NOISE OVERSIGHT COMMITTEE
MAY 17, 2017

Audio recordings are made of this meeting

NOISE OVERSIGHT COMMITTEE
MAY 17, 2017

Item 1: Review and Approval of March 15, 2017 Meeting Minutes

NOISE OVERSIGHT COMMITTEE
MAY 17, 2017

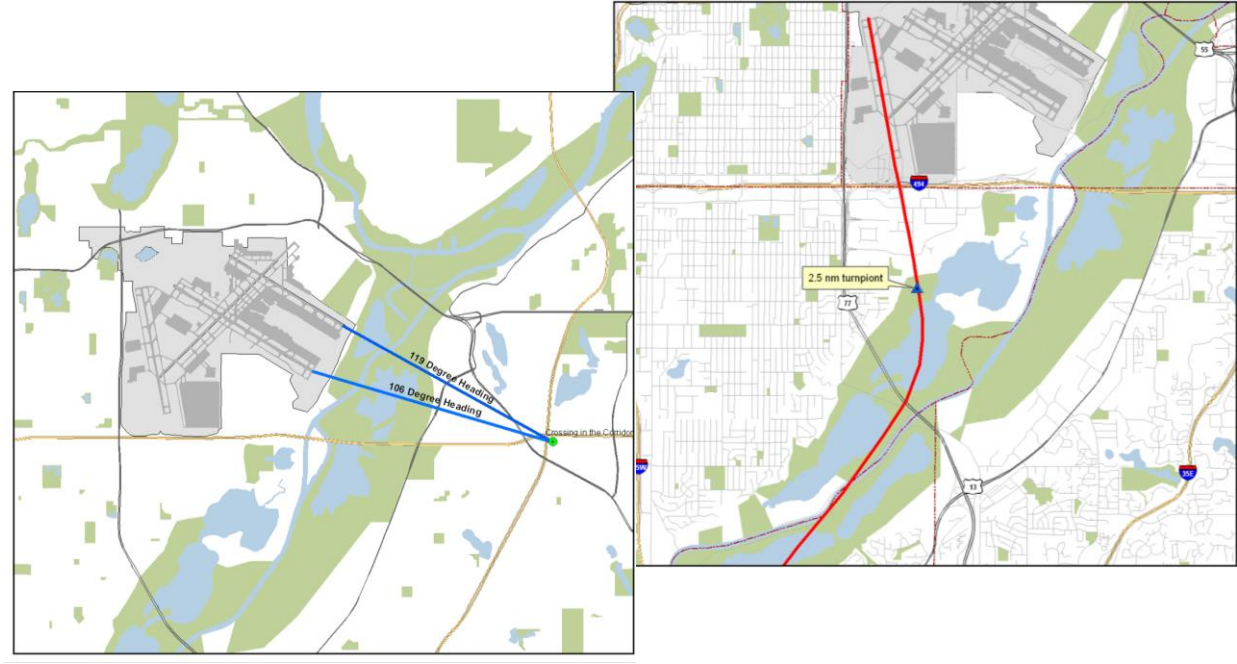
Item 2: MSP Optimized Profile Descent Results

Item 2: MSP Optimized Profile Descent Results

NEXTGEN AT MSP

A NON-TRADITIONAL PATH

- In 2005 request to FAA for MSP to be a test site for Continuous Descent Arrivals – request was denied
- In July 2007 – NOC began investigating evolving navigation technology to reduce noise, identified RNAV as an opportunity
- OPDs viewed as a critical element
- July 2009 – Crossing-in-Corridor and Runway 17 River RNAV Departures submitted to the FAA



Item 2: MSP Optimized Profile Descent Results

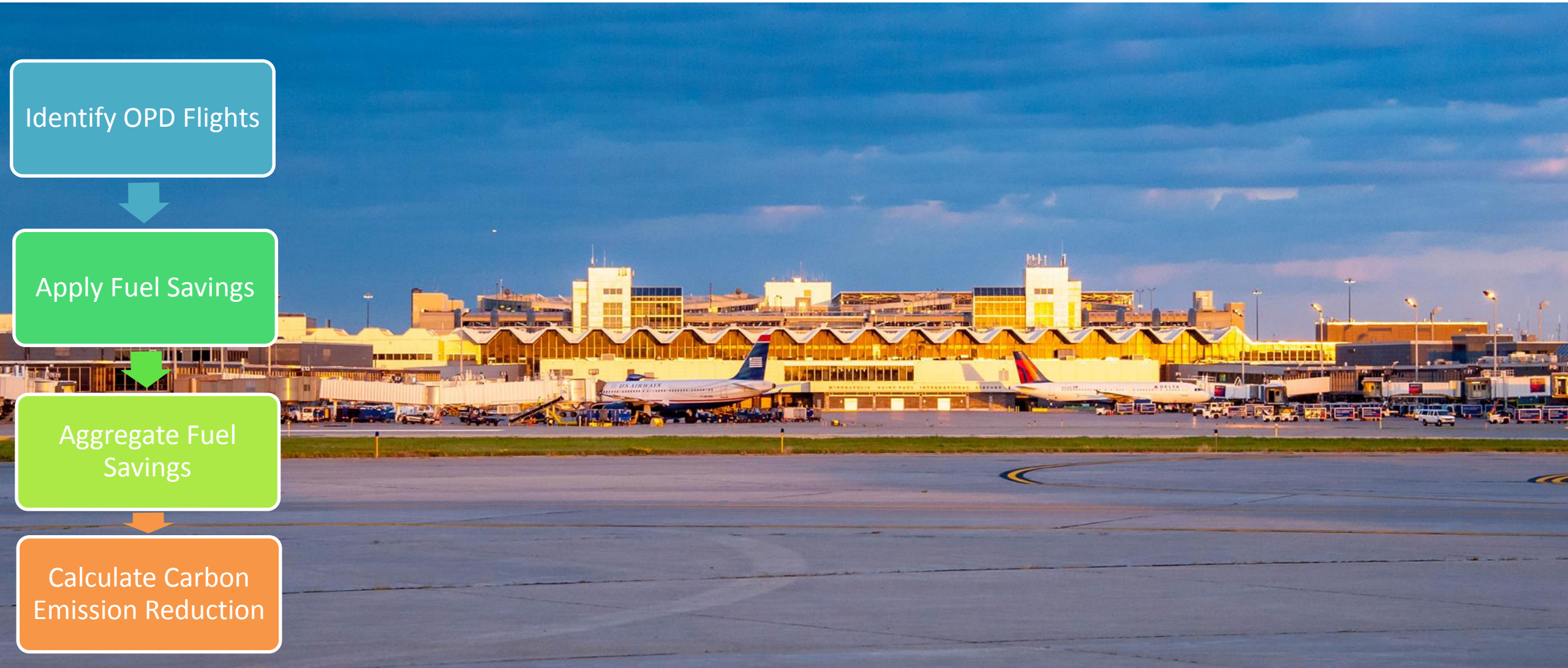
CONSENSUS BY ALL STAKEHOLDERS ON A FUTURE SOLUTION

- Hearing community concerns early on
- Establishing and communicating a framework for future RNAV departure procedure design
  - Resource allocation
  - Early public outreach
  - Holistic public outreach
  - Place local FAA personnel in leadership position to communicate with the airport and community

NOC RESOLUTION 01-2014

- NOC Supports RNAV arrivals with OPDs
- A case study of successful RNAV departure implementation at another airport with similar challenges, particularly, dense population surrounding the airport
- Future RNAV departure designs and implementation incorporates framework for outreach

AIRPORT LEADING THE CHARGE TO QUANTIFY OPD BENEFITS



- Identify OPD Flights
- Apply Fuel Savings
- Aggregate Fuel Savings
- Calculate Carbon Emission Reduction

Item 2: MSP Optimized Profile Descent Results

PARTNERS

Flight Track Data

Airports Planning and Environmental Division

Operational Fuel Data

Airlines

Consultation and Validation

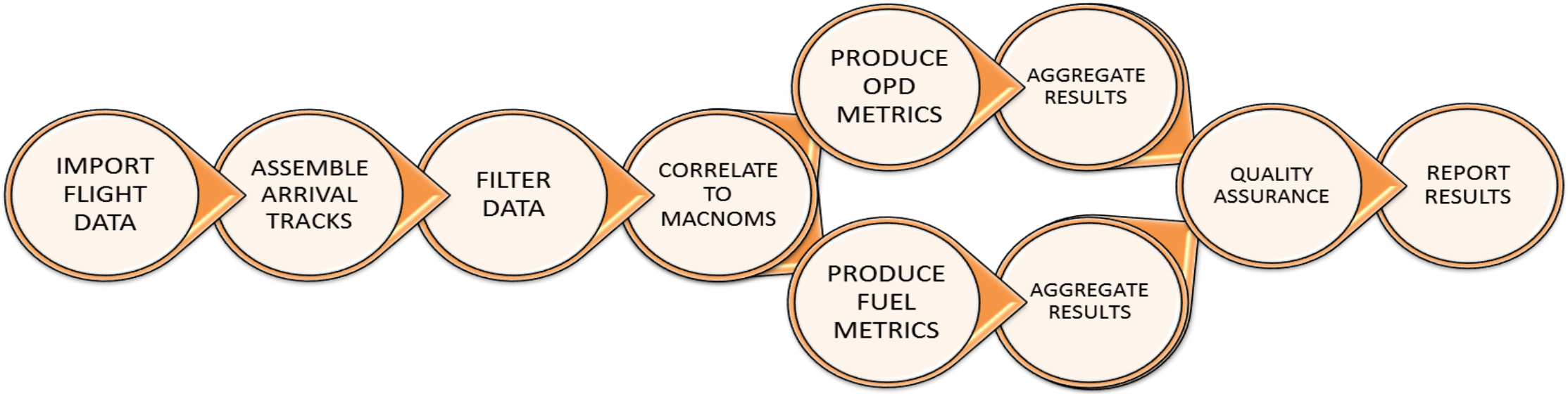
MSP Tower, TRACON and Center

Model Verification

NextGen Systems Analysis and Modeling Office

Item 2: MSP Optimized Profile Descent Results

PROCESS

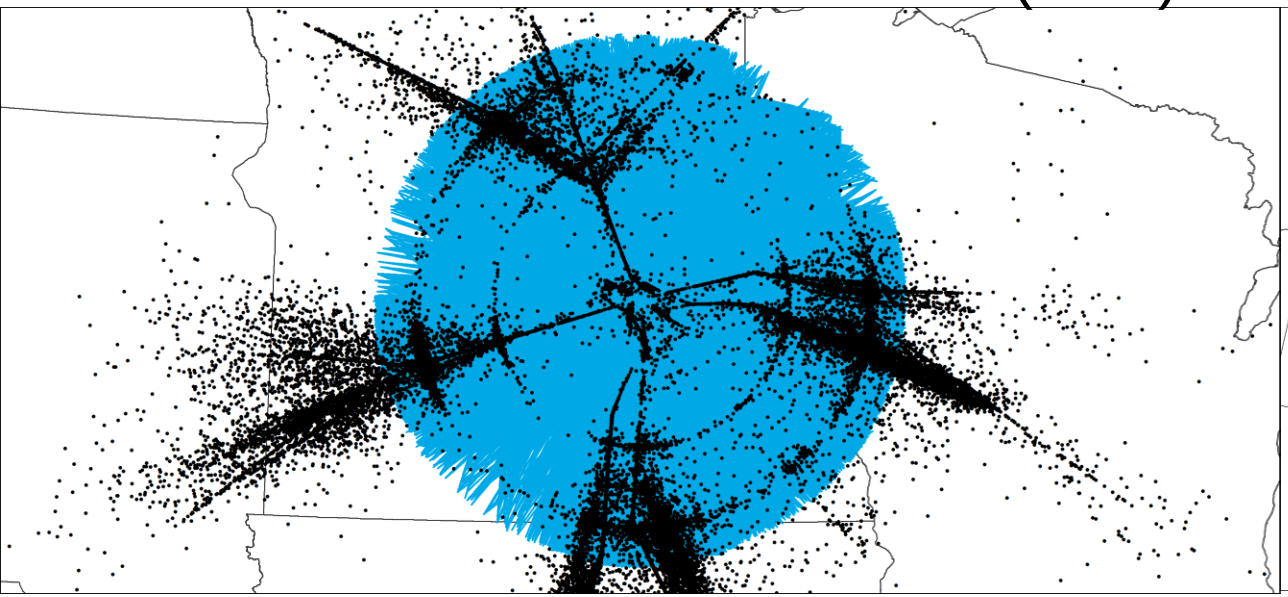


Item 2: MSP Optimized Profile Descent Results

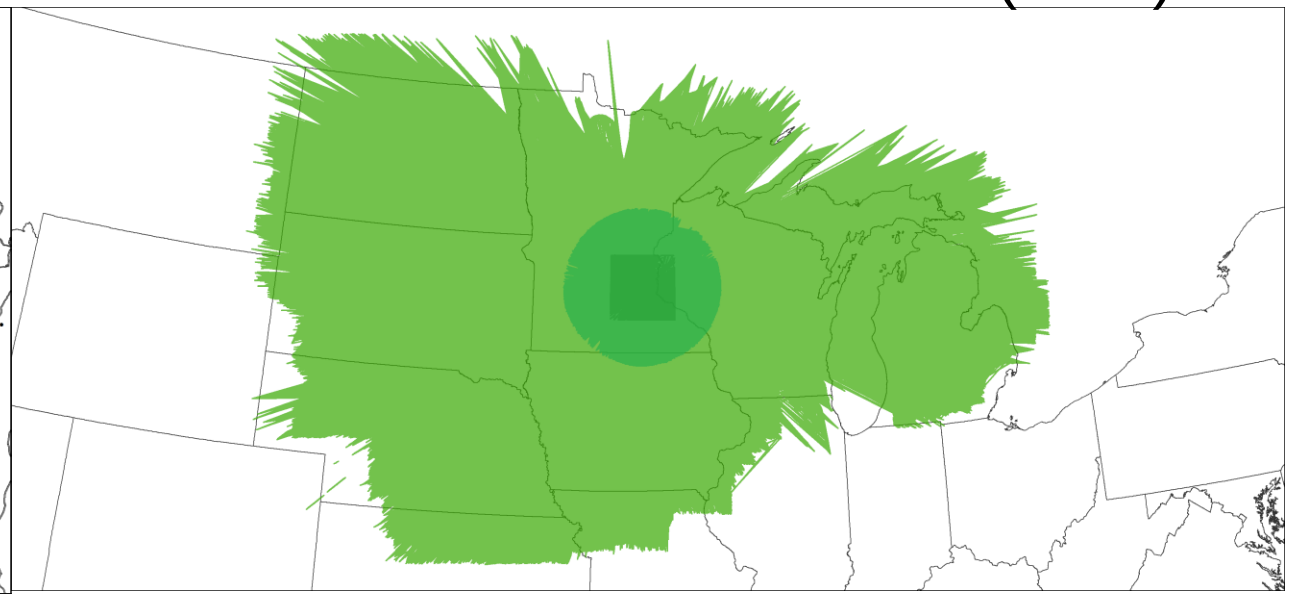
DATA

FLIGHT DATA – MACNOMS

FLIGHT DATA – MSP TRACON (M98)



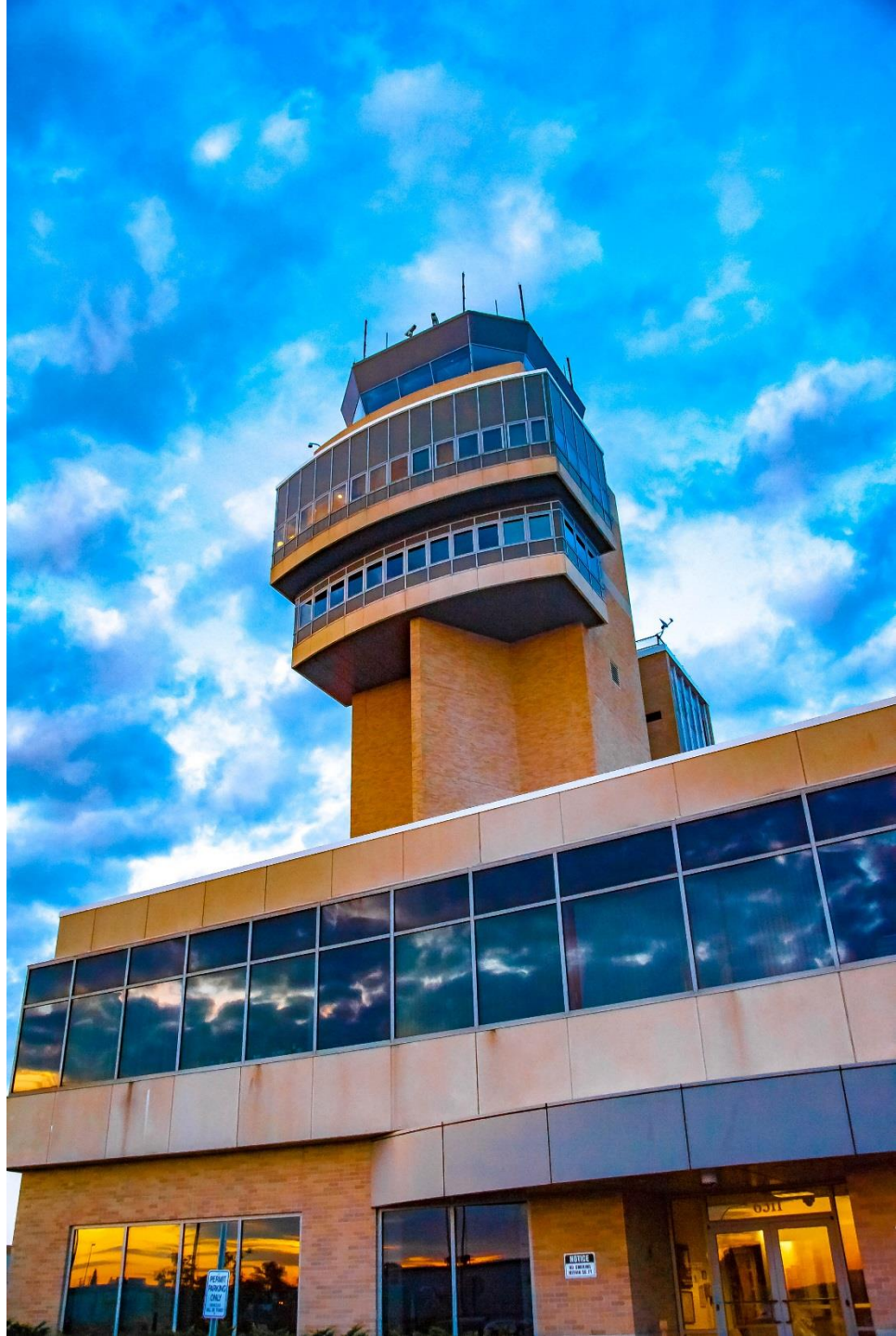
FLIGHT DATA – MSP ARTCC (ZMP)



Item 2: MSP Optimized Profile Descent Results

DATA

- Data from Minneapolis Center used in the OPD Application
  - Data point every 15 seconds
  - Range captures full descent
  - Source data rounds altitudes



APPLICATION OUTPUTS

FLIGHT ATTRIBUTES

- MSP Arrival Date/Time
- Aircraft Type
- Arrival Runway
- Origin Airport
- Airspace Arrival Gate

DESCENT STATISTICS

- Top of Descent 4-D Location
- Descent Distance to 8,000
- Descent Distance to ground
- Percent of Descent in Level Flight

CRUISE STATISTICS

- Ring Intersection Location
- Distance and Time Flown to Ground

FUEL STATISTICS

- Fuel Burn Rate
- Fuel Burn Reduction Value

MINNEAPOLIS SAINT PAUL METROPOLITAN AIRPORTS COMMISSION
MAC

Item 2: MSP Optimized Profile Descent Results

DETERMINING OPD TRAJECTORY

Evaluate aircraft descents between “top of descent” and 8,000 feet - RNAV arrival procedures end before the final approach segment of the descent

OPD

- Less than 10% of descent is level flight
- This determination was developed with validation of individual observations and collaboration with FAA controllers

