



Metropolitan Airports Commission (MAC)

Minneapolis-St. Paul International Airport (MSP)
Noise Oversight Committee (NOC)
MAC General Office Building
Lindbergh Conference Room
6040 28th Avenue South
Minneapolis, MN 55450



NOC Committee Members

Jeffrey Hart – Co-Chair (Delta Air Lines)
Tom Fitzhenry – Co-Chair (Richfield City Council)
John Bergman, At-large Cities Representative (Apple Valley City Council)
Karen Erazo, Charter/Scheduled Operator Representative (Sun Country Airlines)
Cyndee Fields, City of Eagan Representative (Eagan City Council)
Gordon Goss, Chief Pilot Representative (Delta Air Lines)
Angie Moos, Cargo Carrier Representative (United Parcel Service)
Doug Nelson, Minnesota Business Aviation Association Representative
Jon Oleson, City of Bloomington Representative (Bloomington City Council)
Elizabeth Petschel – City of Mendota Heights Representative (Mendota Heights City Council)
John Quincy, City of Minneapolis Representative (Minneapolis City Council)
Paulajeane Vick, At-large Airport User Representative (Delta Global Services)

MEETING AGENDA

September 21, 2016 at 1:30 pm

(Tom Fitzhenry, Richfield City Council, will be the acting Chairperson for the meeting)

***Note: 1:00 – Committee Agenda Review Session**

(NOC members only in the Coleman Conference Room)

1. 1:30 – 1:35 Review and Approval of the July 20, 2016 Meeting Minutes
2. 1:35 – 1:55 Review of Monthly Operations Reports: July and August, 2016
3. 1:55 – 2:10 Guest Speakers: Delta Air Lines and Sun Country Chief Pilots – Aircraft Arrival
Gear Extension
4. 2:10 – 2:30 Study of Runway 12L and 12R Arrival Operations
5. 2:30 – 2:45 Update on the Impacts of Converging Runway Operations (CRO)
6. 2:45 – 2:50 Update on Turboprop Departures over Mendota Heights
7. 2:50 – 3:00 NextGen Standard Terminal Arrival Routes (STARs) Amendments Update
8. 3:00 – 3:10 Runway Use System (RUS) Evaluation
9. 3:10 – 3:20 Consent Decree Amendment Update
10. 3:20 – 3:30 Draft 2017 NOC Work Plan
11. 3:30 – 3:35 Review of July 27, 2016 Public Input Meeting
12. 3:35 Public Comment Period
13. Announcements
14. Adjourn

MEMORANDUM

TO: MSP Noise Oversight Committee (NOC)

FROM: Bradley Juffer, Assistant Manager—Noise, Environment & Planning

SUBJECT: **REVIEW OF MONTHLY OPERATIONS REPORTS**

DATE: September 7, 2016

Each month the Metropolitan Airports Commission (MAC) produces a Technical Advisor's Report for the Noise Oversight Committee (NOC). This report provides information on the Minneapolis-St. Paul International Airport (MSP), such as aircraft noise complaints, aircraft operations and noise levels associated with MSP aircraft operations.

Additionally, the MAC produces four monthly reports assessing the compliance with established noise abatement procedures: the Runway 17 Departure Analysis Report, the Eagan-Mendota Heights Corridor Report, the Crossing-in-the-Corridor Analysis and the MSP Runway Use System (RUS) Report.

At the September 21, 2016 NOC meeting, MAC staff will provide a summary on these five monthly operations reports for the months of July and August, 2016.

MEMORANDUM

TO: MSP Noise Oversight Committee (NOC)

FROM: Dana Nelson, Manager—Noise, Environment & Planning

SUBJECT: **GUEST SPEAKERS: DELTA AIR LINES AND SUN COUNTRY CHIEF PILOTS – AIRCRAFT ARRIVAL GEAR EXTENSION**

DATE: September 7, 2016

The frequency and concentration of arriving aircraft and the additional noise created by early aircraft gear extension have caused concern for neighborhoods and have been the source of aircraft noise-related complaints.

