MSP Airport Long Term Plan Stakeholder Advisory Panel

Meeting #2

August 27, 2019

Meeting Agenda

- Welcome
- Introductions
- Planning Update
- Recap Panel Meeting #1
- Survey Results
- First Public Event – Oct 2, 2019
- Public Comment

Questions or Comments about the MSP Long-Term Plan?

- Contact us via email at MSPAirportLongTermPlan@mspmac.org
- Visit the project website at www.mspairport.com/long-term-plan
- Receive regular updates by signing up for our e-newsletter

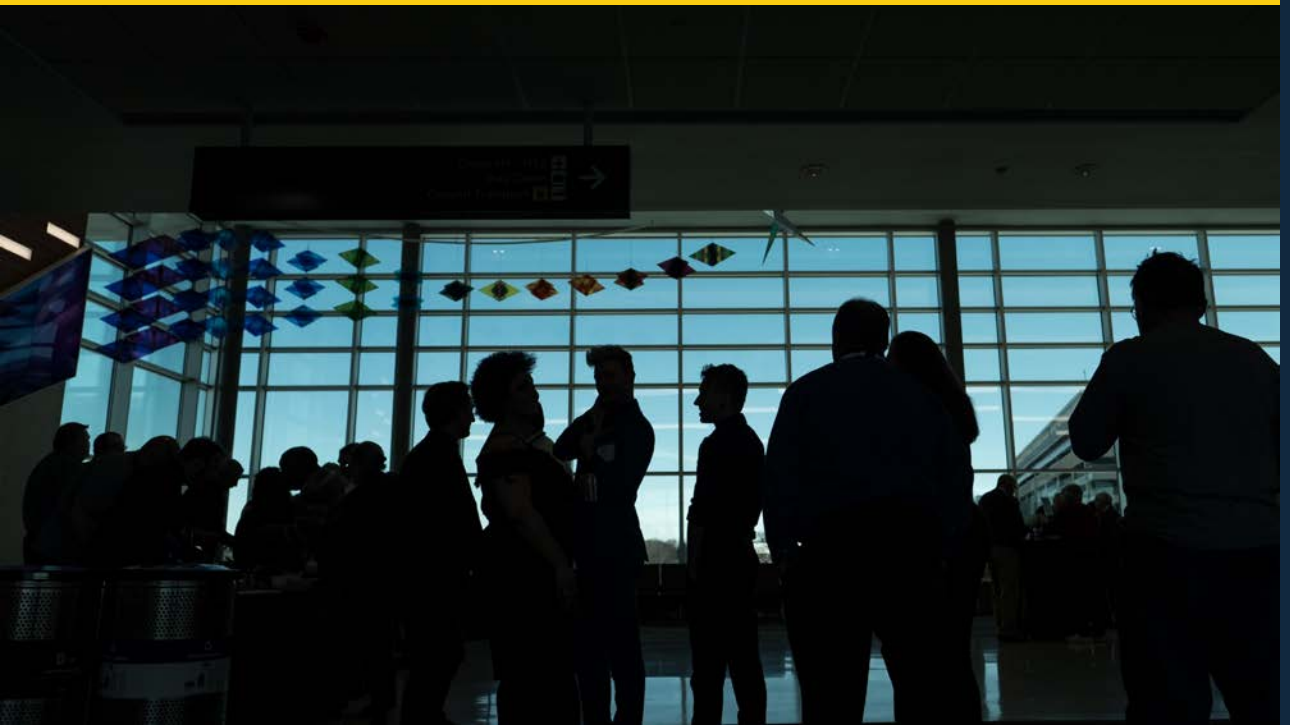
Questions or Comments about the MSP Long-Term Plan?

- 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
- Things 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

Introductions

- Name
- Representation
- In 5 words or less, what do you hope to learn or get out of your participation on the Panel?

Planning Update



Aviation Activity Forecasts

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The forecasts should:

- Be constructed with a level of detail that informs the development of facilities necessary to meet future demand levels, provide high levels of customer service, and maximize economic benefit
- Provide a reasonable range of possible forecast activity outcomes, considering the inherent uncertainty in the forecasting process that enables facility planning promoting operational efficiency and flexibility
- Engage stakeholders to provide insights and input into forecast development, and to review and comment on forecast results

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We are seeking to predict activity levels that will occur naturally over time as our metropolitan area and state continues to grow and prosper

Forecast Elements

Data Collection
Complete

Market Assessment and Factors Affecting Aviation Demand
Complete

Baseline Aviation Activity Forecast Development
Complete

Alternative Demand Scenarios
Complete

Peaking Metrics and Design Day Flight Schedules (Baseline and Scenario)
Currently in Progress

Documentation
Currently in Progress/Ongoing

Forecast Elements (2018-2040)

- Passengers: Originations and Total Enplanements
- Air Cargo Activity
- Total Aircraft Operations

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- Forecast Scenarios – Baseline, High, and Low

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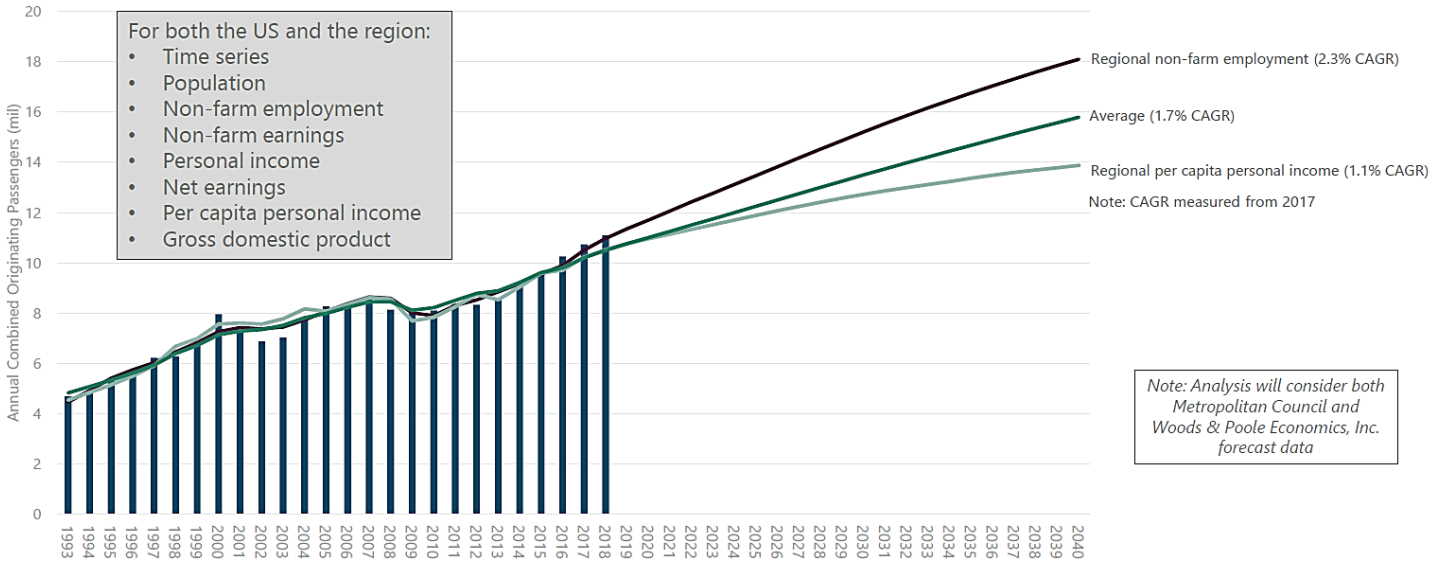
- Forecast Scenarios – Baseline, High, and Low

- Annual projections and Design Day Flight Schedules

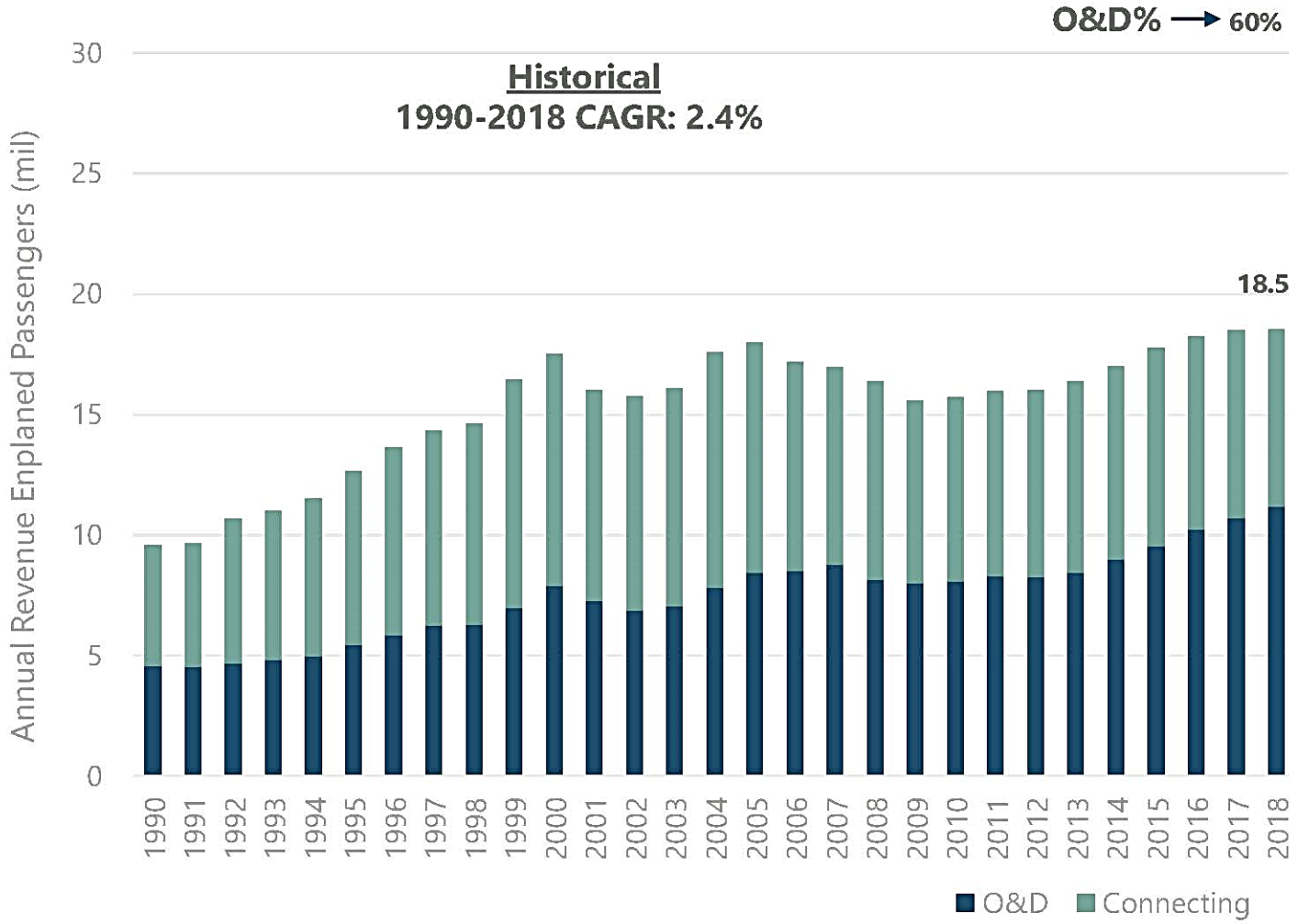
Combined O&D Socioeconomic Drivers Present a Range of Growth at MSP