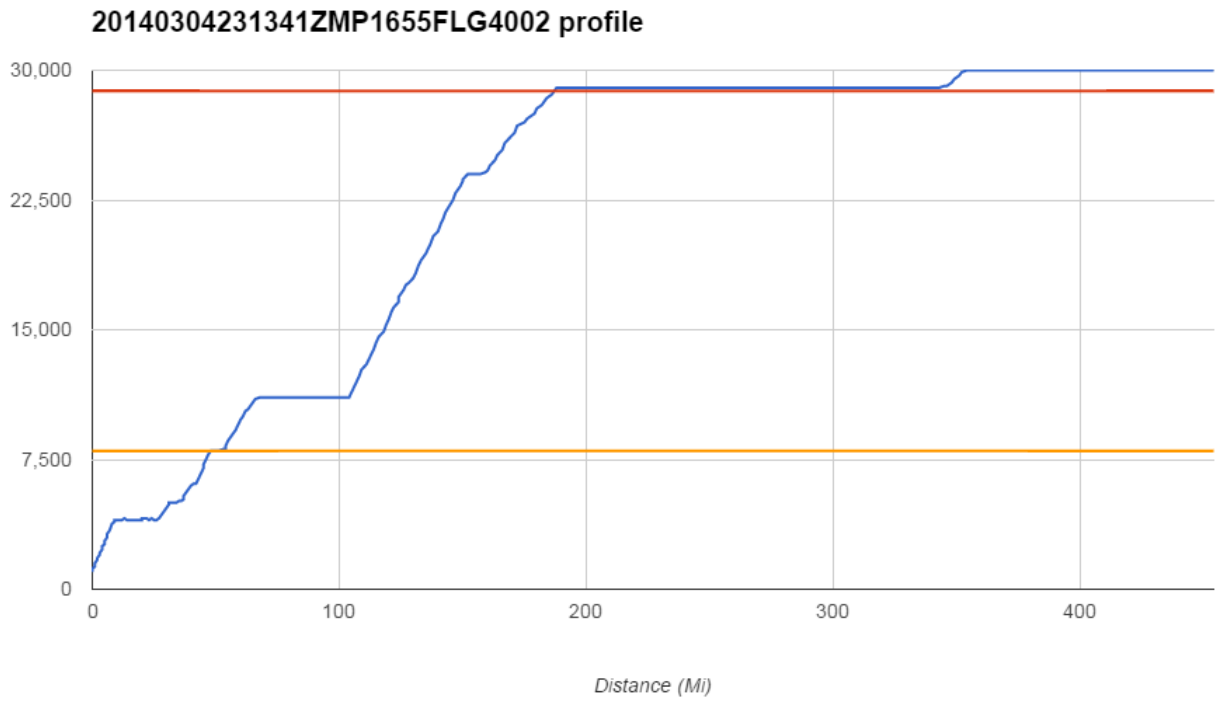
NON-OPD

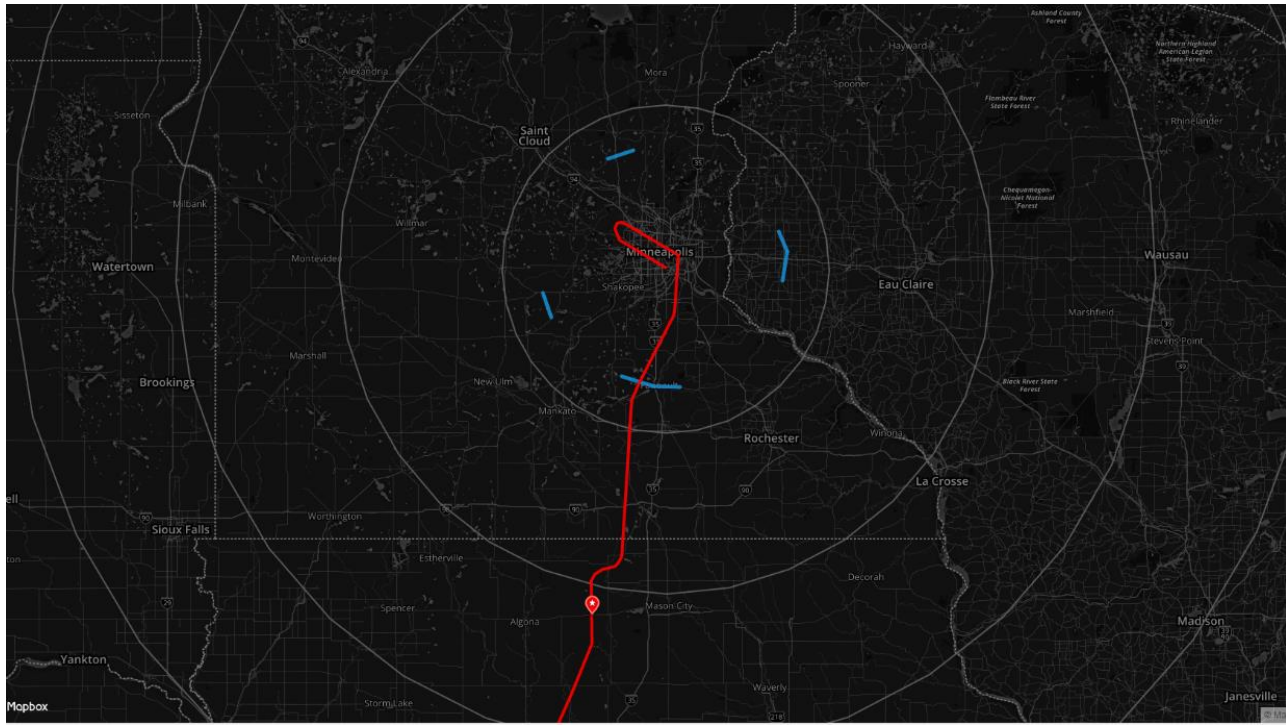
- 10% or more of descent is level flight
- Non-Jet Aircraft
- Flights that never reached 12,000 feet

Item 2: MSP Optimized Profile Descent Results

FLG 4002

Aircraft Type: CRJ-200
Arrival Time: 2014-03-04 17:13
Origin Airport: XNA – Northwest Arkansas Regional Airport
Arrival Runway: 12L
Arrival Airspace Gate: NITZR
Top of Descent Altitude: 28,800 feet
Descent Distance: 163 nm
Percent Level: 31%
Ring Stats: 50 nm time = 27.2 minutes
100 nm time = 36.4 minutes

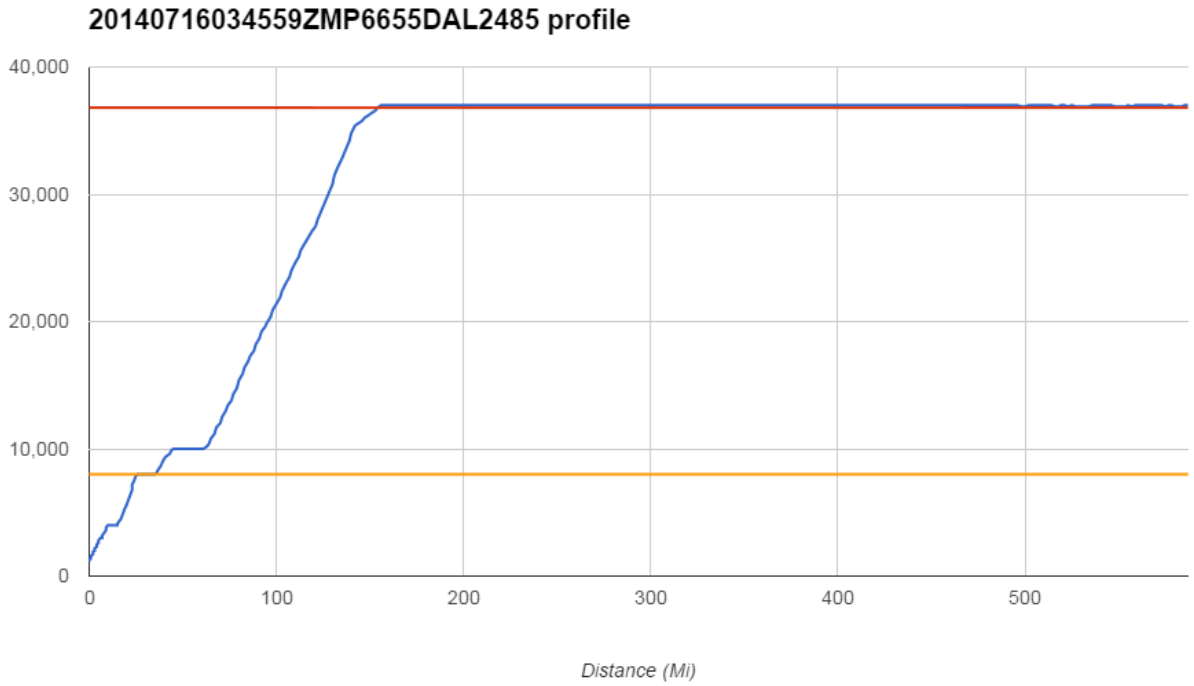


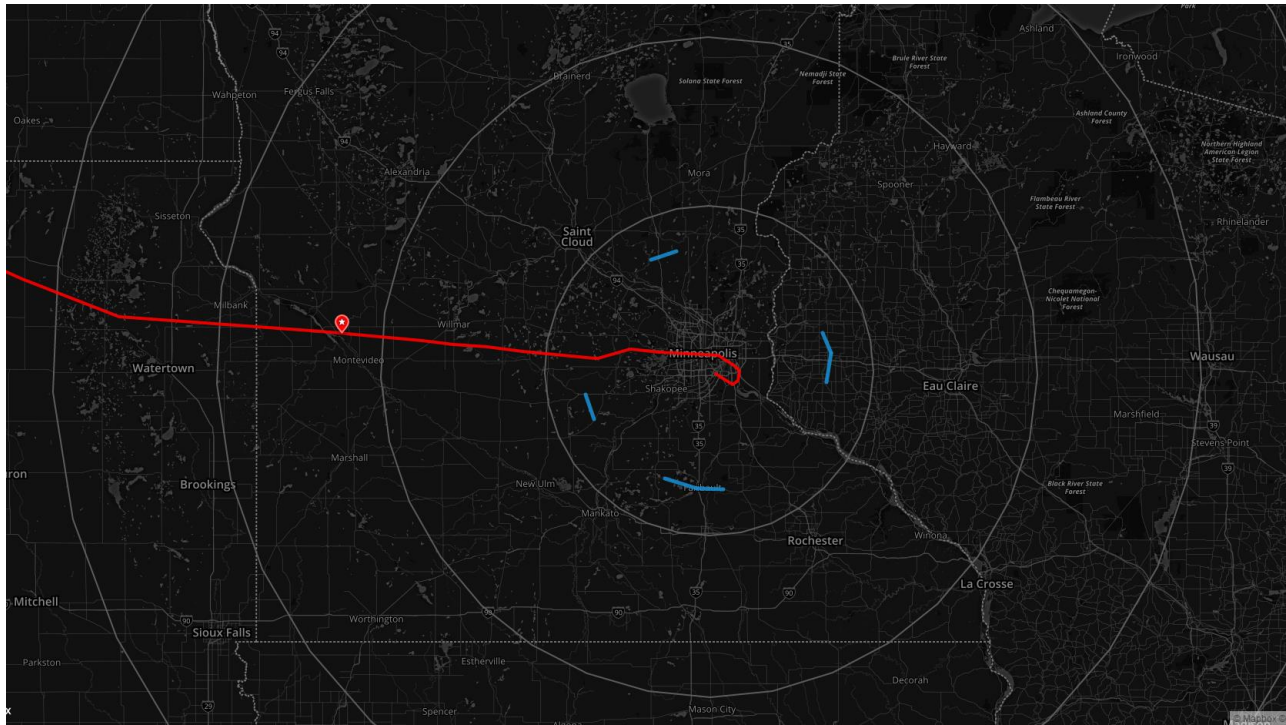


Item 2: MSP Optimized Profile Descent Results

DAL2485

Aircraft Type: B737-900
Arrival Time: 2014-07-15 22:45
Origin Airport: SEA – Seattle International Airport
Arrival Runway: 30R
Arrival Airspace Gate:
Top of Descent Altitude: 36,791 feet
Descent Distance: 135 nm
Percent Level: 14%
Ring Stats: 50 nm time = 16.6 minutes
100 nm time = 23.4 minutes

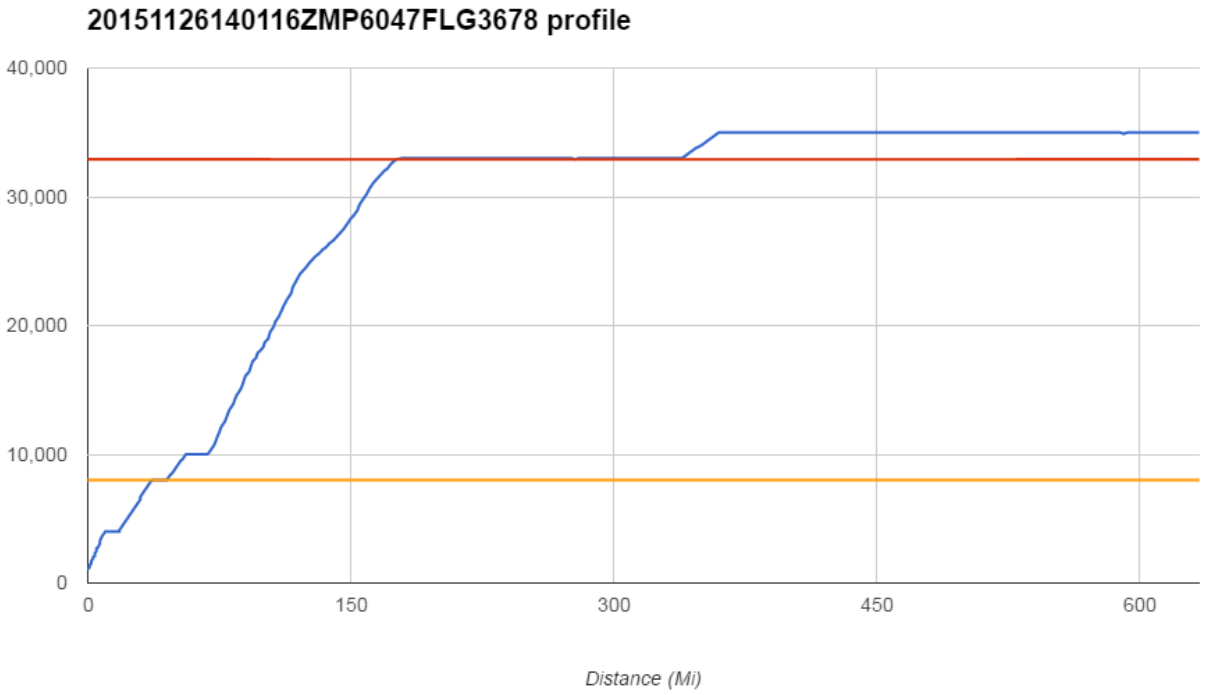


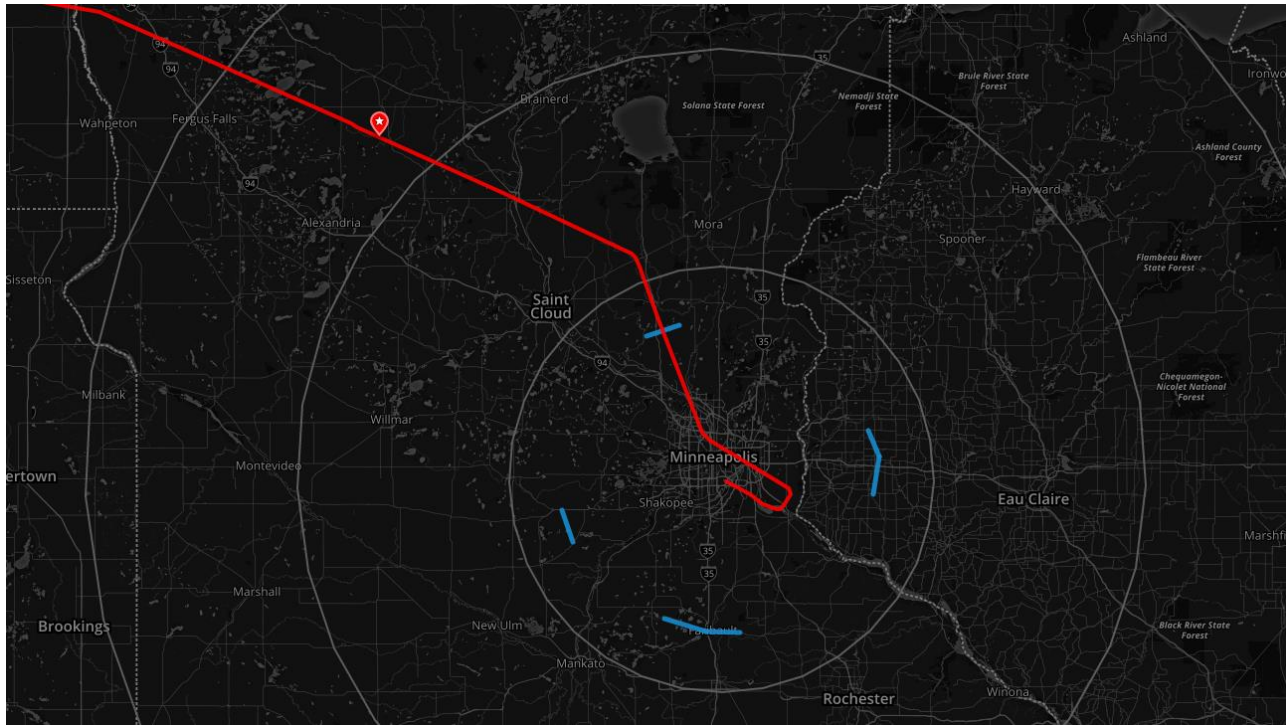


Item 2: MSP Optimized Profile Descent Results

FLG3678

Aircraft Type: CRJ-900
Arrival Time: 2016-11-26 08:01
Origin Airport: MSO – Missoula Montana Airport
Arrival Runway: 30R
Arrival Airspace Gate: BAINY
Top of Descent Altitude: 32,892 feet
Descent Distance: 153 nm
Percent Level: 8.9%
Ring Stats: 50 nm Time = 17.7 minutes
100 nm Time = 25.6 minutes

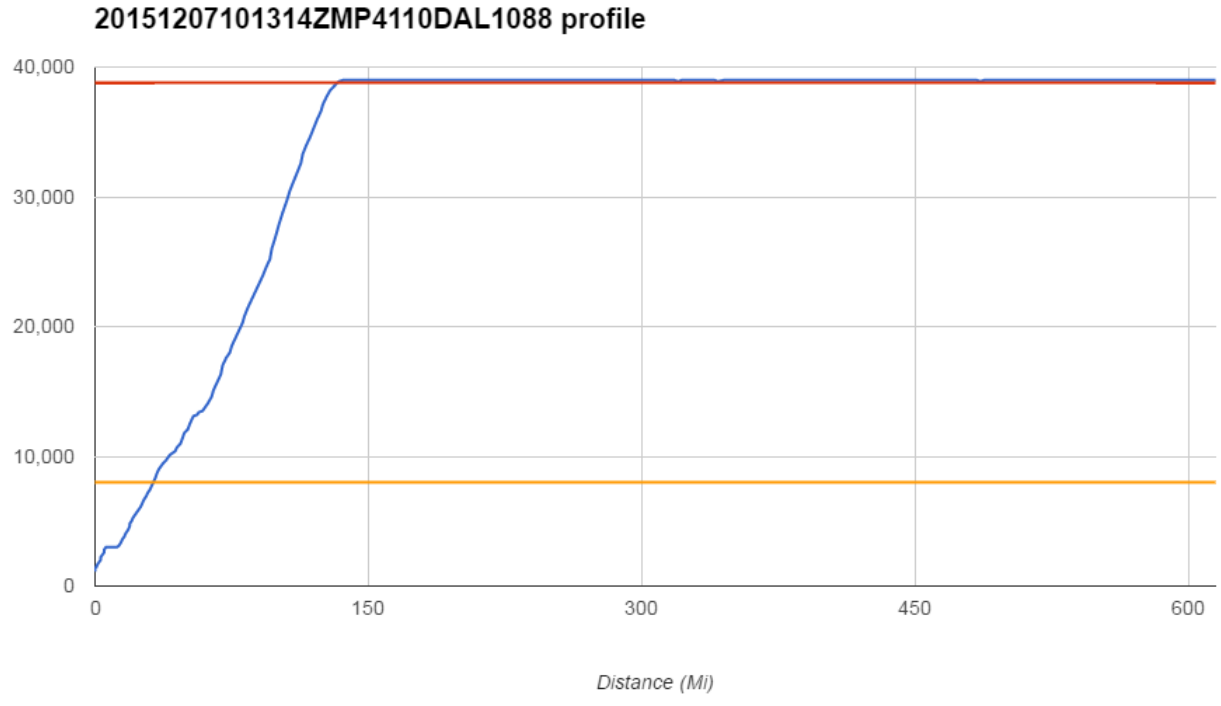


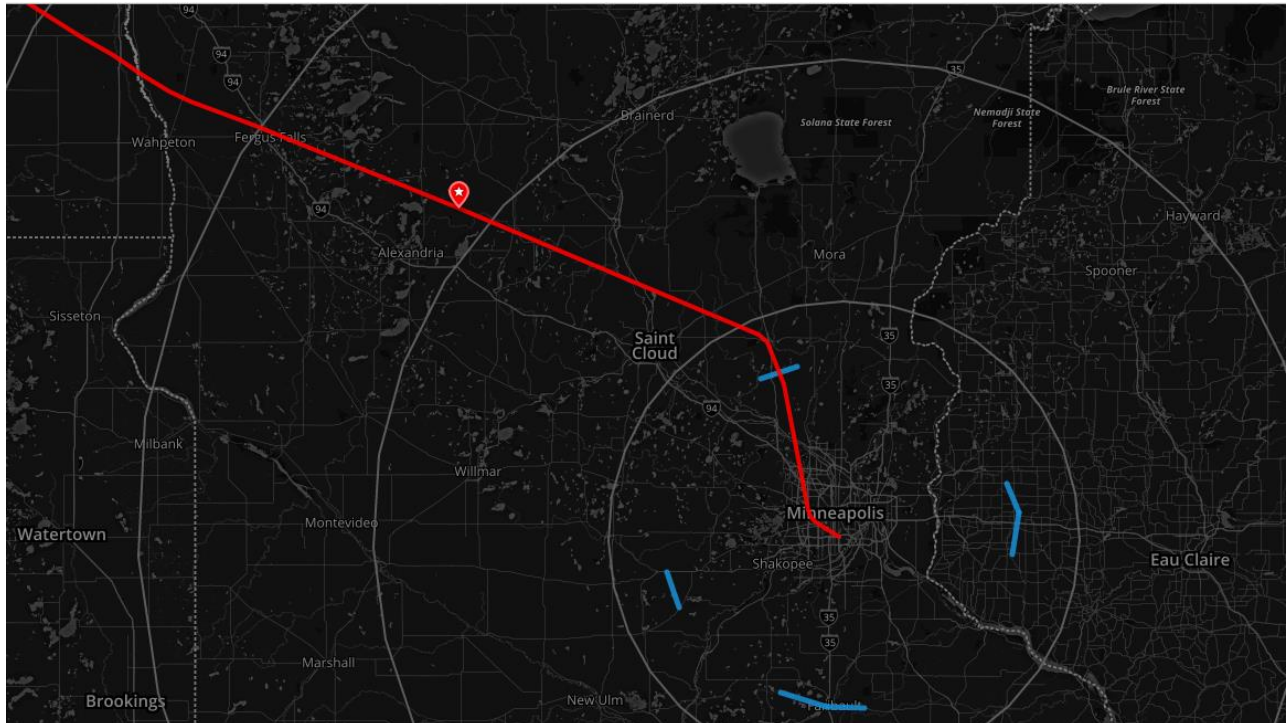


Item 2: MSP Optimized Profile Descent Results

DAL1088

Aircraft Type: B757-200
Arrival Time: 2016-12-07 4:13
Origin Airport: ANC – Anchorage International
Arrival Runway: 12R
Arrival Airspace Gate: BAINY
Top of Descent Altitude: 38,789 feet
Descent Distance: 116 nm
Percent Level: 0.0%
Ring Stats: 50 NM Time = 11.0 minutes
100 NM Time = 18.7 minutes





