



# NOISE OVERSIGHT COMMITTEE

March 15, 2023

*Audio recordings are made of this meeting*

# Agenda

## 1. Consent

1.1 – Approval of January 18, 2023 Meeting Minutes

1.2 – Reports

1.2.1 – Monthly Operations Reports: January and February

1.2.2 – Review of Winter Listening Session

## 2. Public Comment Period

## 3. Business

## 4. Information

4.1 – Update on the MSP Long-Term Plan and Associated Stakeholder Engagement

4.2 – FAA Overview of Current MSP Procedures

4.3 – 2022 Actual Noise Contour Report and Consent Decree Noise Mitigation Program Eligibility

## 5. Announcements

Adjourn



**NOISE OVERSIGHT COMMITTEE**  
**MARCH 15, 2023**



# ITEM 1.2.1

## MONTHLY OPERATIONS REPORTS: JANUARY & FEBRUARY 2023

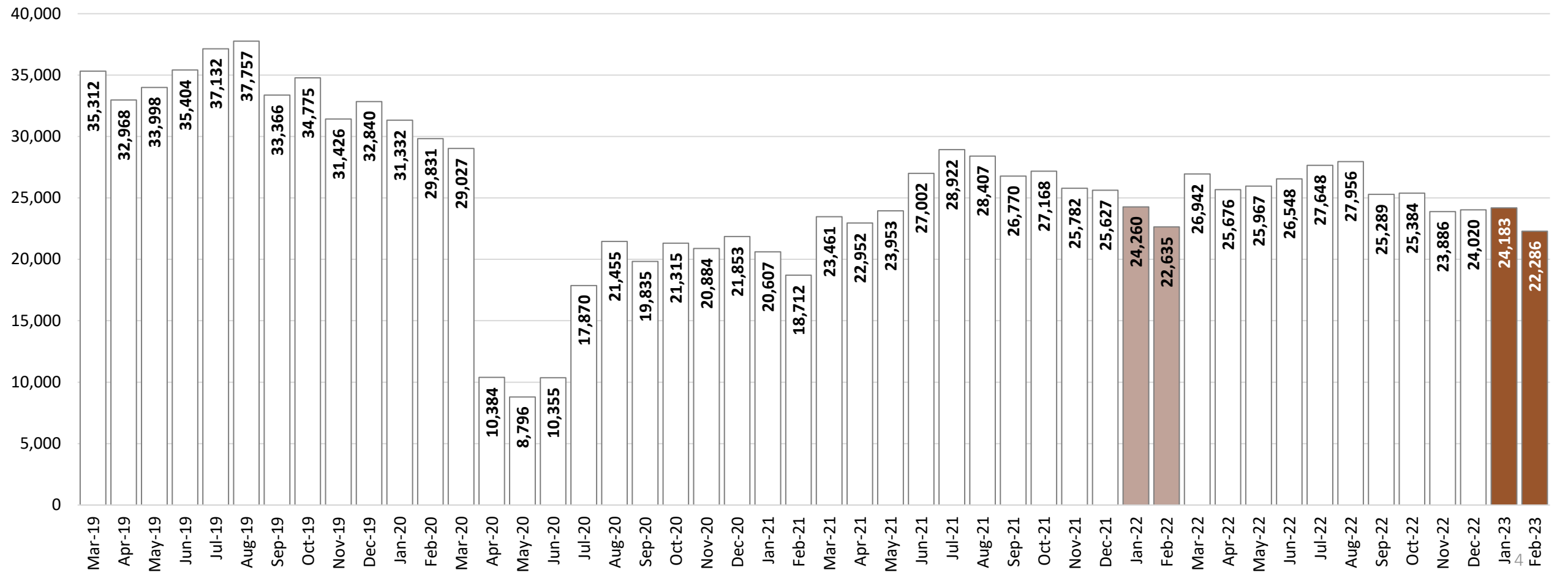


**NOISE OVERSIGHT COMMITTEE**  
**MARCH 15, 2023**



# MSP TOTAL OPERATIONS

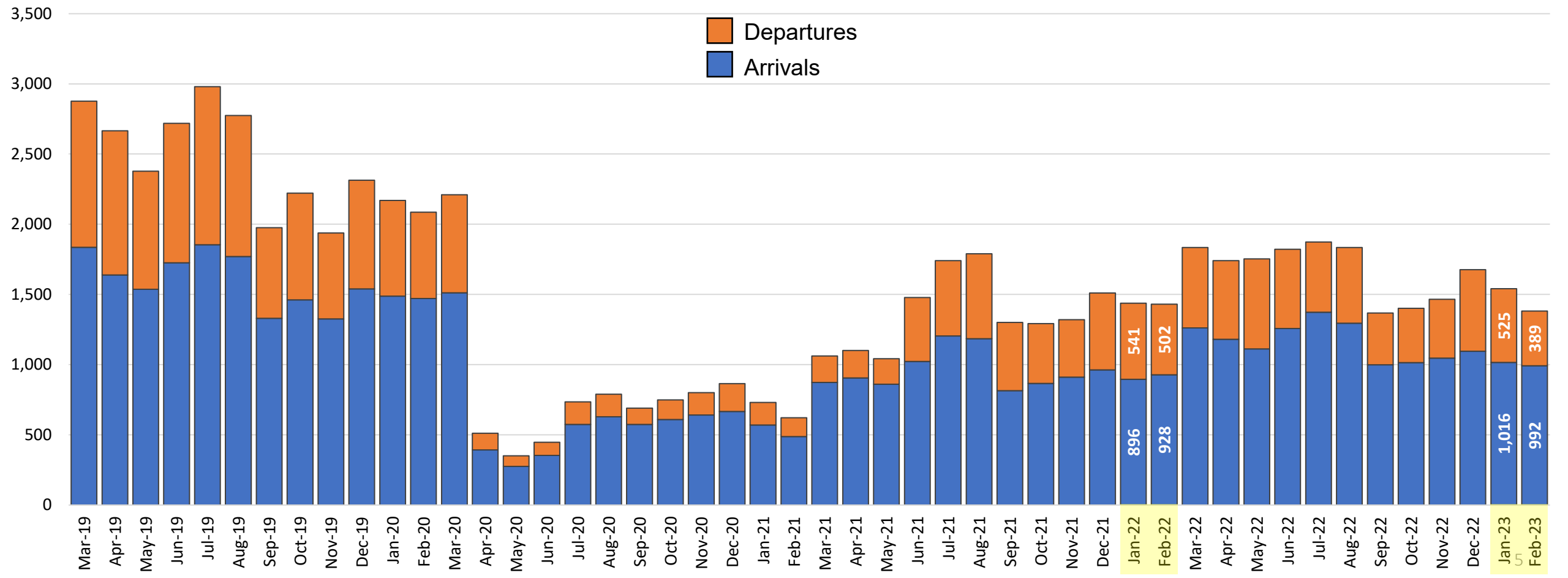
January 2023		February 2023	
<b>24,183</b> Operations	<b>1,541</b> Nighttime Operations (10:30 PM – 6:00 AM)	<b>22,286</b> Operations	<b>1,381</b> Nighttime Operations (10:30 PM – 6:00 AM)





# MSP NIGHTTIME OPERATIONS

January 2023		February 2023	
<b>24,183</b>	<b>1,541</b>	<b>22,286</b>	<b>1,381</b>
Operations	Nighttime Operations (10:30 PM – 6:00 AM)	Operations	Nighttime Operations (10:30 PM – 6:00 AM)



# MSP RUNWAY USE

JAN 2023		
NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
42%	38%	13%

FEB 2023		
NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
35%	42%	13%

2022 JAN – FEB		
NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
48%	35%	10%

2023 JAN – FEB		
NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
38%	40%	13%

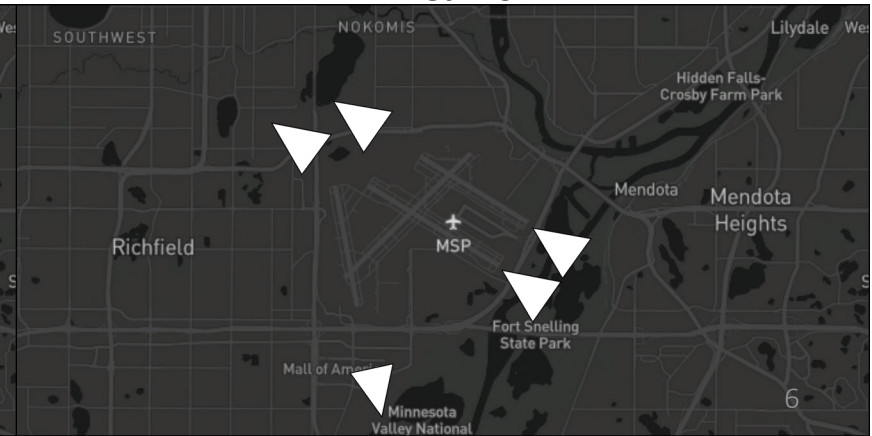
**North Flow**



**South Flow**



**Mixed Flow**





# JAN – FEB RUNWAY USE

**46,469**  
OPERATIONS IN JAN – FEB

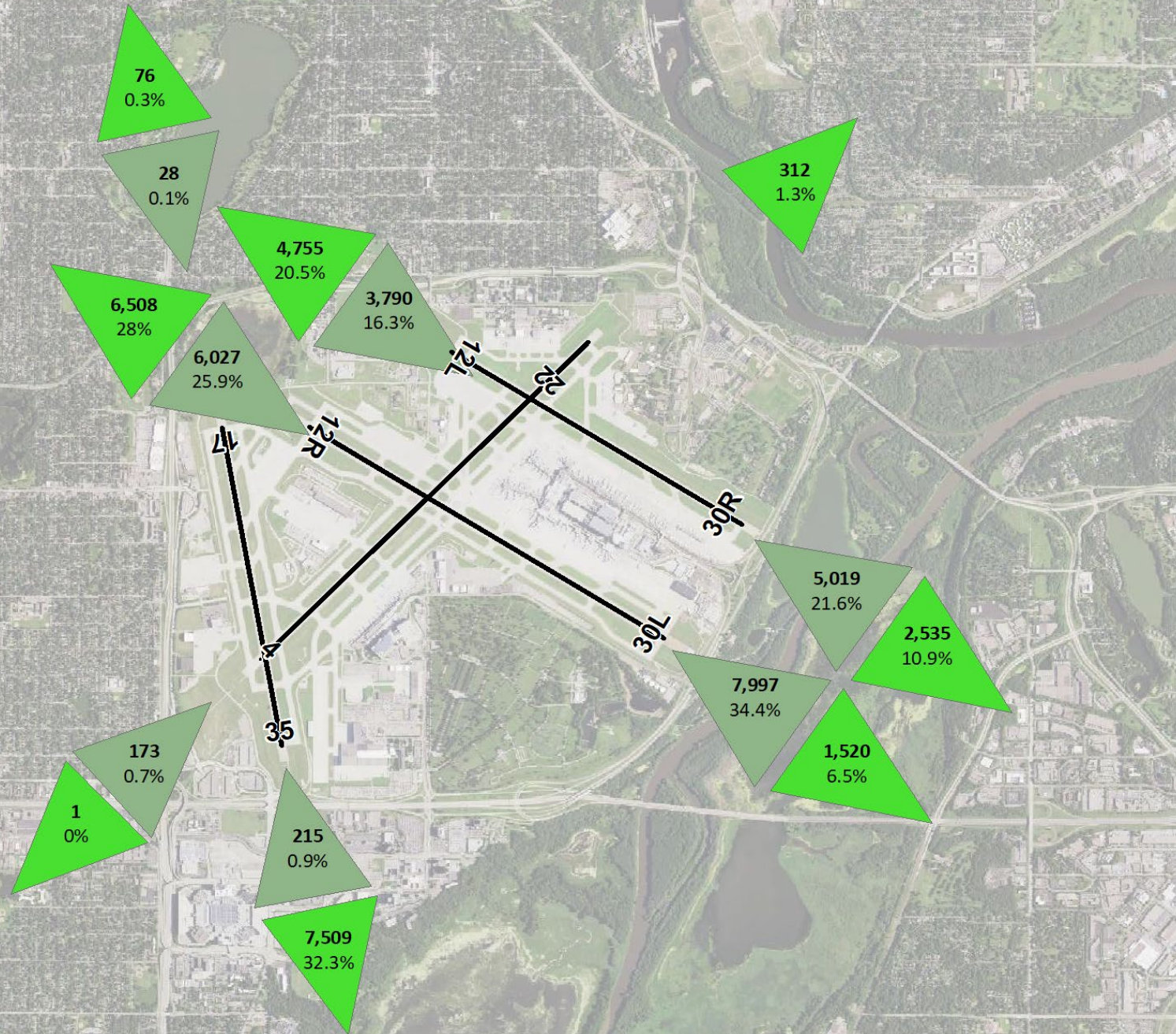
PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4
<b>37%</b>	<b>17%</b>	<b>1%</b>	<b>45%</b>

**23,250**  
ARRIVALS

PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4
<b>56%</b>	<b>1%</b>	<b>1%</b>	<b>42%</b>

**23,219**  
DEPARTURES

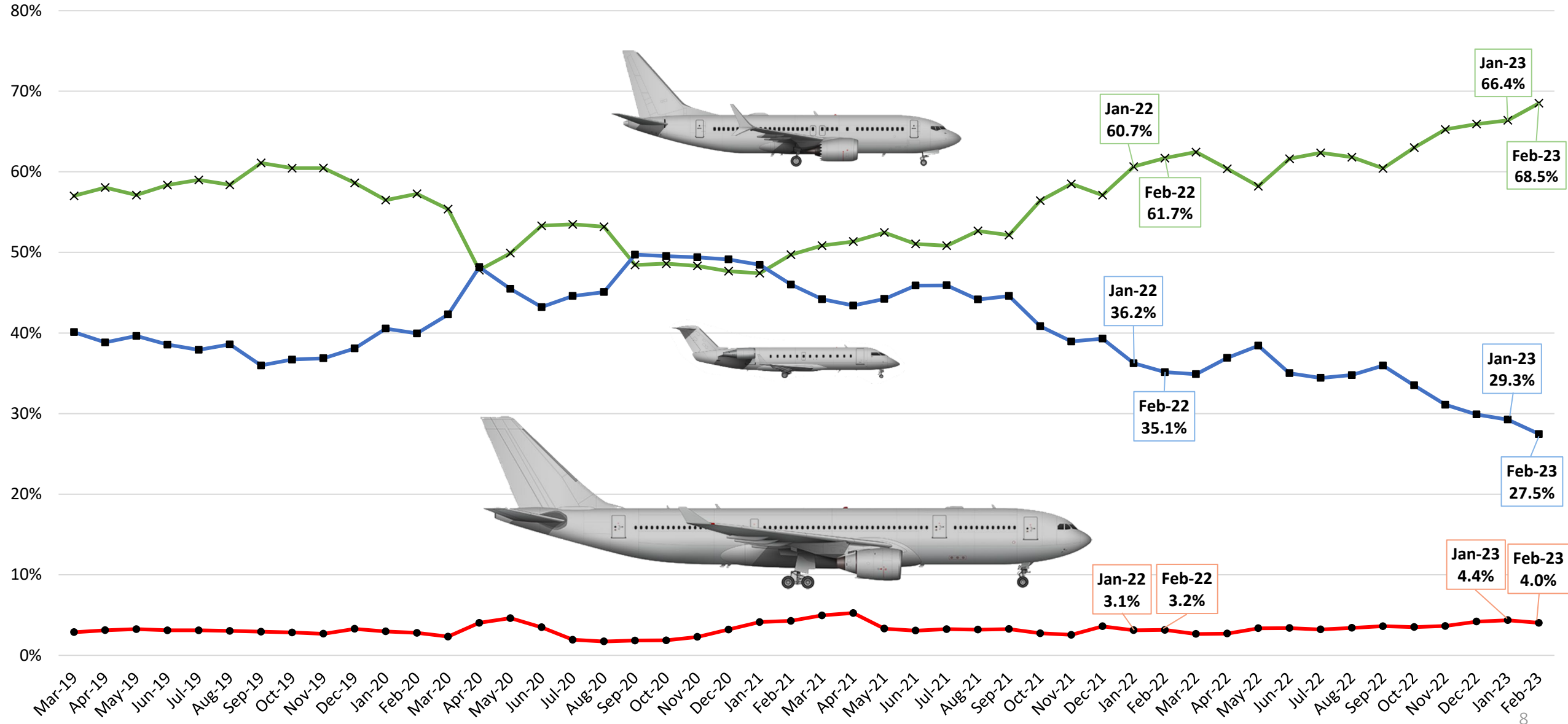
PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4
<b>17%</b>	<b>32%</b>	<b>1%</b>	<b>49%</b>



