



CENTENNIAL AIRPORT COMMUNITY NOISE ROUNDTABLE

AGENDA

December 4, 2024

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.

1. CALL TO ORDER AND DETERMINATION OF QUORUM:

<i>Arapahoe County:</i>	Sreenivasan Alakappan/Leroy Evans	<i>Foxfield:</i>	Pam Thompson/Frank Lawrence
	Leslie Summey/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>Aurora:</i>	Brad Pierce/Mindy Parnes	<i>Parker:</i>	Ashley Chasez/Bryce Matthews
<i>Castle Pines:</i>	Chris Eubanks/Ron Cole	<i>ACPAA:</i>	Michael Fronapfel/Vacant
<i>Castle Rock:</i>	Laura Cavey/Sandy Vossler	<i>AOPA:</i>	John Hirshman/Brad Schuster
<i>Centennial:</i>	Don Sheehan/Amy Sharp	<i>CABA:</i>	Don Kuskie/Mike Straka
<i>Cherry Hills Village</i>	Robert Eber/Randy Weil	<i>CDOT Aeronautics Div</i>	Todd Green/Vacant
		<i>Wings Over the Rockies:</i>	Bill Wasmund/Vacant

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

- A. DRAFT MINUTES, October 2, 2024 – Alison Biggs, Secretary
- B. TREASURER'S REPORTS, October 2024, November 2024 – Andy Jones, Treasurer, Zach Gabehart, ACPAA Staff

3. ITEMS REMOVED FROM CONSENT AGENDA:

- A. NOISE REPORTS, September 2024, October 2024- Zach Gabehart, ACPAA Staff
- B. PORTABLE NOISE MONITOR REPORT (3 Tower Training Box) – 11/13/24 – Zach Gabehart, ACPAA Staff

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

- A. RECEIVED BY CACNR –
 - 1. re FAA definition of densely populated areas/letter of intent (from Michael Koscielniak)
 - 2. re request to FAA to discuss "violation of FAA regulations" re low flying airplanes and stall out maneuvers over homes (from Brenda Dyche)
- B. MEETING ATTENDEES /VIRTUAL ATTENDEES

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

- A. GRADY STONE RESPONSE TO CACNR LETTER OF AUGUST 8, 2024 (from November 6, 2024 agenda)
- B. STUDY GROUP COMMITTEE REPORT

6. PART 150 STUDY UPDATE/PROGRESS:

- A. REPORTS OF STUDY ADVISORY COMMITTEE MEETINGS – Codlleen Bosold email of 10/289/24 (from November 6, 2024 agenda)
- B. NOISE COUNTOURS
- C. MODELING, EVALUATION, REFINEMENT
- D. ADVANCE NOTICES FOR BRAINSTORMING
- E. OTHER ITEMS OF CONSIDERATION/INTEREST TO CACNR

7. EXECUTIVE COMMITTEE:

- A. DRAFT REVISIONS TO PUBLIC COMMENT PROCEDURE
- B. ACPAA MEETINGS – October 1010, 2024, Pam Thompson (from November 6, 2024 agenda) and November 14, 2024 – Ron Cole
- C. SEPTEMBER 2023 RETREAT PRIORITIES (from November 6, 2024 agenda)
- D. FYI – APPROVED 2025 BUDGET – Andy Jones (from November 6, 2024 agenda)
- E. FYI – 2025 ACNR/ACPAA MEETING SCHEDULE (from November 6, 2024 agenda)
- F. CACNR ATTENDANCE THROUGH OCTOBER 2024

8. **REPRESENTATIVES' COMMENTS:**
 - A. RE CACNR BEING REQUESTED TO MEET TITLE 7N STANDARDS – Pam Thompson & Donna Johnston (from November 6, 2024 agenda)
9. **OTHER REGULAR REPORTS:**
 - A. AIRPORT DIRECTOR – Mike Fronapfel
 1. Flight School Activity
 2. Part 150 Study Update
 3. Aviation Fuel – How Much Sold/What Kind
 4. Community Related Activity
 5. Other Airport Activity
 6. Legislative
 7. Status of Follow Up Items
10. **OLD BUSINESS:**
11. **NEW BUSINESS:**
 - A. DRAFT NOISE ABATEMENT POSTER – Zach Gabehart, ACPAA Staff
12. **PUBLIC COMMENT:** (3 minutes per person time limit):
 - A. RECEIVED BY CACNR
 - B. MEETING ATTENDEES /VIRTUAL ATTENDEES
13. **ADDITIONAL REPRESENTATIVES' COMMENTS:**
14. **RECOMMENDATIONS TO ACPAA AND OTHERS TO POTENTIALLY REDUCE NOISE OVER AFFECTED COMMUNITIES:**
15. **NEXT MEETINGS:**

A. CACNR – January 8, 2025 February 5, 2025	NO MEETING 6:30 p.m. 7565 South Peoria Street, Englewood, CO 80112 NOTE PLAN TO TAKE A GROUP PHOTO OF THE CURRENT CACNR REPRESENTATIVES AT THE BEGINNING OF THIS MEETING, SO PLEASE TRY TO ARRIVE A BIT EARLY
B. ACPAA – December 12, 2024 January 9, 2025 February 13, 2025	3:00 p.m. 7565 South Peoria Street, Englewood, CO 80112 NO MEETING 3:00 p.m. 7565 South Peoria Street, Englewood, CO 80112

C. **PART 150 MEETINGS** –
16. **ADJOURN:**

MERRY CHRISTMAS AND HAPPY HOLIDAYS



CENTENNIAL AIRPORT COMMUNITY NOISE ROUNDTABLE MINUTES

October 2, 2024

DRAFT

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.

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

1. **CALL TO ORDER, ROLL CALL, and QUORUM:** The meeting was called to order at 6:30 p.m. by Chair Chris Eubanks.

The following were in attendance, and a quorum was present:

Arapahoe County:	Leslie Summey	Greenwood Village:	Donna Johnston
Douglas County:	Dan Avery (virtual)	Highlands Ranch Metro:	Andy Jone (virtual)
Douglas County:	Alison Biggs	Lone Tree:	Mike Anderson
Aurora:	Brad Pierce	ACPAA:	Michael Fronapfel
Castle Pines:	Chris Eubanks	CABA:	Don Kuskie
Centennial:	Don Sheehan	Wings Over the Rockies:	Bill Wasmund
Foxfield:	Pam Thompson		

Others in attendance were Sreenivasan Alakappan, Alternate Representative from Arapahoe County (virtual); Ron Cole, Alternate Representative from Castle Pines; and ACPAA staff Zach Gabehart, Lauren Wiarda, Matt Frenette and Adam Ellsell. There was 1 member of the public in attendance and two spoke online.

Those absent were: Arapahoe County:	Vacant/Vacant	Parker:	Ashley Chasez/Bryce Matthews
Castle Rock:	Laura Cavey/Sandy Vossler	AOPA:	John Hirshman/Brad Schuster
Cherry Hills Village:	Robert Eber/Randy Weil	CDOT Aeronautics Div:	Todd Green/Vacant

2. **CONSENT AGENDA:** The Consent Agenda included the Draft CACNR Minutes from September 4, 2024; a Treasurer's Report from 09/27/24, showing a balance of \$24,782.88; and the Noise Report from August 2024. On the motion of Don Sheehan, duly seconded, the Consent Agenda was approved.

The August 2024 Noise Report included the following information:

August Local Operations:	13,560	August Total Operations:	28,881
Year to Date Local Operations:	121,614	Year to Date Total Operations:	232,701

28,881 Total Operations in August resulted in 1,371 complaints from 87 households.

August Noise Ev

August Total:		August 60 – 69 db:		August 70 – 79 db:		August 80 – 89 db:	
Golf Course	11,186	Meridian	7,429	Golf Course	3,962	Airport East	636
Meridian	9,535	Golf Course	6,963	Meridian	2,042	Golf Course	257
Parker	3,226	Parker	2,982	Airport East	1,005	Meridian	62
Airport East	3,117	State Park	1,903	State Park	939	Portable Station	28
State Park	2,858	Portable Station	1,758	Portable Station	303	Hunters Hill	16
Portable Station	2,090	Airport East	1,444	Parker	241	State Park	14
Grandview Estates	1,517	Grandview Estates	1,374	Grandview Estates	139	Greenwood Village	10
Greenwood Village	1,078	Castle Rock	986	Greenwood Village	104	Grandview Estates	04
Castle Rock	1,024	Greenwood Village	963	Lone Tree	69	Castle Pines	03
LoneTree	714	Lone Tree	645	Hunters Hill	62	Castle Rock	03
Hunters Hill	564	Hunters Hill	486	Castle Rock	35	Parker	03
Castle Pines	302	Castle Pines	279	Castle Pines	20	Lone Tree	00
Sagebrush Park	183	Sagebrush Park	169	Sagebrush Park	14	Sagebrush Park	00

August Noise events in the 90+ decibel range: Airport East – 32 Golf Course – 04 Meridian – 02 State Park – 02
Greenwood Village – 01 Portable Station – 01

August Noise Complaints	and	Numbers of Households:	YTD Complaints	and	Number of Households:
(1,371)		(87)	(9,651)		(268)
Unincorporated Arapahoe County	767 (56%)	UAC	4,685	UAC	95
Other	195 (14%)	Greenwood	2,370	GV	71
Greenwood Village	110 (8%)	UDC	889	Other	28
Castle Pines	92 (7%)	Other	745	UDC	21
Centennial	82 (6%)	Lone Tree	384	Lone Tree	15
Unincorporated Douglas County	54 (4%)	Centennial	245	Centennial	10

Denver	38	Castle Rock	02	Castle Pines	158	Highlands R	08
Castle Rock	12	Highlands R	02	Castle Rock	66	Parker	07
Highlands Ranch	11	Aurora	01	Aurora	30	Aurora	05
Lone Tree	08	Castle Pines	01	Parker	29	Castle Rock	05
Aurora	01	Denver	01	Lone Tree	28	Denver	03
Parker	01	Parker	01	Highlands R	22	Castle Pines	02
Cherry Hills Village	00	CHV	00	CHV	00	CHV	00

Year to Date, the top five households complaining were:

Household #1	1,199	Unincorporated Arapahoe County (12%)	Household #4	723	Centennial (08%)
Household #2	932	Greenwood Village (10%)	Household #5	704	Other (Elizabeth) (07%)
Household #3	744	Unincorporate Arapahoe County (08%)			

In August, 139 responses were requested from 1,371 noise complaints, with 120 of those requests made by email (86%), and 19 of those made by telephone (14%).

In August 1,090 complaints were made about **daytime flights** (7:00 a.m. – 9:59 p.m.) – 80%.
281 complaints were made about **nighttime flights** (10:00 p.m. – 6:59 a.m.) – 20%.

In August, props accounted for **85% of the complaints by aircraft type**; **jets** accounted for **14% of the complaints**, and **helicopters** caused **1%**.

In August, training was responsible for 61% of the complaints, **departures** were responsible for 26% of the complaints, and **arrivals** were responsible for 13% of the complaints.

An August Complaint Map , a Year to Date Complaint Map, and an August Radar Track Density Map/Flight Tracks Associated with Centennial Airport map were provided. All continued to show the highest concentration of complaints coming from areas to the northwest of the airport,

3. ITEMS REMOVED FROM CONSENT AGENDA: None

4. CACNR STUDY GROUP COMMITTEE: Brad Pierce presented a verbal report for this group, joined by Chris Eubanks and Mike Fronapfel. Some new members had been added to the group, from the FAA, a flight school, and the Colorado Pilot's Association. The latter was interested in learning how this group was structured and functioned, anticipating perhaps doing something similar at Rocky Mountain Metropolitan Airport.

The group was still waiting on getting radar tracks unmasked by the FAA so the information could be used to develop a point system to incentivize meeting the voluntary noise abatement guidelines. Request had also been made for technical assistance from the FAA for developing alternative pattern shapes for touch and goes. Thirdly, a response from the FAA had not yet been received to the letter which had been written seeking clarification of points in Grady Stone's letter of April 6, 2023.

It was noted staff was working on changes to the quarterly reports which would make them more easily understood and utilized by everyone. Feedback received about the last report would be considered and utilized wherever possible.

5. PART 150 STUDY UPDATE/PROGRESS: The airport continued to meet with the FAA about items which would result in progress on this study. It appeared the next public meeting on the study would be pushed back to January 2025.

6. EXECUTIVE COMMITTEE:

A. ACPAA MEETING – A copy of Pam Thompson's report to and from the September ACPAA meeting had been provided. ACPAA seemed to appreciate having the consistency of one CACNR Representative joining it every month, and learning more regularly about the kinds of issues with which CACNR and the community and thus ACPAA, are involved. A good rapport and dialogue seemed to have been developed. Thompson would not be available to attend the ACPAA meeting in November, so Ron Cole had volunteered to assume that role.

B. DRAFT CACNR 2025 BUDGET – In developing the draft budget, it was felt CACNR needed to be doing more since the easing of Covid, so the budget was designed with a more proactive focus in mind. A team approach to various areas which affect the communities was included, so the focus would be more broadly inclusive than just the work of the Study Group Committee. Volunteers would be needed to work on those areas, and the CACNR Bylaws do allow for the Chair to appoint community members to committees (or teams) as well.

As there would be considerable carry-over from 2024 to 2025, it had been agreed to propose the Regular Members contribute ½ of their usual amounts: \$500 for cities and towns and \$1,000 for the counties. This would allow the Regular Members to be reminded of their financial commitment to CACNR through the MOU. They had not been invoiced in 2021, 2022, and 2024.

Other areas discussed included updating the website and asking Trish Coberly for her ideas on doing that (it was noted she had not invoiced CACNR for her work this year and that would be handled before the end of the year); developing an annual report which had not been done for several years; joining the Colorado Municipal League (CML), not only for legislative and other information of interest to CACNR and its Members, but to bring CACNR to the attention of the members of CML; doing community outreach projects; exploring alternative meeting space so the group might become more of a roundtable literally as well as figuratively; and working with a consultant to implement the work program (which needs to be developed for the 2025-2027 time frame) and to provide informational/educational projects of interest to the roundtable Representatives.

Obviously, these topics would require the active involvement of Representatives and Alternate Representatives, as well as interested community members. Work on the topics could be more of an 'ad hoc' approach – identify a task, accomplish it, and the group dissolved. Then another task could be addressed, with the same or a potentially different group, task accomplished and group dissolved. It was hoped much could be accomplished in this more flexible manner.

Whether or not CACNR would be required to meet the new Title 7 standards was brought up. Thinking was that CACNR as a non-profit would not be required to, but further exploration would be done. The attorneys for Greenwood Village and Foxfield would be consulted.

Following discussion of a possible redesign of the website, it was agreed there was flexibility in the current budget draft for Representatives to approve financing such an update. The idea of CACNR being a tab under the airport's website was raised. However, CACNR is an organization independent of the airport, and needs to maintain its own identity and therefore its own website. Following further discussion, by consensus, it was agreed to move \$500 from the Reserve category into the Website category. This would put the Website category amount at \$2,100 and the Reserve category at \$2,000.

On the motion of Pam Thompson, duly seconded, the 2025 budget was adopted as amended. At this point, Andy Jones had to leave the meeting.

C. 2023 RETREAT PRIORITIES UPDATE: Further discussion of the retreat priorities would take place at the November meeting. Representatives were asked to determine what areas they would be willing to work on, so that CACNR would be addressing more than just the activities of the Study Group Committee. The potential ad hoc nature of the work was again reviewed. There may not be action on everything quickly, but there be further discussion and commitment for advancing CACNR's approach to priorities in November.

D. & E. Looking at the two calendars, and coordinating with ACPAA meetings, Pam Thompson moved that CACNR meet on December 4, 2024, and not meet on January 8, 2025. The motion was duly seconded, and following brief discussion, the motion carried and the two calendars were adopted as amended. It was announced that at the November meeting a new photograph would be taken of the CACNR Representatives and Alternate Representatives, primarily to accompany the 2024 Annual Report and to be included on the website.

7. REPRESENTATIVES' COMMENTS:

A. Pam Thompson had met with a community member who lived on the northern side of the Three Towers practice area. For the September 2024 CACNR meeting, Zach Gabehart had provided a noise analysis for both the Three Towers and the Elizabeth areas, comparing numbers from July 2023 with July 2024. Both boxes had shown considerable increases in total overflights. The Three Towers numbers were similar to those of Greenwood Village which have been the focus of the Study Group Committee.

Thompson had offered to have a noise monitor placed on the resident's property, and the resident was most willing to have that occur. While this may not provide any kind of relief from the noise, it would provide data as to the constant stream of flights and noise, especially during peak hours. One of the two portable noise monitors was still in the Greenwood Village area, and the other was available to be placed here, for at least two weeks, but could remain longer unless there was a need for it to be located elsewhere. Dan Avery was attempting to contact the individuals who had attended the August CACNR meeting to see if there was any interest in having a noise monitor in that vicinity as well.

B. Donna Johnston suggested looking at the procedure for public comment, as there had been many fewer members of the public wishing to speak at the more recent CACNR meetings, and it has been difficult for some to stay until the end of the meetings. It was suggested to add some flexibility to the procedure while still allowing CACNR business to be accomplished. Following discussion and notation that there would still be a vote at the end of the meeting to extend the meeting by 30 minutes to accommodate any additional speakers, Donna Johnston moved to add 20 minutes for public comment, after agenda item #3. Motion was duly seconded and carried.

C. Bill Wasmund inquired why the Three Towers and the Elizabeth practice area boxes were being so heavily used when the others appeared not to be. Apparently, according to FAR 61.93, solo student pilots must remain within 25 nautical miles of their originating airport unless they have approval of their instructors. The distance had likely been established so that solo student pilots might have a reasonable chance of returning to their originating airports if a problem was encountered. The two noted boxes were the only two not outside of that distance. A map of the 11 practice area boxes had been provided; three are to the west and south of the airport, and 8 are to the south and east.

Wasmund noted the Colorado Department of Transportation had an excellent Aeronautical Chart. Question was asked why CANR was not getting as much public interest as it had been. Wasmund also noted efforts at LA and Van Nuys where they issue a fly quieter award, monitoring how well airlines follow their fly quiet programs. The awards are issued every year, and might something similar be done here at Centennial?

Question was asked if CACNR would find the CDOT Aeronautical Chart of use or interest. Response was definitely, and it turned out airport staff actually had enough copies on hand for distribution to everyone present. It was mentioned that Wasmund consistently provided good information to CACNR, and question was asked who else was here to help CACNR with obtaining this kind of information? Suggestion was made that the flight schools might be willing to come to CACNR meetings to share information about things they deal with on a regular basis of which CACNR might not be aware but could benefit from, and perhaps share with the public for greater understanding. Suggestion was also made to ask the flight schools if they could relook at the boxes, to see if something could be done to relocate them into a more user-friendly configuration.

A willingness to share might also be a factor considered when establishing some sort of incentives or rewards criteria for those who follow the voluntary noise abatement guidelines or other determined categories for recognizing "the good guys." In order to do this,

the FAA would have to unmask the tail numbers of planes. Mike Fronapfel noted the airport was exploring using various vendors for the noise monitors, and this decision might have implications for such information and recognition as well.

D. Chris Eubanks reported he had flown here the previous week and found there was actually very little time to make a decision of whether or not to extend his flight path north of Arapahoe Road – the decision had to be made in seconds.

8. **OTHER REGULAR REPORTS:**

A. **DIRECTOR'S REPORT** – Mike Fronapfel reported pilots are trained to look for potential landing sites. The recent crash where the plane flipped resulted in no injury. The prior day, a private plane's landing gear collapsed, again with no injury. Reports of these kinds of things may take the FAA and the NTSB a very long time to be issued, frequently long after the public may have lost track of the original event. The airport will also be considering whether anything has been occurring at the airport which might have caused the increased number of events which have occurred at Centennial in recent months.

Fronapfel noted the October ACPAA meeting would be looking at changes in minimum standards to have the flight schools have someone on site who can be accessed whenever something untoward occurred. The flight schools will also be required to have mandatory quarterly safety and noise abatement meetings done jointly with the FAA. There have already been two such meetings which have garnered attention, and which may have been one of the more effective results of the work of the Study Group Committee. Some instructors and flight schools were not even aware the airport had the capability of watching what was occurring, and this may result in improved behaviors.

Another change in the minimum standards will be a request to increase the fuel flowage fees. Such fees cannot be used to decrease traffic at the airport, but Centennial's costs are currently below the median so need to be increased to keep up with the cost of inflation and of doing business.

Suggestion was made to add the airport's minimum standards to the list of education items for CACNR Representatives, as not everyone was familiar with their existences, content or what they do. Suggestion was met with agreement.

Donna Johnston moved to extend the meeting by 30 minutes to complete business and hear from members of the public. Motion was duly seconded and carried.

The upcoming Friday would be the 36th meeting of the Study Group Committee. It is awaiting the response from the FAA on some issues, and will be determining next steps following the receipt of that information. The airport is a part of the Colorado Green Business Group, is at a sliver status and had received an innovation award due to its work on the utilization of unleaded fuel.

There was still hope the hotel would be open by the end of the year. Considerable upgrading had occurred, and Fronapfel noted it might be a good option if CACNR decides to explore alternative meeting space.

It was noted airport operations had been down in August, and was there any particular reason. Contributing factors might have been the hot weather, afternoon thunderstorms, and a shortage of air traffic controllers.

Don Kuskie reported there were 569 single engine aircraft based at Centennial and 104 multi-engine planes. All of those pilots have to recertify every two years, so this adds to the training traffic saturation which affects our communities. Many of those pilots, not being in a flight school, have no idea where the training boxes are and need that education. Another flight school may be applying to open at Centennial, and there might possibly be a public hearing on that at the November ACPAA meeting.

9. **OLD BUSINESS:** **DRAFT VOLUNTARY NOISE ABATEMENT GUIDELINES** – Zach Gabehart indicted he and Mike Fronapfel had decided on the content of the draft, and then Samantha Blymyer had done the layout. Much of the content was utilized from the previous version, plus the two sections required by state law. The first was the statement limiting the number of consecutive touch-and-goes to 10 per flight, and the second was a statement to minimize the number of flight training departures during periods of heavy traffic (i.e. morning and early afternoon arrival/departure rush.) To comply with state law, the document has to be published and in effect by November 15, 2024.

Question was asked why the language about remaining south of Arapahoe Road had been removed from the original, with the request it be retained. It had been felt the graphic related to the voluntary touch and go guidelines made that point without the need for additional language. Question was asked where the number 10 came from in the limitation of touch-and-goes per flight. Response was determined by Zach and Mike, in consultation with the flight schools. Question was asked who from CACNR was involved in the development of this draft version of the guidelines. Response was that this version had been done by airport staff, although the original document had been developed with assistance from CACNR. Request was made to indicate this version had been approved by CACNR, but not that it had been developed by CACNR, as that had not occurred. Request was also made that the final version have more clear indication of where roads and other landmarks exist, as they were not clear in the draft version under consideration. Other grammatical difficulties were pointed out.

There was additional discussion about whether or not the document had indeed been developed by CACNR, with differing opinions and no final consensus seemingly being reached. There was disappointment that the original fourfold document had morphed into a threefold document whose use was not as clear as the original. It was explained that pilots used to use a knee board, and now mostly use a digital ipad or phone so a different set-up was considered more useful. Helicopter routes had also been eliminated, as they were considered between the tower and the pilots, so were unnecessary here. Reference to maximum weight had also been removed. It had been felt the digital format might make it easier to do more frequent future updates. It was requested that the term Voluntary be removed from the 'title' of the document, so it would just read Noise Abatement Guidelines; the voluntary nature was

covered by language elsewhere. Again, determination of the document's final content would be made by airport staff. It was suggested that a QR code be added.

Lone Tree requested that the map of noise sensitive areas be amended to show where its planned residential and mixed use commercial development, public schools, etc. would go to the south of the airport's main runway. It was noted the noise sensitive areas had originally been based on complaints from residents in such areas, and as there were no residents in the areas as yet, there was little on which to base such designation. Question was asked how elected officials would answer questions about why such development was approved for areas of questionable public health and safety, the overhead use of lead based fuel, etc. It was also noted the areas were under the Instrument Landing System which cannot be avoided particularly in inclement weather.

Given the more rapid increase in development in the area, it might be necessary to revisit the content of the NAG more frequently, even as much as annually, to reflect changes. As development increases, there may be a time when everything surrounding the airport could be designated as noise sensitive. Some consideration may need to be given to those areas which existed before and in the early days of the airport's existence, versus those areas which have been developed since that initial time. Question was asked what were the criteria for being designated as a noise sensitive area. Question was asked about the timing of getting the document finalized to meet state law.

A motion was made to extend the meeting for another 30 minute period. Motion seconded and carried. Mike Anderson indicated Lone Tree had not understood the need to show regular use before obtaining a noise sensitive area designation. Discussion continued on how to handle this situation. There was general agreement that more frequent consideration of the document would be in order, and a more clear understanding of what a noise sensitive area is would also be in order.

Motion – Chris Eubanks made a motion to approve the Noise Abatement Guidelines, contingent on the inclusion of the changes requested by CACNR Representatives at this meeting. Motion was duly seconded and carried.

Chris Eubanks made another motion to reconsider the request from Lone Tree in six months, and to establish criteria for what constitutes designation as a noise sensitive area. Motion was seconded and carried. Gabehart indicated he would have a final draft out to everyone by the end of the week.

10. **NEW BUSINESS:** None

11. **PUBLIC COMMENT:**

A. RECEIVED BY CACNR – None

B. ATTENDEES/VIRTUAL/TELEPHONE – Randy Johnson was present from Louviers. He noted the planes he hears, and had heard 510 propeller planes. Many pilots seemed to be avoiding flying directly overhead and flight schools had been reasonably receptive which he appreciates that considerably. He had submitted 7 complaints here and 3 to Rocky Mountain.

The resident from the Three Towers area thanked Pam Thompson and looked forward to having the noise monitor place to provide further attention to what is happening in that area. She asked that already developed land be given consideration regarding flights and noise as much or more than the undeveloped land that had been discussed earlier. There are still very low flights occurring over the homes in her area, as well as stall-out maneuvers which can be very unnerving. The previous day there had been two planes in the practice box at the same time. She hoped the FAA was receiving the information she reports to Centennial, as she does not have access to the specifics about the offending aircraft which the FAA wants her to provide. She had spoken with someone from the FAA, but the individual had not gotten back to her. She requested the box be closed due to unsafe conditions.

Another resident from the Three Towers area appreciated it is getting some attention. She has seen two planes in the box more than once, and the growth has changed until her area is almost an extension of Parker. There was real frustration after attending these meetings for years and the only change was that things had gotten worse. Adding another flight school will only exacerbate the problem – where are all those training planes going to go? It seems pilots and flight schools can do whatever they want, as CACNR and the airport cannot establish limits and the FAA makes sure limits cannot be established. She appreciated the efforts CACNR makes, but it was no wonder the public does not attend these meetings any more because they are essentially useless.