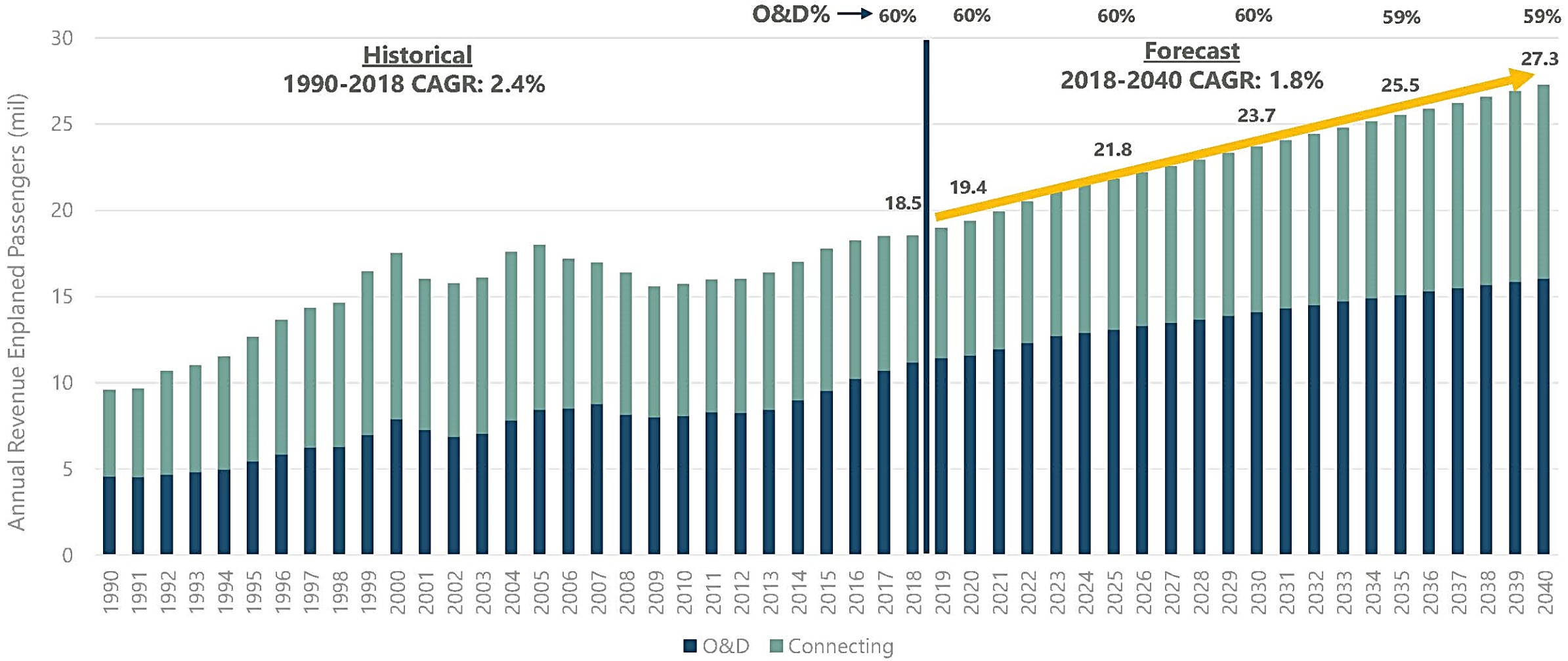
Passenger Forecast Process

- Identified predictive relationships between local/US socioeconomics and historical passenger demand
- Developed consensus forecast (a blend of socioeconomic variable relationships) to project O&D demand
- A similar approach was used for potential connecting demand (non-MSP centric passengers)

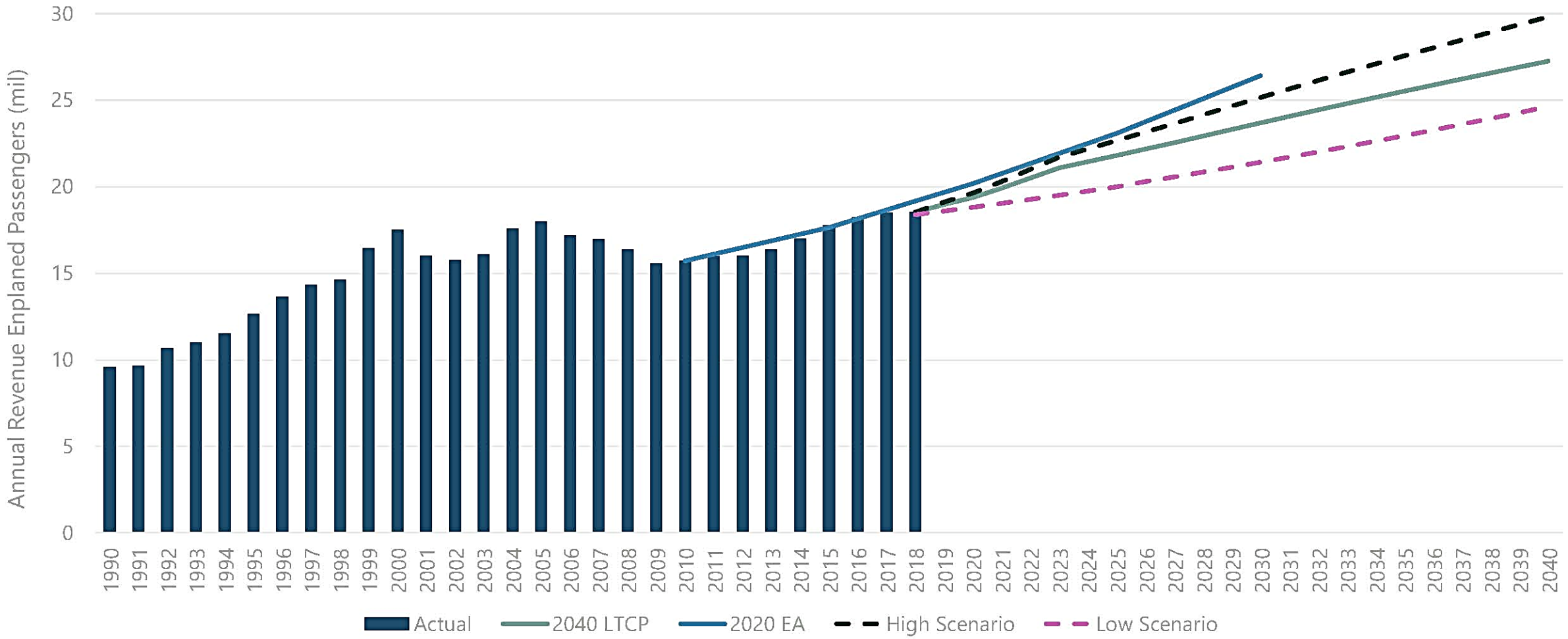
Enplaned Passenger Forecast – O&D vs. Connecting



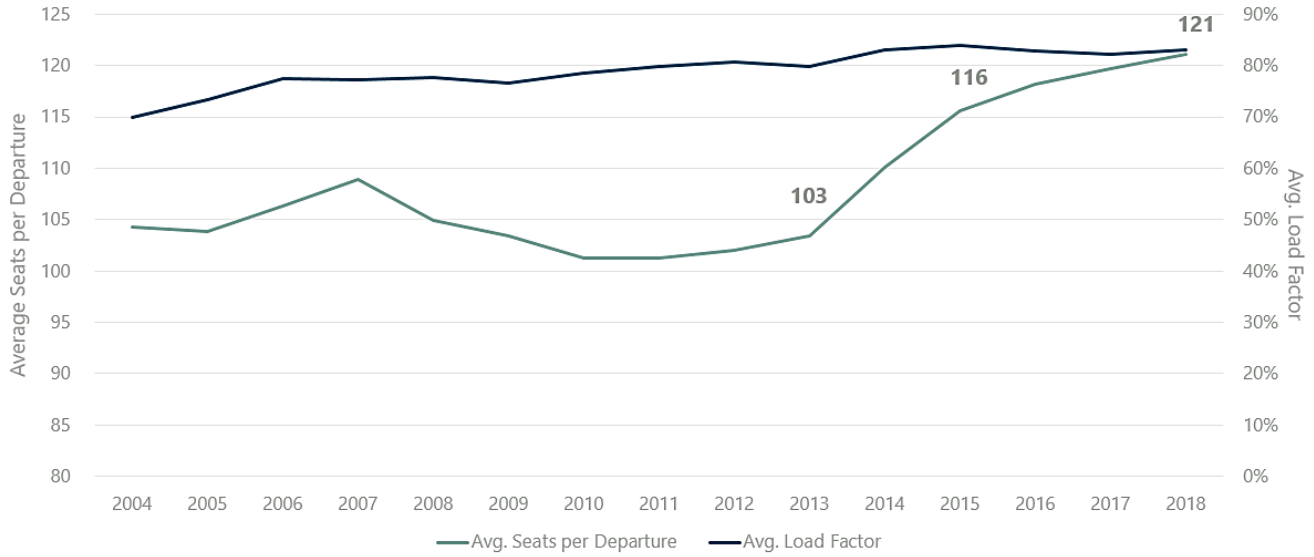
Enplaned Passenger Forecast – O&D vs. Connecting



