



NOISE OVERSIGHT COMMITTEE

November 15, 2023

Audio recordings are made of this meeting

Agenda

1. Consent

1.1 Approval of September 20, 2023 Meeting Minutes

1.2 Reports

1.2.1 Monthly Operations Reports: September and October 2023

1.2.2 Review of Fall Listening Session

1.2.3 Review of Residential Noise Mitigation Program Implementation Status

2. Public Comment

3. Business

3.1 Resolution Honoring Jeffrey Hart

3.2 Review and Approval of the 2023 NOC Accomplishments, 2024 NOC Work Plan, 2024 NOC Meeting Dates

4. Information

4.1 Reduced Thrust Modeling Update

5. Announcements

6. Adjourn



NOISE OVERSIGHT COMMITTEE
NOVEMBER 15, 2023

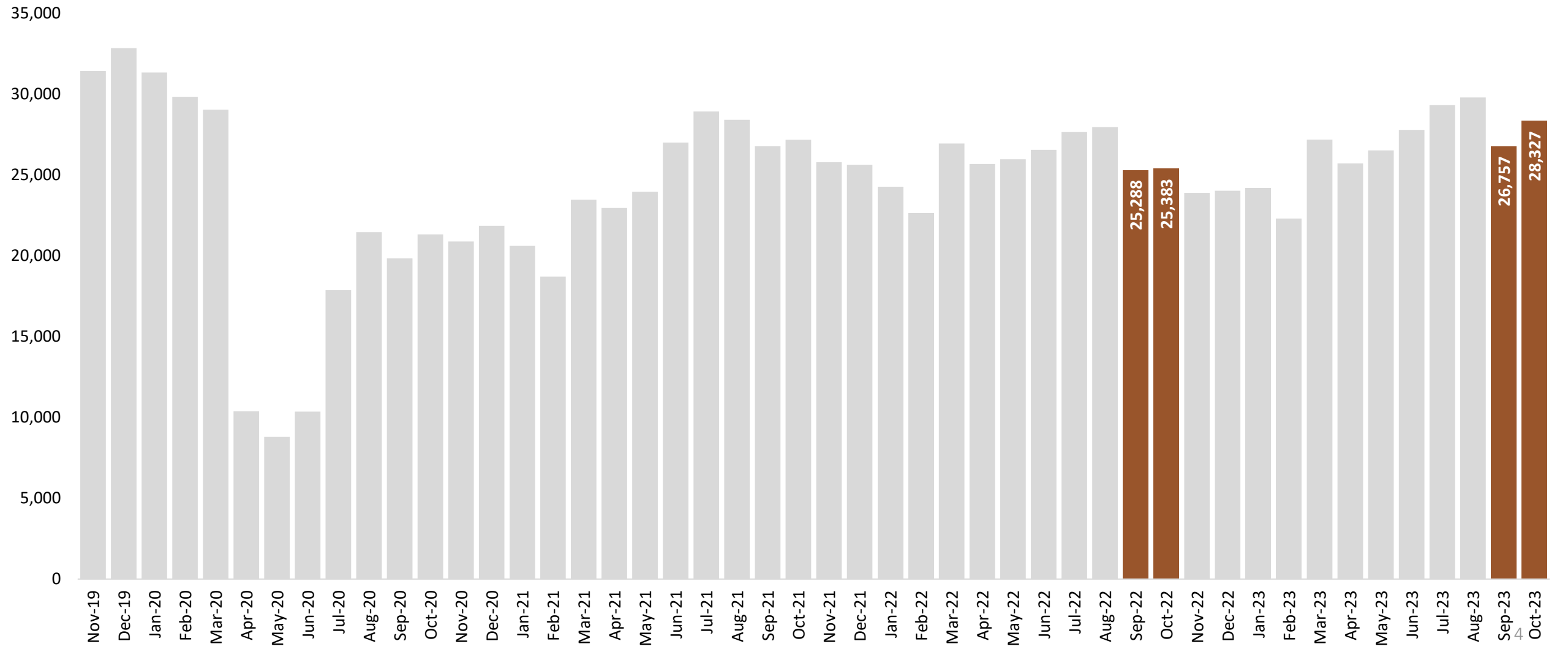
1.2.1 MONTHLY OPERATIONS REPORTS: SEPT AND OCT 2023



NOISE OVERSIGHT COMMITTEE
NOVEMBER 15, 2023

MSP OPERATIONS

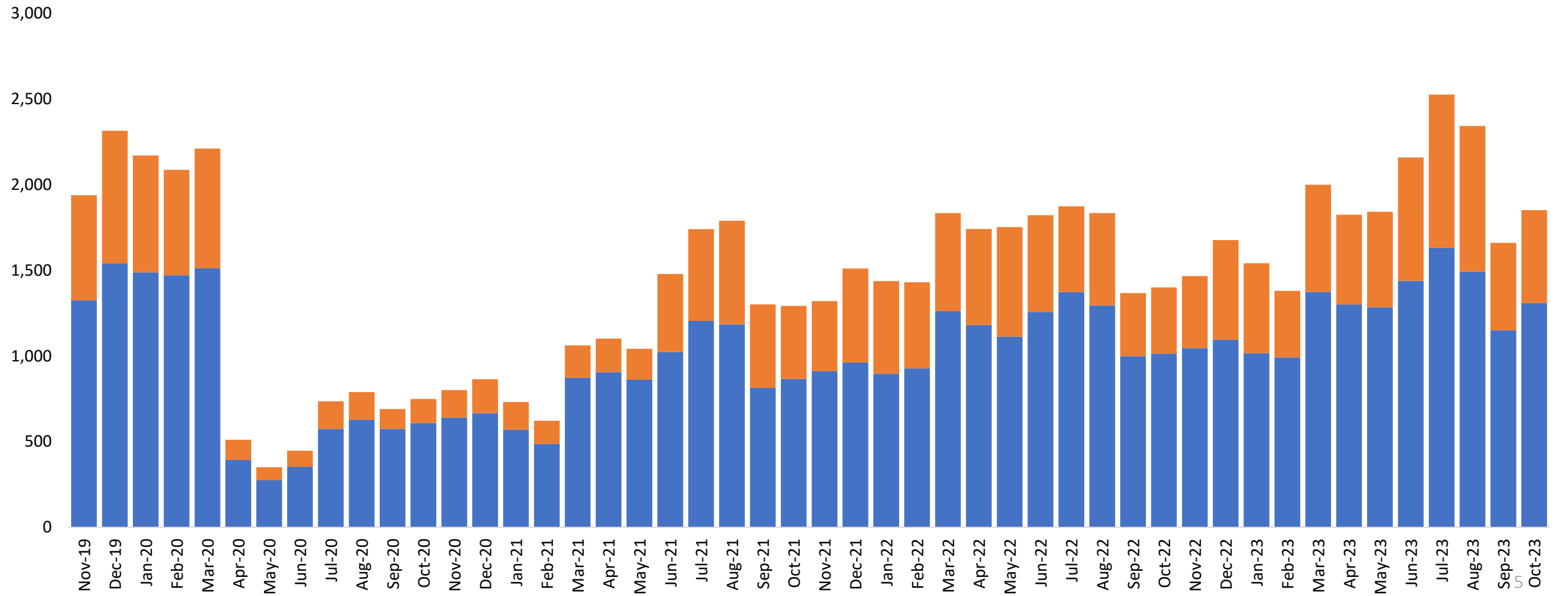
September 2023		October 2023	
26,757 Operations	1,660 Nighttime Operations (10:30 PM – 6:00 AM)	28,327 Operations	1,851 Nighttime Operations (10:30 PM – 6:00 AM)



