NOISE OVERSIGHT COMMITTEE

September 21, 2022

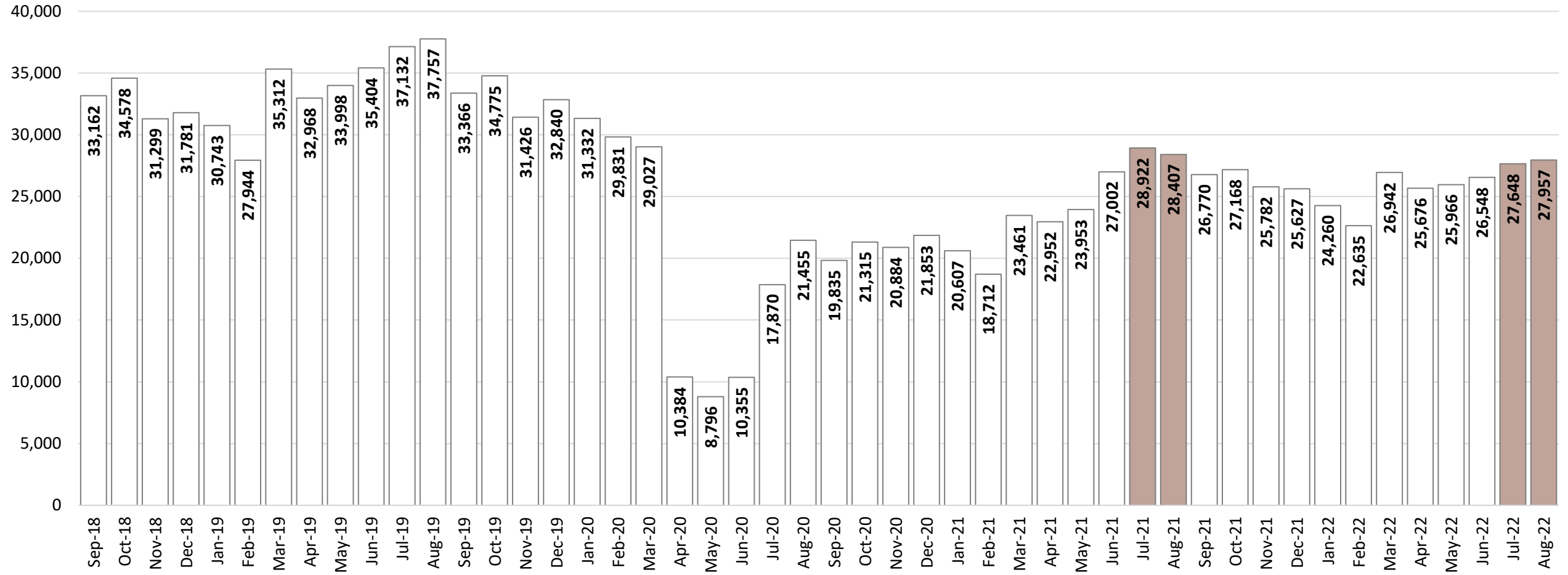
Audio recordings are made of this meeting

Agenda

1. **Consent**
   - 1.1 – Approval of July 20, 2022 Meeting Minutes
   - 1.2 – Reports
     - 1.2.1 – Monthly Operations Reports: July and August 2022
2. **Public Comment Period**
3. **Business**
4. **Information**
   - 4.1 – Update on Eagan Request to the FAA
   - 4.2 – Update on the FAA's Neighborhood Environmental Survey
   - 4.3 – Draft 2023 Work Plan
   - 4.4 – Review of Summer Listening Session
5. **Announcements**
6. **Adjourn**

MSP OPERATIONS

July 2022		August 2022	
27,648 Operations	**1,873** Nighttime Operations (10:30 PM – 6:00 AM)	**27,957** Operations	**1,834** Nighttime Operations (10:30 PM – 6:00 AM)



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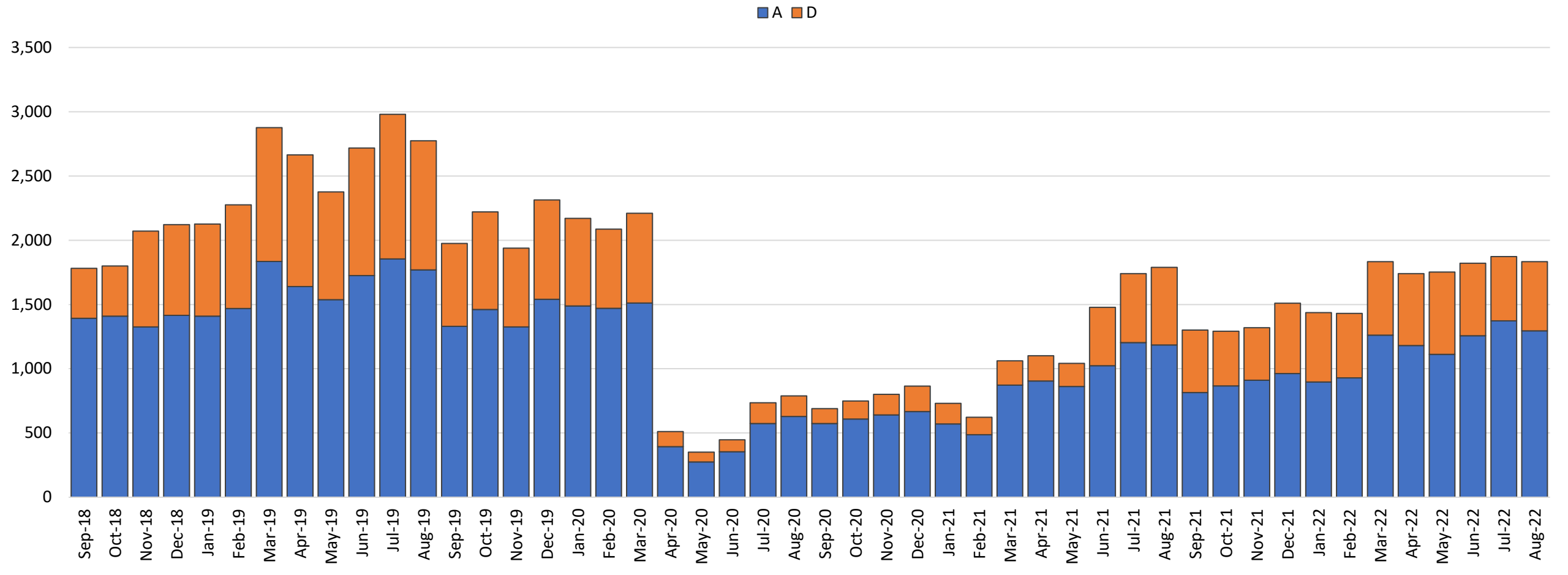


RUNWAY USE

JUL 2022		
NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
32%	**50%**	**12%**

AUG 2022		
NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
33%	**49%**	**11%**

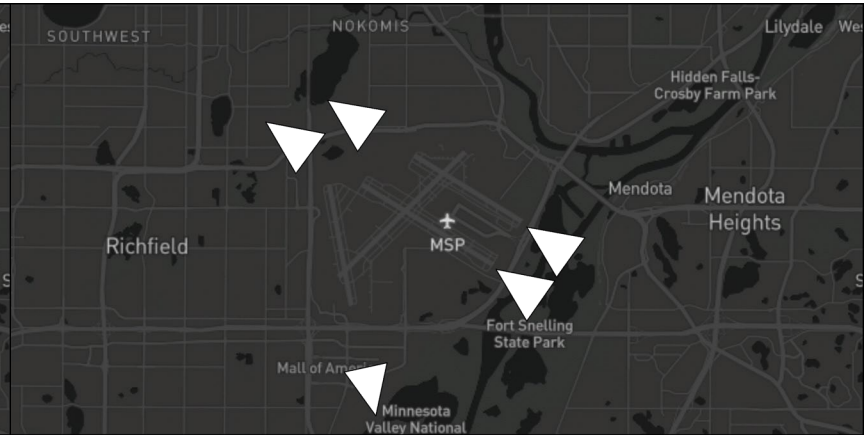
2021 JAN – AUG		
NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
38%	**45%**	**8%**

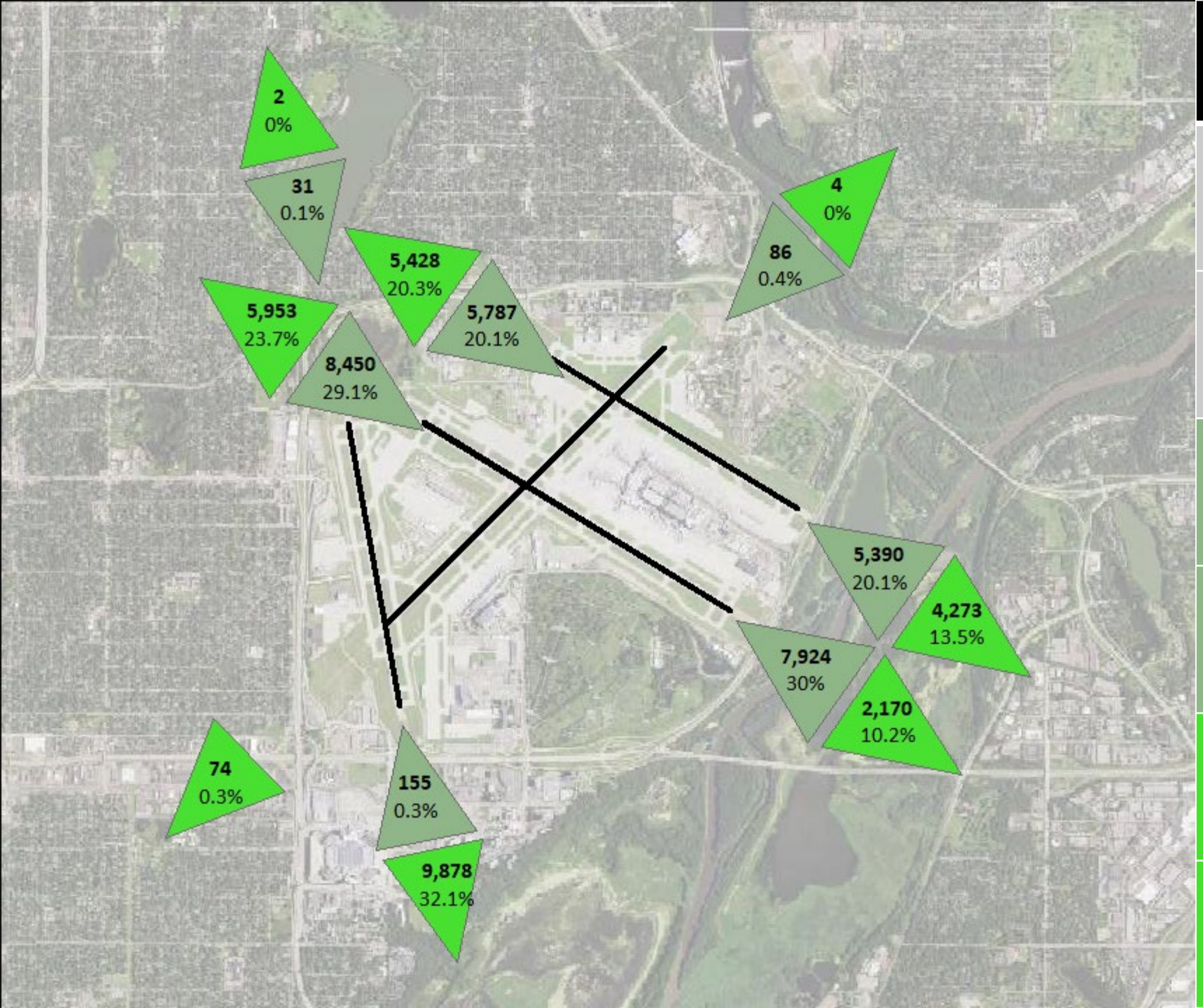
2022 JAN – AUG		
NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
42%	**42%**	**9%**