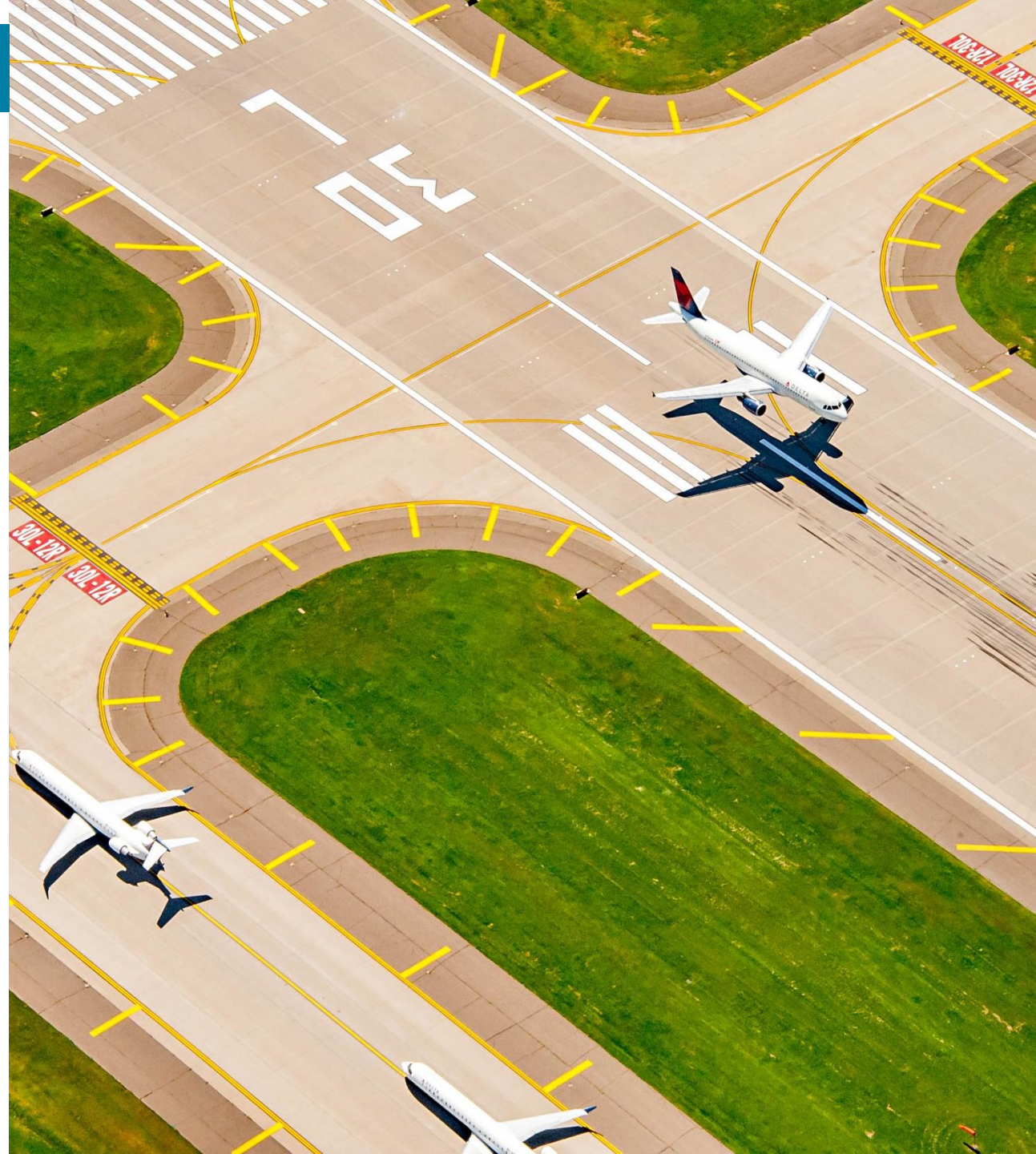
RESULTS

Item 2: MSP Optimized Profile Descent Results

OPD USAGE

79.4%

OF ALL CAPABLE MSP ARRIVALS HAVE AN OPD DESCENT PROFILE



Item 2: MSP Optimized Profile Descent Results

OPD USAGE

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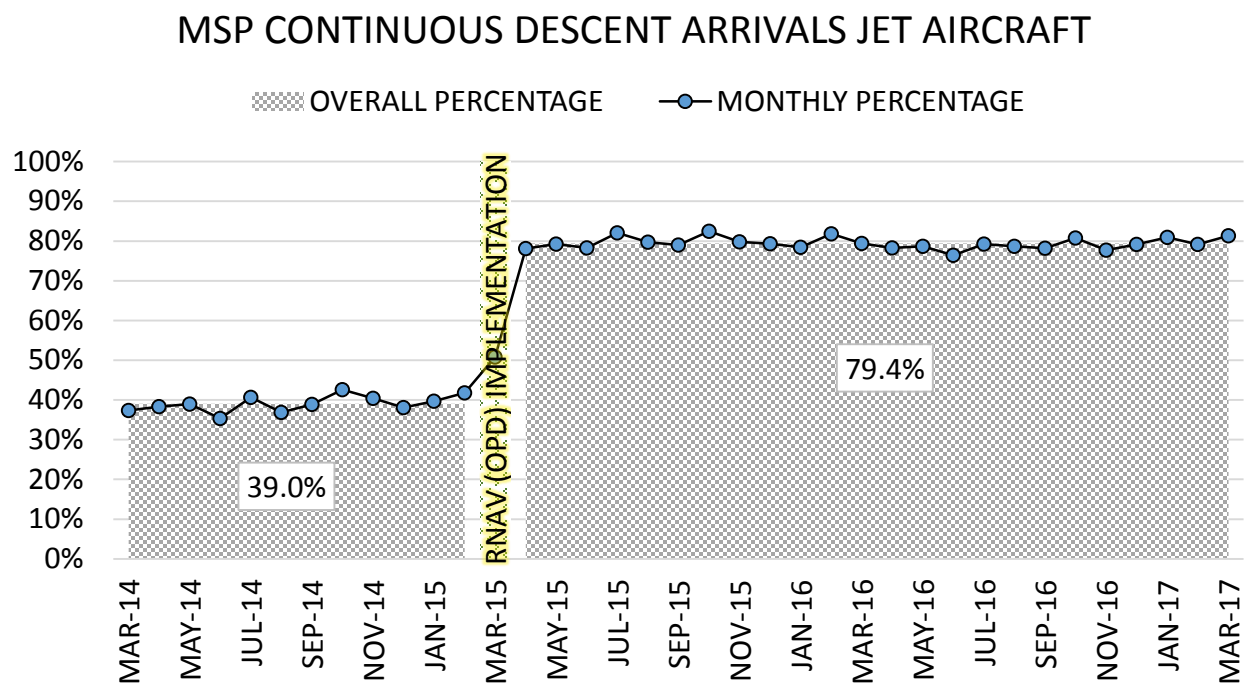

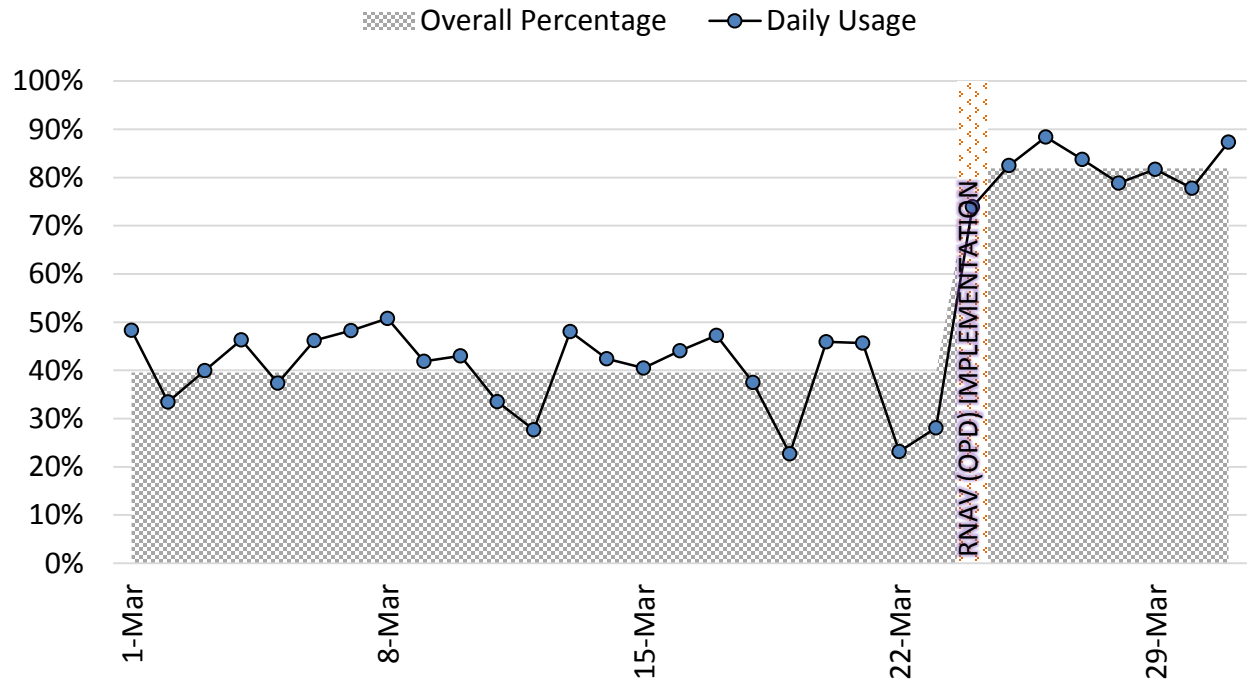

Item 2: MSP Optimized Profile Descent Results

OPD HAS REDUCED FUEL BURN BY

15.1

GALLONS OF FUEL PER FLIGHT

MINNEAPOLIS SAINT PAUL METROPOLITAN AIRPORTS COMMISSION
MAC

Item 2: MSP Optimized Profile Descent Results

OPD HAS REDUCED FUEL BURN BY

2,892,385

GALLONS OF FUEL ANNUALLY

MINNEAPOLIS SAINT PAUL METROPOLITAN AIRPORTS COMMISSION
MAC

Item 2: MSP Optimized Profile Descent Results

OPD HAS REDUCED FUEL BURN BY

5,816,467

GALLONS OF FUEL SINCE IMPLEMENTATION

MINNEAPOLIS SAINT PAUL METROPOLITAN AIRPORTS COMMISSION
MAC

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OPD HAS REDUCED CARBON EMISSIONS BY

28,465

METRIC TONS ANNUALLY

Item 2: MSP Optimized Profile Descent Results

OPD HAS REDUCED CARBON EMISSIONS BY

57,243

METRIC TONS SINCE IMPLEMENTATION

Item 2: MSP Optimized Profile Descent Results

REMOVING
12,092
CARS FROM
THE ROAD

REDUCING MILES
DRIVEN ON
ROADS BY
137,191,757

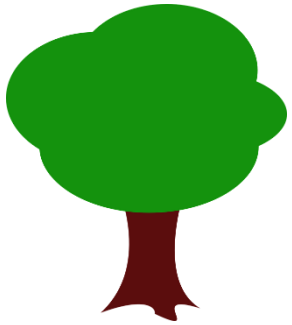
REDUCING CO_2
EMISSIONS FROM
6,441,206
GALLONS OF
AUTOMOBILE GAS

RECYCLING INSTEAD
OF LANDFILLING
18,166
TONS OF WASTE

RECYCLING INSTEAD OF
LANDFILLING
2,595
GARBAGE TRUCKS OF WASTE

ELIMINATING THE
ENERGY USED AT
6,045
HOMES

CHANGING
2,029,174
INCANDESCENT LIGHT
BULBS TO LED



PLANTING
1,483,518
TREES AND LETTING
THEM GROW FOR 10
YEARS

PLANTING
54,186
ACRES OF
FOREST

HAVING A SOLAR FIELD AT
MSP THAT IS
2.5
TIMES ITS CURRENT SIZE

NOISE OVERSIGHT COMMITTEE
MAY 17, 2017

Item 3: Guest Speaker: MSP Update by Executive Director/CEO, Brian Ryks

MSP Update

Brian Ryks, Executive Director and CEO
Metropolitan Airports Commission

01

Metropolitan Airports Commission

Metropolitan Airports Commission

- Public corporation created by Minnesota Legislature
- Owns and operates seven airports within the Twin Cities metro area
- User-fee based funding
- Limited property taxing authority unused since 1960s

Legislated Purpose

- Promote efficient, safe, and economical air commerce
- Develop the full potentialities of the metropolitan area as an aviation center
- Minimize the environmental impact from air transportation and the public’s exposure to noise and safety hazards around airports

Our Board

- Governor appoints chairman and 12 commissioners (eight metro, four greater Minnesota) who serve four-year, staggered terms
- Minneapolis and St. Paul mayors each appoint one

Commission Chair
Daniel Boivin

District A
Carl Crimmins

Disctrict B
Rick King

District C
Katie Clark Sieben

District D
Steve Cramer

District E
James Deal

District F
Michael Madigan

District G
Richard Ginsberg

District H
Ibrahim Mohamed

City of Minneapolis
Erica Prosser

City of St. Paul
Pat Harris

Outstate St. Cloud
Patti Gartland

Outstate Duluth
Donald Monaco

Outstate Thief River Falls
Dixie Hoard

Outstate Rochester
Randy Schubring

Metropolitan Airports
Commission

Our Mission

Connecting you to your world

Our Vision

Providing your best airport experience

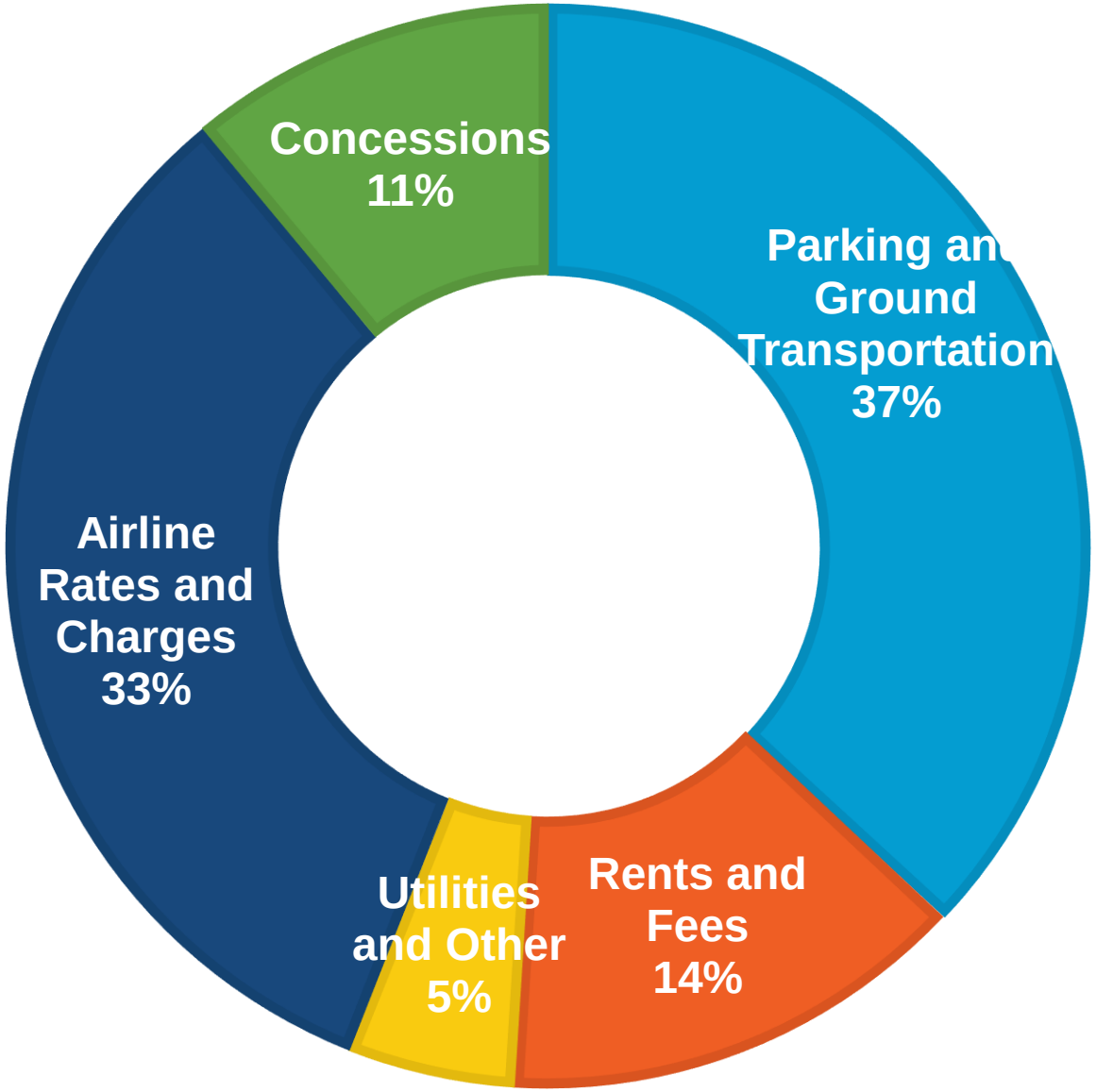
02

Minneapolis – St. Paul International Airport

- 16th busiest airport in North America (passengers)
- 15th busiest in operations
- Delta Air Lines’ 2nd largest hub

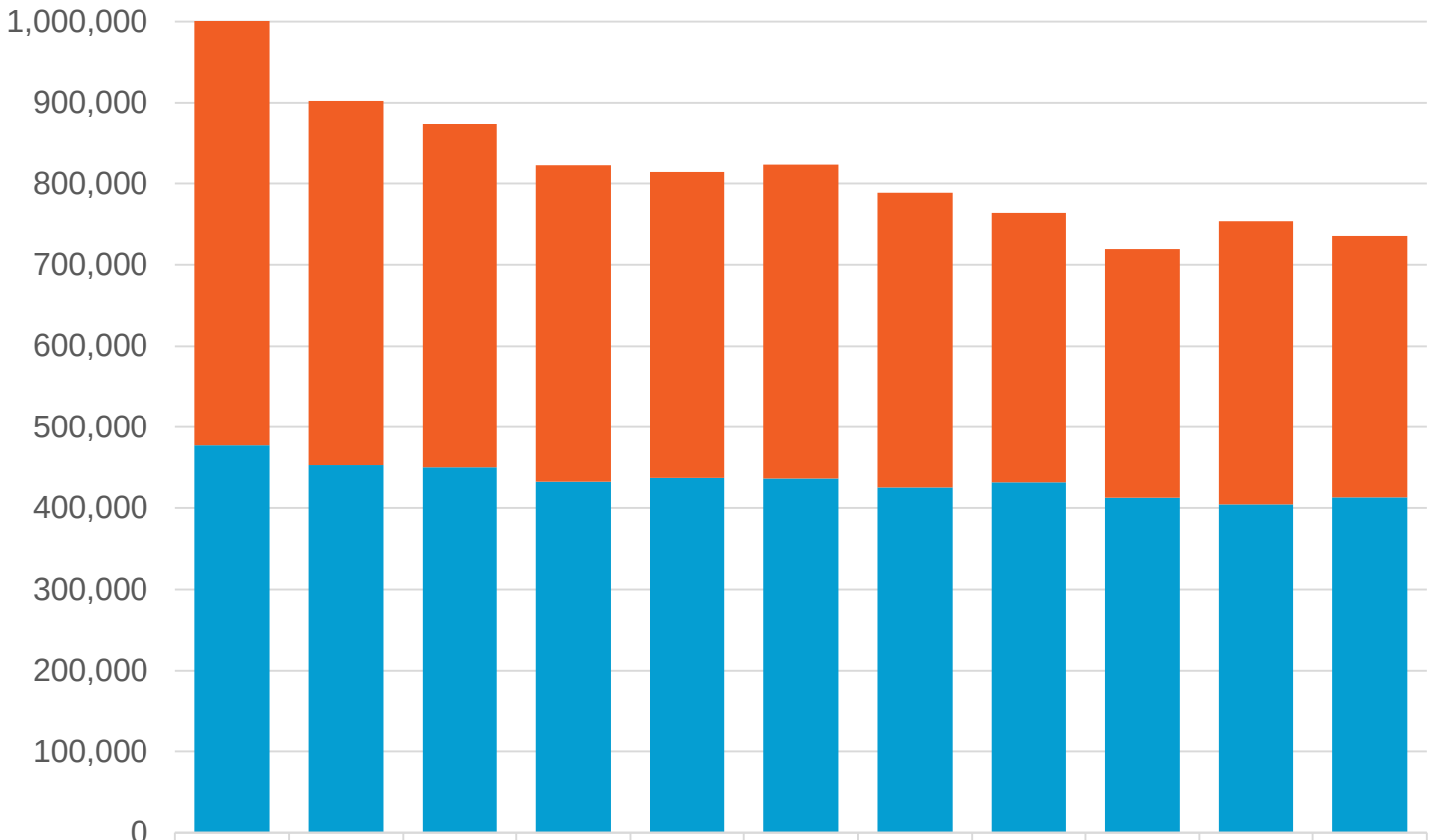
Operational Funding

- Conservative forecasting: nowhere to turn except reserves or short-term financing
- Financial model predicated only on originating and destination passengers
- Maintain six-month reserve
- AA- bond rating



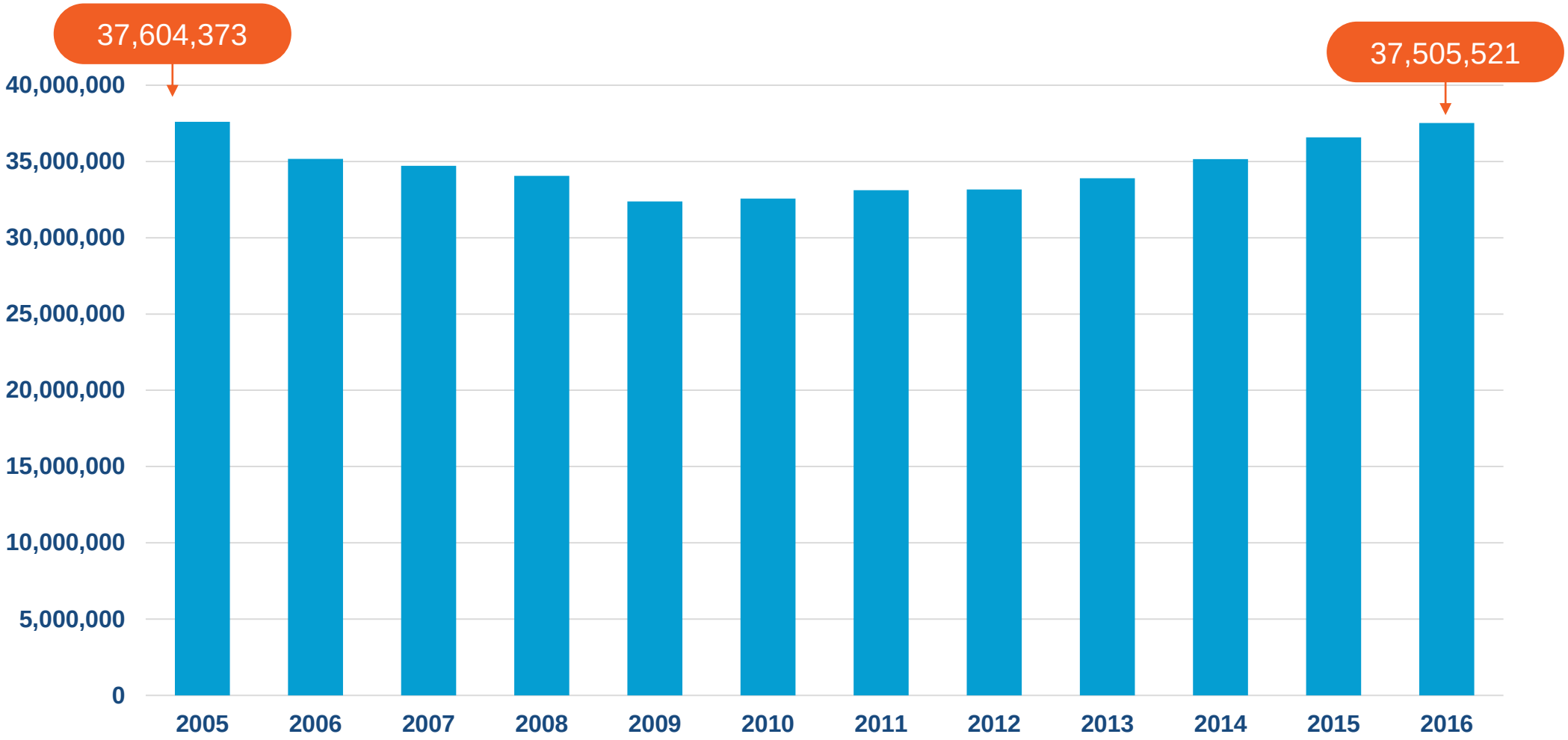
MAC Airport System Operations

MSP experienced 413,279 landings and takeoffs in 2016, the first increase (2.1%) since 2013, but still well below the 2004 record of 541,093 operations.



