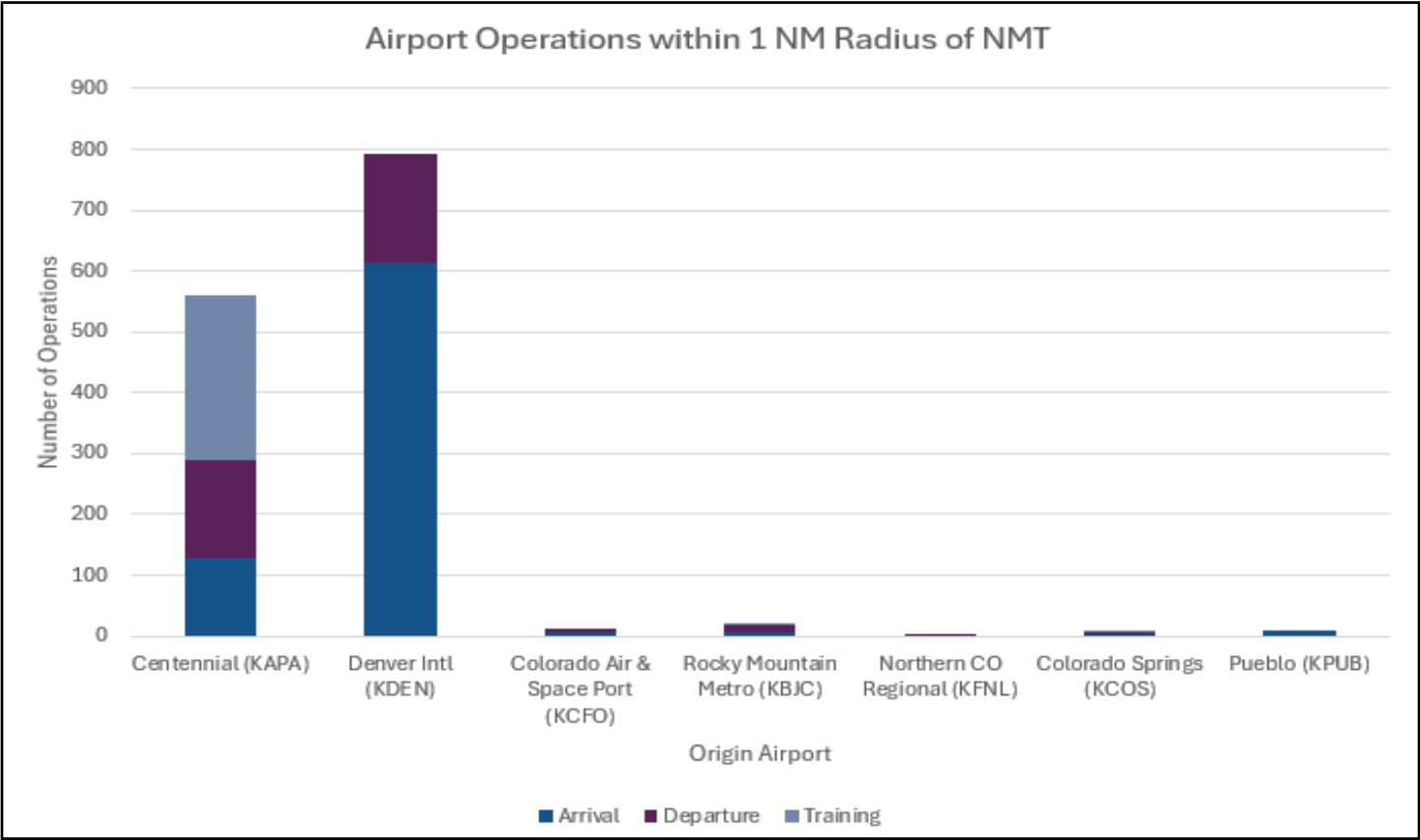
Centennial Airport Associated Flight Track within 1 Mile of NMT by Operation Type	
Arrival	129
Departure	160
Training	270
Total	559

Map of Centennial Airport Flight Tracks that Passed within 1 Mile of Noise Monitor



2. NEIGHBORHOOD NOISE REPORT CONT'D

The graph below illustrates a breakdown of arrival, departure, and training operations, along with the respective airports associated with each operation. This data is intended to highlight the airports linked to aircraft noise disturbances in the area surrounding the portable noise monitor.