North Flow

South Flow

Mixed Flow





JUL – AUG RUNWAY USE

55,605
OPERATIONS IN JUL – AUG

PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4
36%	18%	0%	46%

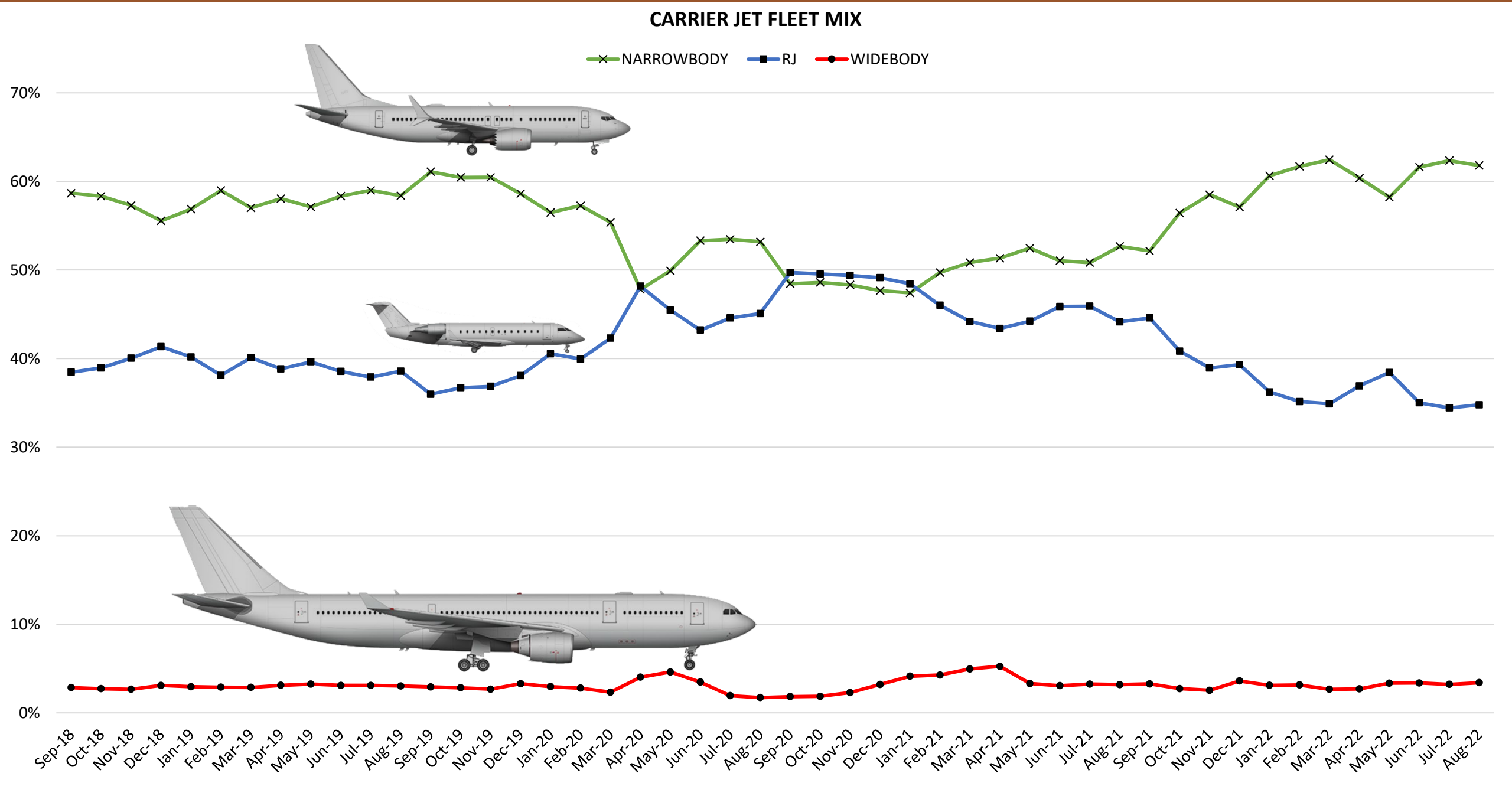
27,823
ARRIVALS

PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4
48%	1%	0%	51%

27,782
DEPARTURES

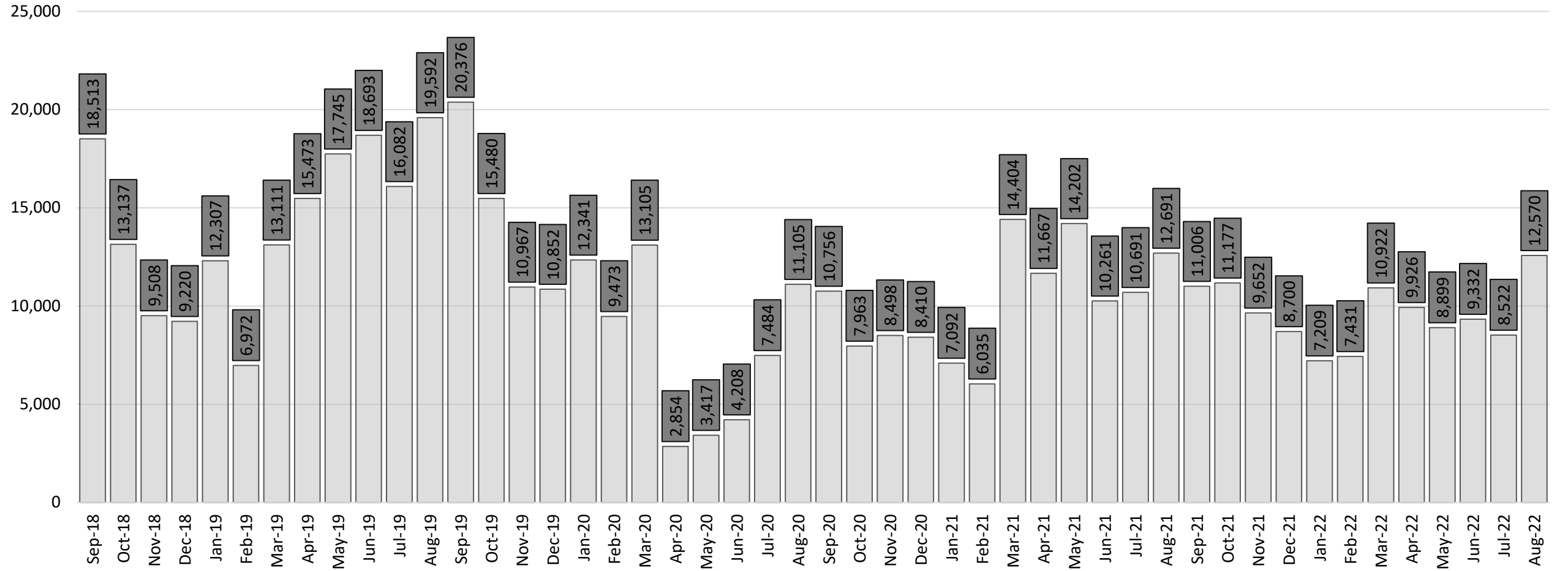
PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4
23%	36%	0%	41%

MSP OPERATIONS



MSP COMPLAINTS

July 2022				August 2022			
COMPLAINTS		LOCATIONS		COMPLAINTS		LOCATIONS	
8,522		308		12,570		364	
Ops per Complaint	New Locations	Average	Median	Ops per Complaint	New Locations	Average	Median
3.2	31	28	4	2.2	53	35	3



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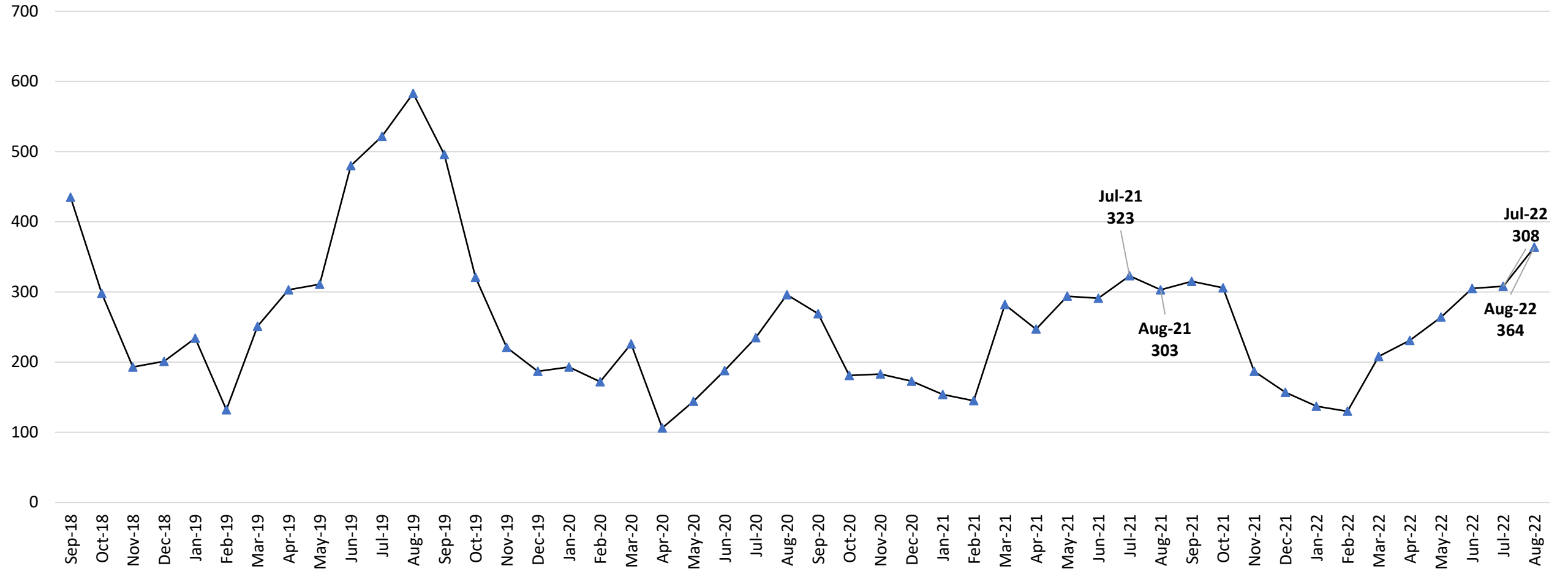
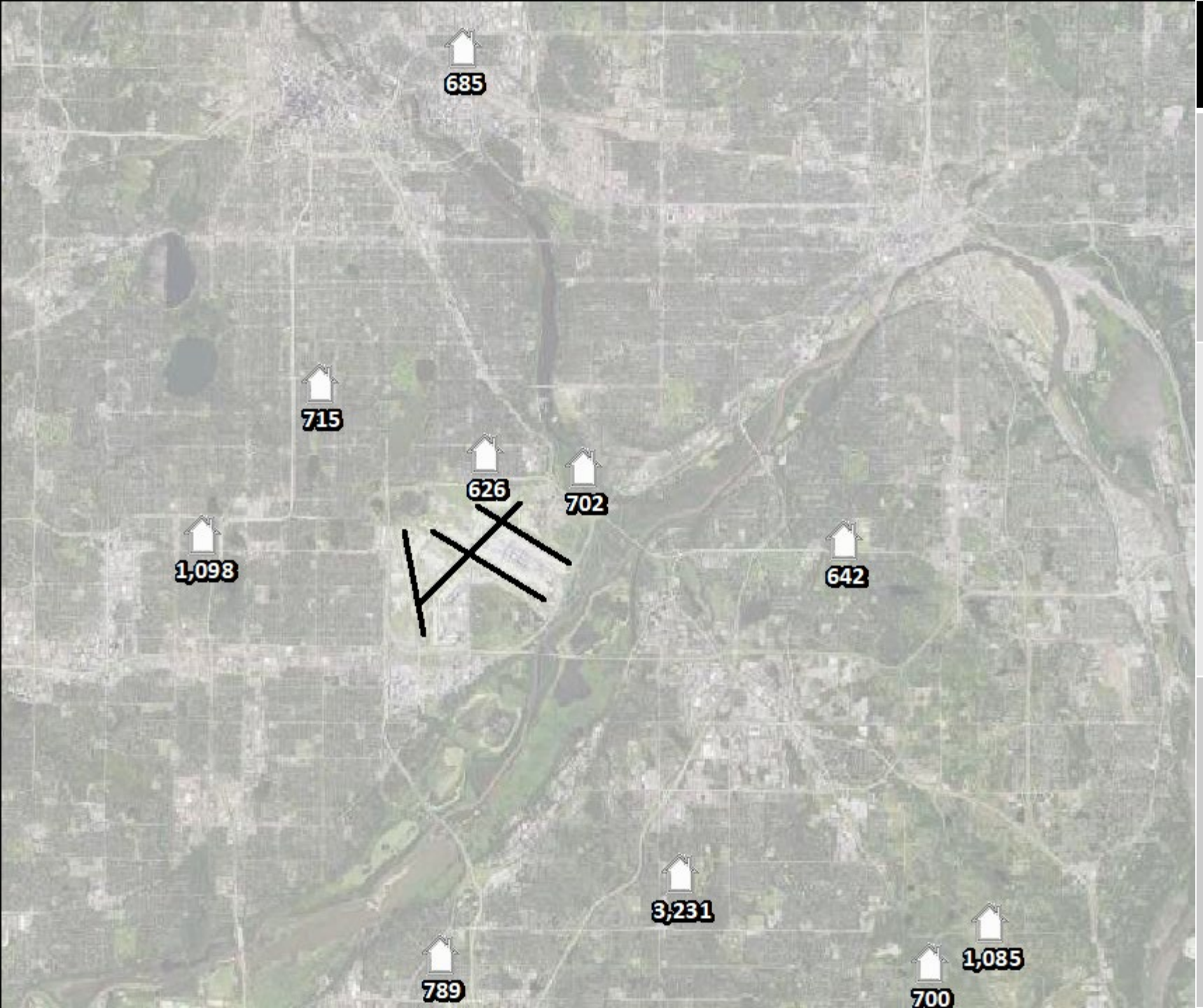