MSP OPERATIONS

September 2023		October 2023	
26,757	1,660	28,327	1,851
Operations	Nighttime Operations (10:30 PM – 6:00 AM)	Operations	Nighttime Operations (10:30 PM – 6:00 AM)

■ A ■ D



RUNWAY USE

SEPT 2023		
NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
18%	71%	8%

OCT 2023		
NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
42%	37%	12%

2022 JAN – OCT		
NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
42%	44%	8%

2023 JAN – OCT		
NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
32%	50%	11%

North Flow



South Flow



Mixed Flow



SEPT – OCT RUNWAY USE

55,084
OPERATIONS IN SEPT – OCT

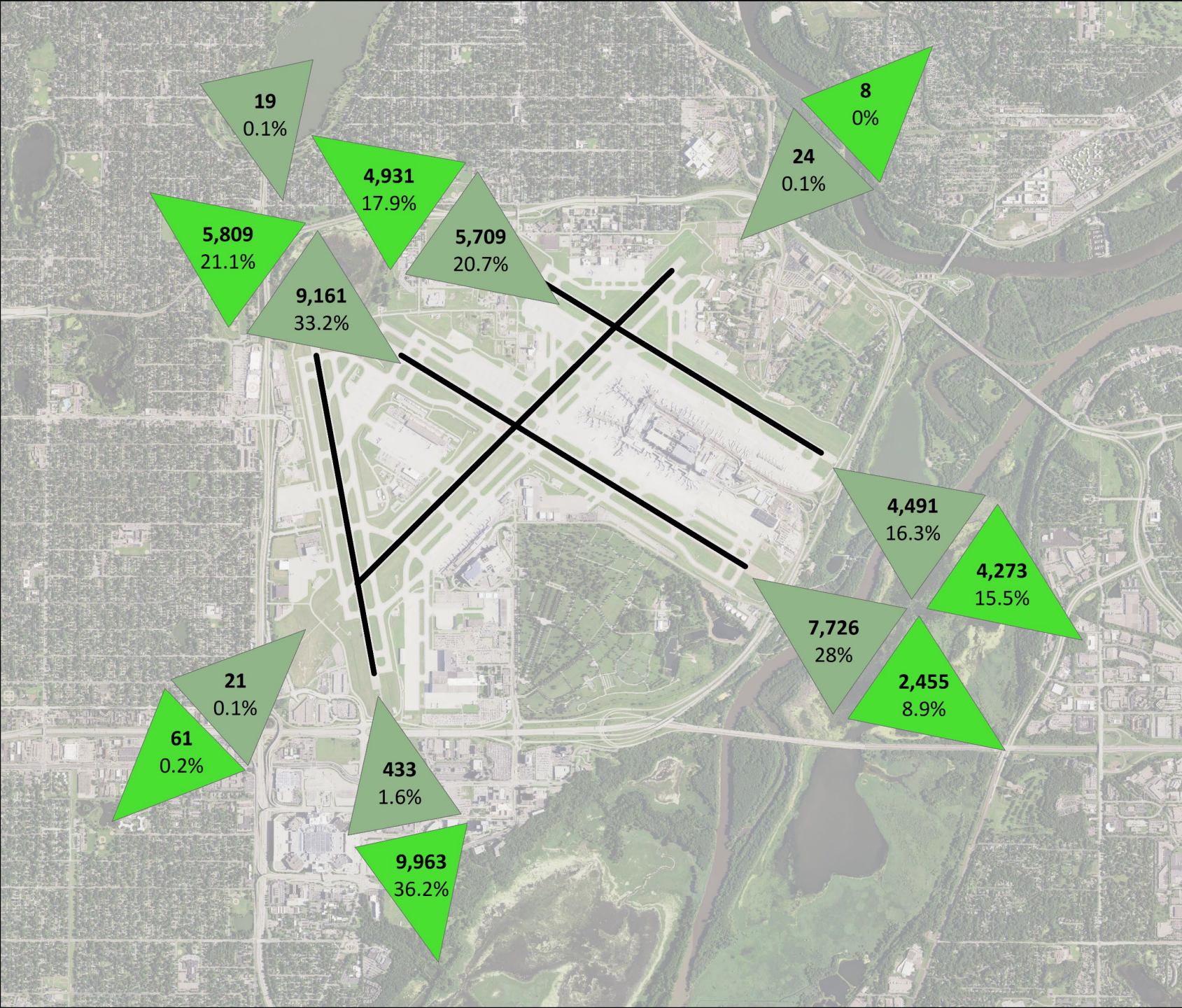
PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4
34%	19%	0%	46%

27,584
ARRIVALS

PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4
44%	2%	0%	54%

27,500
DEPARTURES

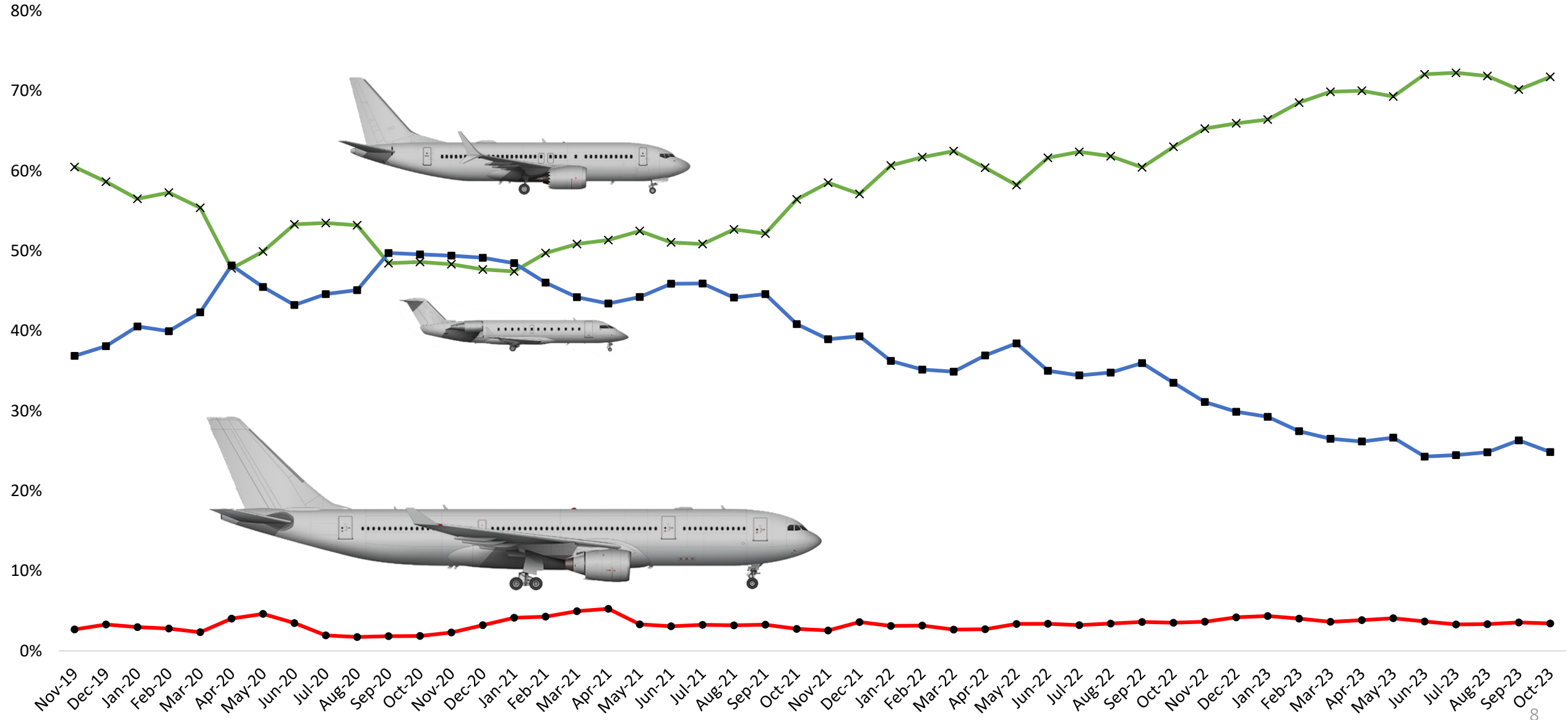
PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4
24%	36%	0%	39%