12. **NEXT MEETINGS:**

A. **CACNR** – November 6, 2024 6:30 p.m. 7565 South Peoria Street, Englewood, CO 80112
December 4, 2024 6:30 p.m. 7565 South Peoria Street, Englewood, CO 80112
January 8, 2025 NO MEETING

B. **ACPAA** – September 12, 2024 3:00 p.m. 7565 South Peoria Street, Englewood, CO 80112
October 10, 2024 3:00 p.m. 7565 South Peoria Street, Englewood, CO 80112
November 14, 2024 3:00 p.m. 7565 South Peoria Street, Englewood, CO 80112
December 12, 2024 3:00 p.m. 7565 South Peoria Street, Englewood, CO 80112
January 9, 2025 NO MEETING

A. **PART 150 MEETING DATES** When and What Meetings, When Available from APA Staff

13. **ADJOURNMENT:** The meeting was adjourned at 9:34 p.m.

Alison Biggs, Secretary

CENTENNIAL AIRPORT COMMUNITY NOISE ROUNDTABLE			2024 BUDGET - Approved November 1, 2023; Updated as of 11/01/2024		
		BUDGET	ACTUAL		
INCOME:			as of 11/01/24	NOTES	
CARRY OVER FROM PRIOR YEAR		\$ 20,000.00	\$20,317.55	Carry over from 2023	
ACPAA		\$ 10,000.00	\$10,000.00		
CACNR REGULAR MEMBERS		\$ -		Members not invoiced for 2024 due to amount of carry over available	
TOTAL INCOME:		\$ 30,000.00	\$30,317.55		
EXPENDITURES:					
WORK PROGRAM:					
COMMUNITY OUTREACH		\$ 2,000		Website Updating and Maintenance	
		\$ 5,000		Media Outreach Project	
FLY QUIET		\$ 1,000		Placeholder for Projects tbd	
NOISE MONITOR		\$ 1,000		Exploration of desired data and software for 2024	
EXECUTIVE/WORK PLAN		\$ 500		Orientation Manual, Annual Report	
EDUCATION					
2 Reps to UC Davis Symposium		\$ 4,000	\$4,534.67	Symposium to be at UC Davis; estimate based on prior symposiums	
2 Reps to 2 N.O.I.S.E. Conferences		\$ 4,000		based on prior years on-site conferences	
CONSULTATION/ TASK SUPPORT		\$ 4,000		Projects with Jason Schwartz	
MEMBERSHIP DUES		\$ 1,000	\$1,000.00	N.O.I.S.E.	
ADMINISTRATIVE		\$ 1,000		Part time secretarial assistance	
		\$ -		Legal	
RESERVE		\$ 2,500.00		for presently unidentified and unanticipated expenses and/or work CACNR activities consistent with the approved Work Plan.	
TOTAL EXPENDITURES:		\$ 26,000.00			
CARRY OVER TO 2025		\$ 4,000.00	\$24,782.88	Actual to be determined at the end of 2024	
** 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 COMMUNITY NOISE ROUNDTABLE			2024 BUDGET - Approved November 1, 2023; Updated as of 11/26/2024		
		BUDGET		ACTUAL	
INCOME:				as of 11/26/24	
CARRY OVER FROM PRIOR YEAR		\$ 20,000.00		\$20,317.55	
ACPAA		\$ 10,000.00		\$10,000.00	
CACNR REGULAR MEMBERS		\$ -			
TOTAL INCOME:		\$ 30,000.00		\$30,317.55	
EXPENDITURES:					
WORK PROGRAM:					
COMMUNITY OUTREACH		\$ 2,000			
		\$ 5,000			
FLY QUIET		\$ 1,000			
NOISE MONITOR		\$ 1,000			
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Centennial Airport Monthly Noise Report



September 2024

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

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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.

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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.

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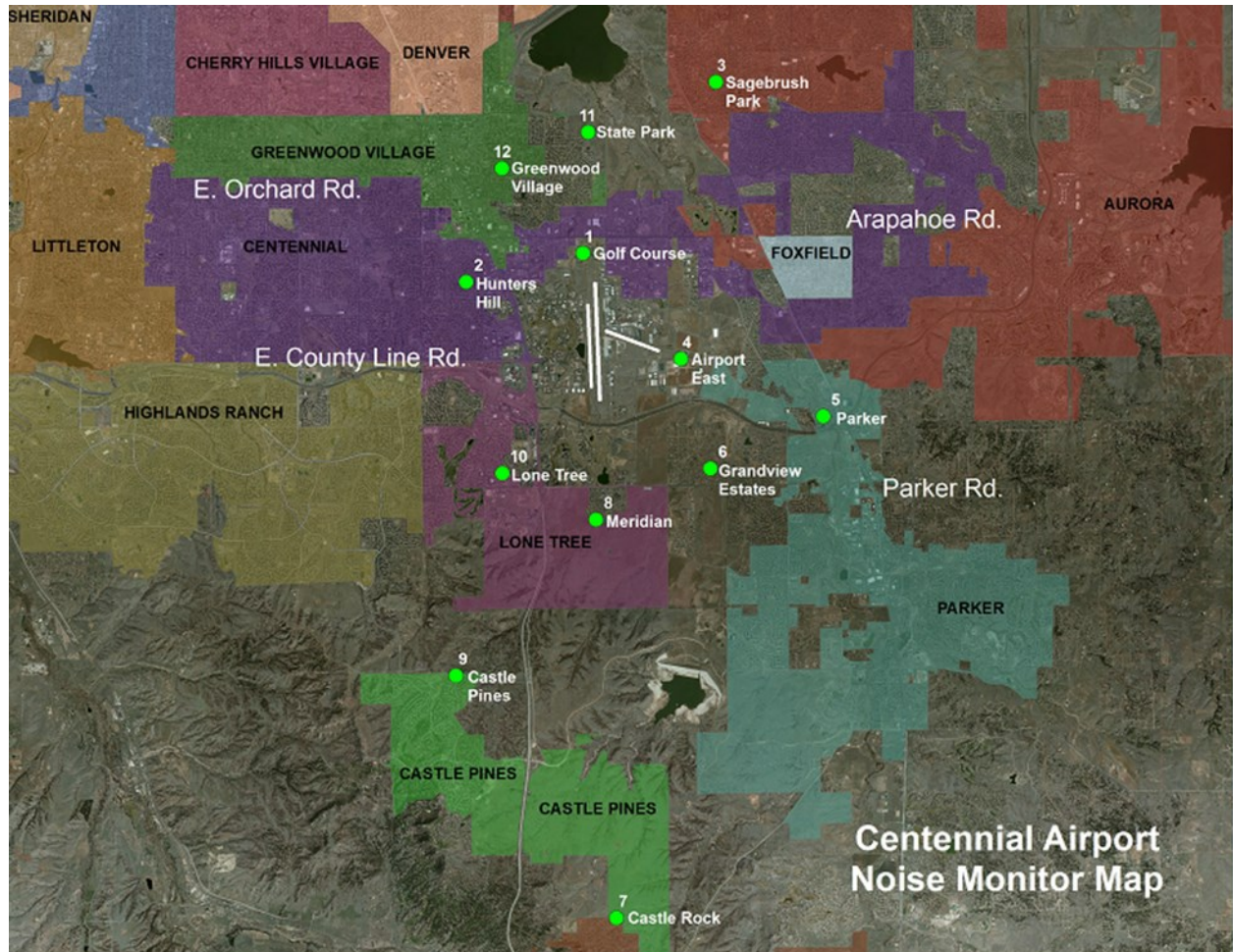
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Sound Exposure Level (SEL) – The total energy in the A-weighted sound level measured during a transient noise event. SEL accounts for both the duration and the loudness of a noise event.

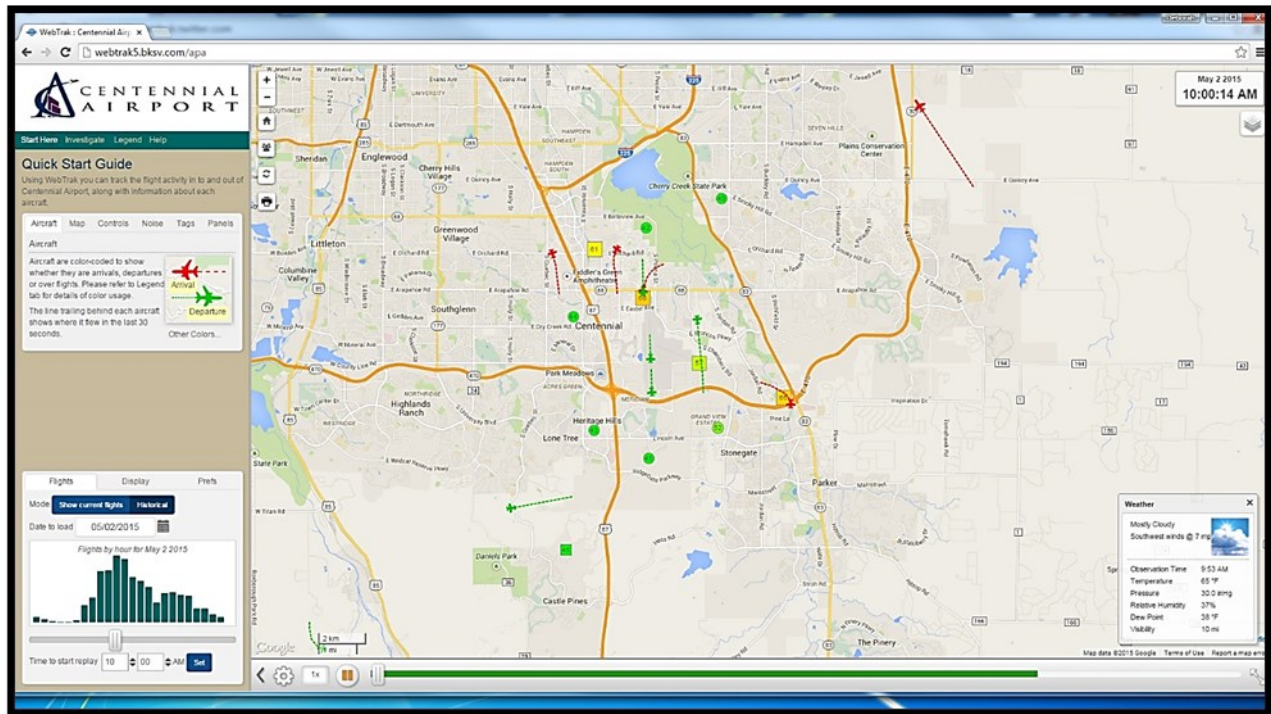
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4. ABOUT WEBTRAK™

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?](https://webtrak.emsbk.com/apa?fbclid=IwAR1xnXwQ2sVwisSZ_szUAIHFtyYBNIZTACOI1PF7ZSH8PPbBxORnnaidUUE)

[fbclid=IwAR1xnXwQ2sVwisSZ_szUAIHFtyYBNIZTACOI1PF7ZSH8PPbBxORnnaidUUE](https://webtrak.emsbk.com/apa?fbclid=IwAR1xnXwQ2sVwisSZ_szUAIHFtyYBNIZTACOI1PF7ZSH8PPbBxORnnaidUUE)

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

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

APA Noise Hotline:

303-790-4709

5. OPERATIONS STATISTICS

	IFR ITINERANT				VFR ITINERANT				LOCAL		
	AIR TAXI	G.A.	MILITARY	TOTAL ITINERANT	AIR TAXI	G.A.	MILITARY	TOTAL	G.A.	MILITARY	TOTAL LOCAL
January	2,483	2,640	172	5,295	1,607	5,408	132	7,147	13,881	2	13,883
February	2,374	2,702	161	5,237	1,709	5,384	83	7,176	13,797	2	13,799
March	2,527	2,771	133	5,431	1,947	6,487	89	8,523	16,676	13	16,689
April	2,247	2,606	140	4,993	1,592	5,580	105	7,277	15,502	29	15,531
May	2,659	2,833	164	5,656	1,933	6,068	112	8,113	15,677	24	15,701
June	2,743	2,961	190	5,894	2,145	6,599	97	8,841	14,805	5	14,810
July	2,618	3,056	230	5,904	2,301	7,138	140	9,579	17,631	10	17,641
August	2,983	3,413	191	6,587	2,011	6,522	101	8,634	13,537	23	13,560
September	2,865	2,966	250	6,081	2,043	7,510	96	9,649	14,742	6	14,748
October				0				0			0
November				0				0			0
December				0				0			0
Y-T-D Totals	23,499	25,948	1,631	51,078	17,288	56,696	955	74,939	136,248	114	136,362

	IFR OVERFLIGHTS				VFR OVERFLIGHTS				TOTAL OPERATIONS
	AIR TAXI	G.A.	MILITARY	TOTAL INTINERANT	AIR TAXI	G.A.	MILITARY	TOTAL	
January	3	4	4	11	35	61	12	108	26,444
February	4	8	1	13	21	36	5	62	26,287
March	0	10	1	11	31	31	6	68	30,722
April	3	5	3	11	39	47	4	90	27,902
May	8	7	0	15	16	60	6	82	29,567
June	4	5	1	10	21	61	7	89	29,644
July	4	12	5	21	14	91	4	109	33,254
August	7	19	1	27	31	37	5	73	28,881
September	6	8	1	15	27	62	4	93	30,586
October				0				0	
November				0				0	
December				0				0	
Y-T-D Totals	39	78	17	134	235	486	53	774	263,287

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.

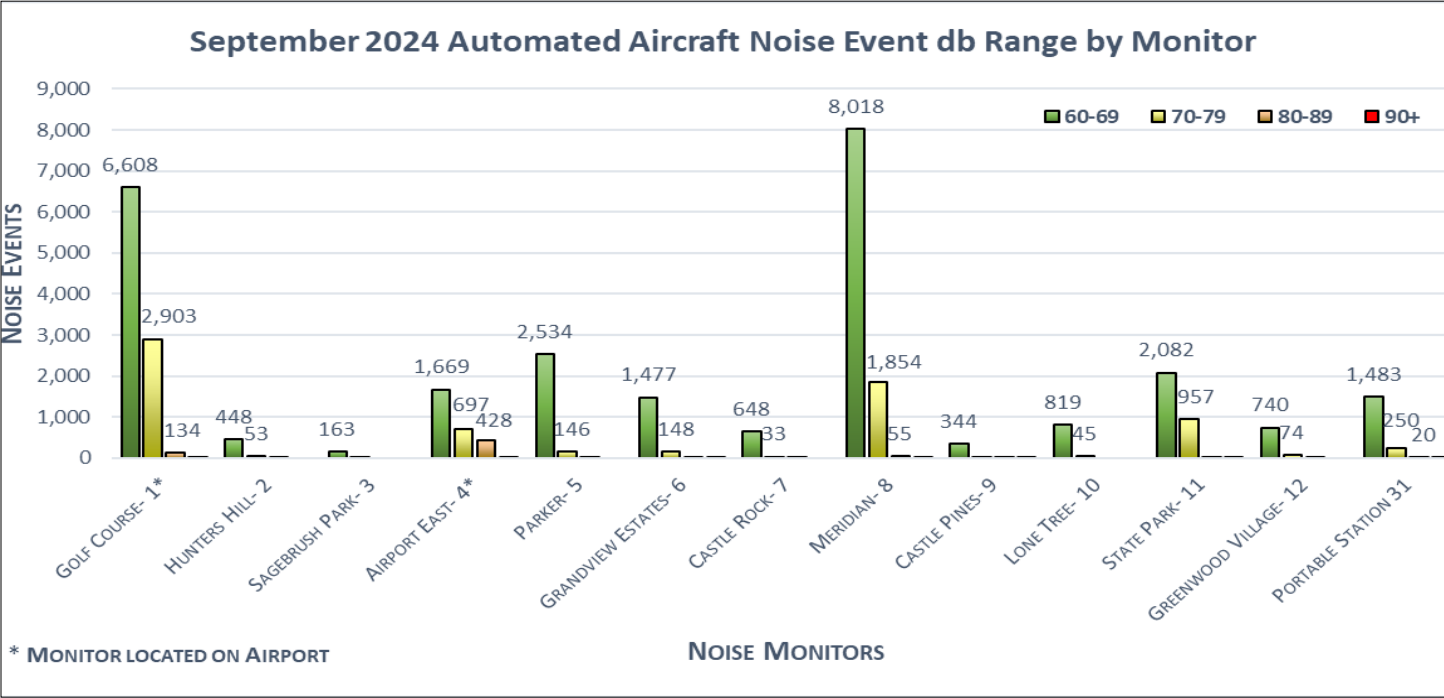
6. NOISE MONITOR REPORTS

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.

Automated Aircraft Noise Event Decibel Range By Monitor					
Monitor	60-69	70-79	80-89	90+	Totals
Golf Course- 1*	6,608	2,903	134	17	9,662
Hunters Hill- 2	448	53	6	0	507
Sagebrush Park- 3	163	15	0	0	178
Airport East- 4*	1,669	697	428	27	2,821
Parker- 5	2,534	146	5	0	2,685
Grandview Estates- 6	1,477	148	9	1	1,635
Castle Rock- 7	648	33	1	0	682
Meridian- 8	8,018	1,854	55	5	9,932
Castle Pines- 9	344	19	1	1	365
Lone Tree- 10	819	45	0	0	864
State Park- 11	2,082	957	15	1	3,055
Greenwood Village- 12	740	74	11	0	825
Portable Station 31	1,483	250	20	1	1,754
Totals	27,033	7,194	685	53	34,965

*Monitor located on Airport



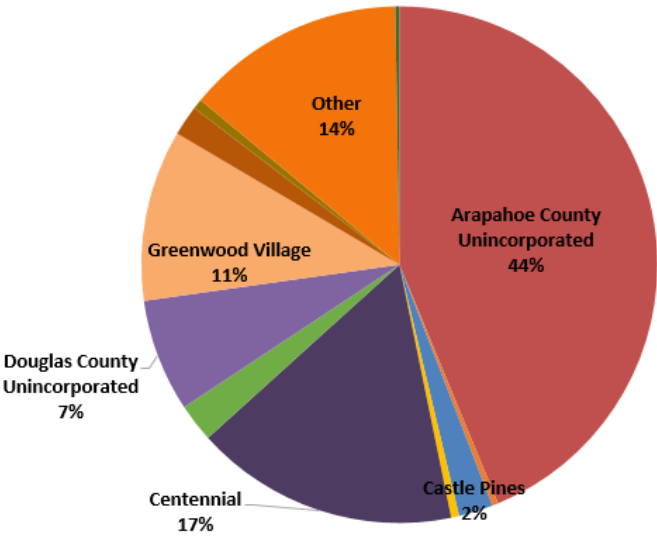
7. SEPTEMBER 2024 NOISE COMPLAINT STATISTICS

In September, Centennial Airport received 793 complaints from 81 households

September Noise Complaints			YTD		Population
Municipality	Complaints	Households	Complaints	Households	
Arapahoe County Unincorporated	347	25	5,038	99	98,066
Aurora	3	3	33	7	399,913
Castle Pines	17	1	175	2	14,000
Castle Rock	4	2	70	5	86,000
Centennial	131	4	876	12	108,422
Cherry Hills Village	0	0	0	0	6,442
Denver	19	3	264	5	715,522
Douglas County Unincorporated	56	12	440	26	276,493*
Greenwood Village	85	11	2,448	68	15,691
Highlands Ranch	15	3	37	9	103,444
Lone Tree	5	4	33	18	14,253
Parker	2	2	31	8	68,000
Other	109	11	1,000	32	UNK
Total	793	81	10,445	290	1,906,246

*Douglas County Unincorporated Population with Highlands Ranch Removed

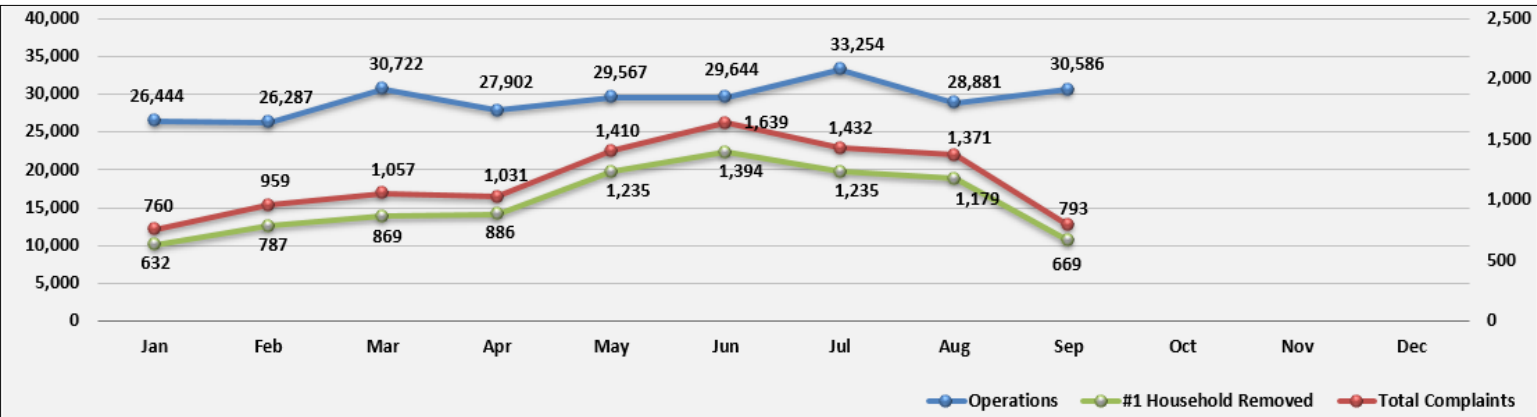
Complaints per Municipality



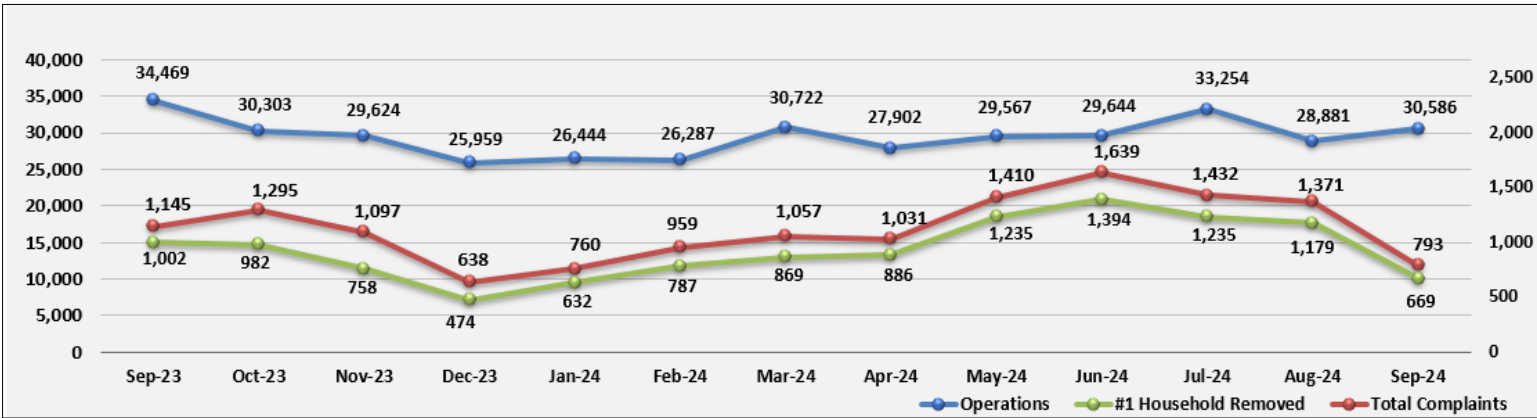
September 2024 Noise Complaint Responses Completed	
Email	105
Phone	3
Total	108

Time Complaint Received	Sep
Day Hours (7:00 am - 9:59pm)	714
Night Hours (10:00 pm - 6:59 am)	79
TOTAL	793

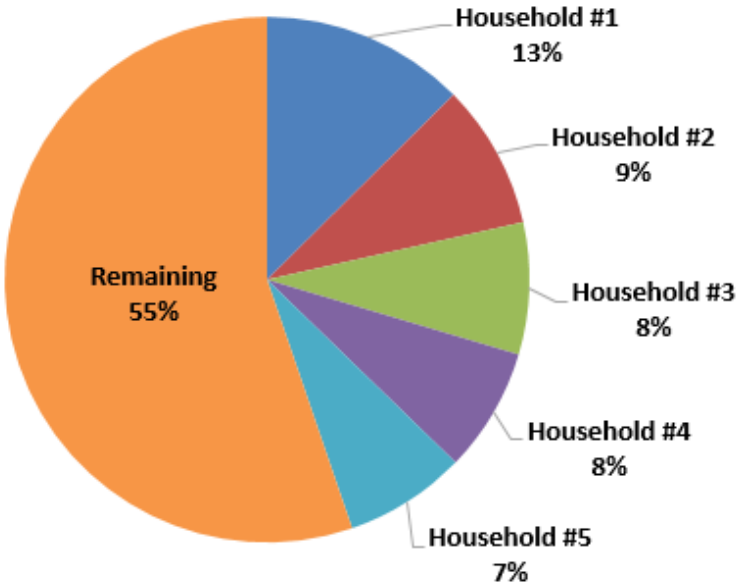
Current 12 Month Trend



Previous Year 13 Month Trend



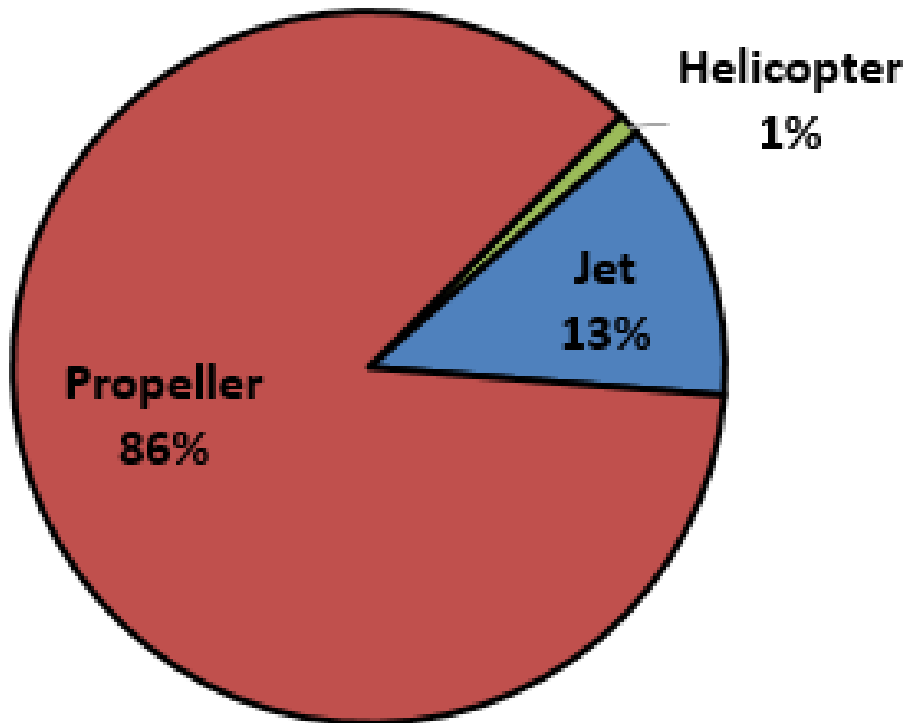
Top 5 Household Complaints YTD



Top 5 Household Complaints YTD

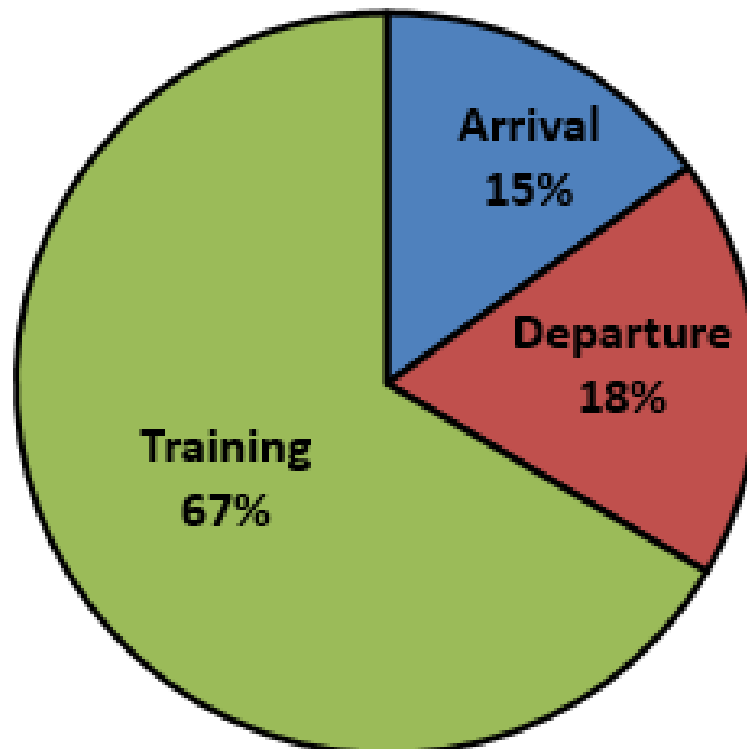
Household	Complaints	Resides In
Household #1	1,313	Arapahoe County
Household #2	932	Greenwood Village
Household #3	847	Centennial
Household #4	798	Other (Elizabeth)
Household #5	784	Arapahoe County
Remaining	5,771	
Total	10,445	