TOP 10 LOCATIONS

FILED

10,273

(49%)

COMPLAINTS DURING JUL & AUG

7 OF 10

LOCATIONS WERE IN THE TOP 10 FOR MAY – JUN DATA

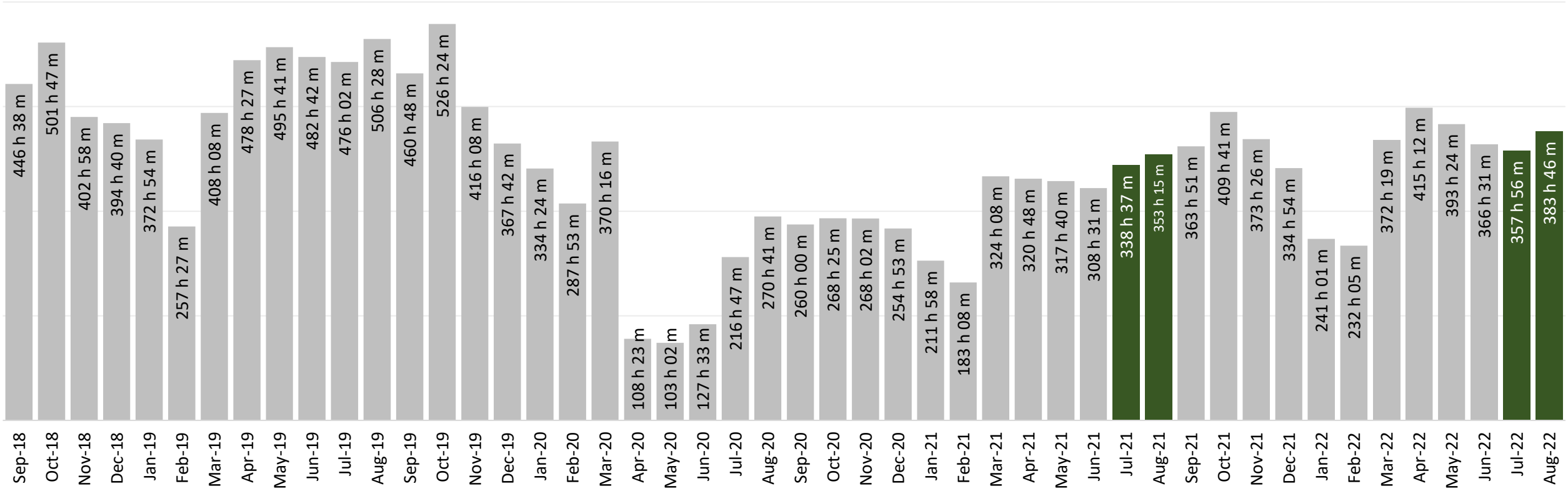
326

(69%)

LOCATIONS FILED 10 OR FEWER COMPLAINTS

SOUND MONITORING

July 2022			August 2022		
Time Above	47 TA^{65} Per Operation	357 h 56 m TA^{65}	Time Above	49 TA^{65} Per Operation	383 h 46 m TA^{65}
Count Above	2.68 N^{65} Per Operation	74,021 N^{65}	Count Above	2.81 N^{65} Per Operation	78,431 N^{65}



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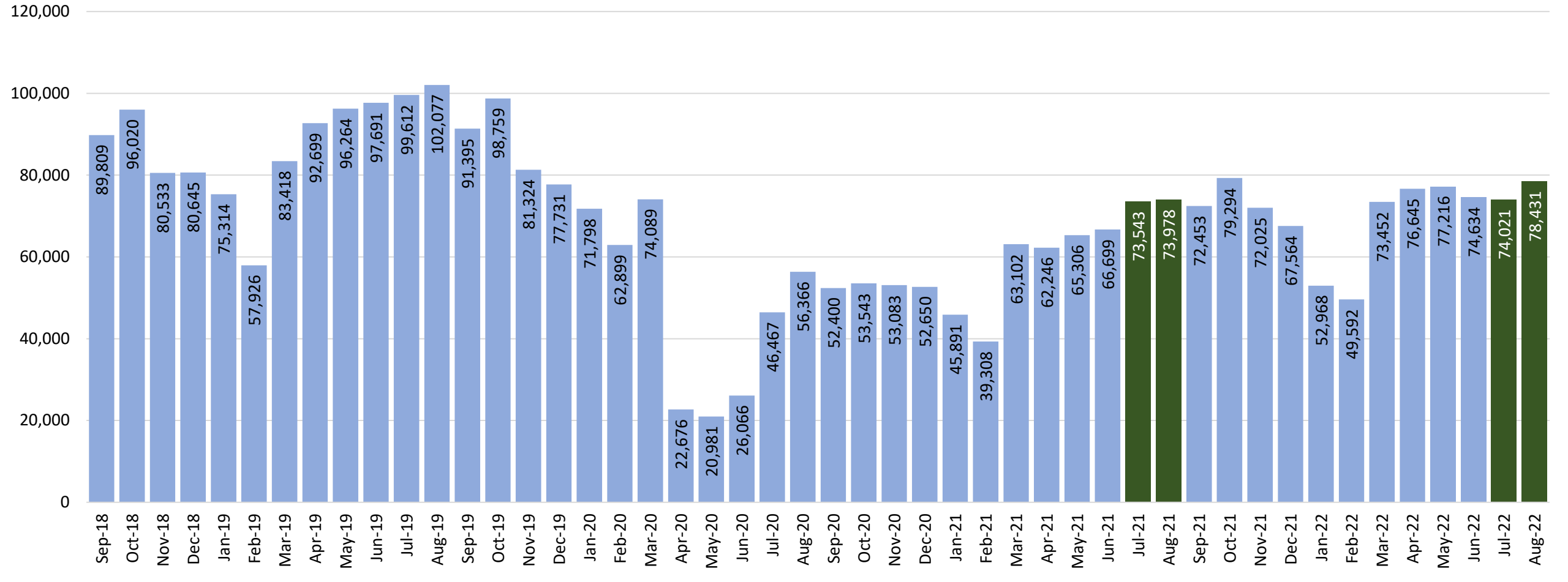


NOISE ABATEMENT

July 2022	
Runway 17	99.6%
EMH Corridor	93.3%
Cross Day	36.5%
Cross Night	29.2%

August 2022	
Runway 17	99.5%
EMH Corridor	95.4%
Cross Day	34.8%
Cross Night	44.1%

RUS	**53.6%**	Arrive - 50%	Depart - 57%

RUS	**53.5%**	Arrive - 47%	Depart - 60%

ITEM 2
PUBLIC COMMENT PERIOD

MINNEAPOLIS SAINT PAUL METROPOLITAN AIRPORTS COMMISSION
MAC

MSP NOISE OVERSIGHT COMMITTEE

NOISE OVERSIGHT COMMITTEE
SEPTEMBER 21, 2022

ITEM 2
PUBLIC COMMENT PERIOD

Speaking at a Meeting

- Each speaker will have one opportunity to speak and is allotted three (3) minutes.
- When called upon to speak, speak clearly, state your name and address. If you are affiliated with any organization, please state your affiliation.
- Commenters shall address their comments to the NOC and not to the audience.
- Use of profanity, personal attacks, or threats of violence will not be tolerated.