MSP OPERATIONS

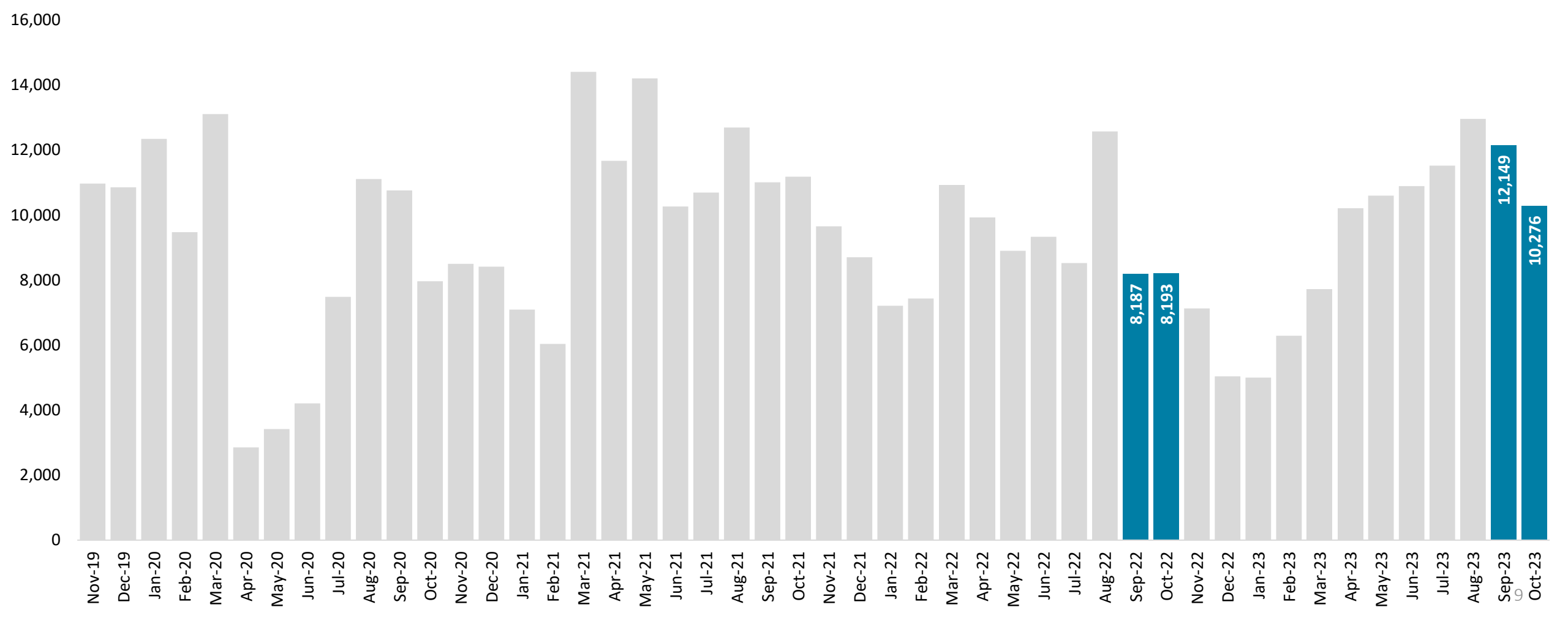
CARRIER JET FLEET MIX

—x— NARROWBODY —■— RJ —●— WIDEBODY



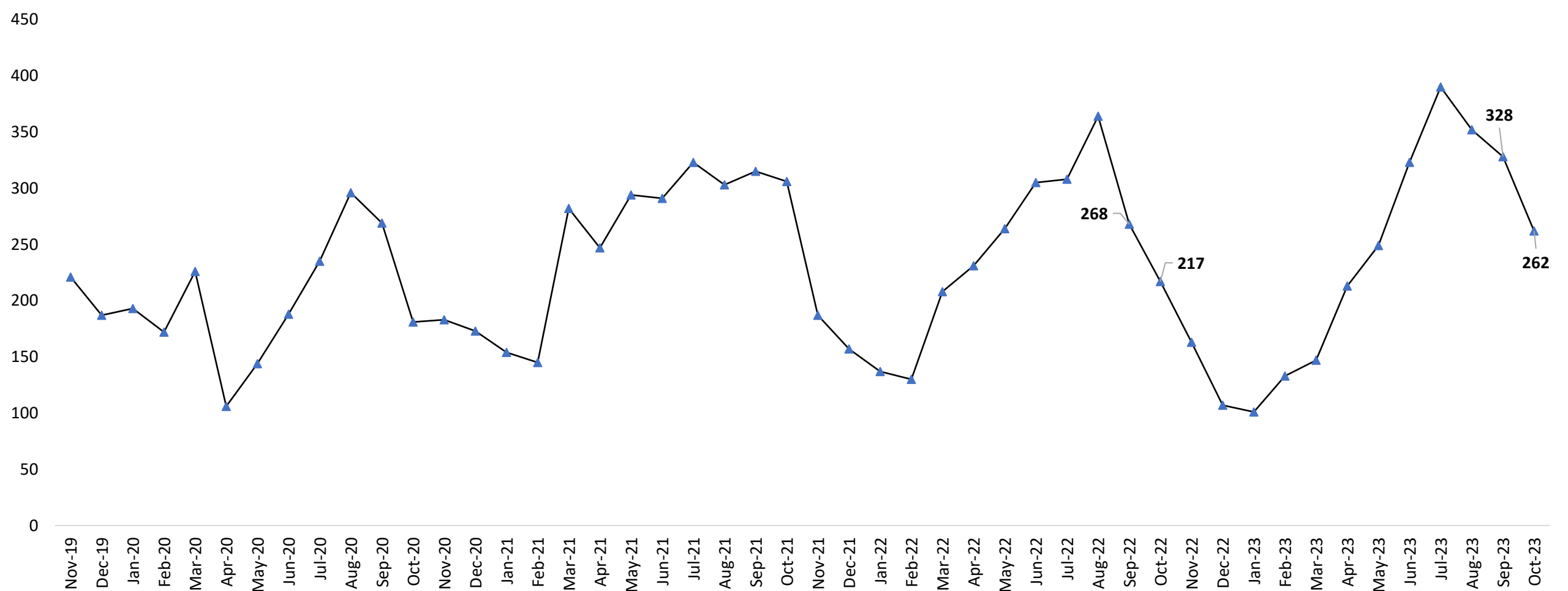
MSP COMPLAINTS

September 2023				October 2023			
COMPLAINTS		LOCATIONS		COMPLAINTS		LOCATIONS	
12,149		328		10,276		262	
Ops per Complaint	New Locations	Average	Median	Ops per Complaint	New Locations	Average	Median
2.2	44	37	4	2.8	32	39	3