Complaints by Aircraft Type

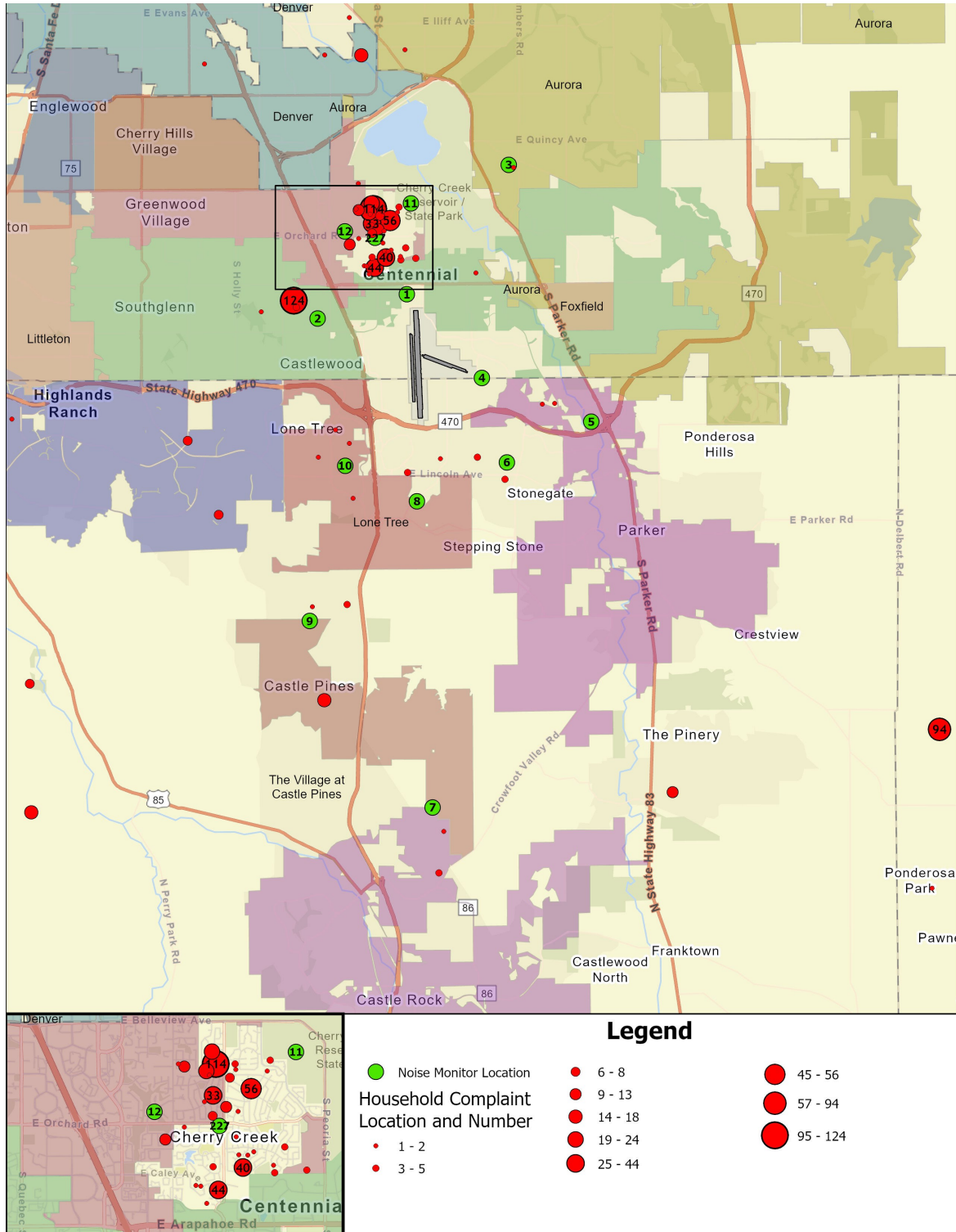


*#1 Household removed from the charts on this page.

Complaints by Operation Type



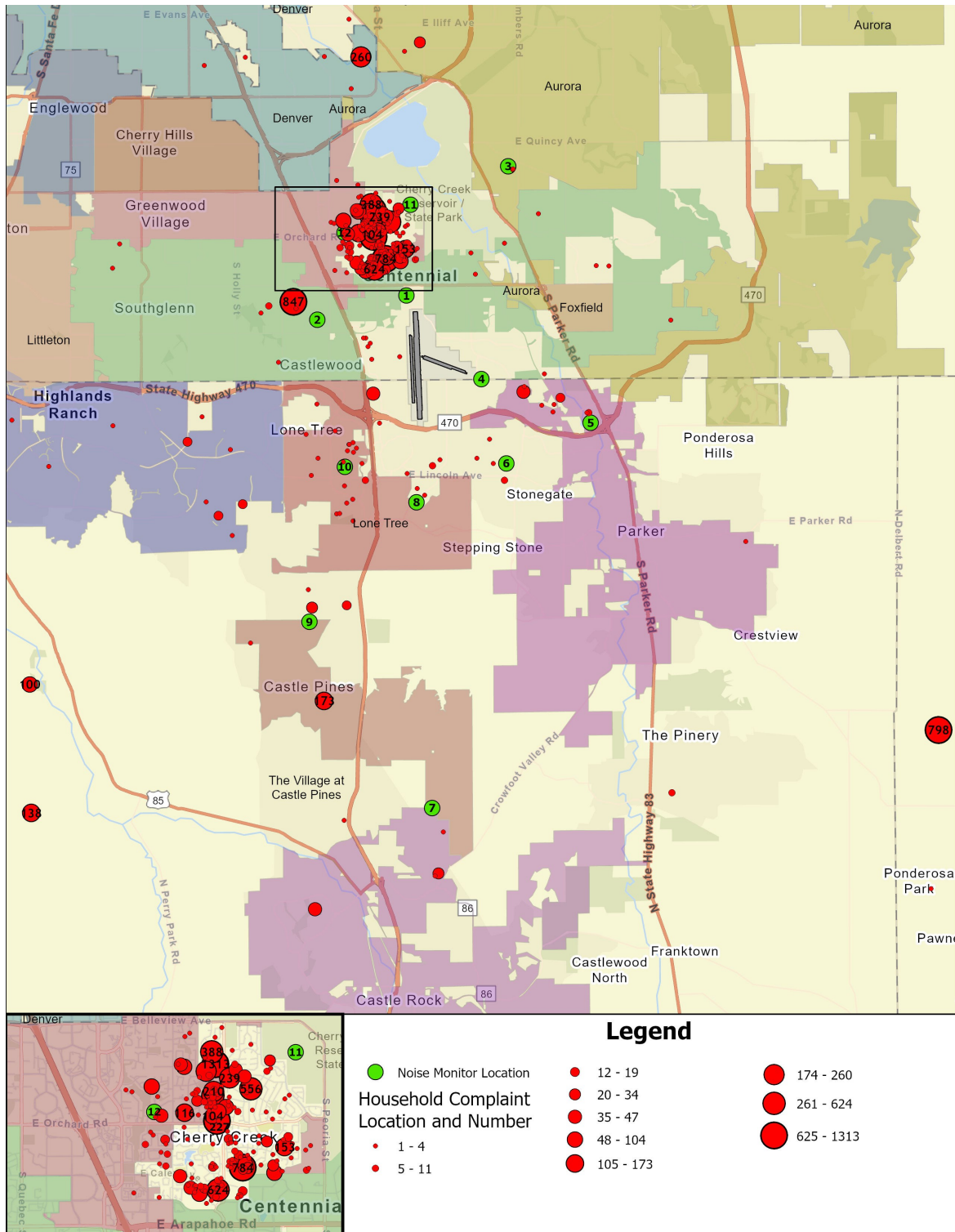
8. CENTENNIAL AIRPORT COMPLAINT MAP—SEPTEMBER 2024



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

**12 households not visible in map view.

CENTENNIAL AIRPORT COMPLAINT MAP—YEAR TO DATE



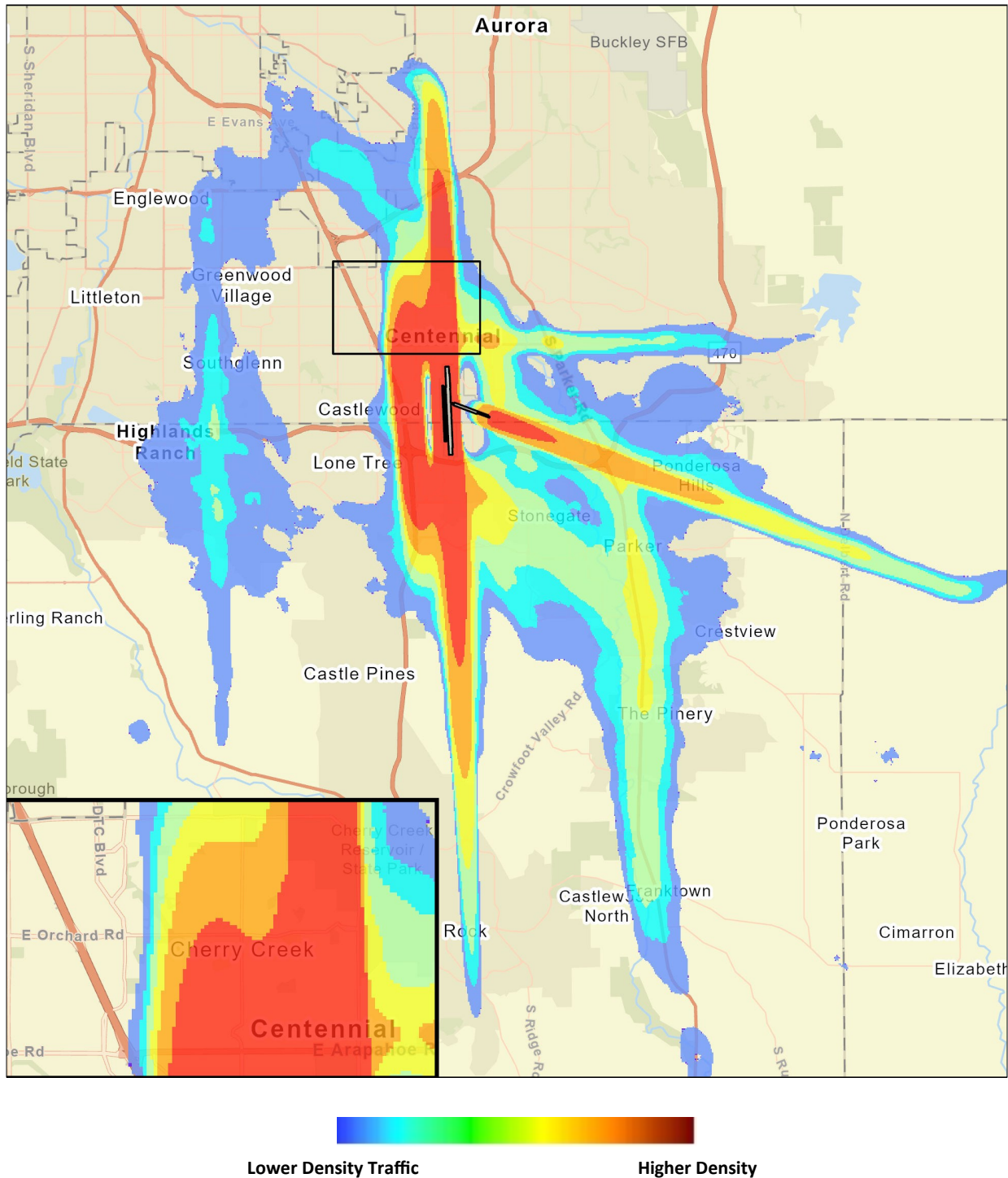
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**36 households not visible in map view.

9. CENTENNIAL AIRPORT RADAR TRACK DENSITY MAP

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

September 2024 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



Centennial Airport Monthly Noise Report



October 2024

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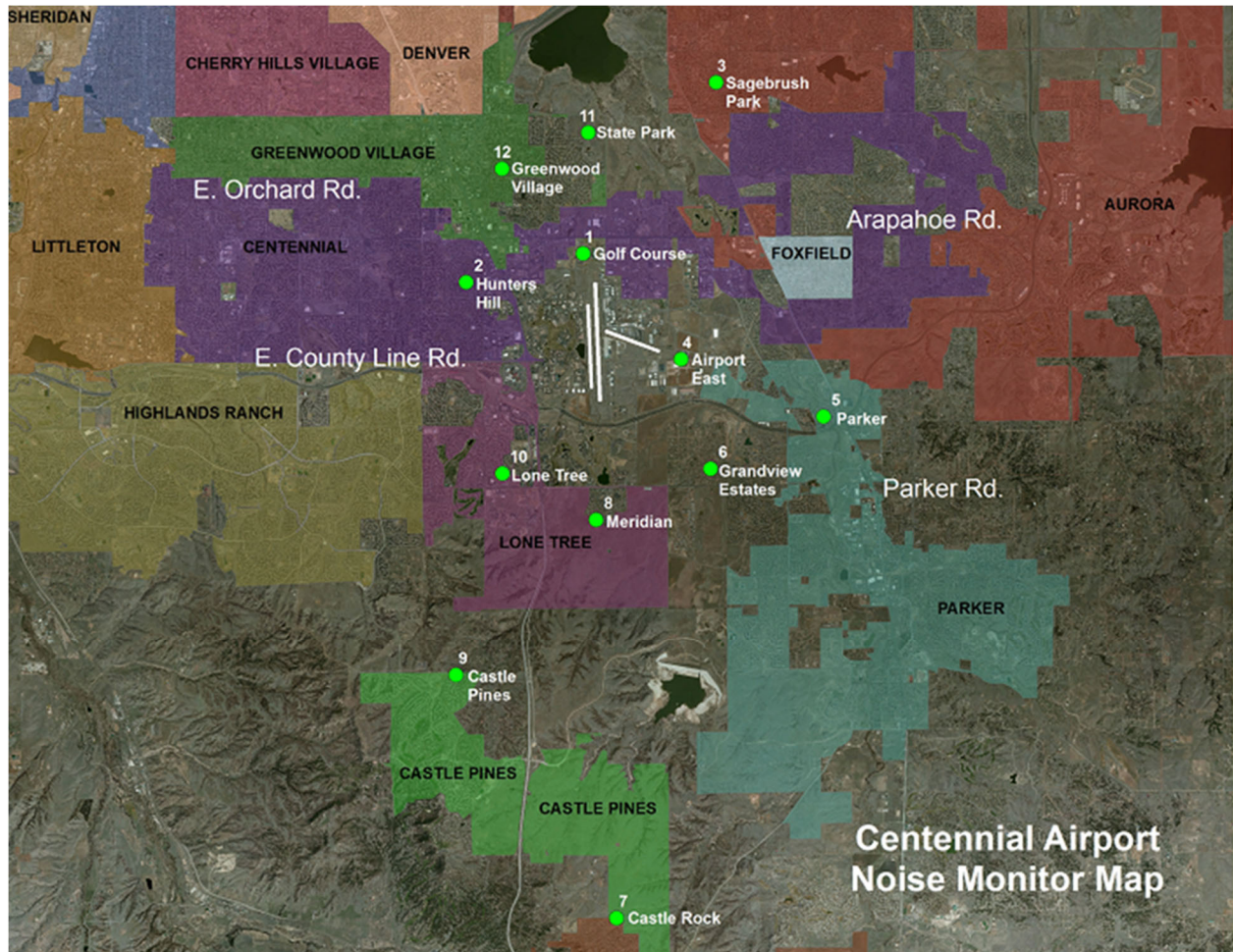
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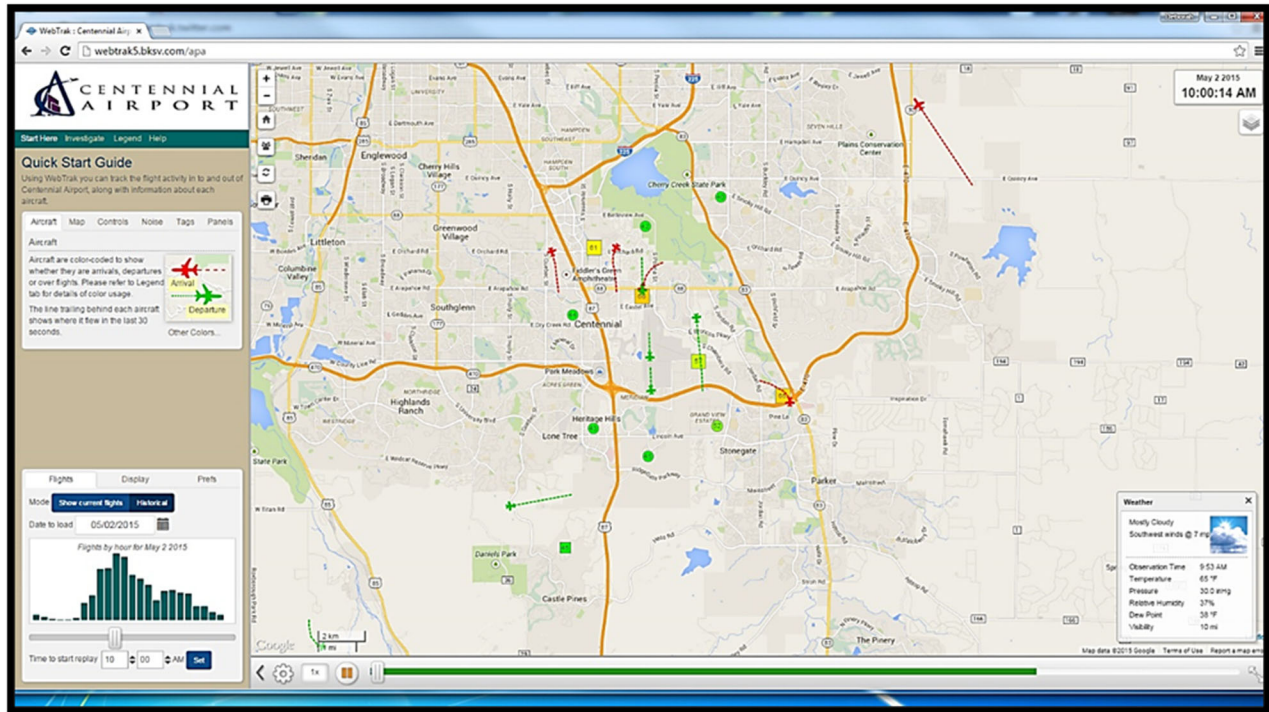
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September	2,866	2,966	250	6,082	2,043	7,510	96	9,649	14,742	6	14,748
October	3,023	2,948	159	6,130	1,945	6,612	133	8,690	13,853	18	13,871
November				0				0			0
December				0				0			0
Y-T-D Totals	26,523	28,896	1,790	57,209	19,233	63,308	1,088	83,629	150,101	132	150,233

	IFR OVERFLIGHTS				VFR OVERFLIGHTS				TOTAL OPERATIONS
	AIR TAXI	G.A.	MILITARY	TOTAL INTINERANT	AIR TAXI	G.A.	MILITARY	TOTAL	
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February	4	8	1	13	21	36	5	62	26,287
March	0	10	1	11	31	31	6	68	30,722
April	3	5	3	11	39	47	4	90	27,902
May	8	7	0	15	16	60	6	82	29,567
June	4	5	1	10	21	61	7	89	29,644
July	4	12	5	21	14	91	4	109	33,254
August	7	19	1	27	31	37	5	73	28,881
September	6	8	1	15	27	62	4	93	30,587
October	4	5	1	10	16	53	11	80	28,781
November				0				0	
December				0				0	
Y-T-D Totals	43	83	18	144	251	539	64	854	292,069

Definitions

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

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

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

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

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

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

6. NOISE MONITOR REPORTS

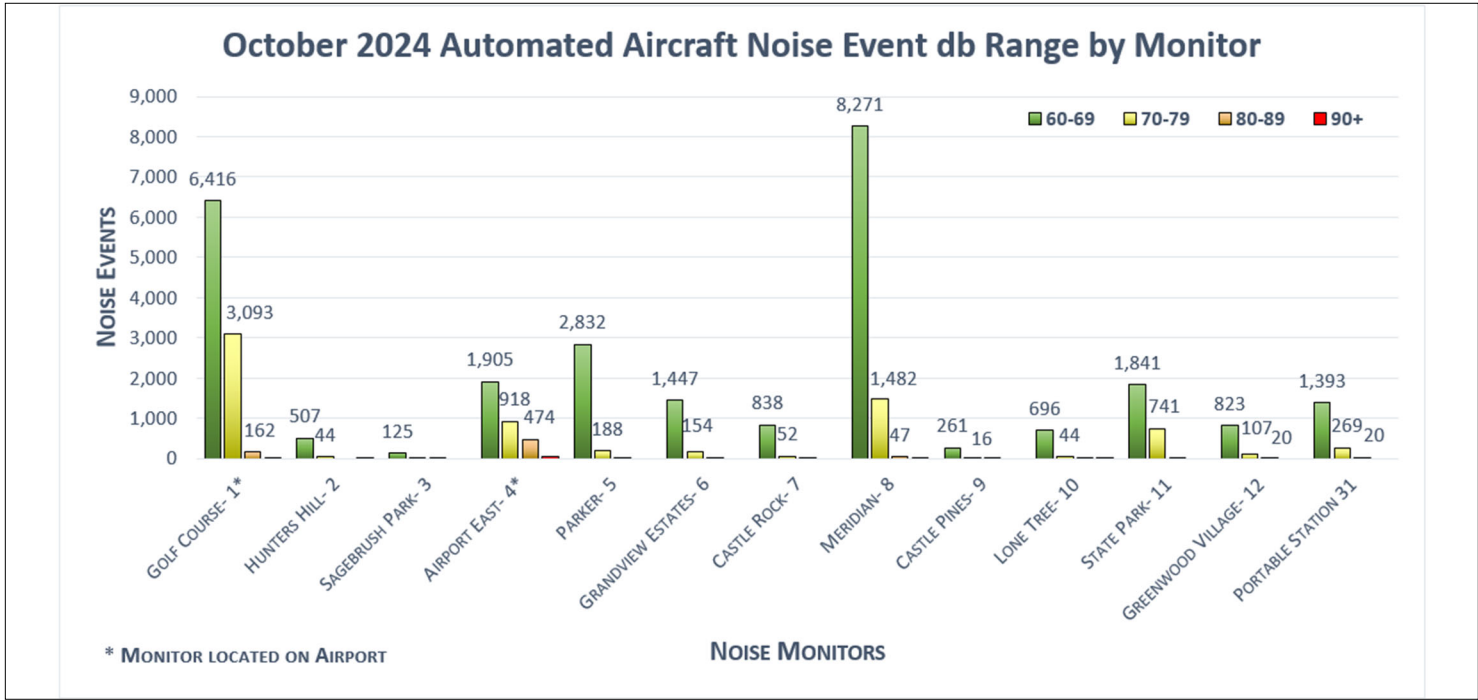
The following data displays the amount and associated decibel level of aircraft noise events at a given monitor. An aircraft noise event must contain the following characteristics:

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

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

Automated Aircraft Noise Event Decibel Range By Monitor					
Monitor	60-69	70-79	80-89	90+	Totals
Golf Course- 1*	6,416	3,093	162	5	9,676
Hunters Hill- 2	507	44	0	1	552
Sagebrush Park- 3	125	12	1	0	138
Airport East- 4*	1,905	918	474	32	3,329
Parker- 5	2,832	188	2	0	3,022
Grandview Estates- 6	1,447	154	6	0	1,607
Castle Rock- 7	838	52	2	0	892
Meridian- 8	8,271	1,482	47	1	9,801
Castle Pines- 9	261	16	1	0	278
Lone Tree- 10	696	44	1	3	744
State Park- 11	1,841	741	6	0	2,588
Greenwood Village- 12	823	107	20	0	950
Portable Station 31	1,393	269	20	0	1,682
Totals	27,355	7,120	742	42	35,259

*Monitor located on Airport



**Due to outages with the NMT equipment, data collection was interrupted for the following NMTs during the specified times: NMT 7 10/12-10/14 (0700-1247); NMT 6: 10/6 (17:00-18:14); NMT 7: 10/26 (0200-0308), 10/22 (1000-1101), 10/29 (1000-1111).