4.1 – UPDATE ON EAGAN REQUEST TO THE FAA

NOISE OVERSIGHT COMMITTEE
SEPTEMBER 21, 2022

Eagan Request

EAGAN
ESTABLISHED 1860

September 3, 2019

Metropolitan Airports Committee
Attn: Noise Oversight Committee (NOC)
6040 S. 28th Avenue
Minneapolis, MN 55450

Dear Members of the Noise Oversight Committee:

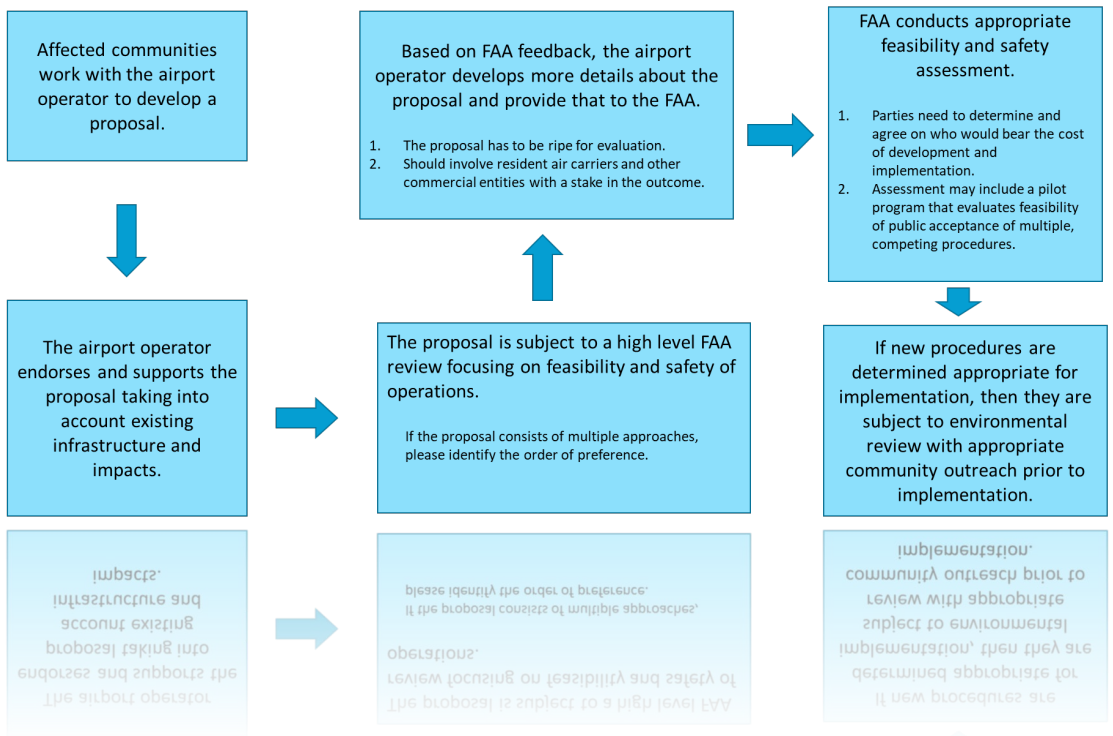
As you are well aware, the noise environment in the City of Eagan has changed dramatically since the implementation of Converging Runway Operations (CRO) at MSP Airport in 2015. The airport more routinely operates in a south flow, resulting in thousands of additional flights over residential areas of Eagan.

Over the past several months, the Eagan Airport Relations Commission (ARC), a volunteer advisory commission to the City Council, has been working in partnership with Metropolitan Airports Commission (MAC) staff to review the outcomes of the NOC-initiated Runway 17 Departure Study. The study clearly demonstrated the increased noise impact to Eagan since CRO went into effect. In response to the data and with input from MAC staff and Eagan residents, the ARC has developed a series of requests and inquiries of the FAA pertaining to operational changes at MSP Airport. The ARC is mindful of not moving noise from one community or neighborhood to another, and thus the suggestions attempt to keep planes over more compatible land uses and within the City of Eagan, when appropriate.

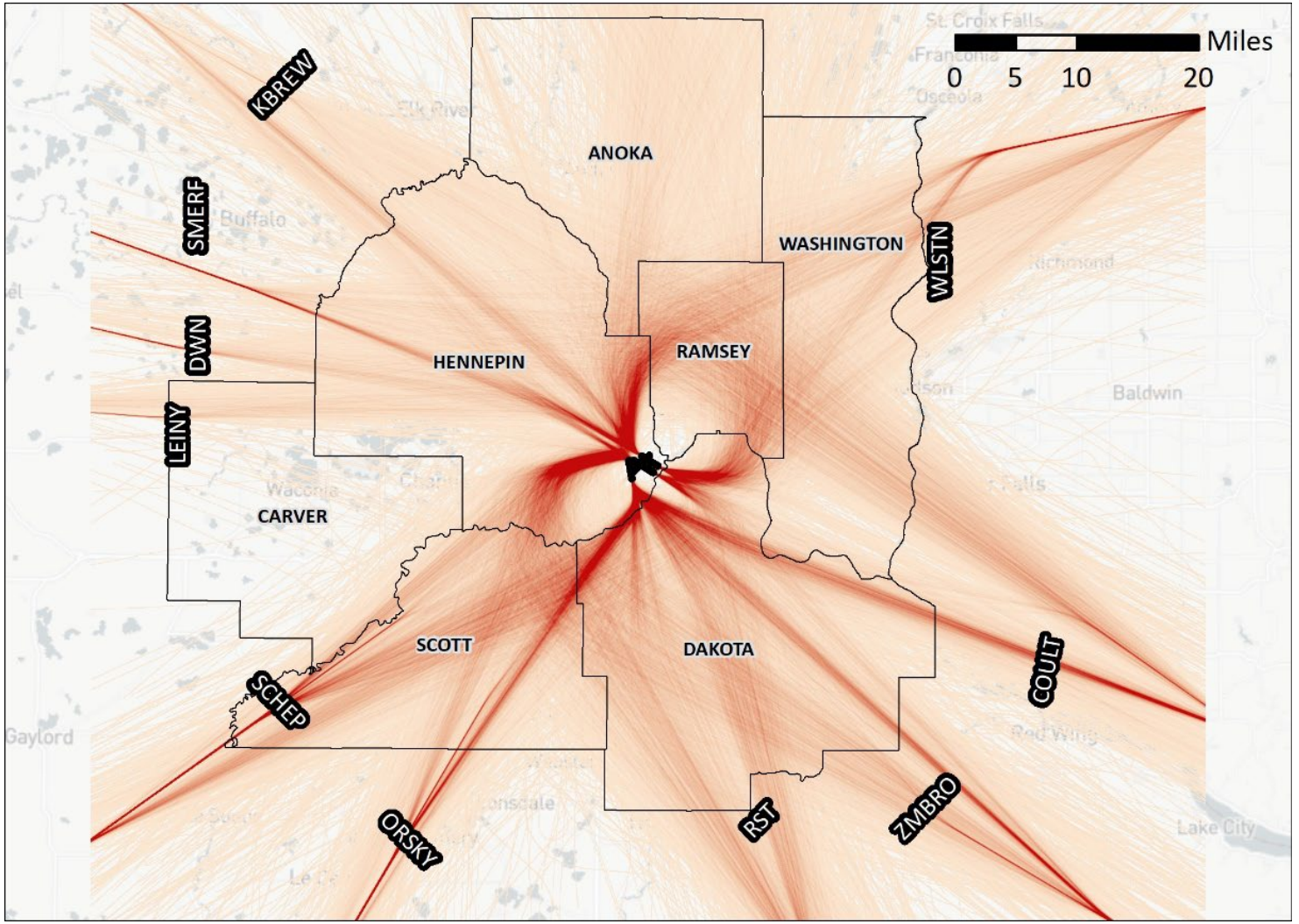
The City of Eagan respectfully asks the NOC to consider and forward the following recommendations and inquiries to the MAC Commission of the whole. Pending NOC and MAC review, the City asks that the request be forwarded to the FAA for their consideration. The requests are being made at this time to coincide with the recent commitment of the FAA to conduct environmental analysis of the impacts of CRO. The City of Eagan is grateful for the FAA's renewed presence and communication efforts with the NOC. As such, the City of Eagan requests that the FAA respond both in writing and engage in a dialogue with the NOC when responding to the City's requests.

MAYOR | MIKE MAGUIRE COUNCIL MEMBERS | PAUL BAKKEN, CYNDEE FIELDS, GARY HANSEN, MEG TILLEY CITYOFEAGAN.COM
CITY ADMINISTRATOR | DAVID M. OSBERG MUNICIPAL CENTER | 3830 PILOT KNOB ROAD, EAGAN, MN 55122-1810
MAIN: (651) 675-5000 HEARING IMPAIRED: (651) 454-8535 MAINTENANCE: (651) 675-5300 UTILITIES: (651) 675-5200

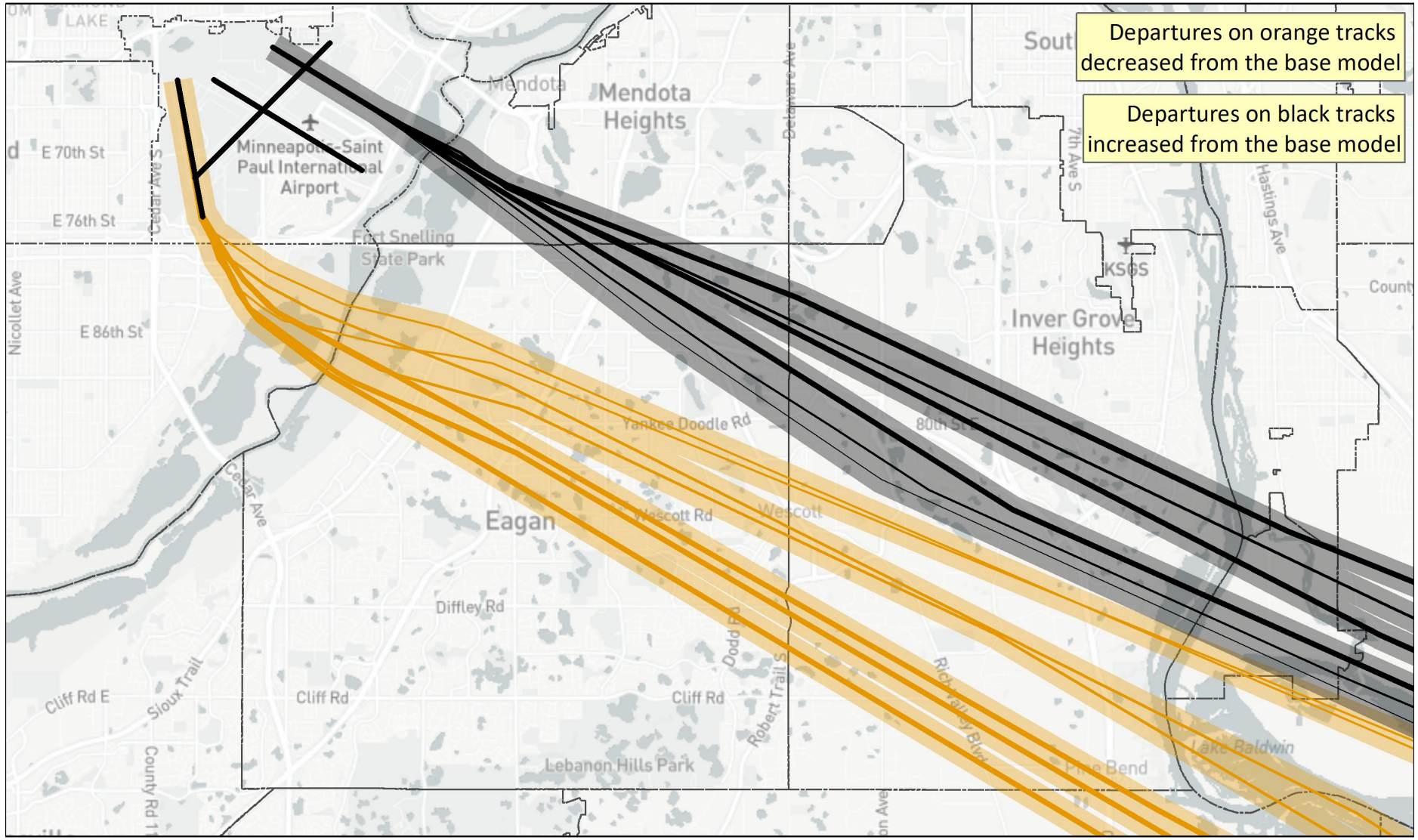
Amending Instrument Departure Procedures Through Collaboration – A Process Approach