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Reliever Operations	530,726	449,619	423,931	389,843	377,093	386,383	363,190	332,383	306,532	348,701	322,291
MSP Operations	477,212	452,972	450,044	432,395	437,075	436,506	425,332	431,418	412,586	404,612	413,279

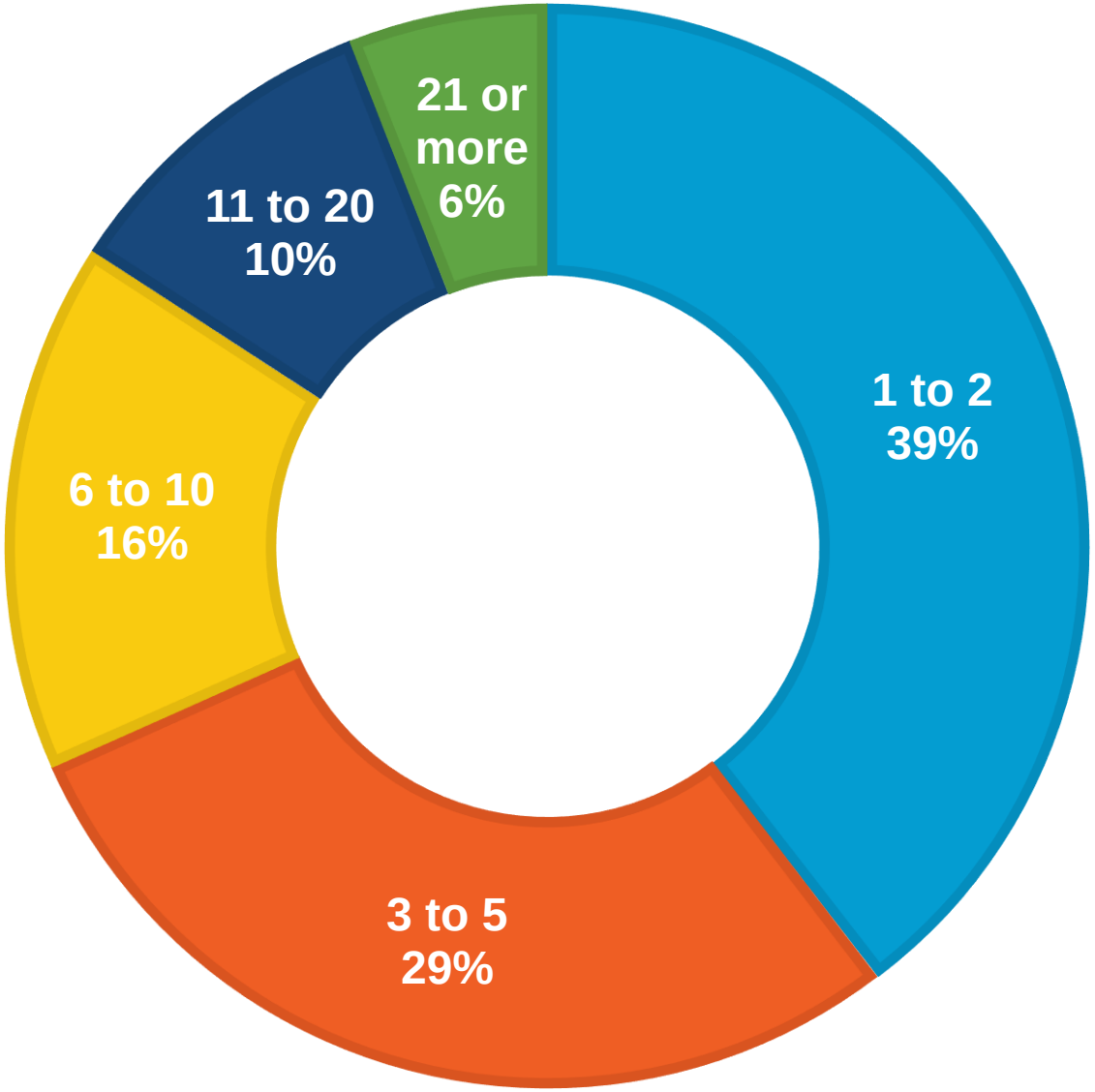
Passenger Numbers Near Record Levels



Traveler Demographics: Trips

Number of Trips Annually from MSP

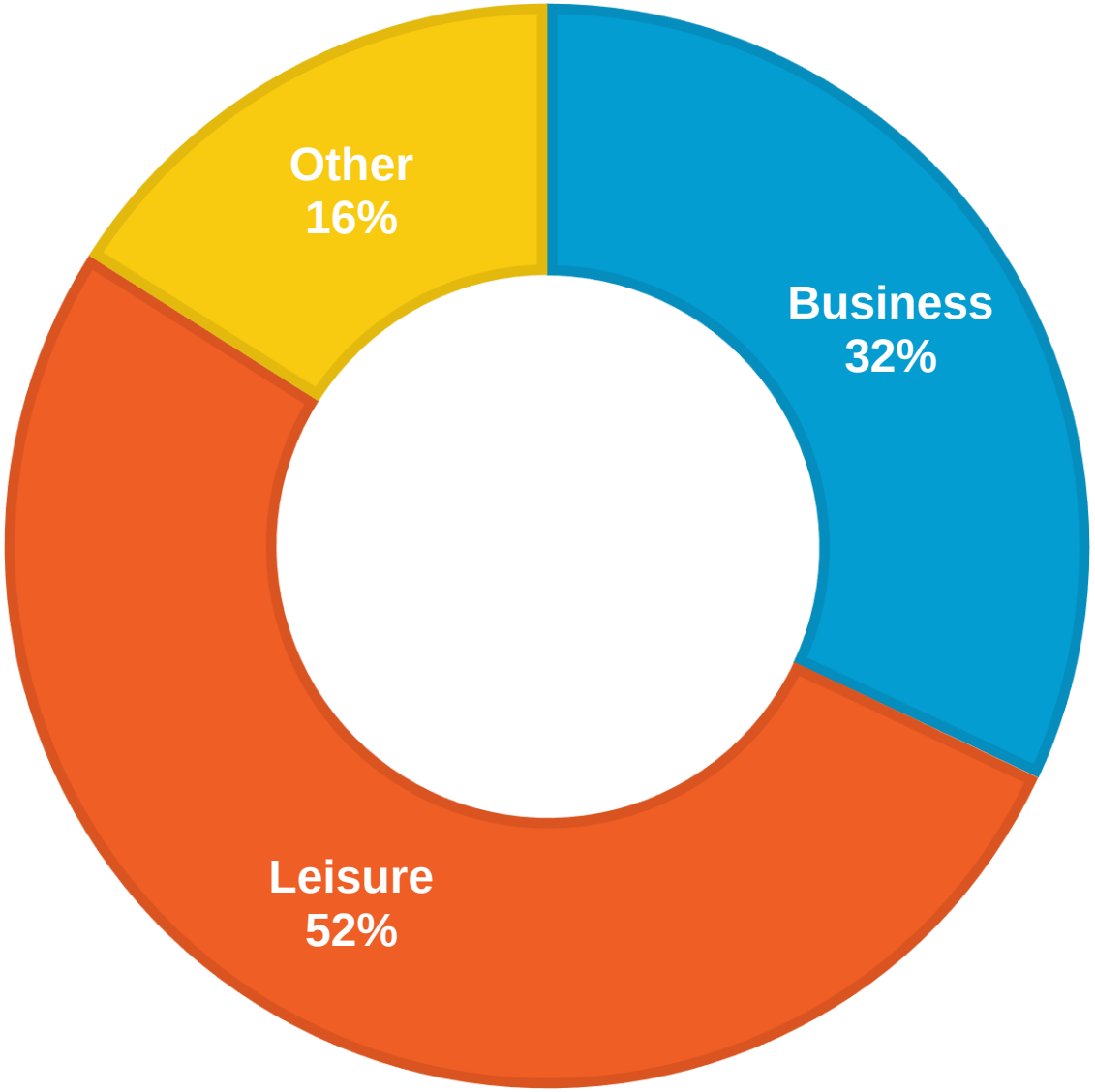
- Nearly two-thirds of travelers fly five or fewer times each year.
- Only 16% fly 11 or more times.



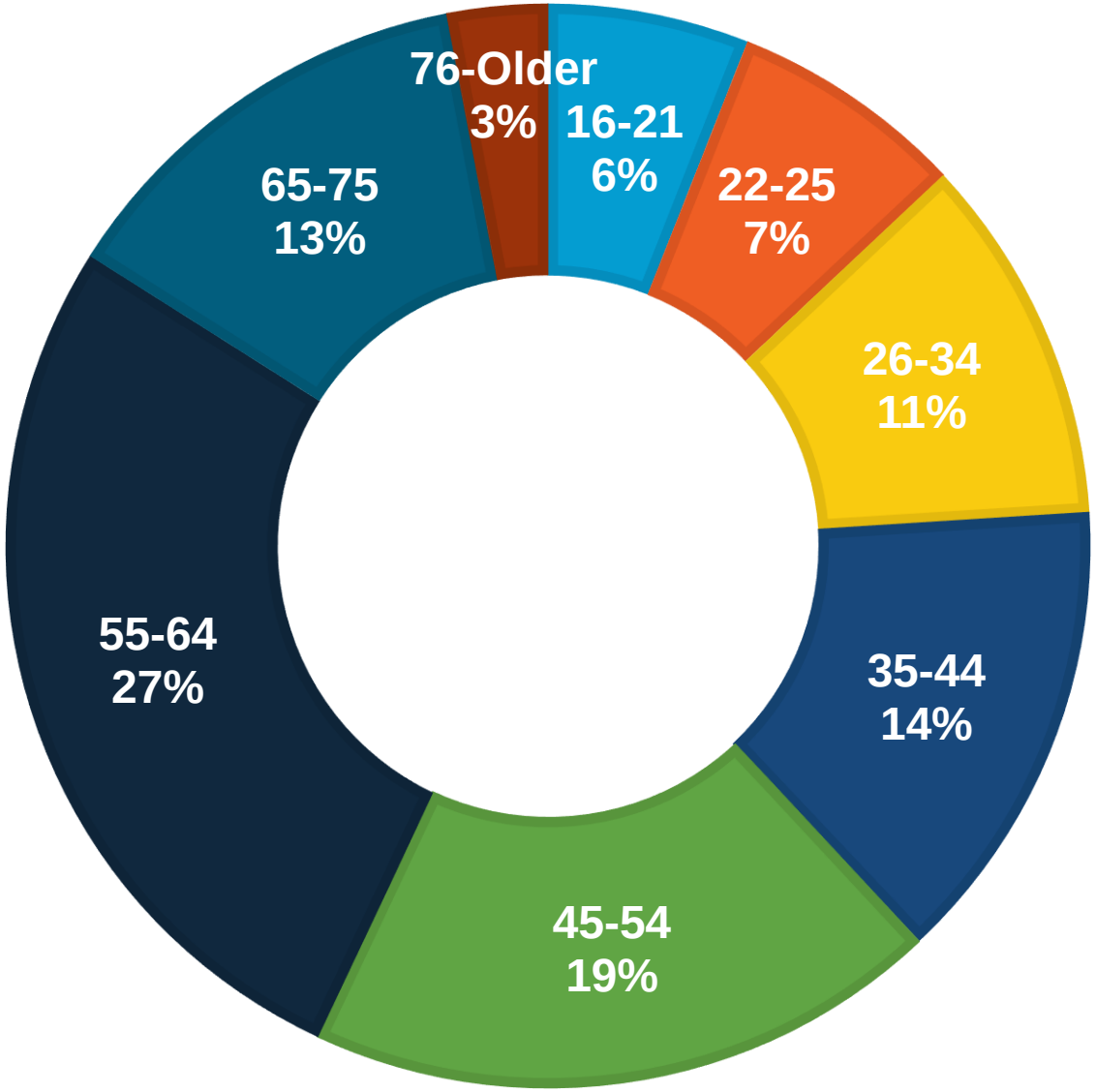
Traveler Demographics: Business or Leisure?

Reason for Travel

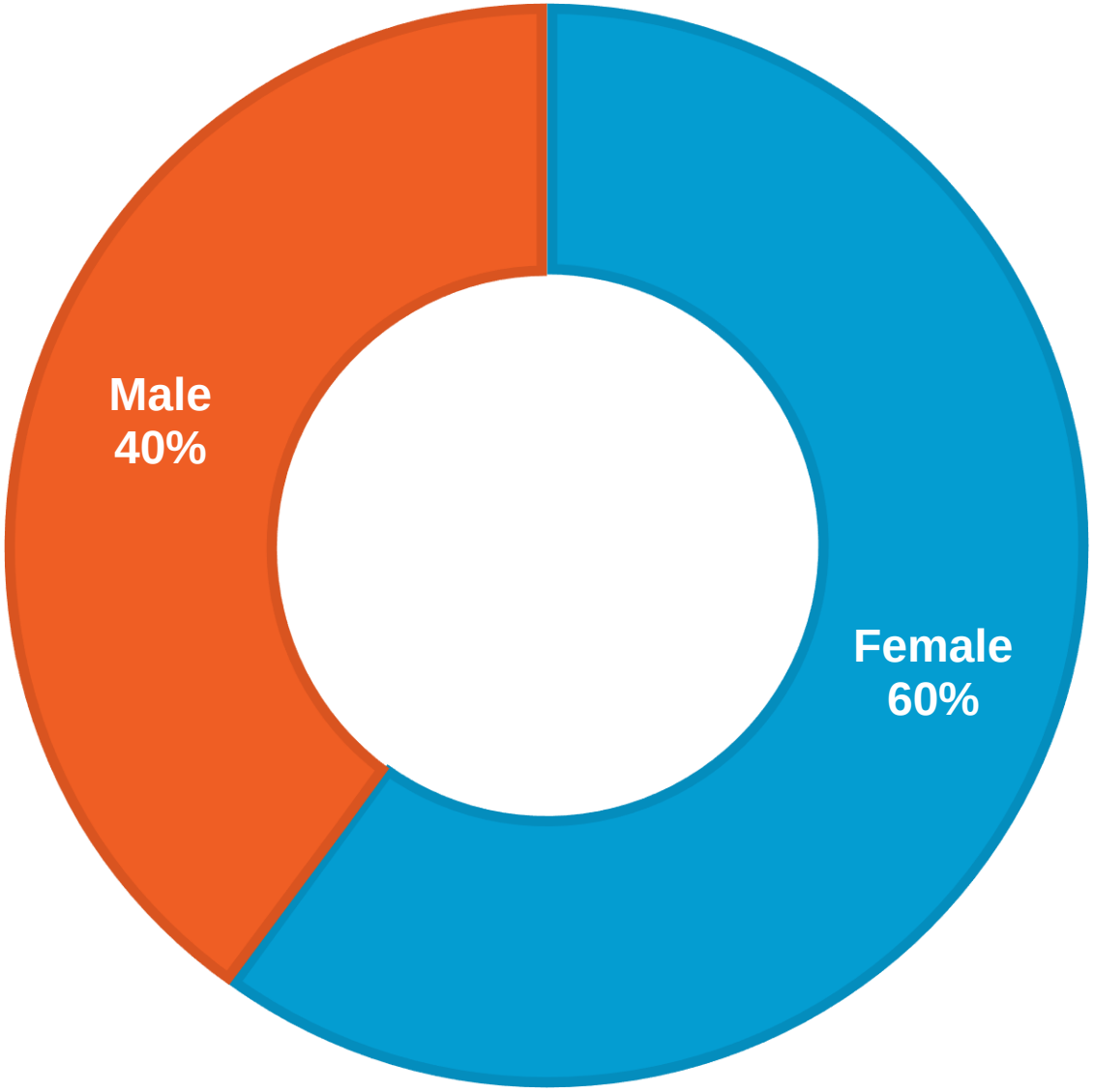
- More than half the people traveling at MSP are doing so for leisure.
- Nearly one-third are business travelers.



Traveler Demographics: Age



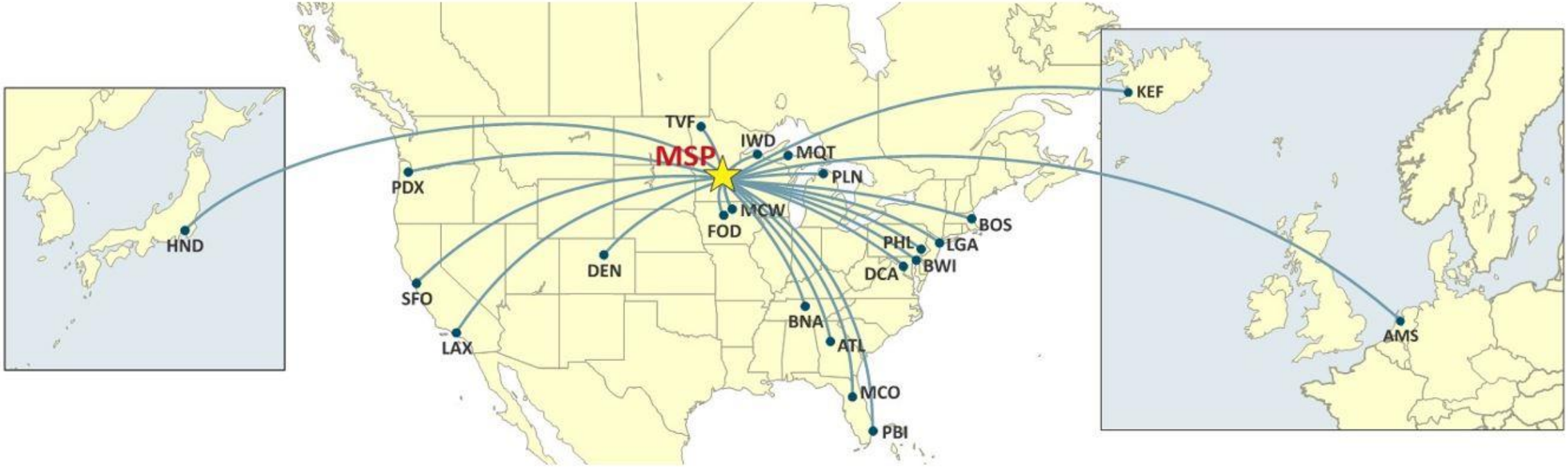
Traveler Demographics: Gender



Air Service Success Measures

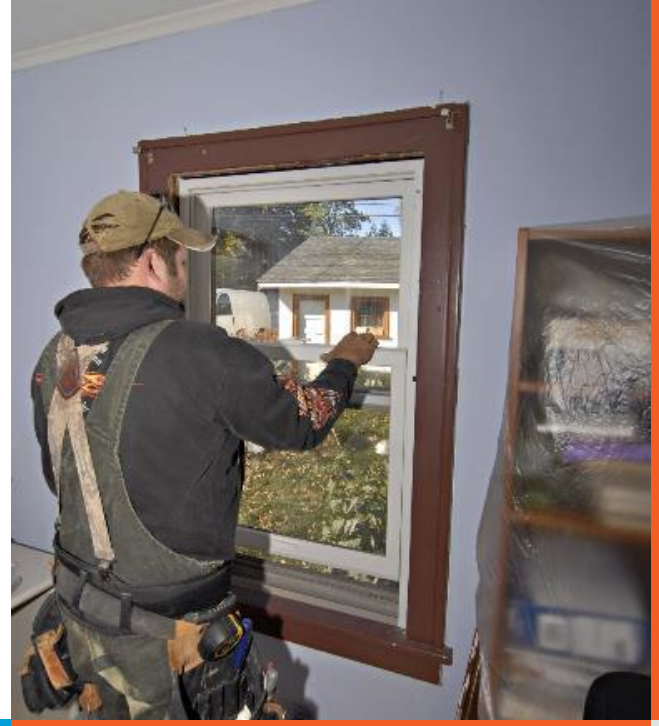
- Major, stable Delta hub
- Base for Sun Country Airlines
- Additions since 2008:
  - Alaska Air, 2008
  - Southwest Airlines, 2009
  - Spirit, 2012
  - Air France, 2013
  - Condor, 2014
  - Boutique, 2016
  - Air Choice One, 2016
  - KLM, 2017
- Competitive incentives program

Air Service Added in 2016-17



Ten airlines added a total of 24 additional routes from MSP in 2016 and 2017.
MSP now enjoys competitive air service on a record 53 of its total 155 direct routes.

Operating Sustainably

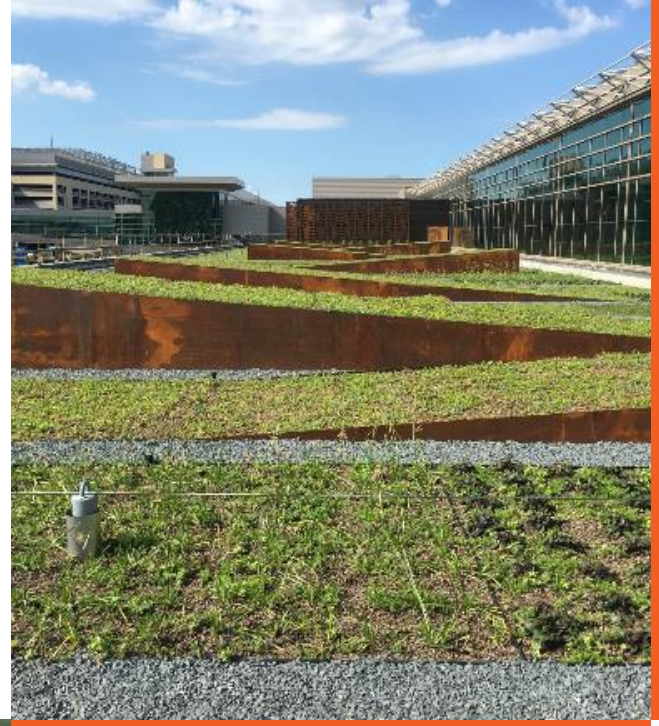


Most extensive noise mitigation program in U.S.