Enplaned Passengers – Forecast Comparison



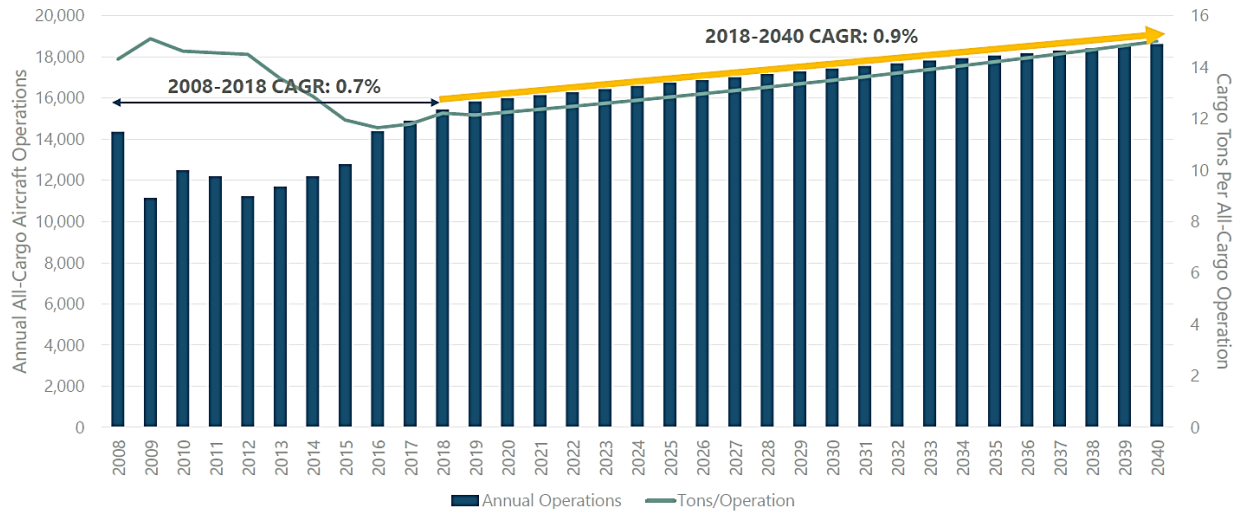
Historical Passenger Growth Has Been Accommodated Primarily Through Larger Aircraft and Higher Load Factors



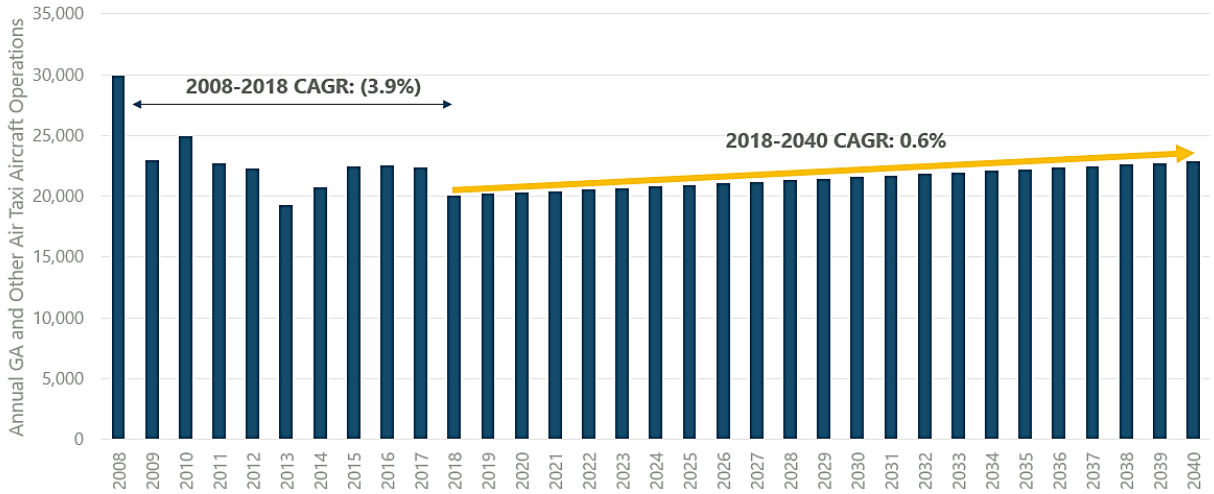
Aircraft Operations Forecast Process

- Passenger growth was accommodated in a combination of ways
  - New flights
  - Larger aircraft
  - Increased load factors

All-Cargo Aircraft Operations



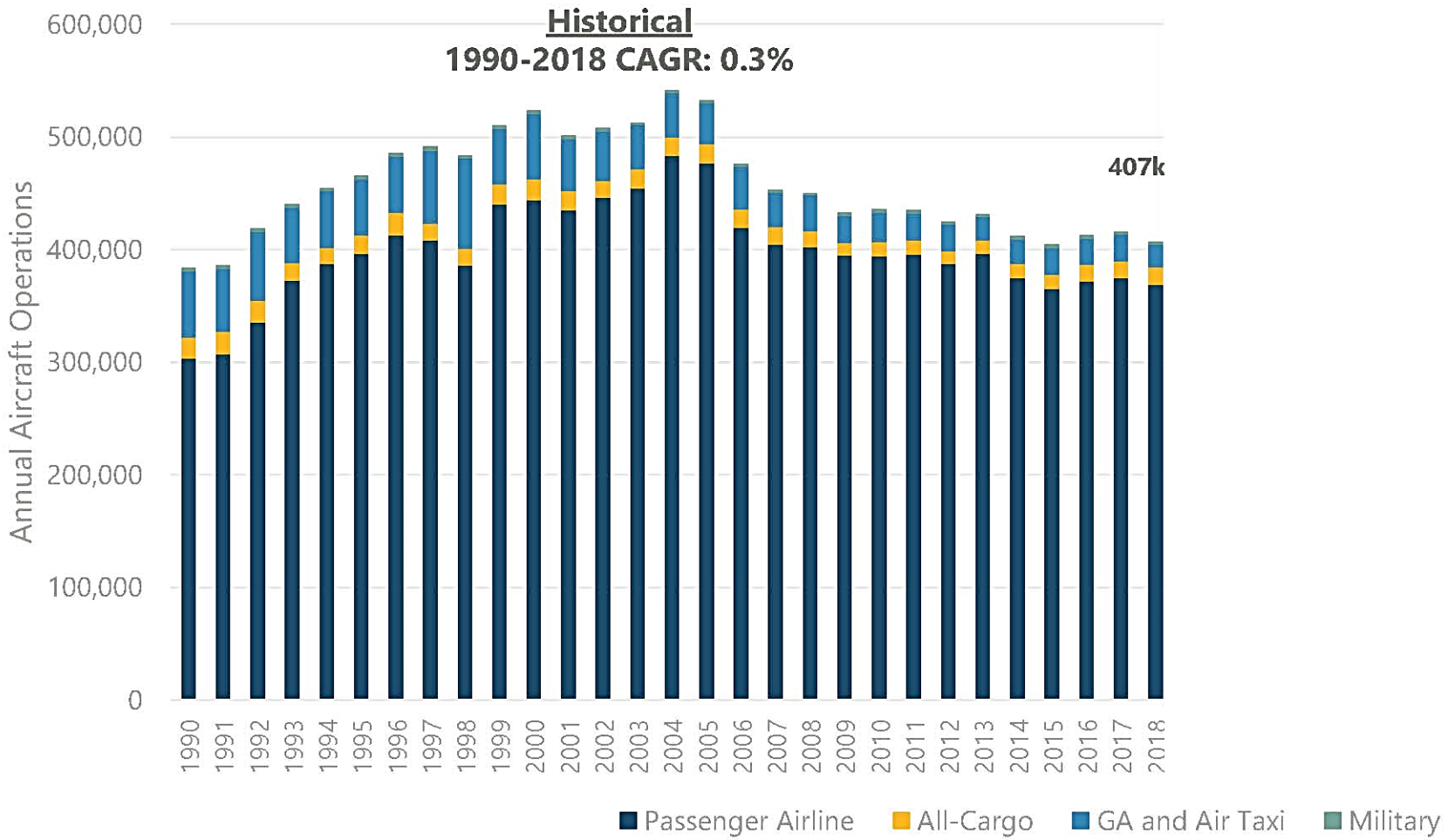
General Aviation and Air Taxi Aircraft Operations



Aircraft Operations Forecast Process

- Cargo tonnage volumes were forecast for all-cargo and passenger airlines, separately.
  - Future tonnage per operation was estimated based on the cargo fleet mix, and was applied to projections of all-cargo aircraft volumes.
- MSP General Aviation and Military activities