Airport	Arrival	Departure	Training	Total
Centennial (KAPA)	129	160	270	559
Denver Intl (KDEN)	614	180	0	794
Colorado Air & Space Port (KCFO)	5	7	0	12
Rocky Mountain Metro (KBJC)	6	12	3	21
Northern CO Regional (KFNL)	0	2	0	2
Colorado Springs (KCOS)	3	4	1	8
Pueblo (KPUB)	10	0	0	10

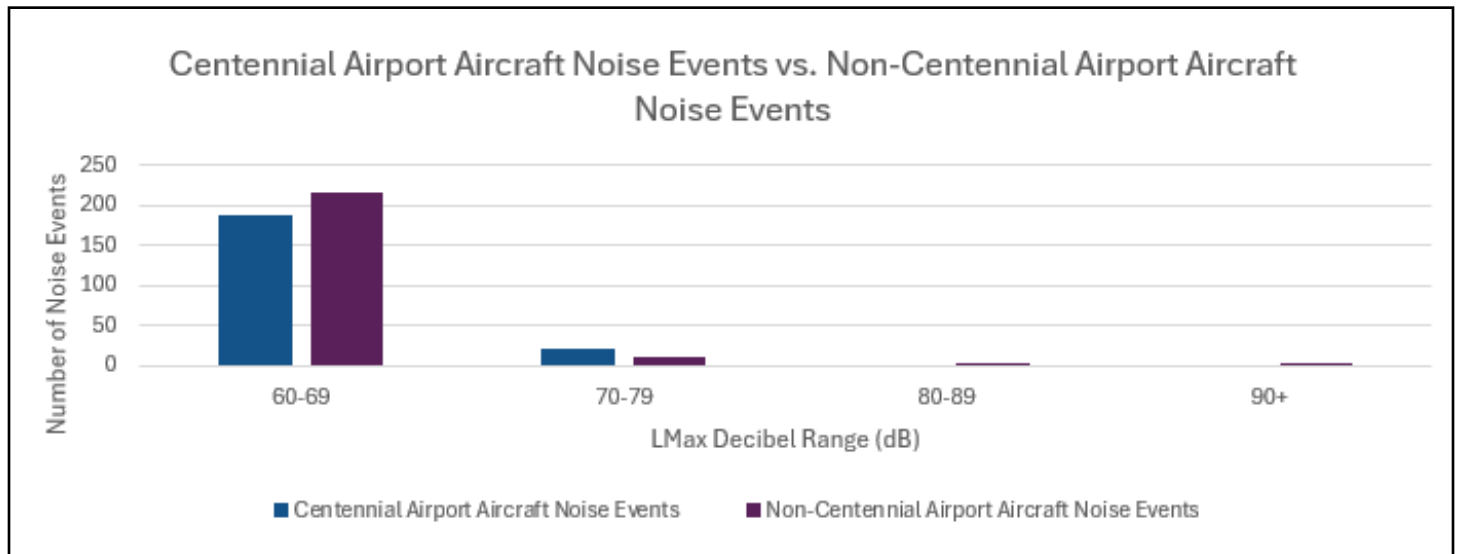
3. NOISE MONITOR STATISTICS

The following two pages display data metrics collected by the portable noise monitor. This data compares the average noise impacts from aircraft and from the surrounding community. Additionally, information is provided on the number of noise events detected by the monitor. The graphs on the next page illustrate the frequency of noise events within their respective categories, along with the corresponding decibel levels.

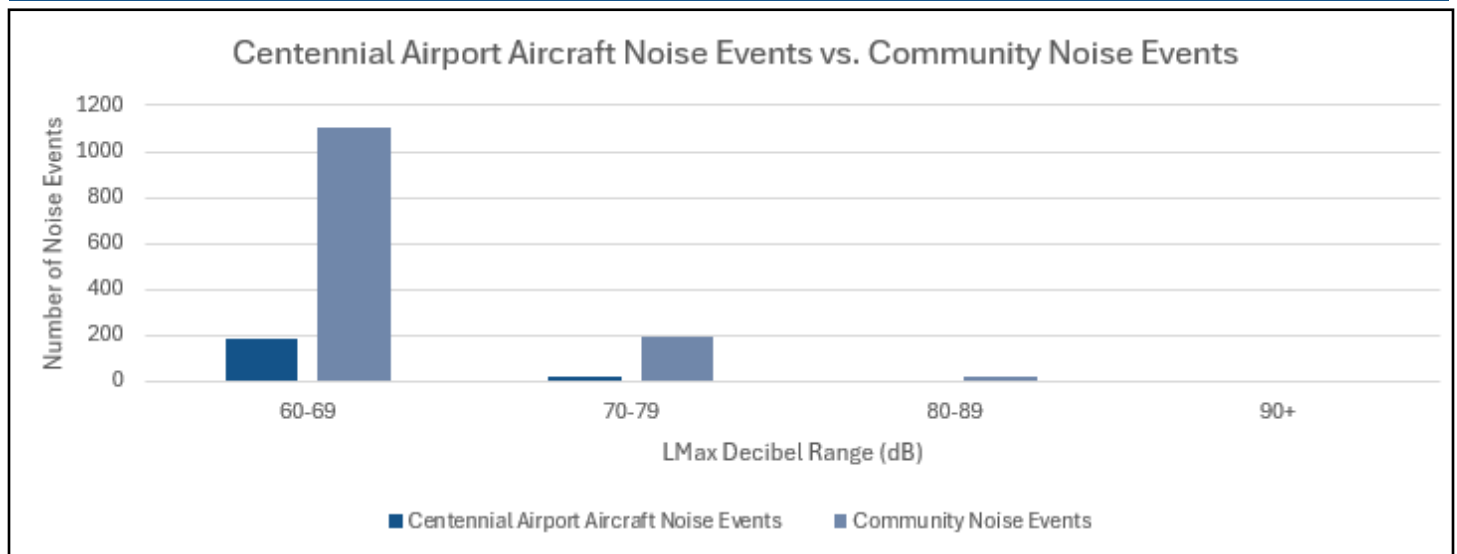
Noise Data		Noise Events	
Aircraft DNL (The 24-hour average sound level of aircraft with a 10dB penalty for nighttime noise events.)	39.9	Centennial Airport Aircraft Noise Events at Noise Monitor	577
Community DNL (The 24-hour average sound level of the community with a 10dB penalty for nighttime noise events)	49.9	Non-Centennial Airport Aircraft Noise Events at Noise Monitor	597
Total DNL (The 24-hour average sound level with a 10dB penalty for nighttime noise events)	50.6	Total Aircraft Noise Events at Noise Monitor	5,316
Average Aircraft LMax (dB) (The peak noise level for a single aircraft noise event)	59.0	Total Community Noise Events at Noise Monitor	4,142