Phase 1 carbon accreditation

Optimized profile descent use and measurement application

Operating Sustainably



First green roof at Terminal 2

3 megawatt solar energy facility at Terminal 1

1.3 megawatt solar facility at Terminal 2

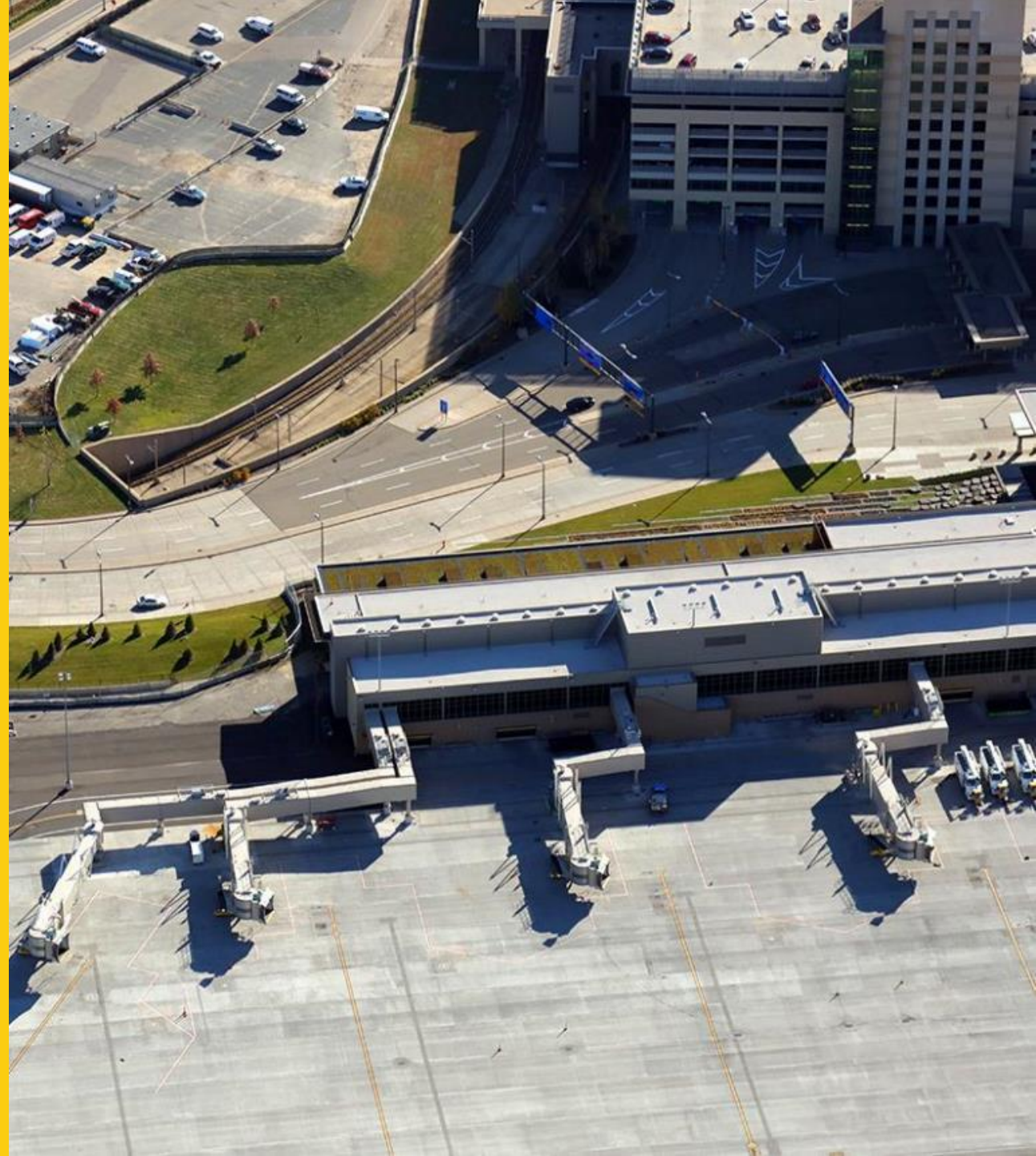
03

Reimagine MSP

Recent Improvements

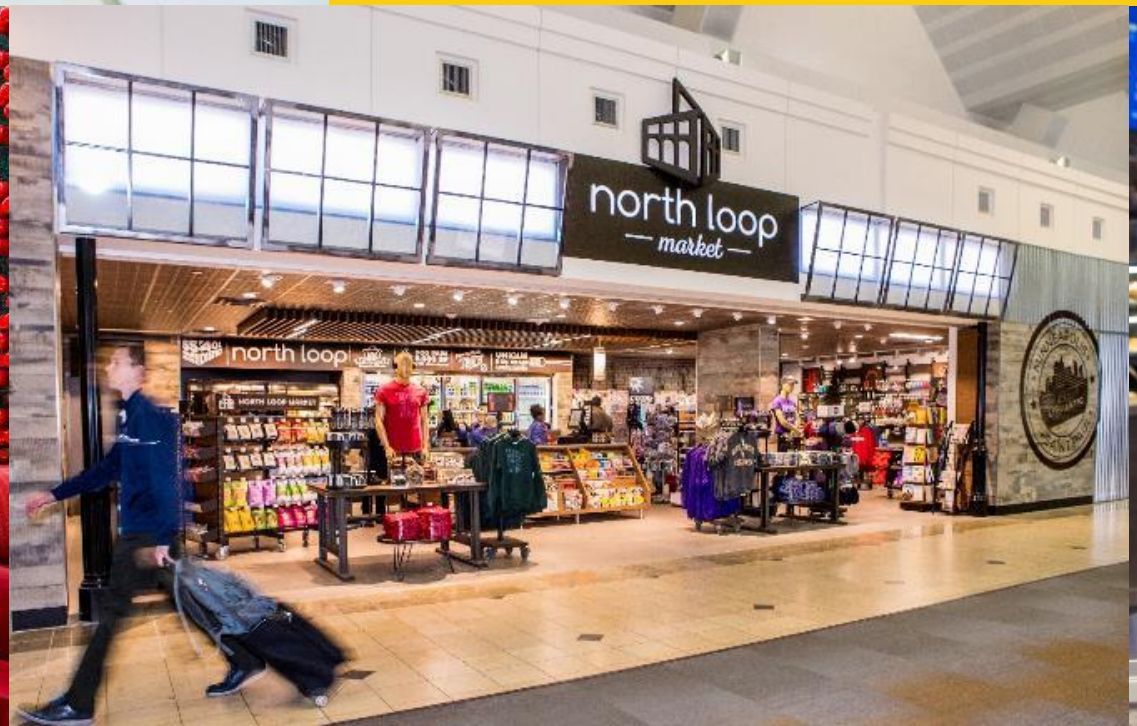
- Expanded Terminal 1 international arrivals area
- Terminal 2: new auto rental facilities
- Quick Ride Ramp at Terminal 1
- Aircraft viewing area
- Nearly 50 new food and retail venues.
- North Security Checkpoint

A four-gate Terminal 2 expansion opened October 20, providing room for growth by incumbent carriers Southwest and Sun Country – and for new entrants to the market.



The Terminal 2 expansion includes a facility for nursing mothers and an indoor pet relief area.

- In the past year, MSP has welcomed nearly 50 new retail shops and restaurants.
- This year, the MAC has launched a competitive process to select some 30 additional restaurant concepts to open in 2018 and 2019.



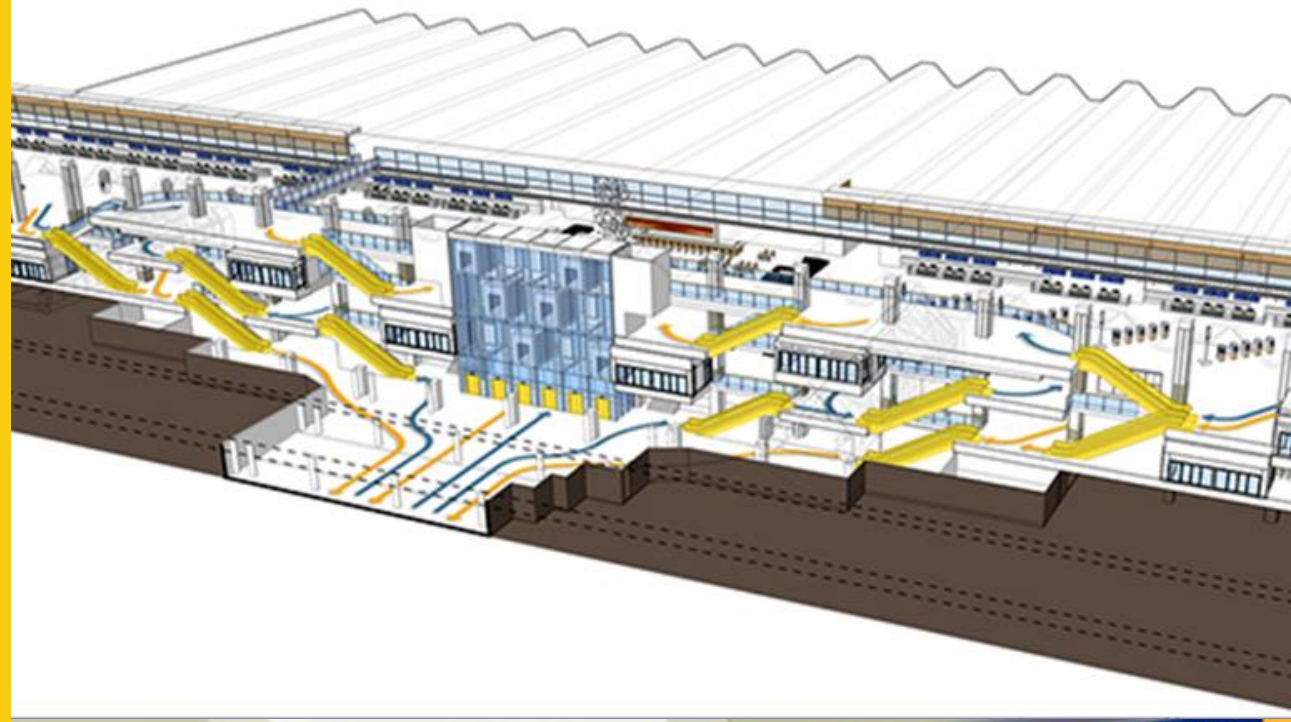

Preparing for
the Future

MSP is likely to serve more than **50 million passengers** annually by 2035.

To meet demand, the MAC plans to invest **$1.6 billion** in airport improvements over the next several years – and **$2.5 billion by 2035**.

Through 2020, both the ticketing and baggage claim levels at Terminal 1-Lindbergh will be completely remodeled.

- Changes in elevator and escalator placement will make moving between levels of Terminal 1 more intuitive
- The goal is for people to move easily between ticketing, bag claim, parking and ground transportation with less congestion



New designs aim to:

- Increase passenger processing efficiency
- Provide better sight lines
- Create additional walk space
- Increase the amount of daylight filtering into the spaces

- Fewer but larger baggage carousels will be installed, providing adequate space for the number of checked bags projected to be processed through 2050.
- Services such as restrooms, help desks, and food and retail will be consolidated into one central location—on both baggage claim and ticketing levels—making it easier to find those amenities and meet up with others.


Graves Hospitality is developing a 300-room InterContinental Hotel, to be completed in the summer of 2018.

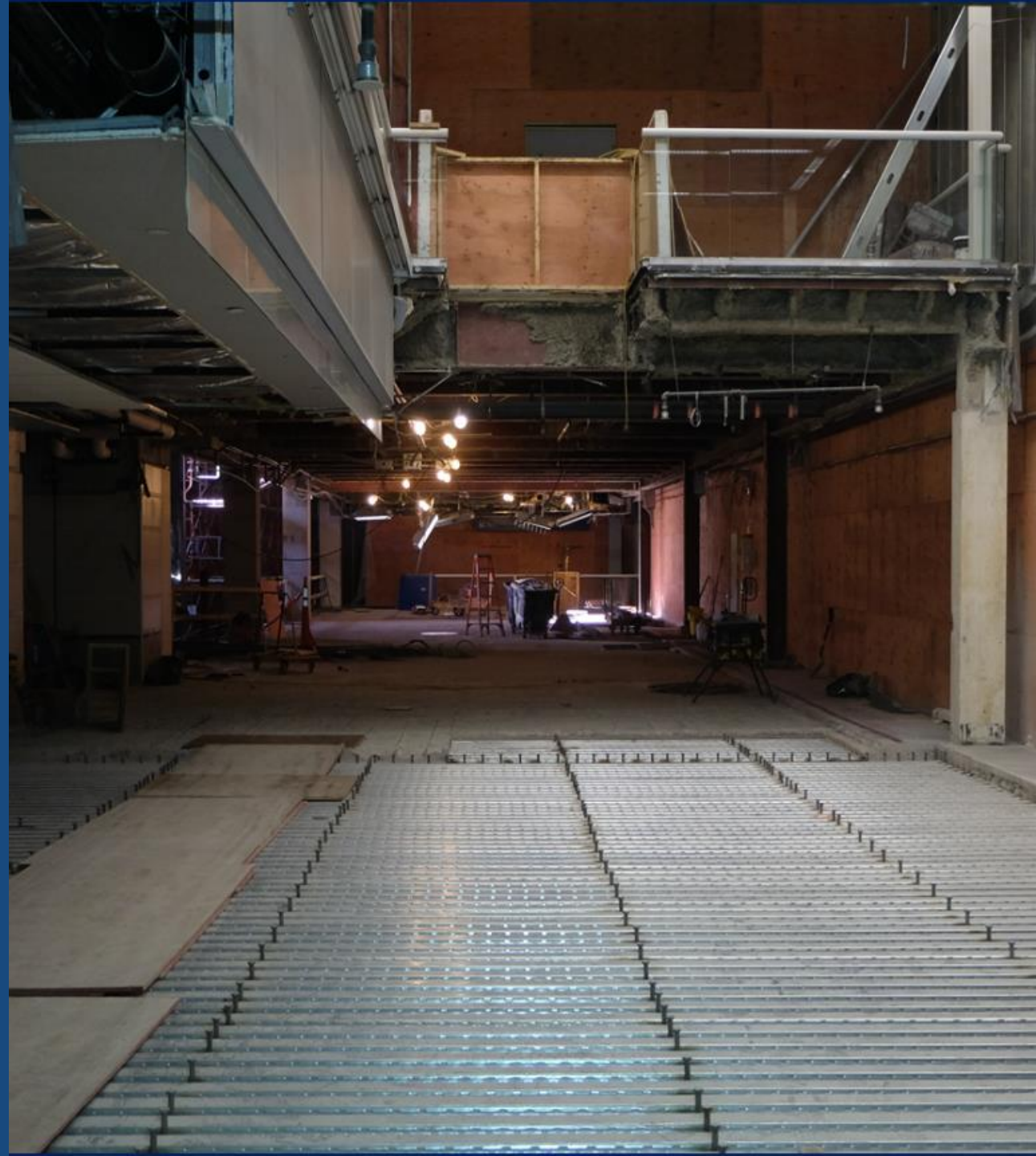
- A skyway will connect Terminal 1 at the intersections of concourses A, B and C to the InterContinental hotel and, eventually, to an expanded Concourse G.
- A hotel security checkpoint will provide its customers with direct access to the skyway and the terminal beyond.

Parking and Roadways

Work is underway on the hotel, parking management building, exit plaza and roadway changes, with construction of a new 5,000-space parking ramp to commence this summer.

Economic Impact

- Construction on these four projects alone will generate more than 2,000 full-time equivalent jobs:
  - Terminal 2 gate expansion
  - Terminal 1 vertical circulation and bag claim & ticketing remodeling
  - Hotel skyway
  - New Terminal 1 parking ramp and related roadway changes



$10.1 Billion
Total Economic Output

$5.7 Billion
Direct Economic Impact

76,340
Jobs

$3 Billion
Employee Earnings

$611 Million
Tax Revenues

$1.9 Billion
Visitor Spending

Minneapolis Saint Paul
INTERNATIONAL AIRPORT
msp™

Additional Accolades

- **Environmental Achievement Award: Special/Innovative Projects**
  Airports Council International-North America
- **Excellence in Concessions**
  Airports Council International-North America
- **Environmental Leader Project of the Year**
  Environmental Leader Project Awards
- **Top 10 US Airport**
  Conde Nast Traveler
- **5th Most Affordable Large U.S. Airport**
  Cheapflights
- **Travelers' Choice Favorite**
  Trip Advisor
- **Sustainable Infrastructure Award**
  Airports Going Green
- **Technology and Innovation Award**
  MNDoT Office of Environmental Stewardship
- **3rd Most Efficiently Managed Airport in the World**
  Air Transport Research Society
- **Top 5 in the World Easiest to Get To**
  MSN
- **America's Best Bathroom**
  Cintas

This year, Airports Council International named MSP the Best Airport in North America in its size category.

The ranking is based on results of passenger surveys in 34 key performance areas through the global Airport Service Quality Program.

MSP International won a World Airport Award from Skytrax in 2017 for Best Airport Staff in North America.

The award is based on surveys of more than 13.8 million travelers worldwide rating airports on service.

Questions?

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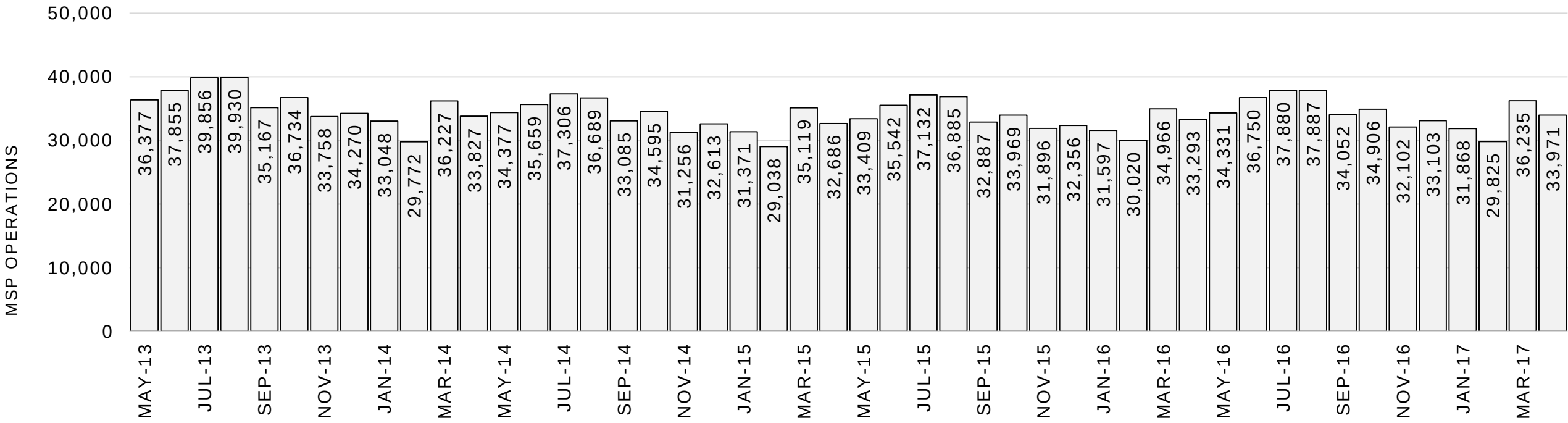
NOISE OVERSIGHT COMMITTEE
MAY 17, 2017

Item 4: Review of Monthly Operations Reports: March and April 2017

MSP OPERATIONS

MARCH 2017		APRIL 2017	
36,235 Operations	**2,441** Nighttime Operations (10:30 PM – 6:00 AM)	**33,971** Operations	**2,143** Nighttime Operations (10:30 PM – 6:00 AM)



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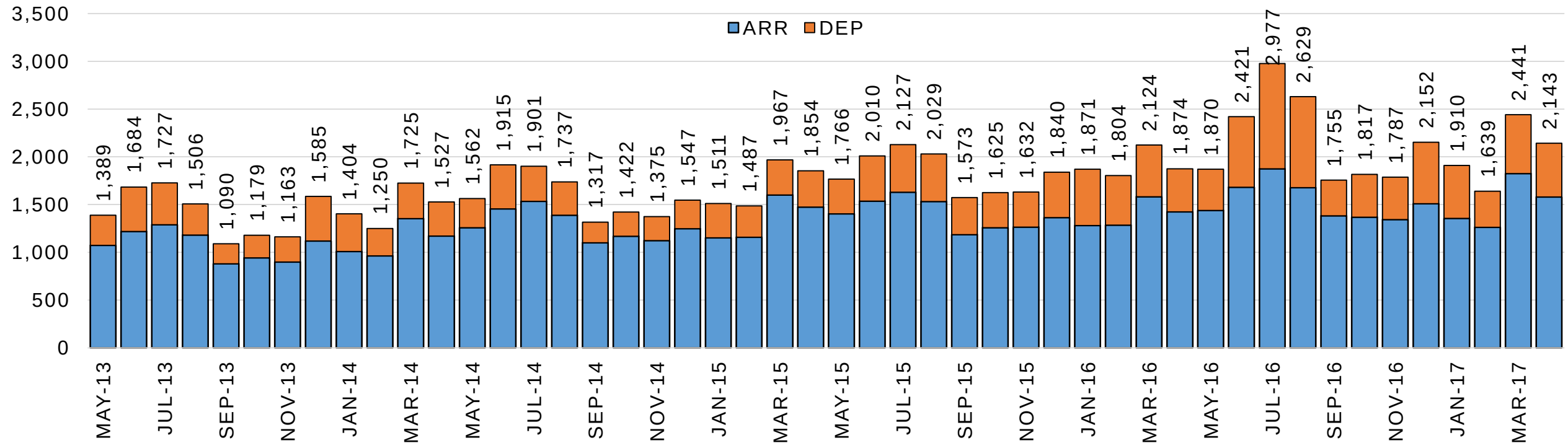
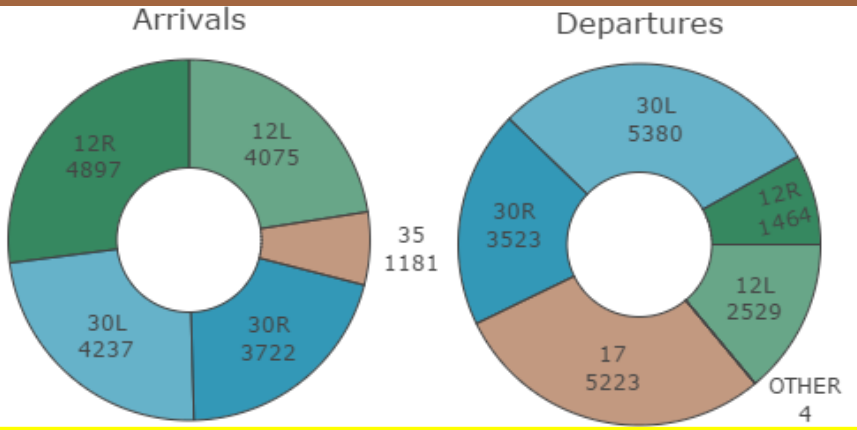
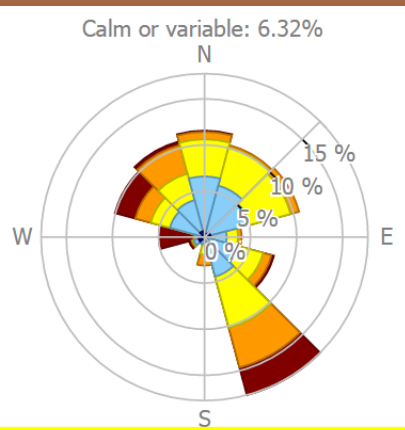