Forecast of Total Operations



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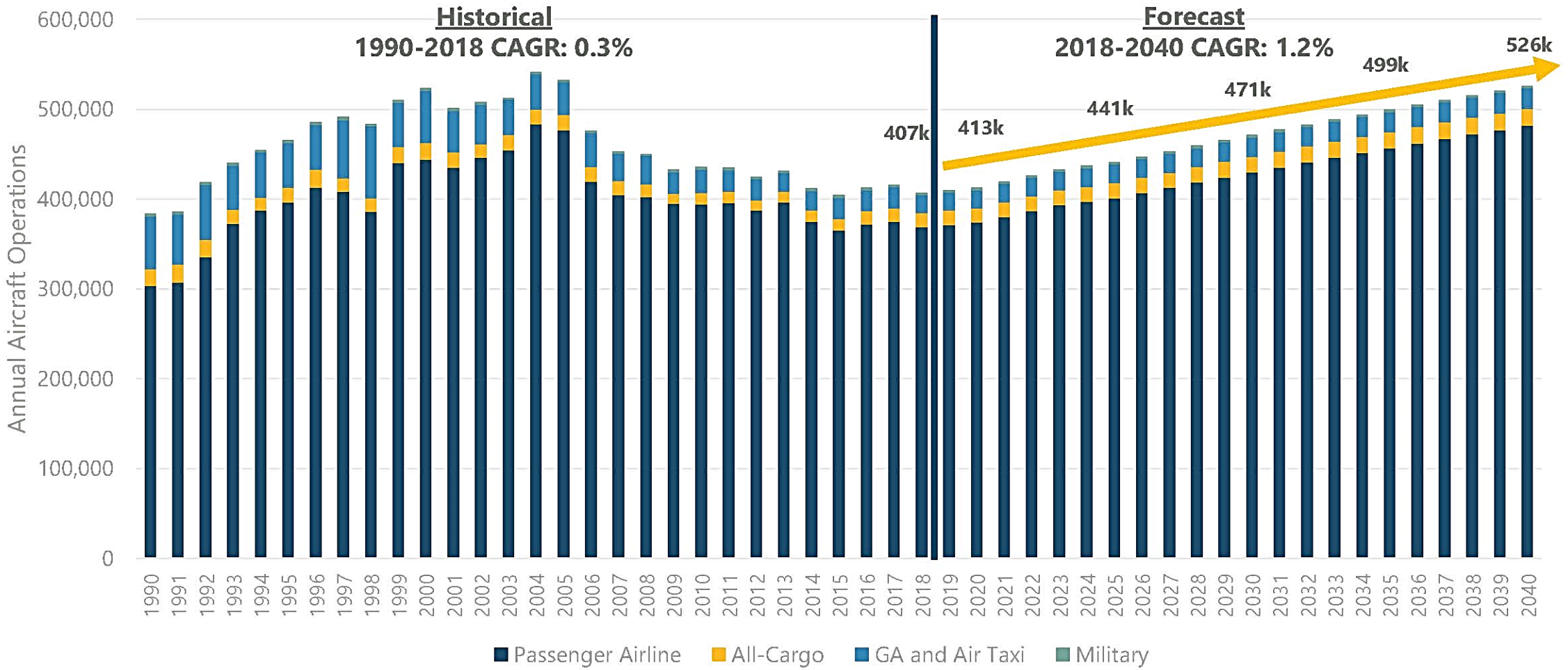
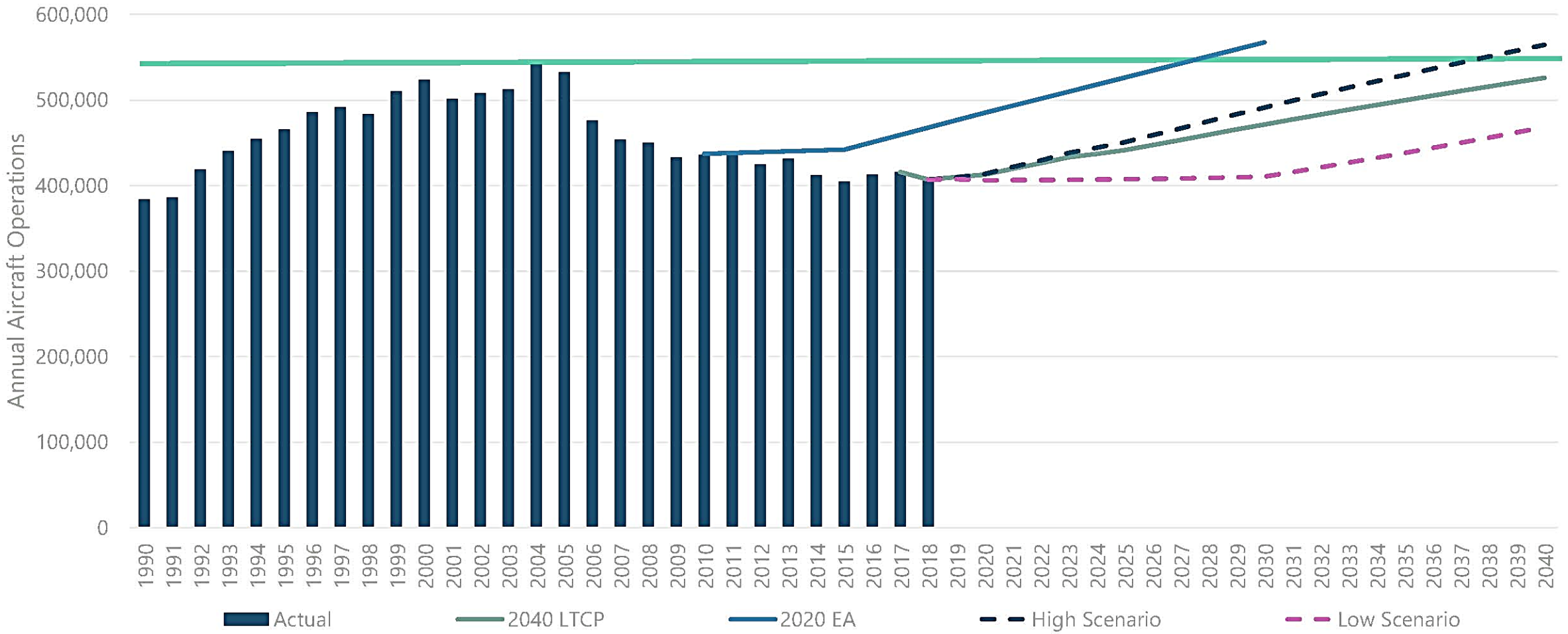
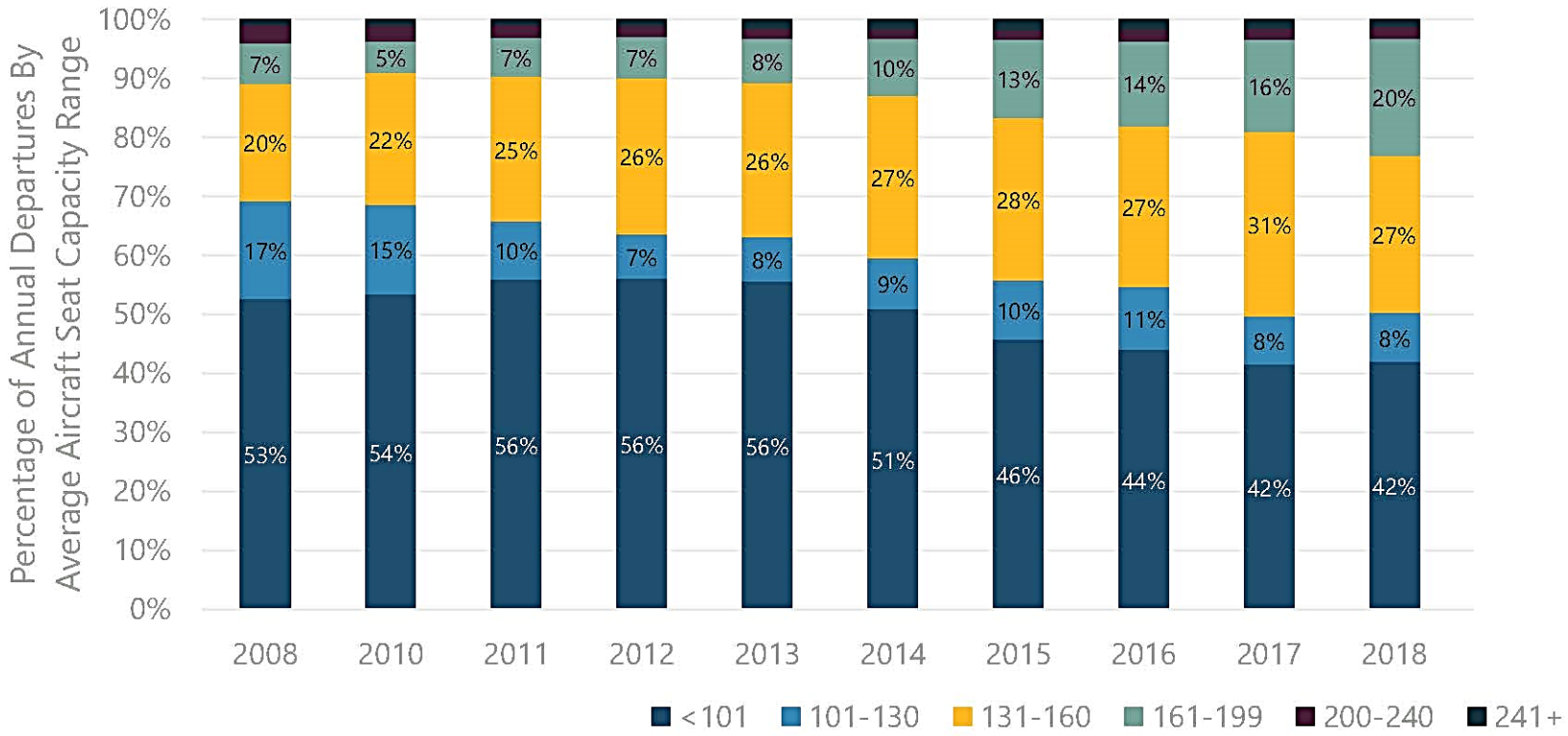