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September 2023				October 2023			
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12,149		328		10,276		262	
Ops per Complaint	New Locations	Average	Median	Ops per Complaint	New Locations	Average	Median
2.2	44	37	4	2.8	32	39	3



TOP 10 LOCATIONS

FILED

12,767

(57%)

COMPLAINTS DURING SEPT & OCT

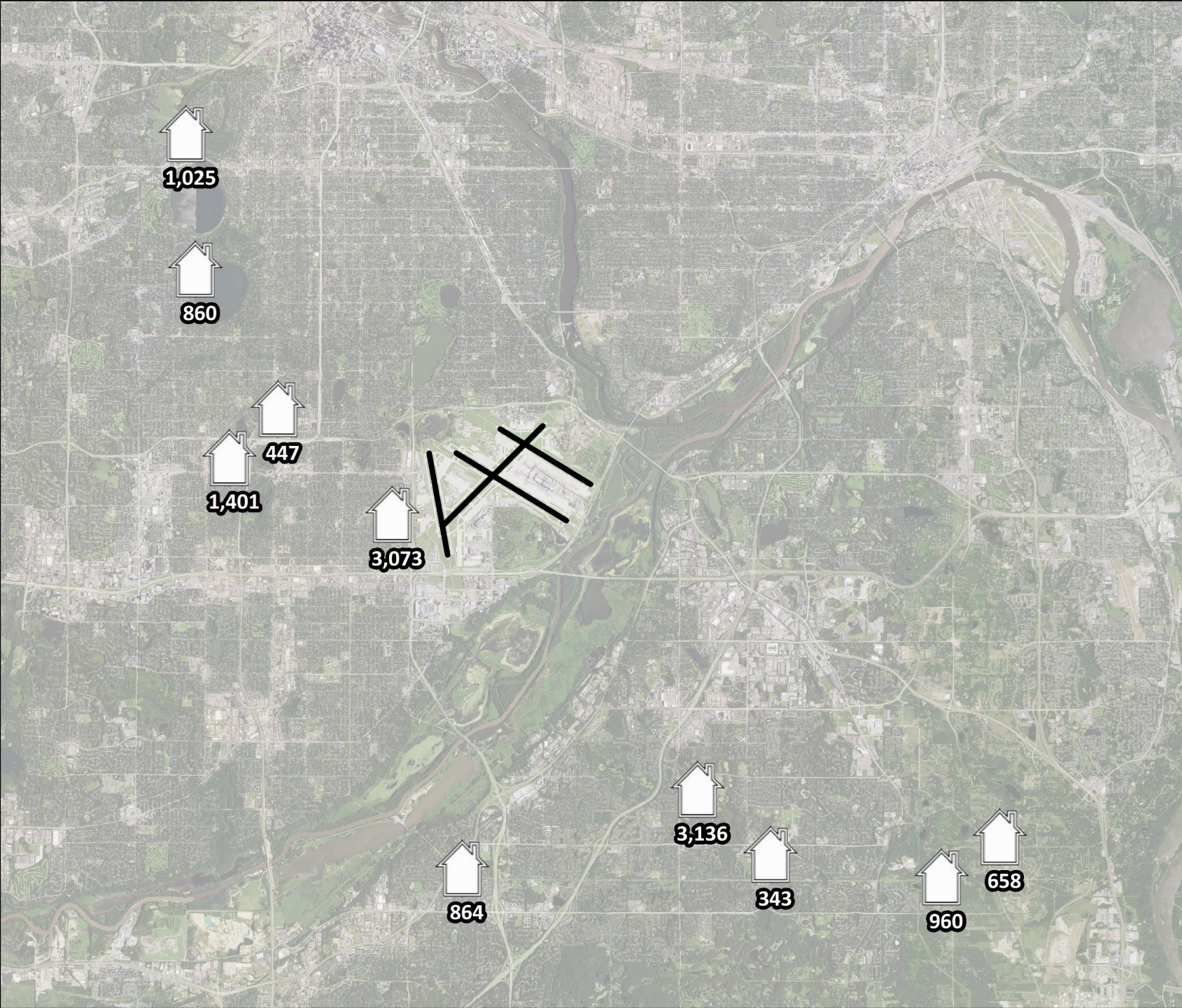
8 OF 10

LOCATIONS WERE IN THE TOP 10
FOR JULY – AUG DATA

277

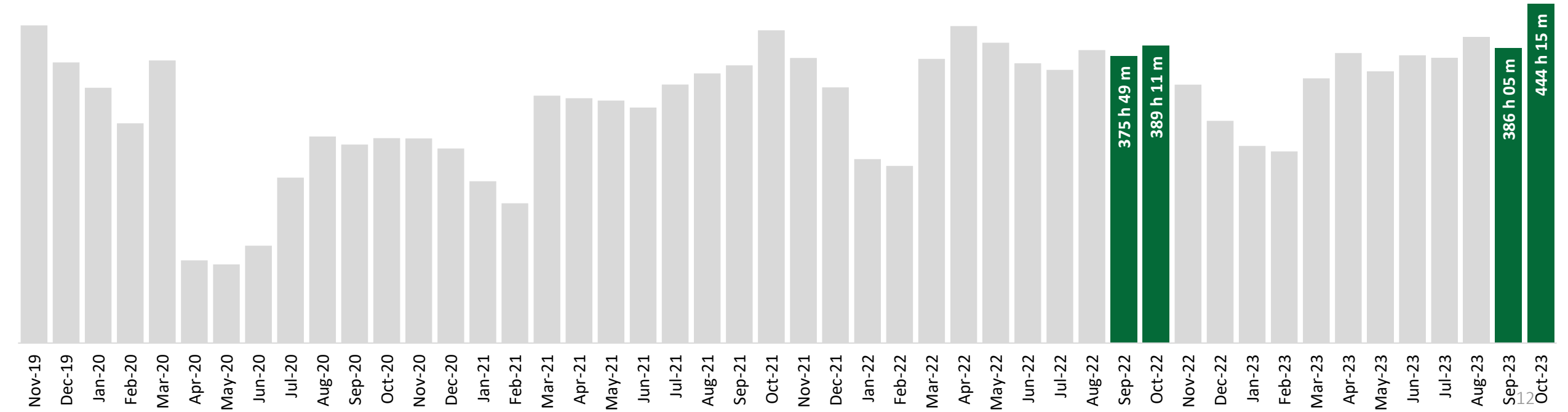
(67%)