7. OCTOBER 2024 NOISE COMPLAINT STATISTICS

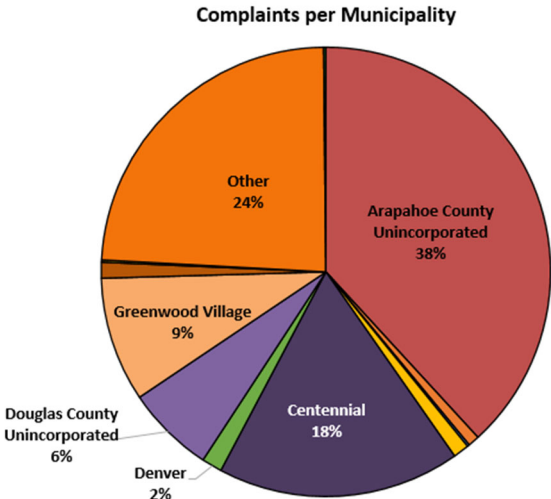
In October, Centennial Airport received 613 complaints from 48 households

October Noise Complaints			YTD		Population
Municipality	Complaints	Households	Complaints	Households	
Arapahoe County Unincorporated	234	16	5,282	99	98,066
Aurora	5	2	38	7	399,913
Castle Pines	1	1	176	3	14,000
Castle Rock	7	1	77	5	86,000
Centennial	107	2	983	13	108,422
Cherry Hills Village	0	0	0	0	6,442
Denver	9	1	273	5	715,522
Douglas County Unincorporated	39	5	480	26	276,493*
Greenwood Village	55	8	2,493	65	15,691
Highlands Ranch	7	2	44	9	103,444
Lone Tree	1	1	34	18	14,253
Parker	1	1	32	8	68,000
Other	147	8	1,146	32	UNK
Total	613	48	11,058	290	1,906,246

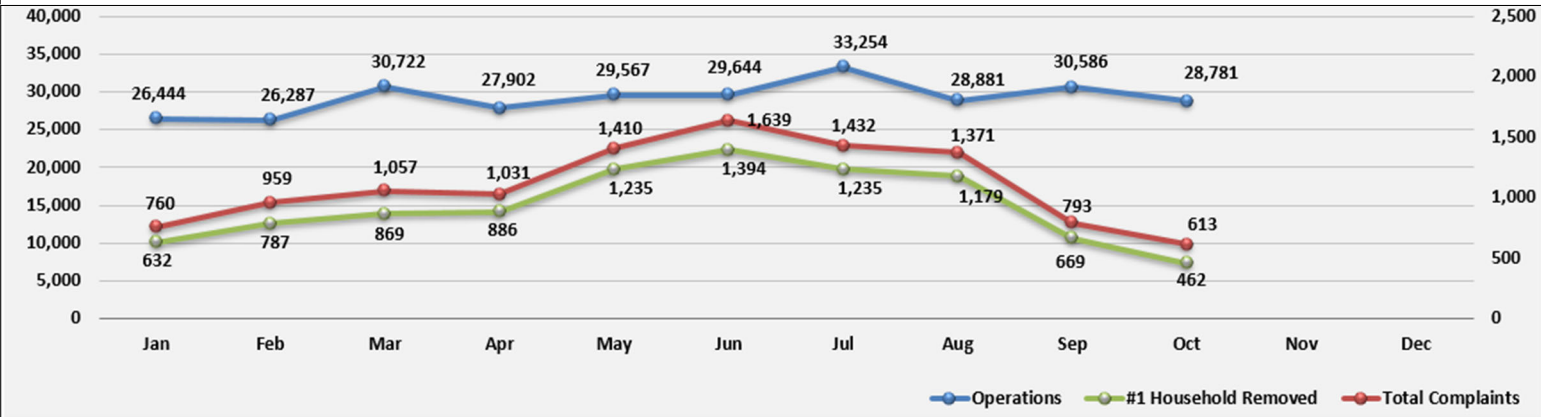
*Douglas County Unincorporated Population with Highlands Ranch Removed

October 2024 Noise Complaint Responses Completed	
Email	79
Phone	2
Total	81

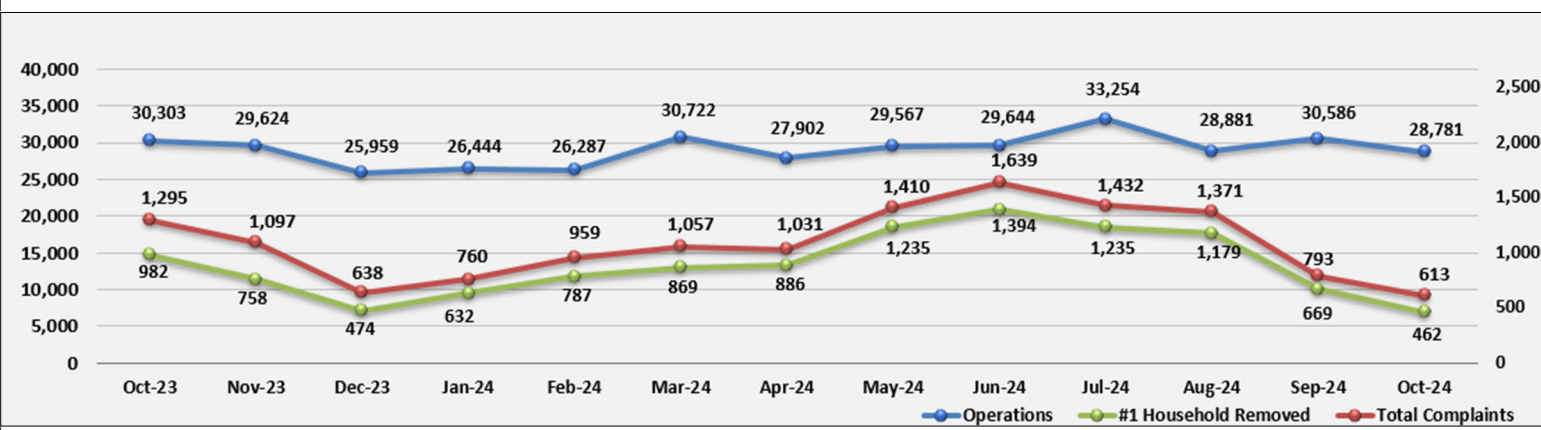
Time Complaint Received	October
Day Hours (7:00 am - 9:59pm)	585
Night Hours (10:00 pm - 6:59 am)	28
TOTAL	613



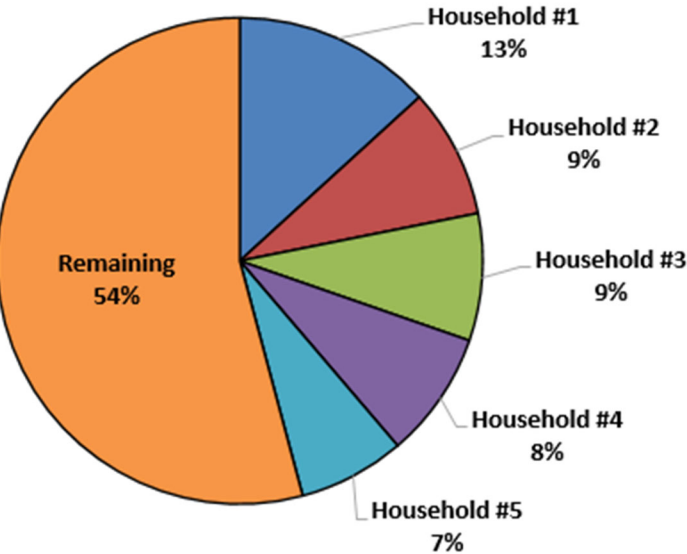
Current 12 Month Trend



Previous Year 13 Month Trend



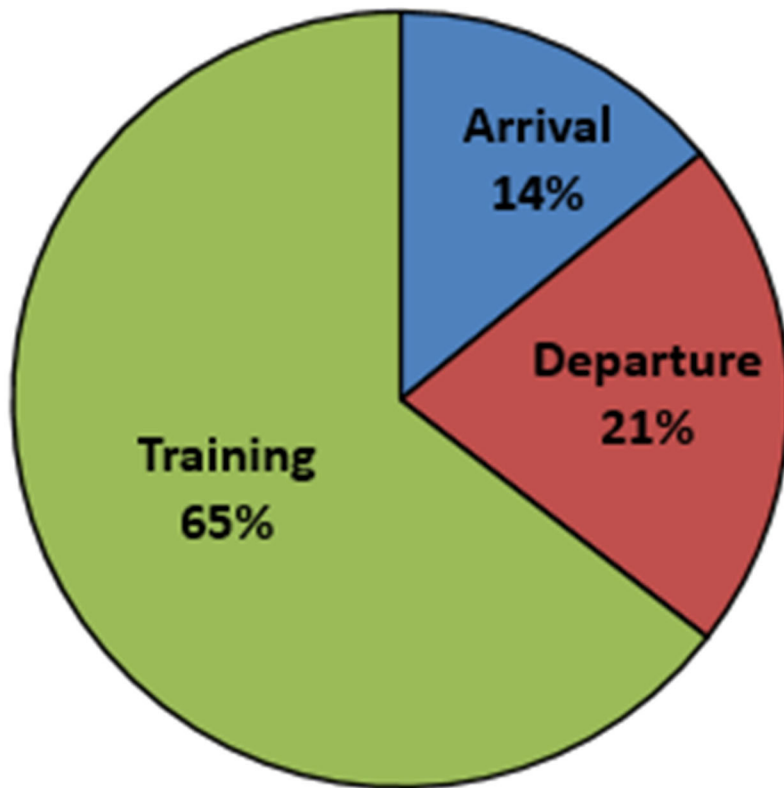
Top 5 Household Complaints YTD



Top 5 Household Complaints YTD		
Household	Complaints	Resides In
Household #1	1,464	Arapahoe County Unincorporated
Household #2	953	Centennial
Household #3	935	Other (Elizabeth)
Household #4	932	Greenwood Village
Household #5	784	Arapahoe County Unincorporated
Remaining	5,590	
Total	11,058	

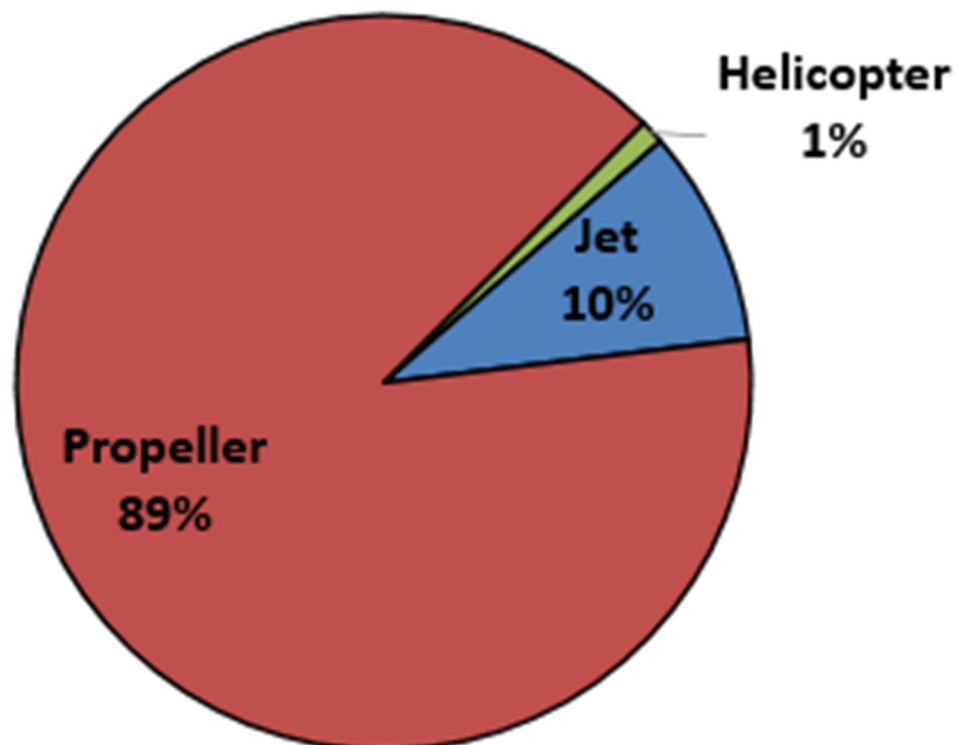
Complaints by Operation Type

October 2024

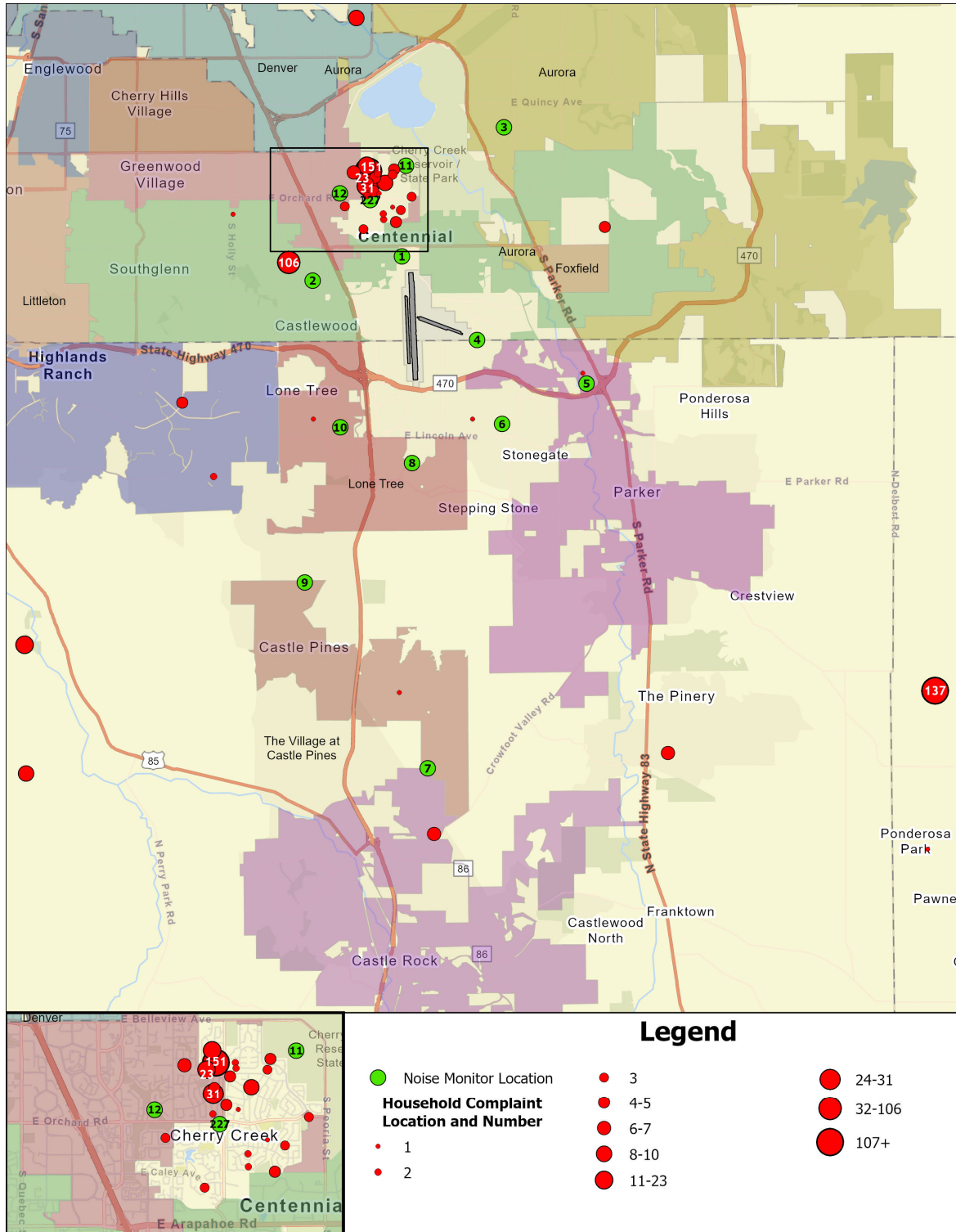


*#1 Household removed from the charts on this page.

Complaints by Aircraft Type



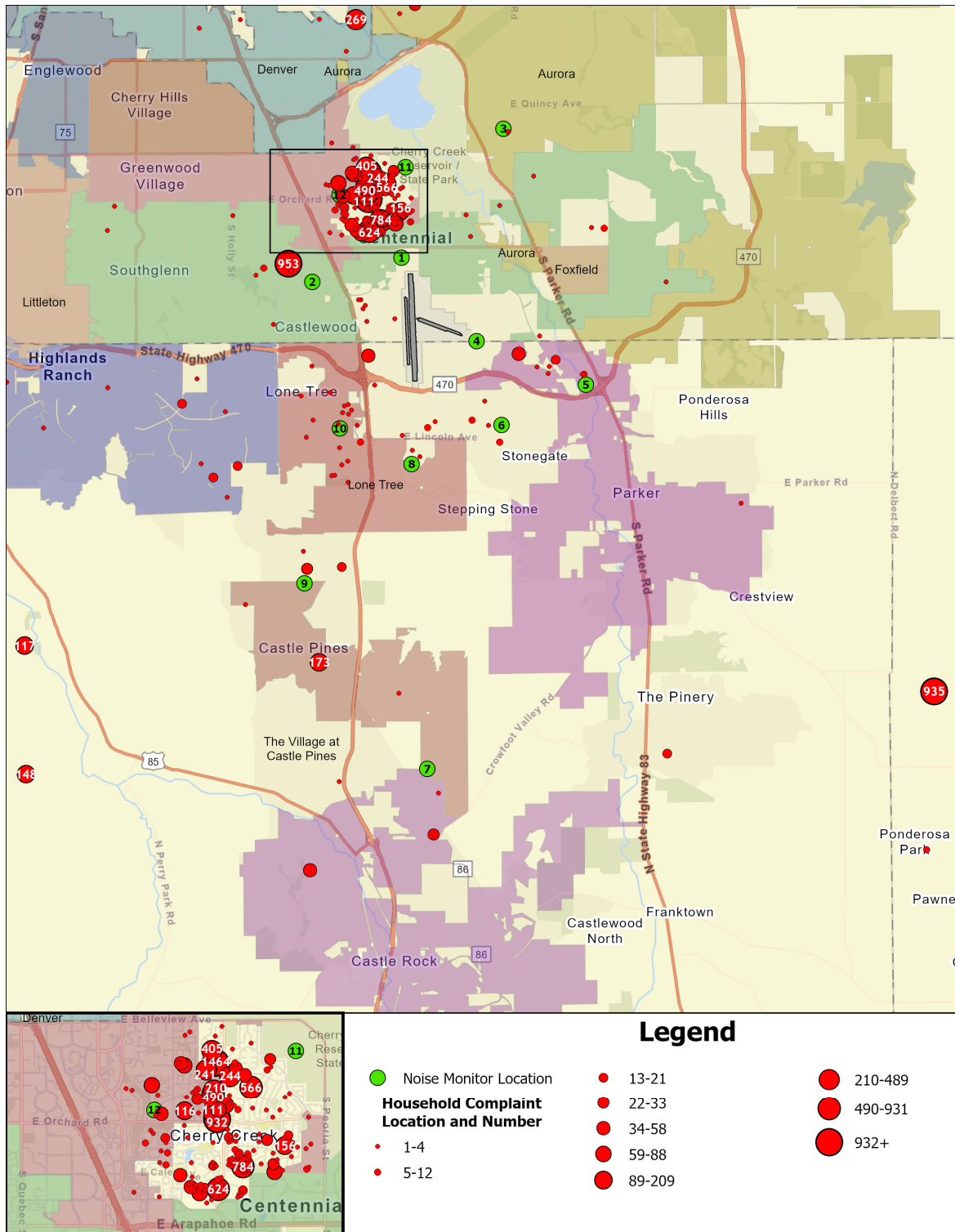
8. CENTENNIAL AIRPORT COMPLAINT MAP—OCTOBER 2024



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

**7 households not visible in map view.

CENTENNIAL AIRPORT COMPLAINT MAP—YEAR TO DATE



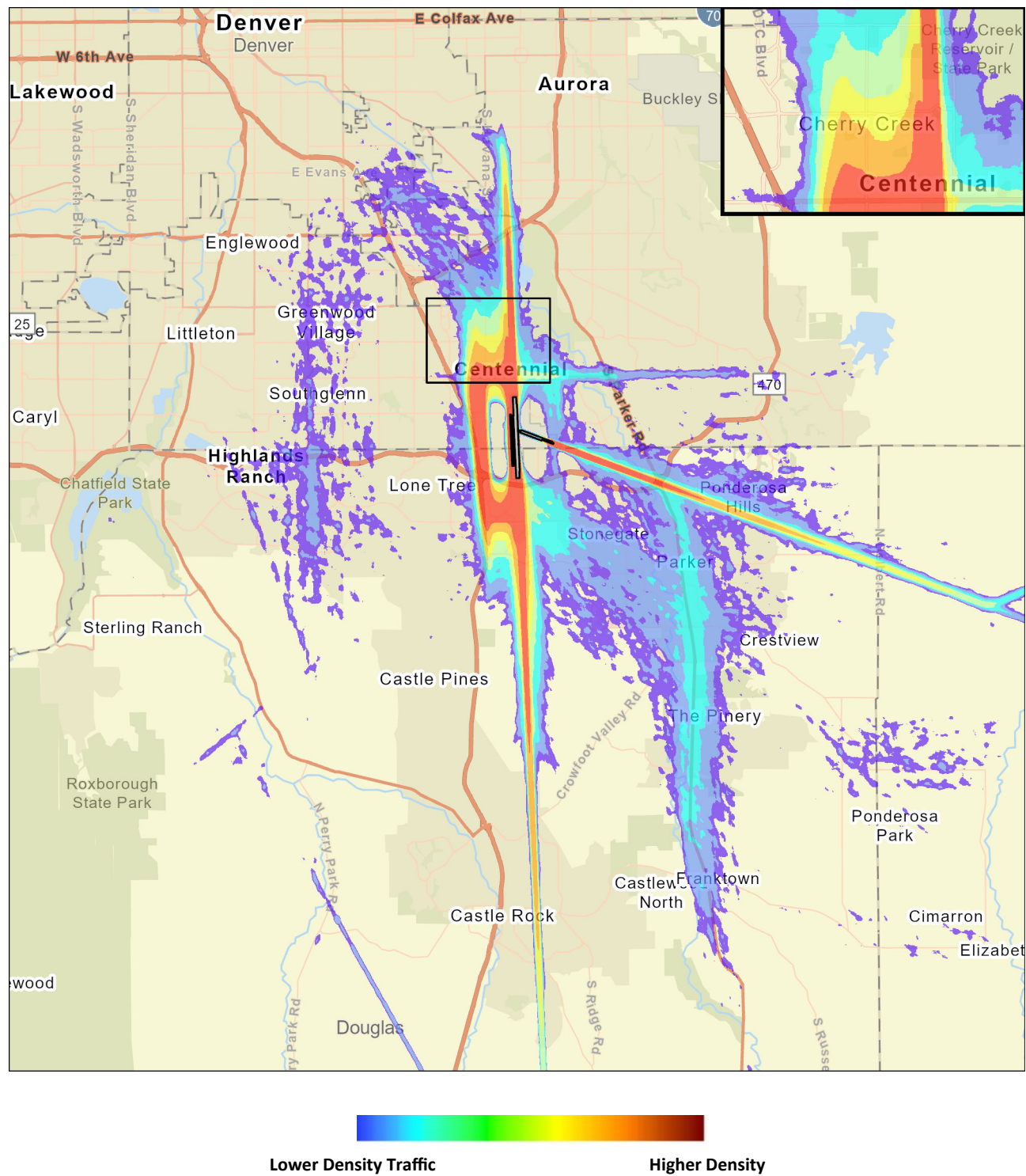
**Larger dots equate to more complaints for that household.

**34 households not visible in map view.

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.

October 2024 Flight Tracks associated with Centennial Airport



10. NOTES AND DISCLAIMER

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Noise Hotline: 303-790-4709

www.centennialairport.com



Portable Noise Monitor Report

Location of Noise Monitor:
Elizabeth, CO
Under 3 Towers Practice Box

Report Prepared: November 13th, 2024

Centennial Airport (KAPA)
7565 S. Peoria St.
Englewood, CO 80112



Centennial Airport
Arapahoe County Public Airport Authority



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. The 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 on October 11th, 2024 and remained until November 12th, 2024. The monitor is located approximately 13.5 miles Southeast of Centennial Airport.

Noise Level Reports

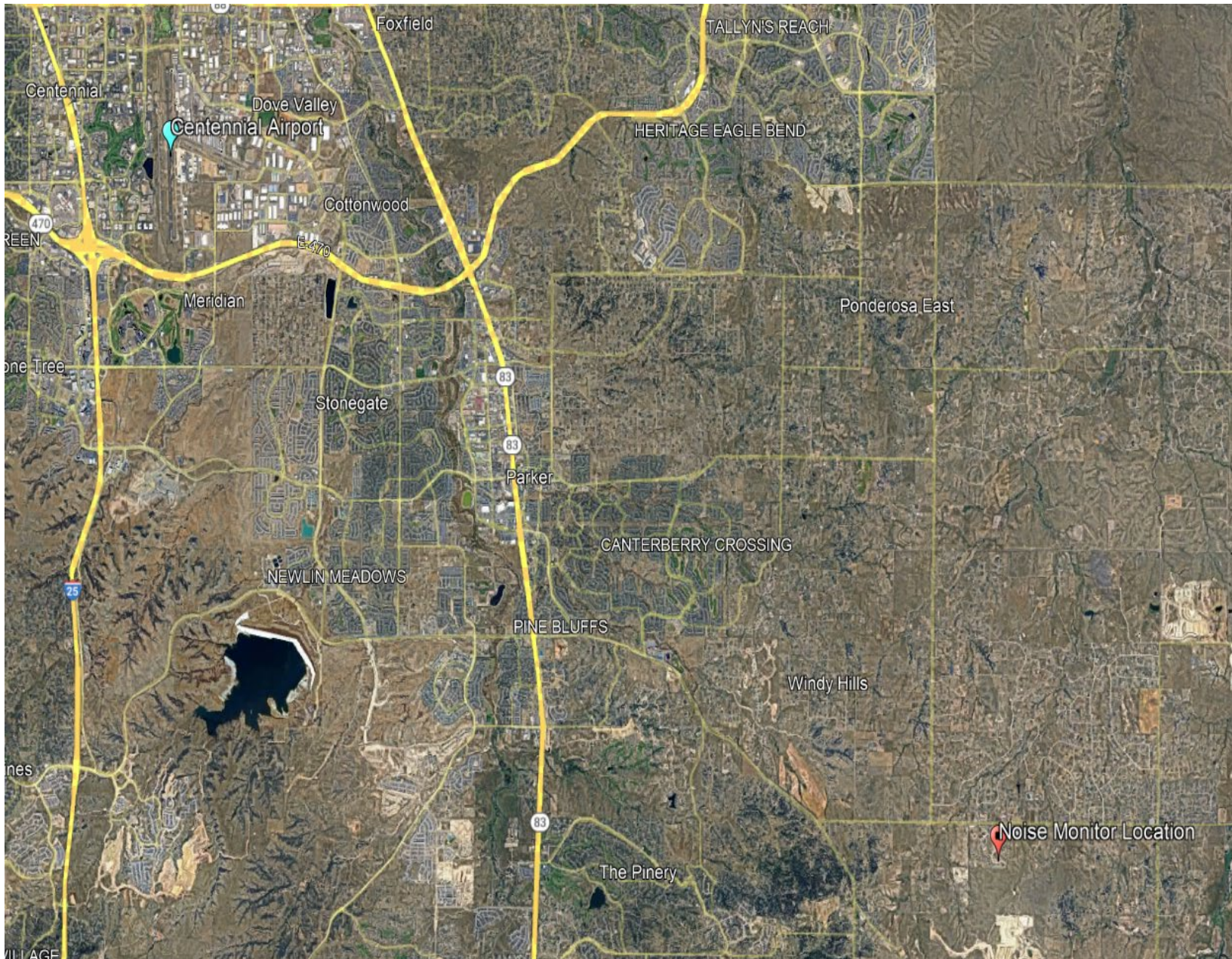
The Noise Level Reports summarizes measurement results at the noise monitoring site. The data presented summarizes the noise levels and the individual measured aircraft noise events. The noise data presents the measured noise during the period of the measurements for aircraft, community, and total noise 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.

