



NOISE OVERSIGHT COMMITTEE

July 17, 2019

Audio recordings are made of this meeting

ITEM 1

NOMINATION AND ELECTION OF CO-CHAIRS



NOISE OVERSIGHT COMMITTEE
JULY 17, 2019



Powers and Duties of the Co-Chairs



- To review agendas
- To preside over meetings - the presiding Chair will alternate every other meeting

By the mutual consent of the Co-Chairs, special meetings may be called, or upon request of a majority of the Committee, four (4) users and four (4) community representatives



To sign as Co-Chairs, all instruments in writing that may require such signature, unless the membership shall otherwise direct, and to perform such other duties and tasks as the Bylaws or as the membership shall from time to time prescribe



Action Requested

CONDUCT USER AND COMMUNITY CO-CHAIR NOMINATIONS AND ELECTIONS TO ESTABLISH THE RESPECTIVE CO-CHAIRS TO SERVE FOR TWO YEARS FROM JUNE 26, 2019 THROUGH JUNE 25, 2021.



**NOISE OVERSIGHT COMMITTEE
JULY 17, 2019**



ITEM 2

REVIEW AND APPROVAL OF MAY 15TH MEETING MINUTES



NOISE OVERSIGHT COMMITTEE
JULY 17, 2019



ITEM 3

REVIEW OF MONTHLY OPERATIONS REPORTS

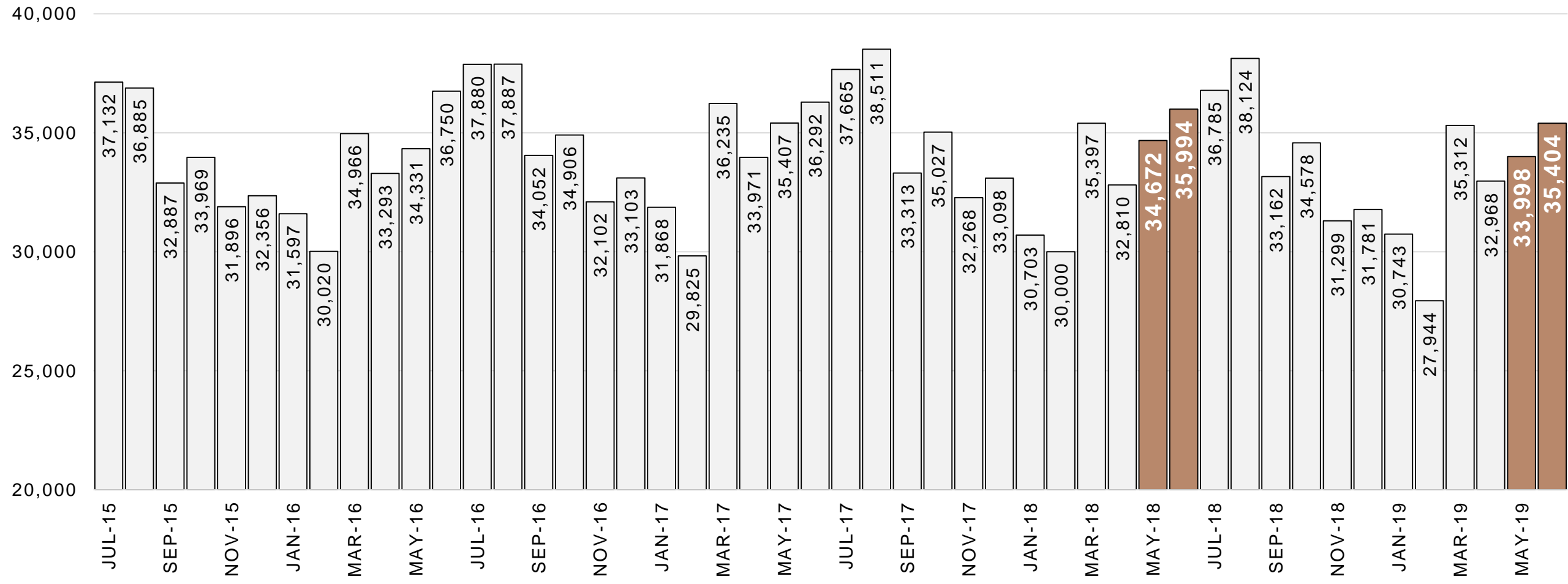


NOISE OVERSIGHT COMMITTEE
JULY 17, 2019



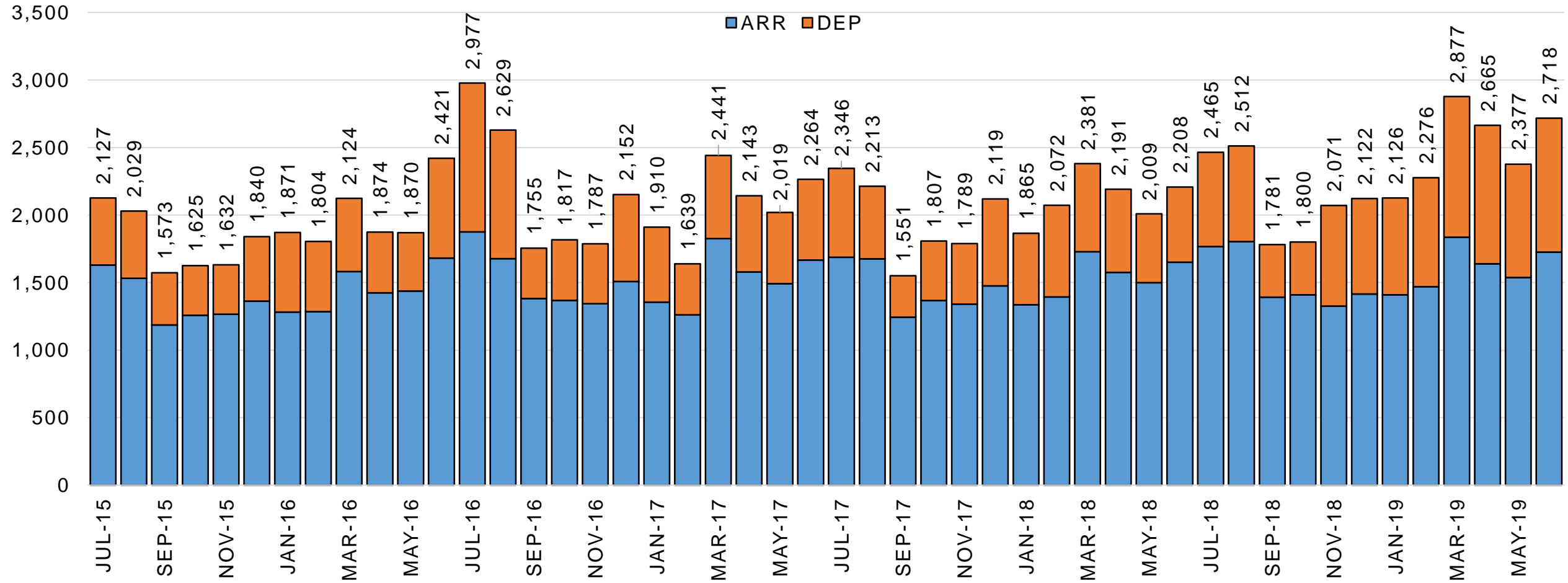
MSP OPERATIONS

MAY 2019		JUNE 2019	
33,998	2,377	35,404	2,718
Operations	Nighttime Operations (10:30 PM – 6:00 AM)	Operations	Nighttime Operations (10:30 PM – 6:00 AM)



MSP OPERATIONS

MAY 2019		JUNE 2019	
33,998 Operations	2,377 Nighttime Operations (10:30 PM – 6:00 AM)	35,404 Operations	2,718 Nighttime Operations (10:30 PM – 6:00 AM)



RUNWAY USE

MAY 2019

JUNE 2019

NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
27%	54%	12%

NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
28%	55%	12%

2018 YTD

2019 YTD

NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
33%	46%	13%

NORTH FLOWS	SOUTH FLOWS	MIXED FLOWS
37%	44%	12%

North Flow

South Flow

Mixed Flow



MAY – JUN RUNWAY USE

69,402
OPERATIONS IN MAY – JUN

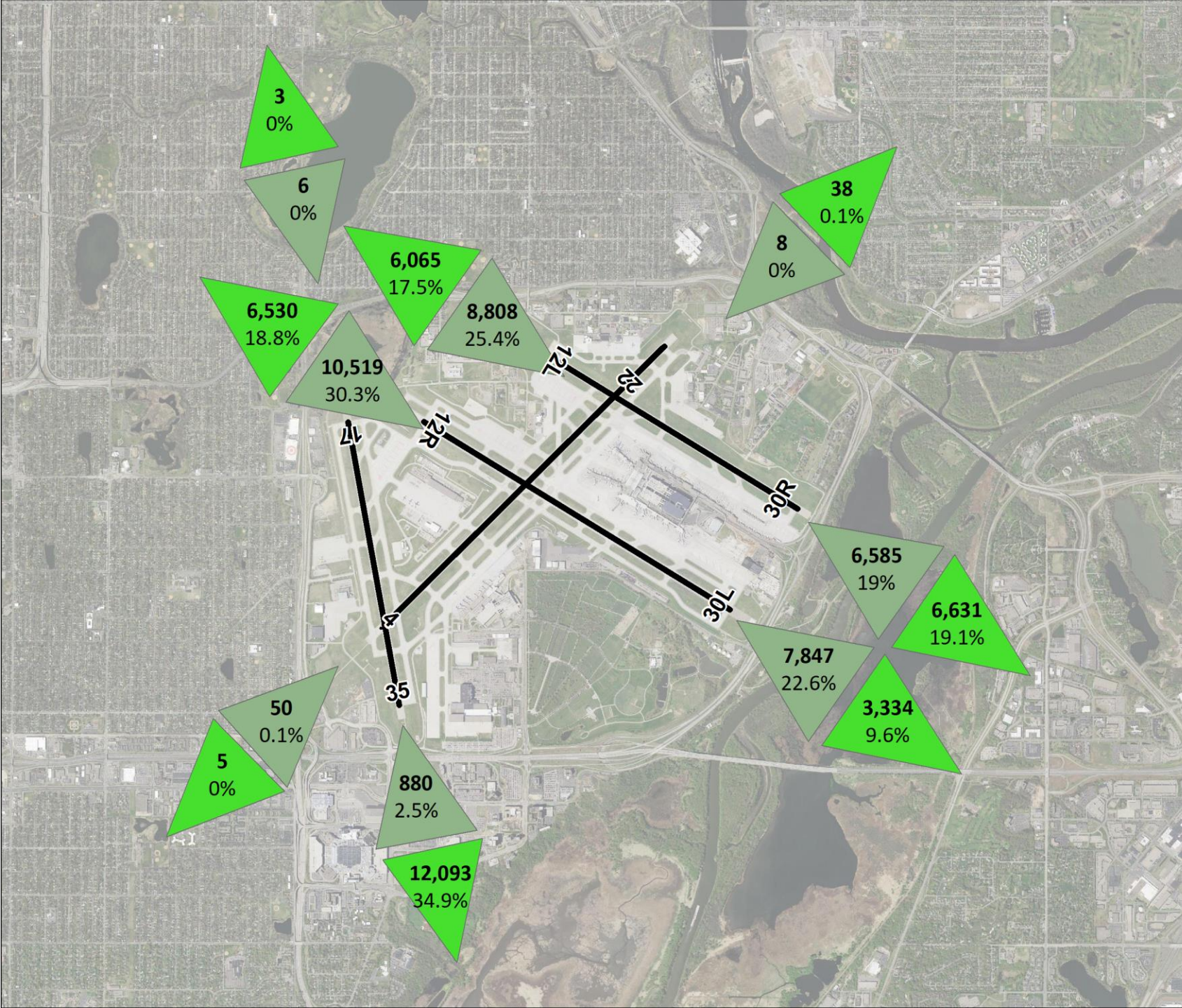
PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4
35%	19%	0.1%	46%

34,703
ARRIVALS

PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4
42%	3%	0.2%	56%

34,699
DEPARTURES

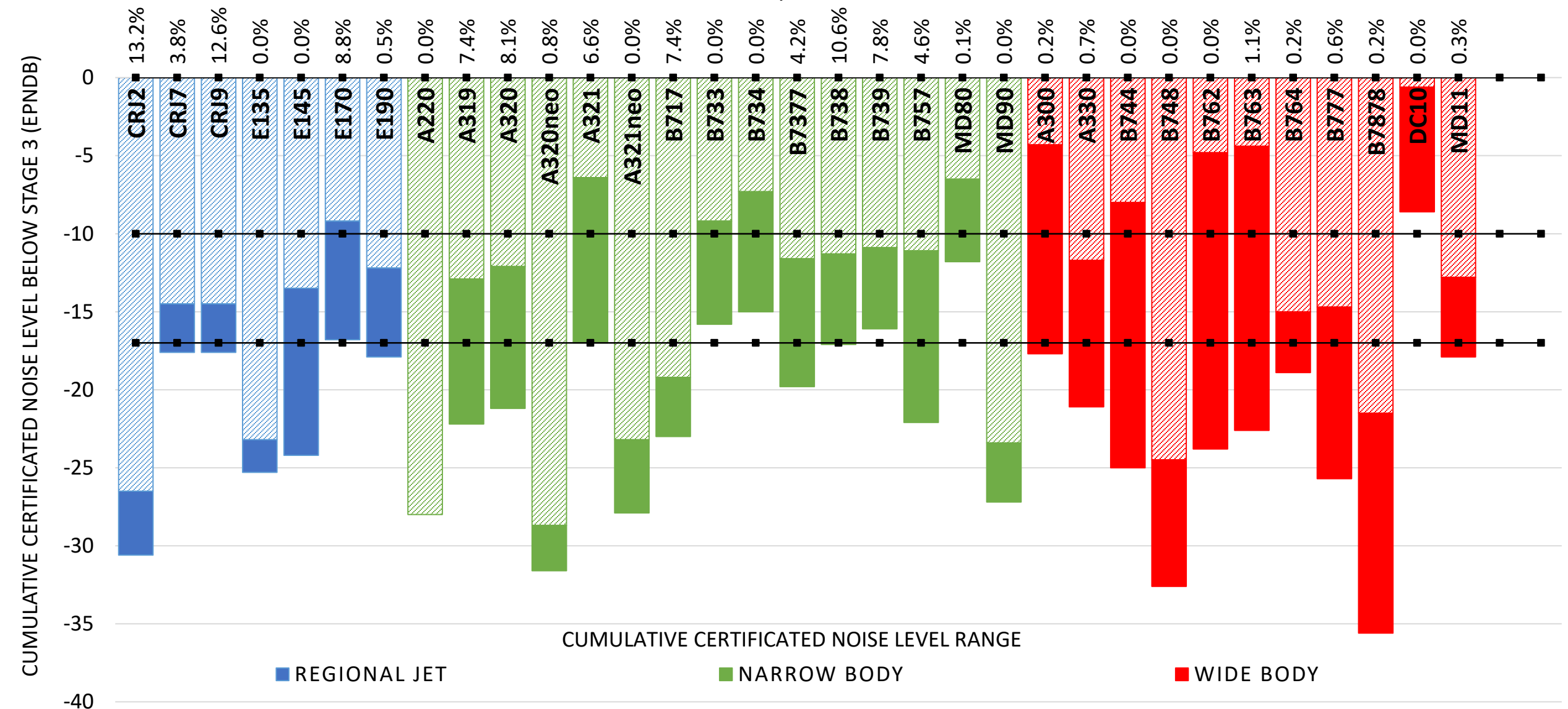
PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4
29%	35%	0.1%	36%