LOCATIONS FILED 10 OR FEWER
COMPLAINTS



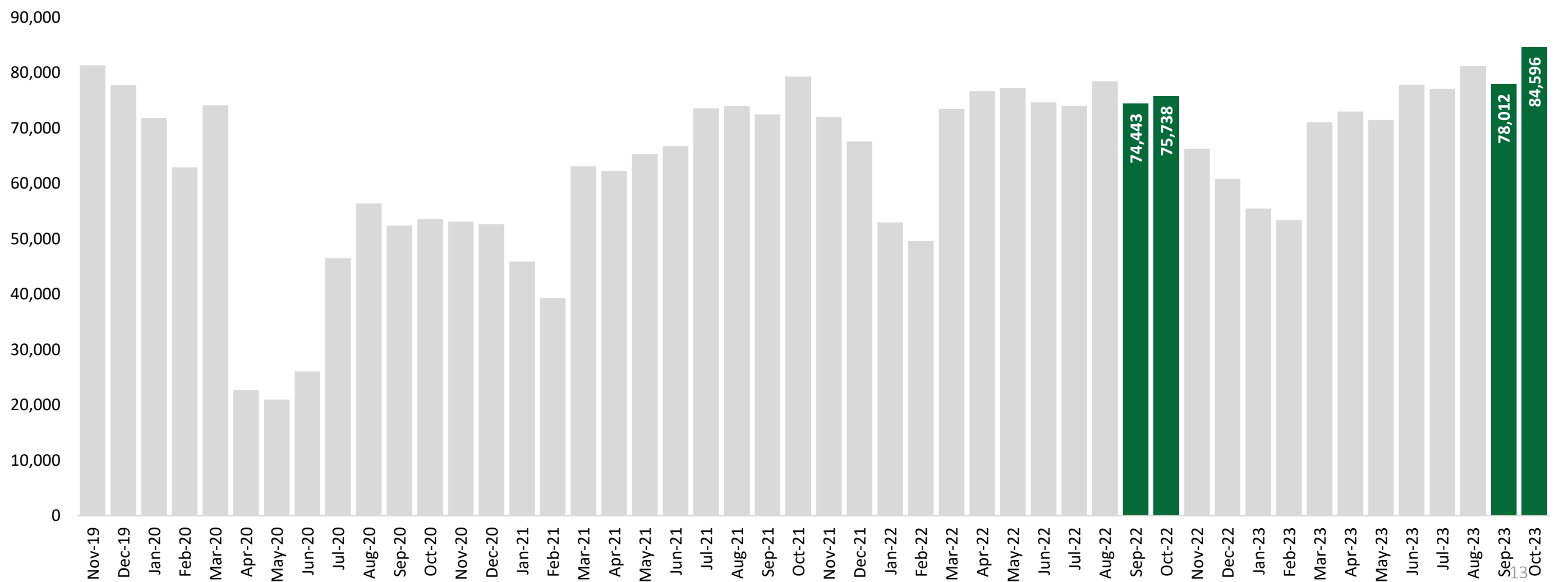
SOUND MONITORING

September 2023			October 2023		
Time Above	52 TA ⁶⁵ Per Operation	386 h 05 m TA ⁶⁵	Time Above	56 TA ⁶⁵ Per Operation	444 h 15 m TA ⁶⁵
Count Above	2.92 N ⁶⁵ Per Operation	78,012 N ⁶⁵	Count Above	2.99 N ⁶⁵ Per Operation	84,596 N ⁶⁵



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Time Above	52 TA ⁶⁵ Per Operation	386 h 05 m TA ⁶⁵	Time Above	56 TA ⁶⁵ Per Operation	444 h 15 m TA ⁶⁵
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NOISE ABATEMENT

September 2023

Runway 17	99.5%
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EMH Corridor	95.0%
---------------------	--------------

Cross Day	29.7%
------------------	--------------

Cross Night	48.8%
--------------------	--------------

October 2023

Runway 17	99.2%
------------------	--------------

EMH Corridor	87.6%
---------------------	--------------

Cross Day	25.6%
------------------	--------------

Cross Night	42.6%
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RUS

52.9%

Arrive - 30%

Depart - 76%

RUS

53.6%

Arrive - 61%

Depart - 46%

ITEM 2

PUBLIC COMMENT PERIOD



NOISE OVERSIGHT COMMITTEE
NOVEMBER 15, 2023

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.
- No response from the NOC is provided during the comment period.
- Comments are noted, and MAC staff are available following the meeting to answer questions or contact information can be provided for follow up discussion.
- Use of profanity, personal attacks, or threats of violence will not be tolerated.



NOISE OVERSIGHT COMMITTEE
NOVEMBER 15, 2023

3.1 RESOLUTION HONORING JEFF HART



NOISE OVERSIGHT COMMITTEE
NOVEMBER 15, 2023

Resolution Honoring Jeff Hart



MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT (MSP)

NOISE OVERSIGHT COMMITTEE (NOC)

RESOLUTION #01-2023

A RESOLUTION HONORING JEFF HART FOR HIS DEDICATED SERVICE TO THE MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT NOISE COMMUNITY

WHEREAS, the MSP Noise Oversight Committee is the primary advisory body to the Metropolitan Airports Commission (MAC) on topics related to aircraft noise at MSP; and

WHEREAS, Jeff Hart has served on the Noise Oversight Committee as the User Co-Chair representing Scheduled Airlines since 2011, which is the longest tenure of any Co-Chair in NOC's history; and

WHEREAS, Jeff has also served for over 44 years at Delta (formerly Northwest and Northwest Orient) Airlines as General Manager for Customer Relations; and

WHEREAS, Jeff has represented the users of MSP airport and the MSP airport noise community with equity and dedication; and

WHEREAS, Jeff has fostered a productive and collaborative relationship between the airport and airlines and has earned the respect and admiration of fellow NOC members and the Metropolitan Airports Commission for his knowledge, experience, and leadership,

NOW THEREFORE BE IT RESOLVED, that we, the members of the Noise Oversight Committee of the Minneapolis-St. Paul International Airport, do hereby extend to Jeff Hart our sincere gratitude for his 13 years of dedicated service to the airport noise community and wish him continued success, genuine happiness, and good health in the years to come.

Adopted by the Noise Oversight Committee of the Minneapolis-St. Paul International Airport this 15th day of November, 2023.

Kris Martin, NOC Secretary

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NOISE OVERSIGHT COMMITTEE (NOC)
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Action Requested

ADOPT RESOLUTION #01-2023 HONORING JEFF HART FOR HIS DEDICATED SERVICE TO
THE MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT NOISE COMMUNITY



NOISE OVERSIGHT COMMITTEE
NOVEMBER 15, 2023

3.2 REVIEW AND APPROVAL OF THE 2023 NOC ACCOMPLISHMENTS, 2024 NOC WORK PLAN, 2024 NOC MEETING DATES



NOISE OVERSIGHT COMMITTEE
NOVEMBER 15, 2023

2023 NOC Accomplishments

1. Received ongoing review of MSP monthly operations reports which include aircraft noise complaints, operations, runway use, noise events, and compliance with noise abatement procedures.
2. Evaluated citizen input received during quarterly Listening Sessions as possible discussion topics at future NOC meetings.
3. Completed a [Fleet Mix and Nighttime Operations Assessment](#) which, in addition to evaluating fleet mix and nighttime operations, included certificated noise levels for aircraft operating at MSP and aircraft altitude trends.
4. Completed the [2022 MSP Complaint Data Assessment](#).
5. Pursuant to the Second Amendment to the Consent Decree, reviewed the [MSP 2022 Annual Noise Contour Report](#) published February 2023. The report noted that based on the 310,235 total operations at MSP in 2022, the actual 60 dB DNL contour is 42% smaller than the 2007 forecast contour, and the 65 dB DNL contour is 52% smaller.
6. Received an update MAC's Director of Air Service Development and representatives from Delta and Sun Country about airline schedules and impact to airport operations resulting from the COVID-19 pandemic.
7. Received a briefing from the FAA on their Noise Policy Review efforts.
8. Received an overview from the FAA regarding current MSP procedures and airspace.
9. Received three updates from the FAA on the VOR Minimum Operational Network project and development of Area Navigation (RNAV) Procedures .
10. Received updates from the FAA regarding Converging Runway Operations (CRO) at MSP.