RUNWAY USE

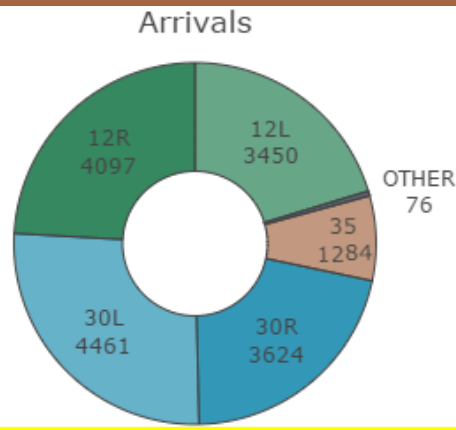
MARCH 2017

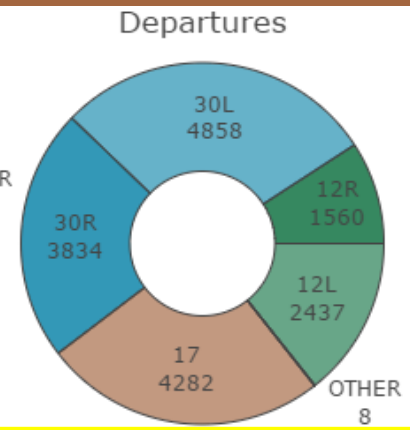


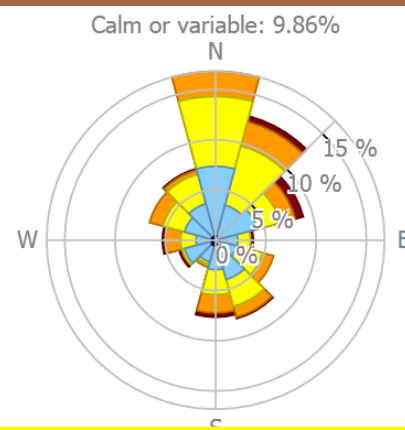


NORTH FLOW	SOUTH FLOW	MIXED FLOW
42%	50%	2%

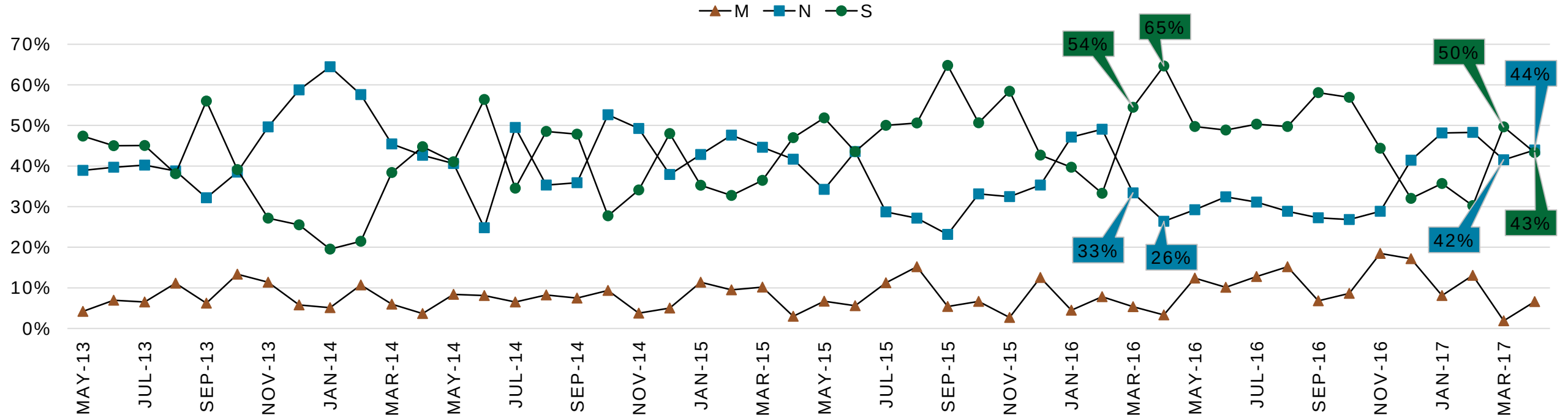
APRIL 2017





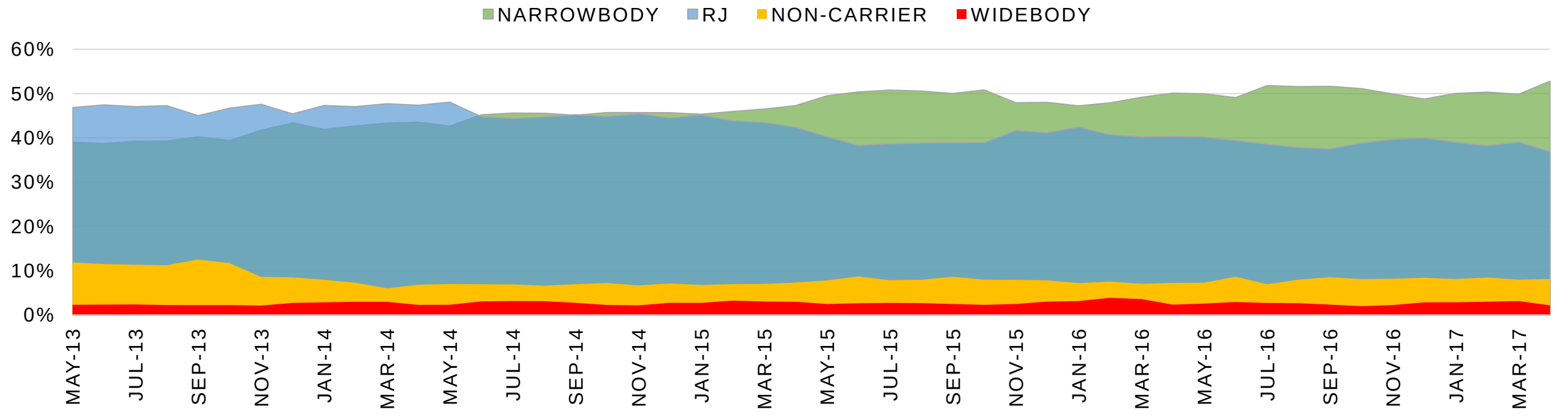


NORTH FLOW	SOUTH FLOW	MIXED FLOW
44%	43%	7%



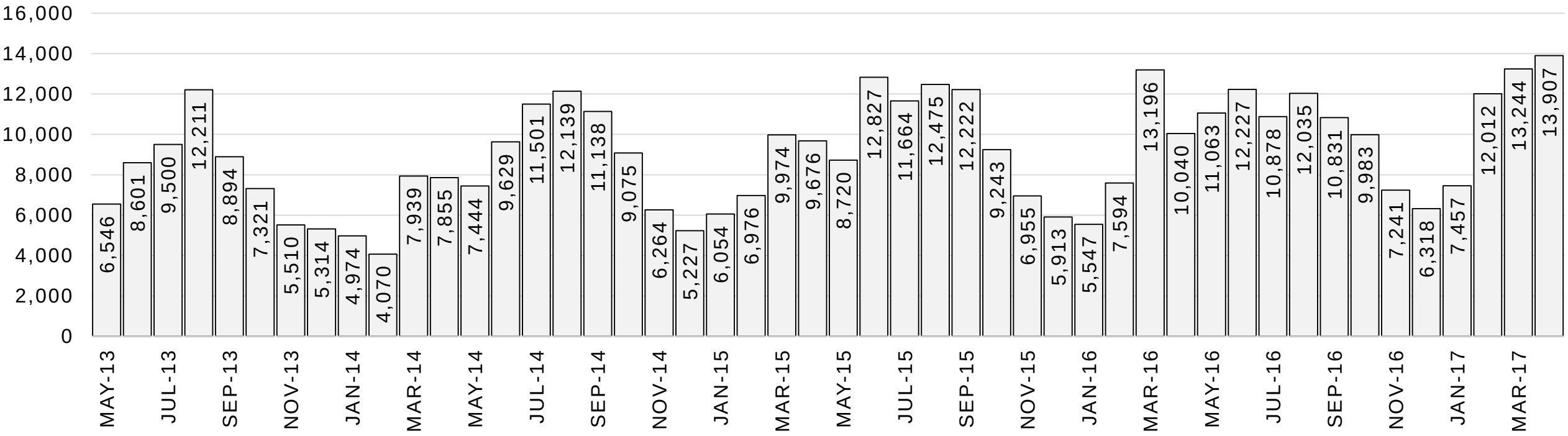
CARRIER JET FLEET MIX

MARCH 2017		APRIL 2017	
42%		40%	
54%		57%	
3%		2%	



MSP COMPLAINTS

MARCH 2017				APRIL 2017			
COMPLAINTS	LOCATIONS			COMPLAINTS	LOCATIONS		
13,244	331			13,907	407		
Operations per Complaint	New Locations	Average	Median	Operations per Complaint	New Locations	Average	Median
2.7	71	40	3	2.4	96	34	3



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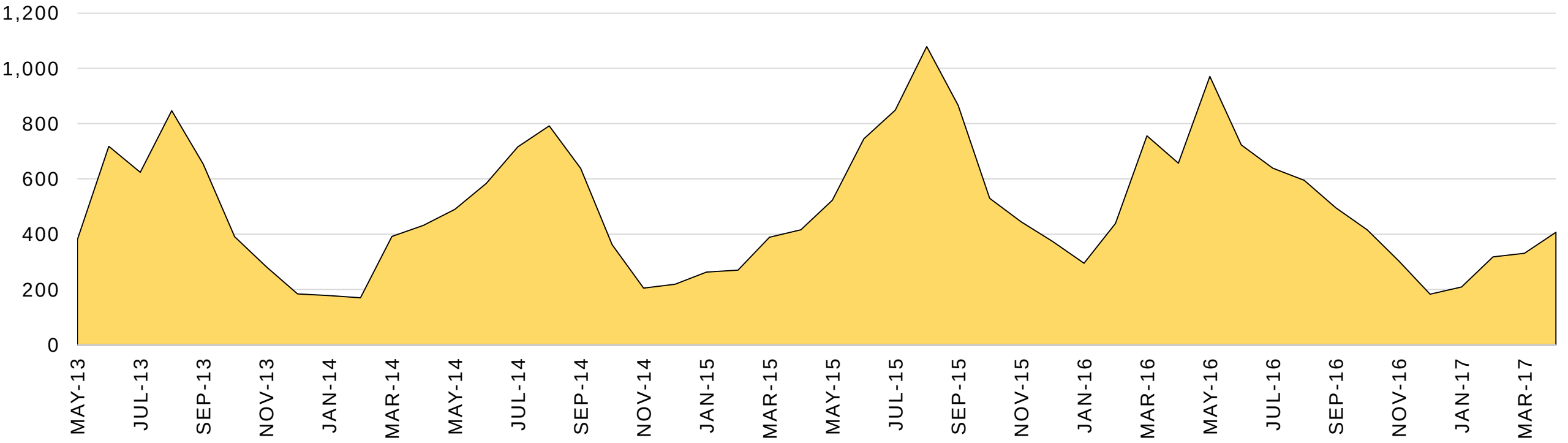

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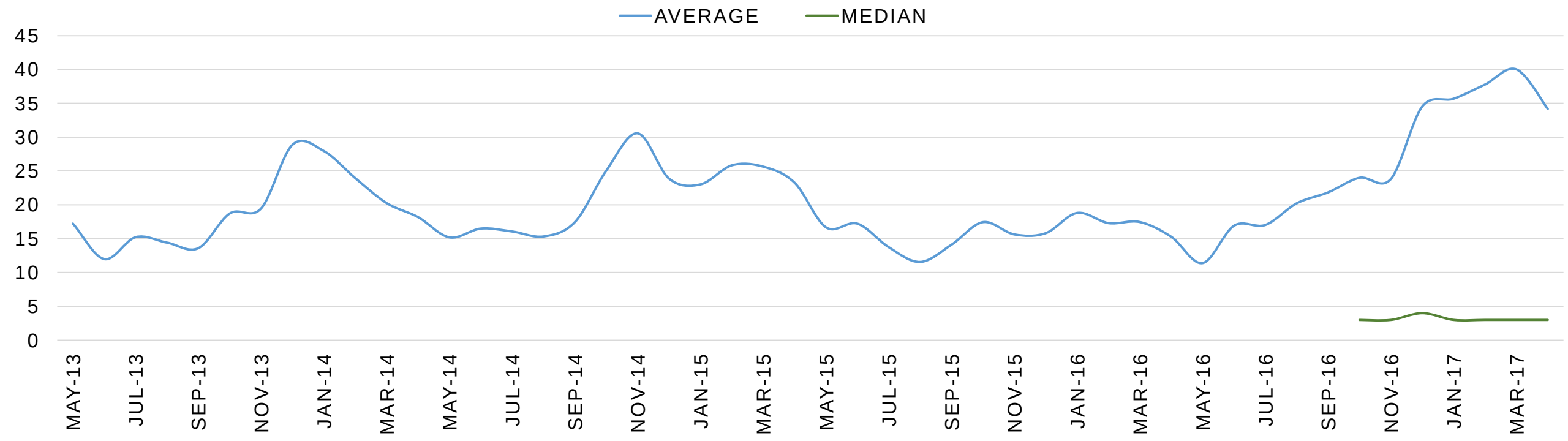

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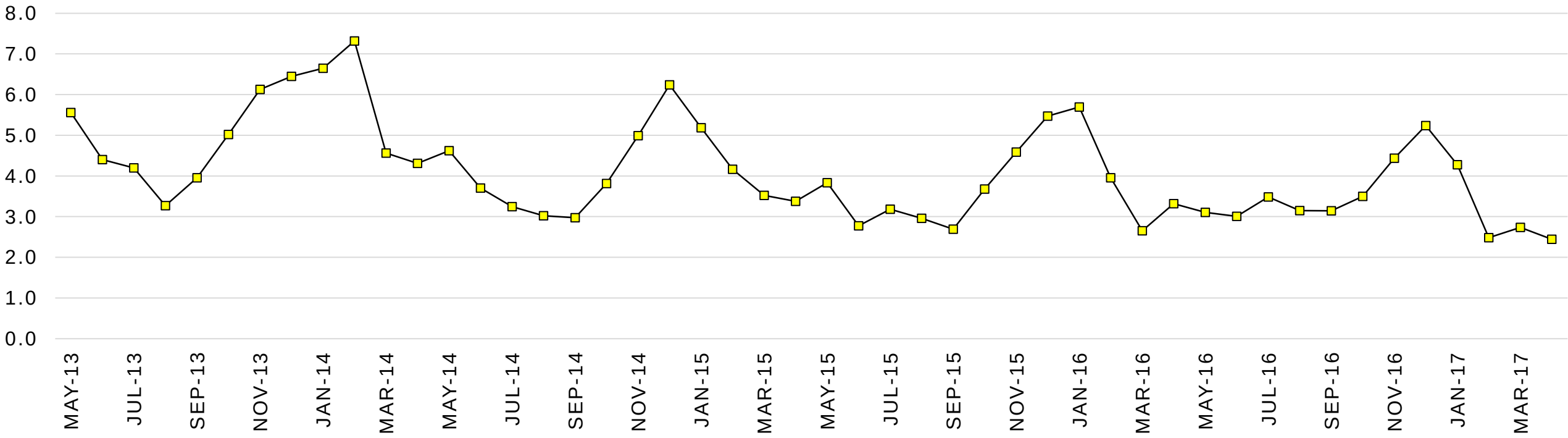
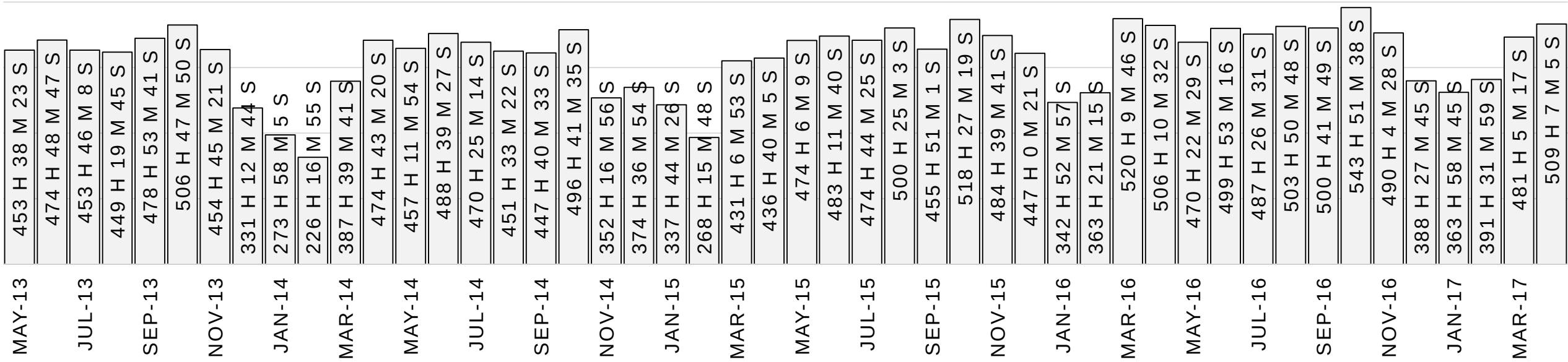


SOUND MONITORING

March 2017			April 2017		
Time Above	**48s** TA65 per operation	**481h 5m** TA65	Time Above	**54s** TA65 per operation	**509h 7m** TA65
Count Above	**2.57** N65 per operation	**93,250** N65	Count Above	**2.81** N65 per operation	**95,553** N65



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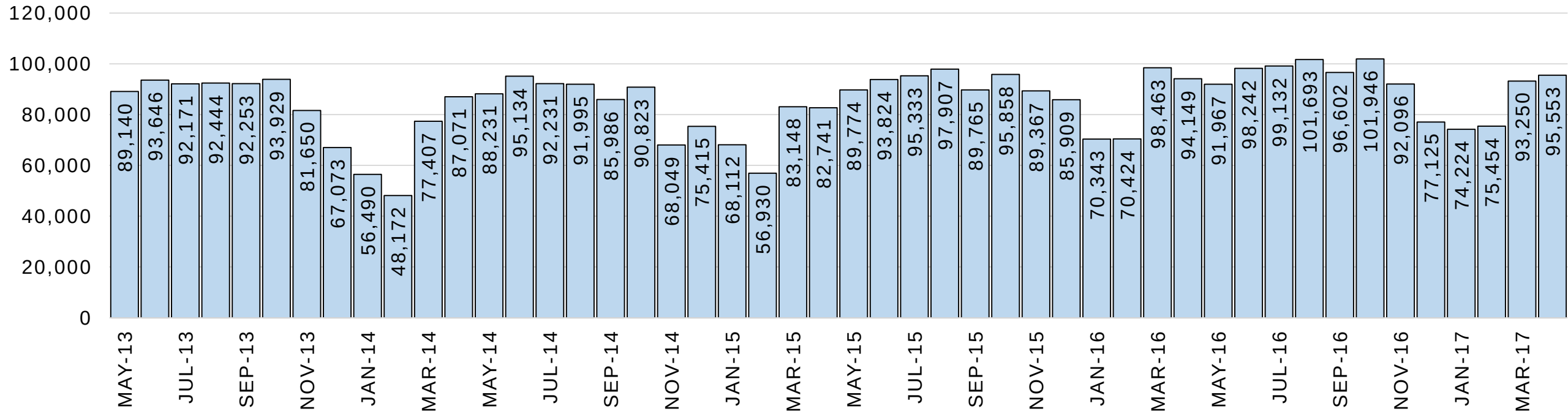

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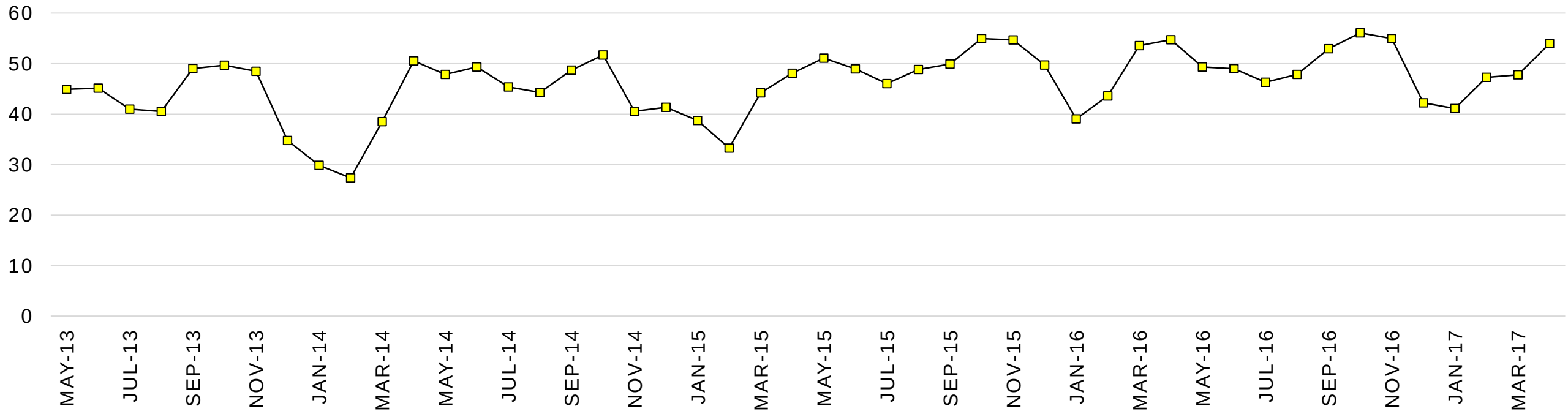