# MSP OPERATIONS FLEET MIX

## CARRIER JET FLEET MIX

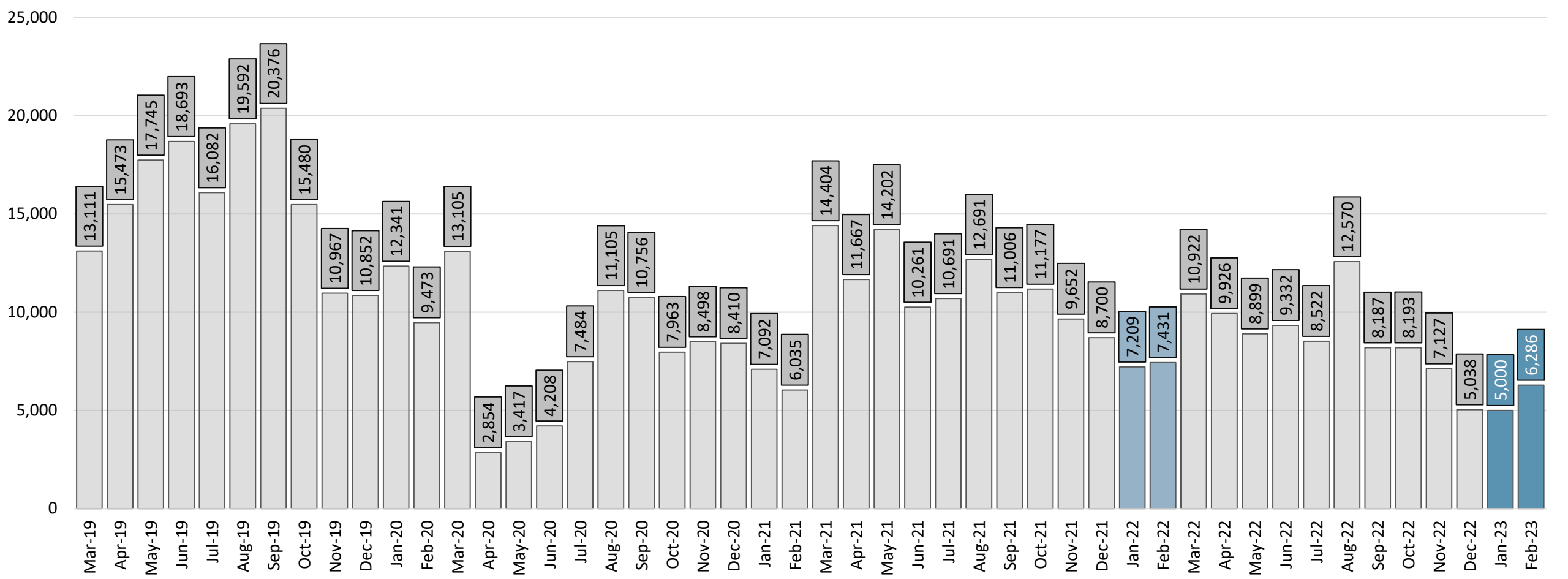
—x— NARROWBODY 
 —■— RJ 
 —●— WIDEBODY





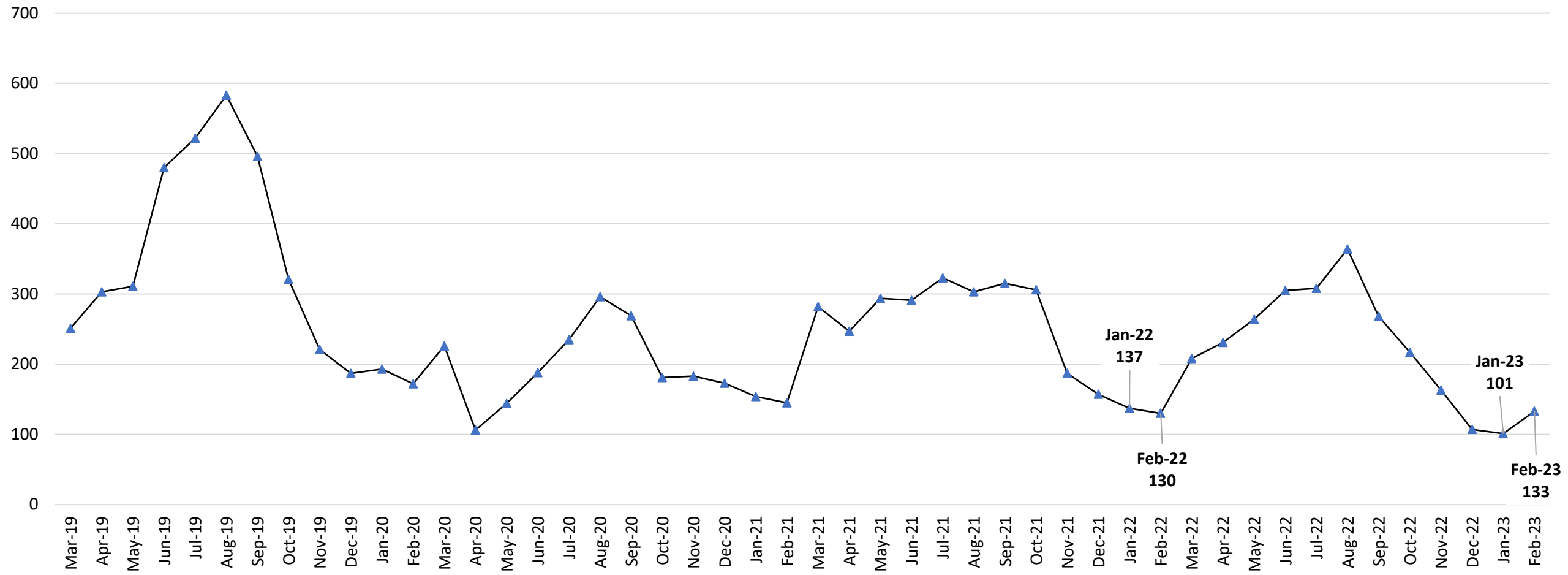
# MSP COMPLAINTS

January 2023				February 2023			
COMPLAINTS		LOCATIONS		COMPLAINTS		LOCATIONS	
5,000		101		6,286		133	
Ops per Complaint	New Locations	Average	Median	Ops per Complaint	New Locations	Average	Median
4.8	2	50	7	3.5	10	47	5

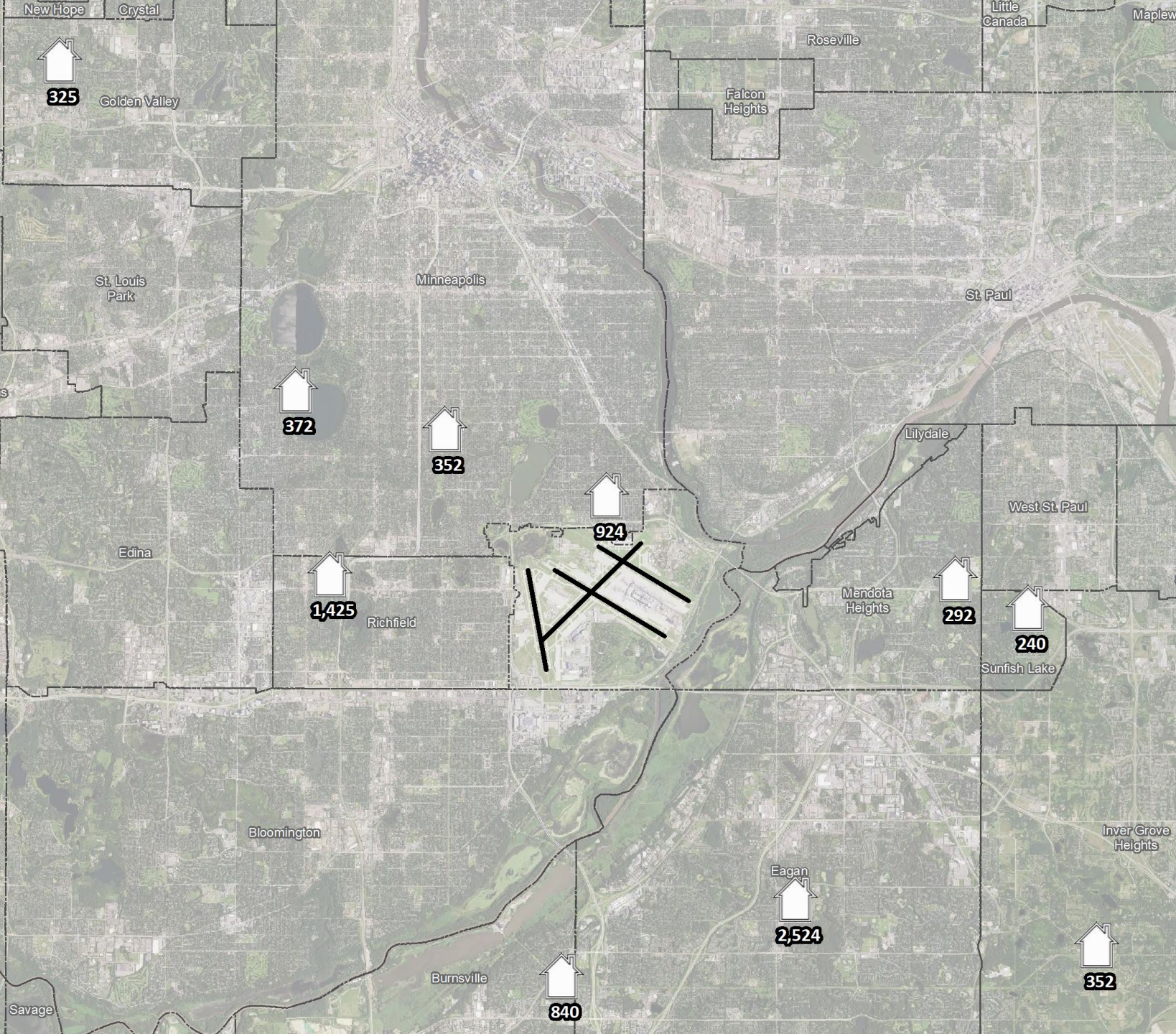


# MSP COMPLAINT LOCATIONS

January 2023				February 2023			
COMPLAINTS		LOCATIONS		COMPLAINTS		LOCATIONS	
5,000		101		6,286		133	
Ops per Complaint	New Locations	Average	Median	Ops per Complaint	New Locations	Average	Median
4.8	2	50	7	3.5	10	47	5







# TOP 10 LOCATIONS

TOP 10 FILED  
**7,646 COMPLAINTS**  
OUT OF 11,286 (68%)  
DURING JAN – FEB

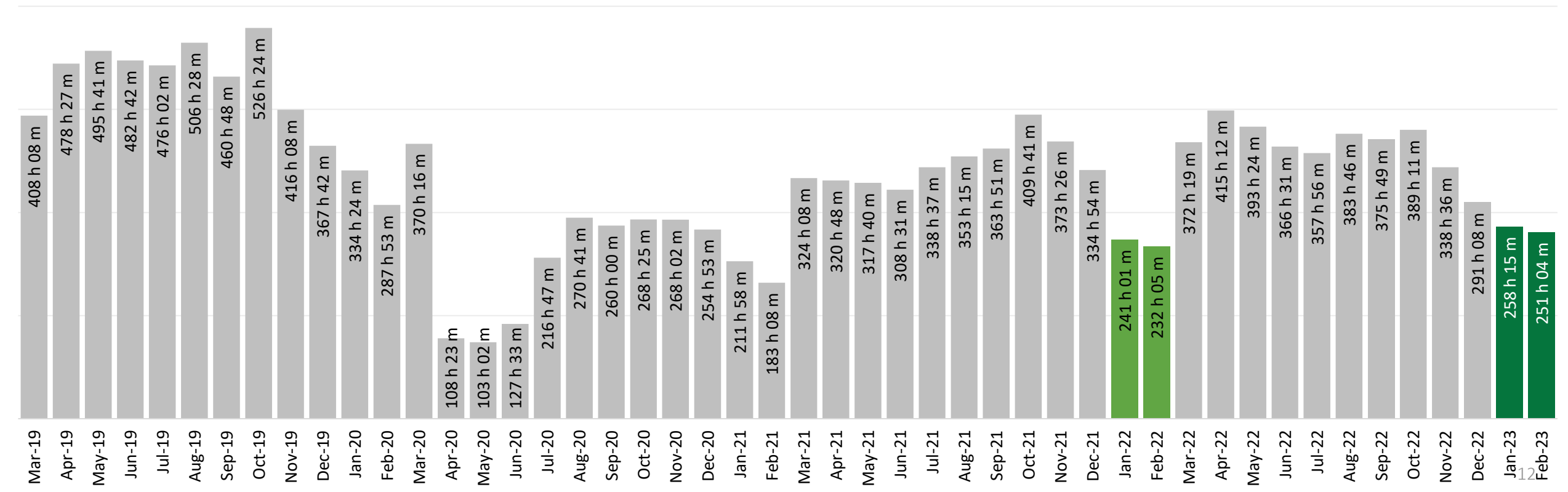
**7 OF 10**  
LOCATIONS WERE ALSO IN THE  
TOP 10 FOR NOV – DEC DATA

**101**  
(62%)  
LOCATIONS FILED 10 OR FEWER  
COMPLAINTS



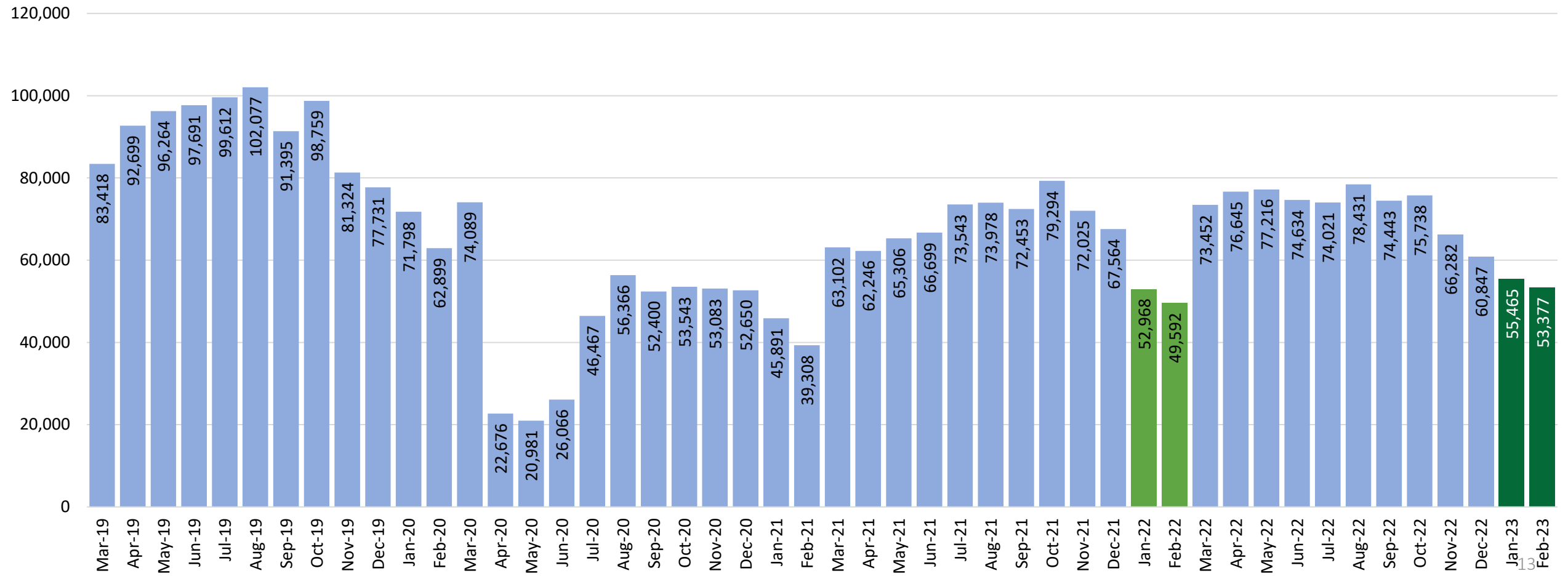
# SOUND MONITORING

January 2023			February 2023		
Time Above	38 TA <sup>65</sup> Per Operation	258 h 15 m TA <sup>65</sup>	Time Above	41 TA <sup>65</sup> Per Operation	251 h 04 m TA <sup>65</sup>
Count Above	2.29 N <sup>65</sup> Per Operation	55,465 N <sup>65</sup>	Count Above	2.4 N <sup>65</sup> Per Operation	53,377 N <sup>65</sup>



# SOUND MONITORING

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Count Above	2.29 N <sup>65</sup> Per Operation	55,465 N <sup>65</sup>	Count Above	2.4 N <sup>65</sup> Per Operation	53,377 N <sup>65</sup>





# NOISE ABATEMENT

January 2023

<b>Runway 17</b>	<b>99.4%</b>
<b>EMH Corridor</b>	<b>91.2%</b>
<b>Cross Day</b>	<b>29.1%</b>
<b>Cross Night</b>	<b>50.6%</b>

February 2023

<b>Runway 17</b>	<b>99.5%</b>
<b>EMH Corridor</b>	<b>95.7%</b>
<b>Cross Day</b>	<b>26.4%</b>
<b>Cross Night</b>	<b>45.7%</b>

**RUS**

**53.4%**

Arrive - 61%

Depart - 46%

**RUS**

**53.3%**

Arrive - 53%

Depart - 54%

# ITEM 2

## PUBLIC COMMENT PERIOD



**NOISE OVERSIGHT COMMITTEE**  
**MARCH 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.
- Use of profanity, personal attacks, or threats of violence will not be tolerated.