2023 NOC Accomplishments

- 11. Received updates on airfield construction activity.
- 12. Received updates on on-going outreach activities including the [Meet the Fleet](#) series.
- 13. Reviewed aviation-related research initiatives from FAA Center of Excellence/ASCENT, TRB, and other researchers.
- 14. Heard from MAC Executive Director/CEO, Brian Ryks on updates on the organization, recent accolades, trends in passengers and operations, and future development at MSP.
- 15. Elected a Community Co-Chair and a User Co-Chair.
- 16. Celebrated the 20-year anniversary since the NOC first met in 2002.
- 17. Reviewed status of the MSP Residential Noise Mitigation Program Implementation.
- 18. Received an update on the MSP Long Term Plan and associated Stakeholder Engagement Program.
- 19. Established an Area Navigation (RNAV) Procedure Review Sub-Committee of the NOC.
- 20. Passed a resolution honoring Jeff Hart for his service to the MSP Airport noise community.
- 21. Received an update on a reduced thrust modeling project.

Draft NOC 2024 Work Plan

1. RESIDENTIAL NOISE MITIGATION PROGRAM

- a. Review Residential Noise Mitigation Program Implementation Status

2. MSP COMMUNITY RELATIONS SPECIFIC EFFORTS

- a. 2023 Actual Noise Contour Report
- b. MSP Fleet Mix and Nighttime Operations Assessment
- c. MSP Annual Aircraft Noise Complaint Data Assessment
- d. Runway 30L and 30R Departure Analysis

- f. Status of FAA Center of Excellence/ASCENT, TRB, and FICAN Research Initiatives
- g. Guest Speaker: Brian Ryks, MAC Executive Director / CEO
- h. MSP Construction Updates
- i. Converging Runway Operations at MSP
- j. Noise Policy Review
- k. VOR-MON Program and RNAV Procedure Development

3. CONTINUE REVIEW OF PUBLIC INPUT

Proposed 2024 Meeting Dates

- January 17, 2024 at 1:30 PM
- March 20, 2024 at 1:30 PM
- May 15, 2024 at 1:30 PM
- July 17, 2024 at 1:30 PM
- September 18, 2024 at 1:30 PM
- November 20, 2024, at 1:30 PM



Action Requested

APPROVE AND RECOMMEND TO THE MAC PLANNING, DEVELOPMENT AND ENVIRONMENT COMMITTEE APPROVAL OF THE 2023 MSP NOC ACCOMPLISHMENTS, 2024 MSP NOC WORK PLAN AND 2024 NOC MEETING DATES



**NOISE OVERSIGHT COMMITTEE
NOVEMBER 15, 2023**

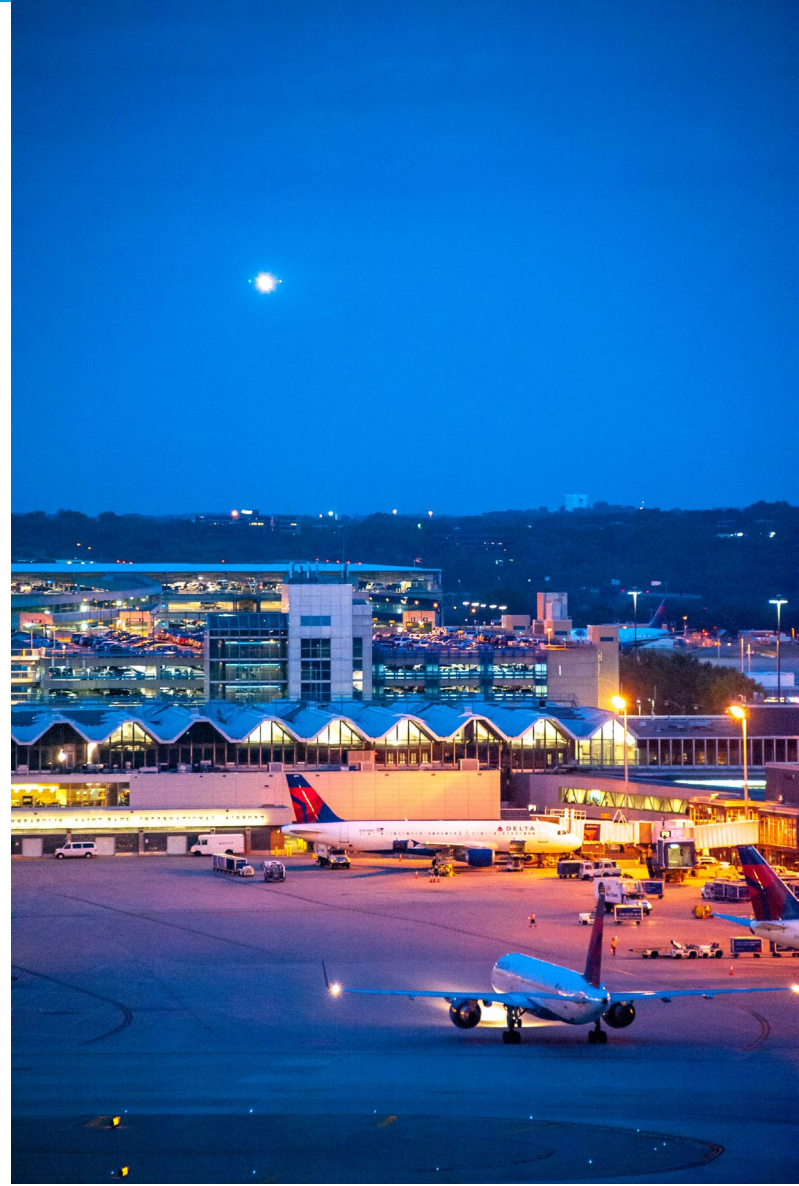
4.1 – REDUCED THRUST MODELING UPDATE



NOISE OVERSIGHT COMMITTEE
NOVEMBER 15, 2023

Project Background

- Identify opportunities to reduce noise exposure through operational performance
- Refine AEDT model for MSP to take into account for airline operational practices
- More accurately model the noise environment surrounding MSP airport



Aviation Environmental Design Tool (AEDT)

- Aviation Environmental Design Tool (AEDT)
 - Standard tool to model noise, air quality, and fuel burn for any federal environmental projects
 - Used to model MSP annual contour and other noise related projects
 - Provides noise signature and aircraft performance profiles for a range and commercial, GA, and military aircraft
 - Includes default aircraft performance profiles that are considered 'standard' inputs into AEDT
 - Custom built aircraft performance profiles are considered 'non-standard' inputs into AEDT
 - Non-standard inputs into AEDT requires FAA's concurrence if it is a federal environmental project