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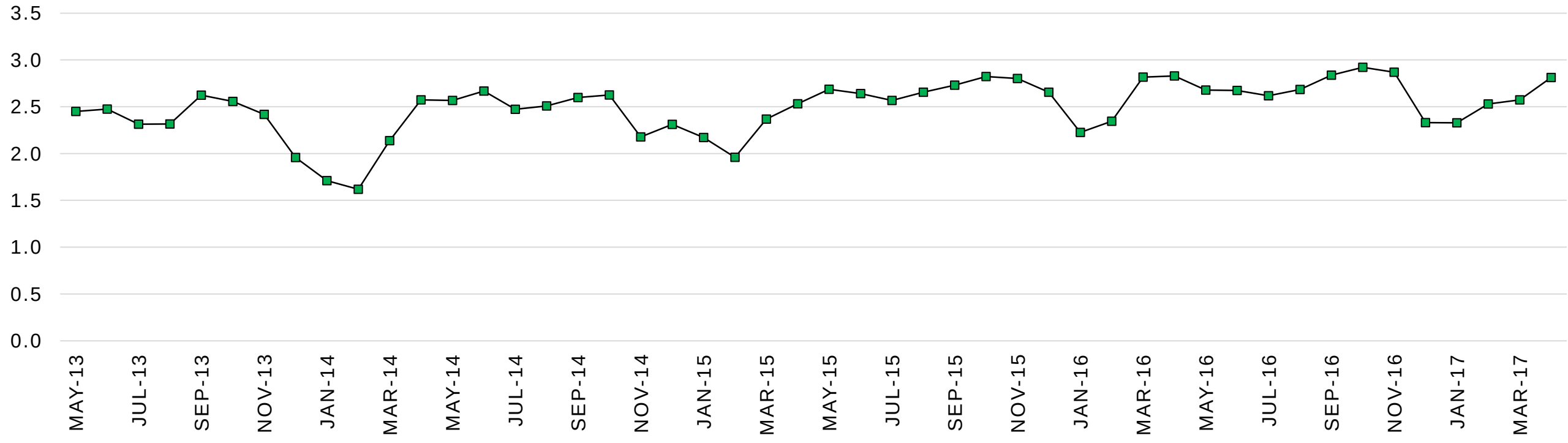

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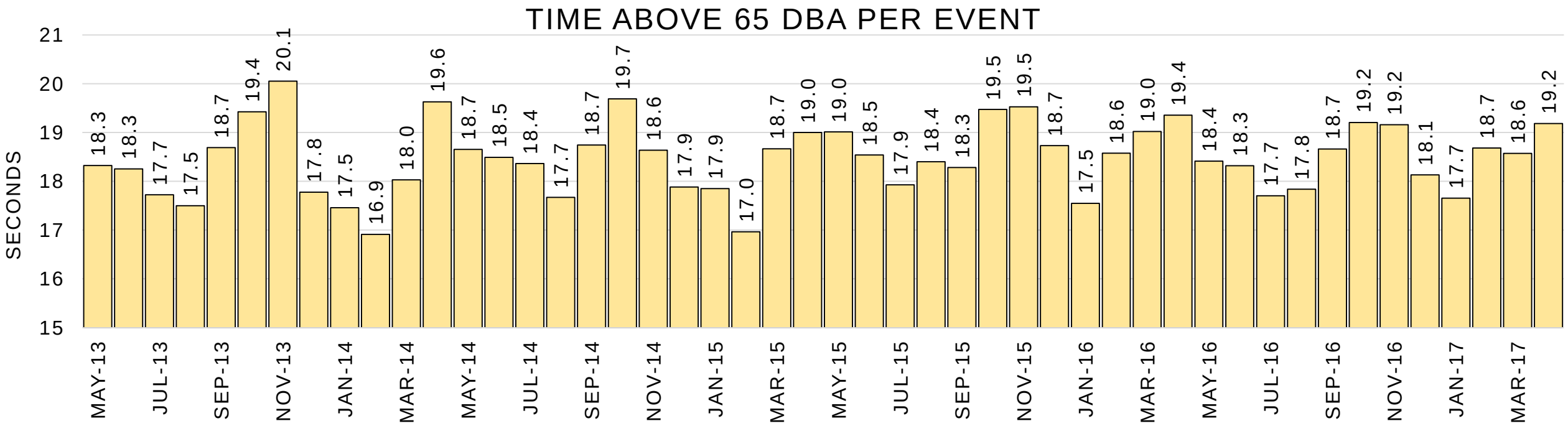
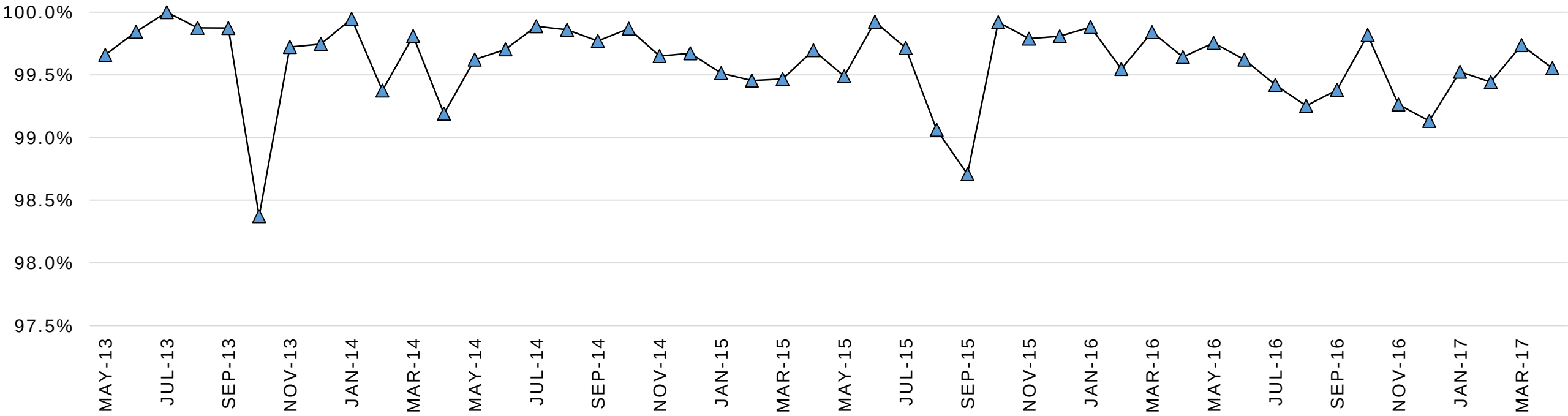


NOISE ABATEMENT

March 2017			
Runway 17	**99.7%**		
Corridor	**90.7%**		
Crossing	Day **28.8%**	Night **38.8%**	
RUS	Overall **50.7%**	Arrivals **51%**	Departures **51%**

April 2017			
Runway 17	**99.6%**		
Corridor	**88.5%**		
Crossing	Day **32.7%**	Night **43.0%**	
RUS	Overall **52.0%**	Arrivals **55%**	Departures **49%**



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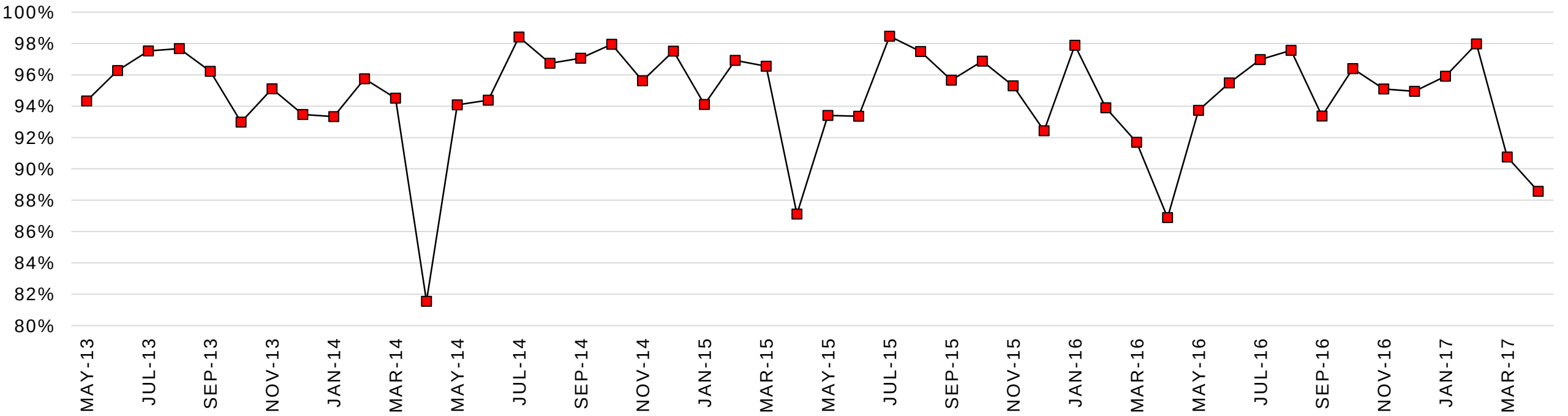

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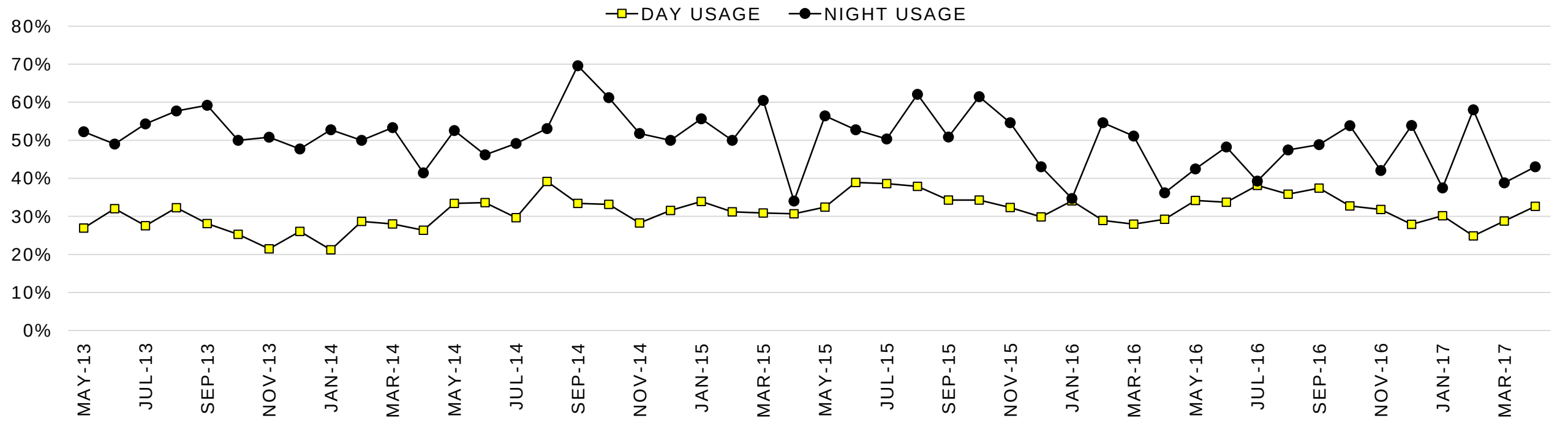

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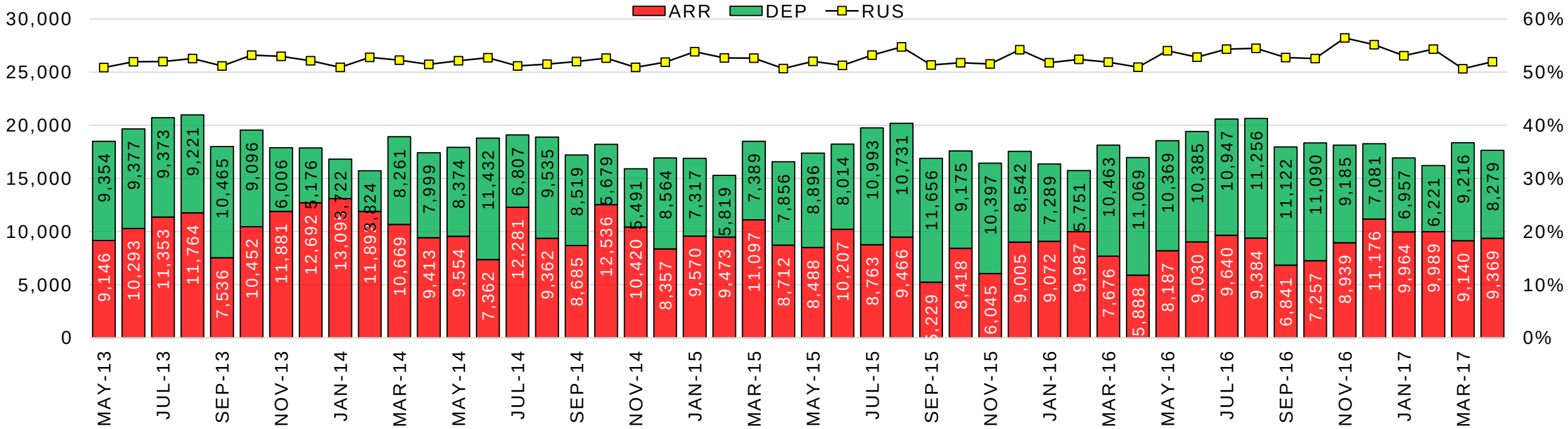


NOISE OVERSIGHT COMMITTEE
MAY 17, 2017

Item 5: FAA Converging Runway Operations Update – Kurt Mara, FAA

Converging Runway Display Aid (CRDA)

Federal Aviation Administration

Presented to: MSP Noise Oversight Committee

May 9th, 2017

By: Kurt Mara, MSP/M98/NPD TMO

What is it?

- CRDA allows the approach controllers to align or sequence traffic from a final to one runway with a final to another runway.
- This is accomplished by copying an actual target on the final of the first runway and “ghosting” the target on the final of a second runway.

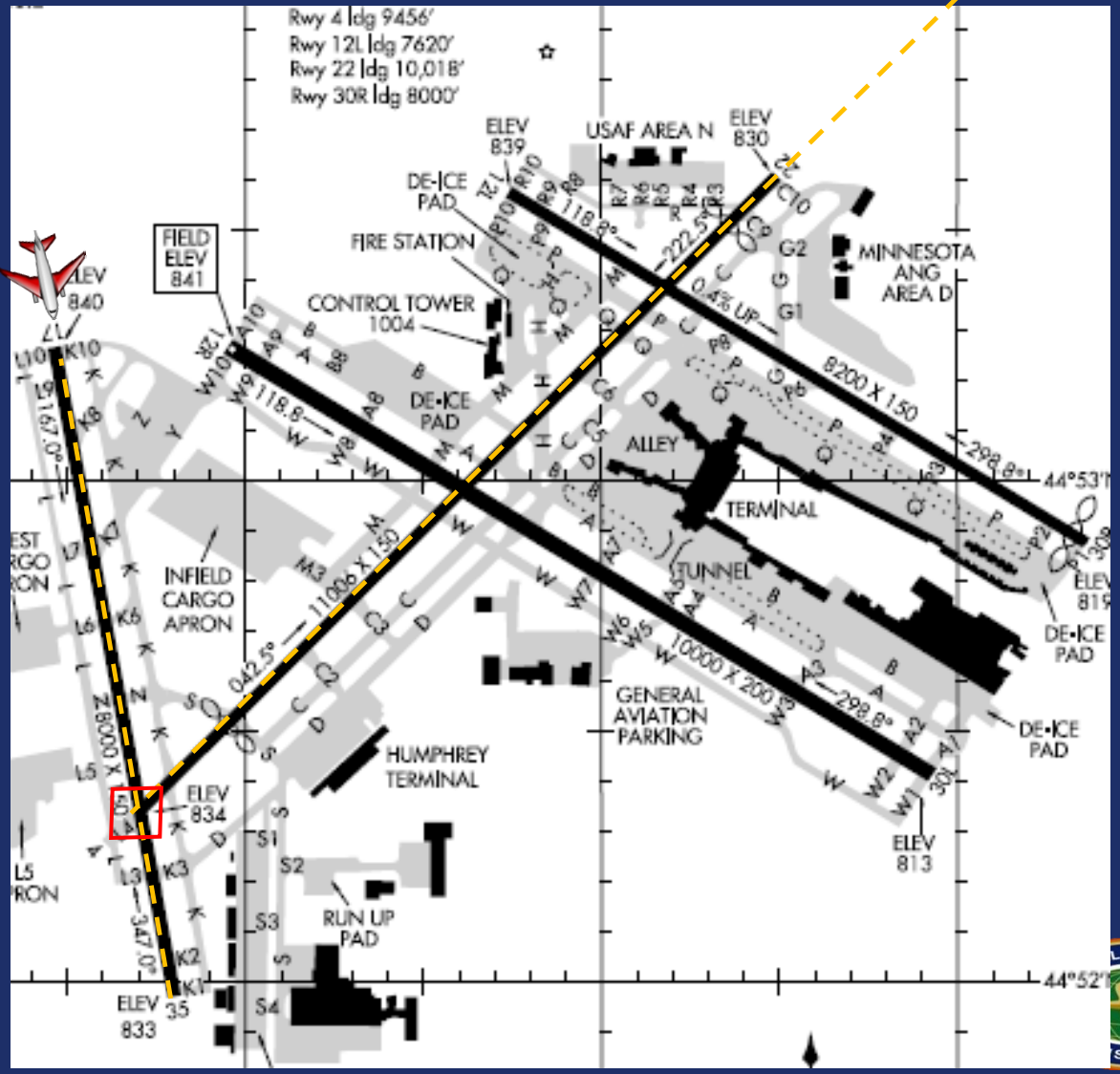
When will it be used at MSP?

- We currently use CRDA when on an 22/17 configuration while land and hold short operations are not available (due to winds or contaminant on the runway).
- MSP will begin to use CRDA whenever we are on a 30L/30R/35 converging runway operation (CRO).

Why use CRDA?

- During runway 17/22 operations, CRDA will ensure the arrivals don’t land simultaneously on both runways.
- During normal operations, MSP Tower uses land and hold short operations (LAHSO). If there is a contaminant on the runway or a tailwind for one of the runways, LAHSO is not available. CRDA must be used.

17/22 Operation



Why use CRDA?

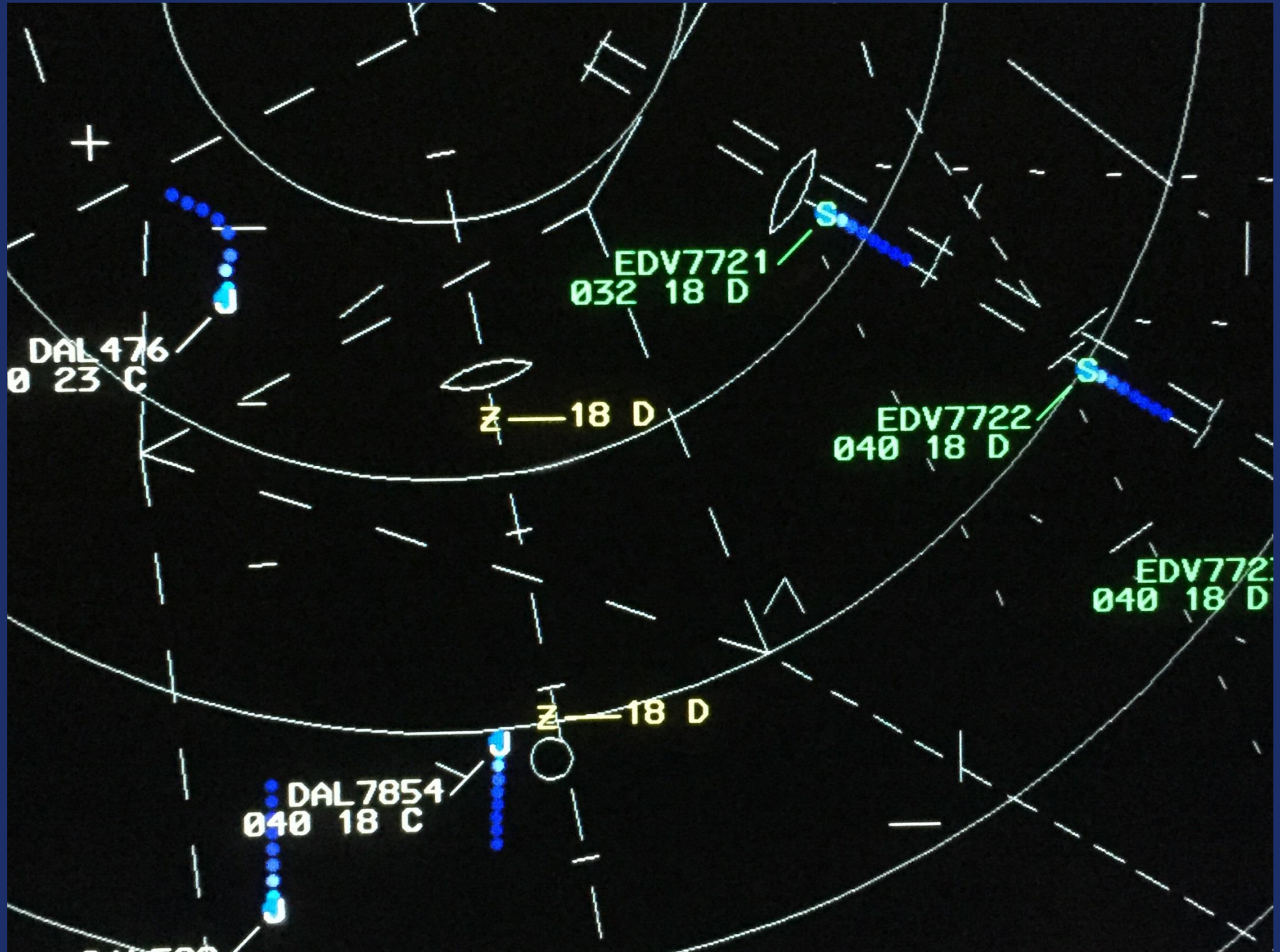
- **CRDA will help to optimize departure gaps during CRO operations by aligning the arrival traffic**
  - The goal is for this operation is to help the arrival on Runway 35 line up with the arrival on Runway 30L so the departure gap is not missed due to the arrival/departure window (ADW).

What does it look like?

- **As you will see in the next slides…**
  - With the arrival aircraft established on Runway 30L, a “ghost” target will be displayed on Runway 35.
  - The arrival controller for Runway 35 will vector traffic to line up within 1 mile of the ghost target.

What does it look like? (cont.)