Monthly MSP Departures with Initial Departure Fix



EAGAN REQUEST 1: AEDT MODEL TRACKS



Average Daily Departures

- < 1
- 1 to 2
- 2 to 3
- > 3

Average Daily Departures

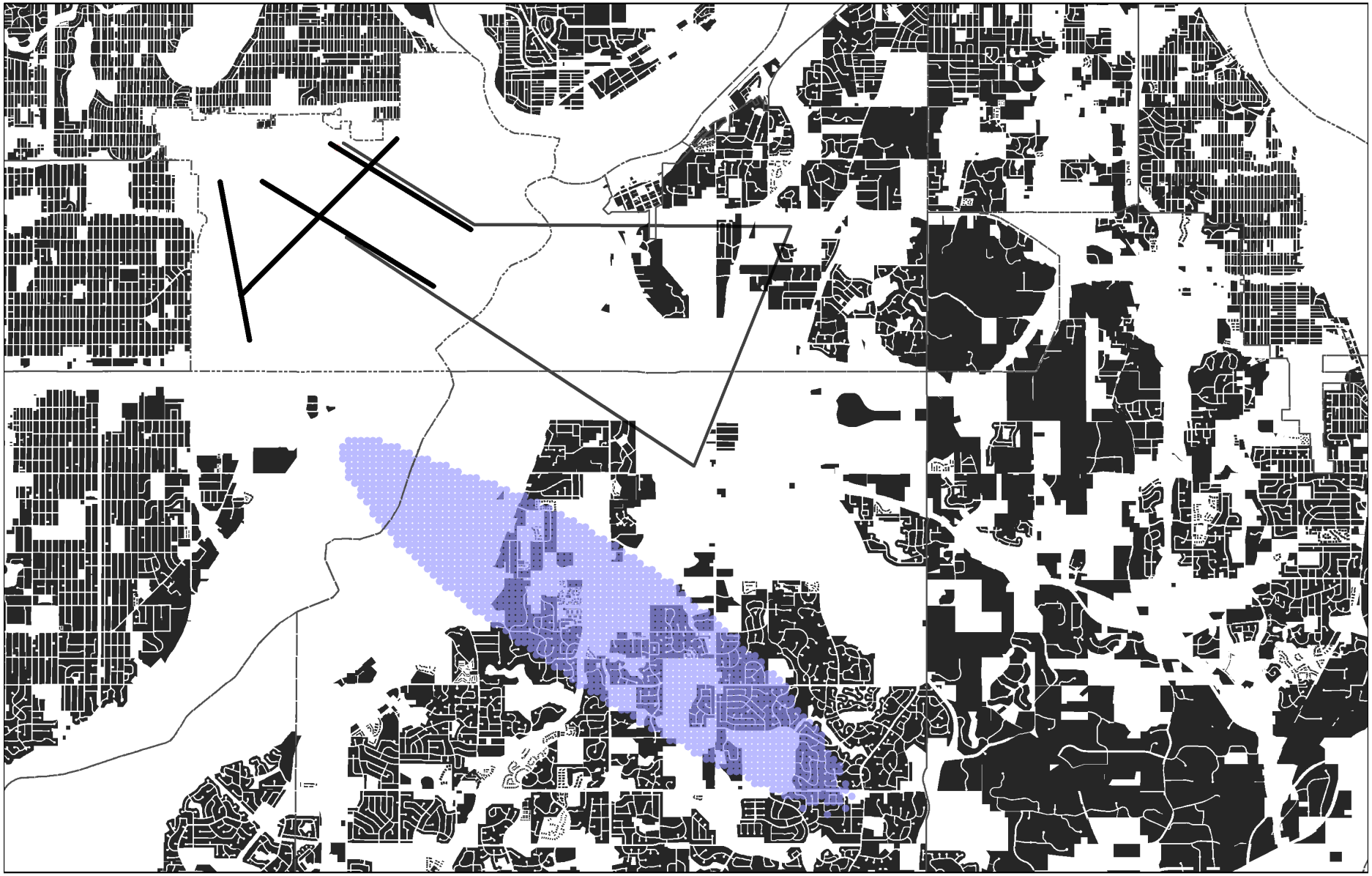
- < 1
- 1 to 2
- 2 to 3
- > 3

0 1.25 2.5 5 Miles

Modeled Departures

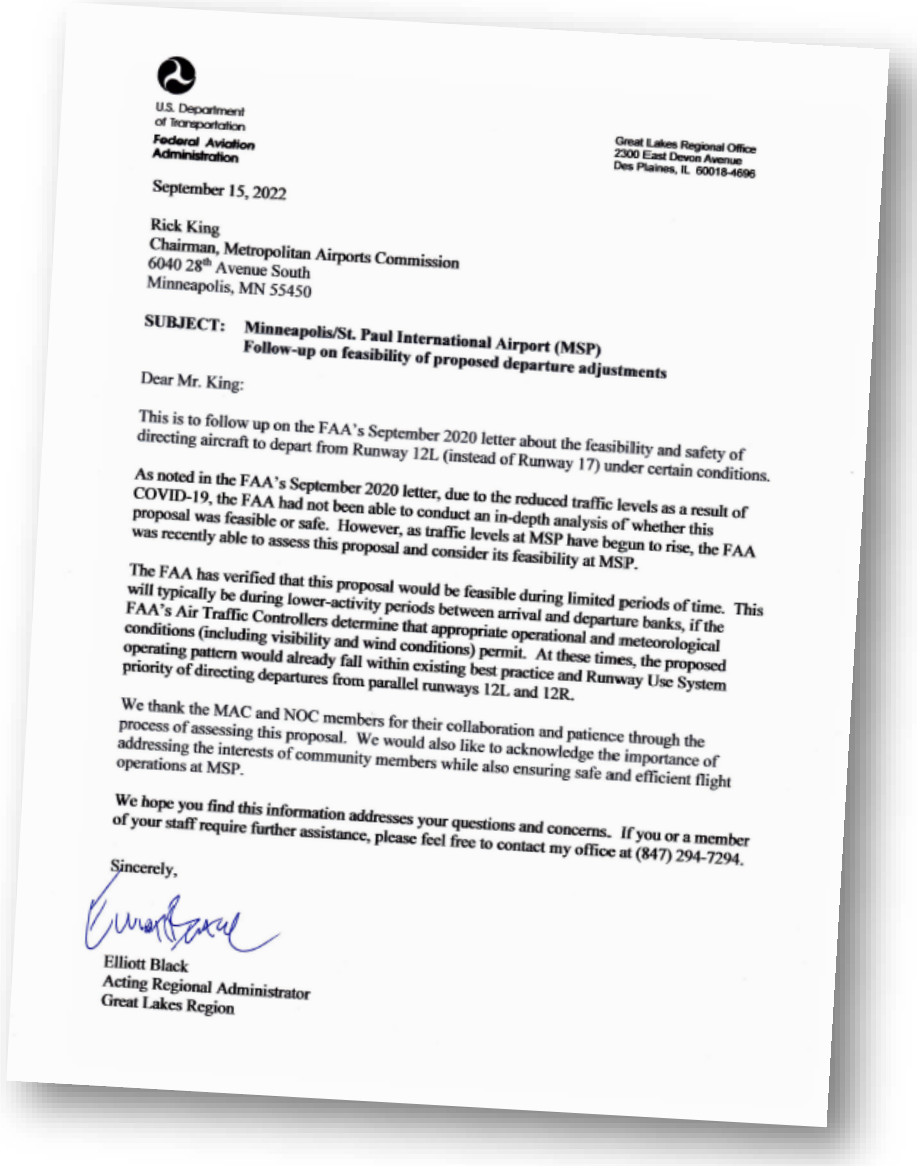
RWY	2019	Request 1	Change
12L	81.8	91.0	9.2
17	180.2	171.0	-9.2

EAGAN REQUEST 1: DNL CHANGE



FAA Update

- Sean Doyle, Deputy Regional Administrator, Great Lakes Region
- Letter dated September 15, 2022, addendum to the agenda packet
- Formalized as a best practice



U.S. Department of Transportation
Federal Aviation Administration

Great Lakes Regional Office
2300 East Devon Avenue
Des Plaines, IL 60018-4696

September 15, 2022

Rick King
Chairman, Metropolitan Airports Commission
6040 28th Avenue South
Minneapolis, MN 55450

SUBJECT: Minneapolis/St. Paul International Airport (MSP)
Follow-up on feasibility of proposed departure adjustments

Dear Mr. King:

This is to follow up on the FAA's September 2020 letter about the feasibility and safety of directing aircraft to depart from Runway 12L (instead of Runway 17) under certain conditions.

As noted in the FAA's September 2020 letter, due to the reduced traffic levels as a result of COVID-19, the FAA had not been able to conduct an in-depth analysis of whether this proposal was feasible or safe. However, as traffic levels at MSP have begun to rise, the FAA was recently able to assess this proposal and consider its feasibility at MSP.

The FAA has verified that this proposal would be feasible during limited periods of time. This will typically be during lower-activity periods between arrival and departure banks, if the FAA's Air Traffic Controllers determine that appropriate operational and meteorological conditions (including visibility and wind conditions) permit. At these times, the proposed operating pattern would already fall within existing best practice and Runway Use System priority of directing departures from parallel runways 12L and 12R.

We thank the MAC and NOC members for their collaboration and patience through the process of assessing this proposal. We would also like to acknowledge the importance of addressing the interests of community members while also ensuring safe and efficient flight operations at MSP.

We hope you find this information addresses your questions and concerns. If you or a member of your staff require further assistance, please feel free to contact my office at (847) 294-7294.