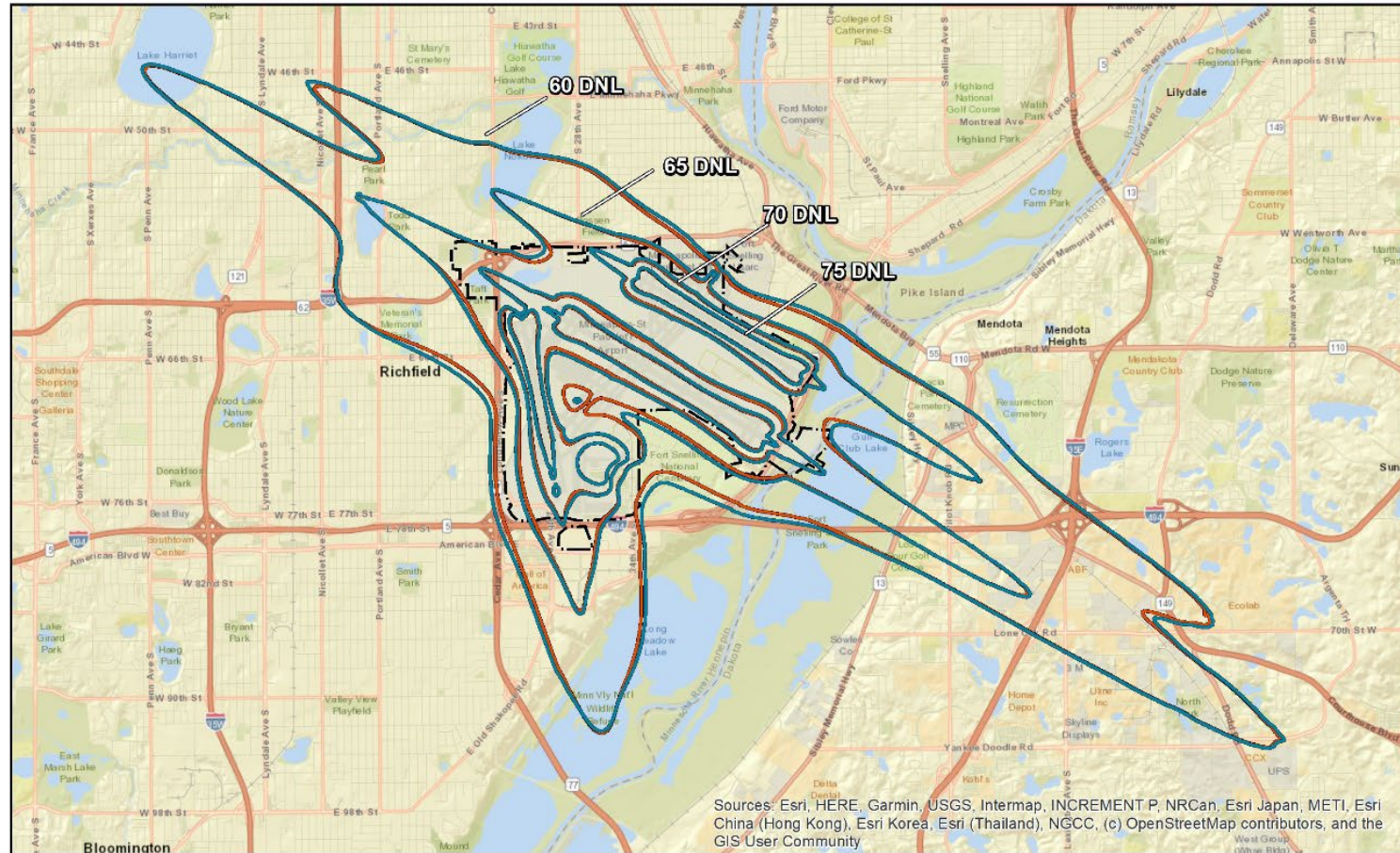
Custom Departure Profiles

- Previous Custom Departure Profiles at MSP
 - Developed multiple custom departure profiles in 2011, 2014, and 2018
 - Non-standard inputs – obtained concurrence from airlines and approval from the FAA
 - Mainly Noise Abatement Departure Procedure (NADP) profiles
 - Used in MSP Actual Annual Contour projects
 - Accounted for 60% - 70% of total MSP departures
- Current Custom Departure Profiles in Development
 - Leverage reduced thrust (derated) profiles available in AEDT
 - AEDT standard profiles assume full departure thrust. Reduced thrust profiles are available in AEDT but considered 'non-standard' profiles
 - Combine with NADP profiles
 - Case study and white paper in 2020
 - Start profile developments in 2023

Project Background




Minneapolis - St. Paul International Airport 2019 Contours

FIGURE 3

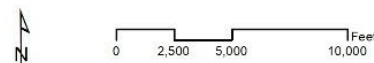


Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

LEGEND

-  2019 Actual Noise Contour - 10% Reduction in Boeing 737800 Thrust
-  2019 Actual Noise Contour with Boeing 737800 Custom Profiles
-  Airport Boundary

Comparison of Boeing 737800 Custom Profiles and 10% Reduced Thrust



Sources: ESRI Data, HNTB 2020

Disclaimer: This map was generated by HNTB Corporation using GIS (Geographic Information System) software. No claims are made to the accuracy or completeness of the information shown herein nor to its suitability for a particular use. The scale and location of all mapped data are approximate.



Project Methodology

- Evaluate fleet
 - Identify most flown aircraft in the MSP fleet
 - Identify aircraft types with high noise signature
- Coordinate with airlines
 - Engage with airlines to obtain operational performance information
 - Understand current thrust settings during departure
 - Collaborate to gather data on typical thrust settings, climb profiles, and departure procedures
- Develop custom profiles
 - Develop custom thrust profiles based on the collected data
 - Verify with airlines
- Request FAA concurrence
- Evaluate changes to annual contour



Candidate Aircraft

- Obtained certified noise levels from the FAA
- Cross referenced current operations at MSP
- Examined future aircraft types with significant operations
- Identified aircraft with high operations and noise levels by airline
- Started with more than 20 candidate aircraft types