- As the arrival aircraft lands on Runway 30L, the tower controller taxis the next departure into position waiting to go. At this time, the arrival aircraft on Runway 35 has just entered the ADW.
- As the arrival aircraft on Runway 30L exits the runway, the arrival aircraft on Runway 35 will exit the ADW and the tower controller can clear the departure aircraft for takeoff on Runway 30L.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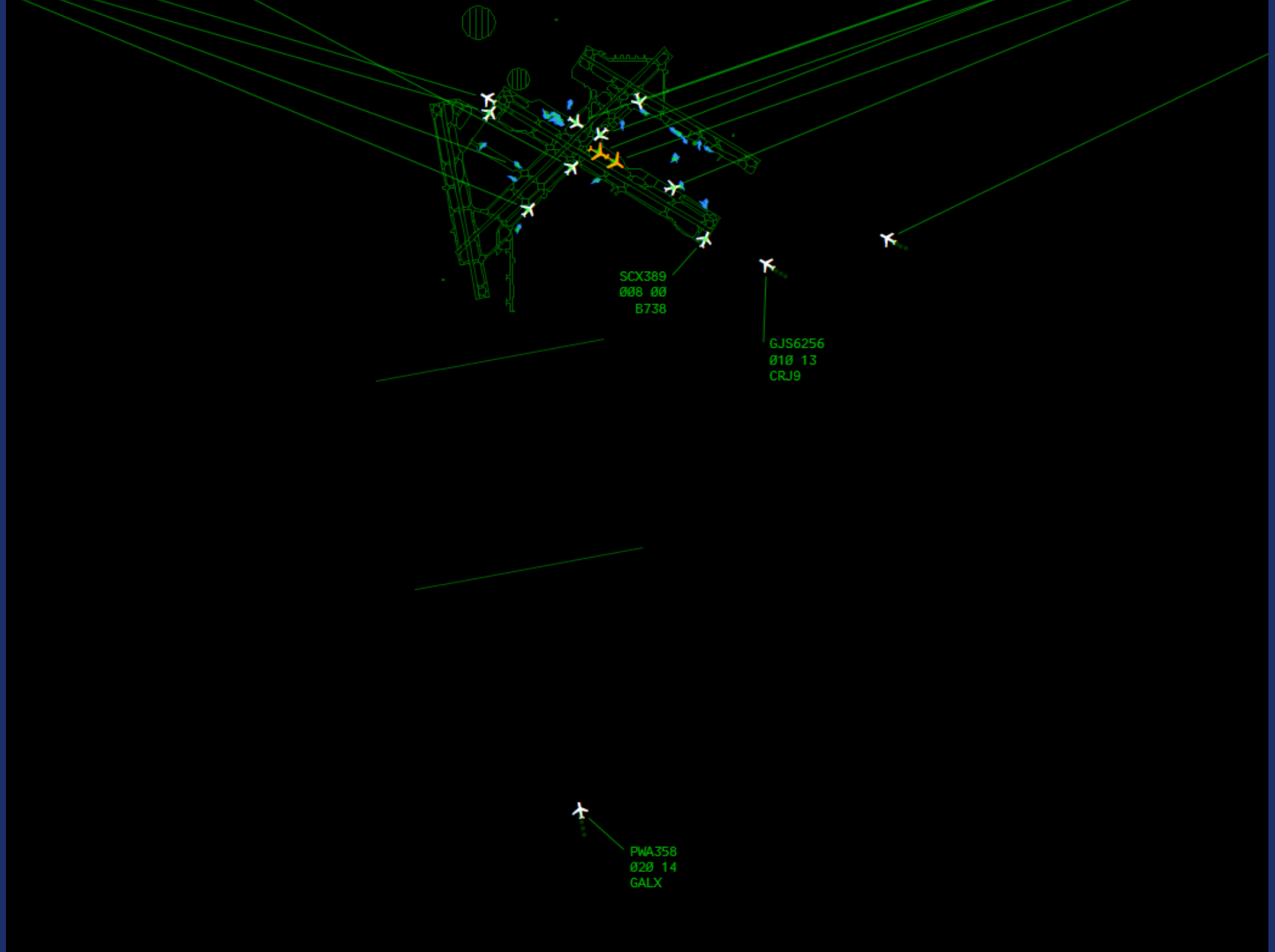
EDV7722
040 18 D
EDV7721
040 18 D
18 D
DAL7854
040 18 C


SCX389
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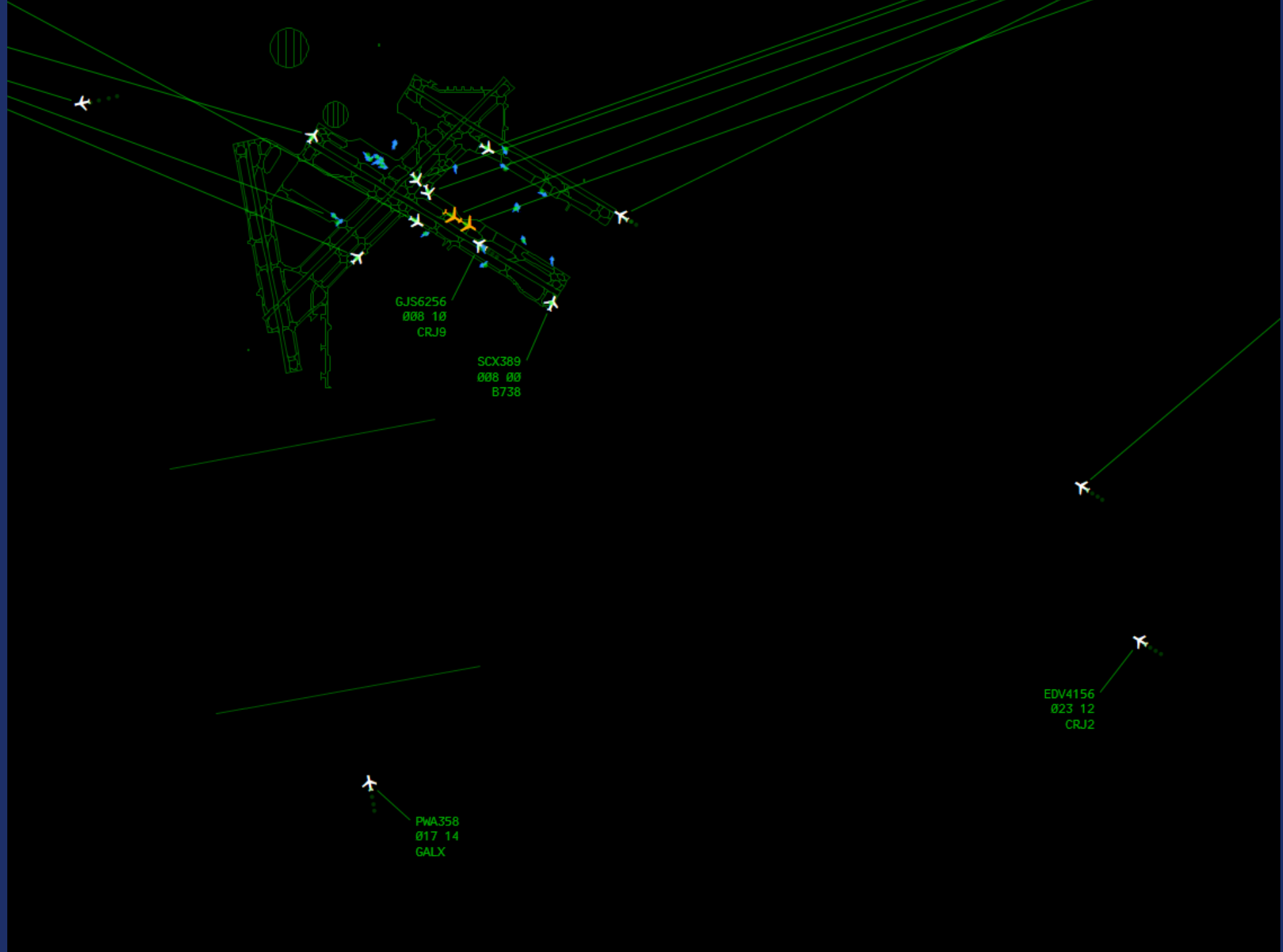
B738
GJS6256
010 13
CRJ9
PWA358
020 14
GALX


GJS6256
Ø08 1Ø
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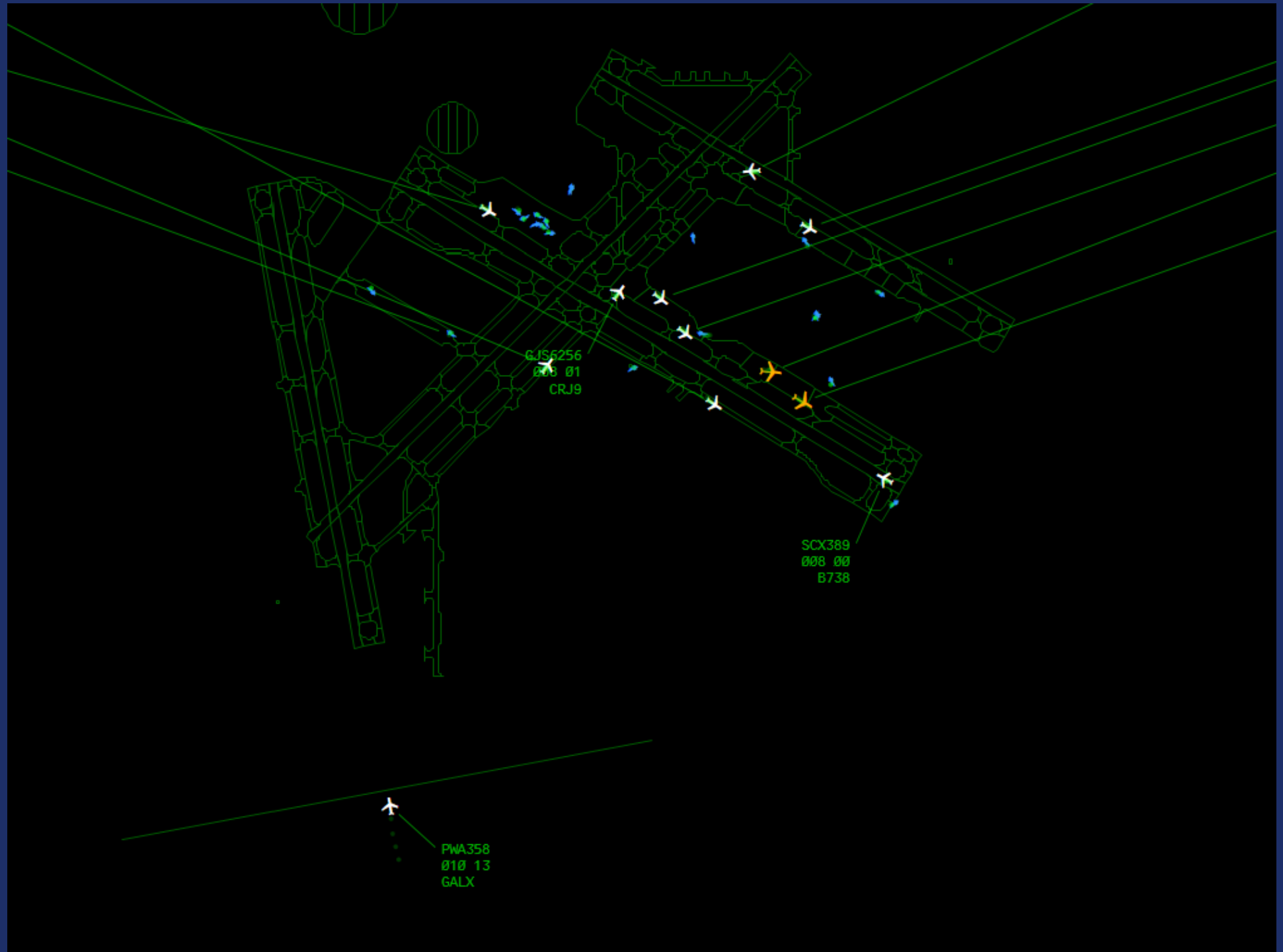
B738
EDV4156
Ø23 12
CRJ2
PWA358
Ø17 14
GALX


GJS6256
008 01
CRJ9
SCX389
008 00
B738
PWA358
010 13
GALX

What about Runway 30R?

- **Currently, there is no way to ghost traffic to 2 runways simultaneously.**
- **During visual approach conditions, the goal of the approach controllers will be to align the traffic on Runway 30R next to traffic lined up for Runway 30L.**
  - This will help with the departure gap for traffic departing Runway 30R.

What about Runway 30R? (cont.)

BUT….

- During instrument landing conditions, our rules require the traffic on the finals to be staggered. This will limit the benefit to departure from Runway 30R.
- Therefore, there won't be a gain to the departure traffic in this situation.
- So…the departure traffic will be handled the way it is today.

How does it help?

In addition to improving the efficiency of the airport by optimizing the departure gap for the tower controller, it will increase the safety of the operation.

- It does this by aiding the tower controller in separating the departures from the parallel runway from the arrivals to Runway 35

How does it help? (cont.)

The long term belief is that we may be able to increase our arrival efficiency at MSP as well for short periods throughout the day.

- By increasing the departure efficiency, we will be able to finish the departure banks earlier. With little to no departures waiting to go, the spacing on Runway 35 can be reduced.
- With a reduction in spacing, our arrival rate may be increased.
- The gain will be more evident when the arrival and departure banks are slightly spread out.

Questions?


Thank You!

NOISE OVERSIGHT COMMITTEE
MAY 17, 2017

Item 6: Delta Air Lines Fleet Mix Update – Captain Gordy Goss, Delta Air Lines

DELTA AIR LINES FLEET PLAN AS OF SPRING 2017

(Mainline Fleet Only)

Boeing 747-400

- B-747-400 Fleet is retiring as of DEC 2017
- Currently only 7 remain in service
- No Regular Schedule through MSP

Boeing 777

- B-777 -200ER/LR
- Total of 18 in service
- Currently flies MSP – HND (Tokyo) and MSP – CDG (Paris)
- No Crew Base in MSP

Airbus A-350

- AIRBUS A – 350
- Long Range Flights (747/777 type) Approx 320 seats
- 25 on order. 15 to be delivered 2017 – 2019. 10 pushed back beyond 2019
- Not planning to fly from MSP on a consistent basis in near future

Airbus A-330

- Airbus A-330 -200/-300/-900
- 32 in Service. 25 on Order for Delivery 2019-2022
- Majority of European Service from MSP (AMS, CDG, LHR, plus HNL and Flex)

Boeing 767

- B-767 -300/-300ER/-400
- Currently 82 in Service
- Flies some MSP – Europe (AMS/CDG/LHR, plus some HNL, CUN, Domestic)
- Will remain in fleet through mid – 2020s
- Crew base in MSP w/ B-757

Boeing 757

- B – 757 -200/-300
- Currently 104 in Service
- Flies mostly Domestic (including Alaska)
- Crew Base in MSP w/ B-767

Boeing 737

- B- 737 -700/-800 Currently 87 in Service
- B-737 -900 Currently 75 in Service
- 55 -900's on Order to be Delivered 2017-2019
- Flies primarily Domestic. Crew Base in MSP

Airbus A-320

- Airbus A-319/320
- Currently 125 in Service. Flies mainly Domestic
- Crew Base in MSP

Airbus A-321

- Airbus A-321
- Currently 19 flying
- 112 on firm order for delivery 2017-2021
- Crew Base in MSP

Boeing 717

B-717
Currently 91 in Service
Out of Production. No additional on order
No Crew Base in MSP

MD-90

- McDonnell Douglas MD – 90.
- Currently 65 in Service
- Out of Production
- Crew Base in MSP

MD-88

- McDonnell Douglass MD-88
- Out of Production
- 116 Currently in Service (note: MD-88 slated to retire DEC 2020*)
- Note engine difference between MD-88 and MD-90s in background
- Crew Base in MSP

Bombardier CS-100/300

- CS 100 = 110 Seats. CS 300 = 132 Seats. A-350/B-787 Ergonomics
- 75 Aircraft on firm order. 50 options
- First Delivery Spring 2018. In Service Summer 2018
- Long Range. Extremely Quiet (Stage 5)
- Will not initially be based in MSP

TECHNOLOGY IS YOUR FRIEND

DELTA AIR LINES

WE STRIVE TO BE INNOVATIVE, THOUGHTFUL, RELIABLE

- THROUGHOUT THE U.S. WE ARE UPGAUGING A/C, REDUCING RJs
- WE STRIVE TO BE GOOD NEIGHBORS BECAUSE WE ARE NEIGHBORS (13,000+ in MN)
- WE ARE REDUCING OUR CARBON AND NOISE FOOTPRINT
- NEW AIRCRAFT DELIVERIES AND ORDERS
  - (45 in 2017. 61 in 2018. 71 in 2019)
  - Quieter, More Fuel Efficient, Less Carbon Output
  - Additional Narrow-body Orders Possible:
    (A-320neo/B-737MAX/CS-500)

DO YOU REALLY WANT TO TRAVEL TO NYC ON THIS:

NOISE OVERSIGHT COMMITTEE
MAY 17, 2017

Item 7: Interactive Reports Demonstration

Item 7: Interactive Reports Demonstration

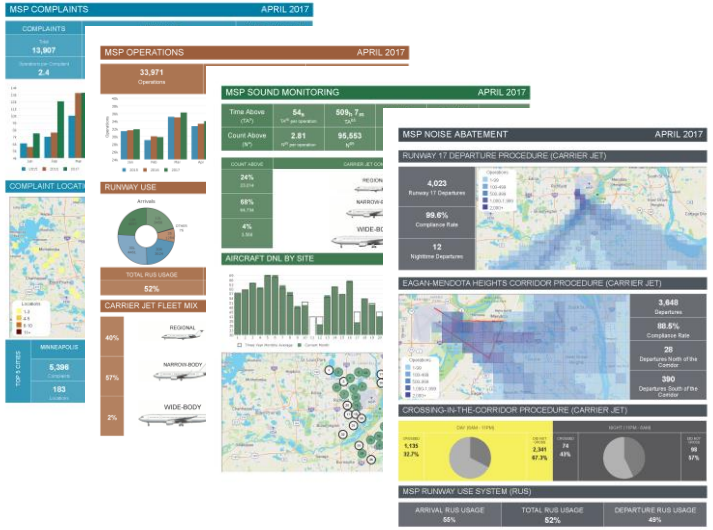
At the March 2017 NOC meeting, the Committee directed Staff to begin producing a new MSP Monthly Operations Summary Report.

The new report is intended to give readers a summary of these four areas in a brief and easily understood format

Much of the existing report data does not exist in this new report. To replace this data, the Noise Office built a full replacement application that combines data from the Reports on the Fly section and existing reports

The report consolidates existing reports into four functional areas:

- Operations
- Complaints
- Sound Monitoring
- Noise Abatement



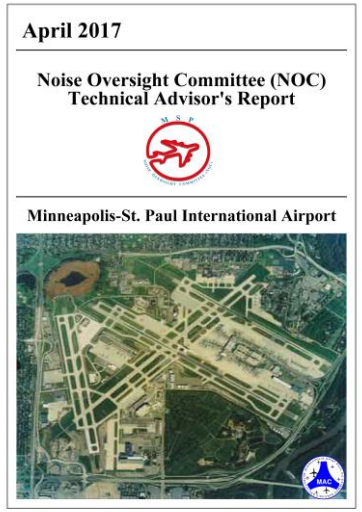
Expected Launch:

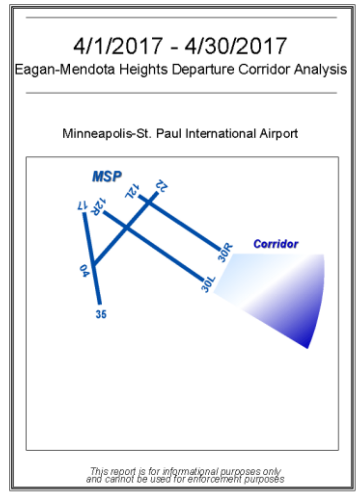
- May Reporting Cycle – June 12, 2017

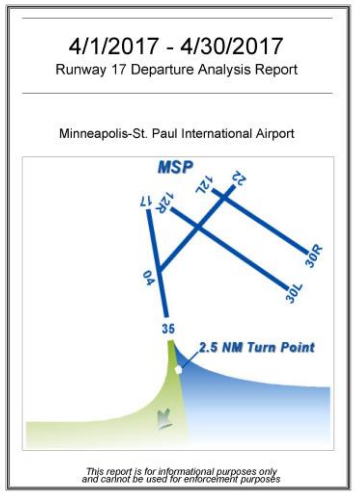
Item 7: Interactive Reports Demonstration

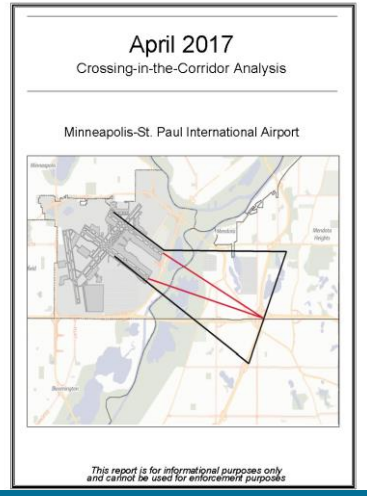
Requested Action

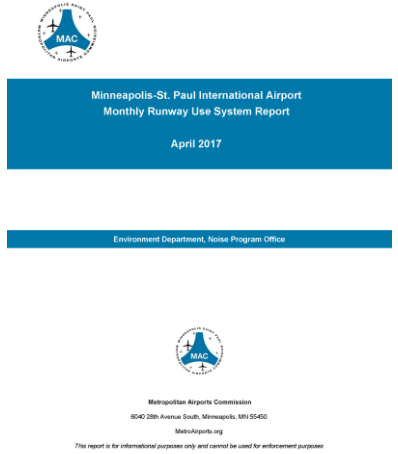
APPROVE THE NEW WEBSITE INTERACTIVE REPORTING CAPABILITIES AND DIRECT STAFF TO DISCONTINUE THE PRODUCTION OF THE MONTHLY TECHNICAL ADVISOR'S REPORT, EAGAN-MENDOTA HEIGHTS CORRIDOR REPORT, RUNWAY 17 DEPARTURE ANALYSIS REPORT, CROSSING-IN-THE-CORRIDOR ANALYSIS REPORT AND THE MSP RUNWAY USE SYSTEM REPORT.











NOISE OVERSIGHT COMMITTEE
MAY 17, 2017

Item 8: New Aircraft Noise Basics Videos

NOISE OVERSIGHT COMMITTEE
MAY 17, 2017

Item 9: Review of January 25 and April 19 Listening Sessions

6 residents attended the Winter Listening Session.

All questions were answered at the meeting, therefore staff did not prepare written responses.

Comments/questions from the residents focused on:

- Converging Runway Operations (CRO) and the increased frequency of arrivals on Runways 12L and 12R
- Residential Noise Mitigation Program eligibility
- Increase in flights during early morning hours
- Area Navigation (RNAV) arrival procedures
- New aircraft use at MSP to reduce noise from the source
- Altitude of aircraft

NOISE OVERSIGHT COMMITTEE
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Item 9: Review of January 25 and April 19 Listening Sessions

19 residents attended the Spring Listening Session held in Eagan.

All questions were answered at the meeting, therefore staff did not prepare written responses.

The comments/questions from the residents focused on:

- Measures being taken by the FAA in an effort to return runway use levels back to pre-Converging Runway Operations levels
- Runway 17 departure frequency
- Enacting penalties and/or disincentives for nighttime operations
- Runway Use System (RUS) prioritization
- Airport capacity and operational forecasts
- New aircraft to reduce noise at the source

Presentation slides from both Listening Sessions are available at http://www.macnoise.com/our-neighbors/msp-quarterly-listening-sessions

At the end of each meeting, staff asked for feedback about the meeting format. Comments indicated:

- attendees appreciate the diverse mix of representatives from the MAC, FAA, the NOC and airlines and the willingness to openly discuss individual concerns.
- Pleased with the restructured meeting format, which allowed for good dialogue and that they felt listened to

The next Listening Session is July 26, 2017 at 7:00 PM in Apple Valley

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Item 10: Public Comment

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Item 11: Announcements

Next NOC meeting

July 19, 2017 @ 1:30 PM

MAC General Offices

6040 28th Avenue South

Minneapolis, MN 55450