Sincerely,

Elliott Black
Acting Regional Administrator
Great Lakes Region

Eagan Request:
Best Practice of Runway 12L/R use for Departures

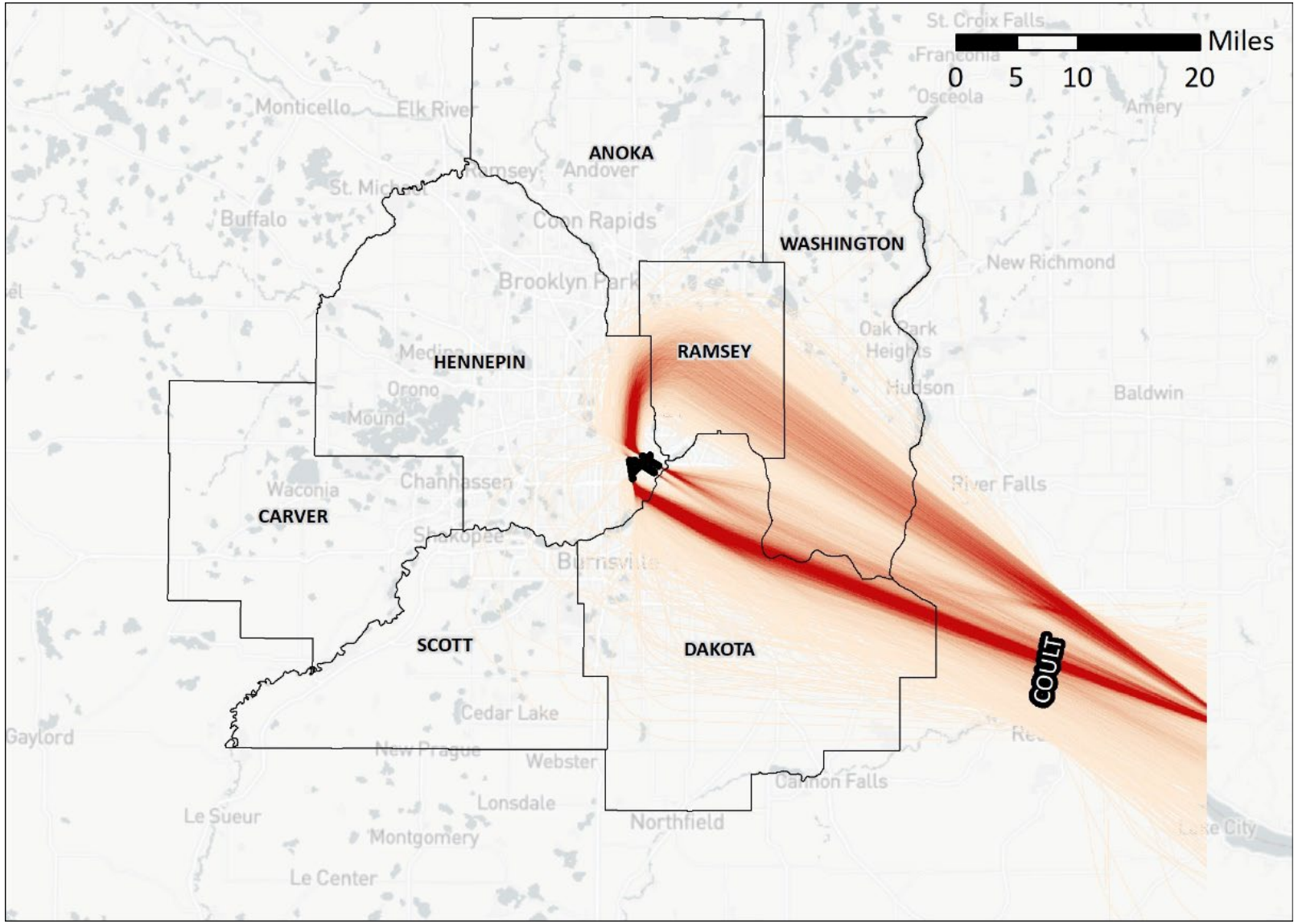
FAA would like to thank the MAC and NOC members for their collaboration and patience in working through the process of assessing this proposal

Takeaways:

- The proposal follows existing best practices of Runway Use System prioritization for directing departures from parallel runways 12L and 12R
- The FAA has verified that the proposal would be feasible during limited periods of time:
  - Typically, during lower-activity periods between arrival and departure banks
  - Use also relies on FAA's Air Traffic Controllers to determine that appropriate operational and meteorological conditions (including visibility and wind conditions) permit

This collaboration highlights the importance of addressing the interests of community members while also ensuring safe and efficient flight operations at MSP

MACNOMS Analysis



MACNOMS Analysis

All Time Periods

Runway	2017	2018	2019	2022	Trend
12L	6%	9%	11%	15%	
12R	4%	3%	2%	3%	
17	90%	88%	87%	82%	

Low Demand *(5 or fewer Arrivals; 5 or fewer Departures in 15 minute segment)*

Runway	2017	2018	2019	2022	Trend
12L	9%	11%	11%	28%	
12R	5%	4%	3%	7%	
17	86%	85%	86%	65%	

4.2 – UPDATE ON THE FAA'S NEIGHBORHOOD ENVIRONMENTAL SURVEY

NOISE OVERSIGHT COMMITTEE
SEPTEMBER 21, 2022

FAA Noise Research and Noise Policy Review Update

Presented To: MSP Noise Oversight Committee

By: Sean Doyle,
Deputy Regional Administrator,
FAA Great Lakes Region

Date: September 21, 2022

Federal Aviation Administration

FAA Great Lakes Regional Leadership

- **Rebecca McPherson**

  Regional Administrator for the Great Lakes Region

  – Appointed on January 8, 2018 and serves as the principal executive representative of the FAA Administrator in the region, providing corporate leadership in cross-organizational matters and represents the FAA with industry, the public and governmental organizations

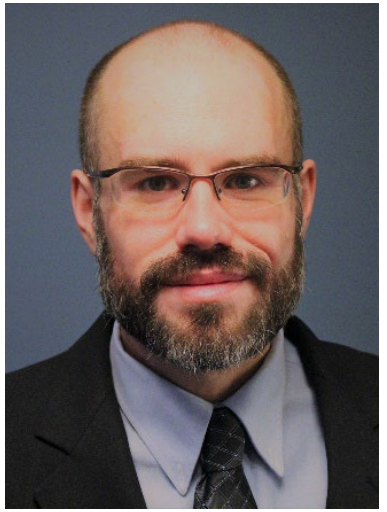
  – Formerly FAA's Assistant Chief Counsel for Regulations from 2004 to 2013, where she was responsible for providing legal and policy guidance to senior FAA officials on matters associated with the development and day-to-day implementation of regulations governing all aspects of aviation

- **Sean Doyle**

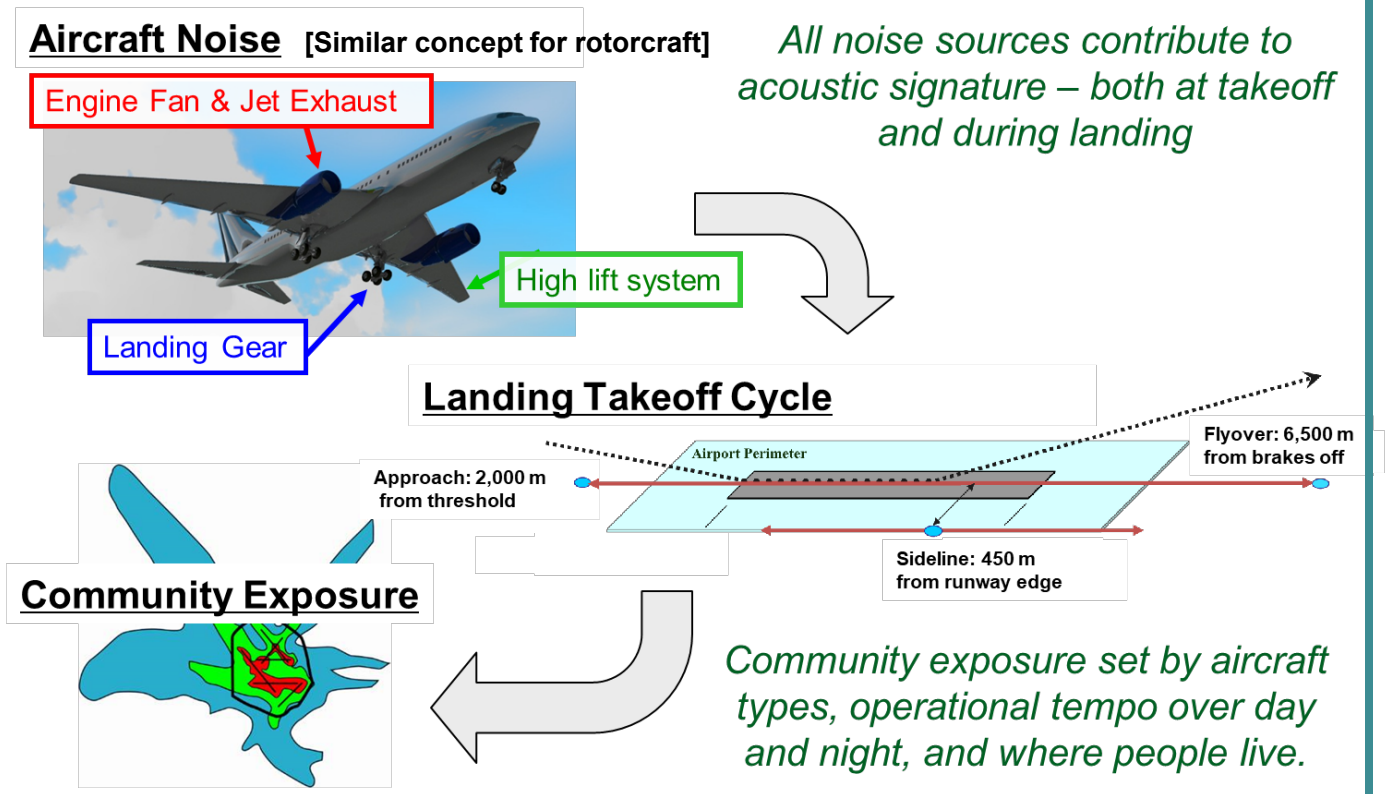
  Deputy Regional Administrator for the Great Lakes Region

  – Joined the regional office on July 18, 2022 supporting the Regional Administrator and providing program and staff management.

  – Joined the agency in 2016 and formerly served as the Senior Aviation Noise Specialist in the FAA Office of Environment and Energy; responsible for managing aircraft noise research and policy programs

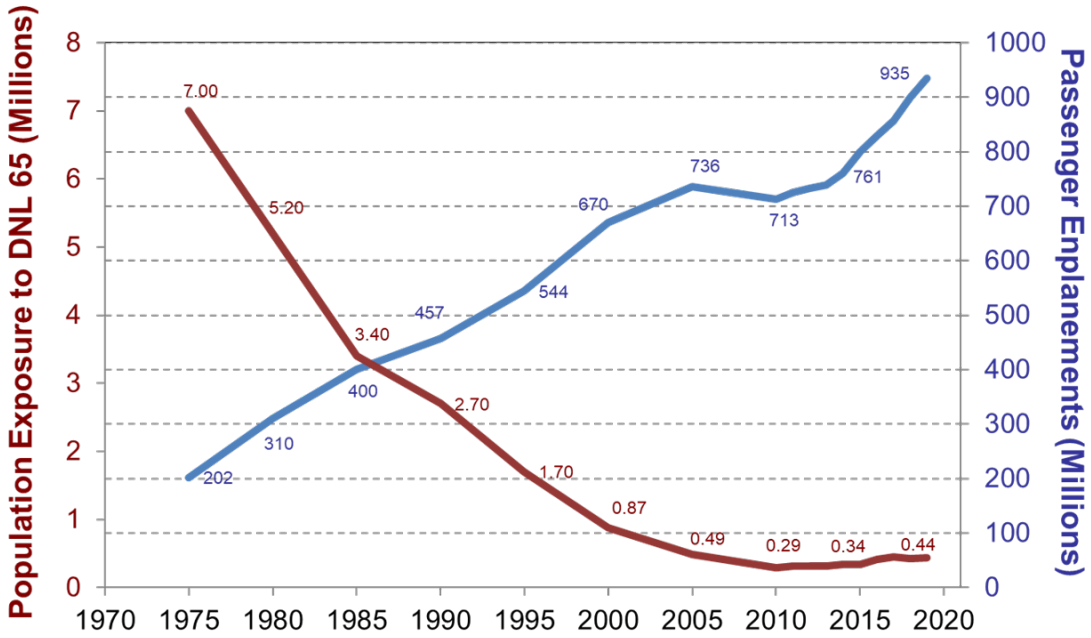


Overview of Aviation Noise (1)