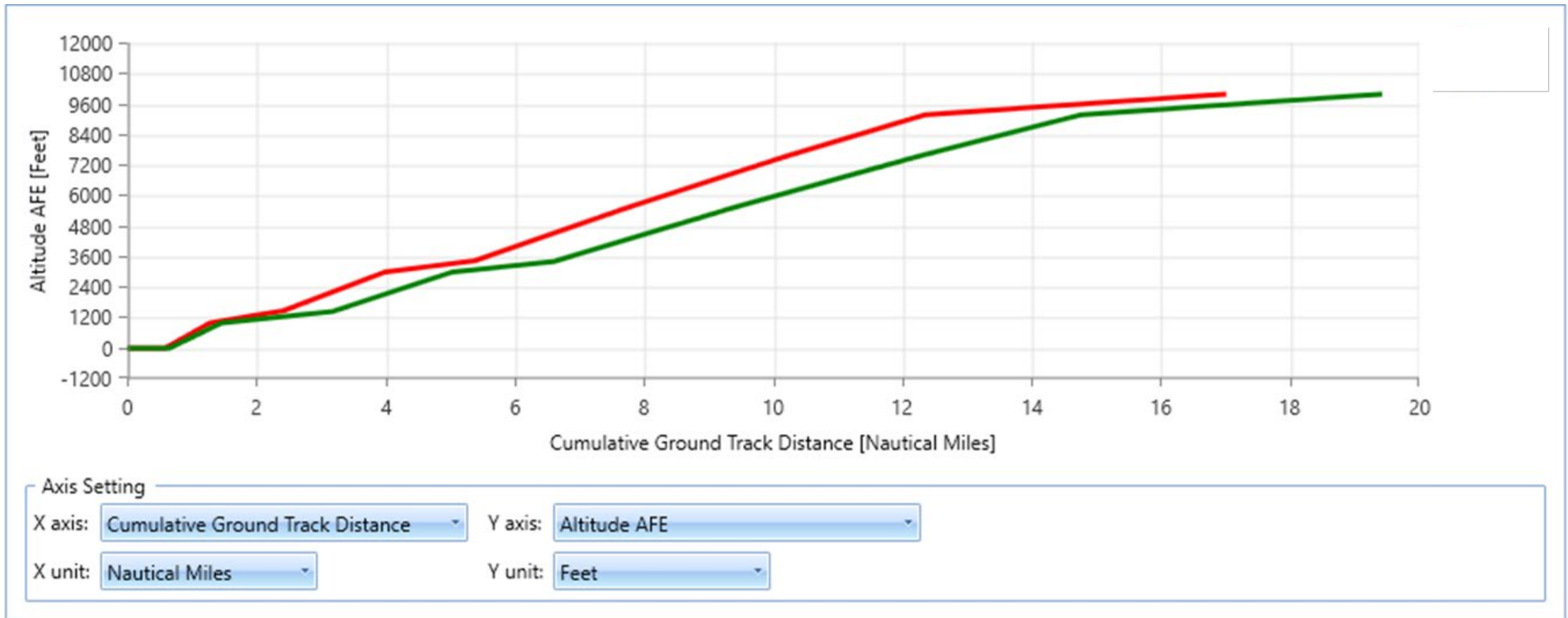


Candidate Aircraft for Custom Profiles Development

Airline	Airline Name	ID	Aircraft Description	Rank
DAL	Delta Air Lines	A321	Airbus A321	1
		B739	Boeing 737-900	2
		A320	Airbus A320	5
		A319	Airbus A319	6
		A339	Airbus A330-900	9
		A333	Airbus A330-300	11
		B752	Boeing 757-200	7
		B753	Boeing 757-300	15
		A333	Airbus A330-300	16
A21N ¹	Airbus A321-NEO	N/A ¹		
SKW	Skywest Airlines	E75L	Embraer ERJ-170-200 Long Wing	3
		CRJ9	Bombardier CRJ-900	8
		E75S	Embraer ERJ-170-200 Short Wing	21
SCX	Sun Country Airlines	B738	Boeing 737-800	4
SWA	Southwest Airlines	B737	Boeing 737-700	10
		B738	Boeing 737-800	17
		B38M ¹	Boeing 737 MAX 8	N/A ¹
FDX	FedEx	B763	Boeing 767-300	12
EDV	Endeavor Air	CRJ9	Bombardier CRJ-900	13
AAL	American Airlines	B738	Boeing 737-800	14
UPS	UPS	B752	Boeing 757-200	18
		B748	Boeing 747-800	25
UAL	United Airlines	A320	Airbus A320	23
ATN	Air Transport International	B763	Boeing 767-300	24

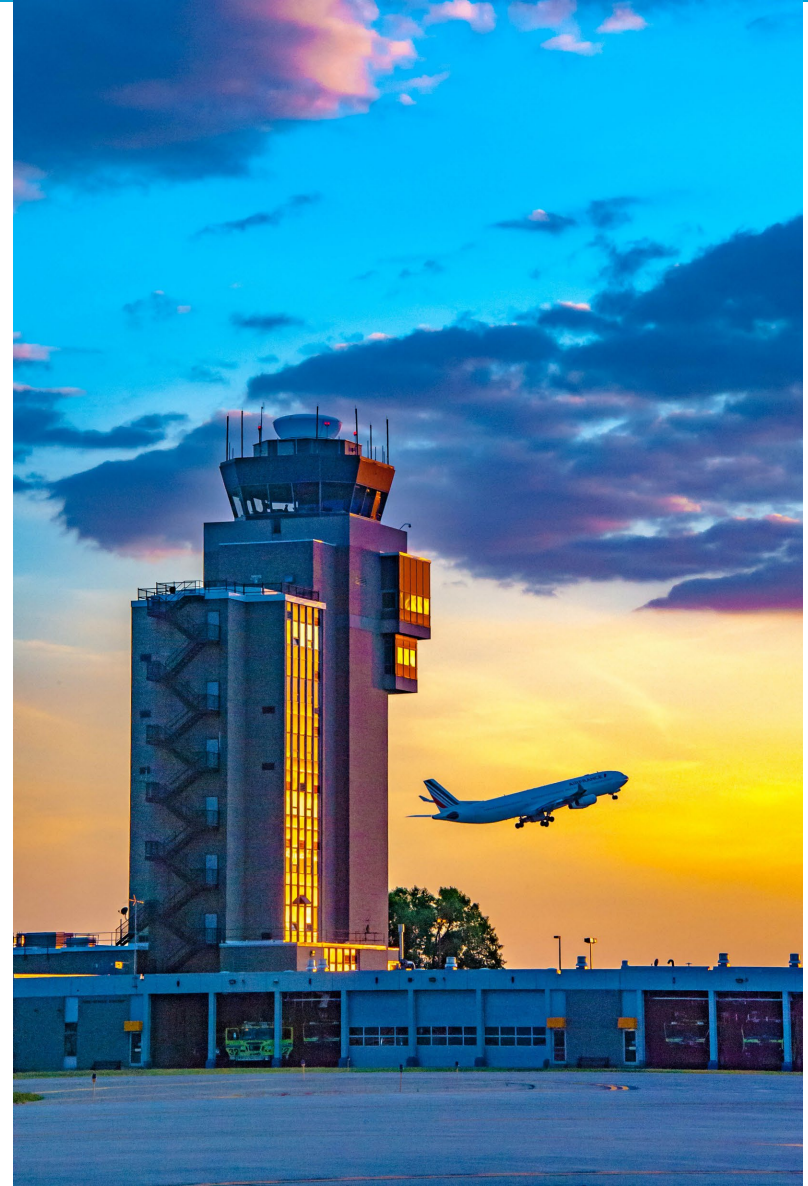
¹: Aircraft with substantial operations in the MSP LTP fleet mix forecast.
Source: MACNOMS, FAA noise data, and HNTB analysis, 2023.

Airline Coordination



Preliminary Results

- Received full derated data from three airlines and partial data from one airline
- One airline uses full thrust for departure
- Airlines that provided derated data:
 - 20% of ops use 5% thrust reduction,
 - 75% of ops use 10% thrust reduction,
 - 5% of ops use 15% thrust reduction.
- Draft results pending airline review of custom profiles



Next Steps

- Continue coordination with airline review of custom profiles
- Submit to FAA for concurrence
 - Reduced Thrust custom profiles are considered 'non-standard' inputs into the noise model
 - 'Informal' coordination since this is not an FAA project
- Assess application for future annual contours



5 – ANNOUNCEMENTS



mso



NOISE OVERSIGHT COMMITTEE
NOVEMBER 15, 2023

ITEM 5

ANNOUNCEMENTS

MAC PD&E Meeting

Mon, December 4, 2023 @ 10:30 AM

Location: Commission Chambers –
MSP Terminal 1

January NOC Meeting

Wed, January 17, 2024 @ 1:30 PM

Location: MAC General Office Building

NOC Winter Listening Session

Wed, January 24, 2024 @ 6 PM

Location: MAC General Office Building



NOISE OVERSIGHT COMMITTEE
NOVEMBER 15, 2023