Recently, residents and city representatives from communities to the northwest of the airport (under the arrivals to Runways 12L and 12R) have expressed concerns about aircraft gear extension. They perceive landing gear are being extended further away from the airport, increasing the noise footprint on arrival.

Information provided to pilots by the MAC Noise Program Office through our website, pilot guide handouts and mailings, and flight planning websites includes the following noise abatement language regarding landing gear extension:

Arrivals to MSP will operate over residential areas, particularly on final approach. Noise generated by drag and disruption of airflow along the aircraft surface is intensified when the landing gear is extended.

How can pilots help?

Pilots can help by delaying the extension of landing gear until it is necessary for a safe landing, in compliance with ATC clearances and standard operating procedures. Doing so will minimize the additional noise exposure over residential areas created by the landing gear.

The landing phase of flight is the most critical phase. Pilots are descending the aircraft and slowing to a safe speed to ensure a safe touchdown. To do this, pilots reduce throttle and extend spoilers for aerodynamic breaking. At times, earlier deployment of landing gear, flaps, slats, slots and spoilers is necessary in order to bring the aircraft to a safe, maneuverable landing speed.

International guidance for airlines specifies that the aircraft should be in the landing configuration (landing gear extended and landing flaps selected) no later than 5 nautical miles from the runway end, or at approximately 1,500 feet above airport elevation.

The MAC Noise Program Office does not document where or when aircraft arrivals extend the landing gear. To help fulfil the NOC's directive, staff made a request to Gordon Goss, Chief Pilot for Delta Air Lines and Timothy Bathke, Chief Pilot for Sun Country Airlines to attend the September 21, 2016 NOC meeting and offer their companies' standard operating procedures and personal expertise on the topic.

MEMORANDUM

TO: MSP Noise Oversight Committee (NOC)

FROM: Dana Nelson, Manager—Noise, Environment & Planning

SUBJECT: **STUDY OF RUNWAY 12L AND 12R ARRIVAL OPERATIONS**

DATE: September 7, 2016

On May 18, 2016 the MSP Noise Oversight Committee directed MAC staff to conduct an analysis of MSP Runway 12L and 12R arrival activity over cities to the northwest of the airport. The direction was based on feedback provided from members of the public who attended the Second Quarter Public Input Meeting.

Collectively, a group of residents from St. Louis Park, Minnetonka, Minneapolis and MAC Noise Program Staff designed the objective and scope of the analysis to ensure the components would effectively incorporate observations and related noise concerns from the residents of these communities.

Airport data from 2004 – the peak year of aircraft operations at MSP – and 2013 through July 2016 was used to examine the following topics identified by the residents related to Runway 12L and 12R arrival activity:

- Volume of arrival activity
- Late-night and early-morning arrival activity
- Arrival aircraft altitude trends
- Frequency of arrival flights throughout the day
- Arrival path changes

The completed Study of Runway 12L and 12R Arrival Operations will be forthcoming as the findings will be shared with the group of residents who assisted with the study scope prior to publishing. The Study will be posted as an addendum to the September 21, 2016 NOC meeting agenda and emailed to the NOC members prior to its meeting. Staff will provide a presentation to the NOC on the Study findings at its September meeting.

MEMORANDUM

TO: MSP Noise Oversight Committee (NOC)

FROM: Dana Nelson, Manager—Noise, Environment & Planning

SUBJECT: **UPDATE ON THE IMPACTS OF CONVERGING RUNWAY OPERATIONS (CRO)**

DATE: September 7, 2016

At the July 20, 2016 NOC meeting, MAC staff presented trends in runway use after the implementation of new separation standards for Converging Runway Operations (CRO) at MSP. At the meeting, representatives from the cities of Eagan and Richfield expressed concerns about increased noise impacts resulting from the new CRO rules. Since the meeting, MAC staff coordinated meetings between the Federal Aviation Administration (FAA) and Eagan and Richfield to continue the dialogue and determine if anything can be done to help alleviate the noise impact for each city. At the September NOC meeting, FAA Air Traffic Manager, Elaine Buckner, will provide an update to the Committee in response to the concerns shared by Richfield and Eagan representatives in July.