Aircraft Operations – Forecast Comparison



Annual Percentage of Operations by Aircraft Seat Capacity at MSP – All Airlines



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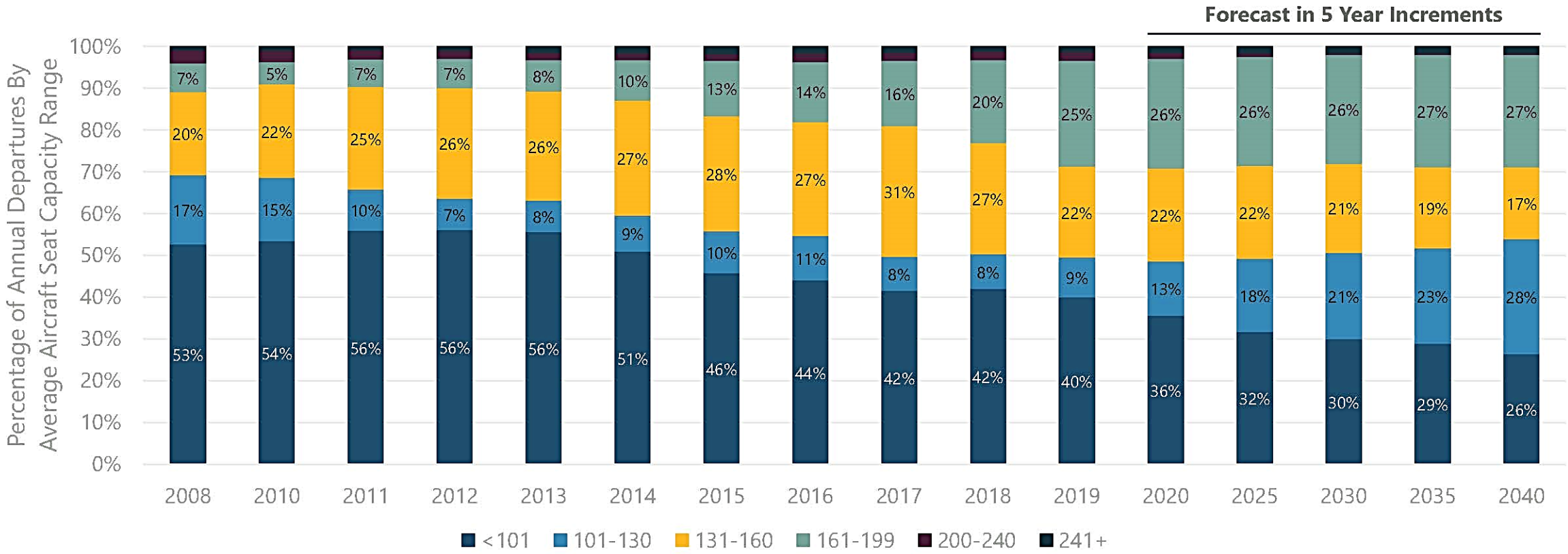
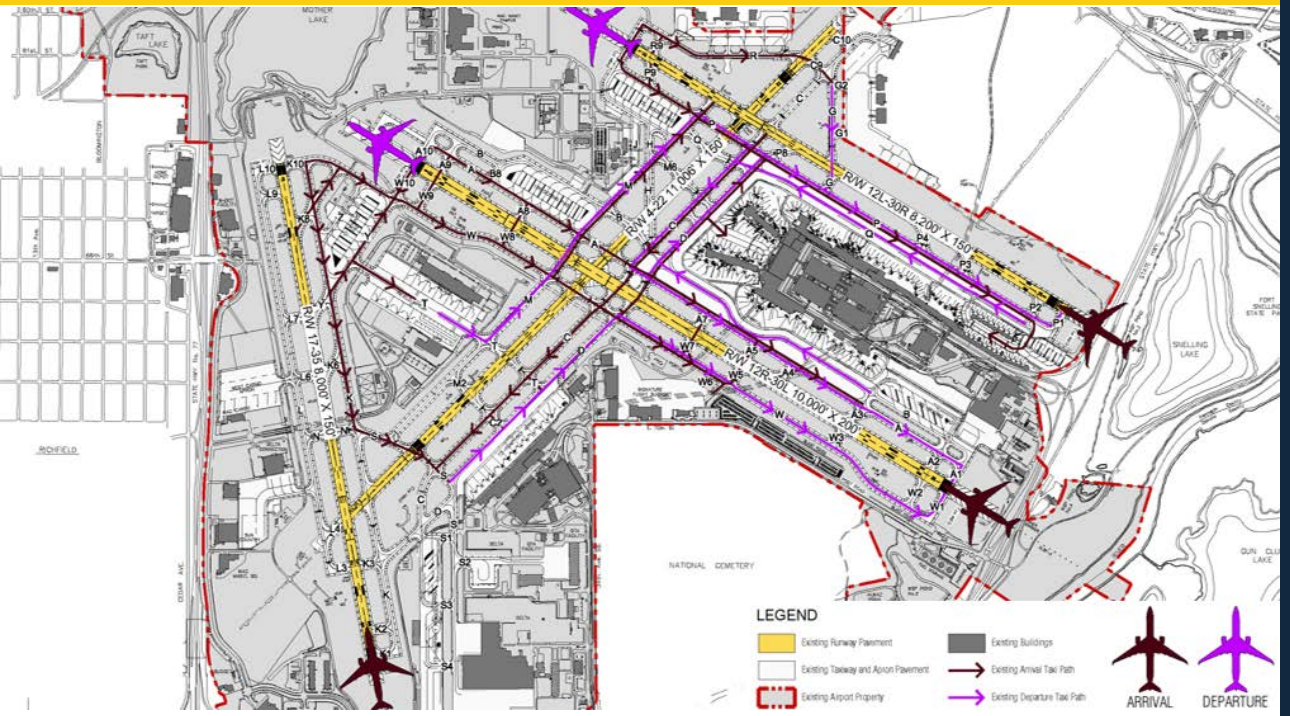


Airfield Capacity Study



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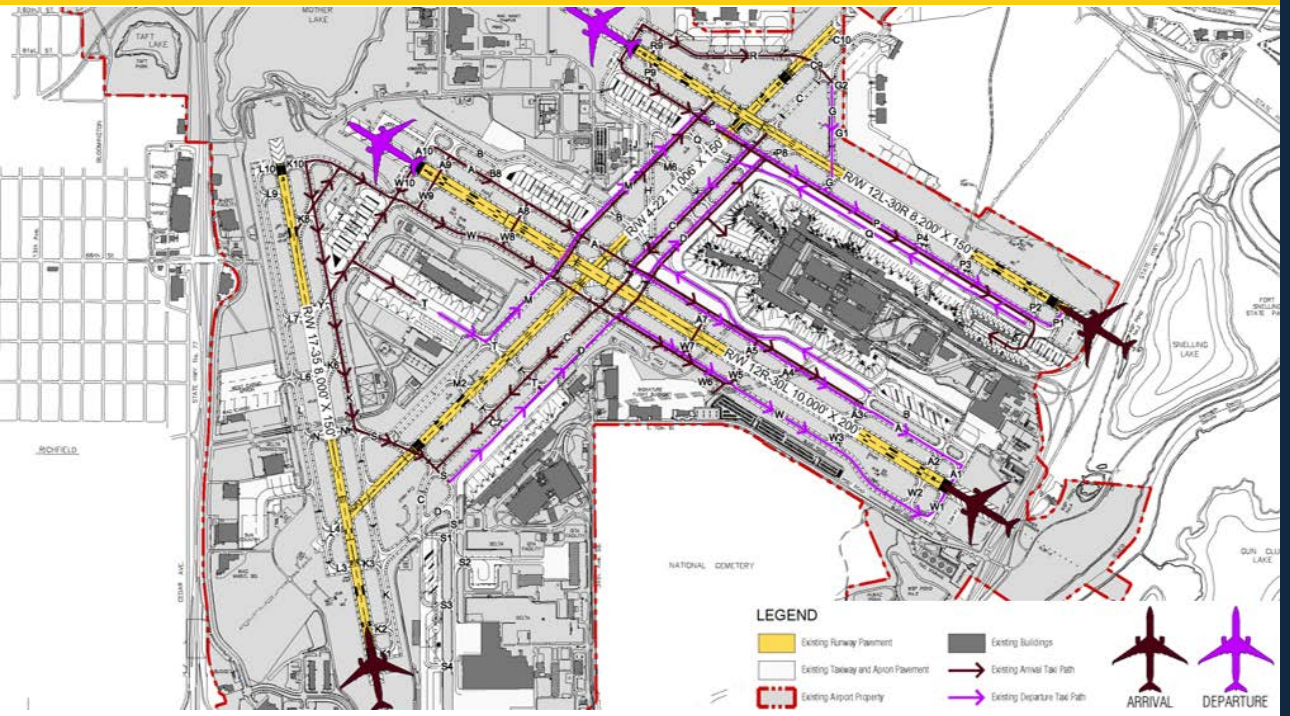

Objective is to use state-of-the-art simulation tools to predict how the MSP airfield and close-in airspace will perform under forecasted aircraft activity levels.

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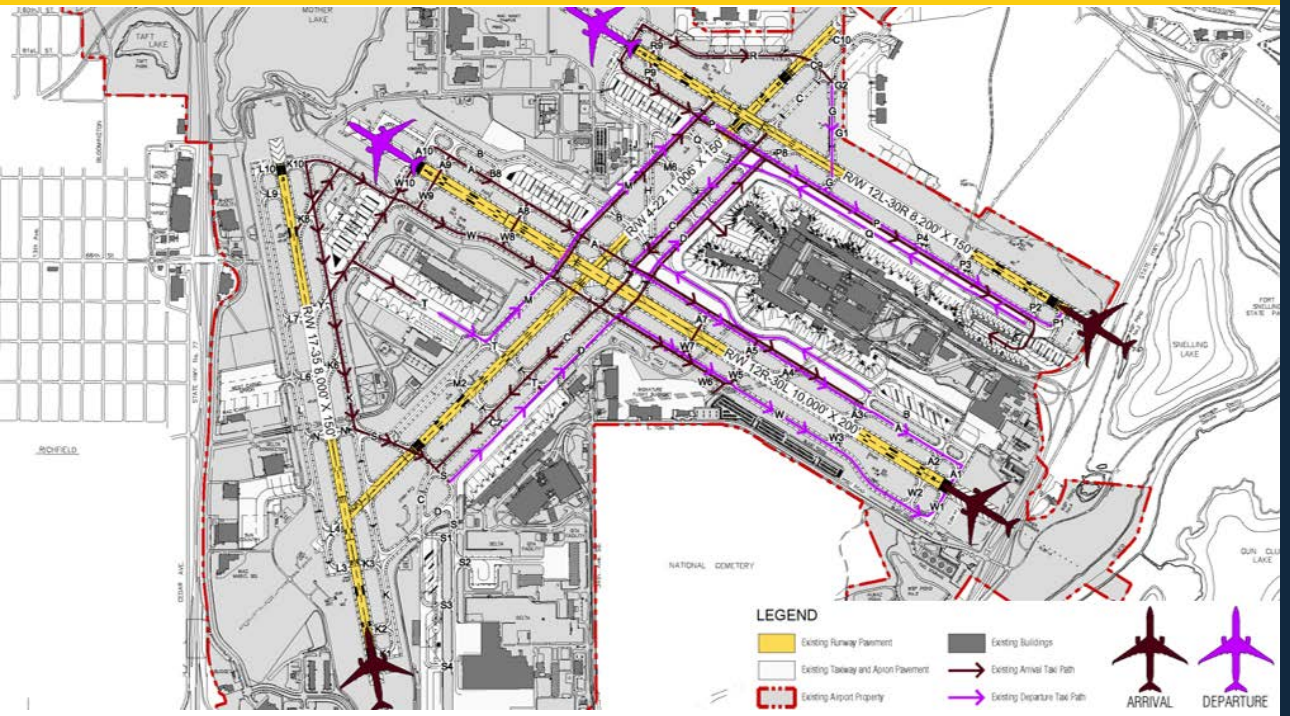
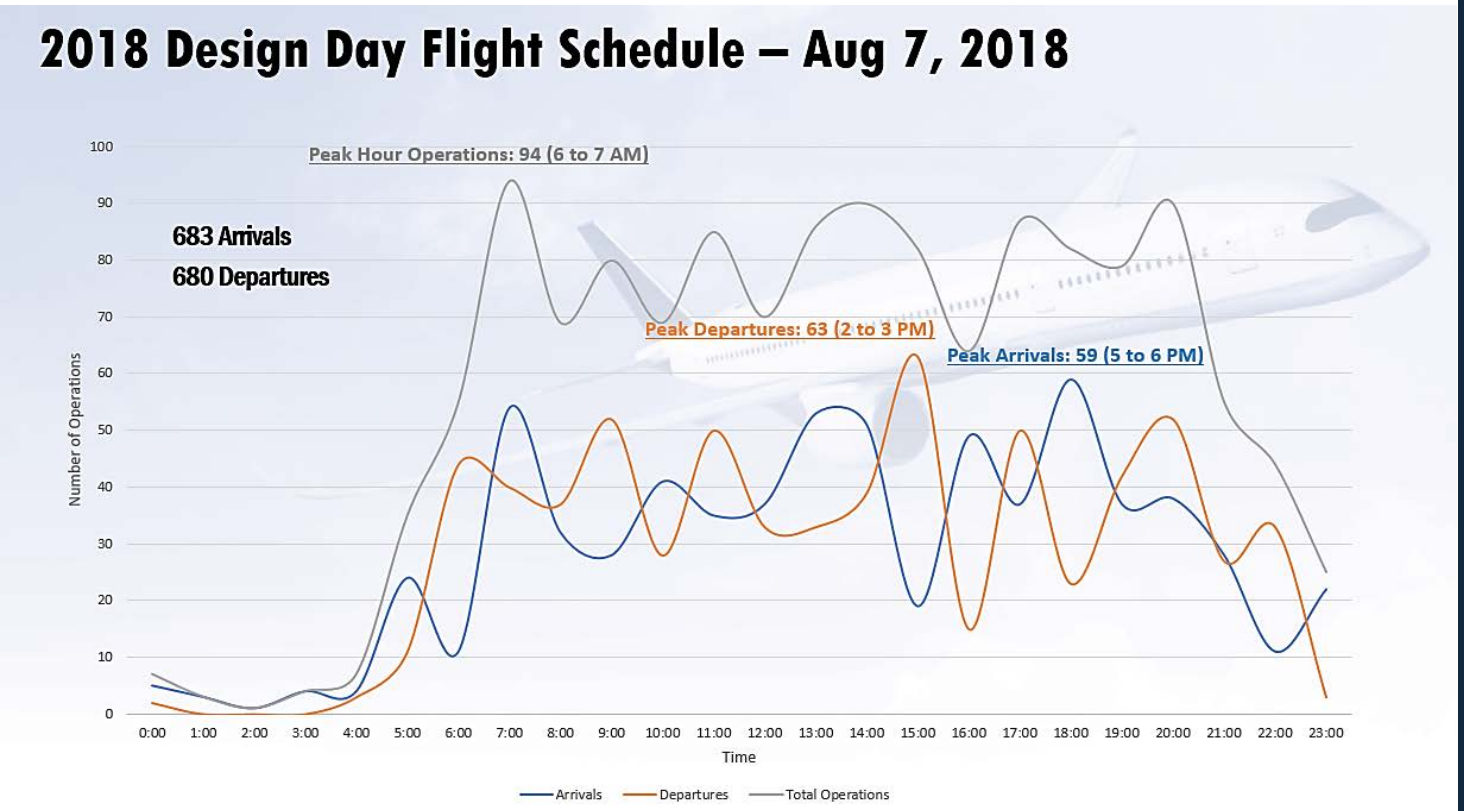