All noise sources contribute to acoustic signature – both at takeoff and during landing

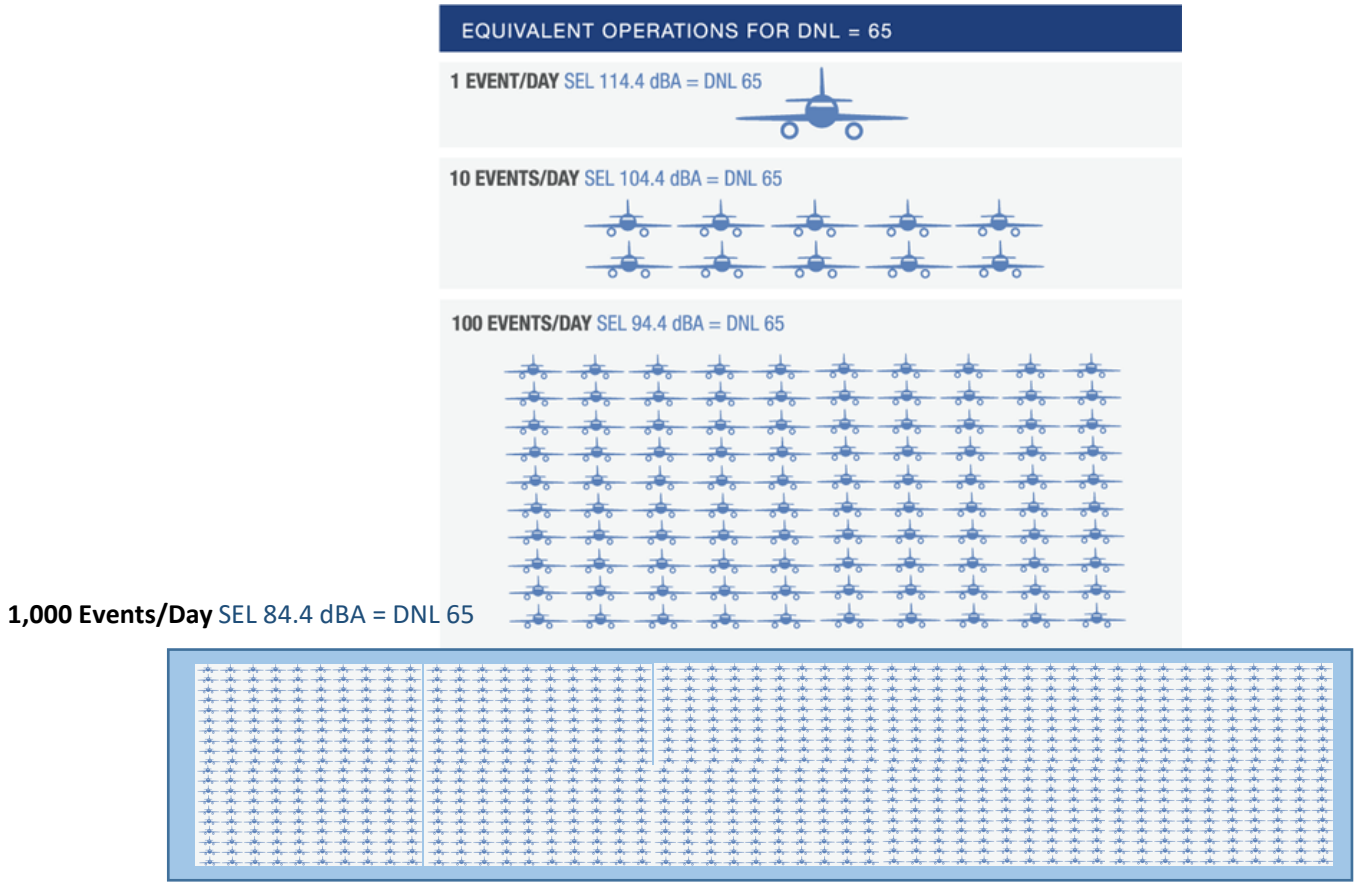
Community exposure set by aircraft types, operational tempo over day and night, and where people live.



Over a ninety percent decrease in community noise exposure while increasing enplanements by nearly a factor of five; however, the noise experience is different than it was in decades past

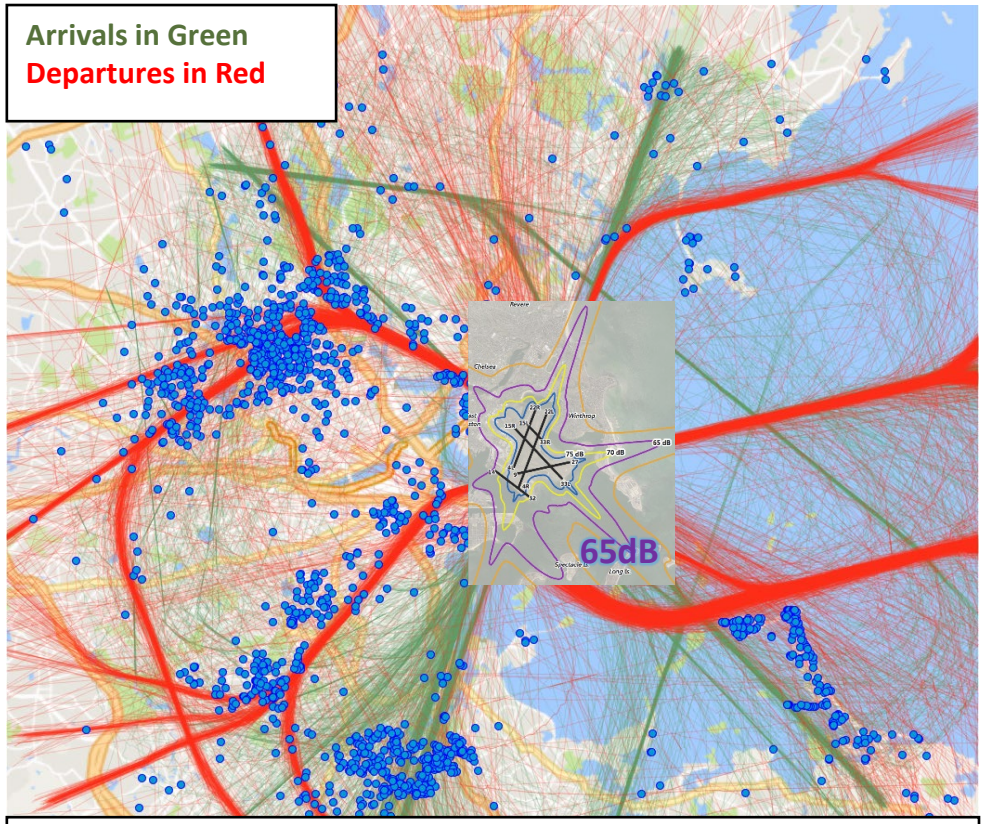
Overview of Aviation Noise (2)

- Aircraft noise from 1970s is different than aircraft noise today.
- A single aircraft from the 1970s produced the same acoustic energy as 10 to 30 aircraft operations today.
- A few, but relatively loud, operations in the 1970s would result in DNL 65 dB.
- Many, relatively quiet operations today would also result in DNL 65 dB. However, the noise experience would be very different.



Overview of Aviation Noise (3)

- Recent efforts to modernize the national air transportation system have required changes in aircraft operational patterns
- While modernization is needed to increase public safety and system efficiency, the changes in operational patterns have also led to increased concern about aircraft noise
- While air space redesigns have been taking place, operations by air carriers have also increased
- Airport communities that are outside the DNL 65 dB contour are expressing concerns about aircraft noise

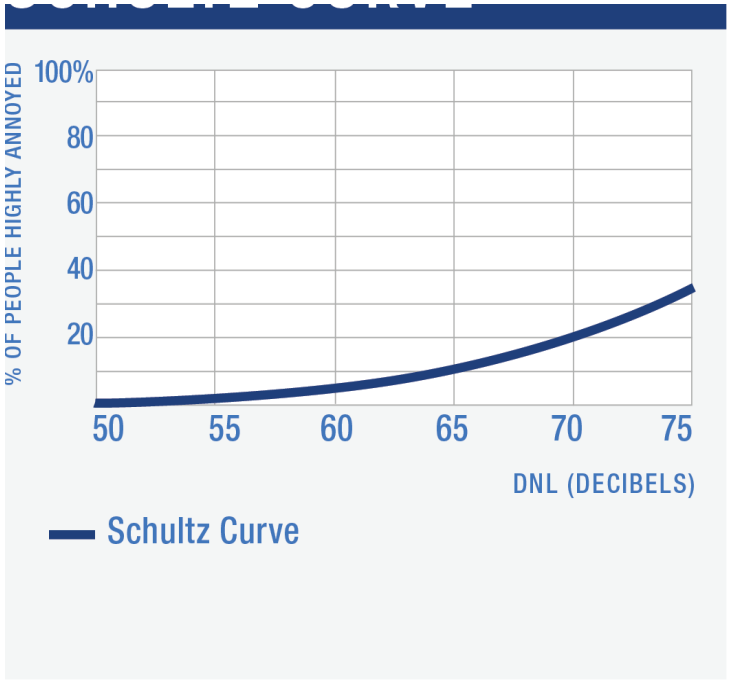


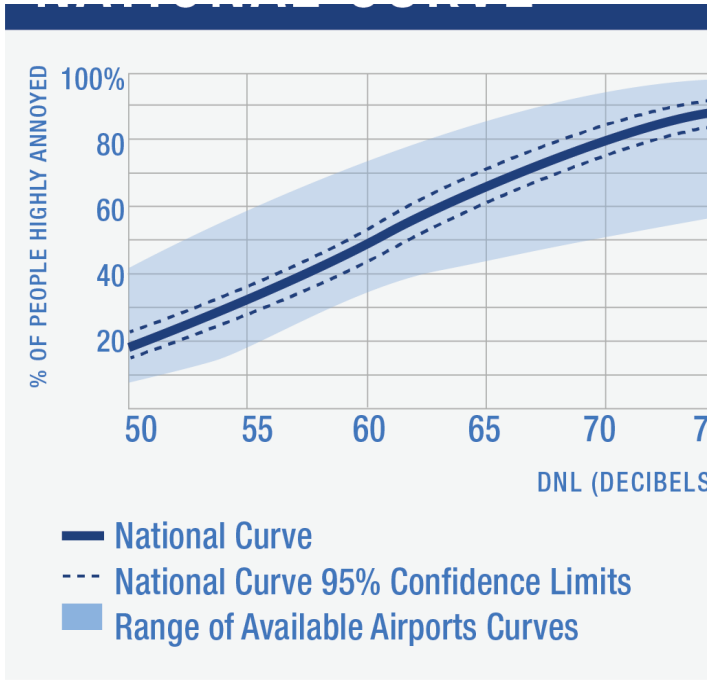
Neighborhood Environmental Survey

Aircraft Noise Annoyance Results

The NES results support an observed increase in Annoyance from Aircraft Noise:

- The results show a substantial increase in annoyance for the population living in the vicinity of airports
- The increase in annoyance is generally consistent across various levels of noise exposure





he new Survey was designed to use a consistent approach across each airport community surveyed. This has allowed for an nhanced ability to provide additional statistical information about the new results, such as the 95% Confidence Limits and range

For additional information on the noise survey:
https://www.faa.gov/regulations_policies/policy_guidance/noise/survey