In addition to the cities of Richfield and Eagan, other communities surrounding MSP have expressed concerns about noise and airport capacity impacts from the new CRO rules. At this time, MSP Air Traffic Control is still in the evaluation phase of implementing these new rules.

As a follow-up to these discussions, NOC Representative Dianne Miller – City of Eagan, has requested that MAC staff include the attached resolution in the September 21, 2016 NOC meeting packet for consideration by the Committee. This action is intended to ensure that the FAA adequately reviews and communicates the environmental and capacity impacts of CRO.

COMMITTEE ACTION

TAKE ACTION AS TO THE DISPOSITION OF NOC RESOLUTION #02-2016 RECOMMENDING THE MAC PLANNING, DEVELOPMENT AND ENVIRONMENT COMMITTEE SUPPORT AND COMMUNICATE THE REQUEST TO THE FAA.



MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT (MSP)

NOISE OVERSIGHT COMMITTEE (NOC)

RESOLUTION # 02-2016

REQUESTING FAA ENVIRONMENTAL REVIEW AND DOCUMENTATION OF EXISTING AND FUTURE IMPACTS TO NOISE AND AIRPORT CAPACITY FROM NON-INTERSECTING CONVERGING RUNWAY OPERATIONS AT MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT (MSP)

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

WHEREAS, NOC members have been officially selected to represent their respective city(s) and airport user group constituencies and vote accordingly; and,

WHEREAS, the NOC is a balanced forum for the discussion and evaluation of noise impacts around MSP including the identification, study, and analysis of noise issues; and,

WHEREAS, the FAA amended Order 7110.65 (Air Traffic Control) in January 2014 to address a National Transportation Safety Board (NTSB) recommendation to establish separation standards for non-intersecting converging runway operations; and,

WHEREAS, a non-intersecting converging runway operation occurs when the flight paths of two aircraft intersect within one mile of the runway ends, posing a potential risk if a landing aircraft must discontinue its approach and go around; and,

WHEREAS, on July 24, 2015, the FAA determined that the Runways 30L and 35 Converging Runway mitigation in place at MSP, as documented in a Safety Risk Management Document, were not sufficient to meet the standards of the Converging Runway requirement, therefore a temporary suspension was put in place for arrivals to MSP Runway 35; and,

WHEREAS, on August 28, 2015, the FAA began allowing arrivals to Runway 35 using an approved separation technique to comply with the new Converging Runway requirements, which uses an Arrival-Departure Window (ADW) off the approach end of Runway 35 to effectively alternate Runway 30L departures with Runway 35 arrivals; and,

WHEREAS, on September 21, 2016 the MAC delayed the MSP Long Term Comprehensive Plan, at the request of elected officials and the surrounding communities, to ensure the plan's noise

analysis adequately considers the runway use now and into the future with the new Converging Runway standards and related runway use patterns; and,

WHEREAS, the local FAA Air Traffic Control Tower Manager provided updates to the NOC on this topic at the September 16 and November 18, 2015 meetings during an evaluation period for the mitigation techniques to determine the impacts they have on runway use and airport arrival rates; and,

WHEREAS, the NOC was informed at its January 2016 meeting that, in addition to Runway 30L, the FAA determined that the new Converging Runway standards apply to MSP Runway 30R, requiring implementation of a second ADW off the approach end of Runway 35 beginning February 29, 2016; and,

WHEREAS, since the new Converging Runway standards and related runway use patterns were put in place, changes have been observed in runway use and flight track data as reviewed and reported to the public by the NOC; and,

WHEREAS, communities surrounding MSP have been expressing concern with a change in overflight frequency, patterns and related noise impacts; and,

WHEREAS, communities and residents surrounding MSP are requesting information on the details surrounding the current ATC operational state and existing and future noise and capacity impacts; and