MSP OPERATIONS

2019 MSP CARRIER JET USAGE WITH CUMULATIVE CERTIFICATED NOISE LEVELS

May - Jun

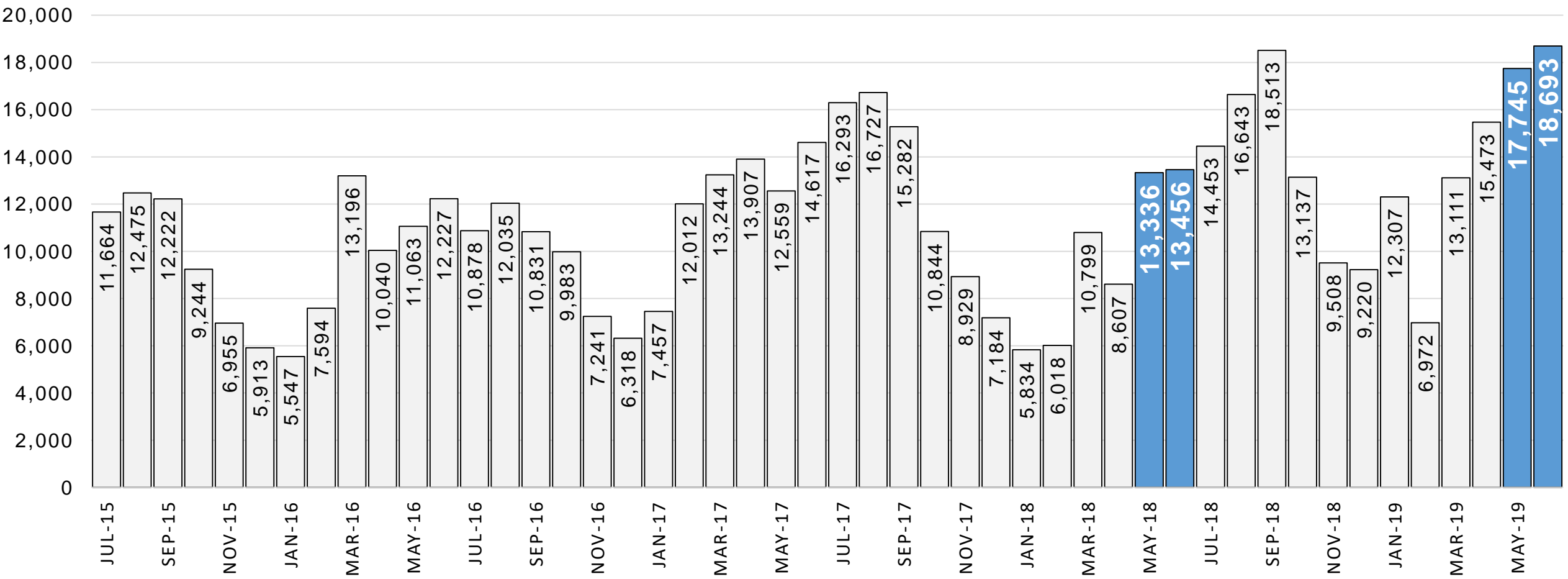


SOURCE: USAGE DATA: MACNOMS; NOISE CERTIFICATION DATA: EUROPEAN AVIATION SAFETY AGENCY

CUMULATIVE CERTIFICATED NOISE LEVELS REPRESENTED AS A RANGE TO ACCOUNT FOR MULTIPLE CERTIFICATION VARIABLES (WEIGHT, MODEL, ENGINE TYPE, AIRFRAME CONFIGURATION, ETC)

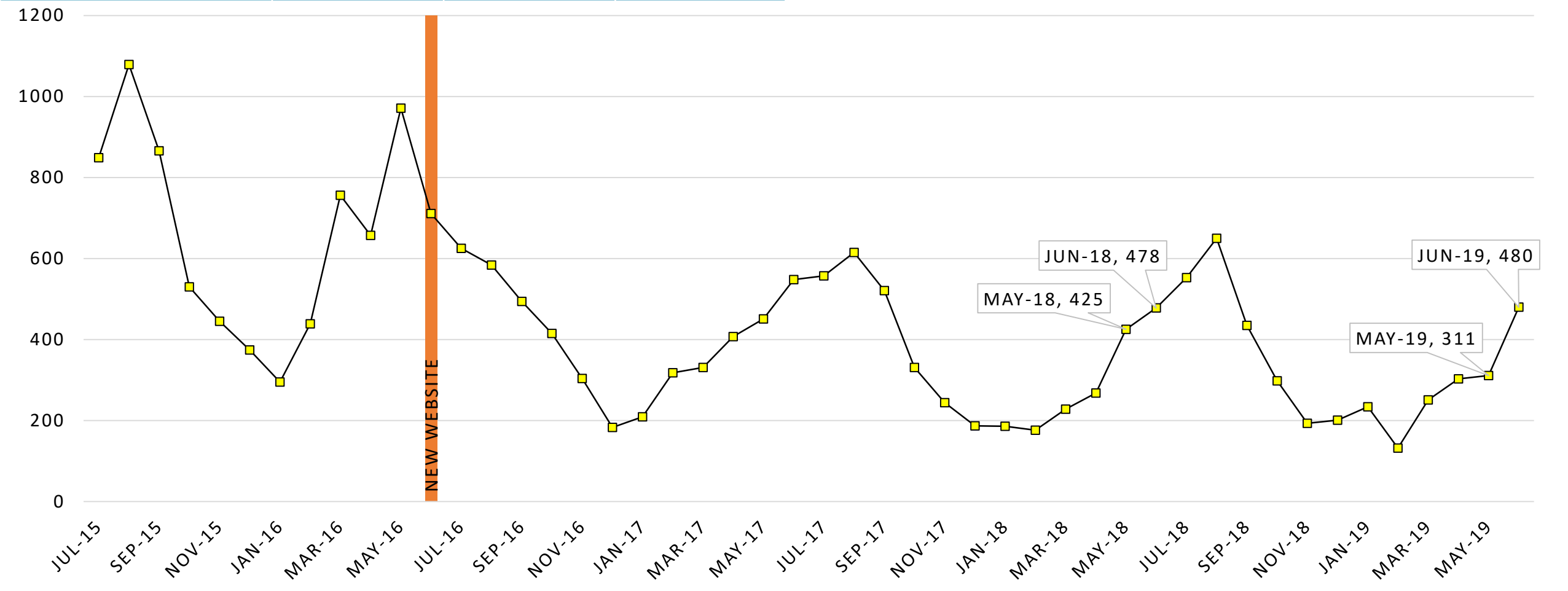
MSP COMPLAINTS

MAY 2019				JUNE 2019			
COMPLAINTS	LOCATIONS			COMPLAINTS	LOCATIONS		
17,745	311			18,693	480		
Operations per Complaint	New Locations	Average	Median	Operations per Complaint	New Locations	Average	Median
1.9	21	57	4	1.9	74	39	4



MSP COMPLAINTS

MAY 2019				JUNE 2019			
COMPLAINTS	LOCATIONS			COMPLAINTS	LOCATIONS		
17,745	311			18,693	480		
Operations per Complaint	New Locations	Average	Median	Operations per Complaint	New Locations	Average	Median
1.9	21	57	4	1.9	74	39	4





TOP 10 LOCATIONS

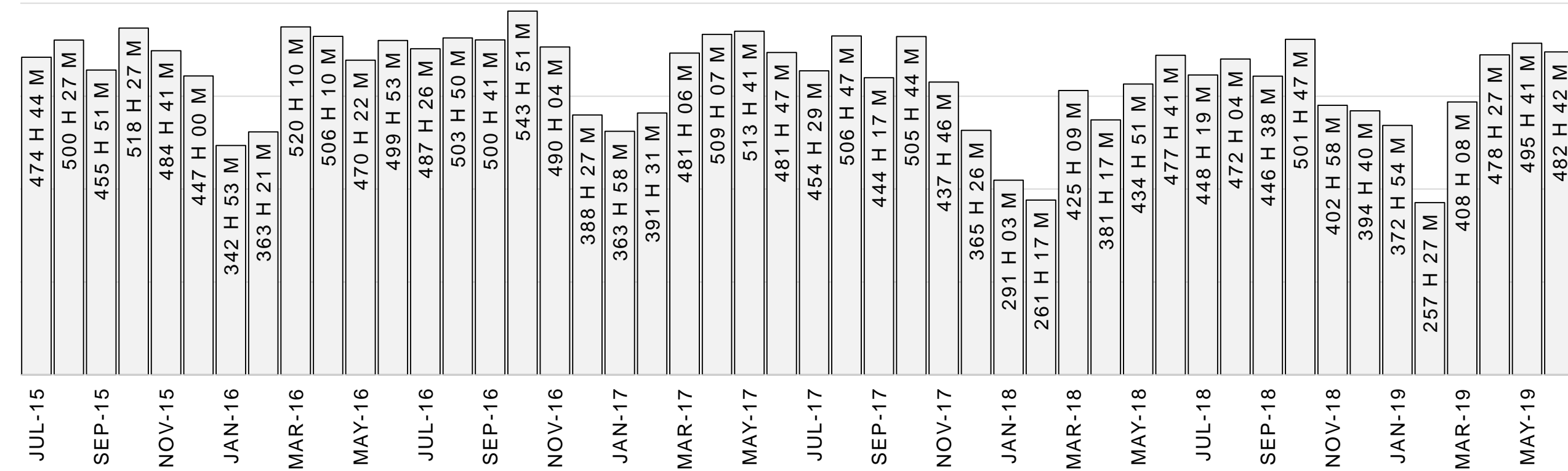
FILED
16,908
 (46%)
 COMPLAINTS DURING MAY & JUNE

9 OF 10
 LOCATIONS WERE IN THE TOP 10
 FOR MAR – APR DATA

379
 (67%)
 LOCATIONS FILED 10 OR LESS
 COMPLAINTS

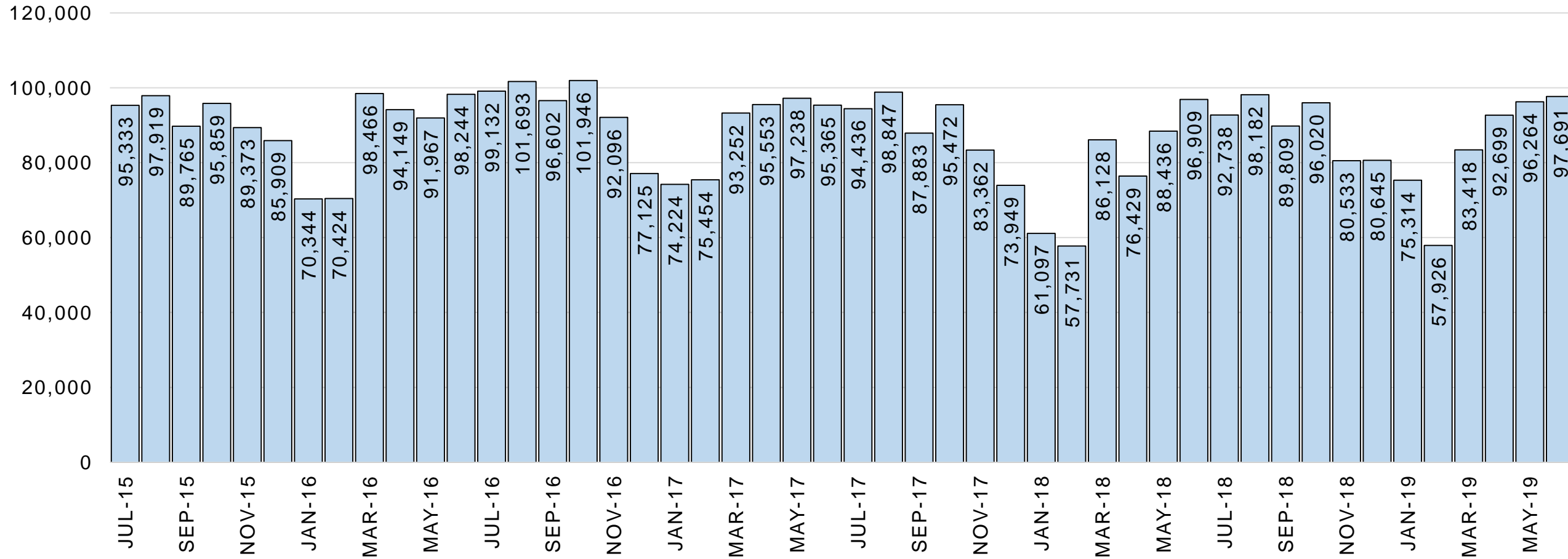
SOUND MONITORING

MAY 2019			JUNE 2019		
Time Above	52_s TA ⁶⁵ per operation	495_h 41_m TA ⁶⁵	Time Above	49_s TA ⁶⁵ per operation	482_h 42_m TA ⁶⁵
Count Above	2.83 N ⁶⁵ per operation	96,264 N ⁶⁵	Count Above	2.76 N ⁶⁵ per operation	97,691 N ⁶⁵



SOUND MONITORING

MAY 2019			JUNE 2019		
Time Above	52_s TA ⁶⁵ per operation	495_h 41_m TA ⁶⁵	Time Above	49_s TA ⁶⁵ per operation	482_h 42_m TA ⁶⁵
Count Above	2.83 N ⁶⁵ per operation	96,264 N ⁶⁵	Count Above	2.76 N ⁶⁵ per operation	97,691 N ⁶⁵



NOISE ABATEMENT

MAY 2019

JUNE 2019

Runway 17	99.8%
Corridor	86.6%
Cross Day	33.2%
Cross Night	31.2%

Runway 17	99.8%
Corridor	96.1%
Cross Day	32.9%
Cross Night	50.0%

RUS	53.6%	Arrive – 43%	Depart – 64%	RUS	54.1%	Arrive – 45%	Depart – 63%
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ITEM 4

PUBLIC COMMENT PERIOD



NOISE OVERSIGHT COMMITTEE
JULY 17, 2019



ITEM 4

PUBLIC COMMENT PERIOD

Speaking at a Meeting

- Please complete and submit a speaker card.
- Each speaker will have one opportunity to speak and is allotted three (3) minutes.
- When called upon to speak, speak clearly into the microphone, 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
MAY 15, 2019



ITEM 5 CONVERGING RUNWAY OPERATIONS

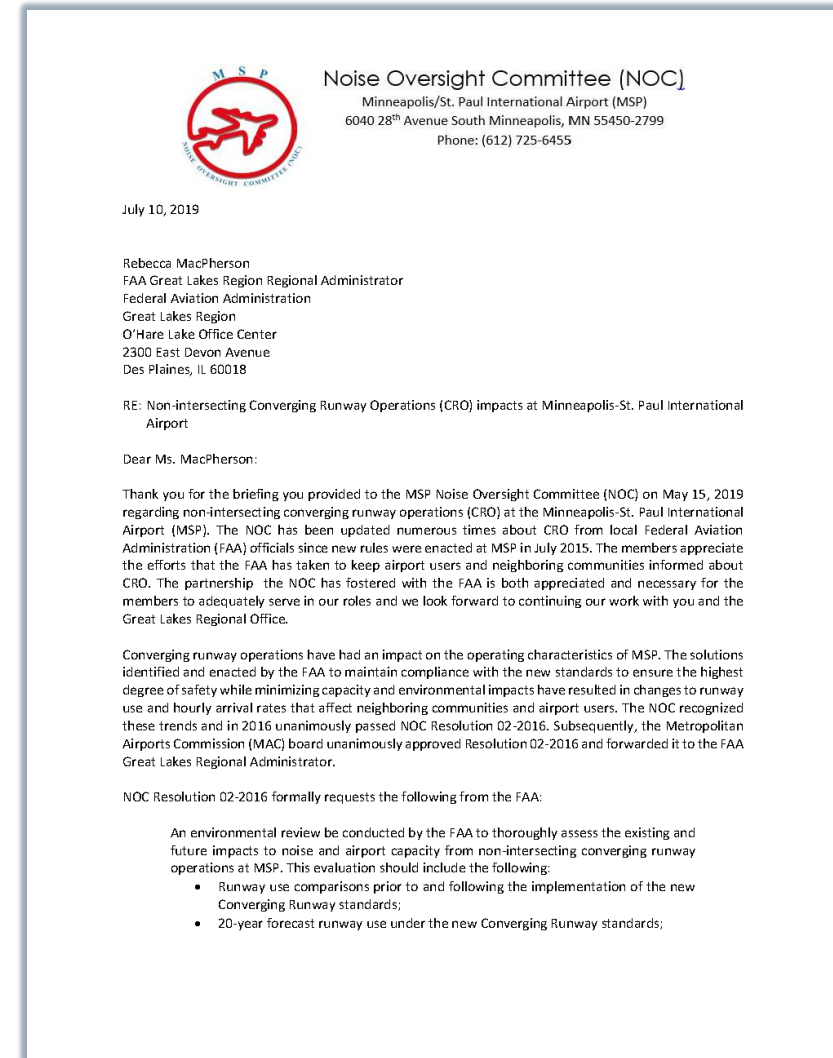


**NOISE OVERSIGHT COMMITTEE
JULY 17, 2019**



Converging Runway Operations

- FAA CRO Briefing
- NOC Resolution #02-2016
 - An environmental review be conducted to thoroughly assess the existing and future impacts to noise and airport capacity from CRO at MSP.
 - Runway Use comparisons
 - 20-year forecast runway use
 - Noise evaluation
 - Airport capacity impacts
 - A plan for the study to be presented to the NOC and communities.