- Aircraft Noise Event - Noise event linked to a specific aircraft operation based on time and radar data collected by ANOMS.
- Community Noise Event - Noise event related to a non-aircraft noise source like traffic, wind, animals, or vehicles.

3. NOISE MONITOR STATISTICS CONT'D



Decibel Range (dB)	Centennial Airport Aircraft Noise Events	Non-Centennial Airport Aircraft Noise Events
60-69	188	215
70-79	22	10
80-89	0	1
90+	0	1



Decibel Range (dB)	Centennial Airport Aircraft Noise Events	Community Noise Events
60-69	188	1,101
70-79	22	196
80-89	0	18
90+	0	0

4. NOTES AND DISCLAIMER

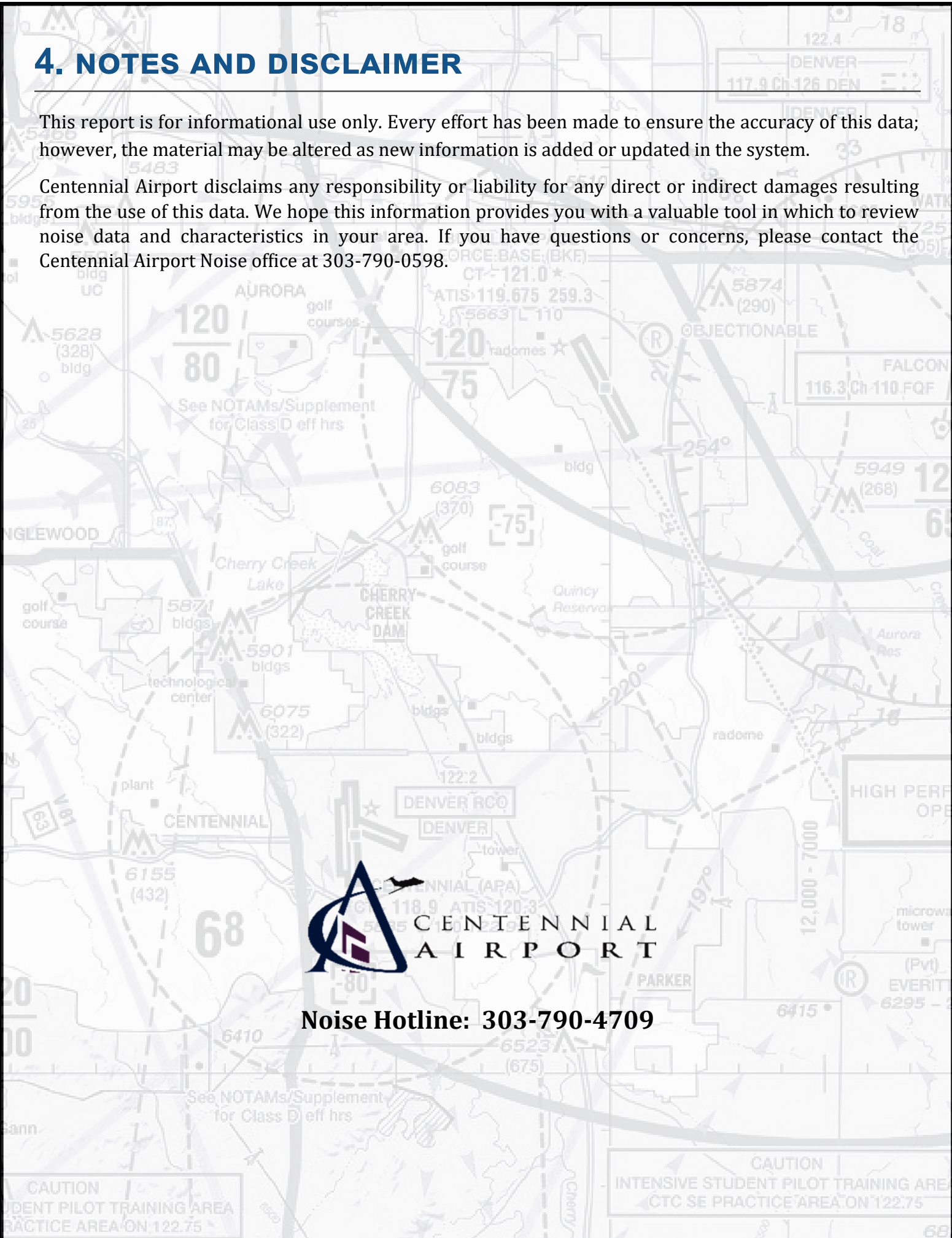
This report is for informational use only. Every effort has been made to ensure the accuracy of this data; however, the material may be altered as new information is added or updated in the system.