**NOISE OVERSIGHT COMMITTEE**  
**MARCH 15, 2023**



# 4.1 – UPDATE ON MSP LONG-TERM PLAN AND ASSOCIATED STAKEHOLDER ENGAGEMENT



**NOISE OVERSIGHT COMMITTEE**  
**MARCH 15, 2023**

# MSP Airport

## Long-Term Plan (LTP) and Stakeholder Engagement Update



**Eric Gilles, C.M., Senior Airport Planner**

**Dana Nelson, Director of Stakeholder Engagement**

**March 15, 2023**

**MSP Noise Oversight Committee**



# Agenda

LTP Purpose, Goals and Timeline

Stakeholder Engagement Activities

MSP Airport Planning Process Update

- Overview of Facility Requirements
- Draft Alternative Concepts
- Preferred Alternative
- Aircraft Noise Analysis

Next Steps

Questions/Discussion





# Purpose of the Long-Term Plan

Evaluate existing and future facility/infrastructure requirements based on 20-year projected demand

Consider when facility improvements are required to accommodate projected demand in a manner that is:

- safe
- efficient
- orderly
- cost-effective, and
- continues to deliver a high level of customer service



# Purpose of the Long-Term Plan



The Plan does not:

Authorize construction or improvements to facilities, nor does it serve as a basis for determining eligibility for noise mitigation programs.

Rather, it is intended to help the MAC better understand and plan for future facility requirements.



# Plan Goals

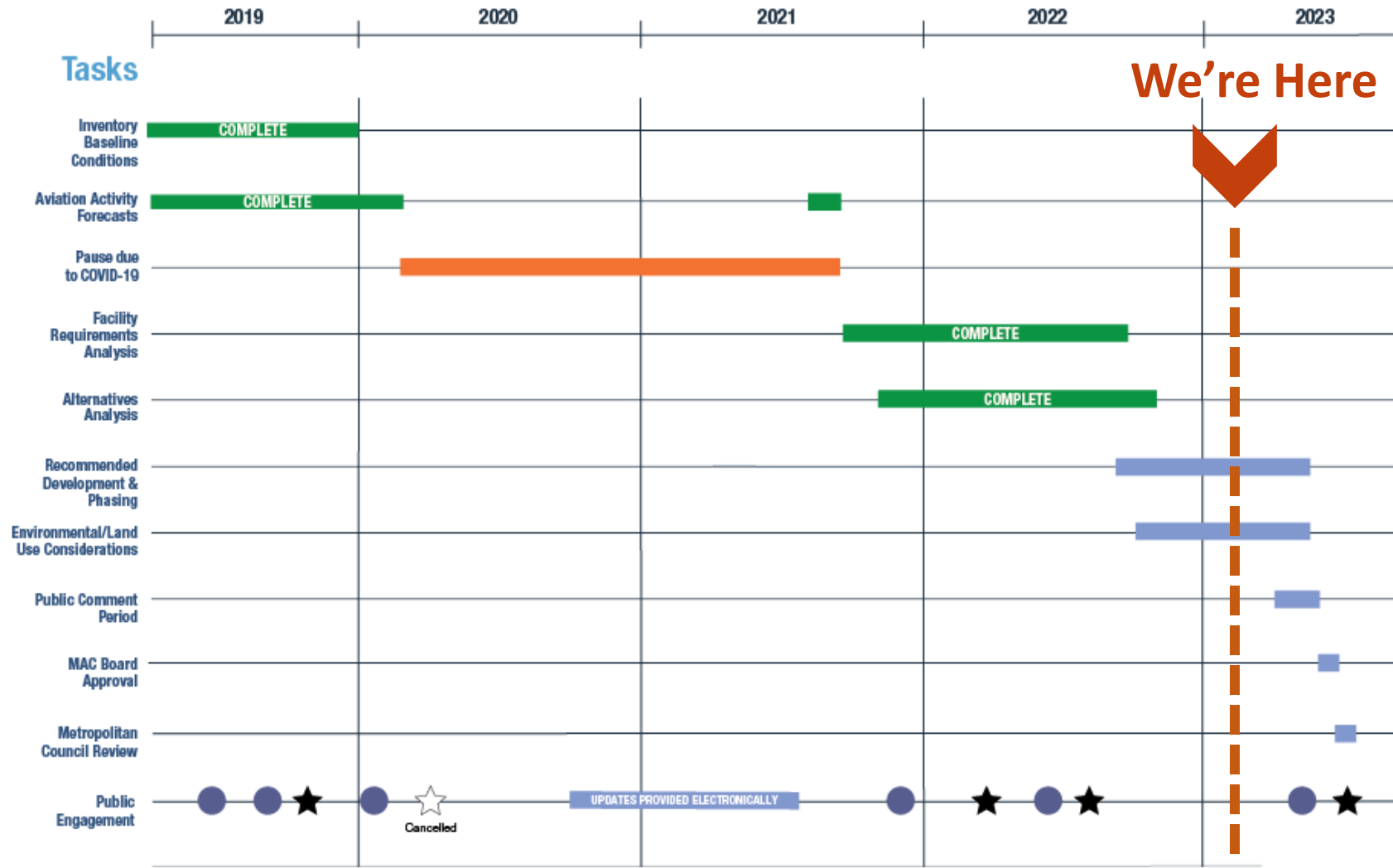
1. Plan for future facilities that will meet projected passenger activity levels in a manner that maintains and enhances customer service, while facilitating a seamless experience.
2. Produce a development plan that positions the MAC to
  - meet future demand levels
  - enhance financial strength
  - leverage environmental stewardship, and
  - infuse sustainable thinking
3. Conduct the planning process in a manner that includes meaningful stakeholder engagement.





# MSP Airport Long-Term Plan

## Timeline + Stakeholder Engagement



Updated: December 2022

Notes: Timeline is subject to change. Tasks after the COVID-19 pause are estimations.

- Stakeholder Advisory Panel Meeting
- ★ Public Event

# Stakeholder Engagement

The planning effort includes a high level of engagement

- Community partners, airlines, passengers, agency partners, business and travel groups, and members of the public

Methods include:

- Stakeholder Advisory Panel (SAP)
- Project website and newsletters
- Public surveys and polls
- Updates at the NOC and PD&E Committee meetings
- Opportunities for public to meet and engage





# Public Participation

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- Contact us via email at [MSPAairportLongTermPlan@mspmac.org](mailto:MSPAairportLongTermPlan@mspmac.org)
- Visit the project website at [www.mspairport.com/long-term-plan](http://www.mspairport.com/long-term-plan)
- Receive regular updates by [signing up](#) for our e-newsletter
- Attend a public event



# Public Participation

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- The Plan may not incorporate all input provided by the public
- The Project Team will listen to concerns, input and aspirations shared by the public and, when possible, make changes
- Considerations to balance include:
  - Maintaining a high level of service
  - Achieving the established goals of the Plan
  - Conforming to design standards
  - Safety
  - Operational feasibility
  - Federal and state policies
  - Project costs

# Airport Planning Update

- Overview of Facility Requirements
- Draft Alternative Concepts
- Preferred Alternative
- Forecast Noise Contours





# Overview of Facility Requirements

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- Terminal Challenges
  - Gating requirements and passenger connectivity
  - Federal Inspection Services (FIS)
- Airside Challenges
  - Maintain airfield efficiency
  - Long-term Remain Overnight (RON) aircraft parking requirements
  - Address airfield design standards
- Landside Challenges
  - Curbside and roadway congestion
  - Address long-term parking requirements (private, rental, ride-share, etc.)



# Draft Alternative Concepts

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- Airfield is geographically constrained
  - Cemetery, major highways, water features
- Balance needs between terminal, airside, and landside functions
- Initial focus on terminal area
  - Federal Inspection Services (FIS) location
  - Facilitate gate and terminal expansion
- Incorporated airside and landside needs with short list of terminal concepts
  - Landside components depend on gate expansion
  - Airside needs are impacted by terminal expansion
- Developed a list of consolidated concepts for stakeholder engagement

# Preferred Alternative

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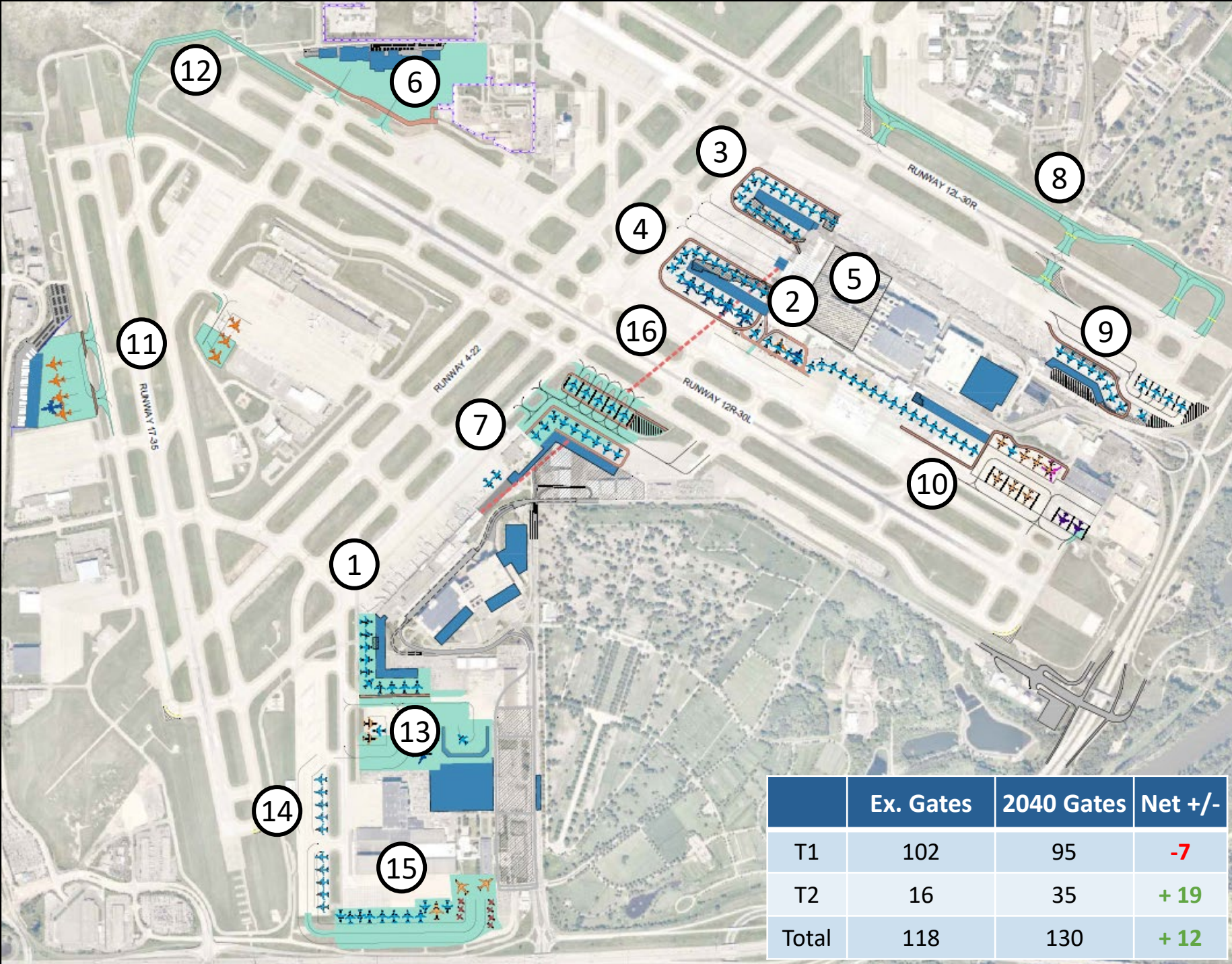
- Incorporates stakeholder feedback (Airlines, FBO, MAC Internal Workshops, Senior Leadership, SAP and Public)
- Assumes FIS at both Terminals 1 and 2
- Emphasizes the need for additional gates beyond what exists today
- Mindfulness of airside impacts
- Landside elements will continue to be refined beyond LTP scope



# Preferred Alt.

## Potential Project List:

1. T2 Gate Expansion
2. T1 FIS Improvements (Ex. Site)
3. Reconstruct Concourse E
4. Reconstruct Concourse F
5. Reconstruct Green/Gold Area
6. Relocate Signature FBO
7. T2 Gate Expansion (Maximize)
8. North Parallel TWY (RWY 30R)
9. Reconstruct Concourse A
10. Extend Concourse G
11. Expand Cargo Facilities
12. Construct RWY 12R EAT
13. Relocate GRE/RON Parking
14. T2 Remote Improvements
15. Construct Delta RON Expansion
16. Connect T1 to T2 (Sterile)



	Ex. Gates	2040 Gates	Net +/-
T1	102	95	-7
T2	16	35	+19
<b>Total</b>	<b>118</b>	<b>130</b>	<b>+12</b>

### Legend

FUTURE TAXIWAY / APRON PAVEMENT	
FUTURE DEMO	
FUTURE BUILDING	
FUTURE VEHICLE SERVICE ROAD	
FUTURE ELEVATED LANDSIDE ROADWAY	
FUTURE LANDSIDE PAVEMENT	
FUTURE GROUND SERVICE EQUIPMENT STAGING	
RUNWAY HOLDING POSITION	
FUTURE AOA FENCE	
NON-AERONAUTICAL DEVELOPMENT	
FUTURE EXTERNAL DEVELOPMENT BOUNDARIES	
TERMINAL 1 / TERMINAL 2 CONNECTION	
REPRESENTATIVE AIRCRAFT (CRJ-200 / A321neo / B757-200W / A350-900)	