Attachments: NOC Resolution 02-2016
Mr. Barry Cooper response letter dated December 23, 2016

Action Requested

APPROVE AND SEND THE ATTACHED LETTER TO THE FAA GREAT LAKES REGIONAL ADMINISTRATOR TO COMMUNICATE THE FULL REQUEST OF RESOLUTION #02-2016.



**NOISE OVERSIGHT COMMITTEE
JULY 17, 2019**




ITEM 6

RUNWAY 17 DEPARTURE OPERATIONS REPORT



NOISE OVERSIGHT COMMITTEE
JULY 17, 2019





1

Introduction

Introduction

Objective

Working collaboratively with neighbors and communities south of the airport, the MAC will identify concerns related to Runway 17 Departures and compile a report that will identify operational necessities of Runway 17, highlight trends in the use of the runway and identify changes experienced post-CRO.

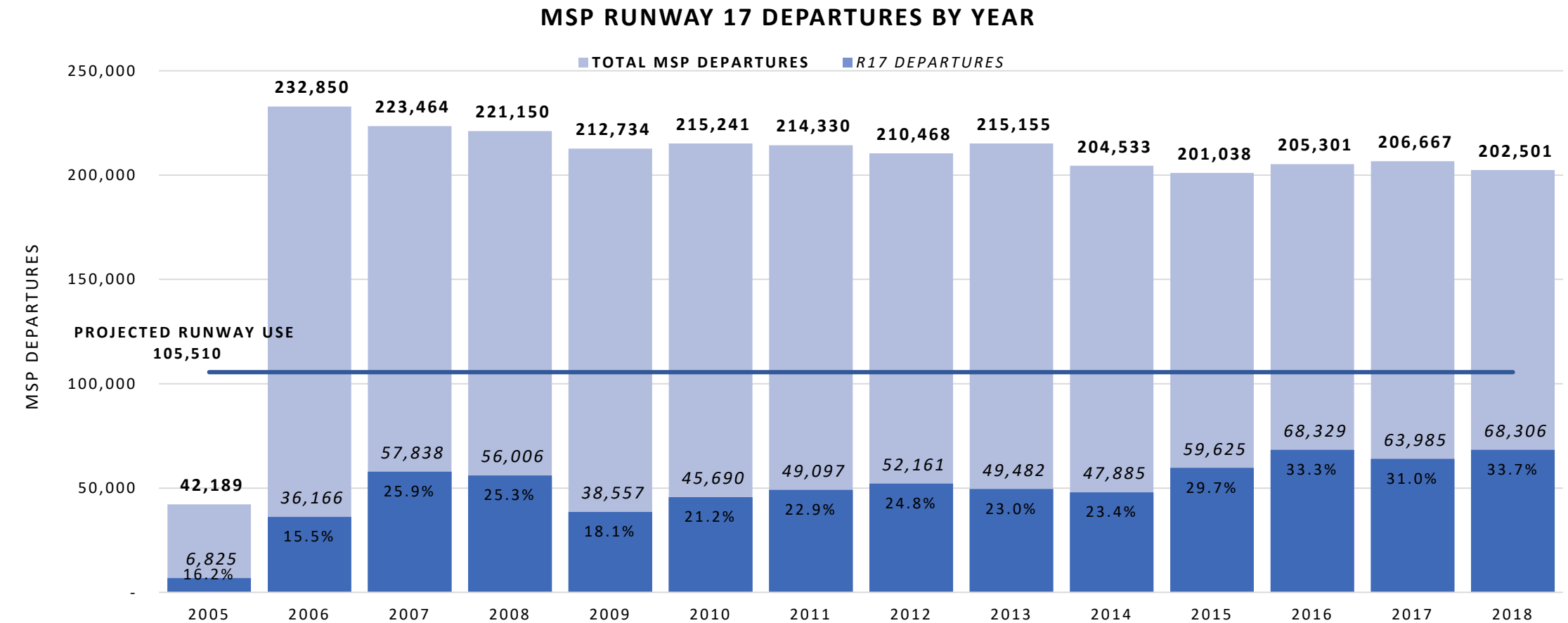
Scope

2. Background
3. Pre-CRO vs. Post-CRO Day
4. Flight Frequency
5. Departure Headings
6. AEDT Noise Model Data
7. Land Use
8. Runway 17 Departure Procedure Environmental Assessment
9. Departure Altitude



Background

Background



3

Pre-CRO Day
vs
Post-CRO Day



Typical Day 2014 vs 2018

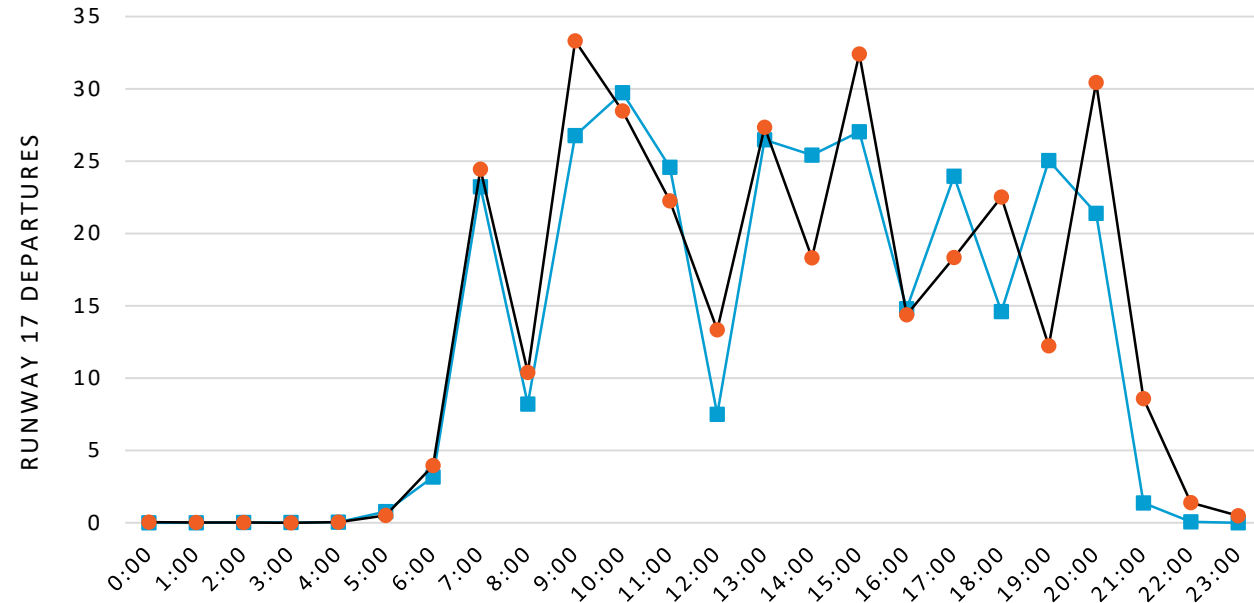
- 2014

- 93 days when South Flow was used at least 12 hours

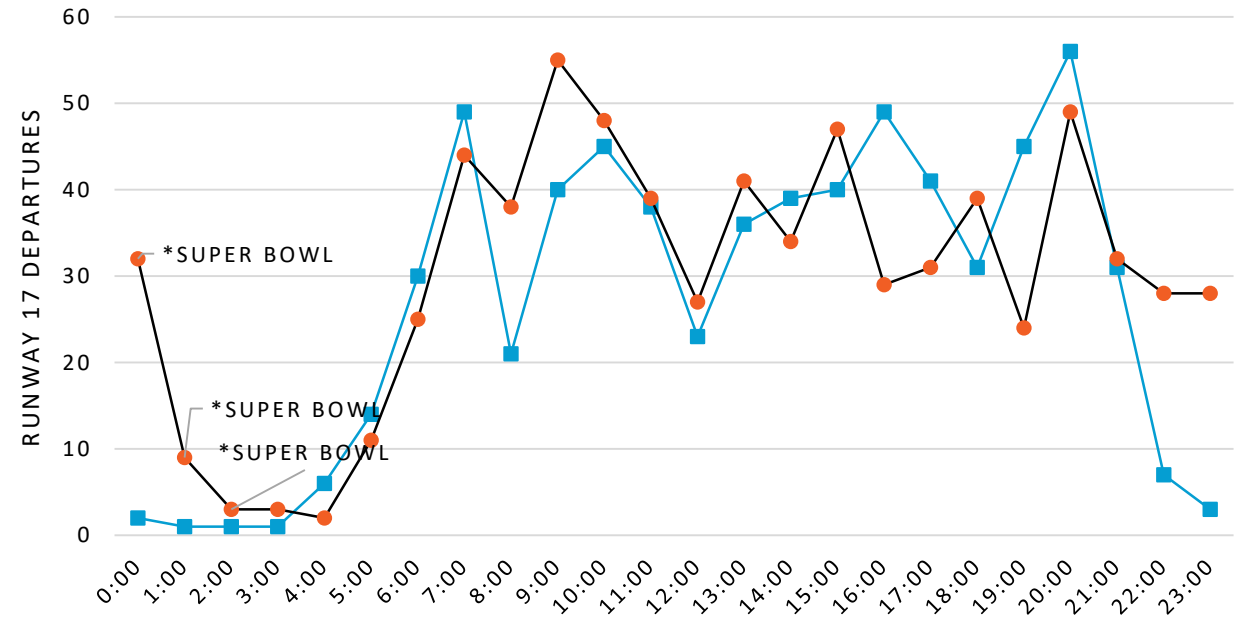
- 2018

- 134 days when South Flow was used at least 12 hour

AVERAGE ANNUAL DAY
SOUTH FLOW

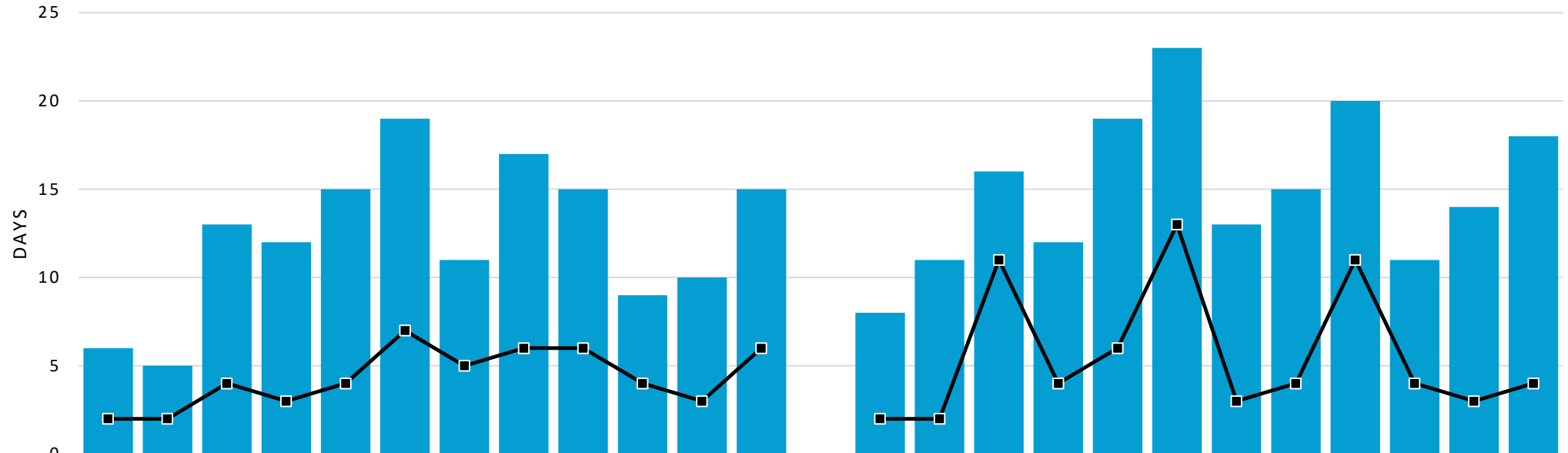


PEAK HOUR DEPARTURE OPERATIONS



2014 vs 2018 Total Days

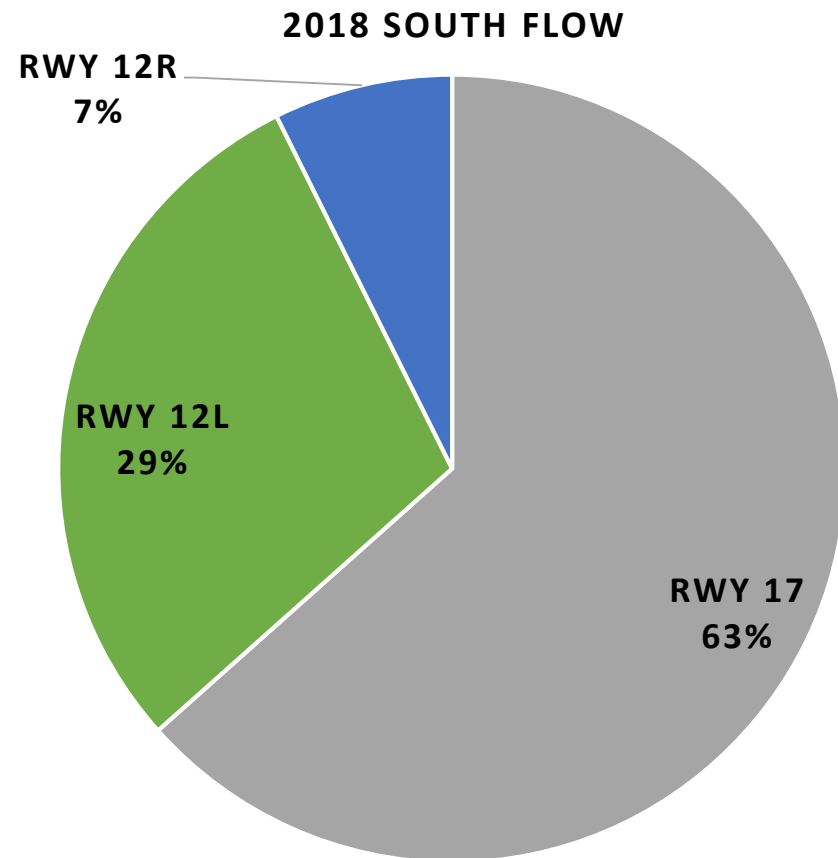
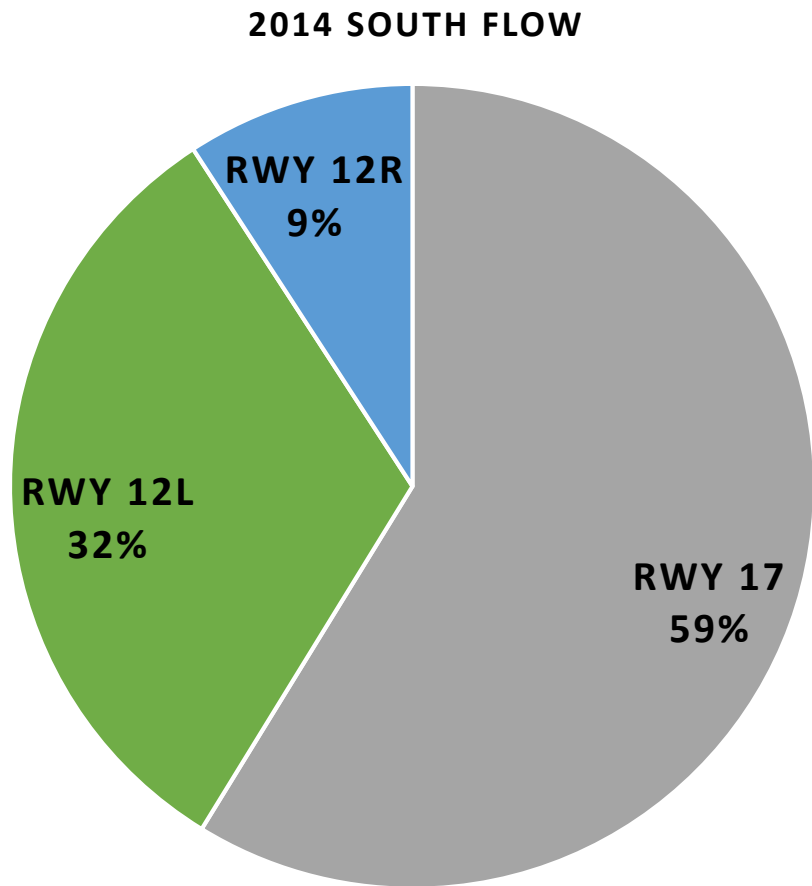
MSP SOUTH FLOW DAYS