Neighborhood Noise Report

Dates of Report October 11th, 2024 – November 11th, 2024

Location of Portable Noise Monitor Elizabeth, CO Under 3 Towers Practice Box

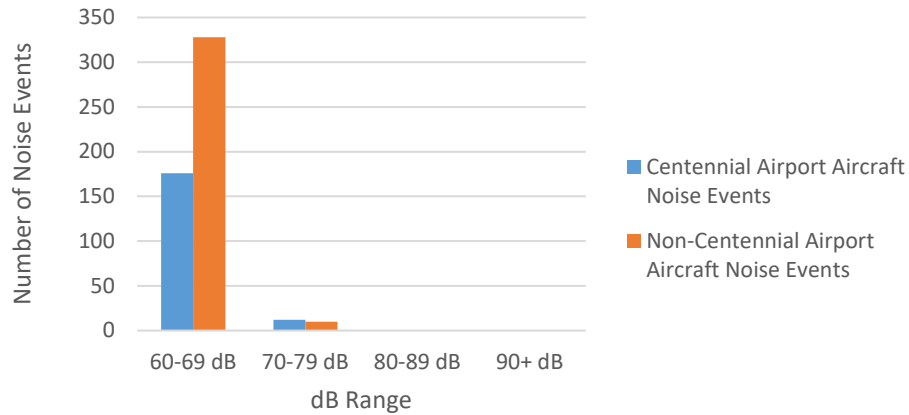


Aircraft DNL	37.3	The 24-hour average sound level of aircraft with a 10dB penalty for nighttime noise events.	Total DNL	49.3	The 24-hour average sound level with a 10dB penalty for nighttime noise events
Community DNL	48.7	The 24-hour average sound level of the community with a 10dB penalty for nighttime noise events	Average Aircraft LMax (dB)	57.3	The peak noise level for a single aircraft noise event.

Centennial Airport Associated Flight Path within 1 Mile of Noise Monitor	
Propeller	505
Jet	92
Helicopter	1
Unknown	161
Total	759

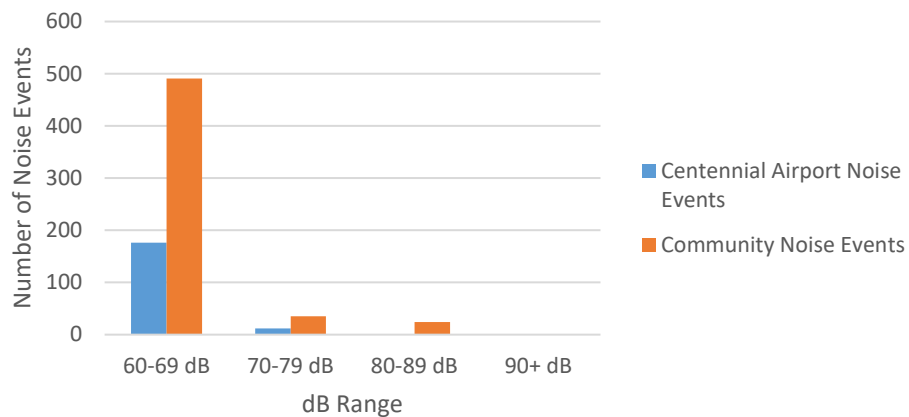
Noise Events	
Centennial Airport Aircraft Noise Events at Portable Monitor	508
Non-Centennial Airport Aircraft Noise Events at Portable Monitor	794
Total Aircraft Noise Events at Portable Monitor	1,302
Total Community Noise Events at Portable Monitor	3,745

Centennial Airport Aircraft Noise Events vs. Non-Centennial Airport Aircraft Noise Events



	Centennial Airport Aircraft Noise Events	Non-Centennial Airport Aircraft Noise Events
60-69 dB	176	328
70-79 dB	12	10
80-89 dB	0	0
90+ dB	0	0

Centennial Airport Aircraft Noise Events vs. Community Noise Events



	Centennial Airport Aircraft Noise Events	Community Noise Events
60-69 dB	176	491
70-79 dB	12	35
80-89 dB	0	24
90+ dB	0	0

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.



Noise Hotline: 303-790-4709

www.centennialairport.com

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U.S. Department
of Transportation
**Federal Aviation
Administration**

Northwest Mountain Region
Office of the Regional Administrator

2200 S. 216th Street
Des Moines, Washington 98198

October 21, 2024

Chris Eubanks
Chair
Centennial Airport Community Noise Roundtable
7565 South Peoria St., Unit D9
Englewood, CO 80112

Dear Mr. Eubanks:

Thank you for your letter dated August 8, 2024, from the Centennial Airport (APA) Community Noise Roundtable (CACNR), regarding clarification on statements in the April 6, 2023, letter. There were two questions received that will be addressed in this letter.

*Question 1: Your letter states “decisions about flight times, number of operations, and aircraft type are in the scope of private industry (not the FAA).” **Please clarify what is meant by “private industry,” as it is important to the CACNR that we understand the entity(ies) responsible for flight times, number of operations and aircraft type at Centennial Airport. Please also clarify the limitations of the Airport Authority under Federal Grant Assurances and Statute.***

FAA Response: When mentioning “private industry” in relation to decisions about flight times, number of operations and aircraft type, we were referring to aviation’s private sector, or nongovernmental companies and organizations.

Regarding the second portion of the question, by accepting grants under the FAA’s Airport Improvement Program, Arapahoe County and the Arapahoe County Public Airport Authority, as sponsors of APA, are contractually obligated to 39 federal grant assurances. The most relevant of these is Grant Assurance #22, Economic Nondiscrimination. This grant assurance implements the provisions of 49 U.S.C. § 47107(a)(1), which state, in part, that the sponsor “will make the airport available as an airport for public use on reasonable terms and without unjust discrimination to all types, kinds and classes of aeronautical activities.” APA cannot unjustly prohibit or limit access to the airport.

Question 2: Your correspondence indicates that “The FAA did not change how the traffic pattern is managed at KAPA. Rather, as aircraft are added to the VFR pattern, the pattern naturally becomes elongated” ...” nor have any new procedures been implemented that direct the extension of traffic patterns over residential areas.” Your letter also states, “It was determined the primary and overriding causal factor for the longer VFR pattern footprint (referred to as the “extended pattern” in your questions) was the increased volume of aircraft competing for the same runway capacity.”

*We understand that the controllers elongate the pattern to allow for more aircraft in the pattern and this has always been the case at Centennial Airport. Our communities have observed a rise in the adoption of extended traffic patterns, which appears to coincide with the midair collision that occurred in May 2021. Prior to receiving your April 2023 letter, the community understood that the controllers (FAA) changed how they sequence/mix aircraft in the pattern with arrivals, which results in an increase in the number of aircraft being asked to extend their downwind. Before the 2021 midair collision it was understood that the parallel runways were operated independent of one another. Now with the controllers using positive control of base turns for Runway 17R, traffic needs to be staggered while on final approach to both parallel runways, which therefore causes substantial overflights of the communities due to extending the downwind for Runway 17R. The CACNR accepted the FAA's rationale behind the need for sequencing arrival and pattern aircraft, but your letter seems to refute the information previously understood. **Please let us know, as it is of great importance to the CACNR and our Study Group that is attempting to address the community's concerns related to the increased use of the elongated traffic pattern, whether it is indeed only attributed to an increase in the use of the traffic pattern or if the change in how the controllers sequence arrivals in with the aircraft in the pattern has contributed.***

FAA Response: While controlling the base turn and staggering approaches to the parallel runways may have some influence on the extension of the traffic pattern, a major contributor to an increase in the traffic pattern size is the number of aircraft. Staggered approaches can cause the downwind leg to be extended, but additional aircraft can also impact any portion of the pattern as controllers utilize the tools available to them to properly sequence aircraft. Even if the airport had a single runway and a staggered approach was not necessary, an increased number of aircraft can necessitate the extension of the traffic pattern just due to volume. For example, the initial upwind leg can be extended prior to turning crosswind and/or aircraft can be required to extend their downwind leg prior to turning onto the base leg as a direct result of sequencing aircraft to the runway.

We believe that the work of the Centennial Airport study group has been integral to the safety enhancements at APA. The FAA is committed to continuously strive toward the next level of safety and efficiency in aviation and we hope the study group will continue its efforts to support these same values.

Regards,



Grady Stone
Regional Administrator
Northwest Mountain Region

CENTENNIAL AIRPORT

Community Noise Roundtable Study Group Committee



Third Quarter 2024
Update Report
November 2024
Report #5



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EXECUTIVE SUMMARY

The third quarter (Q3) 2024 report of the Centennial Airport Community Noise Roundtable (CACNR) Study Group Committee (Study Group) provides the progress on the mitigation efforts and possible results from those efforts to address the use of the extended traffic pattern by training aircraft at Centennial Airport (APA).

To date in 2024 3,377 fewer aircraft used the extended traffic pattern as compared to the same period in 2023. The number of touch-and-go aircraft on the extended traffic pattern decreased significantly to 10,256, down 3,477 from Q3 2023, when 13,733 aircraft entered. The percentage of touch-and-go aircraft on the extended traffic pattern also dropped from 54.9% in Q3 2023 to 46.1% in Q3 2024. A similar trend was observed in the YTD data, with 31,766 aircraft on the extended traffic pattern in 2024, down from 35,103 in 2023, and the percentage of aircraft on the extended traffic pattern falling from 53.3% to 49.8%.

This is the fifth progress report from the Study Group. The first report focused on the establishment of the Study Group and six mitigation strategies the Study Group identified as viable that could be implemented in the near term or before the summer of 2024. The second report focused on mitigation strategies adopted in the fourth quarter of 2023 as well as mitigation strategies the Study Group has considered but not adopted. The third report focused on data analysis specifically comparing the first quarters of 2023 and 2024. This report is focused on data analysis specifically comparing the third quarters of 2023 and 2024. Notable updates [\(all updates to previous information indicated in blue\)](#) reported in this Q3 2024 report include:

1. Noise Abatement Information in Chart Supplement – report page 12
2. Proactive Outreach & Education to Flight Schools – report page 13
3. Proactive Checking of Extended Traffic During Nighttime Hours – report page 14

Suggestions and potential mitigations from the Roundtable and/or the public can be submitted to the Study Group for consideration using the Google Form provided in this document. For more information on previously submitted suggestions please refer to the **Feedback and Considerations for the Study Group** section on page 29 of this Q3 2024 Report.

The Study Group continues to meet to assess the viability of additional mitigations, measure and determine the success, if any, of adopted mitigation strategies, and consider modifications to strategies. As a reminder, preparing and publishing these progress reports on a quarterly basis is a Study Group goal. There may be delays in providing these quarterly reports, like the Q1 2024 Report. Our community's continued patience and understanding is appreciated as we work diligently to solve this complex problem of aircraft using the extended downwind traffic pattern for training purposes.

GLOSSARY of TERMS

ACPAA - Arapahoe County Public Airport Authority

ADO - FAA Airports District Office

ANCA - Airport Noise and Capacity Act

ANOMS™ - Airport Noise and Operations Monitoring System

APA - Centennial Air Traffic Control Tower

ATC - FAA Air Traffic Control

ATO - Air Traffic Organization

CACNR - Centennial Airport Community Noise Roundtable

CDOT - Colorado Department of Transportation

Centennial Airport Voluntary Noise Abatement Procedures - The creation of the voluntary noise abatement procedures was one of the recommendations from the previous Part 150 Study that concluded in 2008. Several stakeholders were involved in the creation of these procedures including the FAA, CACNR, ACPAA and based pilots and flight schools.

FAA - Federal Aviation Administration

Full Stop Taxi Back - aircraft lands on runway, comes to a full stop, taxis off runway and takes taxiway back to runway threshold before taking off and entering into the pattern traffic.

FTE - Full Time Employee, in this instance refers to the full time noise analyst hired by ACPAA after a recommendation of the CACNR/Study Group.

Itinerant - aircraft that are based at other airports

Minimum Standards – prescribe regulations for the conduct of commercial aeronautical activity as Centennial Airport and specific certain clauses which will be included in lease agreements permitting the conduct of such activities.

NATCA - National Air Traffic Controllers Association

N.O.I.S.E. - National Organization to Insure a Sound-Controlled Environment

Operation – Takeoff, landing, low-approach or missed approach. A touch-and-go consists of 1 take-off and 1 landing (2 total operations).

Preferred Traffic Pattern Area - Traffic pattern that is south of Arapahoe Road, North of Lincoln Avenue and East of Interstate 25.

Stop & Go's - aircraft lands on runway, comes to a full stop, then takes off again from the same runway and enters into the pattern traffic.

Study Group - Centennial Airport Community Noise Roundtable Study Group Committee

Touch & Go's - aircraft lands on the runway then takes off again and enters into the pattern traffic.

Traffic pattern - the typically race track shaped pattern aircraft fly in preparation for landing. Traffic patterns typically consist of an upwind, crosswind, downwind, base and final.

TPA - Traffic Pattern Altitude

BACKGROUND

In the fall of 2022, residents to the north and west of Centennial Airport began reporting an increase in flights on the extended aircraft traffic pattern over their communities, resulting in them reporting a degradation in their quality of life.

About the Study Group

Community, Centennial Airport Community Noise Roundtable (CACNR), Arapahoe County Public Airport Authority (ACPAA) Board, and Airport staff generated several potential solutions. Upon examination and realization that those solutions would not be easy to implement and, acknowledging a need for both flight schools and the FAA at the table, the need for a working group became apparent to effectively proceed through the legal and technical challenges and constraints.

Formation of Study Group

The formation of this Study Group came after a significant amount of feedback and support from the community, CACNR, ACPAA Board and Airport staff, elected officials including Senators Bennet and Hickenlooper, Congressman Crow, Governor Polis, Hon. State Representative Dickson, the Arapahoe County Commissioners, Greenwood Village Mayor and City Council, Cherry Creek School District, and the Normandy Group.

Creation of this Study Group was officially approved by CACNR on March 1, 2023 (see minutes of March 1, 2023 CACNR Meeting). In a preliminary meeting on July 6, 2023 with the FAA Regional Office, the FAA agreed to provide technical support to the Study Group provided confidentiality could be provided for the FAA representatives. In the initial meetings with the FAA Regional Office, it was acknowledged that: (1) the group would need to get started as quickly as possible and that there would be no specific end date to the group's work and (2) some mitigations would hopefully be able to be implemented quickly while others could take much longer to research, test, and implement.

Function of Study Group

The Study Group was formed to work collaboratively and address the community annoyance created by the extended traffic pattern. This group was solely tasked with addressing annoyance directly related to noise exposure from aircraft on the extended traffic pattern and not other environmental concerns such as lead emissions from aircraft. Although lead emissions are not the focus of this Study Group, implemented mitigations could have the side benefit of reducing lead emissions.

The group is designed to propose, test and/or implement, and measure the effectiveness of noise mitigation strategies to reduce - to the greatest practical extent - exposure to aircraft noise for the communities north and west of the airport without moving the noise to another community.

Working on an “as quickly as possible” basis, the group meets weekly or biweekly to generate ideas of potential strategies. These strategies are assigned to members of the Study Group to explore their viability with technical and/or legal experts and conclusions are brought back for the next possible meeting. Viable strategies are then recommended for implementation by responsible parties and implemented where possible. For strategies whose viability is still being determined, next steps are identified and pursued. Decisions on which strategies are moved forward or not are made unanimously by the Study Group members, aside from Mead & Hunt and HMMH whose participation is a supplement to the Part 150 Study Centennial Airport.

Composition of the Study Group

Based on the collaborative, working nature of the Study Group, the complexities of the issue, the speed of work, and the frequency of meetings, a small but representative group was identified and approved by CACNR. The Study Group participants, as presented in the table below, were selected to represent a broad range of stakeholders that would bring varying degrees of technical expertise and experience to the group. This included participants with a direct link to the affected community and CACNR, experience with national and local noise issues, legal, pilot and air traffic background and technical expertise, and pilots and airport tenants that would or could be directly affected by any mitigations proposed or recommended by the Study Group. The Study Group also includes and meets with additional experts as needed to provide additional legal and technical input on the proposed mitigation strategies.

The CACNR Study Group Committee

Member	Position	Affiliation(s)
Brad Pierce	Chair	CACNR member, N.O.I.S.E. President, former Aurora City Council member
Chris Eubanks	Member	CACNR Chair, Pilot, Castle Pines City Council member
Jessica Campbell	Member	ACPAA Board member, Arapahoe County Commissioner (Dist. 2)
Mike Fronapfel	Member	ACPAA Executive Director, CACNR ex-officio member
	Member(s)	Flight school representatives as available
	Member	FAA Management
	Member	Airport Traffic Control
	Member	National Air Traffic Controllers Association
Kate Andrus	Advisor	Part 150 Consultant to APA – PM
Gene Reindel	Advisor	Part 150 Consultant to APA – Noise
Airport Staff	Technical Advisors	APA Noise Office

History of Study Group

The first Study Group meeting was held on July 21, 2023. The first through third meetings covered the rules and guidelines of the Study Group including the confidentiality of the FAA and Flight School participants, procedure for updates and communication to the public and elected officials, identifying and defining the problem and the drivers that are the cause of the problem. Beginning with the fourth meeting, the Study Group focused on identifying mitigation strategies, data and information needed, feedback from members and technical experts on the viability of potential strategies, and results of implementation measures through data analysis by the Airport staff.

ABOUT THE PROBLEM

Challenges and Limitations

There are several challenges with finding viable mitigations to the problem. Those challenges include, but are not limited to the following: maintaining safety, physical constraints, airspace limitations, variation in the mix of aircraft type, aircraft performance limitations, legal limitations (Interstate commerce law, Airport Noise and Capacity Act (ANCA), grant assurances, unreasonable access restrictions, unjust discrimination prohibitions, contractual limitations) controller and pilot workload, the ability of the FAA and Airport to reasonably manage and implement mitigations.

Drivers and Variables

The Study Group identified several drivers for the extended pattern including the May 2021 midair accident that occurred north of the airport, the resulting changes in how the FAA managed the aircraft in the pattern, increases in aircraft traffic/operations, itinerant traffic, variation of aircraft type, inconsistency among flight schools, specific training operations like stop and goes and taxi backs.

Variables the Study Group identified include aircraft arrivals, aircraft type (speed), operation type, weather, pilot comfort/ability and non-scheduled operations.

MITIGATION STRATEGIES

Mitigation strategies are any implementable program, measure, or action aimed to reduce the number of flights and noise north and west of the airport.

APPROACH TO MITIGATION STRATEGIES

The Study Group structures its work from a list of mitigation strategy ideas. These mitigation ideas come from community members, Study Group members, and examples from other airports. The list is not fixed. As ideas are brought forward, they are added to the list for assessment. The Study Group will assess every idea that is brought forward.

During the third quarter of 2023, the Study Group did an initial review of all mitigation ideas on the list at the time and ranked them from easiest (cheapest, most clearly legal, few administrative steps, fastest) to the hardest (most expensive, no clear legal authority, many steps to implement, would take years to implement). As new ideas come in, they are evaluated and ranked. Given that the Study Group is designed to implement potential fixes sooner rather than later, it has started with the “easiest to implement” mitigation ideas.

The Study Group assesses each idea from the angle of the overflights it seeks to reduce, its direct connection to overflights or noise, which entity has the authority to approve the mitigation strategy, which entity is responsible for implementation, whether an entity has the legal authority to implement it, its potential effect on safety, whether it will reduce overflights, whether it is technically possible to implement, and whether it is practically feasible to implement. When appropriate, the Study Group refers ideas to relevant experts.

Because the goal is to implement strategies as quickly as possible, decisions made by the Study Group are unanimous. Mitigation strategies that are adopted are then referred by the Group to the relevant entity (CACNR, ACPAA, FAA-ATC, etc.) to implement.

Strategies that are considered but not adopted by the Study Group fall into one or more of five categories: (1) there is not legal authority to implement the strategy, (2) the strategy would decrease safety, (3) it will not reduce overflights or noise, (4) it is not technically possible to implement, (5) it is practically unfeasible to implement. Strategies that fall into categories (4) and (5) may be pushed to the bottom of the list for further evaluation rather than be permanently ruled out.

The following two sections ***Adopted Mitigation Strategies*** and ***Mitigation Strategies Considered but not Adopted*** lay out mitigation strategies in three categories, first in a table and then with further explanation as appropriate. These categories are FAA - ATC strategies, Pilot Education/Awareness strategies, and ACPAA Operations strategies.

ADOPTED MITIGATION STRATEGIES

FAA-ATC STRATEGIES

Maintain and enhance operational safety, increase air traffic controller awareness of noise sensitive areas, reduce aircraft overflights of the community.

Utilize East Side of Airport During Nighttime Hours	
Adopted Mitigation Strategy:	During the late evening and early morning hours when FAA - ATC determines it's possible, utilize Main Runway (17L/35R) so that pattern work is conducted east of the Airport over commercial areas.
Problem Mitigation Addresses:	Pattern traffic over the community during late evening and early morning hours
Reduction of Noise Exposure:	Reduce the amount of late evening and early morning pattern traffic over the community.
Safety:	Maintained
Noise:	Reduced during nighttime hours
Authority to Approve:	FAA-ATO
Responsible for Implementation:	FAA-ATO
Implementation Date:	October 2023
Explanation:	In effort to be a good neighbor to our communities, it has been added to our facility's Standard Operating Procedures for controllers to utilize the east side of the airport for the traffic pattern when volume permits during late night and early mornings. This will place aircraft primarily over businesses and industrial parks instead of neighborhoods.
Measurable Impact:	Data on the number of flights directed away from neighborhoods during nighttime hours will be included in future reports
Updates:	All current and future air traffic controllers have or will receive(d) briefings/training regarding this adopted mitigation.

Noise Sensitive Areas on the Tower Radar Display	
Adopted Mitigation Strategy:	Noise sensitive areas added to radar display in the tower.
Problem Mitigation Addresses:	ATC awareness of noise sensitive areas in relation to aircraft in the traffic pattern.
Reduction of Noise Exposure:	By assisting ATC in identifying noise sensitive areas more easily, ATC be more aware of when overflights of the community are occurring.
Safety:	Maintained
Noise:	Potential reductions
Authority to Approve:	FAA-ATO
Responsible for Implementation:	FAA-ATO
Implementation Date:	October 2023
Explanation:	These maps will provide Air Traffic Controllers with awareness of the surrounding communities. While sequencing aircraft into 17R and 17L, controllers have to make the decision to extend the 17R traffic to follow traffic inbound to 17L or have the 17R aircraft complete a short approach. The maps aid the controllers in seeing the community and knowing the impact of extending to the North.
Measurable Impact:	ATC will collect data from controllers on their use of the maps.
Updates:	All current and future air traffic controllers have or will receive(d) briefings/training regarding this adopted mitigation.

Limit Number of Aircraft in the Pattern	
Adopted Mitigation Strategy:	Limit number of aircraft in traffic pattern
Problem Mitigation Addresses:	Extended pattern traffic and increased noise exposure to the community
Reduction of Noise Exposure:	Fewer aircraft could result in the traffic pattern being extended less frequently
Safety:	Maintained
Noise:	Potential reduction
Authority to Approve:	FAA-ATO
Responsible for Implementation:	FAA-ATO
Implementation Date:	Ongoing
Explanation:	Air traffic will limit the number of aircraft in the traffic pattern to ensure controller workload is manageable and maintain a safe, orderly and efficient flow of traffic. Restricting the number of aircraft in the pattern for safety and to manage controller workload also results in a flight path closer to the runway's final approach course, which benefits the community by reducing noise levels.
Measurable Impact:	Data is forthcoming
Updates:	Ongoing

Pilot Education & Awareness Strategies

To increase pilot education and awareness of community noise concerns, and to share mitigation strategies they can implement to reduce the communities' noise exposure.

Adopted Mitigation Strategy:	Noise Abatement Information on Chart Supplement
Problem Mitigation Addresses:	Centennial Airport receives flights from all over the US. Transient pilots are thus not always aware of the noise sensitive areas or preferred traffic pattern
Reduction of Noise Exposure:	A Chart Supplement is information provided about a local airport environment. Pilots are expected to review a chart and its supplements before taking flight. Enhanced awareness will drive a reduction in overflights of noise sensitive areas when pilots have discretion
Safety:	Maintained
Noise:	Potential reduction
Authority to Approve:	ACPAA & FAA
Responsible for Implementation:	ACPAA, FAA, & CDOT
Implementation Date:	Originally, 10/1/2023. Update, Summer 2024. Next Update, Fall 2024
Explanation:	ACPAA is working to update the current chart supplement. There are several updates and/or enhancements to the chart supplement that can be made to improve its efficacy as a communication and education tool.
Measurable Impact:	Once implemented, ACPAA will work to amplify. True impact may not be measurable, but will likely contribute to an overall reduction in noise.
Updates:	Noise Abatement Information updates are now fully published in the SW US Chart Supplement. Airport Staff completed and submitted updated Chart Supplement information to the FAA for publication. Updated language as well as a graphical depiction of noise abatement information was added. This information includes several aspects of the airport's Voluntary Noise Abatement Guidelines including the preferred pattern area and a graphical depiction of noise sensitive areas.

Proactive Outreach & Education to Flight Schools	
Adopted Mitigation Strategy:	Develop and implement proactive outreach and education program to flight schools to increase pilot awareness of voluntary fly quiet procedures and preferred pattern area
Problem Mitigation Addresses:	Due to rapid turnover, flight school instructors and students are often unaware of noise issues, voluntary noise abatement procedures, or preferred traffic pattern area.
Reduction of Noise Exposure:	By developing & implementing a proactive outreach and education program, will keep flight instructors up to date on noise abatement efforts.
Safety:	Potential enhancement
Noise:	Potential reductions
Authority to Approve:	ACPAA, FAA-ATO
Responsible for Implementation:	ACPAA, FAA -ATO
Implementation Date:	In progress
Explanation:	There is a significant amount of flight instructor and student pilot turnover at flight schools based at Centennial Airport. Airport staff and local FAA representatives have committed to meeting quarterly with each flight school to discuss ways to make their operations safer, convey community concerns about noise and lead exposure, discuss recommendations on how they can help mitigate the noise exposure to the surrounding communities and to provide progress updates on how our voluntary noise abatement and mitigation procedures are working, and to explore ways to improve on them.
Measurable Impact:	The initial focus will be on outreach and establishing regular meetings
Updates:	The second meeting of 2024 took place on August 15th. Over 20 flight school personnel attended. Air Traffic Personnel discussed several operational and safety factors at the airport. Airport staff discussed Noise Abatement Guidelines, practice area usage, and examined at current noise data. The last meeting of 2024 is scheduled for November 21 st . Changes to the Centennial Airport Minimum Standards as of January 1, 2025 require flight schools to participate in these meetings, as well as have a local point of contact on airport to receive safety and noise abatement information.