# LTP Aircraft Noise Analysis

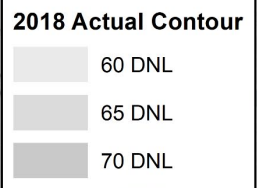
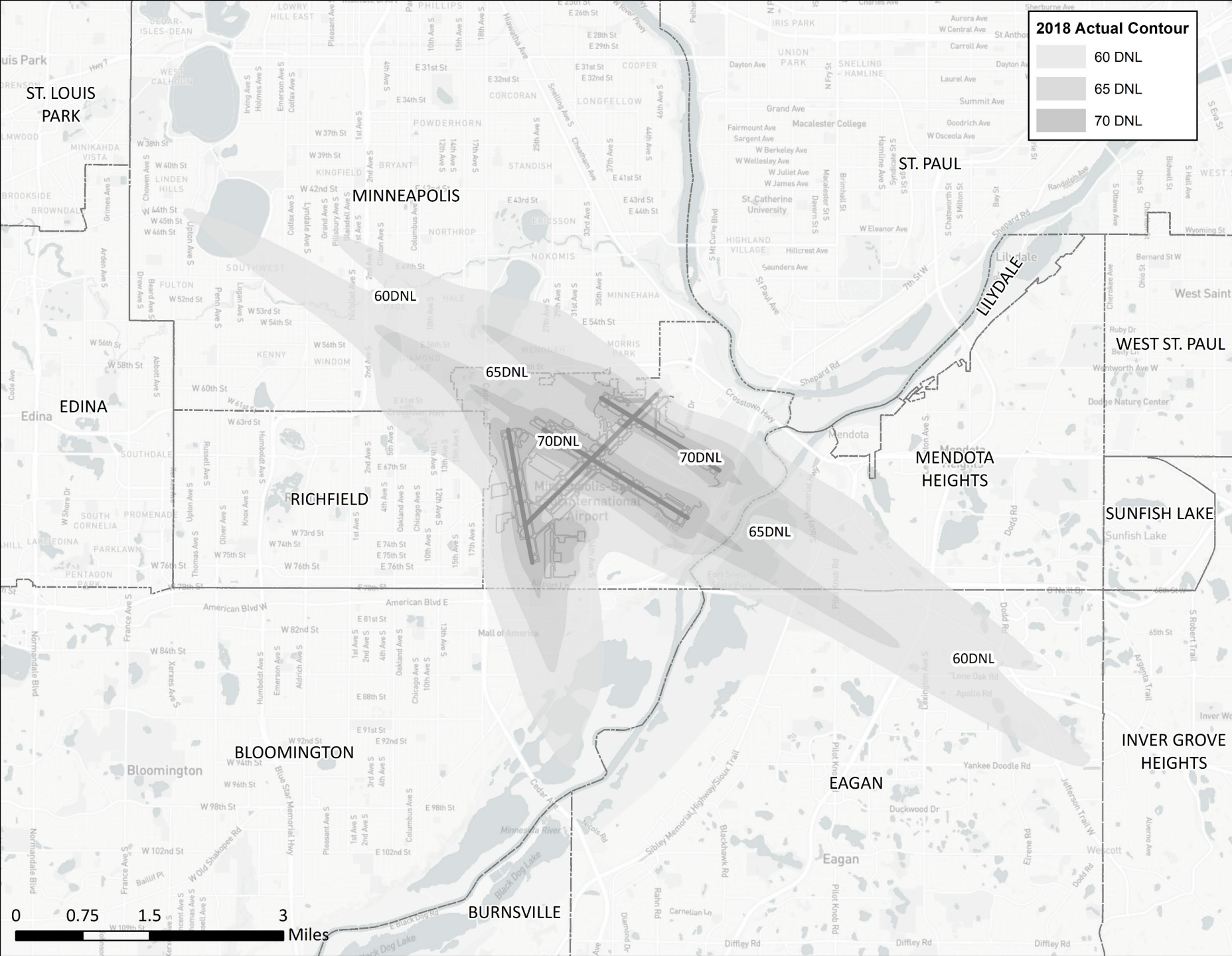
Base Year - 2018 Annual Noise Contour

2040 Forecast Scenarios

- Baseline - expected outcome
- High - optimistic socioeconomic drivers
- Low - conservative financial planning forecast

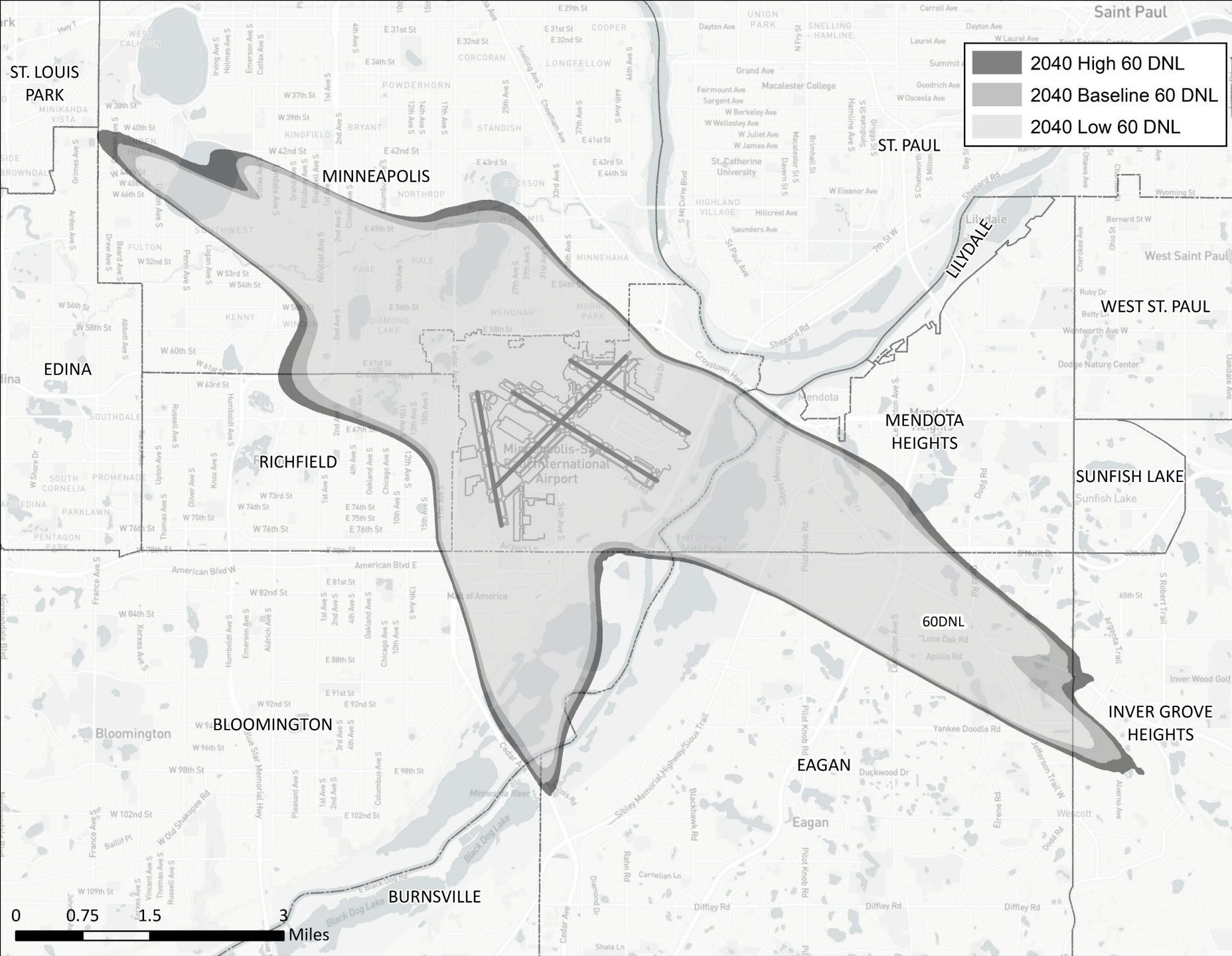






**2018 Base Year Annual Contour**

- Serves as Existing Conditions
- Was completed at time of LTP kick-off
- Consistent with LTP activity forecasts
- Reflects pre-pandemic activity
- Activity leading up to 2018 relatively stable



### 2040 Forecast Scenarios

- Provide reasonable range of possible forecast activity
- Considers inherent uncertainty in forecasting
- Enables efficient and flexible facility planning



# 2018 Actual Contour and 2040 Baseline Forecast Comparison

## Total Operations

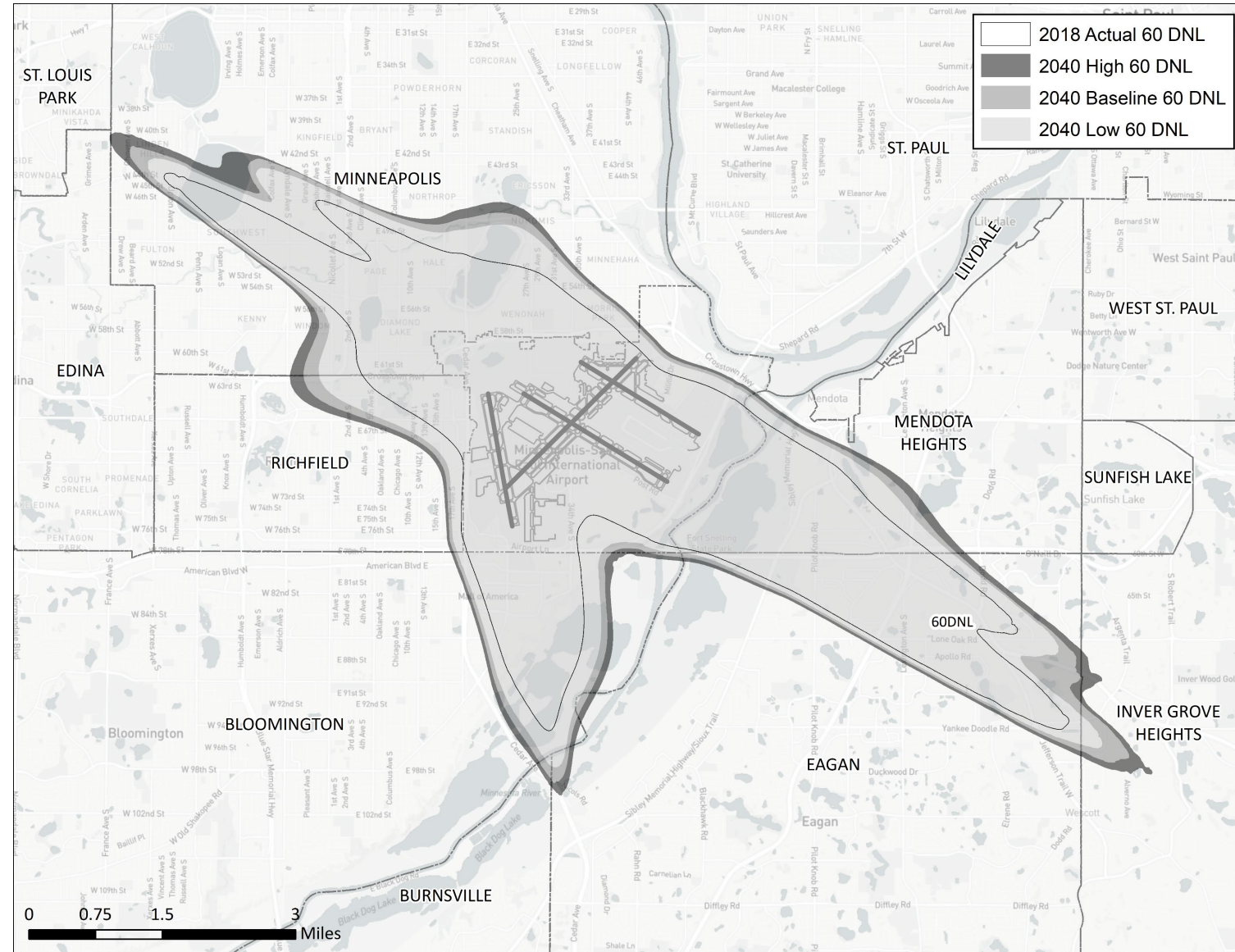
- 2018 – 406,913 Annual Operations
- 2040 – 509,700 Forecast Operations

## Nighttime Operations

- 2018 – 120 Average Daily Operations
  - 10.8% of all operations
- 2040 – 161 Average Daily Operations
  - 11.5% of all operations

## Stage 5 Operations

- 2018 – 211 Average Daily Operations
- 2040 – 874 Average Daily Operations



# Updates in Aircraft Types



Airbus New Engine Option (neo)  
A319, A320, A321

- 15 dB below Stage 4 noise standards
- 1.6 average daily operations in 2018
- 273 average daily operations in 2040 forecast

Source: [www.airbus.com](http://www.airbus.com)



Boeing B737 MAX  
MAX 7, MAX 8, MAX 9, MAX 10\*

- 40% noise reduction from B737-800
- 1.5 average daily operations in 2018
- 30 average daily operations in 2040 forecast

Source: [www.boeing.com](http://www.boeing.com)

*\*B737 MAX 10 does not have a noise profile in AEDT; the B737 MAX 8 was used as an FAA approved substitute.*



Airbus A220-100 and A220-300

- 50% noise reduction from previous generation
- 0 average daily operations in 2018
- 499 average daily operations in 2040 forecast

Source: [www.airbus.com](http://www.airbus.com)

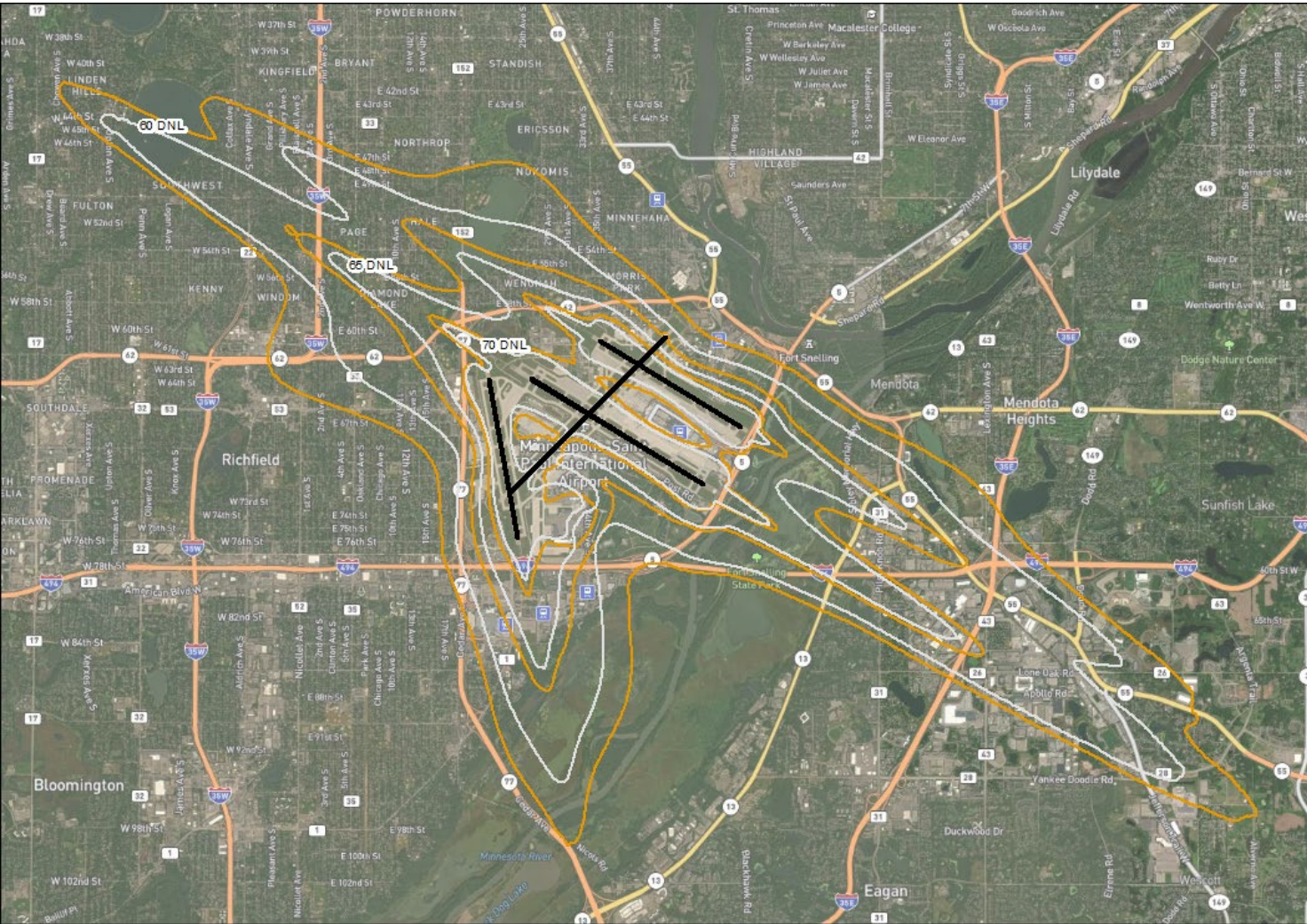


# Runway Use Comparison

	Arrivals	Departures
<b><u>2018 Base Year Condition</u></b>		
Runway 4	0.1%	0.5%
Runway 12L	21.3%	14.7%
Runway 12R	25.8%	6.2%
Runway 17	0.1%	33.8%
Runway 22	0.0%	0.0%
Runway 30L	25.9%	23.4%
Runway 30R	21.3%	21.3%
Runway 35	5.5%	0.0%
<b><u>2040 Baseline Forecast Scenario</u></b>		
Runway 4	0.1%	0.5%
Runway 12L	20.5%	13.0%
Runway 12R	26.5%	6.7%
Runway 17	0.1%	34.4%
Runway 22	0.0%	0.0%
Runway 30L	27.4%	25.0%
Runway 30R	20.3%	20.4%
Runway 35	5.1%	0.0%

- Projected 2040 runway use is consistent with the 2018 runway use with minor variances
- The 2040 departures from Runway 12L decrease by approximately 1.7%
- The 2040 departures from Runway 30L, increase by approximately 1.5%
- The 2040 arrivals to Runway 30L increase by approximately 1.4%
- Changes in other runways are less than 1%