	2014												2018											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
TOTAL DAYS	6	5	13	12	15	19	11	17	15	9	10	15	8	11	16	12	19	23	13	15	20	11	14	18
SUCCESSIVE DAYS	2	2	4	3	4	7	5	6	6	4	3	6	2	2	11	4	6	13	3	4	11	4	3	4

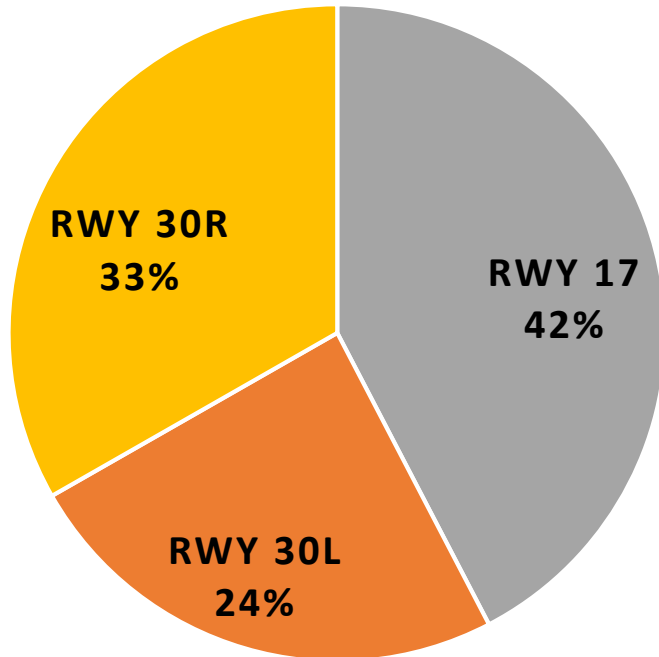
**Days were counted when South Flow was used at least 6 hours or more*