Objective is to use state-of-the-art simulation tools to predict how the MSP airfield and close-in airspace will perform under forecasted aircraft activity levels.

The capacity study should:

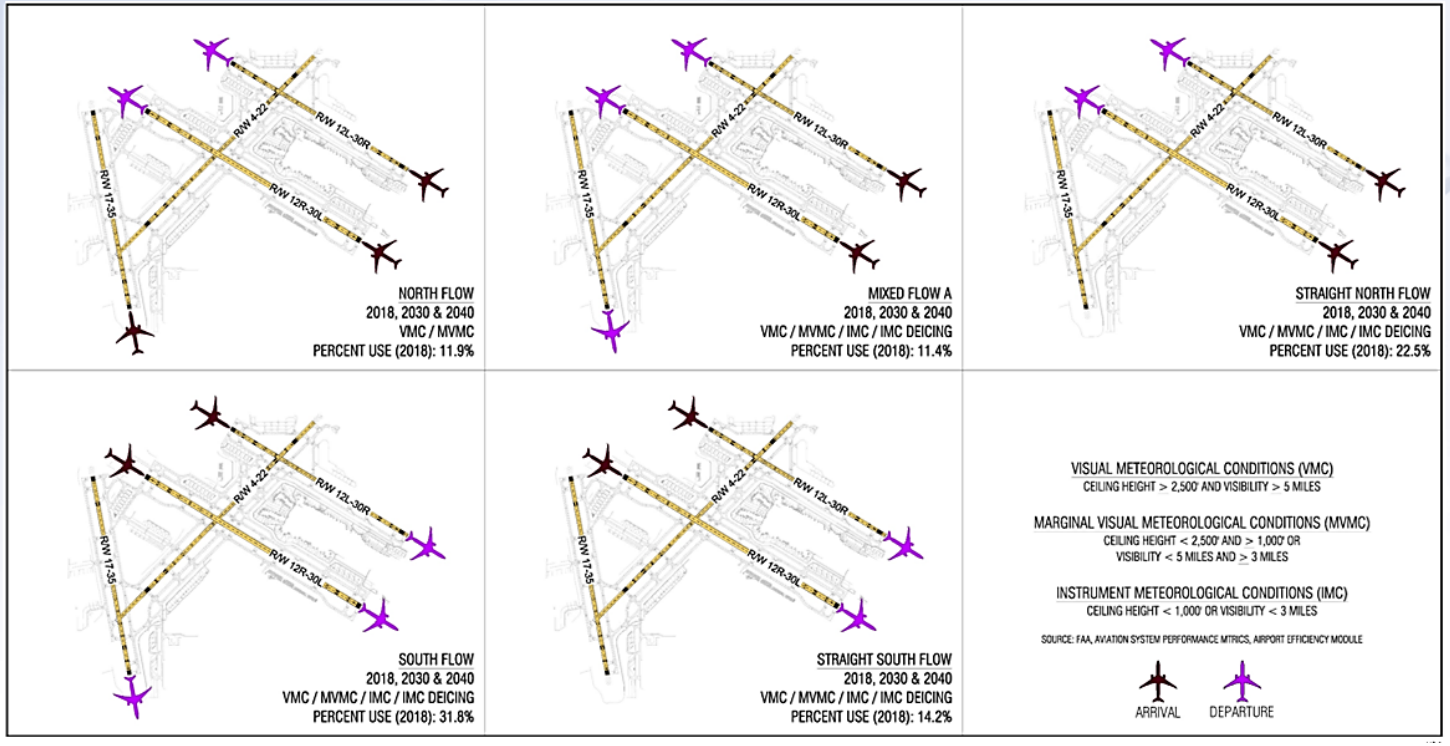
- Develop a well-calibrated baseline simulation that takes into account the present-state airfield and close-in airspace, and represents how actual air traffic at MSP is managed in various runway use configurations and weather conditions.
- Predict how much of the existing airfield's capacity is needed to accommodate existing and forecast future demand levels, and estimate associated levels of delay.
- Develop a flexible simulation model that can be used to test how alternative scenarios affect airfield capacity.
- Promote a better understanding of the relationship between airfield capacity and aircraft delay.
- Provide summary results in a manner that facilitates effective dialogue across stakeholder groups.



Model Inputs

- Peak Month, Average Day Flight Schedule
  - August 7, 2018
  - 683 arrivals, 59 in peak hour
  - 680 departures, 63 in peak hour
  - 1,363 combined operations, 94 in peak hour

Runway Use Configurations to be Modeled

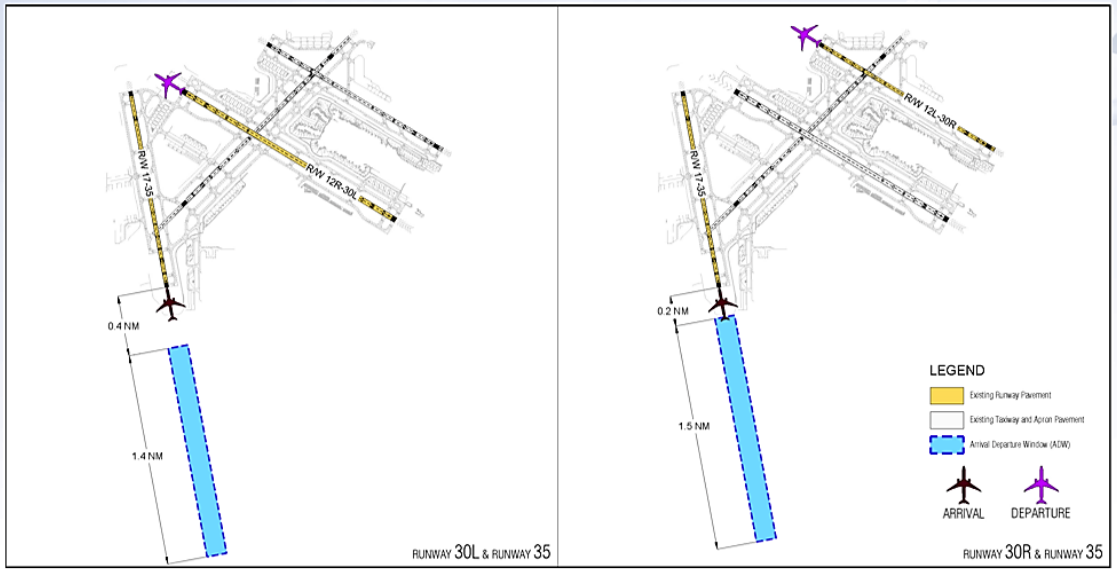


Model Inputs

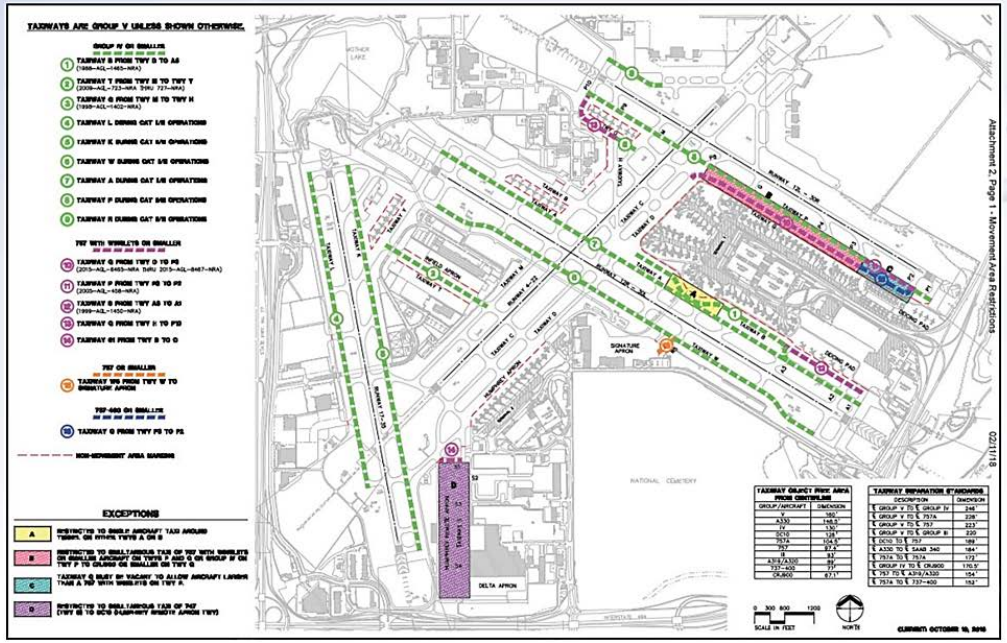
- Runway Use Configurations
  - Modeling the most commonly-used runway configurations representing 92% of total operations
  - Modeling operations in three weather conditions (visual, marginal visual, instrument)