# 2040 Baseline Forecast Contour vs. 2018 Actual Contour



65 dB DNL

5,933 acres

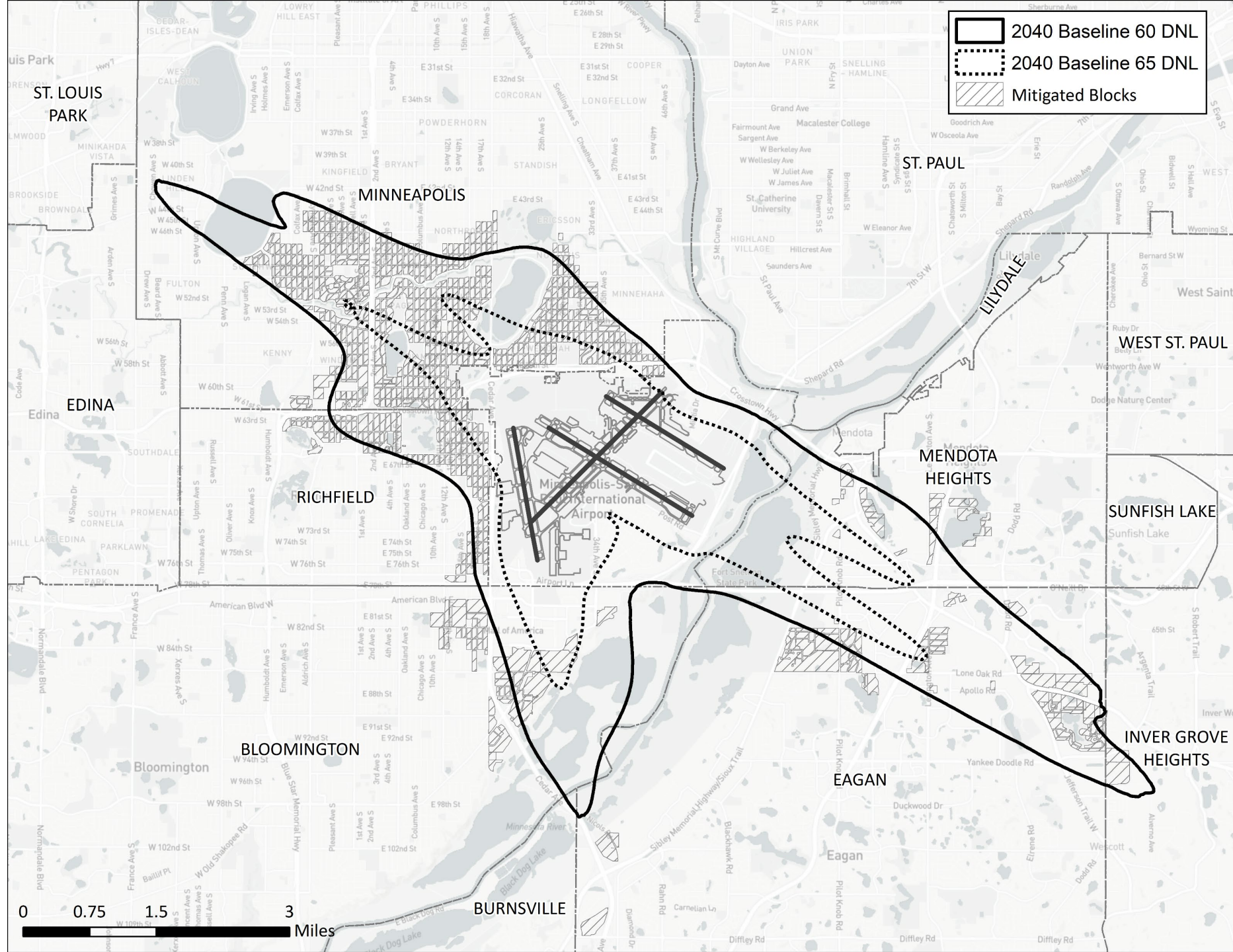
33.5% increase from 2018

60 dB DNL

15,775 acres

39.3% increase from 2018





# Next Steps



## Long-Term Plan Steps:

- Airfield Simulation (Base + Deicing)
- Develop Prioritization and Project Costs
- LTP Report Writing

## Stakeholder Engagement Steps:

- Stakeholder Advisory Panel Meeting (April 13)
- Informational Updates to MetCouncil
  - TAC (May 3)
  - TAC Planning Sub-Committee (May 11)
  - Transportation Advisory Board (May 17)
- Publish Draft Report for Public Comment
- Hold Public Experience MSP Event (TBD)
- Review Public Comments
- Finalize Plan and Send for MetCouncil Review





# Thank you

[MetroAirports.org](https://MetroAirports.org) [MSPAirport.com](https://MSPAirport.com)



@mspairport



# 4.2 – FAA OVERVIEW OF CURRENT MSP PROCEDURES



**NOISE OVERSIGHT COMMITTEE**  
**MARCH 15, 2023**



# MSP Airspace Presentation

Presented to: MSP NOC  
By: Sean Fortier, Traffic  
Management Officer (A),  
Minneapolis District  
Date: March 15, 2023



Federal Aviation  
Administration



Federal Aviation  
Administration

# Objectives

- **Provide awareness of MSP ATC environment and airspace system**
- **Explain constraints within the system that drive and shape our current procedures**
- **Communicate how MSP procedures integrate into the overall NAS**





# Purpose of the Air Traffic Control System

- **Prevent a collision, issue safety alerts**
- **Provide safe, orderly, and expeditious flow of air traffic**
- **Support National Security and Homeland Defense**



# Runway Configuration

- **For Landing, Most aligned with the wind > than 5 KTS**
  - Calm Winds and Winds Aloft
    - Compression and Landing Long
- **For Takeoff, Aircraft Will Accept a Tailwind < than 10 KTS**
  - Type of Aircraft / Company Policy Driven
- **Runway Use System Priority**



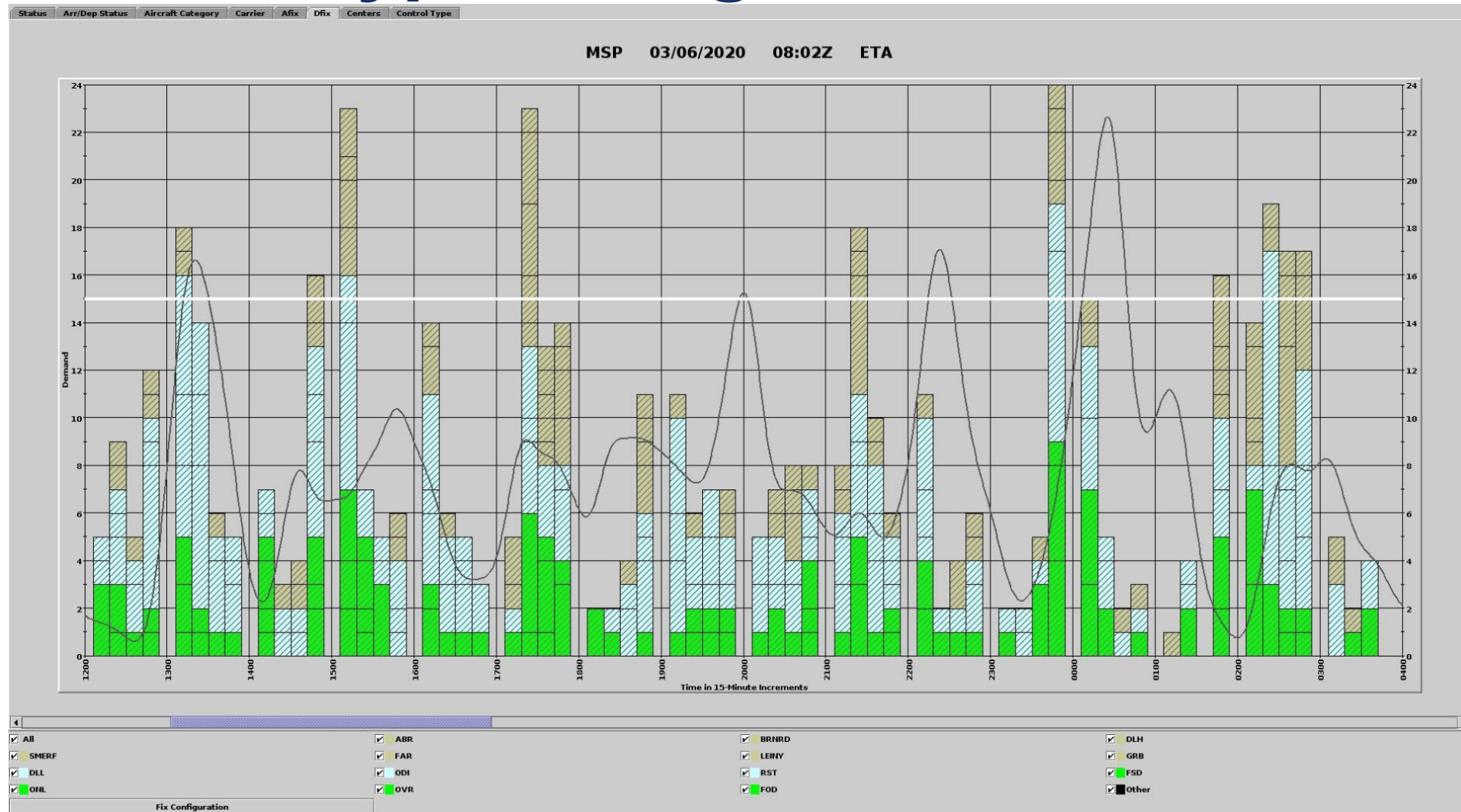


# Demand

- **FAA safely manages traffic but does not determine:**
  - How many people want to fly, and what time they want to fly
  - What locations people fly to
  - How many people use online services to deliver goods
- **These factors are all driven by consumer demand**



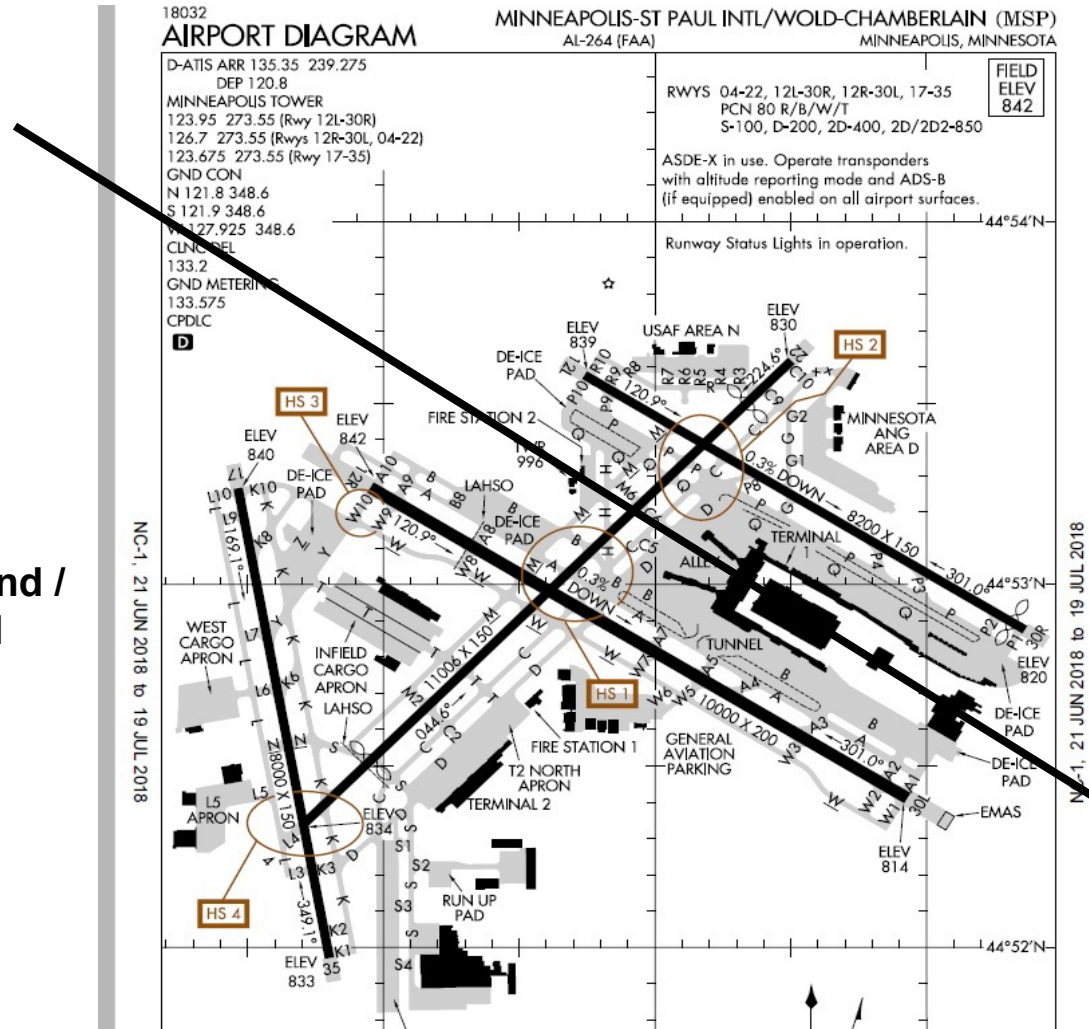
# Typical Flight Demand





# MSP Layout

South Ground /  
South Local



North Ground /  
North Local



Federal Aviation  
Administration

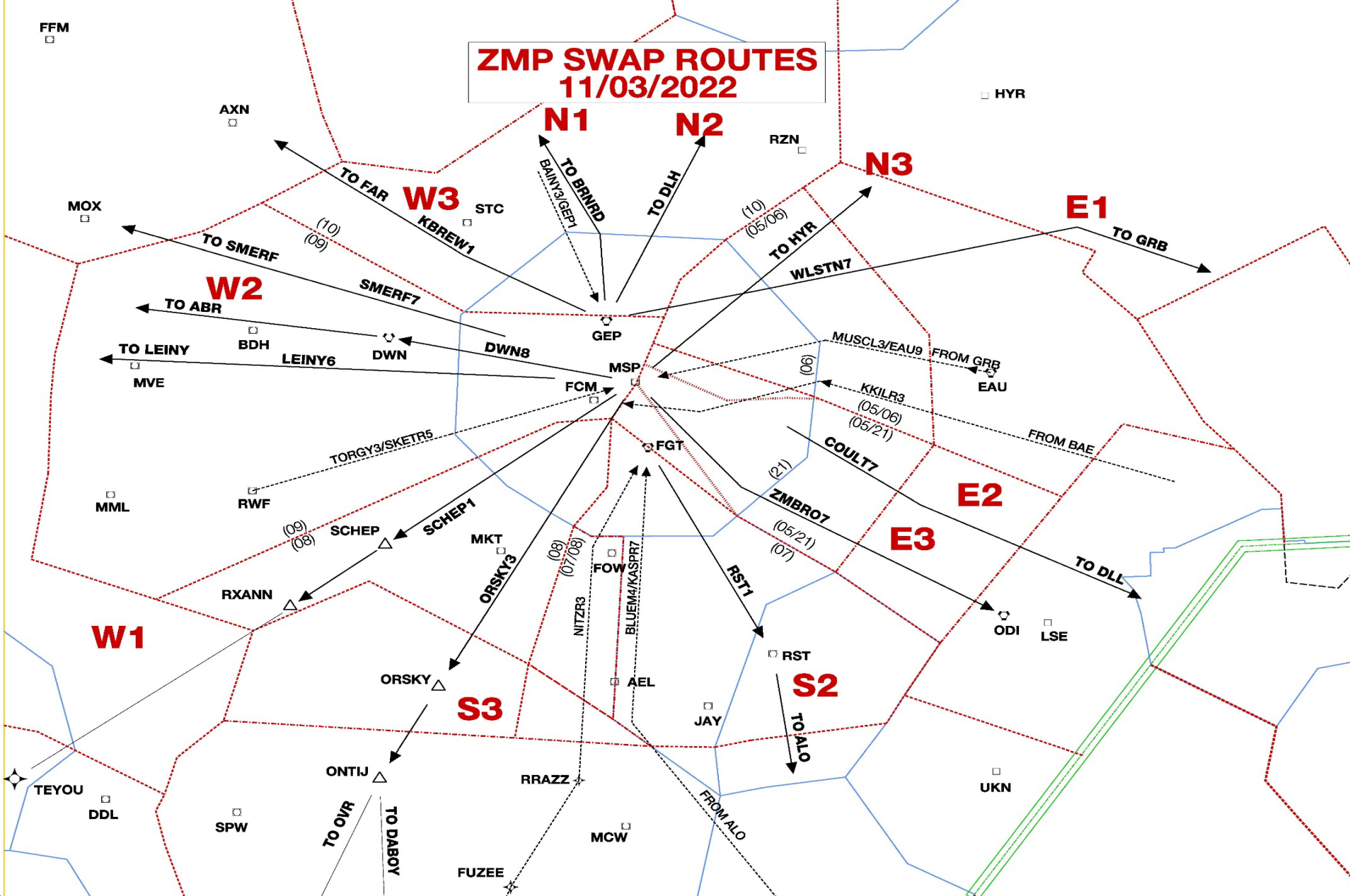
# City Pairs Determine Departure

- **City Pair Preferential Routing**
  - FAA Chart Supplement – North Central US
  - MINNEAPOLIS(MSP) ATLANTA(ATL) ..... (TURBOJET)ZMBRO-DP ODI BRIBE BDF ENL PLESS J45 BNA NEWBB IHAVE MTHEW CHPPR (RNAV)-STAR
- **Standardized agreed upon route from takeoff to landing**
  - Defines Departure Procedure
- **Departure Procedure determines initial heading assignment after takeoff**