Runway Distribution – South Flow

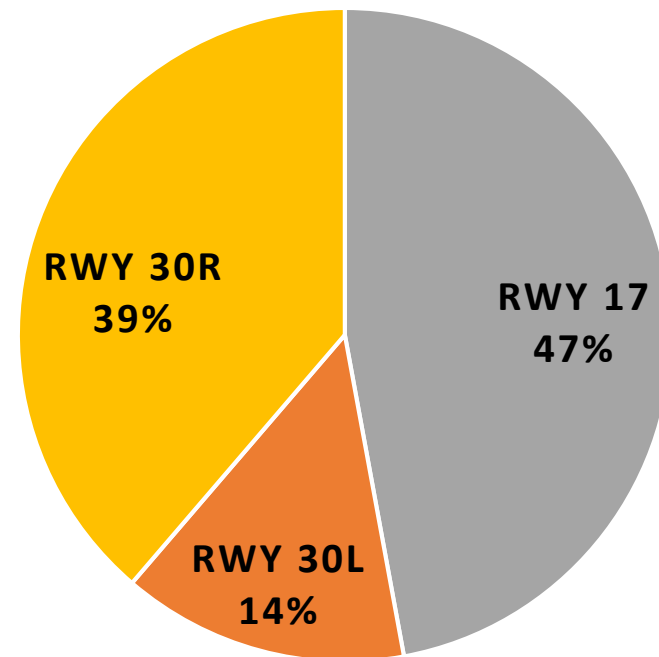


Runway Distribution – Mixed Flow

2014 MIXED A



2018 MIXED A



4

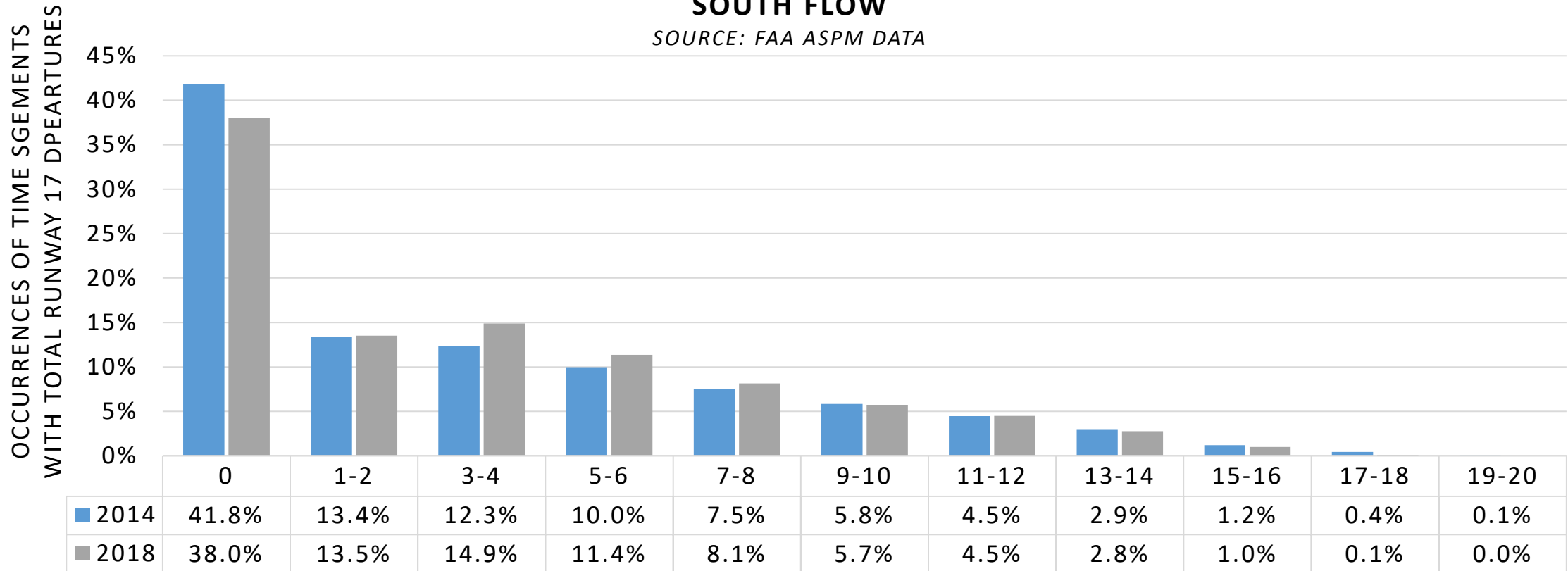
Flight
Frequency



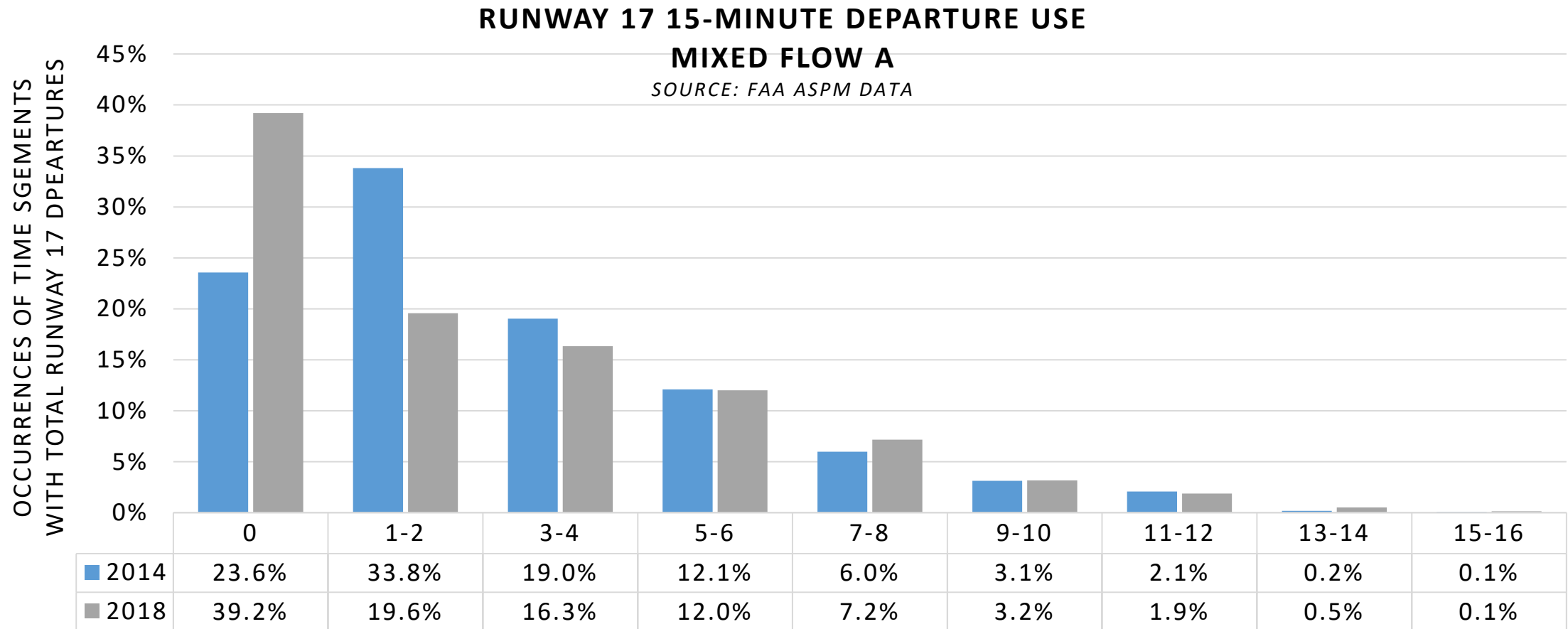
15 Minute Departure Use – South Flow

RUNWAY 17 15-MINUTE DEPARTURE USE SOUTH FLOW

SOURCE: FAA ASPM DATA



15 Minute Departure Use – Mixed Flow

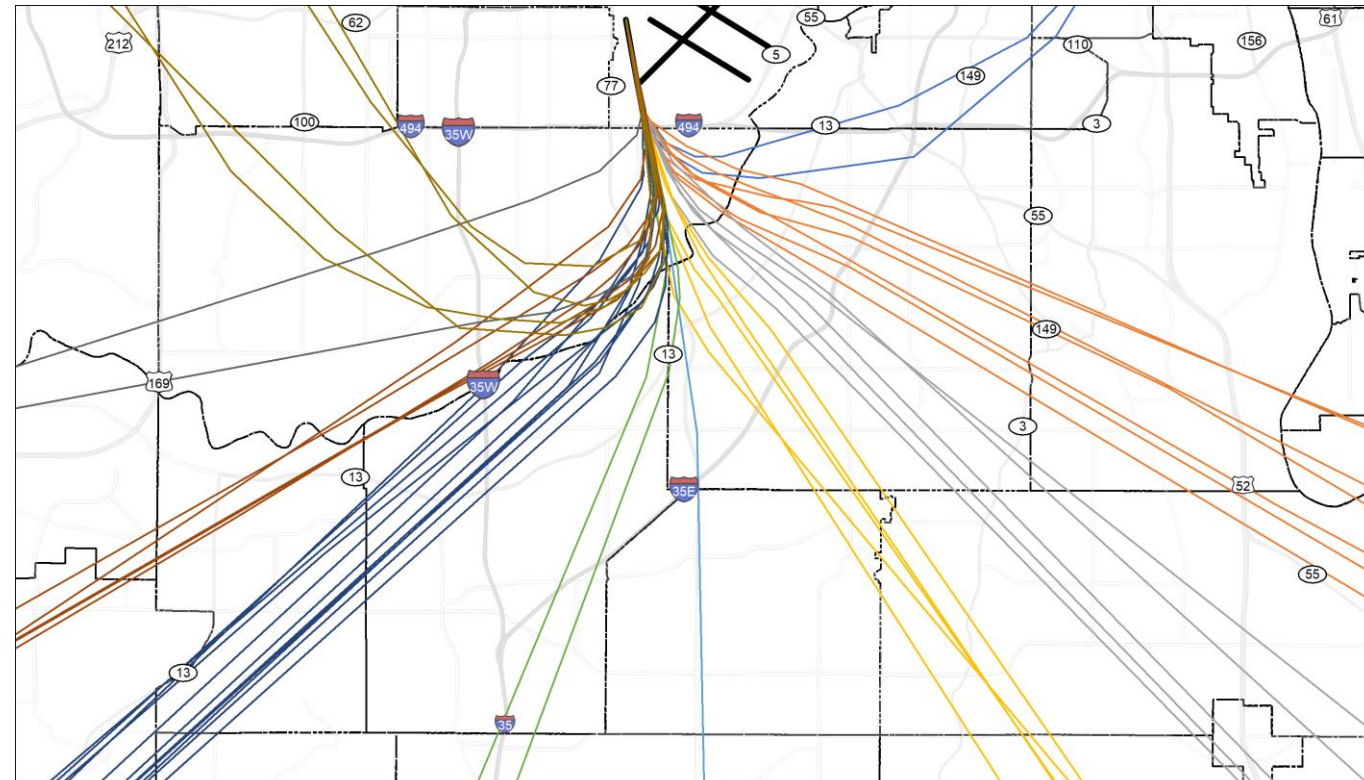




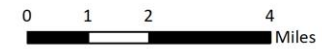
5

Runway 17
Departure
Headings

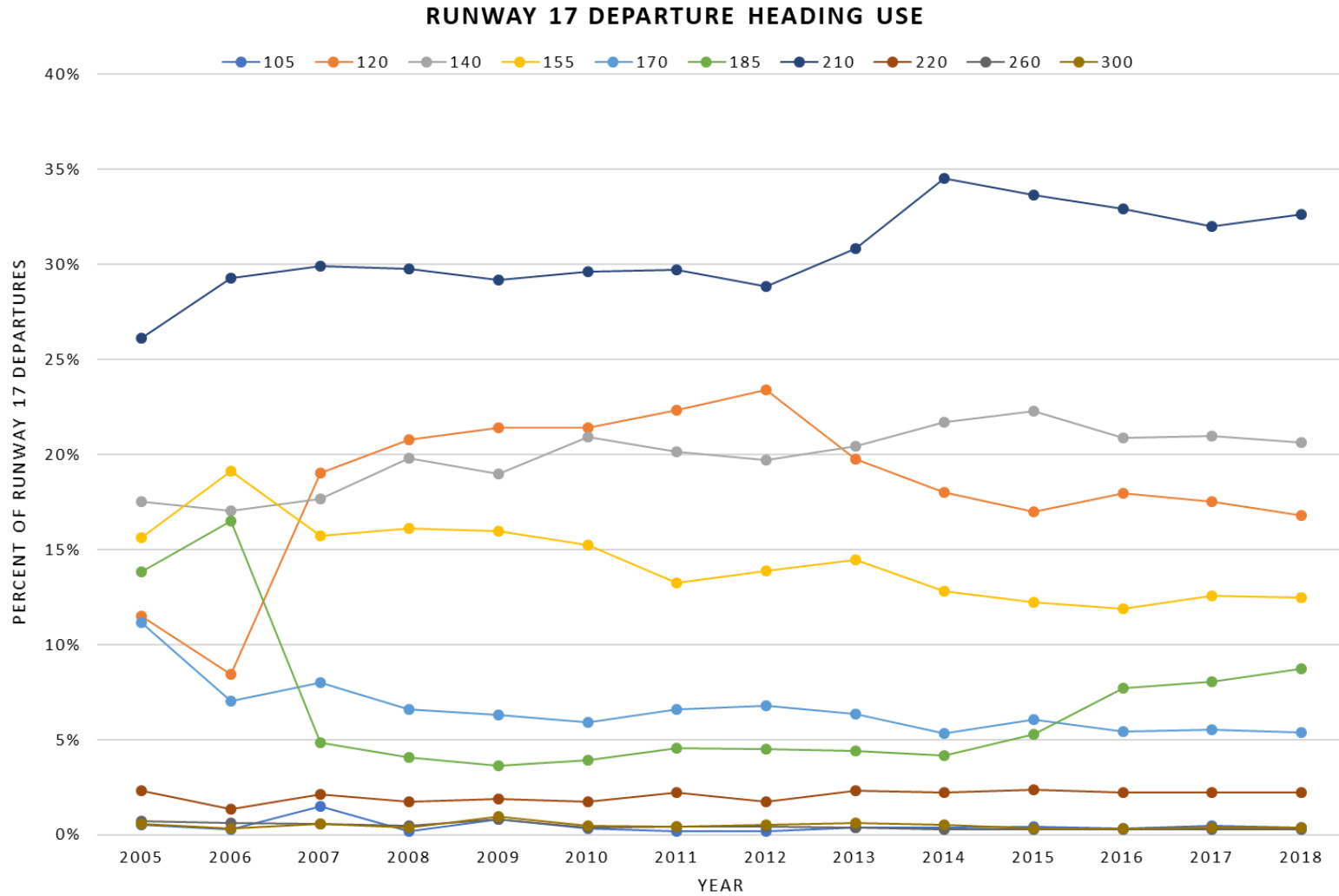
Labeled Runway Headings



Heading

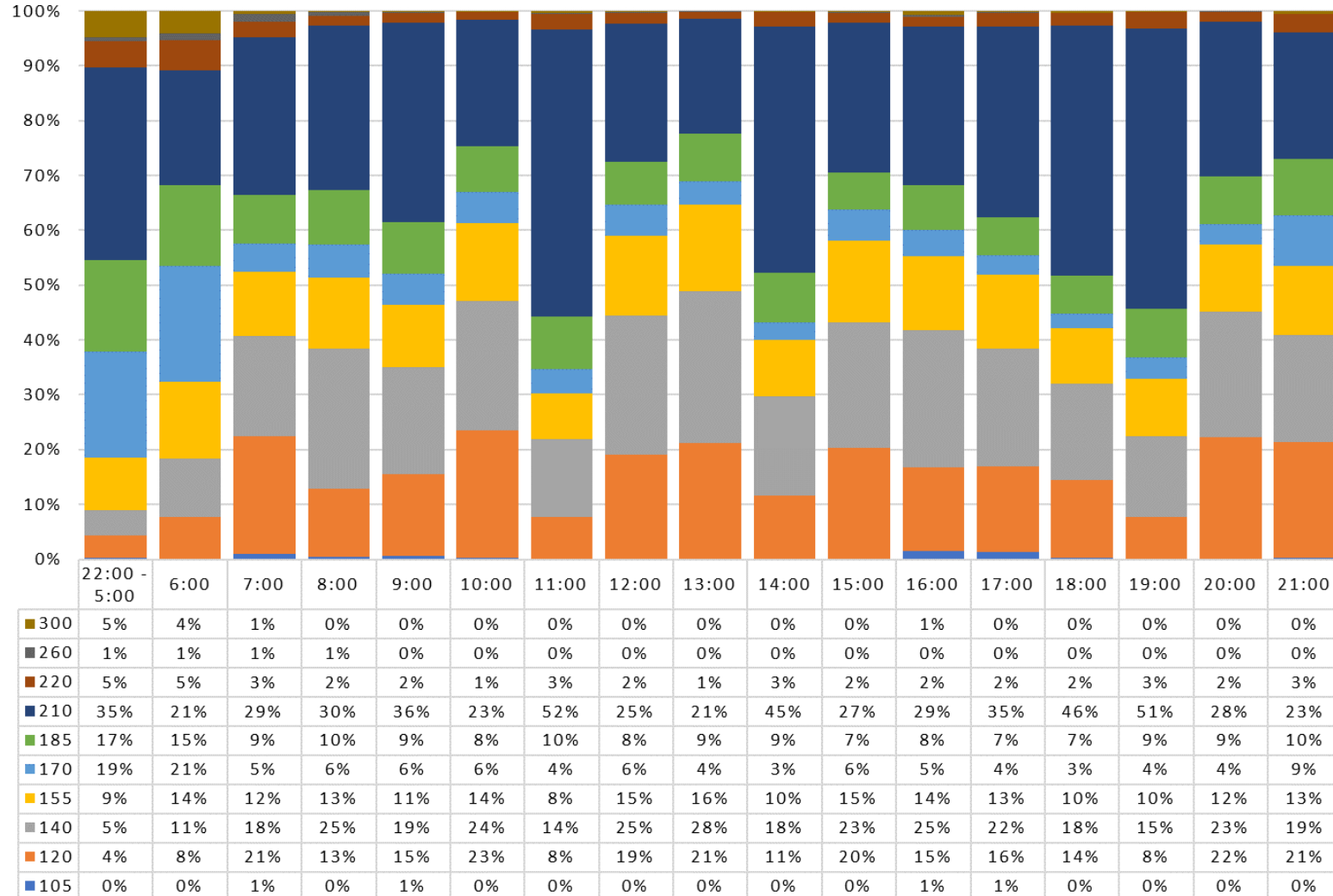


Runway 17 Departure Heading Use



Runway 17 Heading Distribution

RUNWAY 17 DEPARTURE HEADING USE BY TIME PERIOD
2018

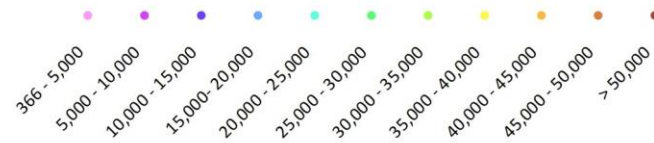
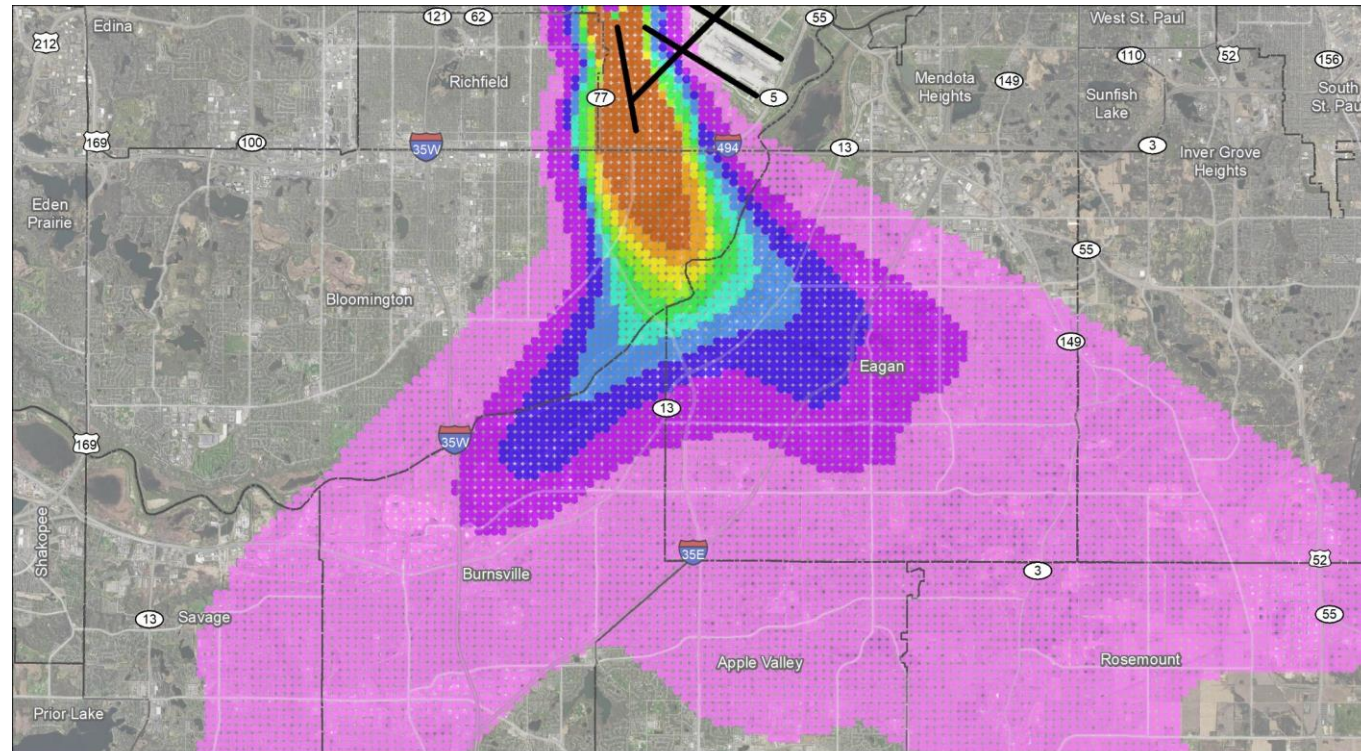


6

AEDT Noise Model Data

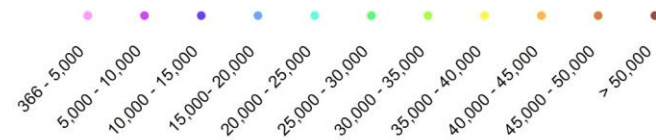
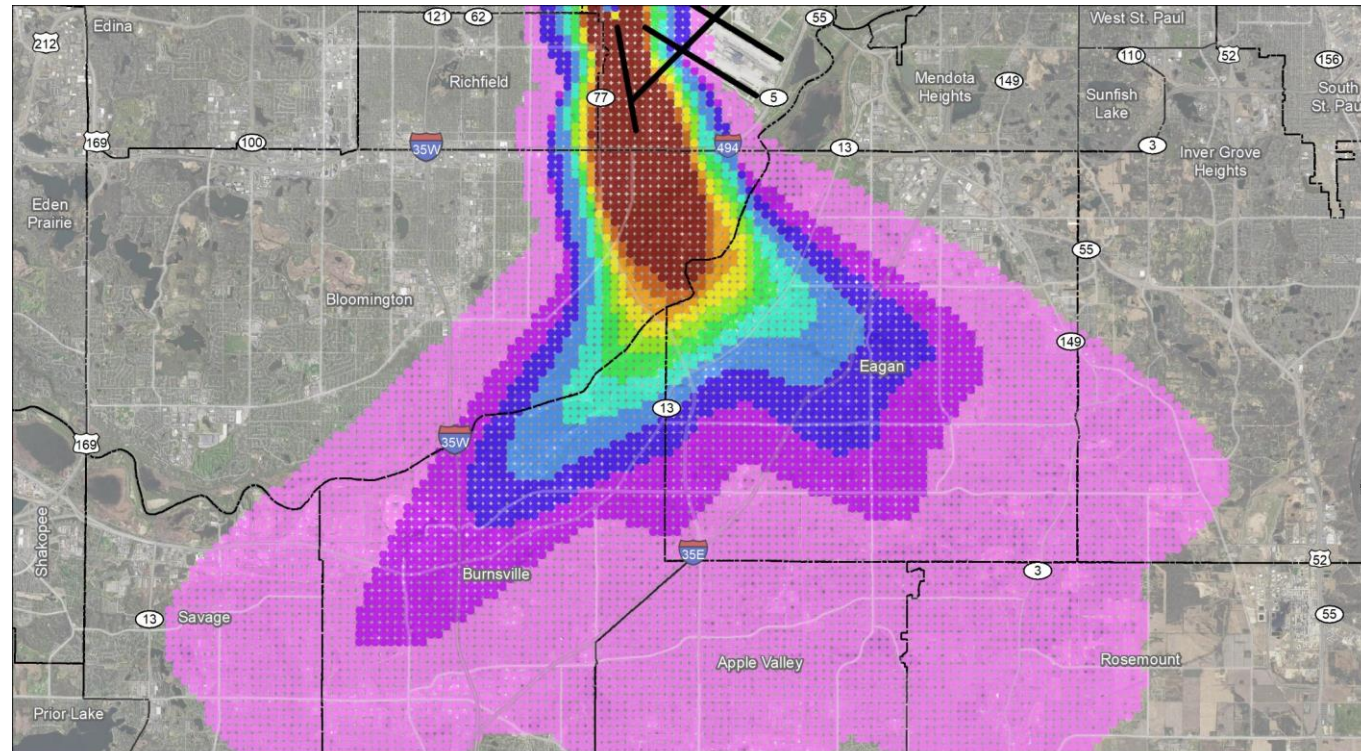