Converging Runway Operation (CRO)

- Criteria for Runways 30L/R and 35 CRO

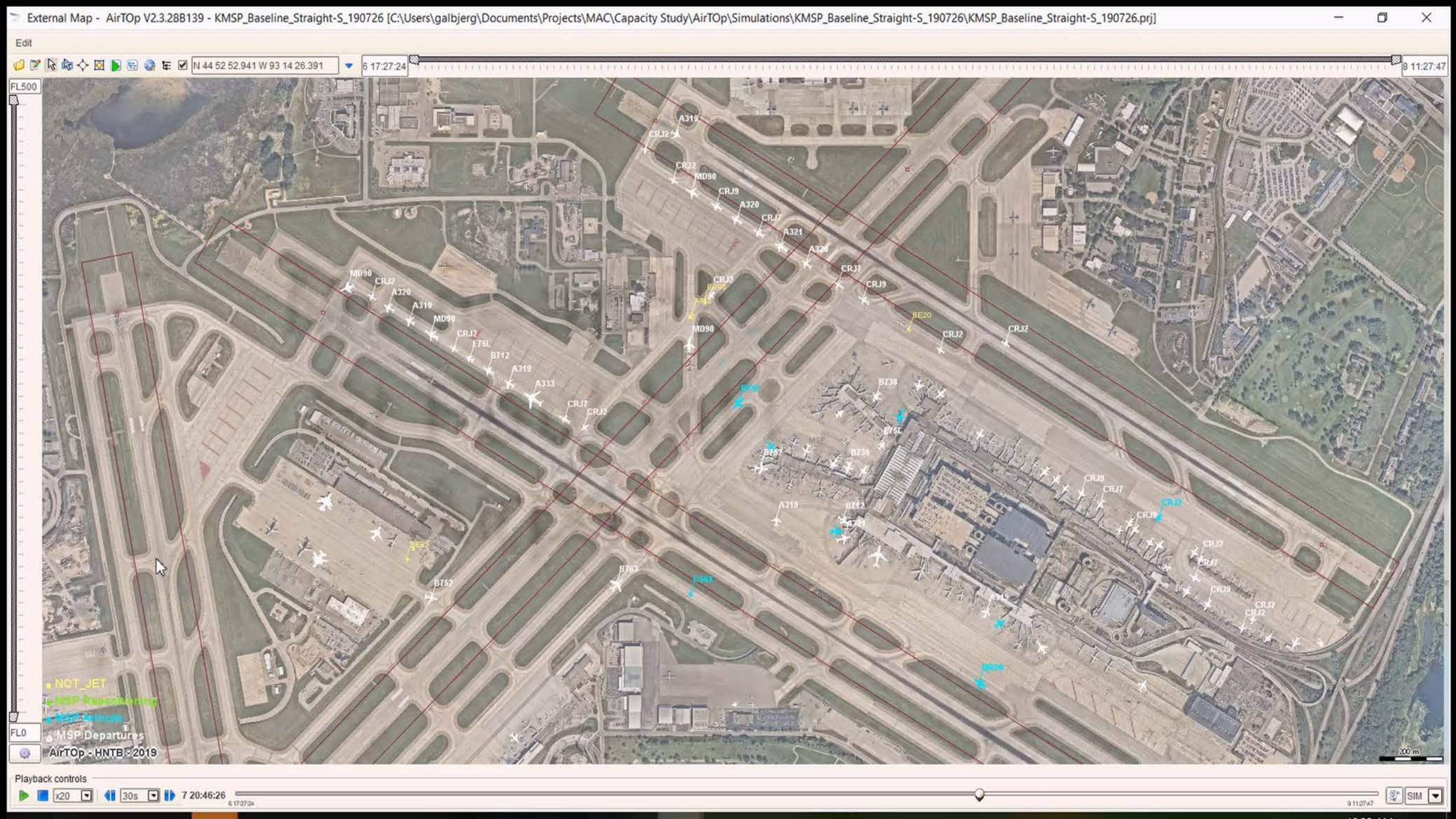


Operational Restrictions



Model Inputs

- Converging Runway Operations (CRO)
- Airfield Operational Restrictions


External Map - AirTOp V2.3.28B139 - KMSP_Baseline_Straight-S_190726 [C:\Users\galbjerg\Documents\Projects\MAC\Capacity Study\AirTOp\Simulations\KMSP_Baseline_Straight-S_190726\KMSP_Baseline_Straight-S_190726.prj]
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MSP Repositioning
MSP Arrivals
MSP Departures
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	North VMC	Mixed A VMC	Straight N VMC	South VMC	Straight S VMC
Arrival Delay (Minutes)					
Taxi Delay					
Runway Crossing Delay					
Inbound Flow Delay					
Average Arrival Delay (Exclude Inbound	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Average Arrival Delay (Include Inbound F	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Undelayed Taxi Time					
Total Arrival Travel Time	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Departure Delay (Minutes)					
Gate Delay					
Runway Crossing Delay					
Taxi Delay					
Runway Queue Delay					
Outbound Flow Delay					
Average Departure Delay (Exclude Outbo	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Average Departure Delay (Include Outbou	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Undelayed Taxi Time					
Total Departure Travel Time	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Average Delay Excluding Flow Delays					
Average Total Delay Per Operation (Minute	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
ADPM Annualization Adjustment Factor					
Annual Percent in Flow					
Representative ADPM Delay (Minutes)	0.0	0.0	0.0	0.0	0.0
Representative Annual Delay (Minutes)	0.0	0.0	0.0	0.0	0.0
Average Delay Including Flow Delays					
Average Total Delay Per Operation (Minutes)	0.0	0.0	0.0	0.0	0.0
ADPM Annualization Adjustment Factor					
Annual Percent in Flow					
Representative ADPM Delay (Minutes)	0.0	0.0	0.0	0.0	0.0
Representative Annual Delay (Minutes)	0.0	0.0	0.0	0.0	0.0

Average ADPM Delay (Minutes / Operation) Excluding Flow Delay	**0.0**
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Average Annual Delay (Minutes / Operation) Excluding Flow Delay	**0.0**
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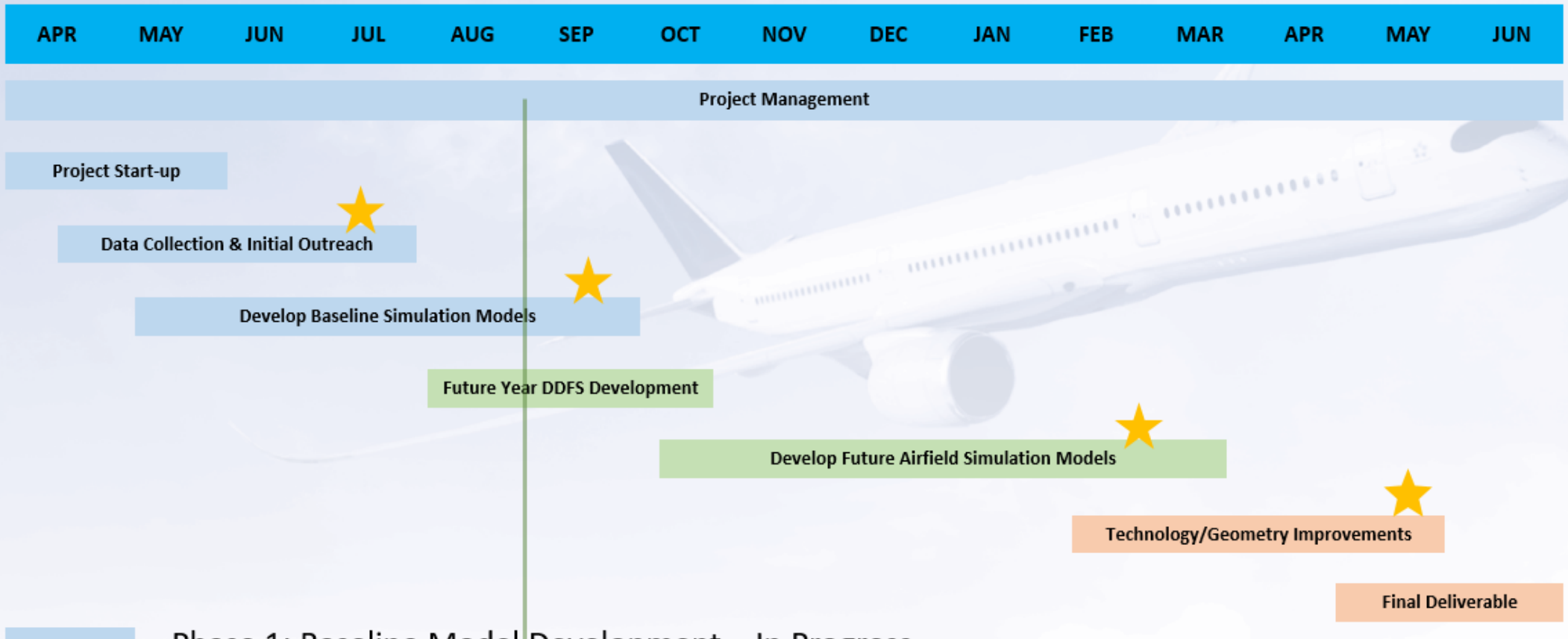
Schedule