# ZMP SWAP ROUTES 11/03/2022



# Departure Assignments by RWY

## South Flow:

- **12L:**  
LEINY/DWN/SMERF/KBREW/BRD/DLH/WLSTN
  - Headings: 105 / 120
- **12R:** By Operational Necessity
  - Headings: 120 / 105
- **17:** COULT\*/ZMBRO/RST/SCHEP/ORSKY
  - Headings: 120 – 180\*

## North Flow:

- **30R:**  
LEINY/DWN/SMERF\*/KBREW/BRD/DLH/WLSTN/COULT
  - Heading: 300 / 320 / 340 / 360
- **30L:** ZMBRO/RST/SCHEP/ORSKY
  - Heading: 260 / 280





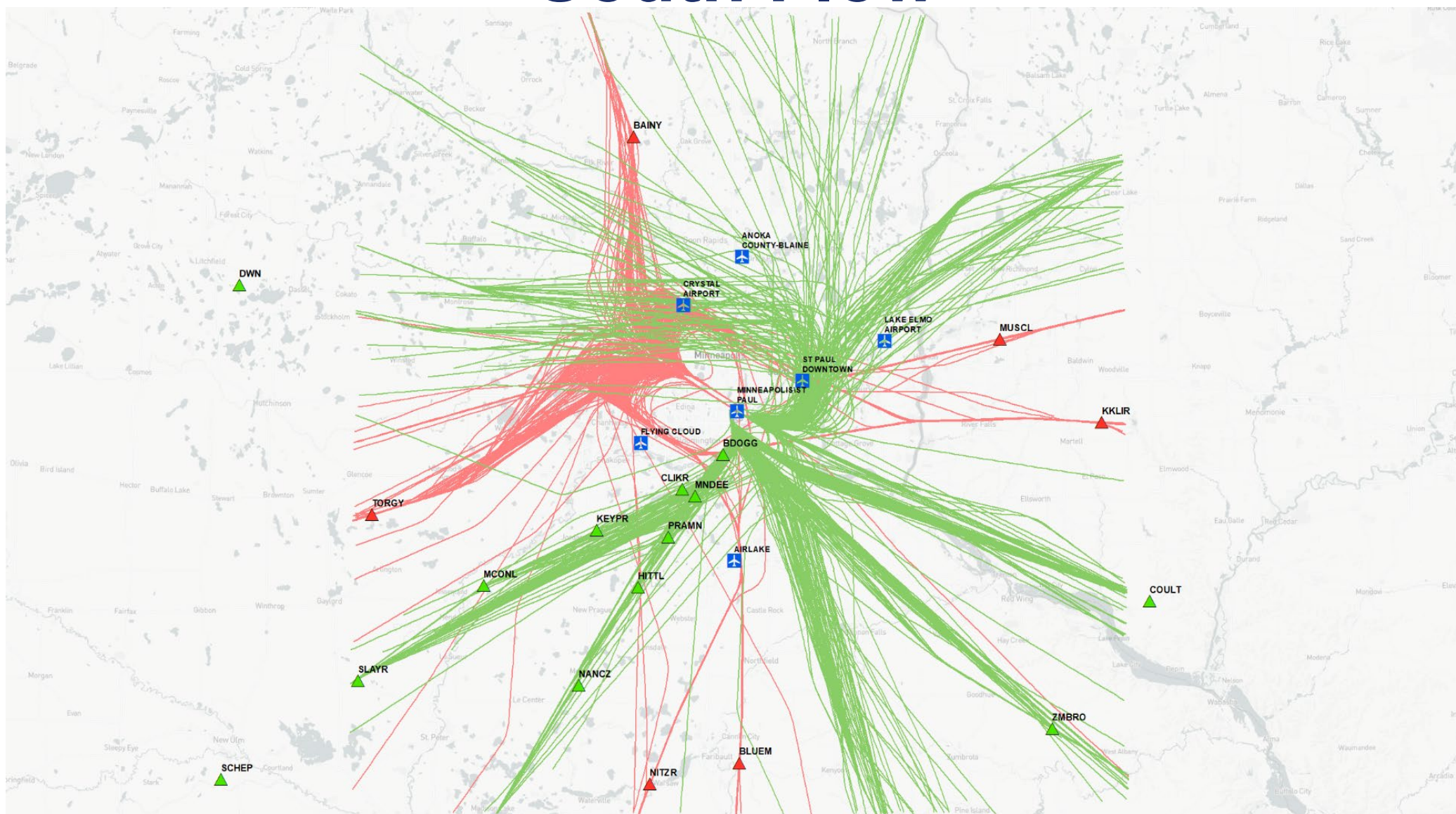
# Departure Assignments by RWY

## Mixed Flow:

- **30R:** LEINY/DWN/SMERF/KBREW/BRD/DLH/WLSTN/COULT
  - Headings: 300 / 320 / 340 / 360
- **30L:** By Operational Necessity
  - Headings: 260 / 280
- **17:** ZMBRO/RST/SCHEP/ORSKY
  - Headings: 170 initial – 180 - 230\*