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.



**CENTENNIAL
AIRPORT**

Noise Hotline: 303-790-4709





Our Vision

Quieter Skies for Our Communities

Mission Statement

CACNR will bring together airport, community, FAA, and aviation industry representatives to collaboratively identify and discuss noise issues at Centennial Airport and recommend courses of action that could reduce noise over affected communities.

CENTENNIAL AIRPORT COMMUNITY NOISE ROUNDTABLE

AUGUST 6th, 2025 MEETING

➤ Public Comment

- **Louviers** – slide of 10 occurrences in 1 day / directly over home/ targeted
- **JSX Operations – feedback** – CONCERNING / Received concerns via email & public comments
 - JSX Operation bypassed more stringent security measures (TSA) and minimum pilot flight hours (1500)
 - Community & KAPA together created Federal Law est. Feb 20th 2003 not to be required to take on Scheduled Service Airlines / Part 135 - Part 380 loop hole / Opens door to other operations / Breach of Public Trust

PART 380 - Public Charter Operator JSX pre-purchases ALL ticketed seats from Deluxe Charter LLC- destinations based on market demand/ Part 135 – Nonscheduled Service Operator - flights performed by Deluxe Charter LLC
A PART 121 is a REGULAR SCHEDULED Air carrier.
Minimum Flight Hours – Part 122 = 3700 hours, here 8000 hours.
Security – required parameters TSSSP - Recent TSA spot inspection for RVR approved / above minimum standards / JSX change x-ray / metal detectors

➤ Portable Noise Monitor – 3 Towers / 13.5 MN SE of Airport

- Month of June - previous placement Oct. 11 - Nov. 11th, 2024 has remain in place for July as well. Report next month
- Centennial Airport Traffic: 581 in June / 508 in Oct.
 - 60-69 DBL – 215 in June / 176 in Oct.
 - 70-79 DBL – 42 in June / 12 in Oct. 3.5 times more. Experiencing sound levels found closer to airport
- Aircraft DNL: 41.63 in June – 37.3 in October
- Average Aircraft LMax: 59.64 in June – 57.3 October peak season -

➤ Study Group

- Q2 2025 Report
- Figure 3 – Compared to Q2 2024, Touch & Go decreased 32% for Q2 2025 line still trending downward with minimum effect from variables. Minimum Standards, Communication, Tower - collaborative effort with positive results. T&G operation down Q2 2025 vs Q2 2024 / remain to have fewer T&G enter study area.

- **Figure 5 – Majority of Touch & Go Traffic is not entering Study Area.**
Looking at data from previous Study reports Extension of traffic minimized. Entered 41.3%, Q2 2024 52.7% Q3 2024 46.1% Q4 2024 43.6% Between. When did enter Study area - Between Peakview & Orchard 69.2%, (67.2%, 65.6%) North of Belview 6% (7.0%, 7.0%) Target is getting smaller and more condensed.
- **Number of complaints in study area has decreased.** Feedback is positive.
Reduced number of complaints

➤ **Mission Statement** missing FAA

Board Approvals – AIP 64 Grant Agreement – language.

Airport Update – CO Skies Academy Out / looking for new tenant – public benefit use.

Public Comments received by Randi Johnson, Bill Ward, Bill Wasmund & Betty Todd