Federal Aviation Administration

Noise Research and Development Overview

Federal Register Notice

Provides comprehensive overview of FAA R&D efforts on noise

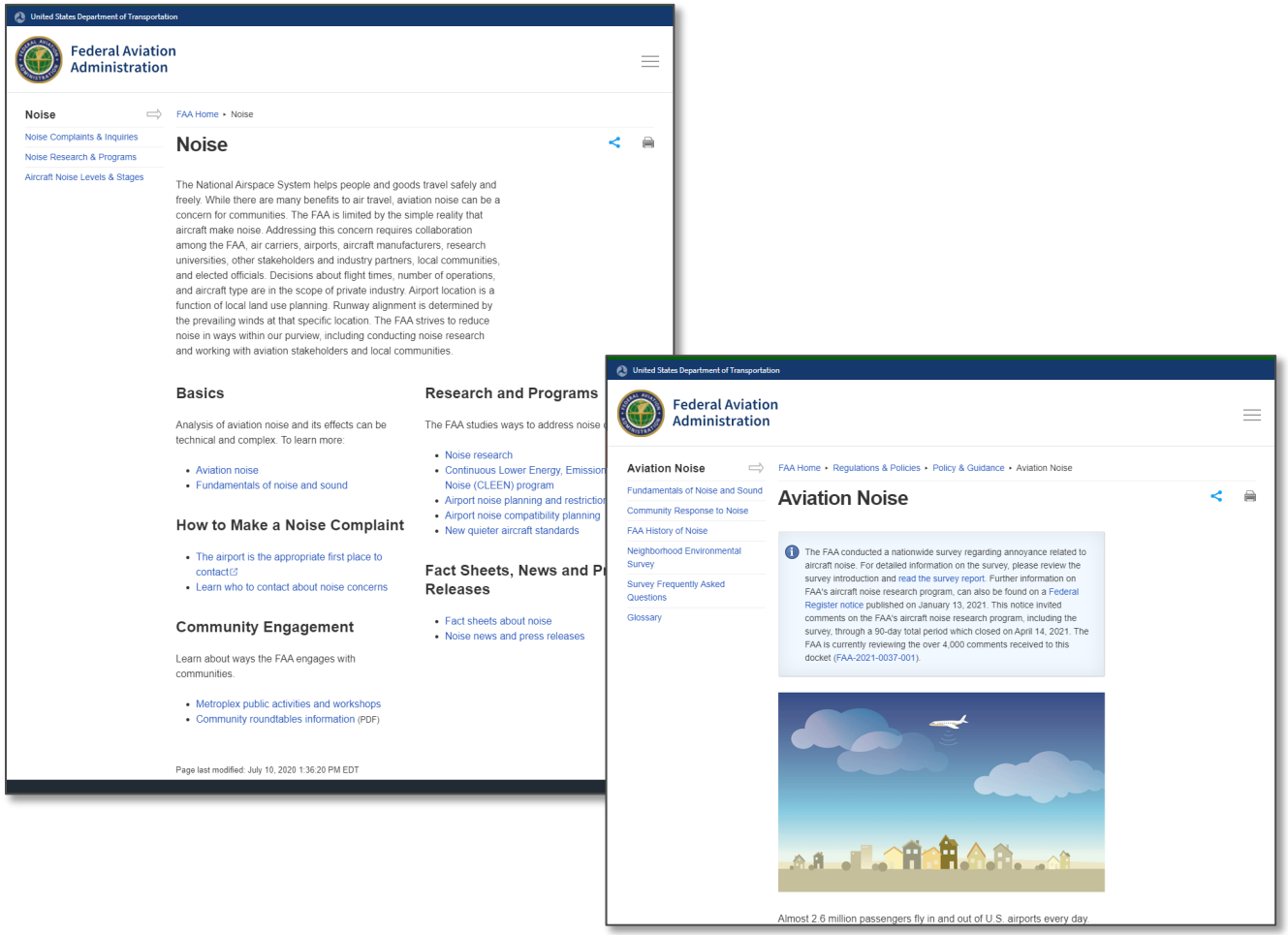
- Effects of Aircraft Noise on Individuals and Communities
- Noise Modeling, Noise Metrics and Environmental Data Visualization
- Reduction, Abatement and Mitigation of Aviation Noise

Includes neighborhood environmental survey results with a link to the full study

Received 4,162 comments
https://www.regulations.gov/docket/FAA-2021-0037

Expanded the aviation noise website to include details on the noise survey
https://www.faa.gov/regulations_policies/policy_guidance/noise/survey/

Have had extensive outreach on FRN including a public webinar on February 22, 2021.
Webinar link https://www.youtube.com/watch?v=Mku13gL0xGc



ASCENT Projects – Noise focus

003 Cardiovascular Disease and Aircraft Noise Exposure
010 Aircraft Technology Modeling and Assessment
038 Rotorcraft Noise Abatement Procedure Development
041 Identification of Noise Acceptance Onset for Noise Certification Standards of Supersonic Airplanes
047 Clean Sheet Supersonic Aircraft Engine Design and Performance
049 Urban Air Mobility Noise Reduction Modeling
050 Over-Wing Engine Placement Evaluation
053 Validation Of Low-Exposure Noise Modeling By Open-Source Data Management And Visualization Systems Integrated With AEDT
055 Noise Generation and Propagation from Advanced Combustors
057 Support for Supersonic Aircraft Noise Efforts in ICAO CAEP
059 Jet Noise Modeling to Support Low Noise Supersonic Aircraft Technology Development
061 Noise Certification Streamlining
063 Parametric Noise Modeling For Boundary Layer Ingesting Propulsors
072 Aircraft Noise Exposure and Market Outcomes in the US
075 Improved Engine Fan Broadband Noise Prediction Capabilities
076 Improved Open Rotor Noise Prediction Capabilities
077 Measurements to Support Noise Certification for UAS/UAM Vehicles and Identify Noise Reduction Opportunities
079 Novel Noise Liner Development Enabled by Advanced Manufacturing

Latest Update

- New ASCENT program (GT and MIT) being set up to support Dual Standard (CO2 / Noise) Development for CAEP 13
- In development – additional work on UAS/AAM and noise impacts research including evaluating white noise as countermeasure for effects of noise

Aircraft Noise Heath and Economic Impacts Research

Cardiovascular Disease	Economic Impacts of Noise	National Sleep Study
Objective: Evaluate associations between aircraft noise and cardiovascular outcome **Methods:** Use existing health cohorts to evaluate link between health outcomes and noise exposure while accounting for wide range of factors **National longitudinal health cohorts:** • Medicare database • Women's Health Initiative • Nurses' Health Study / Health Professional Follow-up Study **Team:** Research being conducted by Boston University School of Public Health through ASCENT Project 3*	**Objective**: Conduct an empirical assessment of the economic impacts of aircraft noise on businesses and on residential property values **Methods:** Identify airport communities with a change in noise, then conduct economic assessments for each community. Examine how results vary among communities and economic sectors **Team:** Research being conducted by Massachusetts Institute of Technology through ASCENT Project 3 and Project 72	**Objective:** Quantify the impact of aircraft noise exposure on sleep disturbance through a dose-response relationship **Methods:** National study of individuals in communities around 77 U.S. Airports wherein sleep disturbance data is collected from individuals exposed to varied noise levels; 2-year data collection effort began in 2021 **Team:** Research being conducted by University of Pennsylvania School of Medicine through ASCENT Project 17 and the FAA Technical Center

*Currently standing up a four year extension of ASCENT Project 3 to look at additional health cohorts and consider mental health.

Research into “Unconventional Mitigation Measures”

Broadband Sounds to Mitigate Sleep Disruption due to Aircraft Noise

- Standing up research at U. Pennsylvania under ASCENT Project 86 to examine how broadband noise could mitigate sleep disturbance due to aircraft noise
- Study leverages sleep research being done by U. Pennsylvania and ongoing efforts to improve our understanding of UAS/AAM as well as long-standing knowledge of subsonic aircraft and helicopters

Trees as a Measure to Mitigate Noise and Pollution

- University of Louisville researchers are conducting a long term study to understand how trees benefit people who live in urban areas.
- Study was set up in a community bordering Louisville International Airport.
- AEE are supporting effort, via Volpe Center, to ensure that high quality noise data are acquired by the research team. Also, provided support on emissions measurements.

FAA Noise Policy Review Status

The FAA's noise policy review (NPR) provides an opportunity to review and consider updates to the FAA's longstanding civil aircraft noise policy in response to recent research findings and to position the FAA to make additional updates as ongoing research matures

- **Reevaluation of the FAA's primary noise metric and significance threshold**
  - Analyzing existing policy and scientific information, and the potential effects of changes to noise metrics and thresholds
  - Evaluating whether unique considerations associated with commercial space and new entrant aircraft can be addressed in this reevaluation

- **Planning for regular external communication and engagement with stakeholders**
  - Will support meaningful public involvement regarding potential future policy options
  - Will increase FAA's efforts to build a strong foundation of technical understanding across stakeholder communities by building awareness of aviation noise, FAA's role in regulating noise, FAA's existing policy, and the noise policy review
  - The first phase of communications and engagement in expected to begin in early 2023

Questions

4.2 – DRAFT 2023 WORK PLAN

NOISE OVERSIGHT COMMITTEE
SEPTEMBER 21, 2022

Draft NOC 2023 Work Plan

1. RESIDENTIAL NOISE MITIGATION PROGRAM
   a. Review Residential Noise Mitigation Program Implementation Status
2. MSP COMMUNITY RELATIONS SPECIFIC EFFORTS
   a. 2022 Actual Noise Contour Report
   b. MSP Fleet Mix and Nighttime Operations Assessment
   c. MSP Annual Aircraft Noise Complaint Data Assessment
   d. Status of FAA Center of Excellence/ASCENT, TRB, and FICAN Research Initiatives
   e. Update on Converging Runway Operations at MSP
   f. Update on the MSP Long Term Plan Update and Associated Stakeholder Engagement
   g. Update on FAA's Noise Policy Review
   h. Guest Speaker: Brian Ryks, MAC Executive Director / CEO
   i. Update on FAA's VOR-MON Program
3. CONTINUE REVIEW OF PUBLIC INPUT

4.3 – REVIEW OF SUMMER LISTENING SESSION

NOISE OVERSIGHT COMMITTEE
SEPTEMBER 21, 2022

Summer Listening Session

- July 27, 2022, 6pm
- City of Eagan City Hall
- Meeting Attendees
  - Three residents Eagan
  - Staff from the office of Representative Angie Craig
  - FAA staff
  - NOC representatives Jeff Hart, Sarah Alig, Emily Koski, Loren Olsen, and Cheryl Jacobson
  - MAC staff and MAC Commissioner Yodit Bizen
- Topics discussed:
  - Runway 17 operations.
  - Review of MSP Noise Abatement Procedures.
  - Nighttime activity.

5 – ANNOUNCEMENTS

NOISE OVERSIGHT COMMITTEE
SEPTEMBER 21, 2022

Thank you!

- Brad Juffer promoted to Assistant Director, Terminal Operations and Facilities
- Thank you for your 7 years of service to the NOC!

ITEM 5
ANNOUNCEMENTS

Fall Listening Session

Wednesday, October 26, 2022 @ 6 PM

Location: MAC General Office Building

November NOC Meeting

Wednesday, Nov 16, 2022 @ 1:30 PM

Location: MAC General Office Building