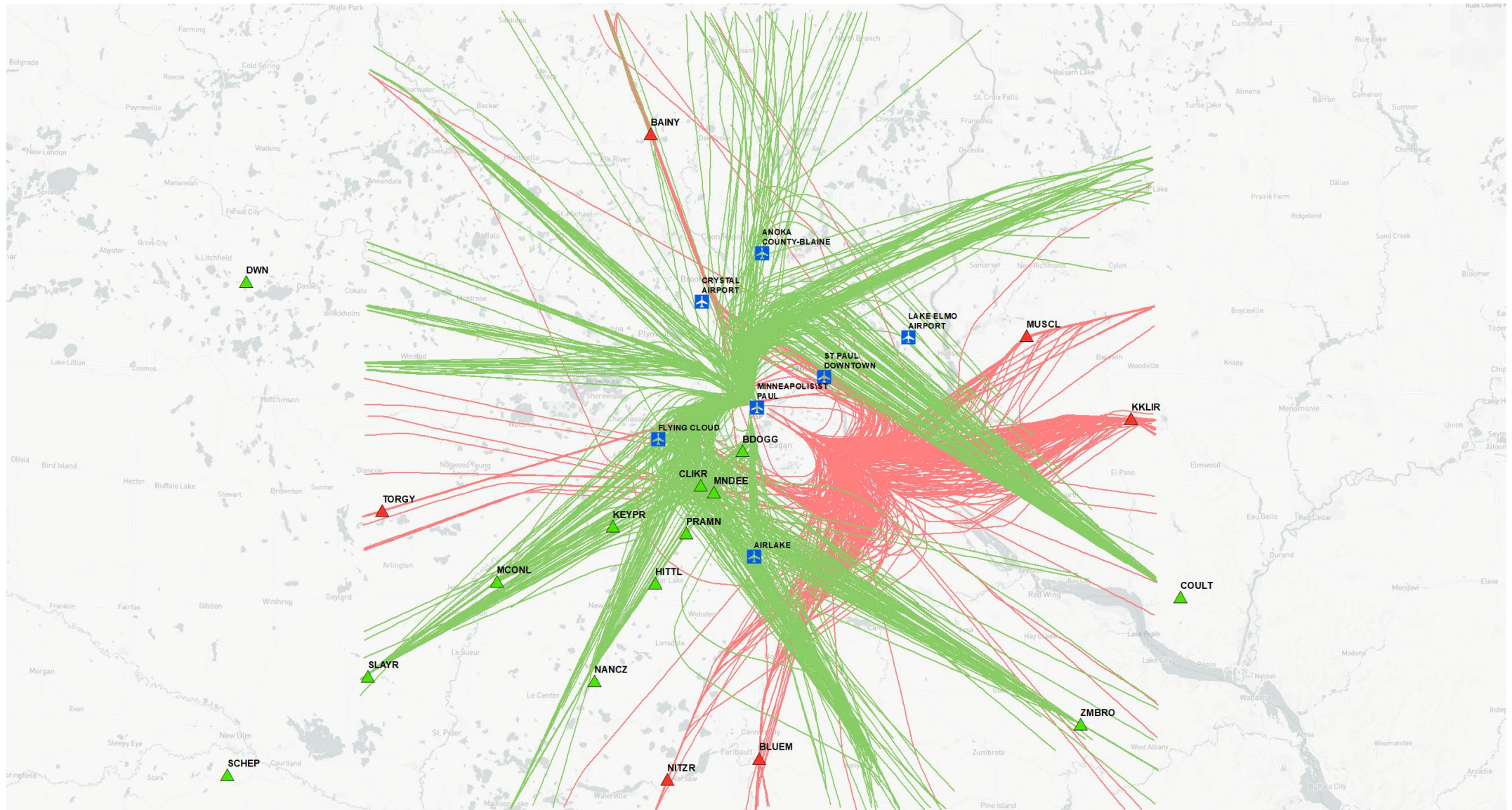


# South Flow



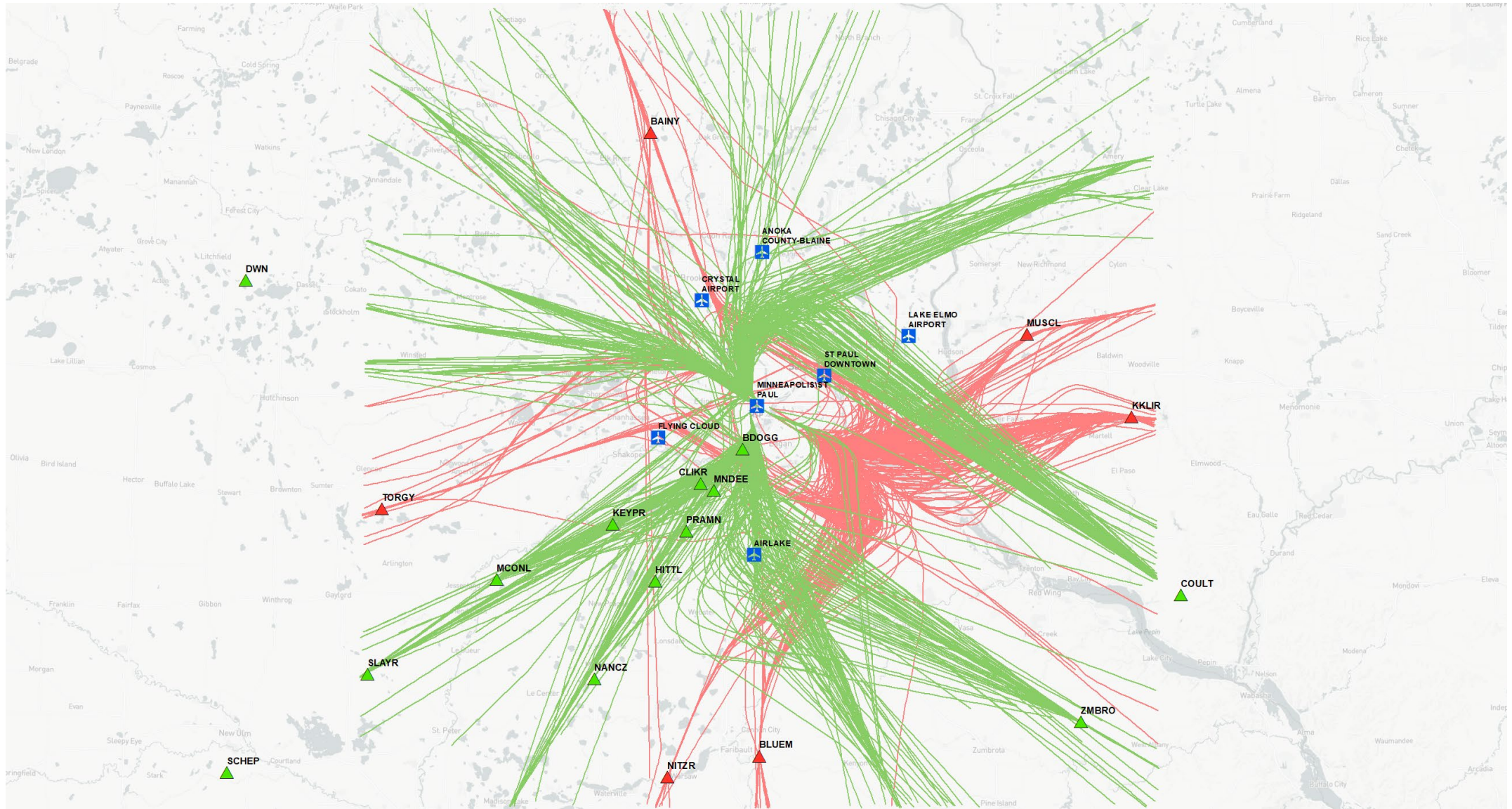


# North Flow



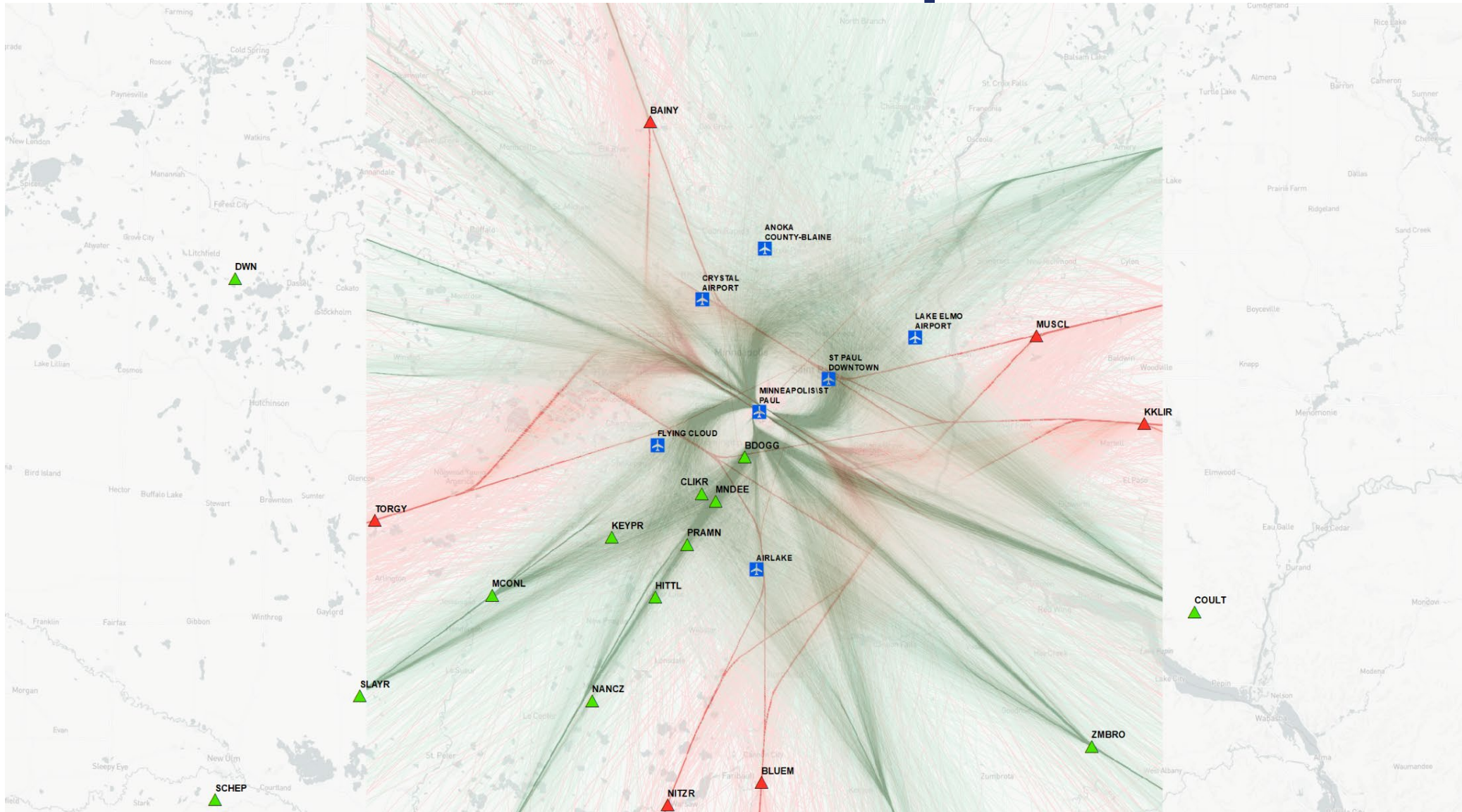


# Mixed Flow



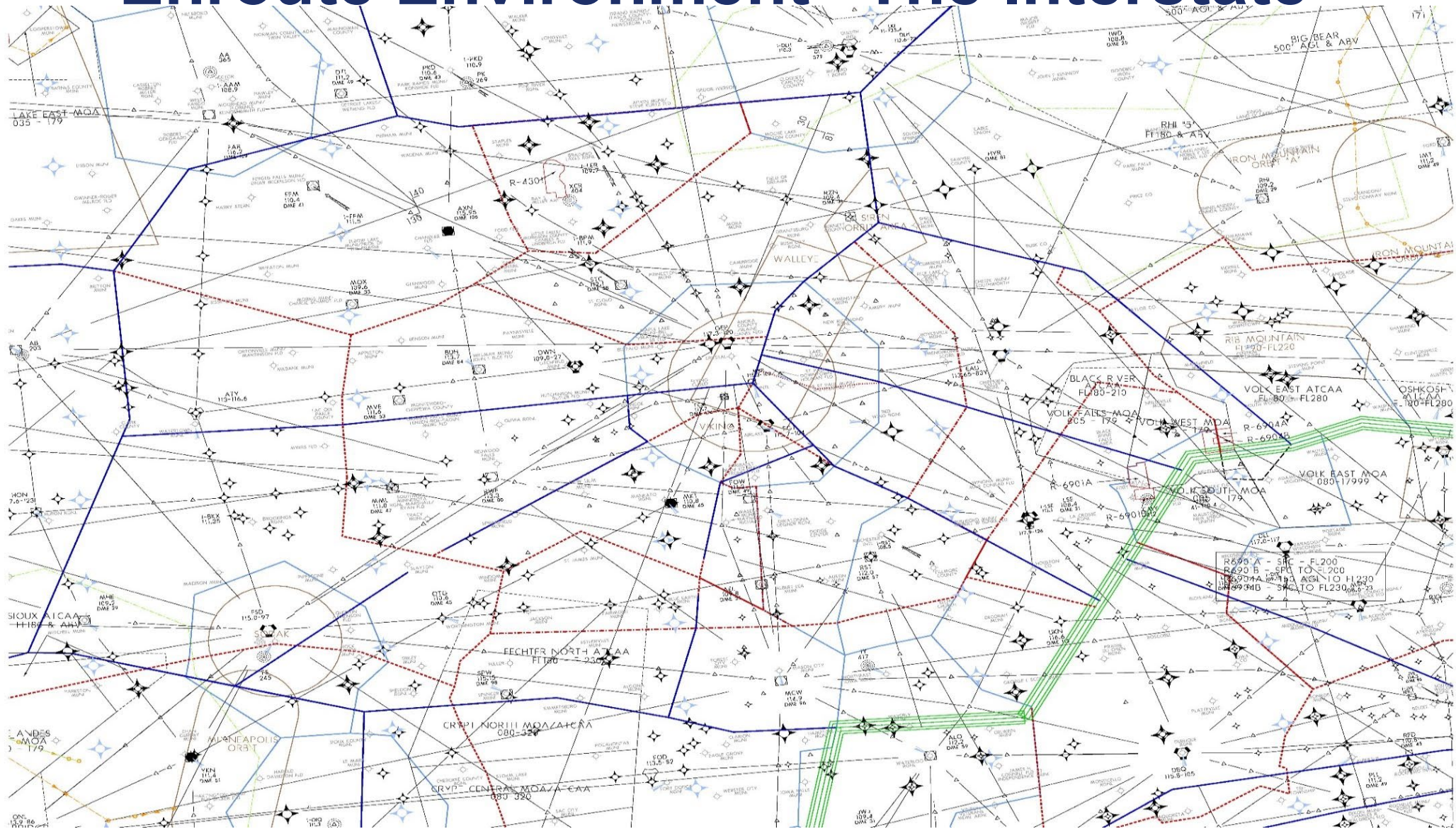


# All Arrivals and Departures



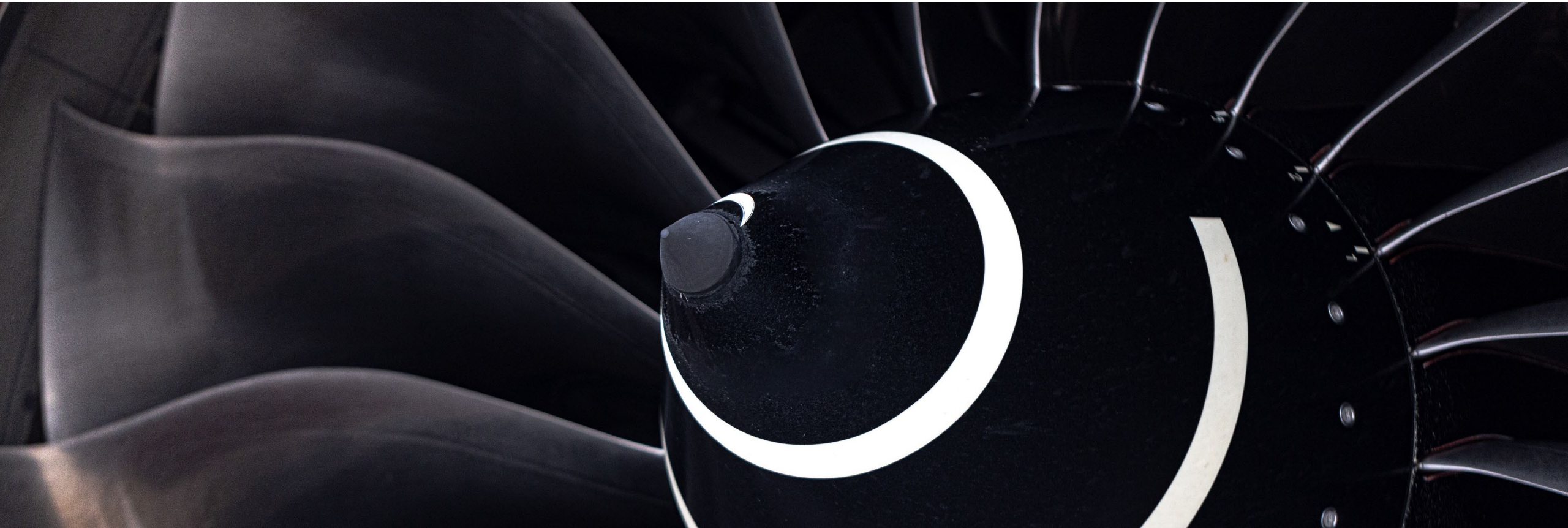


# Enroute Environment "The Interstate"



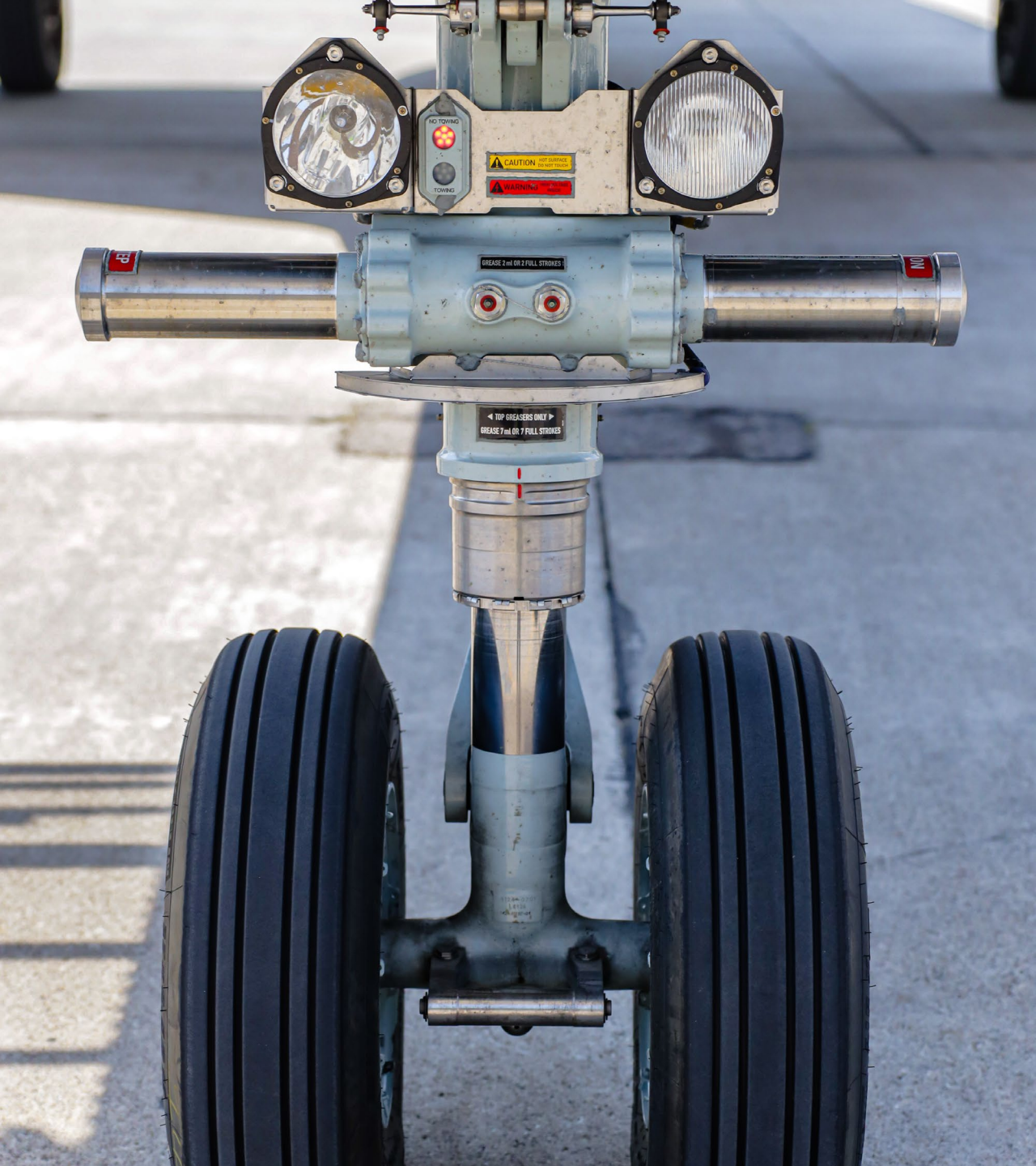


# 4.3 – 2022 ACTUAL NOISE CONTOUR REPORT AND THE CONSENT DECREE NOISE MITIGATION PROGRAM ELIGIBILITY



**NOISE OVERSIGHT COMMITTEE**  
**MARCH 15, 2023**





## MSP 2022 Annual Contour Report Overview

- The amended Consent Decree requires the MAC to prepare an annual noise contour analysis for MSP by March 1 of each year.
- The 2022 MSP Annual Noise Contour Report was developed in partnership with HNTB using the Aviation Environmental Design Tool (AEDT).
- On March 1<sup>st</sup>, the MAC published the 16<sup>th</sup> Annual Noise Contour Report consistent with the requirements in the Consent Decree.



# 2022 Actual Contour vs. 2007 Forecast Contour



## Total Operations

- 2007 – 582,366 Annual Forecast Ops
- 2022 – 310,235 Annual Actual Ops

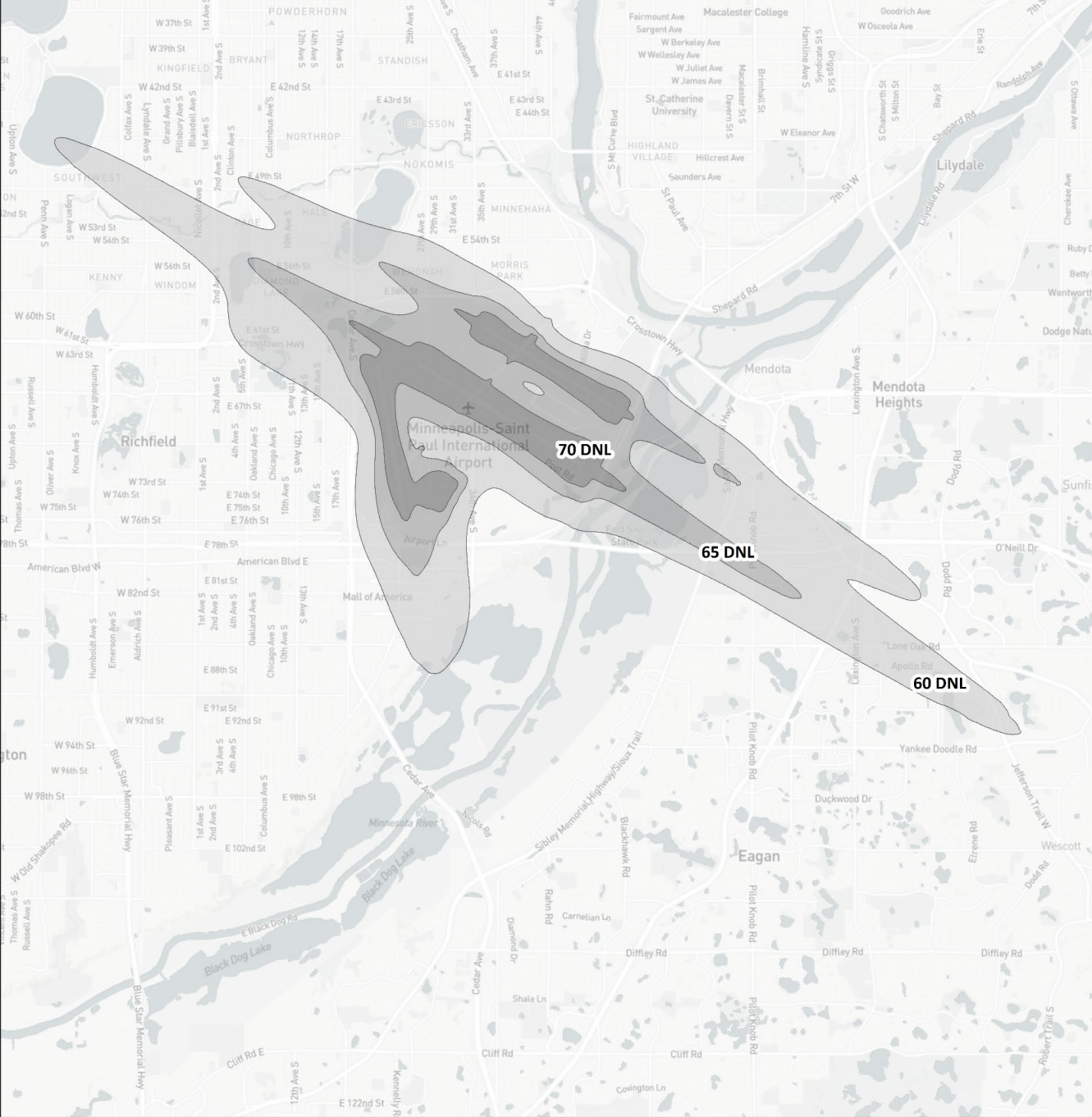
## Nighttime Operations

- 2007 – 123.3 Average Daily Ops
- 2022 – 93.2 Average Daily Ops

## Hushkit Operations

- 2007 – 275.0 Average Daily Ops
- 2022 – 0.1 Average Daily Ops

2007 Forecast Noise Contour
  2022 Actual 65 DNL
  2022 Actual 60 DNL
  2022 Actual 70 DNL
 0   0.75   1.5   3 Miles



# 2022 Actual Contour vs. 2021 Actual Contour

## Total Operations

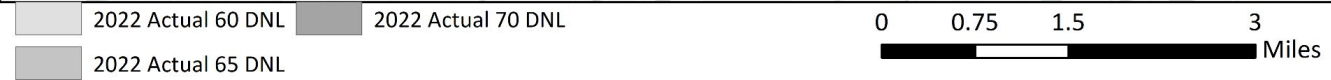
- 2021 – 303,884 Annual Ops
- 2022 – 310,235 Annual Ops