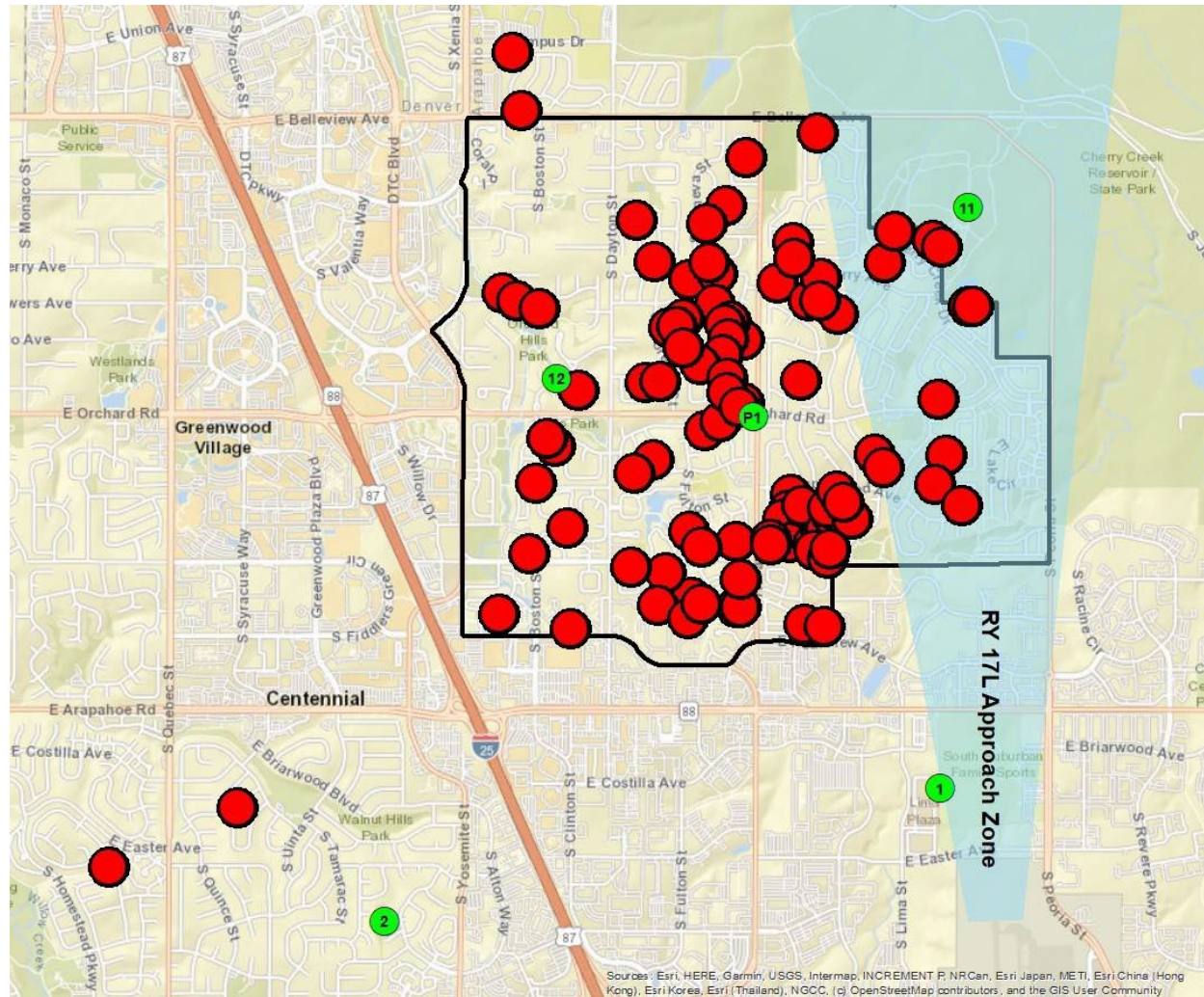
ACPAA Operations Strategies

To provide methods to proactively identify and measure improvements in community noise exposure and the effectiveness of the implemented mitigation strategies.

Proactive Checking of Extended Traffic During Nighttime Hours	
Adopted Mitigation Strategy:	Airport staff will check for extended pattern traffic during nighttime hours (10 pm - 7 am) daily.
Problem Mitigation Addresses:	The occurrence of extended pattern traffic during nighttime hours (10 pm - 7 am).
Reduction of Noise Exposure:	By having Airport staff monitor outlier nighttime extended pattern traffic on a daily basis, the airport can quickly respond to outliers, and when able, determine causes and work to prevent the instances from occurring in a more proactive manner.
Safety:	Maintained
Noise:	Potential reduction
Authority to Approve:	ACPAA
Responsible for Implementation:	ACPAA
Implementation Date:	October 2023
Explanation:	Starting in October 2023 Airport staff began to actively track aircraft flying an extended pattern during night-time hours (10 pm - 7 am). If an aircraft is observed conducting an extended training pattern during night-time hours and there is no other aircraft in the pattern or on approach to a parallel runway airport staff will identify and contact the flight school and/or pilot and remind them to follow the voluntary noise abatement guidelines that specify keeping the pattern traffic south of Arapahoe Road, east of I-25 and north of Lincoln Avenue.
Measurable Impact:	Data is forthcoming. A handful of outliers have been identified since fall of '23. With the hire of an Airport data analyst, data will be more reliable. Reduction will be in the prevention of recurrence and ideally contribute to the overall reduction in overflights.
Updates:	The Noise Analyst in conjunction with the Noise and Environmental Specialist have been regularly looking at nighttime outliers and analyzing data. In Q3 2024 the operators of 20 nighttime outlier aircraft have been contacted by the Noise and Environmental Specialist and reminded of the Voluntary Noise Abatement Guidelines. Outreach continues when nighttime outliers are identified.

Airport Add Full-Time Employee for Data Analysis	
Adopted Mitigation Strategy:	Airport hire a full-time employee dedicated to data analysis
Problem Mitigation Addresses:	Improve airport staff's ability to provide investigation, analysis and reporting of data from Airport Noise and Operations Monitoring System (ANOMS)
Reduction of Noise Exposure:	Uniform data on overflights is needed to measure the extent of overflights, noise exposure, and the results of mitigation strategies.
Safety:	An enhanced understanding of flight data will help the Airport better work with the FAA to identify mitigation strategies that will maintain or enhance safety while addressing overflights.
Noise:	A full understanding of flight data is essential to addressing the overflights.
Authority to Approve:	ACPAA
Responsible for Implementation:	ACPAA
Implementation Date:	Hired February of 2024
Explanation:	In February 2024, Centennial Airport created a new full-time position to support our Noise and IT Departments. This new employee will in-part focus on analyzing historical and ongoing flight data to evaluate within the defined study areas the effectiveness of the Study Group's implemented mitigation strategies. Updates on effectiveness of the implemented mitigations will be included in future reports.
Measurable Impact:	Indirect. This position enables us to measure the impact of mitigation strategies.
Updates:	On a lobbying trip to DC, members of the Study Group requested data analysis support from the FAA for the Study Group's work. The FAA indicated support for that request. That is being followed up on and confirmed. The full-time employee continues to do various data analysis tasks for the Study Group to evaluate the overflights and as well as examining the effectiveness of implemented mitigation strategies. This report includes data prepared by the Noise Analyst.

Analyze Flight Track Data within the Defined Study Area	
Adopted Mitigation Strategy:	Analyze flight track data within the defined study area north and west of the airport.
Problem Mitigation Addresses:	Understanding the history of flights and current flights in the study area is essential to addressing the overflights and measuring the impact of mitigation strategies.
Reduction of Noise Exposure:	Ultimately this analysis will lead to mitigation strategies that reduce noise exposure.
Safety:	Indirect positive impact as the Study Group and Airport work with the FAA.
Noise:	Potential Reduction
Authority to Approve:	ACPAA
Responsible for Implementation:	ACPAA
Implementation Date:	February 2024
Explanation:	In consultation with the community, the Airport noise program staff, and informed by historical data, the Study Group has identified the below boxed area in the map to focus its data analysis. The area of analysis will encompass the residential areas bordered generally by DTC Blvd to the west, E Bellevue Ave to the north, S. Peoria St to the east and E. Peakview Ave to the south. The flight tracks will be filtered to include only local training pattern traffic. This will also allow us to separate out the aircraft that are arriving and departing the main runway versus aircraft that are likely flying in the training traffic pattern. This area map includes the general location of homes that filed noise complaints with the airport in 2023 as well as the locations of the permanent and portable noise monitor locations. Please see the proposed study area maps below.
Measurable Impact:	Indirect.
Updates:	Data Analysis Ongoing. See page 24 for update on data analysis and mitigations.



Note: The red dots indicate households that filed complaints with the Airport in 2023. The black line represents the boundary of the study area. In this graphic, unlike those presented in monthly noise reports, dots are not scaled based on the number of complaints. Complaints in the RY 17L Approach Zone are less in number. That area experiences a different pattern of traffic and is related but distinct from the areas to the west of the RY 17L Approach Zone.

MITIGATION STRATEGIES CONSIDERED BUT NOT ADOPTED

The Study Group identified a number of possible actions that **were not accepted** because they (1) decreased safety or (2) did not negatively impact safety but did not reduce noise.

FAA-ATC STRATEGIES

Maintain and enhance operational safety, increase air traffic controller awareness of noise sensitive areas, reduce aircraft overflights of the community.

Go Back to Previous Air Traffic Management	
Rejected Mitigation Strategy:	Go back to previous air traffic management: less positive control, parallel landings
Problem Mitigation Addresses:	Extended pattern traffic and increased noise exposure to the community.
Reduction of Noise Exposure:	Less aircraft overflights.
Safety:	Safety decreased
Noise:	Potential reduction
Authority to Approve:	FAA- ATO
Responsible for Implementation:	FAA- ATO
Reason Strategy Not Adopted:	The FAA's primary responsibility is managing air traffic in the safest and most efficient way possible. Positive control and staggering of landings increase safety. Air Traffic Controllers call base turns for aircraft for safety reasons and ATC has seen an improvement in safety at Centennial Airport because of the safety mitigation. Calling 17R base turns to "stagger" with traffic on 17L helps ensure safe and efficient operations. See below for further explanation.

On May 12, 2021, there was a midair collision between a Cirrus aircraft and a Metroliner while the aircraft were inbound to Centennial Airport. The Cirrus was on a right base turn¹ for runway 17R and the Metroliner was straight in for runway 17L. The Metroliner continued and landed on Runway 17L and the Cirrus landed in Cherry Creek State Park utilizing the pilot's airframe parachute.

¹ Base turn is a phase during the aircraft's traffic pattern for landing. It involves making a 90-degree turn from the downwind leg toward the final approach.

The FAA's continuing mission is to provide the safest, most efficient aerospace system in the world. While the collision did not result in injuries or fatalities, the Centennial Air Traffic Control Tower (APA) conducted an evaluation of safety into and out of the Centennial Airport.

At this time, the common practice was for aircraft to fly the 17R traffic pattern (west of APA) independently of the traffic on 17L.

APA identified the following data for activity between June 24, 2019 and June 24, 2021 (including the time frame in which the collision occurred):

- **Wrong Surface Landing²:** APA had 5 wrong surface landings and 4 reports of aircraft lined up for the wrong runway and corrected by ATC.
- **Pilot Initiated Go Around due to Collision Avoidance Resolution Advisory (TCAS RA)³:** APA had 37 go arounds due to aircraft responding to a TCAS RA for traffic on the parallel runway.
- **Suspected Surface Loss Involving Two Aircraft⁴:** APA had 14 reports of suspected loss of surface separation between two aircraft.

After evaluating these events, APA determined that air traffic controllers would stagger the arrivals into 17R and 17L. This procedure protects for aircraft that fly through their final⁵ and enhances safety with positive control⁶, rather than depending on pilots to see each other, using Visual Flight Rules (VFR). As a result, Air Traffic Controllers actively separate aircraft inbound to the parallel runways, which has proven to further enhance safety at the Centennial Airport.

APA identified the following data for activity between June 24, 2021 and August 15, 2023:

- **Wrong Surface Landings:** APA had only 1 wrong surface landing and 12 reports of aircraft lined up for the wrong runway and corrected by ATC. The increased

² A wrong surface landing occurs "when an aircraft lands or departs, or tries to land or depart, on the wrong runway or on a taxiway. It also occurs when an aircraft lands or tries to land at the wrong airport."

³ A Pilot Initiated go around occurs when the pilot determines they will not be at a safe altitude or heading to complete a landing in a safe manner and they abandon the approach. Air Traffic control will sequence them for the airport to attempt another landing.

⁴ A "surface loss" occurs when aircraft on surface movement areas (taxiway or runway) do not meet minimum separation requirements

⁵ The final approach course is the last segment of an aircraft's approach to landing. It is a straight flight path aligned with the extended centerline of the runway. During the final approach, the aircraft descends and aligns itself with the runway for a smooth landing. Pilots aim to maintain a stabilized approach during this phase.

⁶ Positive Control for air traffic controllers means having continuous contact with an aircraft and providing specific instructions and clearances to ensure safe and orderly air traffic. This involves actively managing the aircraft's movements, ensuring proper separation from other aircraft, and maintaining situational awareness for controlled and secure airspace.

number of aircraft being identified lining up for the incorrect runway proves an increased scan and awareness for aircraft on the final approach course.

- **Pilot Initiated Go Around due to Collision Avoidance Resolution Advisory (TCAS RA):** APA had 15 go arounds due to aircraft responding to a TCAS RA for traffic on the parallel runway. By sequencing arrivals, fewer aircraft operated in conditions that required go arounds for safety.
- **Suspected Surface Loss Involving Two Aircraft:** APA had 7 reports of suspected loss of surface separation between two aircraft. This has improved due to enhanced tower teamwork and visual scanning throughout the airport environment. Controllers are fully aware of what the other controllers are doing and are able to see unsafe situations developing and make corrections in a timely manner.

APA Safety Data on Air Traffic Procedures		
Type of Safety Event	June 24, 2019- June 24, 2021	June 25, 2021- August 15, 2023
Wrong Surface Landing	5 Wrong surface landings, 4 Lined up for wrong runway and corrected.	1 Wrong surface landings 12 Lined up for wrong runway and corrected
TCAS RA Go Around (Pilot Initiated)	37	15
Surface Loss of Separation	14	7

The data above shows improved safety due to the mitigations that were compared to the years prior to the midair collision. The FAA's goal is to always improve safety, not reduce it. Air Traffic Controllers call base turns for aircraft for safety reasons and the FAA has seen an improvement in safety into APA because of the mitigation. Calling 17R base turns to "stagger" with traffic on 17L helps ensure safe and efficient operations for the following reasons:

- **Sequence and Separation:** By instructing aircraft to make a base turn, air traffic control can sequence incoming flights and maintain safe separation between them. This reduces the risk of mid-air collisions and ensures that each aircraft

has adequate space to complete their approach and landing.

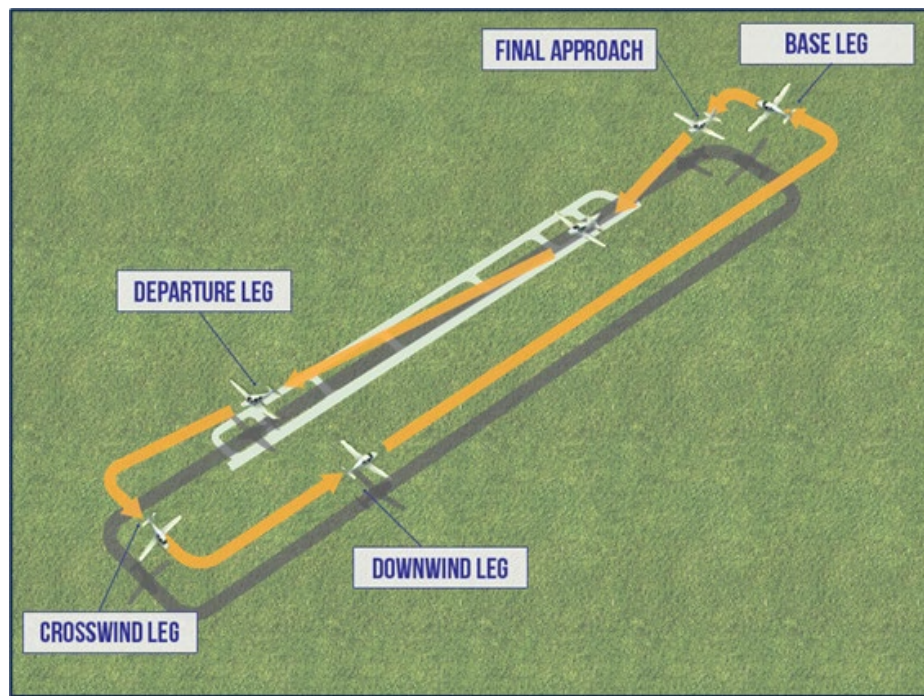
- **Traffic Flow Management:** Coordinating base turns allows air traffic controllers to manage the flow of traffic into the airport, preventing congestion and ensuring that aircraft are spaced out to avoid conflicts.
- **Conflict Resolution:** In busy airspace, it's crucial to have a clear plan for each aircraft descent and approach. Base turns help resolve any potential conflicts between arriving and departing aircraft, making the airspace safer and more organized.

Require Increased Pattern Altitude	
Rejected Mitigation Strategy:	Require an increased pattern altitude
Problem Mitigation Addresses:	Noise exposure to the community
Reduction of Noise Exposure:	Increased distance from noise source
Safety:	Maintained
Noise:	No noticeable reduction
Authority to Approve:	FAA-ATO
Responsible for Implementation:	FAA-ATO
Reason Strategy Not Adopted:	Requiring an increased altitude will increase the number of flights north and west of the airport (contradicting the purpose of this Study Group) while providing no decipherable reduction in noise.

The traffic pattern altitude (TPA) is the mean sea level altitude at which an aircraft will enter or remain in the pattern as shown in the graphic below – the TPA being the altitude outside of the departure leg and final approach. The potential kinetic energy of the aircraft is a balance of altitude and speed. Each aircraft has a specified approach speed, denoted by (Vref); “V” being velocity, and “ref” being reference for the aircraft weight, configuration, and the runway and atmospheric conditions at the time of flight. Vref is fixed by the aircraft manufacturer. This only leaves altitude as the adjustable variable.

If the altitude is increased, the aircraft extends its distance on the downwind leg prior to turning on the base leg to maintain a relatively fixed glide path angle or rate of descent on final approach, which is stabilized and safe. Therefore, if the TPA is increased, the distance on the downwind leg must be extended for the aircraft to safely reduce its energy and land on the runway. In the case of APA, this would result in aircraft extending the downwind leg further north of Arapahoe Road when landing to the south and would go against one of the goals of this Study Committee, which is to reduce the length of the downwind leg to not extend beyond Arapahoe Road.

The TPA is not an effective method for reducing aircraft overflight noise. The current TPA would have to be doubled, to 2000-3000 feet above ground level to result in a decrease of 6 dB. The perceptible limit of sound change starts at 3 dB, so unless the TPA is raised significantly, the reduction of noise would be barely detectable, and ANY change to the TPA would result in a longer downwind leg, which is contrary to goals voiced by the committee to limit the overflights north of Arapahoe Road.



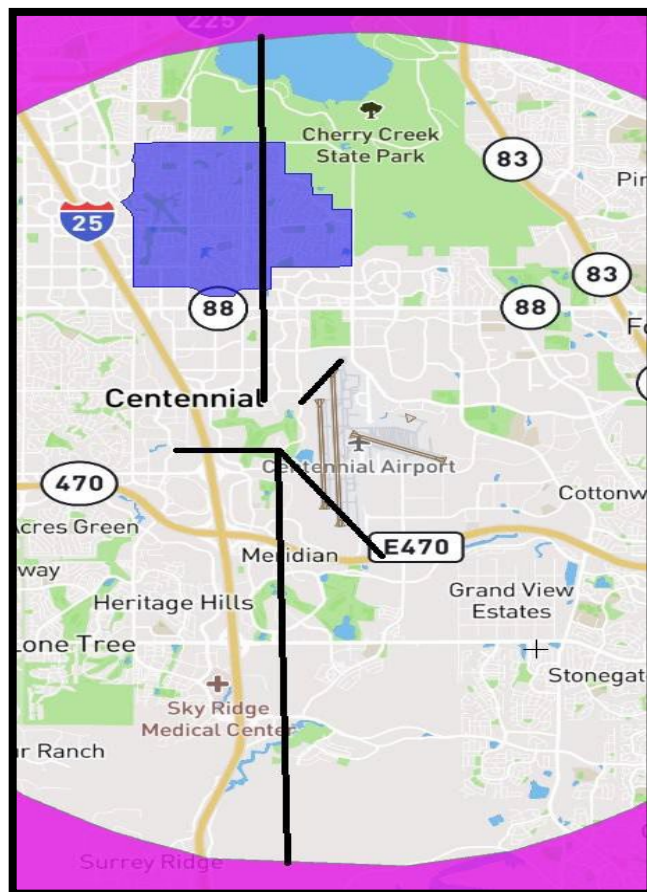
STUDY AREA DATA ANALYSIS

PURPOSE

The purpose of this data analysis is to quantify the number of touch-and-go aircraft operating within the Study Area, defined as the region located north of Peakview Avenue, south of Bellevue Avenue, east of DTC Boulevard, and west of S. Peoria Street. This analysis compares the third quarter of 2023 with the third quarter of 2024, focusing on data collected before and after the implementation of mitigation strategies.

PROCESS/METHODOLOGY

Using Centennial Airport's Noise and Operations Monitoring System (ANOMS™), aircraft tracks were filtered to include only those passing through defined gates along the Runway 17R/35L traffic pattern. A gate serves as a "window in the sky," established in the ANOMS™ system, through which an aircraft track must pass to be considered part of the traffic pattern. All associated gates (shown below) must be traversed for an aircraft to be classified as established in the Runway 17R/35L traffic pattern. Various data processing methods were tested to identify the most effective approach for detecting community overflight activity. Additionally, Airport staff collaborated with the ANOMS™ vendor to verify data integrity and ensure that the processing methods used provide an accurate representation of aircraft activity.



- The Study Area is represented by the blue polygon.
- Gates are indicated by the black lines.
- The Centennial Airspace is illustrated by the magenta ring along the chart's perimeter. This ring highlights that the vertical "gates" extend to the boundary of the airspace, which is crucial for determining the count of touch-and-go aircraft.

Q3 2023 v. Q3 2024

ANALYSIS SUMMARY

This report analyzes touch-and-go aircraft activity within the Study Area, comparing data for the third quarters (Q3) of 2023 and 2024, as well as Year-to-Date (YTD) data for both years. The findings show a reduction of aircraft both in terms of the total number of touch-and-go aircraft entering the Study Area and the proportion of touch-and-go aircraft entering and not entering the Study Area. The actual number is used to highlight the absolute impact of touch-and-go aircraft entering the Study Area, while the percentage serves to normalize the data, making it easier to compare trends across varying totals.

The number of touch-and-go aircraft entering the Study Area decreased significantly to 10,256, down 3,477 from Q3 2023, when 13,733 aircraft entered. The percentage of touch-and-go aircraft entering the Study Area also dropped from 54.9% in Q3 2023 to 46.1% in Q3 2024. A similar trend was observed in the YTD data, with 31,766 aircraft entering the Study Area in 2024, down from 35,103 in 2023, and the percentage of aircraft entering the Study Area falling from 53.3% to 49.8%.

The data also reveals a strong correlation between total APA operations and the number of touch-and-go aircraft entering the Study Area. As APA operations increase, the number of touch-and-go aircraft entering the Study Area rises, and when APA operations decrease, these metrics follow a similar downward trend.

A closer look at monthly trends, particularly from July 2023 to September 2024, highlights the effect of mitigation strategies. After these strategies were implemented in October 2023, there was a noticeable decline in the number of aircraft entering the Study Area. Continued reductions were observed following FAA, ACPAA, and Flight School Safety and Noise Abatement Meetings in May and August 2024, suggesting that these mitigation efforts are proving effective, although seasonality may also play a role in the observed decrease.

Additionally, the report shows that the majority of touch-and-go aircraft entering the Study Area (67.2%) make their base or crosswind turn between Peakview and Orchard.

In conclusion, the analysis demonstrates a reduction in touch-and-go aircraft activity in the Study Area, which is likely the result of targeted mitigation strategies, as well as a correlation with overall APA operations. Areas of high flight activity, particularly between Peakview and Orchard, may require continued attention for noise abatement and traffic management. Ongoing monitoring and consideration of seasonal factors will be essential to understanding the long-term effect of these trends.

As the Study Group continues to analyze flight track data and prepare quarterly reports, we aim to present this information in innovative ways to enhance understanding of the effect of touch-and-go aircraft on the Study Area. These reports provide a snapshot of activity, making it practical to assess overall trends in aircraft entering versus not entering the Study Area.

While several mitigation strategies have been implemented, it is essential to acknowledge that external factors, such as weather conditions and total flight operations at Centennial Airport, are beyond the Study Group's control. To effectively evaluate the effect of our mitigation efforts, we must collect and analyze a robust dataset following their implementation.

****Disclaimer:*** *The Study Group emphasizes the importance of data integrity in these reports. Since the 2024 Q1 report, we have adopted new data collection methods to enhance the accuracy of the information presented.*

FIGURE 1

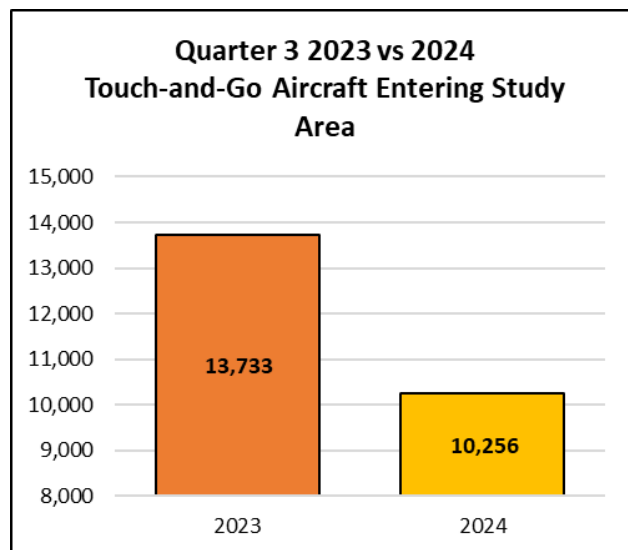


Figure 1.1

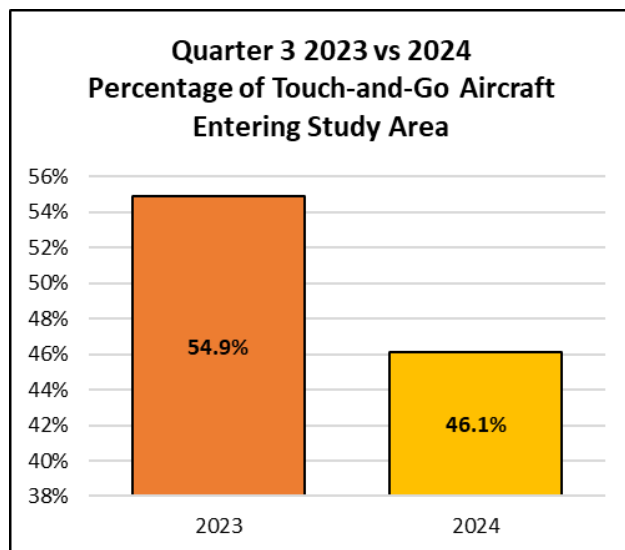


Figure 1.2

Figure 1.1 compares touch-and-go aircraft activity in the Study Area for Q3 of 2023 and 2024. In Q3 of 2023, there were 13,733 aircraft that did not enter the Study Area, while in Q3 of 2024, 10,256 aircraft entered the Study Area. This represents a decrease of 3,477 aircraft entering the Study Area in 2024.