Phase 1: Baseline Model Development – In Progress

Phase 2: Future Year Simulations – Not Yet Authorized

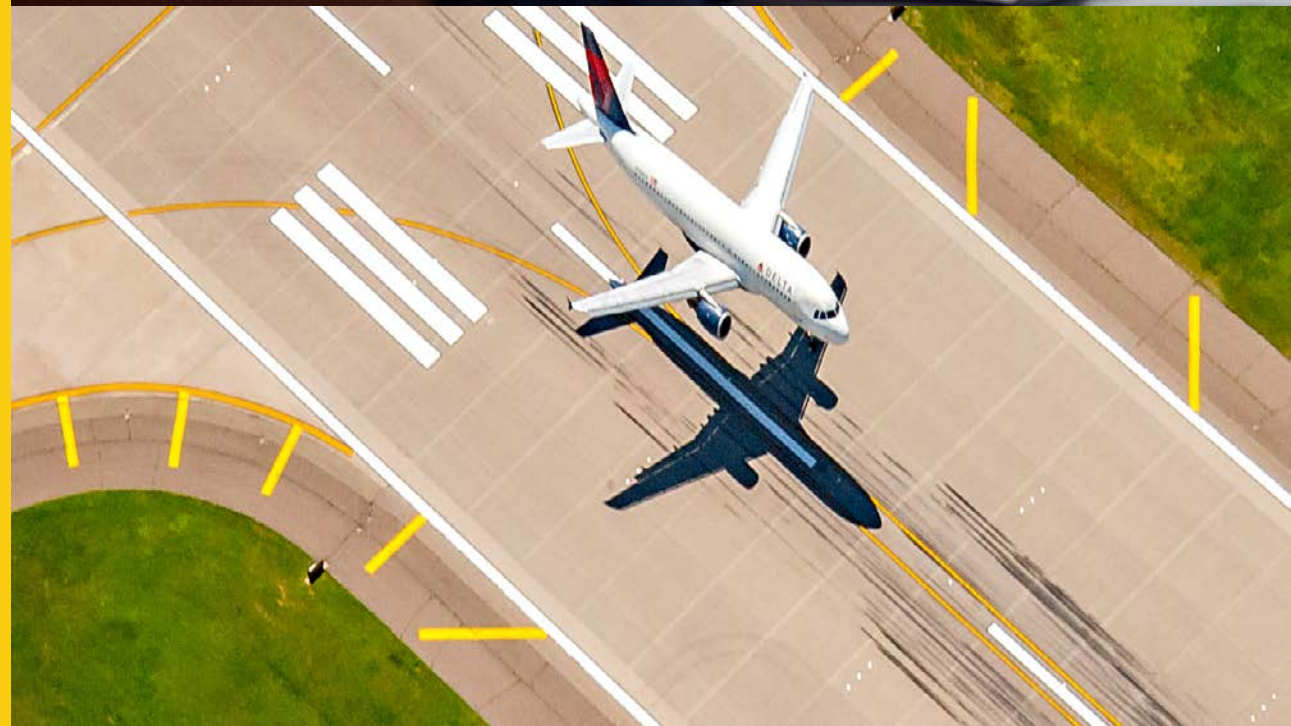
Phase 3: Test Capacity Improvements – Not Yet Authorized

Technical Working Group (TWG) Meeting

Recap Panel Meeting #1

Stakeholder Advisory Panel

- Represents a broad range of stakeholder groups;
- Receives information about the planning process; and
- Communicates public concerns and aspirations as the voice of key stakeholders.



June 10 Kick-Off Meeting

- MSP Airport Tour
- Welcome from Executive Director/CEO, Brian Ryks
- Introductions
- MSP Long-Term Plan process and timeline
- Stakeholder Engagement Program Overview
- Panel Discussion

Panel Insights

- Curbside, Roadways, Public Transit
- Passenger Amenities and Services
- Airport Safety and Security
- Air Cargo Activities
- General Comments/Questions

Traveler Survey Results

- Gather general information about travel habits
- Find out what we're doing well
- Find improvement areas
- Discover innovative opportunities

Polco Survey #1 Results

- Open for 3 weeks beginning July 22, 2019

- Distributed through:
  - MSP Facebook and Twitter post
  - MAC News newsletters
  - MSP News newsletter
  - Airport WiFi Landing Page
  - Long-Term Plan project website

- 269 people participated

What do you appreciate most about MSP?

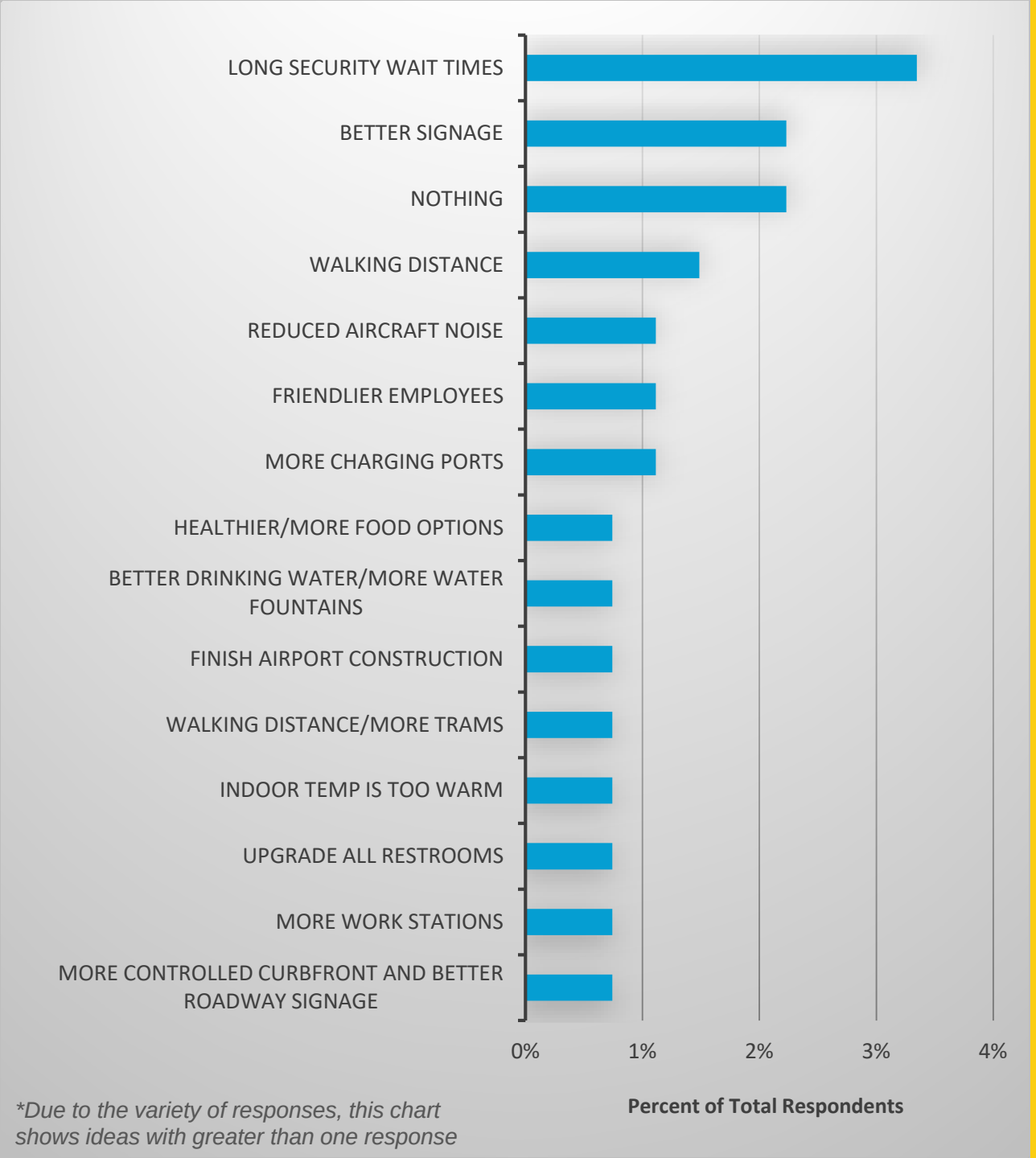
(Select 3)

1. **50%** Variety of flight options, destinations and airplanes
2. **48%** Restaurants and shops
3. **25%** Restrooms
4. **22%** Curbside access (how you get picked-up, dropped-off, park, take public transit, etc.)
5. **17%** Ticketing/Check-in
6. **16%** Environmental Sustainability

What areas of MSP airport could be improved upon?

(Select 3)

1. **28%** Curbside access (how you get picked-up, dropped-off, park, take public transit, etc.)
2. **25%** Baggage claim
3. **23%** Other
4. **22%** Experience at your gate
5. **20%** Ticketing/Check-in
6. **16%** Safety and security



*Due to the variety of responses, this chart shows ideas with greater than one response

What areas of MSP airport could be improved upon?

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What is missing at MSP Airport that other airports have?

Responses were free-form text and spanned across 84 different areas. Here are the top response areas:

1. **9%** Nothing
2. **4%** Healthier/more food options
3. **4%** Sleeping area/Yotel
4. **3%** More efficient curbfront/inbound roadway
5. **3%** Trams/moving walks to reduce walking distances
6. **3%** Shorter security wait times

Experience MSP

Please Join Us!

The public is invited to ‘Experience MSP’ through tastes, interactive booths and knowledgeable resources in a welcoming setting.

The MAC’s first Experience MSP event is the first in a four-part series where the public will receive updates on the Long-Term Plan and be given a platform to ask questions and provide feedback.

Wednesday, October 2, 201 from 4-8 p.m.

Mall of America Executive Center

Public Comment

- Each speaker will have one opportunity to speak and is allotted three (3) minutes.
- If you would like to speak, stand up and state your name and address. If you are affiliated with any organization, please state your affiliation.
- Tonight's comments will not be responded to by MAC staff nor members of the Panel. Rather, they will be recorded as part of the meeting minutes.
- If you are asking a question, the planning staff will respond to those questions and include them in a document published on the Long-Term Plan project website.


Thank you
MetroAirports.org MSPAirport.com
@mspairport