## Nighttime Operations

- 2021 – 84.1 Average Daily Ops
- 2022 – 93.2 Average Daily Ops

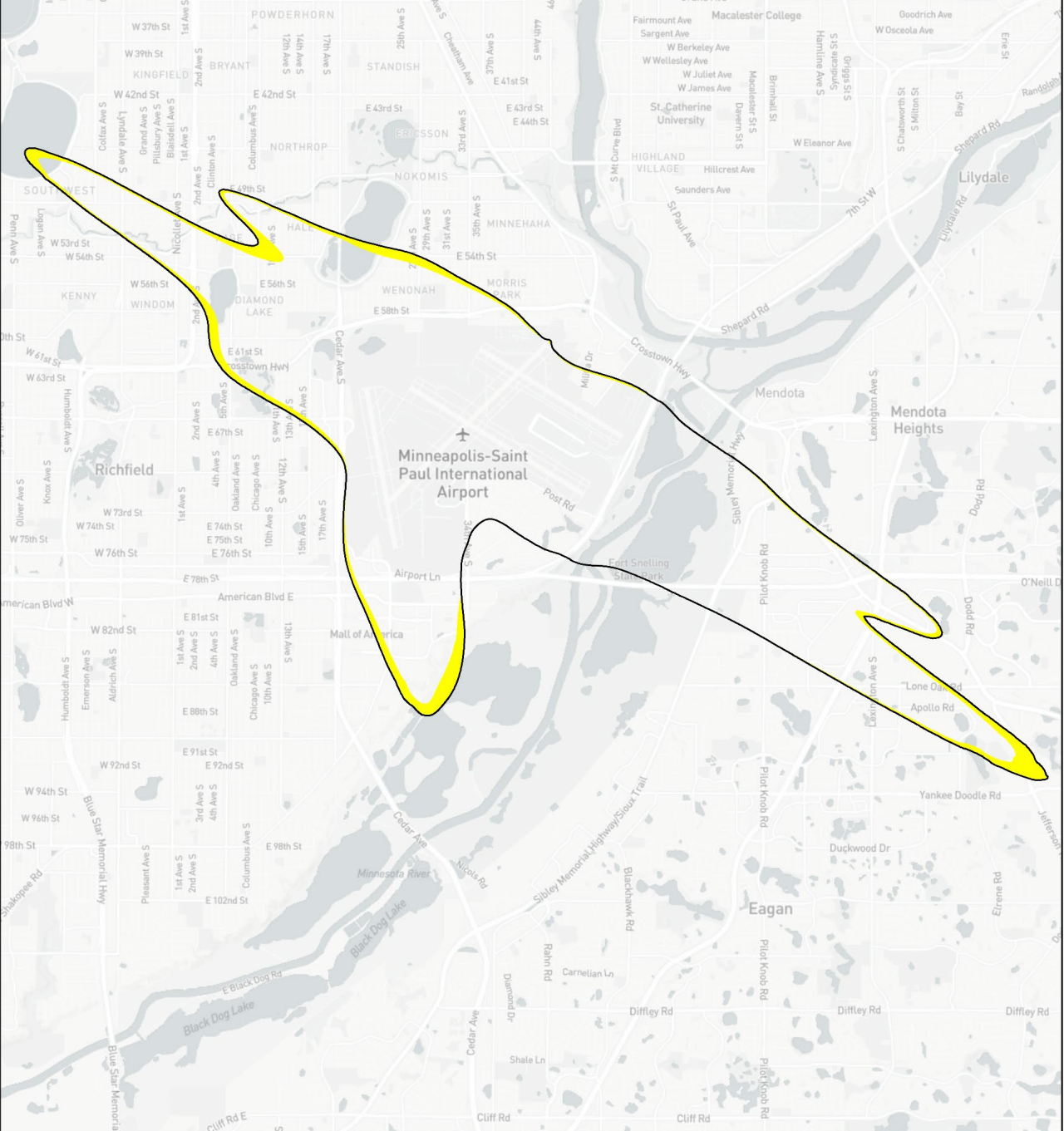
## Hushkit Operations

- 2021 – 0.5 Average Daily Ops
- 2022 – 0.1 Average Daily Ops





# 2022 Actual Contour vs. 2021 Actual Contour



65 dB DNL

60 dB DNL

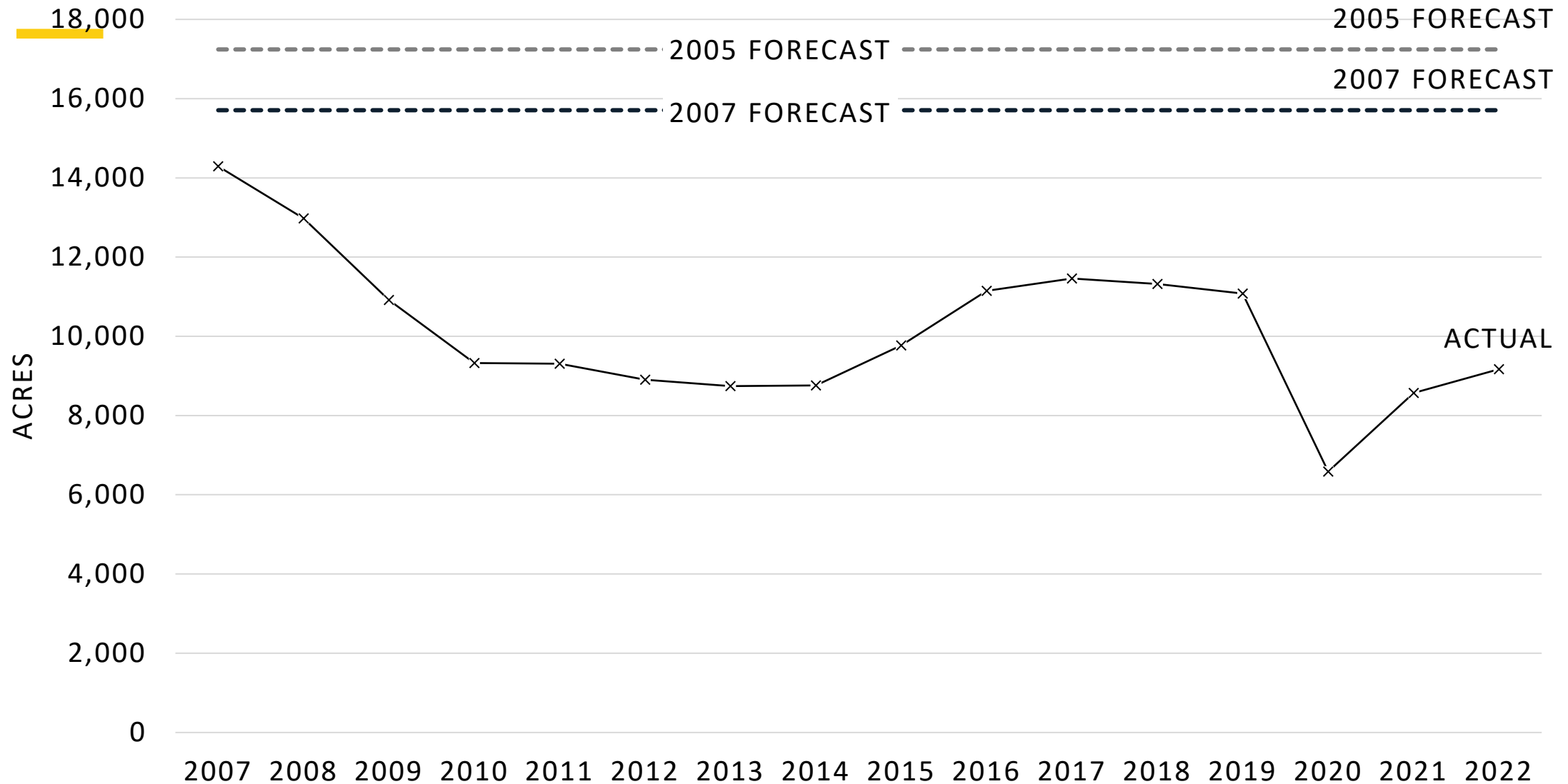
3,441 acres

9,167 acres

3% increase  
from 2021

7% increase  
from 2021

# MSP Actual 60 dB DNL Contour Acreage





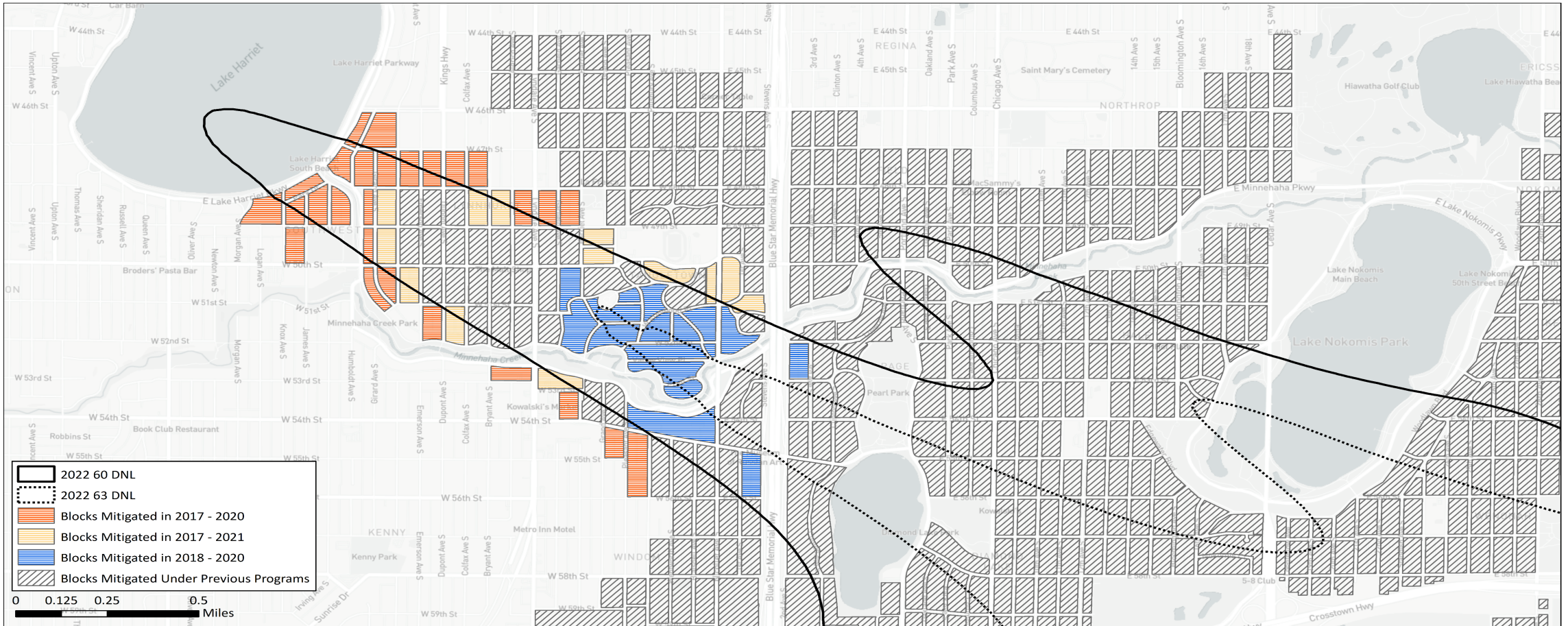
# 2025 – 2032 Program

- ✈ Eligibility based on Actual Noise Contour
- ✈ A home will become eligible for residential noise mitigation if it
  - is located in the **60 dB DNL** contour for **3 consecutive years**
  - is located in a higher noise impact mitigation area than previous programs
  - achieves first year of eligibility no later than 2028
- ✈ Commits the MAC to provide noise mitigation until the year 2032



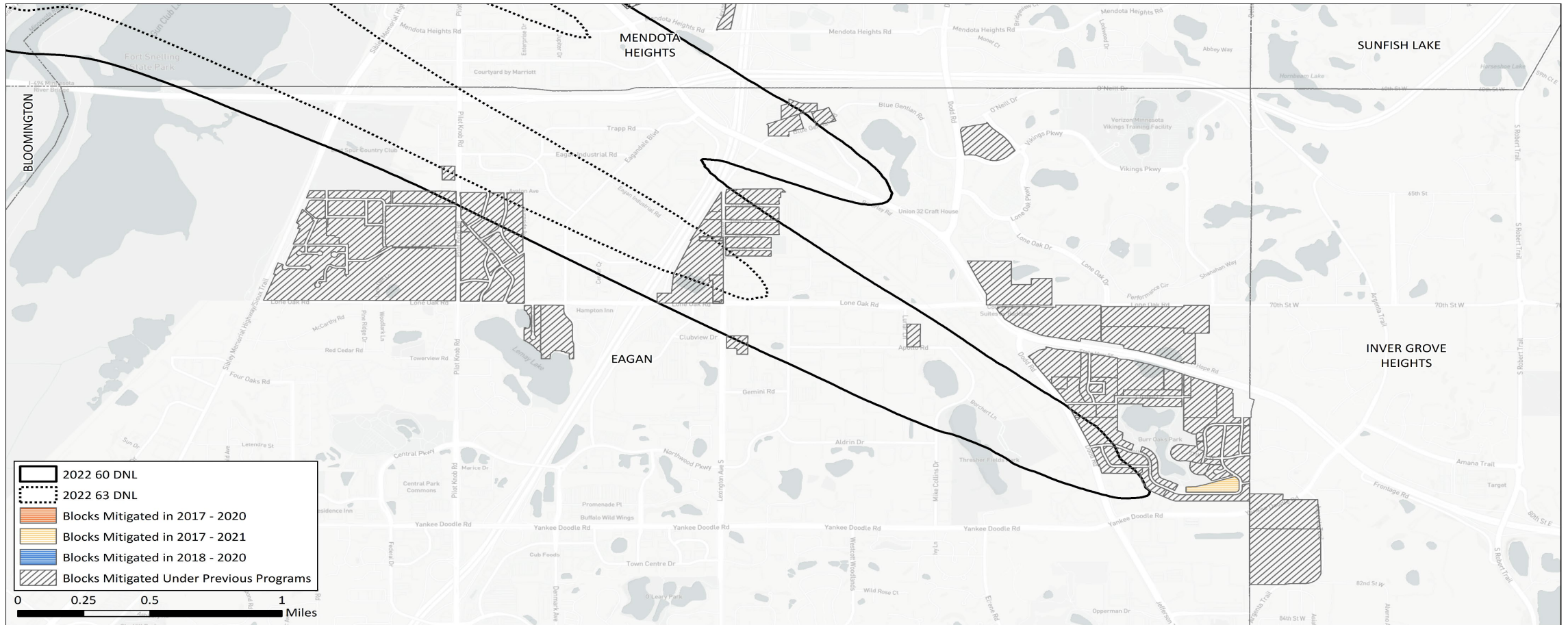


# 2022 Actual Contour





# 2022 Actual Contour



# MAC MSP Mitigation Program History

1992-2006

\$385.6 Million



7,846

Single-Family Homes



1,327

Multi-Family Homes



School Mitigation



Property Acquisition

2007-2014

\$95.1 Million



5,459

Single-Family Homes



1,976

Multi-Family Homes



1,773

Reimbursement  
Single-Family Homes

2017-2024

\$32.6 Million



979

Single-Family Homes



6

Multi-Family Homes

*\*as of Jan 2023*

2025-2032

Eligibility is consistent with the 2017-2024 Program and will be assessed on an annual basis.



For more information visit  
[metroairports.org/do-i-qualify](https://metroairports.org/do-i-qualify)





## Minneapolis-St. Paul International Airport (MSP) 2022 Annual Noise Contour Report

Comparison of the 2022 Actual and the 2007 Forecast Noise Contours  
February 2023

## MSP 2022 Annual Noise Contour Report

- The full report is available at:
  - <https://metroairports.org/msp-annual-noise-contour-analysis-reports>
- Address Eligibility List (2017 – 2021) available at:
  - <https://metroairports.org/do-i-qualify>
- Mitigation Map available at:
  - <https://customers.macnoms.com/mitigation/>

# ITEM 5

## ANNOUNCEMENTS

Spring Listening Session

Wednesday, April 26, 2023 @ 6:00 PM

May NOC Meeting

Wednesday, May 17, 2023 @ 1:30 PM



**NOISE OVERSIGHT COMMITTEE**  
**MARCH 15, 2023**