Figure 1.2 illustrates the percentage of touch-and-go aircraft entering the Study Area. In Q3 of 2023, 54.9% of touch-and-go aircraft entered the Study Area, compared to 46.1% in Q3 of 2024.

Both Figures 1.1 and 1.2 highlight a reduction in the number and proportion of touch-and-go aircraft entering the Study Area between Q3 of 2023 and 2024.

Takeaway:

- **Decrease in Aircraft Entering the Study Area:** There was a notable decrease in the number of touch-and-go aircraft entering the Study Area, with a drop of 3,477 aircraft between Q3 of 2023 and Q3 of 2024.

FIGURE 2

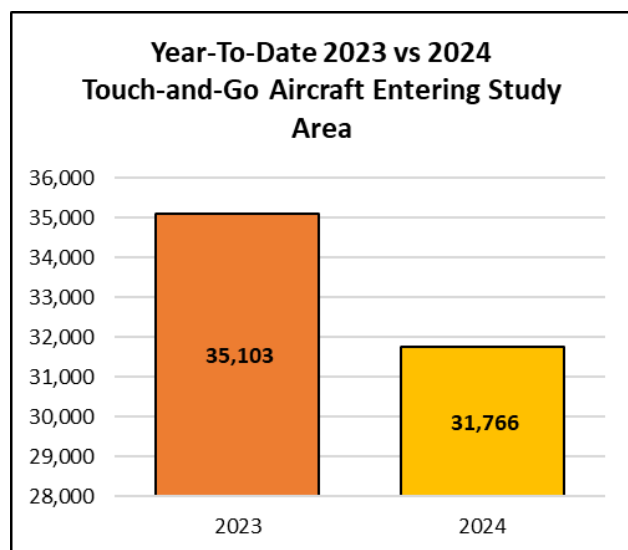


Figure 2.1

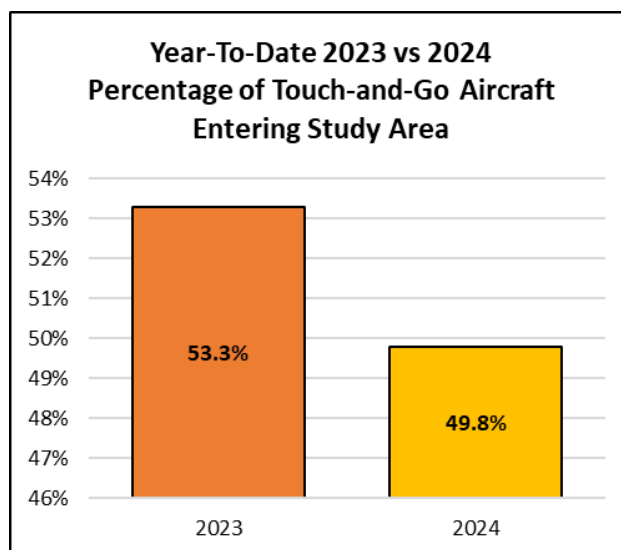


Figure 2.2

Figure 2.1 compares touch-and-go aircraft activity in the Study Area for Year-to-Date 2023 and 2024. In 2023, there were 35,103 aircraft that did not enter the Study Area, while in 2024, 31,766 aircraft entered the Study Area. This represents a decrease of 3,377 aircraft entering the Study Area in 2024.

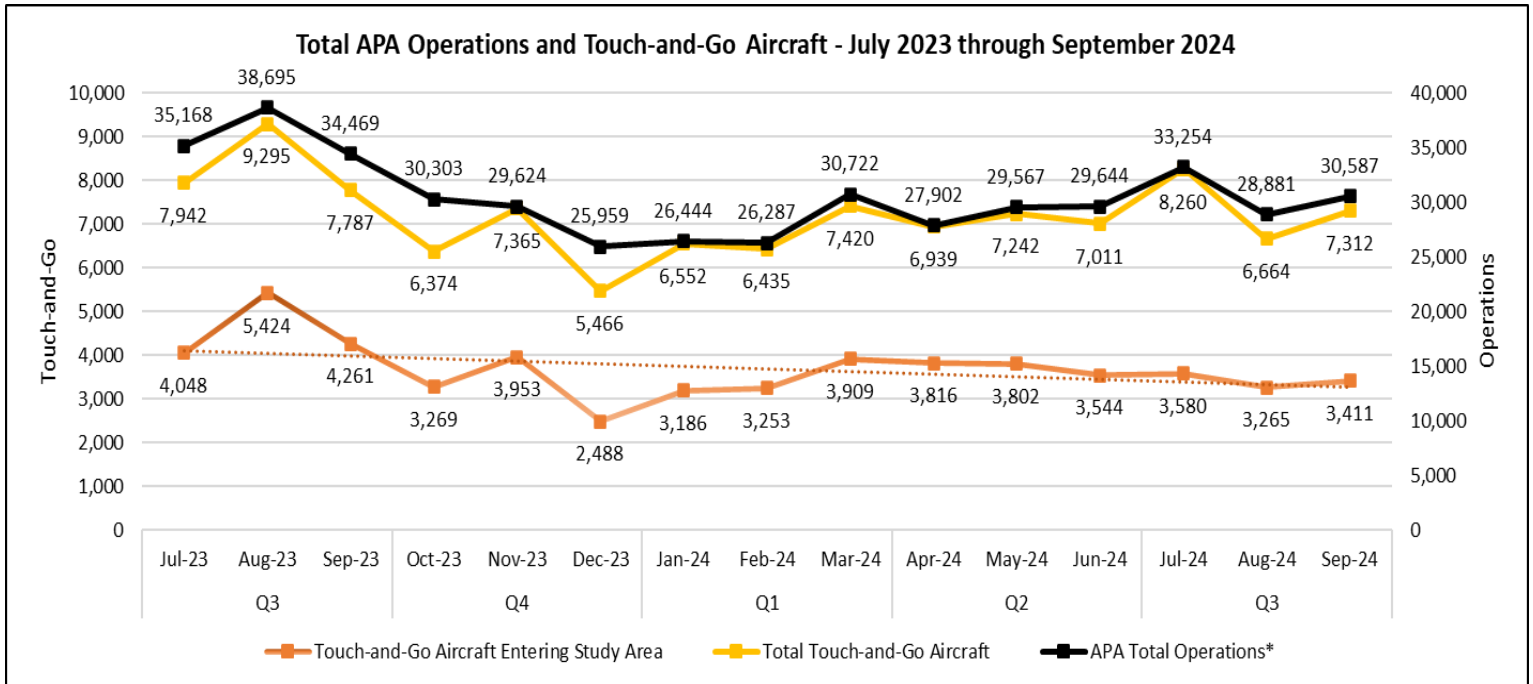
Figure 2.2 illustrates the percentage of touch-and-go aircraft entering the Study Area. In 2023, 53.3% of touch-and-go aircraft entered the Study Area, compared to 49.8% in 2024.

Both Figures 2.1 and 2.2 illustrate a decline in both the total number and the proportion of touch-and-go aircraft entering the Study Area from Year-to-Date 2023 to 2024.

Takeaway:

- **Decrease in Aircraft Entering the Study Area:** There was a decrease of 3,377 touch-and-go aircraft entering the Study Area in 2024 compared to 2023.

FIGURE 3



**Please see the Glossary (page 3) to further define Operations.*

Figure 3 illustrates the number of **Touch-and-Go Aircraft Entering the Study Area** (orange), **Total Touch-and-Go Aircraft** (yellow), and **Total APA Operations** (black). A trend line, represented by the dotted orange line, tracks the overall downward trend of touch-and-go aircraft entering the Study Area during July 2023 through September 2024.

This visualization highlights the correlation between these key metrics: as total APA operations increase, the total number of touch-and-go aircraft rise. As the total number of touch-and-go aircraft rise, so does the number of touch-and-go aircraft entering the Study Area. Total APA Operations and Total Touch-and-Go Aircraft also follow seasonality: busier in the summer months and less busy in the winter months.

Further analysis suggests that in July 2024 aircraft were taking off to the north more than compared to the surrounding months. Pilots exercise their discretion more on turning before entering the Study Area when taking off to the north unless otherwise directed by Air Traffic Control. Air Traffic Control must stagger aircraft on final approach to the parallel runways, but this procedure is not necessary for departing aircraft because aircraft tracks generally diverge at this stage.

Takeaway:

- **Downward Trend:** The orange trend line highlights a decline in touch-and-go aircraft entering the Study Area during July 2023 through September 2024.

FIGURE 4

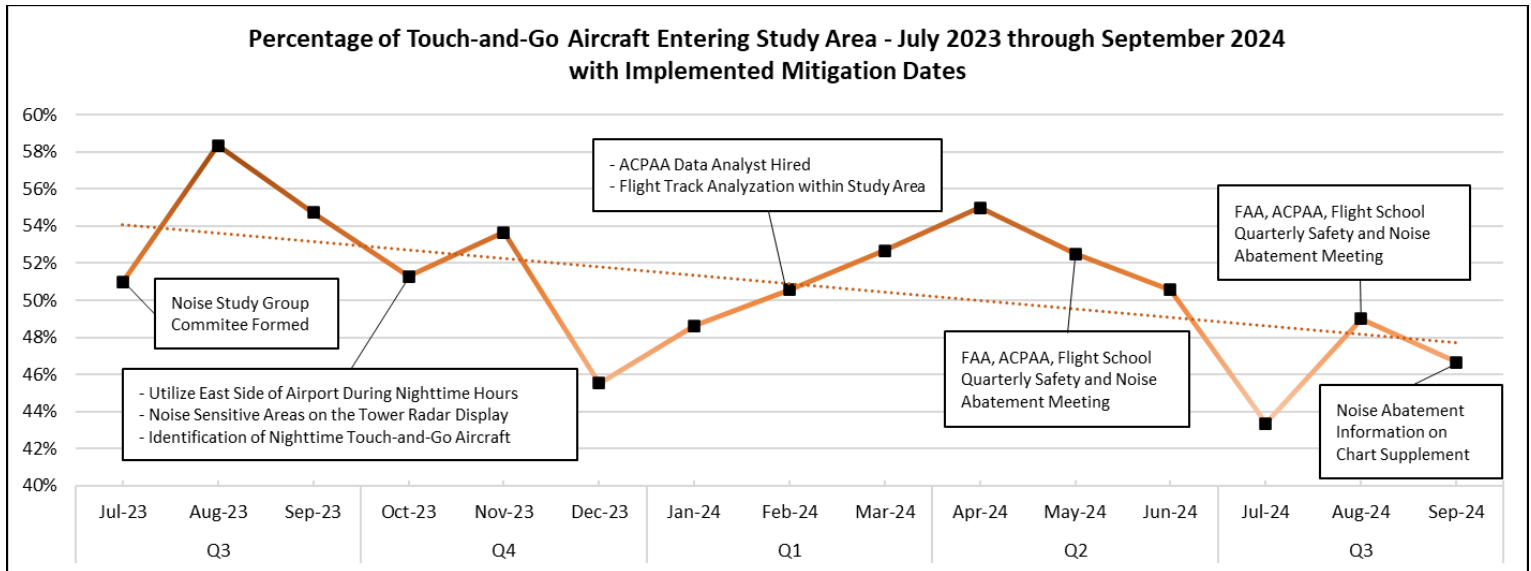


Figure 4 presents a timeline of touch-and-go aircraft entering the Study Area, primarily to show the trend from Q3 2023 through Q3 2024. The orange line represents the percentage of touch-and-go aircraft entering the Study Area.

The dashed line illustrates the trend in the percentage of touch-and-go aircraft entering the Study Area throughout the specified period. The trend line depicts a decrease over this specified period which is a positive.

Additionally, the dates of implemented mitigation strategies are marked to demonstrate their influence on touch-and-go aircraft entering the Study Area. Most notably, following the initial implementations in October 2023, there was a significant decline in touch-and-go aircraft entering the Study Area within the subsequent two months. While this reduction is striking, it's important to consider that factors such as seasonality may also contribute to this decrease.

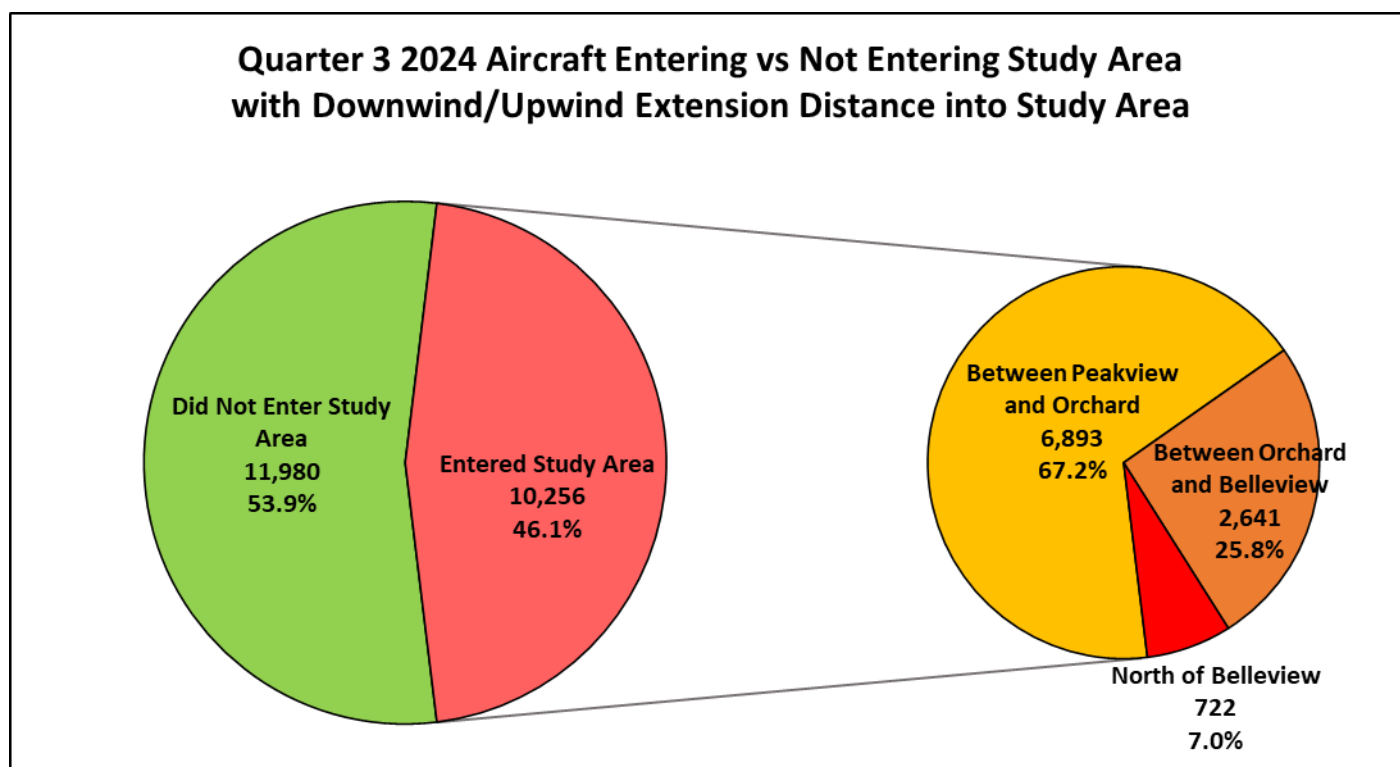
Following the quarterly FAA, ACPAA, and Flight School Safety and Noise Abatement Meetings in May and August 2024, there was a noticeable decline in the number of touch-and-go aircraft entering the Study Area in the subsequent months. This trend suggests a positive outcome associated with this mitigation strategy.

Takeaways:

- **Clear Trend Analysis:** The timeline from July 2023 to September 2024 reveals a downward trend in the percentage of touch-and-go aircraft entering the Study Area, indicating a positive shift in activity over the specified period.
- **Effectiveness of Mitigation Strategies:** The marked dates of implemented mitigation strategies correlate with a noticeable decline in touch-and-go aircraft

following the FAA, ACPAA, and Flight School Safety and Noise Abatement Meetings in May and August 2024, suggesting that this strategy has positively influenced operational behavior.

FIGURE 5



The left side of Figure 5 compares the number and percentage of touch-and-go aircraft that entered versus did not enter the Study Area. In Q3 of 2024, 10,256 aircraft entered the study area.

On the right side of Figure 5, the number of aircraft entering the Study Area is further categorized by the furthest point at which each touch-and-go aircraft extended its downwind or upwind leg. It's important to note that these numbers are cumulative. For example, if you live between Peakview and Orchard, the total number of overflying aircraft includes those flying between Peakview and Orchard, between Orchard and Bellevue, and north of Bellevue—totaling 10,256 aircraft. Similarly, if you live between Orchard and Bellevue, the total number of overflying aircraft would be the sum of those flying between Orchard and Bellevue and north of Bellevue—a total of 3,363 aircraft.

This chart clearly shows that the majority of touch-and-go aircraft entering the Study Area make their base or crosswind turn between Peakview and Orchard (67.2%).

Takeaways:

- **Majority of Aircraft Do Not Enter the Study Area:** In Q3 of 2024, the number of touch-and-go aircraft that did not enter the Study Area (11,980) was significantly higher than the number that did (10,256).
- **Cumulative Data Breakdown:** The chart categorizes the aircraft entering the Study Area by their furthest downwind or upwind extension, offering a detailed view of flight patterns.

FEEDBACK AND CONSIDERATIONS FOR THE Study Group

In Q3 2024, the Study Group did not receive any comments or suggestions via the online submission form.

We encourage aviation professionals, legal experts, and community members to examine the reasoning behind our conclusions. Should you disagree and have evidence to consider or a differing interpretation of the law, data, data analysis or results, please fill out the google form [HERE](#). Additionally, as it has been our commitment from the outset to consider all potential solutions, we invite you to submit potential solutions through the form as well.

A few notes about the form and how the Study Group will respond to submissions:

- All submissions will be read and considered based on their relevance to the work of this group, which is overflight and noise abatement for the area north and west of the airport.
- Because the work of this group is in addition to the duties of the members, do not expect a response. The default will be no response. However, where more information or context would be helpful or is needed, a response may be sent.
- Group members respectfully request constructive responses only. This form is an experiment and if abused, there will be consideration of deleting the form.

URL for the feedback form: <https://forms.gle/uxDUFgkkkvDBG31s8> Current and past reports may be found [HERE](#).

From: Colleen Bosold <Colleen.Bosold@meadhunt.com>
Sent: Monday, October 28, 2024 3:44 PM
To: Colleen Bosold <Colleen.Bosold@meadhunt.com>
Subject: APA Part 150 Study - SAC Update

APA Part 150 Study Advisory Committee Members,

I hope you're all enjoying your start to Fall. On behalf of the Study team, I wanted to send a quick update to let you know that the FAA is still reviewing the forecasts; therefore, we will be pushing the next Community Meeting out to early 2025. While we had hoped to hold it this Fall, as we stated at the last SAC meeting, we will not have sufficient time to get it scheduled yet this year. Once the FAA approves the forecasts, we need time to run the noise contours, secure a venue, prepare and publish public notices, and prepare for the public meeting. The holiday season will soon be upon us, and we don't want to schedule the meeting too close to the holidays and chance missing people who may want to participate. At this point, we are targeting late January, but we won't finalize and advertise a date until we have the FAA-approved forecasts in hand.

Also, 14 new [FAQs have been added to the project website](#) based on questions that came up during and after the last SAC meeting.

As always, thank you for your time and participation in the APA Part 150 Study!

Colleen Bosold
APA Part 150 Community Engagement Coordinator

Colleen Bosold (She, Her, Hers)
Planner & Community Engagement Coordinator | Aviation
Direct: 952-641-8826 | [Transfer Files](#)

Mead&Hunt
[LinkedIn](#) | [Facebook](#) | [Instagram](#) | [My LinkedIn](#)

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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

October 2nd, 2024 MEETING

- CACNR Study Group Report
 - New FAA Member / New Flight School Member
New Minimum Standards - move in the right direction CACNR & public
 - Next 2024 Quarterly Report / FAA Responses
Quarterly reports to be summarized for better understanding of data
No response from FAA to date.
Study Group positive impact – Training Boxes similar type of set up
- Adopted 2025 Budget of
 - Execution of Teams / Website / Meeting Place / Recorder
Outlook for 2025 – Training Boxes / Legislative / Education CACNR members and public engagement
- CACNR Meeting Calendar 2024 & 2025
 - Reflect ACPAA Calendar
Adopted - CACNR will meet in Dec and not in January
- Portable Monitor Placement
 - 3 Towers Area
Placement tomorrow (Fri) Frequency of noise disturbance over homes
- Roundtable Reports
 - Training Areas / FAR 61.93
Questions arise causing overuse of 3 Towers & Elizabeth boxes
 - Public Interest / Comments
Reevaluating adopted procedures to better serve public & conduct business
- Noise Abatement Guideline Brochure
 - Undeveloped Areas
Clearly define Noise Sensitive Area / parameters / data
- Public Comment Received
 - Louviers, Elbert County and Elizabeth
Randy Johnson in attendance to speak

ACPAA Report

Public Hearing / Stacey Davenport

Minimum Standards Adopted –

“Ground Space, Facilities, Accommodations, Point of Contact, and Meeting Participation”

“Operator shall assign a point of contact at the Airport to receive safety and noise abatement information. Operator shall participate in quarterly meetings with the Authority and other operators offering flight training at the Airport.”

Fuel Flowage Fees Adopted – Fees cannot be utilized as a method to reduce training operations etc. Nondiscriminatory / Competitive Locally and Nationally

Effective 1/1/2025 fuel flowage rates will be raised to

Avgas Fuel \$.10 per gallon

Jet Fuel \$.15 per gallon

Questions regarding Noise Reports – Zach Gabehart

Number of reports in Training Box Areas / Southern Corridor - Castle Pines Area

SEPTEMBER 2023 RETREAT PRIORITIES

Update September 2024

The Summary Report from Jason Schwartz was received and accepted. Comment was made that the retreat was useful, and perhaps such meetings should be held more often. Agreed upon as top priorities from that report were:

- 1) Establish training for roundtable members ***process began in May, 2024; needs to be ongoing***
- 2) Make recommendations to Airport Authority and other than can reduce noise ***suggest making this an on-going agenda item, to keep the idea from getting 'lost;'*** ***activity of the Study Group Committee has also included this activity***
- 3) Restructure meeting agendas to make meetings more effective and productive ***a revised meeting agenda has been adopted***
- 4) Publish annual reports ***plans are in place to resume this activity for the 2024 calendar year***
- 5) Expand community outreach ***needs attention; using a team approach may facilitate progress here***
- 6) Strengthen relationships with FAA ***the Study Group Committee has established a good working relationship with the FAA within its area of work focus***
- 7) Expand industry engagement ***needs attention; using a team approach may facilitate progress here***
- 8) Fly Quiet briefings ***with whom? Is this being handled adequately by the Study Group Committee? Also addressed by the previous meetings with airport staff and the flight schools, to which CACNR was invited and has asked to be again.***
- 9) Study Noise Monitor data ***needs attention; using a team approach may facilitate progress here***
 - Correlate complaints to noise levels
 - Do more to leverage available noise data

Other Current / High Priority Issues were:

- 1) FAA Support of Roundtable ***the Study Group Committee has established a good working relationship with the FAA within its area of work***
- 2) Flight School Engagement ***see #8 above; determine what other types of engagement might be established between the flight schools and CACNR if additional engagement is desired; determine what types of incentives might be appealing to the flight schools.***
- 3) Airport Capacity ***needs further clarification; explore the types of aircraft related to noise complaints***

Finally, from the Consultant's Observations and Recommendations:

- 1) Sometimes roundtable "structures" seem to get in the way of the mission ***restructuring efforts are underway to make better use of Representatives' time and interests***
- 2) Relationship to the Airport and Airport Board ***having a consistent CACNR Representative attend ACPAA meetings and speak on behalf of CACNR seems to be having a positive effect***
- 3) Meetings with Airport Management ***relationship with airport management, though not via regularly scheduled meetings, seems to be open and useful***
- 4) Value in additional Roundtable training ***2025 draft budget includes funding for such activity***
- 5) Expand community outreach ***needs attention***
- 6) Consider additional roundtable support ***2025 draft budget provides some administrative support***

CENTENNIAL AIRPORT COMMUNITY NOISE ROUNDTABLE		2025 BUDGET approved 10 02 24		
		2025 BUDGET	2024 ACTUAL	
INCOME:				NOTES
CARRY OVER FROM PRIOR YEAR	\$	24,000.00	\$ 20,317.55	approximate carry over from prior year
ACPAA	\$	10,000.00	\$ 10,000.00	
CACNR REGULAR MEMBERS	\$	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	\$ 30,317.55	
EXPENDITURES:				
<u>WORK PROGRAM:</u>				
TEAM EXPENDITURES	\$	10,000	\$ -	Community Outreach; Incentive Program(s); Fly Quiet; Practice Areas; Noise Monitors; Legislative/Governmental Affairs
WEBSITE	\$	2,100		Webmaster; Website maintenance and updates
EXECUTIVE/WORK PLAN	\$	500	\$ -	Annual Report
<u>CONFERENCES:</u>				
2 Reps to UC Davis Symposium	\$	5,000	\$ 4,534.67	** 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
<u>CONSULTATION/EDUCATION:</u>	\$	4,000	\$ -	Projects with consultants for entire Roundtable
<u>MEMBERSHIP DUES</u>	\$	1,000	\$ 1,000.00	N.O.I.S.E.
	\$	325		CML
<u>ADMINISTRATIVE</u>	\$	2,000	\$ -	Consultation on Work Plan
	\$	3,000	\$ -	Legal
	\$	1,650		Meeting Space
	\$	1,500		Recorder
<u>RESERVE</u>	\$	2,000	\$ -	for presently unidentified and unanticipated expenses and/or CACNR activities consistent with the approved Work Plan
<u>TOTAL EXPENDITURES:</u>	\$	37,075.00	\$ 5,534.67	
<u>CARRY OVER TO 2026</u>	\$	3,925.00	\$ 24,782.88	Actual to be determined at the end of each year
** 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. "Hereafter, 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."				