2014 Runway 17 Modeled Departure Events



2014
RUNWAY 17
MODELED DEPARTURE EVENTS

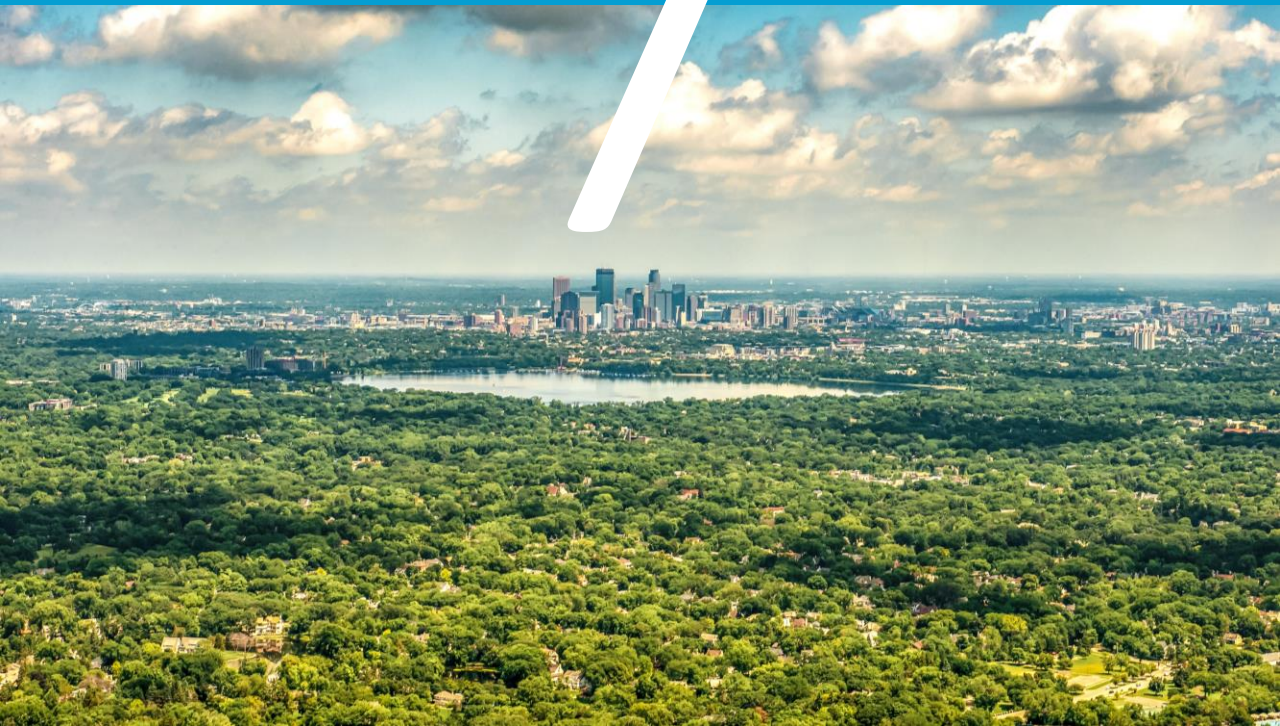
2018 Runway 17 Modeled Departure Events



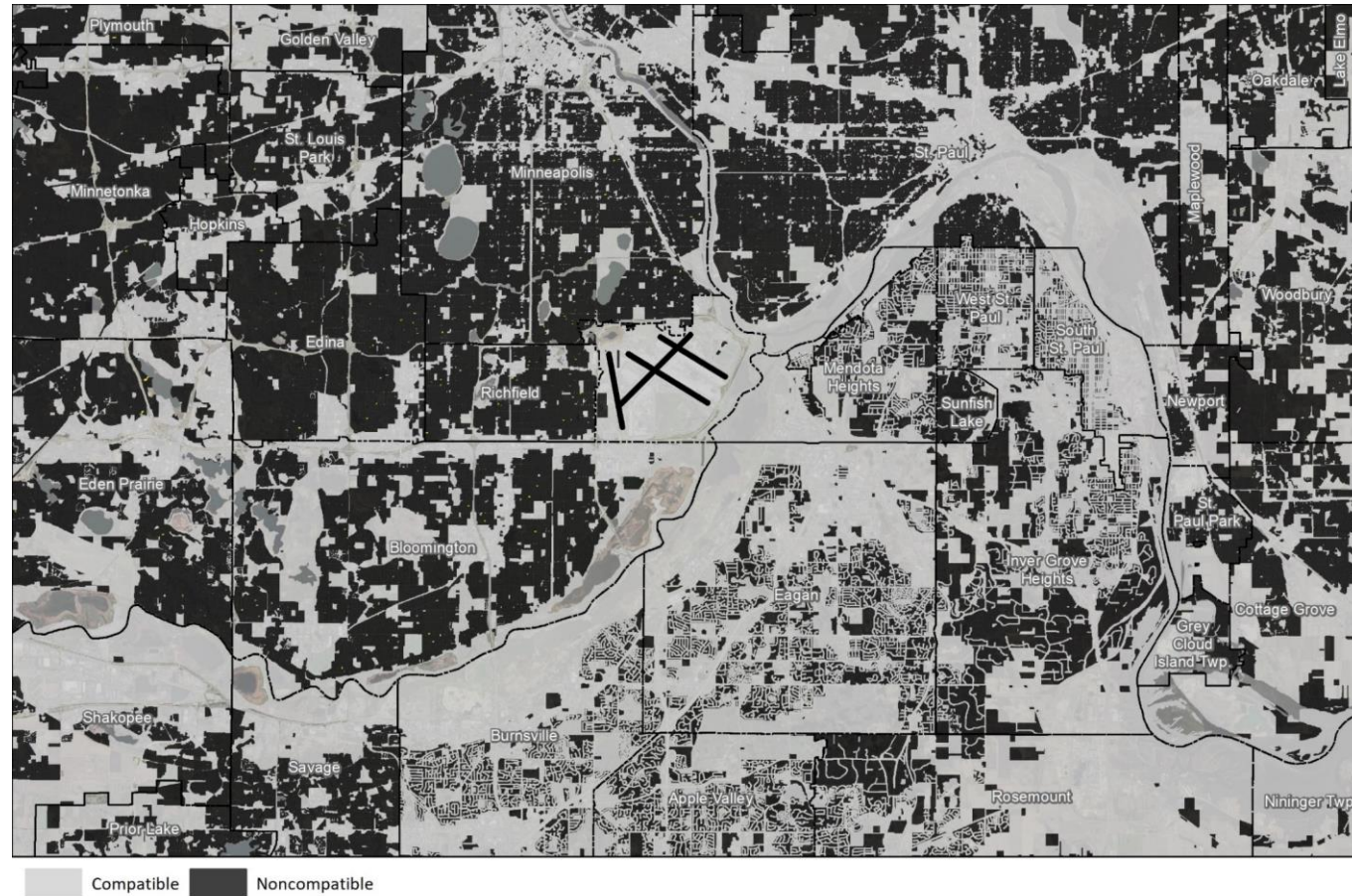
2018
RUNWAY 17
MODELED DEPARTURE EVENTS

7

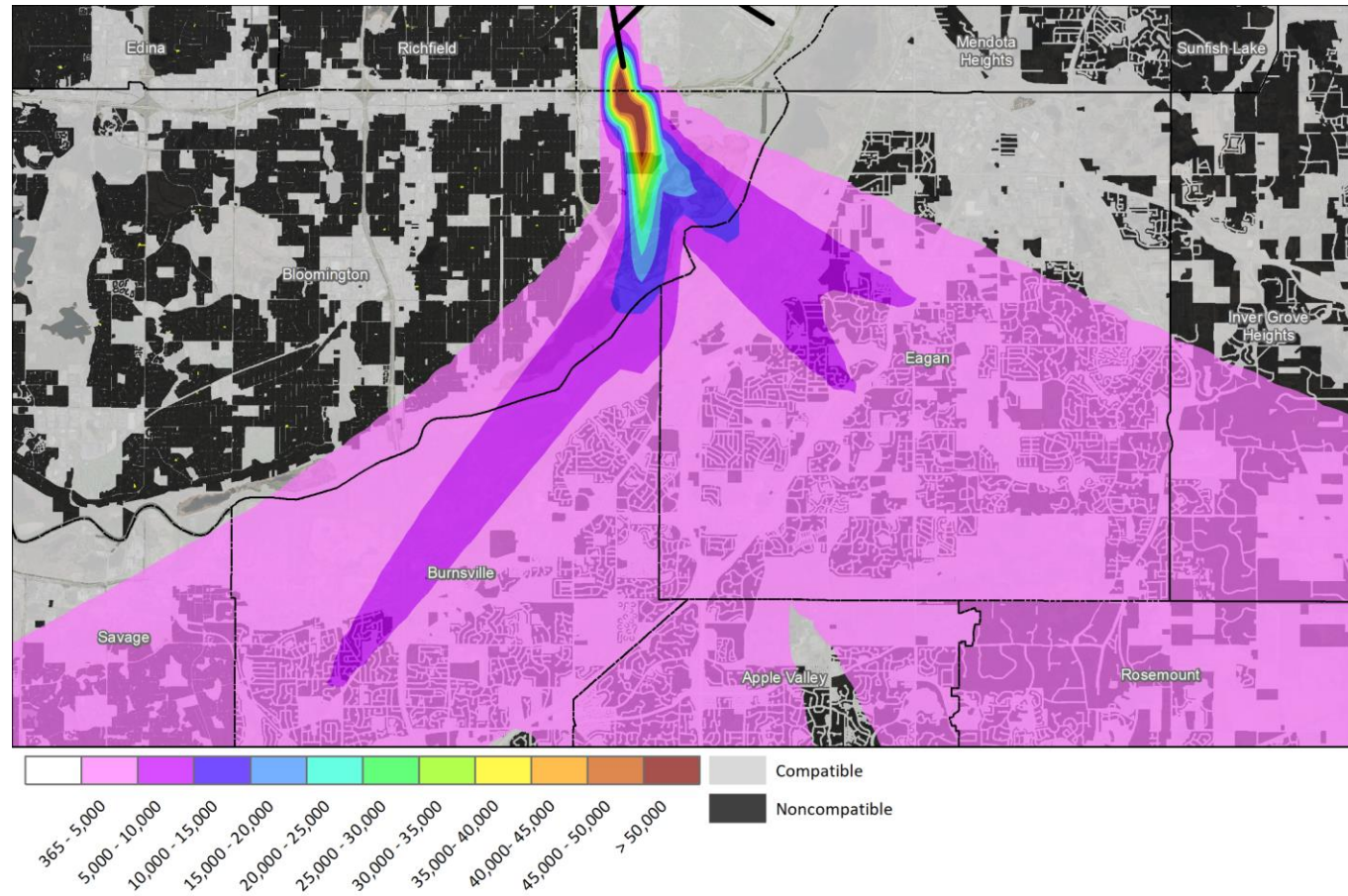
Land Use



Minneapolis-St. Paul Metropolitan Land Use



Land Use with Runway 17 Departure Density



An aerial photograph of an airport terminal and runway. The terminal building is in the lower-left, with a parking lot and taxiway. The runway is in the lower-right, marked with yellow and red dashed lines. A large white number '8' is overlaid on the center of the image.

8

Runway 17 Departure Procedure Environmental Assessment

EA vs 2018 Comparison

Aircraft Type	Average Daily Operations						Difference between EA and 2018
	Day		Night		Total		
	2018	EA	2018	EA	2018	EA	
Manufactured to be Stage 3	953.3	924.7	117.4	137.6	1070.8	1062.3	8.5
Hushkit Stage 3	0.3	232.5	0.5	29.3	0.8	261.8	-261
Propeller	38.3	205.1	2.3	46.1	40.5	251.2	-210.7
Helicopter	0.1	0.0	0.0	0.0	0.1	0.0	0.1
Military	1.9	0.0	0.0	0.0	2.0	0.0	2.0
Total	994.5	1362.3	120.3	213.0	1,114.8	1575.3	-461.1

Runway	Arrival			Departure		
	2018	EA	Change	2018	EA	Change
4	0.1%	0.5%	-0.4%	0.5%	0.2%	0.3%
22	0.0%	0.7%	-0.7%	0.0%	0.3%	-0.3%
12L	21.3%	21.2%	0.1%	14.7%	9.9%	4.8%
12R	25.8%	14.3%	11.5%	6.2%	16.2%	-10.0%
30L	25.9%	21.5%	4.4%	23.4%	14.5%	8.9%
30R	21.3%	25.5%	-4.2%	21.3%	22.1%	-0.8%
17	0.1%	0.1%	0.0%	33.8%	36.7%	-2.9%
35	5.5%	16.2%	-10.7%	0.0%	0.1%	-0.1%
Total	100.0%	100.0%	0.0%	100.0%	100.0%	0.0%

EA vs 2018 Comparison

Aircraft Type	Average Daily Operations						Difference between EA and 2018
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12R	25.8%	14.3%	11.5%	6.2%	16.2%	-10.0%
30L	25.9%	21.5%	4.4%	23.4%	14.5%	8.9%
30R	21.3%	25.5%	-4.2%	21.3%	22.1%	-0.8%
17	0.1%	0.1%	0.0%	33.8%	36.7%	-2.9%
35	5.5%	16.2%	-10.7%	0.0%	0.1%	-0.1%
Total	100.0%	100.0%	0.0%	100.0%	100.0%	0.0%

Runway Use Assumptions

Forecast EA Runway Use	Runway	Arrival			Departure		
		Day	Night	Total	Day	Night	Total
	4	249	1,477	1,437	497	155	575
	22	1,243	972	2,012	249	311	862
	12L	53,950	6,919	60,948	23,619	4,859	28,462
	12R	36,298	4,665	41,111	39,531	7,230	46,574
	30L	52,459	9,407	61,811	36,796	5,131	41,686
	30R	63,398	10,107	73,311	55,691	7,736	63,536
	17	249	39	287	92,238	13,450	105,510
	35	41,271	5,326	46,574	249	39	287
Total	248,620	38,873	287,492	248,620	38,873	287,492	

2018 Actual Runway Use	Runway	Arrival			Departure		
		Day	Night	Total	Day	Night	Total
	4	0	66	203	907	220	1,017
	22	0	0	0	0	0	0
	12L	40,292	3,118	43,336	25,772	4,084	29,908
	12R	46,463	6,038	52,492	7,441	5,467	12,614
	30L	45,011	7,618	52,695	42,107	5,489	47,609
	30R	39,748	3,644	43,336	39,203	4,062	43,336
	17	0	132	203	65,883	2,569	68,768
	35	9,801	1,339	11,190	0	44	0
Total	181,496	21,955	203,457	181,496	21,955	203,457	

Difference	Runway	Arrival			Departure		
		Day	Night	Total	Day	Night	Total
	4	-249	-1,411	-1,234	410	64	442
	22	-1,243	-972	-2,012	-249	-311	-862
	12L	-13,658	-3,802	-17,612	2,154	-775	1,446
	12R	10,165	1,373	11,380	-32,089	-1,764	-33,959
	30L	-7,448	-1,789	-9,116	5,311	358	5,922
	30R	-23,650	-6,462	-29,974	-16,488	-3,674	-20,200
	17	-249	93	-84	-26,355	-10,881	-36,741
	35	-31,470	-3,986	-35,384	-249	5	-287
Total	-67,124	-16,918	-84,036	-67,124	-16,918	-84,036	

Runway Use Assumptions

Forecast EA Runway Use	Runway	Arrival			Departure		
		Day	Night	Total	Day	Night	Total
	4	249	1,477	1,437	497	155	575
	22	1,243	972	2,012	249	311	862
	12L	53,950	6,919	60,948	23,619	4,859	28,462
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	30R	63,398	10,107	73,311	55,691	7,736	63,536
	17	249	39	287	92,238	13,450	105,510
	35	41,271	5,326	46,574	249	39	287
Total	248,620	38,873	287,492	248,620	38,873	287,492	

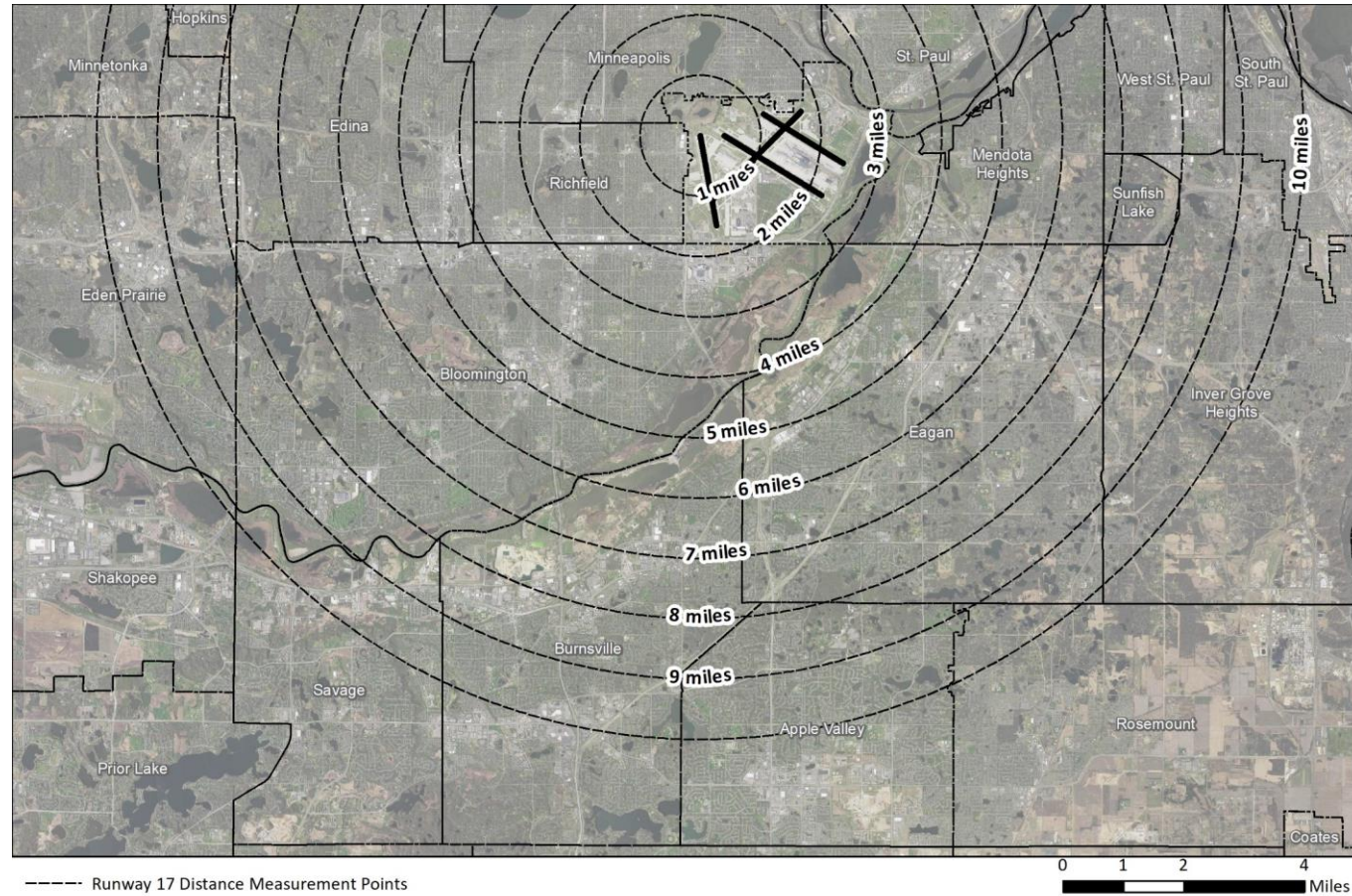
2018 Actual Runway Use	Runway	Arrival			Departure		
		Day	Night	Total	Day	Night	Total
	4	0	66	203	907	220	1,017
	22	0	0	0	0	0	0
	12L	40,292	3,118	43,336	25,772	4,084	29,908
	12R	46,463	6,038	52,492	7,441	5,467	12,614
	30L	45,011	7,618	52,695	42,107	5,489	47,609
	30R	39,748	3,644	43,336	39,203	4,062	43,336
	17	0	132	203	65,883	2,569	68,768
	35	9,801	1,339	11,190	0	44	0
Total	181,496	21,955	203,457	181,496	21,955	203,457	