CACNR/ACPAA 2025 MEETING SCHEDULES

2025 MEETINGS OF

THE CENTENNIAL AIRPORT COMMUNITY ROUNDTABLE AND **THE ARAPAHOE COUNTY PUBLIC AIRPORT AUTHORITY**

CACNR meets at 6:30 p.m., 7565 South Peoria Street, Englewood, CO 80112

ACPAA meets at 3:00 p.m., 7565 South Peoria Street, Englewood, CO 80112

Unless otherwise noted, CACNR will be represented at all ACPAA meetings by Pam Thompson, CACNR Vice-Chair

<u>CACNR MEETINGS</u>	<u>CACNR REPRESENTATIVE</u>	<u>REPORT DUE DATE</u>	<u>ACPAA MEETINGS</u>
(To zgabehart@centennialairport.com)			
<u>January 08</u>	NO CACNR MEETING		NO ACPAA MEETING
<u>February 05</u>	Pam Thompson	Feb 06	February 13
<u>March 05</u>	Pam Thompson	March 06	March 13
<u>April 02</u>	Pam Thompson	April 03	April 10
<u>May 07</u>	Pam Thompson	Verbal or on dais	May 08
<u>June 04</u>	Pam Thompson	June 05	June 12
<u>July 02</u>	NO CACNR MEETING		NO ACPAA MEETING
<u>August 06</u>	Pam Thompson	August 07	August 14
<u>September 03</u>	Pam Thompson	September 04	September 11
<u>October 01</u>	Pam Thompson	October 02	October 09
<u>November 05</u>	Pam Thompson	November 06	November 13
<u>Dec 03</u>	Pam Thompson	December 04	December 11

ATTENDANCE RECORD for 2024 - 2025 CACNR MEETINGS		2024	2024	2024	2024	2024	2024	2024	2024	2024	2025	2025	2025	MEMBER REPRESENTED	
		APR	MAY	JUNE	JULY*	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	%	TOTAL %
ARAPAHOE COUNTY	Leslie Summey	X		X		X	X	X						83%	100%
	Sreenivasan Alakappan		virtual					X						33%	
	Vacant	ABSENT	ABSENT	ABSENT		ABSENT	ABSENT	ABSENT						0%	0%
	Vacant	ABSENT	ABSENT	ABSENT		ABSENT	ABSENT	ABSENT						0%	
DOUGLAS COUNTY	Abe Laydon						ABSENT							0%	83%
	Dan Avery	X	X	X		X	ABSENT	virtual						83%	
	Alison Biggs	ABSENT	X	X		X	X	X						83%	83%
	Mark Adams	ABSENT												0%	
AURORA	Brad Pierce	X	X	X		X	X	X						100%	100%
	Mindy Parnes													0%	
CASTLE PINES	Chris Eubanks	X	X	X		X	X	X						100%	100%
	Ron Cole	X		X		X	virtual	X						83%	
CASTLE ROCK	Laura Cavey		ABSENT	ABSENT		ABSENT	ABSENT	ABSENT						0%	17%
	Sandy Vossler	X	ABSENT	ABSENT		ABSENT	ABSENT	ABSENT						17%	
CENTENNIAL	Don Sheehan	X	X	X		X	X	X						100%	100%
	Amy Tharp	X	X			X	virtual							67%	
CHERRY HILLS VILLAGE	Robert Eber	X	X 7:45 P.M.	X		ABSENT	ABSENT	ABSENT						50%	50%
	Randy Weil					ABSENT	ABSENT	ABSENT						0%	
FOXFIELD	Pam Thompson	X	X	X		X	X	X						100%	100%
	Frank Lawrence													0%	
GREENWOOD VILLAGE	Donna Johnston	ABSENT	X	X		X	X	X						83%	83%
	John Jackson	ABSENT												0%	
HIGHLANDS RANCH	Andy Jones	ABSENT	X 7:00 P.M.	X		ABSENT	virtual	virtual						67%	67%
METROPOLITAN DISTRICT	Renee Anderson	ABSENT				ABSENT								0%	
LONE TREE	Mike Anderson	X	X	X		X	ABSENT	X						83%	83%
	Chuck Darnell						ABSENT							0%	
PARKER	Ashley Chasez	X	ABSENT	ABSENT		virtual	virtual	ABSENT						50%	50%
	Bryce Matthews		ABSENT	ABSENT		ABSENT		ABSENT						0%	
ACPAA	Mike Fronapfel	ABSENT	X	ABSENT		X	X	X						67%	67%
	Vacant	ABSENT		ABSENT										0%	
AOPA	John Hirshman	X	X	X		X	X	ABSENT						83%	83%
	Brad Schuster							ABSENT						0%	
CABA	Don Kuskie	X	ABSENT	X		X	ABSENT	X						67%	67%
	Mike Straka		ABSENT				ABSENT							0%	
CDOT AERONAUTICS DIVISION	Todd Green	ABSENT	ABSENT	ABSENT		ABSENT	ABSENT	ABSENT						0%	0%
	Vacant	ABSENT	ABSENT	ABSENT		ABSENT	ABSENT	ABSENT						0%	
WINGS OVER THE ROCKS	Bill Wasmund	ABSENT	X	X		ABSENT	X	X						67%	67%
	Jordan Ashley/Vacant	ABSENT				ABSENT								0%	
* No meeting in July															
CACNR BYLAWS ADOPTED November 3, 2021:															
ARTICLE III.c. Members' Representatives and/or Alternates are expected to attend all regular and special meetings. If a Regular Member's Representative or Alternate does not attend at least 75% of such meetings annually in the period from April 1 through March 31, the Regular Member will be notified for potential appointment of a replacement(s).															
10/3/2024															

Propeller Aircraft

Limit consecutive touch-and-goes to 10 per flight.

Wind permitting, request Runway 10/28 for arrival and departure.

Take off and climb at best angle of climb (Vx) to 500 ft. then best rate (Vy).

Reduce RPM as soon as possible and do not increase RPM until on short final for landing.

Avoid intersection take offs.

Minimize the number of flight training departures during periods of heavy traffic (i.e. morning and early afternoon arrival/departure rush).

Jet Aircraft

Follow NBAA noise abatement guidelines.

Use thrust reduction techniques and minimize use of reverse thrust.

Helicopters

Helicopter operators please contact tower for preferred noise abatement routes.

APA Pilot Information

Coordinates

N39°34.21' W104°50.96'

Field Elevation

5885'

Airport Frequencies

DEN App/Dep **132.75**

ATIS **120.3** 303-799-6722

CLNC DEL **128.6**

FSS **122.2** 800-428-7652

ILS/DME **111.3**

Ground **121.8**

Tower **118.9**

123.7

124.6

jetCenters of Colorado (FBO) **130.57** 303-790-4321

Signature Aviation North (FBO) **130.07** 303-790-2575

Signature Aviation South (FBO) **129.72** 303-799-8388

Modern Aviation (FBO) **129.62** 877-649-9538

The Heliplex (Heli FBO) **130.27** 303-799-8877

Instrument and Visual Approaches

RY 17L PAPI/RNAV GPS

RY 17R PAPI/REIL

RY 35L PAPI/REIL/ILS sidestep approach

RY 35R ILS or LOC/DME RNAV GPS/MALSR/PAPI

RY 28 RNAV GPS PAPI/REIL

FAA Departure Procedures

All departures advise Ground Control when run up is complete. Remain on Ground Control Frequency until advised

Websites

www.centennialairport.com

www.centennialairportnoise.com



Noise Abatement Guidelines

The following guidelines are recommended voluntary practices to minimize sound levels in the vicinity of Centennial Airport.

For additional information regarding aircraft noise abatement, call the Centennial Airport Noise Office at 303-790-0598.

IN ALL CASES SAFETY AND ATC INSTRUCTIONS TAKE PRECEDENCE.

General Noise Abatement Guidelines

Traffic pattern altitude 6,885 ft. MSL (1,000 ft. AGL).

If possible, avoid noise sensitive areas as shown in green on the Noise Sensitive Areas Map.

Avoid flight training and ILS training operations between 10:00pm and 7:00am.

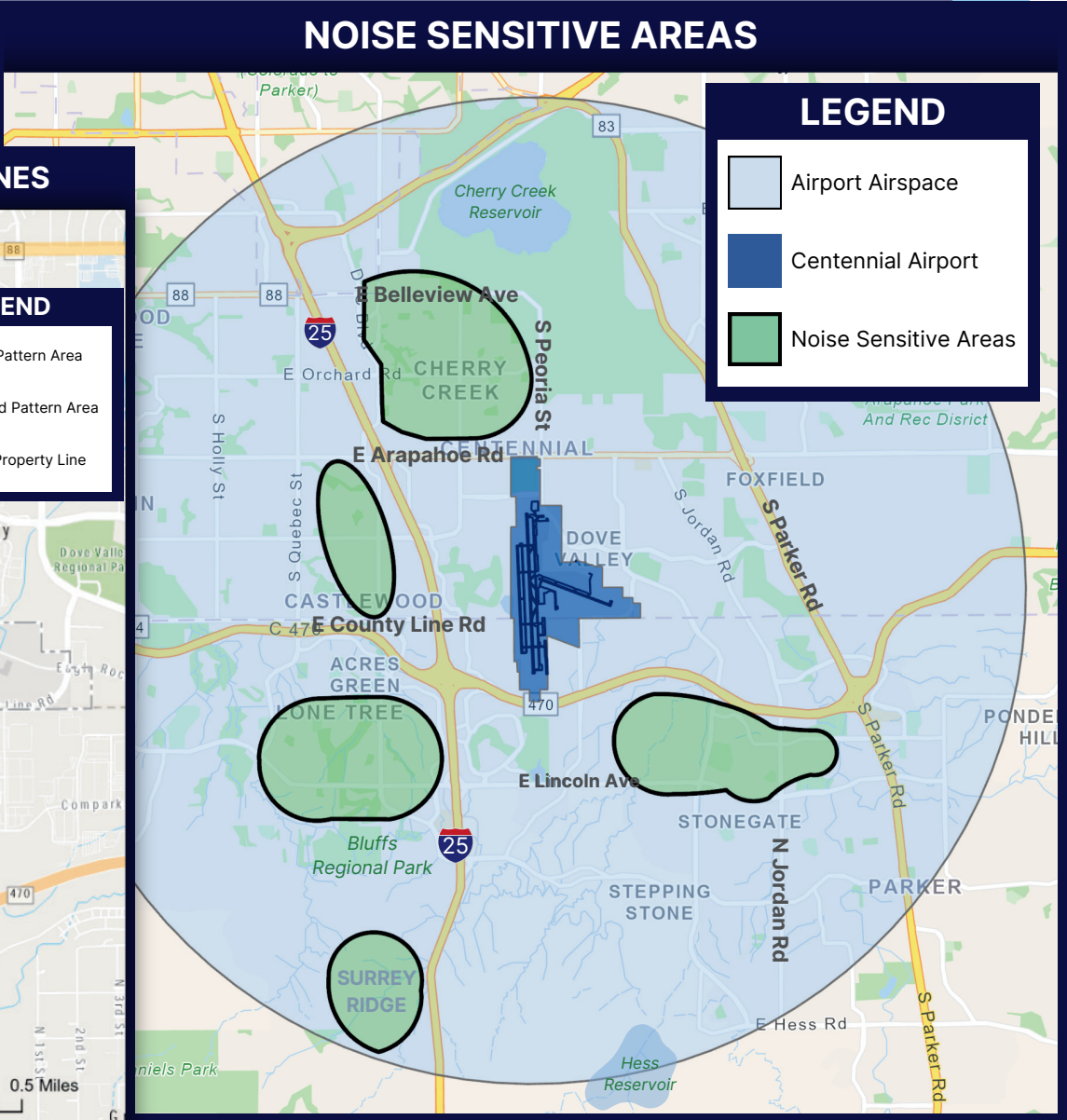
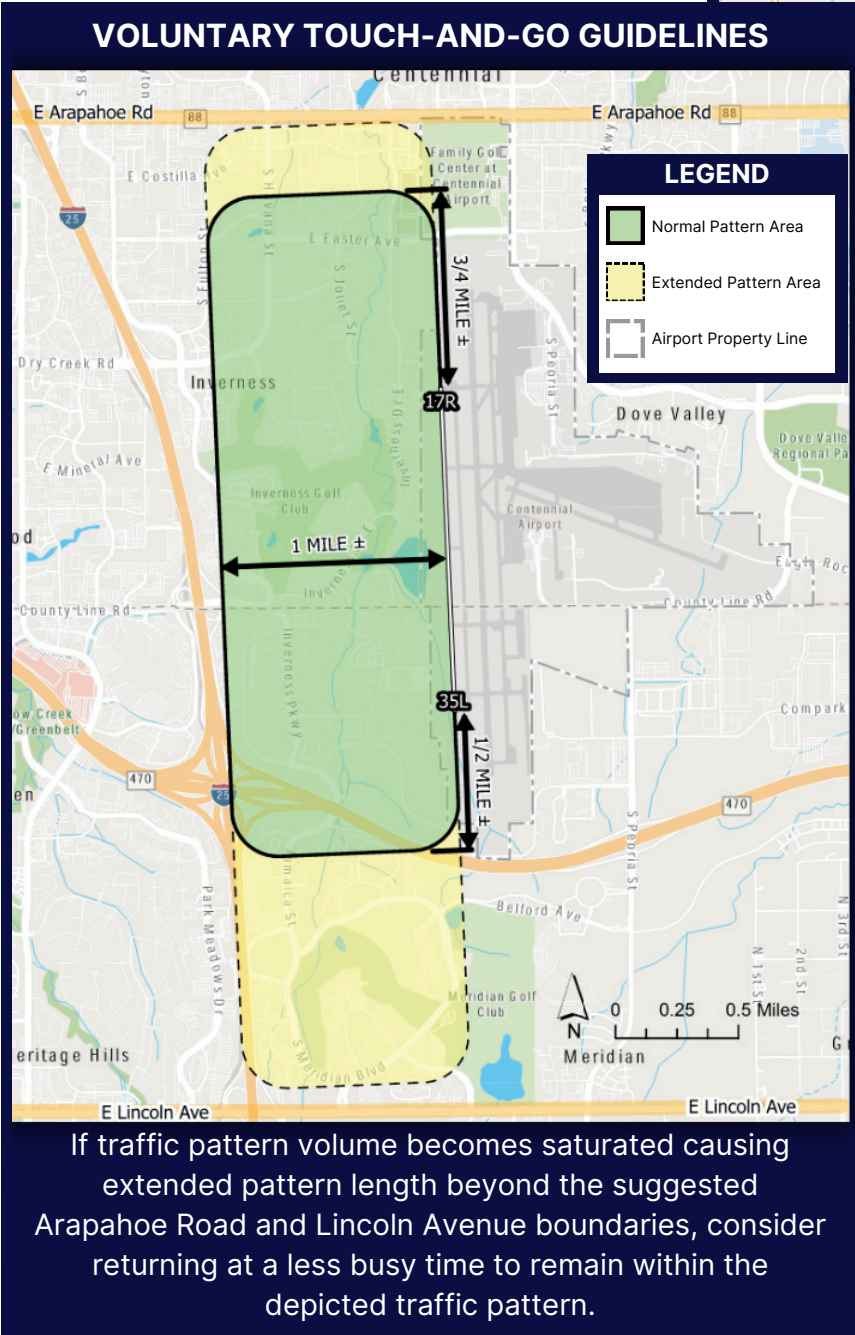
Make power setting changes slowly.

Observe noise abatement signs located at runway ends.

Terrain rises significantly to the south, southwest, and west of Centennial Airport. Adjust altitude accordingly.



Scan for digital copy of the Noise Abatement Guidelines.



Map for informational purposes only. Not to be used for navigation.

This document has been developed and approved by the Centennial Airport Community Noise Roundtable.



GOOD NEIGHBORS FLY QUIET

Scan for digital copy of the
Noise Abatement Guidelines



Noise Abatement Guidelines

Traffic pattern altitude 6,885 ft. MSL
(1,000 ft. AGL).

If possible, avoid noise sensitive areas as shown in green on
the Noise Sensitive Areas Map.

Limit consecutive touch-and-goes to 10 per flight.

Avoid flight training and ILS training
operations between 10:00pm and 7:00am.

Make power setting changes slowly.

Terrain rises significantly to the south, southwest, and west
of Centennial Airport. Adjust altitude accordingly.

Wind permitting, request Runway 10/28 for arrival and
departure.

Take off and climb at best angle of climb (V_x) to 500 ft. then
best rate (V_y).

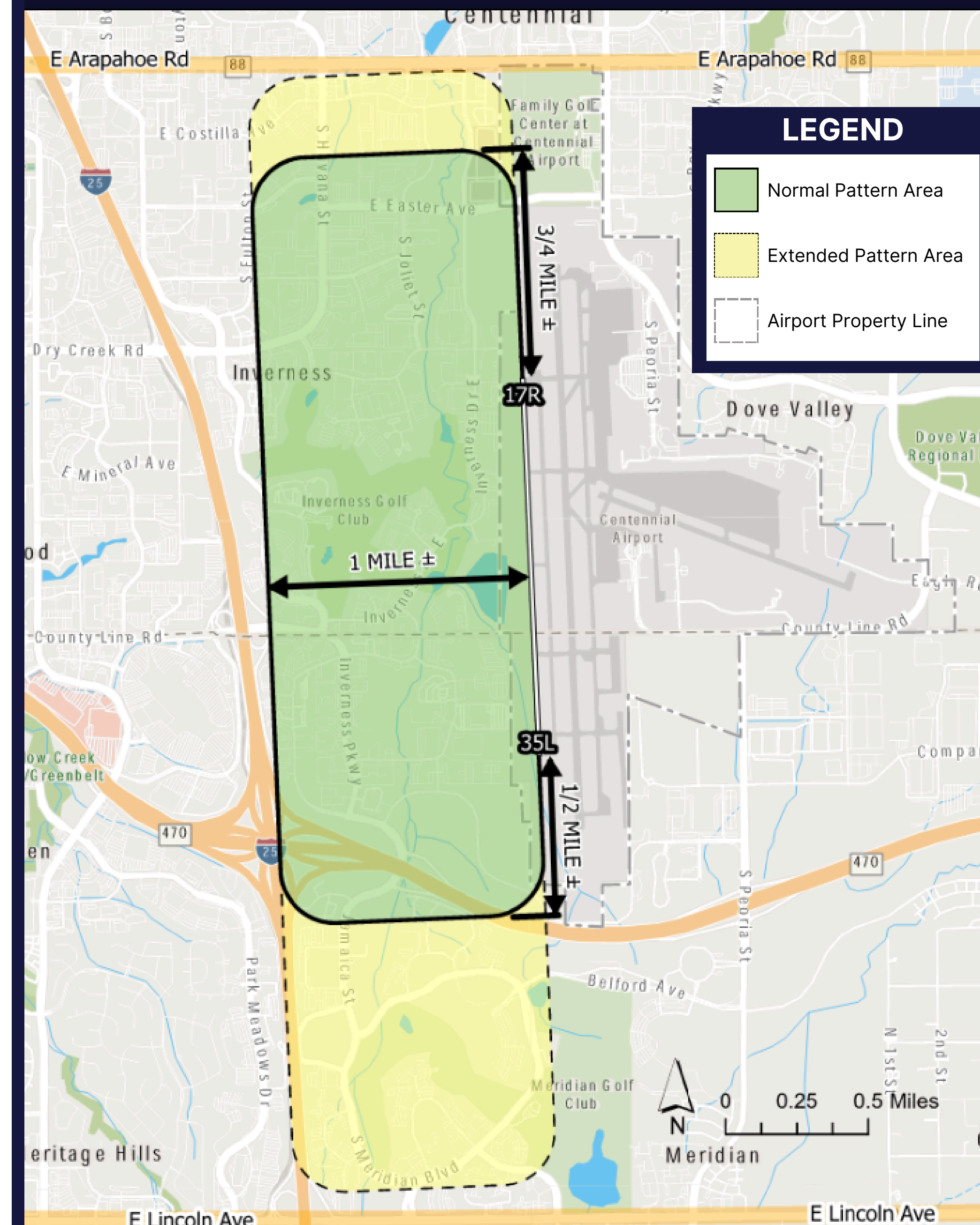
Avoid intersection take offs.

Minimize the number of flight training departures during
periods of heavy traffic (i.e. morning and early afternoon
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The following guidelines are recommended voluntary
practices to minimize sound levels in the vicinity of
Centennial Airport.

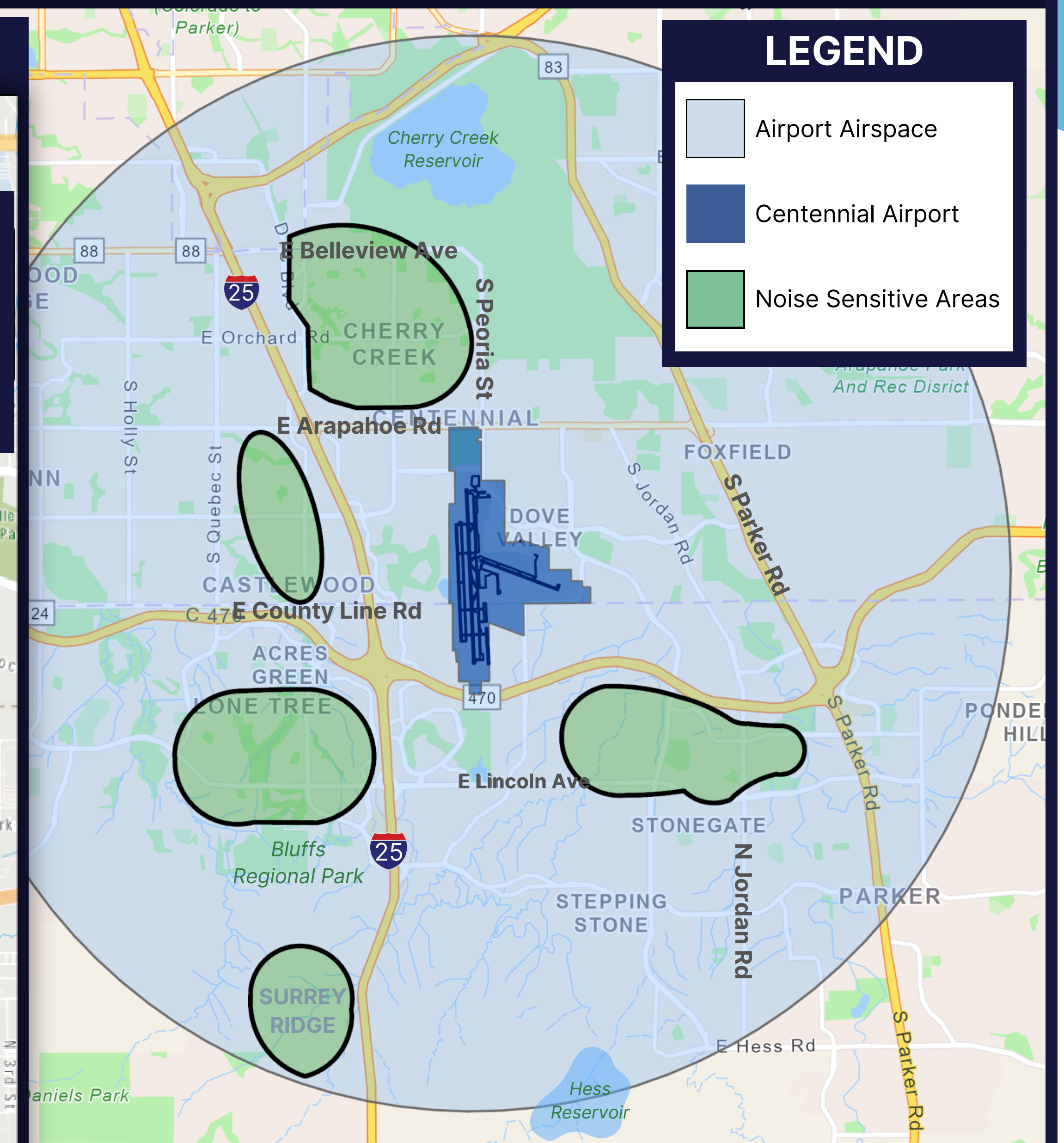
For additional information regarding aircraft noise
abatement, call the Centennial Airport Noise Office at
303-790-0598.

VOLUNTARY TOUCH-AND-GO GUIDELINES



If traffic pattern volume becomes saturated causing
extended pattern length beyond the suggested
Arapahoe Road and Lincoln Avenue boundaries, consider
returning at a less busy time to remain within the
depicted traffic pattern.

NOISE SENSITIVE AREAS



Map for informational purposes only. Not to be used for navigation.

IN ALL CASES SAFETY AND ATC INSTRUCTIONS TAKE PRECEDENCE



DRAFT

CACNR Public Comment Procedure

Approved 12 18 23

Amended 01 03 24

Amended ## ## ## (TBD)

CACNR'S MISSION STATEMENT

Adopted 11 01 2023

"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."

Both roundtable representatives and the community must understand the roundtable's role, responsibilities, and the scope of its authority. While CACNR lacks the responsibility and authority to manage the airport or air traffic, it is responsible for making recommendations to the ACPAA.

CACNR believes that hearing from the community is critical to our mission. Public comment provides an important opportunity for roundtable representatives to hear directly from the communities we represent. The public may also share its questions or concerns before our meeting in writing via the CACNR email address at info@centennialairportnoise.com. All input is vital and welcomed to ensure the roundtable accurately understands community concerns.

CACNR needs to balance the importance of hearing from the community while allowing time to conduct business in an orderly and efficient manner. To help that effort, CACNR is making changes to its public comment procedures.

The public comment period is scheduled toward the beginning of the agenda and will last for thirty minutes. If necessary, an additional comment period will be included towards the end of the agenda for those who didn't get a chance to speak initially.

Public Comment Procedures will be displayed on the screen and summarized by the CACNR Chair at the beginning. The procedures are as follows:

1. Sign-up for public comment is required. A sign-up sheet will be available at the meeting.
2. The Chair will only call on those attending in person who have indicated they wish to speak on the sign-in sheet prior to the start of the public comment period. Online attendees who wish to speak will be asked to "raise their hand" at the beginning of the public comment period. Written correspondence will be read at the beginning of the comment period.
3. Comment time will be limited to 3 minutes per individual speaker. Individuals with presentations longer than 3 minutes will contact the CACNR Chair in advance of the meeting.
4. Comment time will be limited to 4 minutes per person for speakers representing a group.
5. Each speaker will be afforded the ability to speak once during the public comment period.

6. An individual's public comment time may be delegated to someone who has previously signed in to speak and is present. Unused time cannot be yielded to another speaker.
7. Each speaker shall state their name and their community.
8. Speakers are asked to provide new information whenever possible and will avoid repeating comments made by other speakers.
9. When speaking, please remain polite, courteous and respectful and address the CACNR.
10. Speakers shall not make personal, slanderous, or profane remarks toward airport staff, roundtable representatives or other individuals or organizations. Such behavior will not be tolerated.
11. There will not be back and forth discussion between the speakers and the roundtable during public comment.
12. Please do not interrupt speakers while they are at the podium providing comments.
13. When your time is up, please leave the podium.
14. If the meeting has not adjourned by 8:30 PM, the chair will call for a vote to approve or not approve extending the meeting by 30 minutes to continue the agenda.
15. At the conclusion of public comments, an attempt will be made by CACNR Representatives, airport staff or other individuals to address questions raised during public comment or to clarify misunderstanding or misinformation.
16. Unaddressed questions after the public comment period may be answered later by roundtable representatives or airport staff following the meeting. Roundtable representatives are also available between meetings for further discussions on concepts or questions.