Difference	Runway	Arrival			Departure		
		Day	Night	Total	Day	Night	Total
	4	-249	-1,411	-1,234	410	64	442
	22	-1,243	-972	-2,012	-249	-311	-862
	12L	-13,658	-3,802	-17,612	2,154	-775	1,446
	12R	10,165	1,373	11,380	-32,089	-1,764	-33,959
	30L	-7,448	-1,789	-9,116	5,311	358	5,922
	30R	-23,650	-6,462	-29,974	-16,488	-3,674	-20,200
	17	-249	93	-84	-26,355	-10,881	-36,741
	35	-31,470	-3,986	-35,384	-249	5	-287
Total	-67,124	-16,918	-84,036	-67,124	-16,918	-84,036	



Runway 17 Departure Altitudes

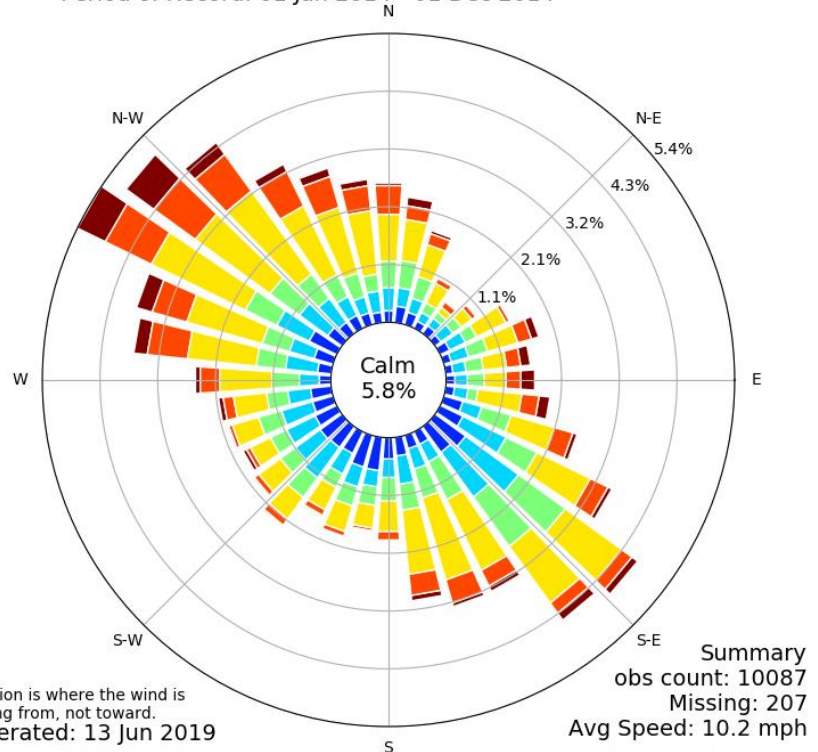
Measurement Points



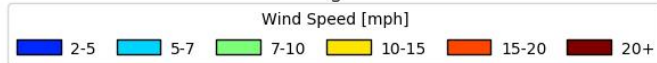
Wind Observations



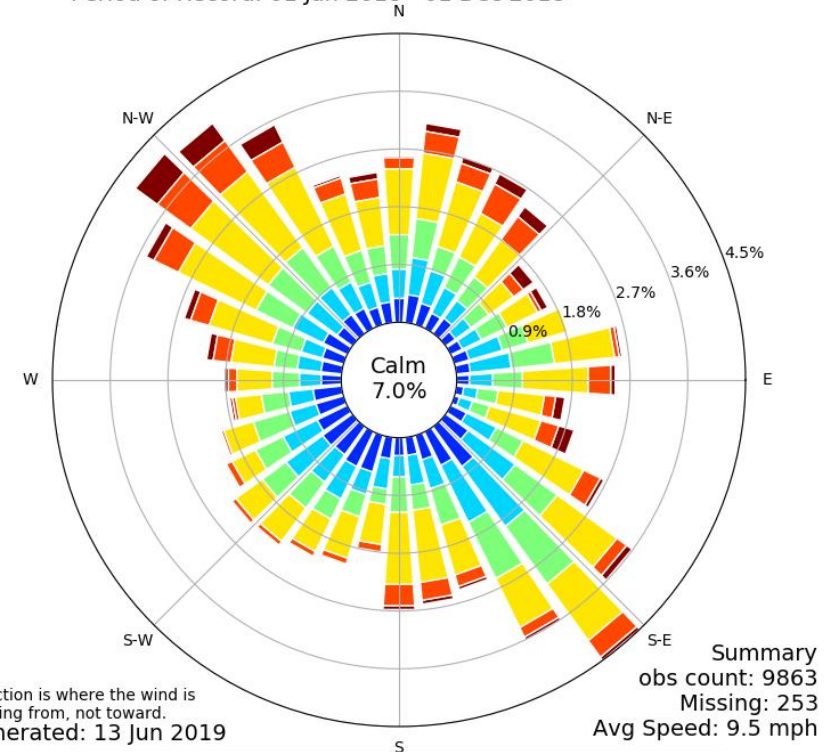
[MSP] MINNEAPOLIS
Windrose Plot [All Year]
Period of Record: 01 Jan 2014 - 01 Dec 2014



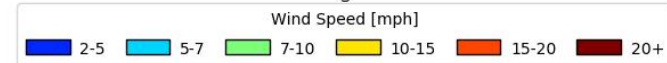
Direction is where the wind is blowing from, not toward.
Generated: 13 Jun 2019



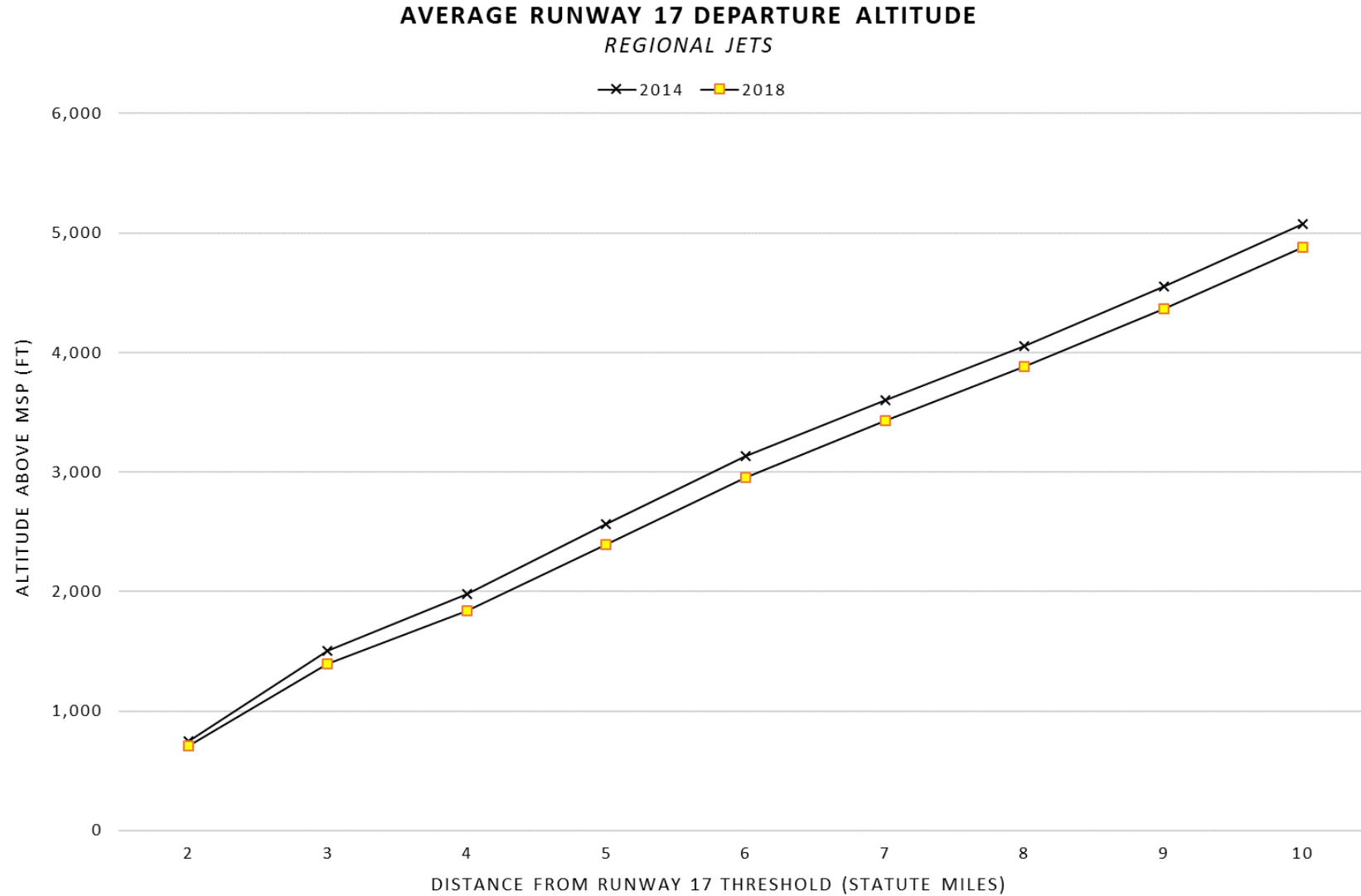
[MSP] MINNEAPOLIS
Windrose Plot [All Year]
Period of Record: 01 Jan 2018 - 01 Dec 2018



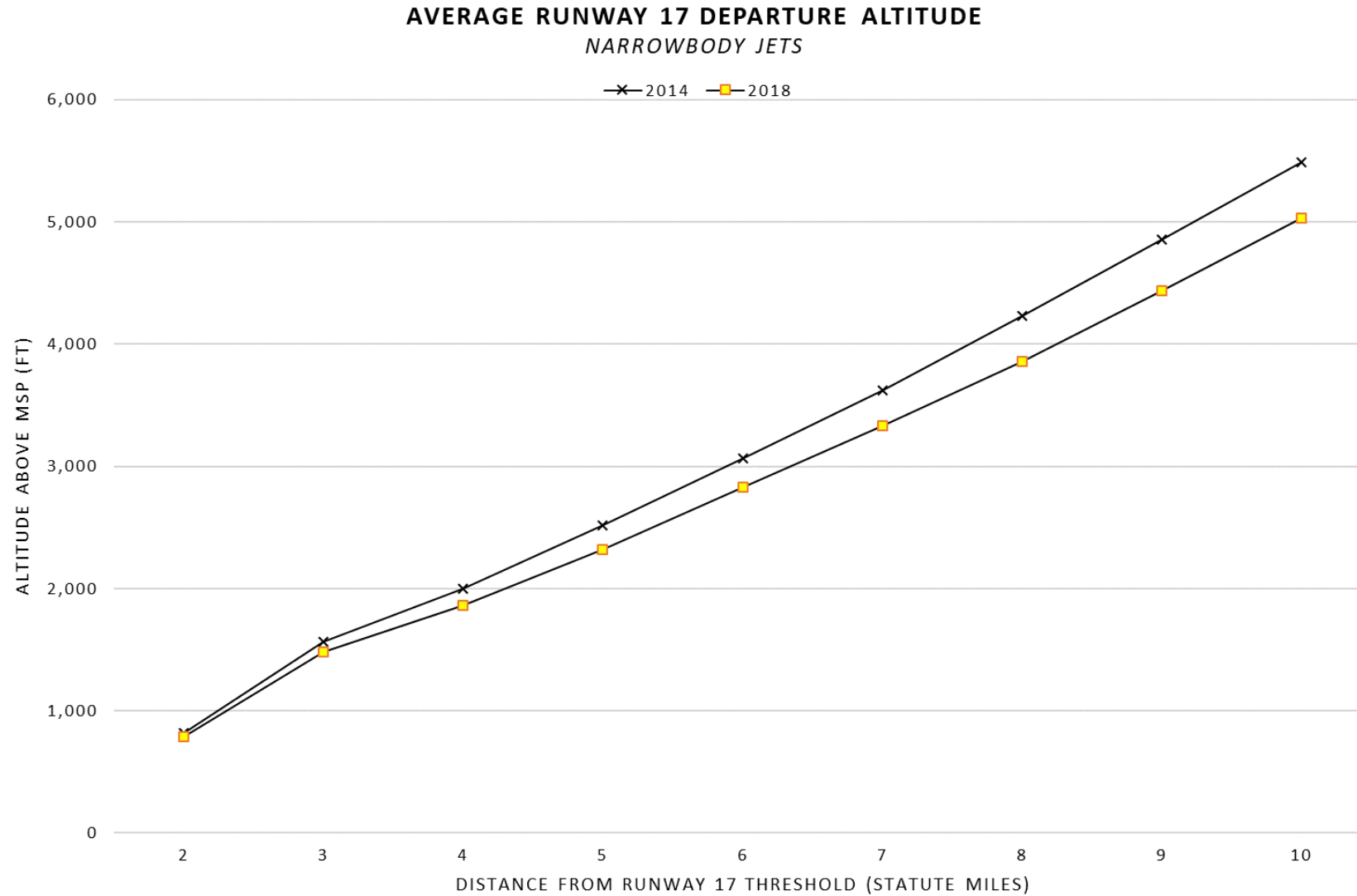
Direction is where the wind is blowing from, not toward.
Generated: 13 Jun 2019



Average Altitude – RJ



Average Altitude – Narrowbody





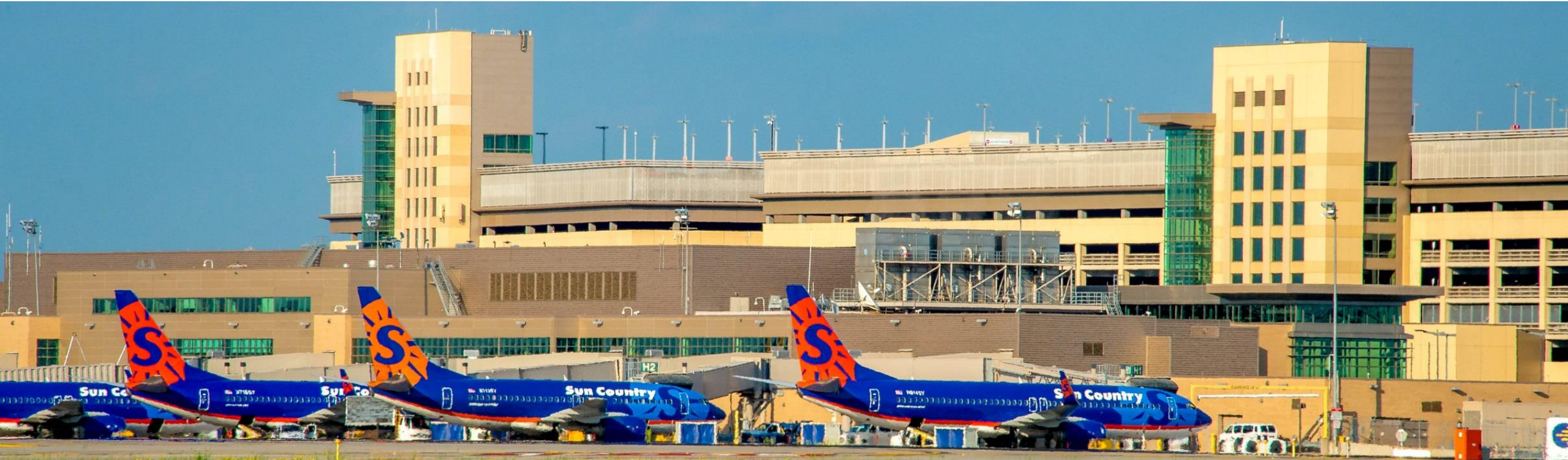
Next Steps



Questions

ITEM 7

EAGAN MOBILE NOISE MONITORING REPORT



NOISE OVERSIGHT COMMITTEE
JULY 17, 2019



Introduction

1



Study Objectives



1. The MAC will evaluate sound data collected in Eagan and determine if gaps exist in the MACNOMS site coverage area within the City of Eagan, and
2. determine if MACNOMS sites 25 and 37 properly capture aircraft sound levels given the ambient freeway noise being generated by 1-35E.

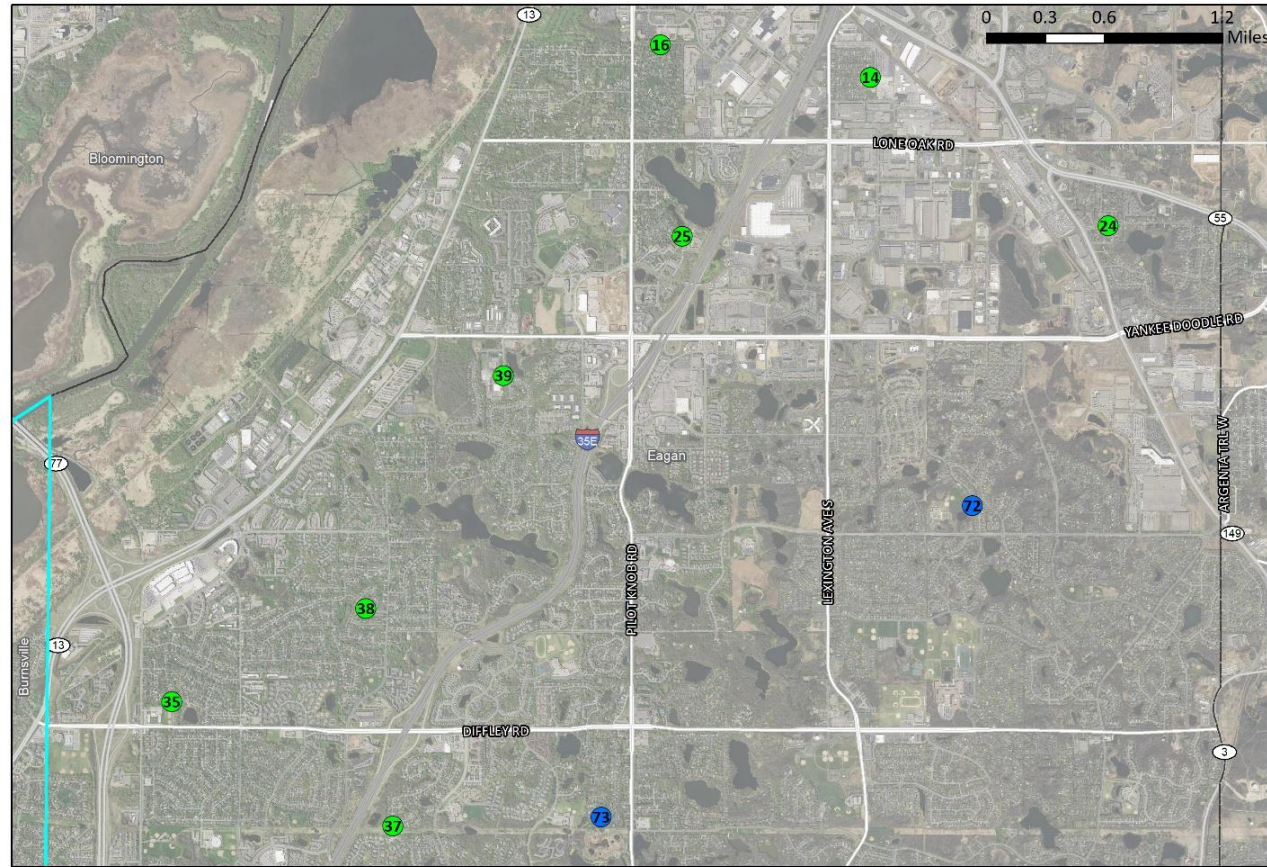
A large white number '2' is mounted on a black vertical pole. The background is split horizontally: the top half is orange and the bottom half is blue. The number '2' is positioned such that its top curve is in the orange area and its base is in the blue area.

2

Background

Study Parameters

- Dates
 - May 2nd – May 15th
- Equipment
 - Larson Davis Components
 - Same equipment used in permanent sites
- Measurements
 - 65 dBA for 8 seconds
 - Same parameters used at permanent sites
- Correlation
 - Tracks within 2,500 meters
 - Tracks below 1,830 meters
 - Tracks 30 seconds of an event
 - Same parameters used at most Eagan sites



- Permanent Sites
- Mobile Sites

EAGAN SOUND MONITORING SITES

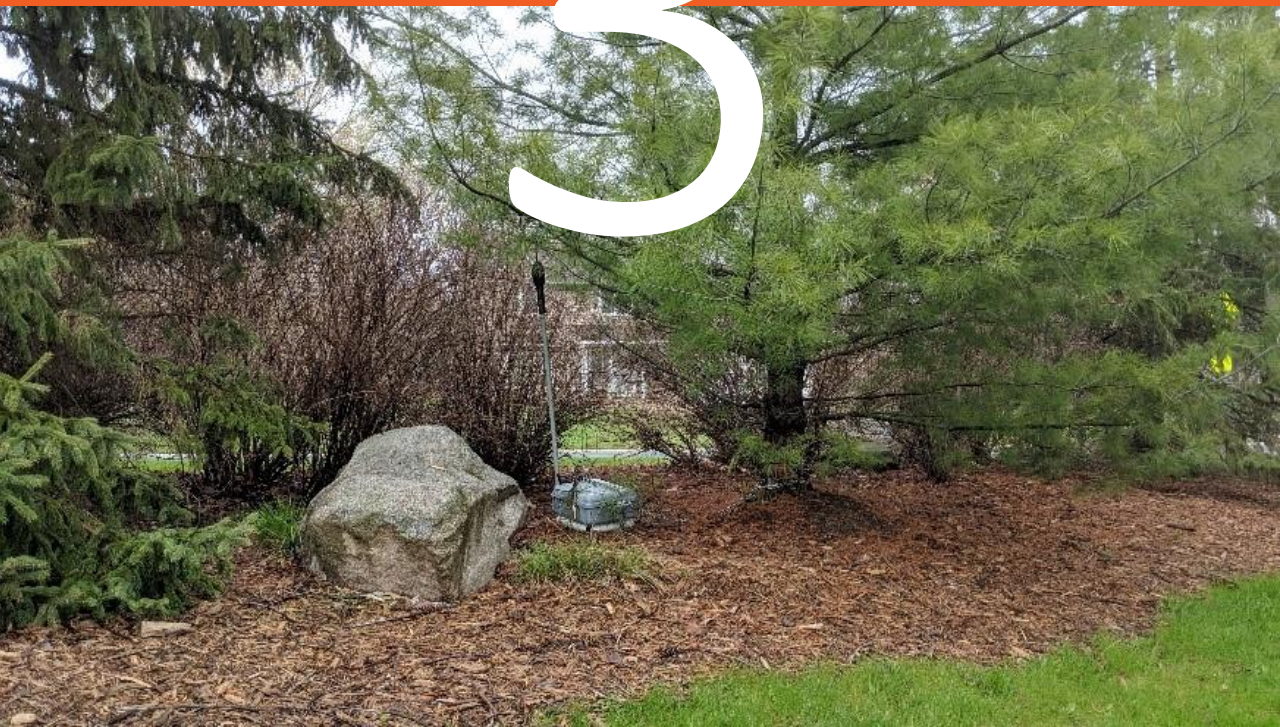
Monitoring Locations

- ✈ 72 – Mueller Farm Park
 - Walking path along east side of park along Wescott Hills Drive
- ✈ 73 – Evergreen Park
 - Park adjacent to Thomas Lake Park along Lodgepole Court



3

Findings



Runway Use

- ✈ South Flow used for 37.5% of the study period
- ✈ Straight South Flow used for 16.6% of the study period



Runway	Operation	Count	Percent	Operation	Count	Percent
4	Arr	0	0.0%	Dep	0	0.0%
12L	Arr	1,995	25.9%	Dep	1,309	17.0%
12R	Arr	2,264	29.4%	Dep	637	8.3%
17	Arr	0	0.0%	Dep	2,945	38.3%
22	Arr	0	0.0%	Dep	1	0.0%
30L	Arr	1,695	22.0%	Dep	1,439	18.7%
30R	Arr	1,451	18.9%	Dep	1,356	17.6%
35	Arr	284	3.7%	Dep	2	0.0%
Total		7,689	100%	Total	7,689	100%

Eagan Site Data

Site	Primary Runway(s) and Flight Activity
14	30L ARRIVALS
16	30L ARRIVALS
24	30L ARRIVALS
25	12R, 17 DEPARTURES
35	35 ARRIVALS, 17 DEPARTURES
37	17 DEPARTURES
38	17 DEPARTURES
39	17 DEPARTURES
72	12R, 17 DEPARTURES
73	17 DEPARTURES

Coverage Assessment

- ✈ 72 – Mueller Farm Park
 - 300 aircraft events recorded
 - 100% of operations were recorded at a permanent site in Eagan
- ✈ 73 – Evergreen Park
 - 383 aircraft events recorded
 - 97.4% of operations recorded at a permanent site in Eagan



Freeway Sites



Site	Total Sound Events	Aircraft Events	Aircraft Event Correlation Ratio	Average Event Duration (seconds)
14	3,065	2,570	0.84	18.3
16	2,974	2,370	0.80	19.8
24	2,925	2,382	0.81	17.5
25	1,646	469	0.28	56.1
35	598	476	0.80	16.9
37	1,481	297	0.20	46.9
38	896	635	0.71	19.2
39	894	672	0.75	18.9
72	477	300	0.63	30.3
73	466	383	0.82	16.6

Eagan Freeway Sites

 Runway 12R Departures

 Runway 17 Departures

RMT	CANDIDATE DEPARTURES	VALID CORRELATED EVENTS	RATE	AVERAGE 3D DISTANCE (meters)
14	14,693	10,815	74%	921
16	14,852	12,202	82%	815
24	13,405	7,124	53%	1,124
25	11,829	4,027	34%	1,615
72*	306	68	22%	1,157

RMT	CANDIDATE DEPARTURES	VALID CORRELATED EVENTS	RATE	AVERAGE 3D DISTANCE (meters)
25	14,199	5,419	38%	1,597
35	30,478	7,389	24%	1,129
37	14,529	5,468	38%	1,260
38	24,561	11,199	46%	1,017
39	29,010	13,209	46%	915
72*	663	224	34%	1,225
73*	1,042	368	35%	1,103

Questions



ITEM 8

MSP AIRPORT LONG-TERM PLAN AND STAKEHOLDER ENGAGEMENT



NOISE OVERSIGHT COMMITTEE
JULY 17, 2019



STAKEHOLDER ADVISORY PANEL MEETING



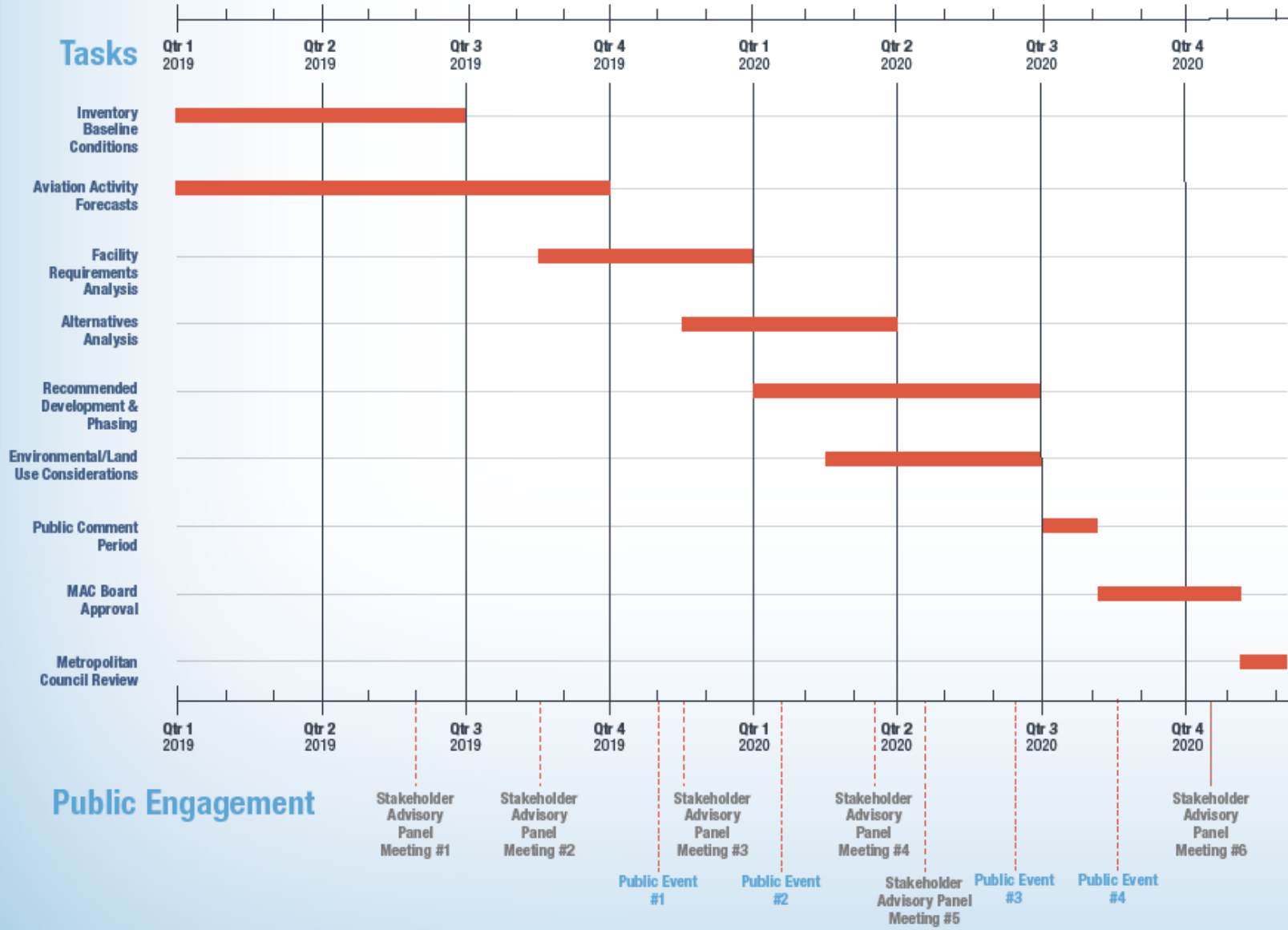
Discussion Areas:

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

MSP Airport Long-Term Plan

Initial Timeline + Stakeholder Engagement

We are here



ITEM 9

ANNOUNCEMENTS

Summer Listening Session

Wednesday, July 24, 2019 @ 7:00 PM

South Metro Public Safety Training Center

7525 Braemar Blvd

Edina, MN 55439

September NOC Meeting

Wednesday, September 18, 2019 @ 1:30 PM

MAC General Offices

Lindbergh Conference Room



NOISE OVERSIGHT COMMITTEE
JULY 17, 2019