WHEREAS, FAA Order 1050.1F instructs that “formal and informal runway use programs that may significantly increase noise over sensitive areas” are FAA “actions normally requiring an Environmental Assessment,”

NOW THEREFORE BE IT RESOLVED, by the Noise Oversight Committee of the Minneapolis-St. Paul International Airport that the NOC recommends the MAC support and communicate the following request to the FAA:

An environmental review be conducted by the FAA to thoroughly assess the existing and future impacts to noise and airport capacity from non-intersecting converging runway operations at MSP. At a minimum, this evaluation should include the following:

- Runway use comparisons prior to and following the implementation of the new Converging Runway standards;
- 20-year forecast runway use under the new Converging Runway standards;
- Noise evaluation comparing Day-Night Average Sound Level (DNL) noise contours of the environment prior to and following the implementation of the new Converging Runway standards;
- An examination of airport capacity impacts resulting from the implementation of the new Converging Runway standards; and
- A plan to present the study and its findings to the NOC and communities.

MEMORANDUM

TO: MSP Noise Oversight Committee (NOC)

FROM: Dana Nelson, Manager—Noise, Environment & Planning

SUBJECT: UPDATE ON TURBOPROP DEPARTURES OVER MENDOTA HEIGHTS

DATE: September 7, 2016

The Federal Aviation Administration (FAA) has evaluated alternatives to reducing the number of turboprop departure flights over Mendota Heights in response to concerns expressed from citizens and the analysis conducted by MAC staff and [presented to the NOC on May 18, 2016](#).

Elaine Buckner, FAA Air Traffic Manager, will provide an update on this topic at the September 21, 2016 meeting.

MEMORANDUM

TO: MSP Noise Oversight Committee (NOC)

FROM: Dana Nelson, Manager—Noise, Environment & Planning

SUBJECT: **NEXTGEN STANDARD TERMINAL ARRIVAL ROUTES (STARS) AMENDMENTS UPDATE**

DATE: September 7, 2016

In May and July the NOC received updates from the FAA regarding [amendments to the Area Navigation \(RNAV\) arrival procedures](#), planned to become effective in January 2017 at MSP. The amended procedures are for transitional phases of flight when the arrivals are at or above 5,000 feet.

An FAA Environmental Protection Specialist will provide the results of the noise screen for the procedure amendments at the September 21, 2016 NOC meeting.

MEMORANDUM

TO: MSP Noise Oversight Committee (NOC)

FROM: Dana Nelson, Manager—Noise, Environment & Planning

SUBJECT: **RUNWAY USE SYSTEM (RUS) EVALUATION**

DATE: September 7, 2016

The 2016 NOC Work Plan includes an item to evaluate the use of the Federal Aviation Administration (FAA) Runway Use System (RUS). The RUS prioritizes arrival and departure runways to promote flight activity over less-populated residential areas as much as possible.

Background

The FAA has sole jurisdiction and decision making authority for air traffic control and safety for aircraft operations at MSP. The particular runway selection given to a specific aircraft arriving or departing MSP is the responsibility of MSP Air Traffic Control (ATC) personnel. The MAC does not control the aircraft using MSP.

ATC takes into consideration numerous factors, including: safety, efficiency, wind direction and wind speed (on the surface and aloft), air traffic demand, aircraft weight, the number of inbound and scheduled outbound aircraft, noise abatement, and many other variables when selecting an airport configuration.

The FAA began operating a preferential runway system at the MSP in 1972. In 1989 it was updated to account for a decreased use of Runway 4/22 and an increased capacity demand on the parallel runways. The RUS was last modified in 2005 to account for the opening of Runway 17/35.

Runway Use System (2005-present)

DEPARTURES
RUNWAYS 12L AND 12R
RUNWAY 17
BALANCED USE OF RUNWAY 4/22
RUNWAYS 30L AND 30R
ARRIVALS
RUNWAYS 30L AND 30R
RUNWAY 35
BALANCED USE OF RUNWAY 4/22
RUNWAYS 12L AND 12R

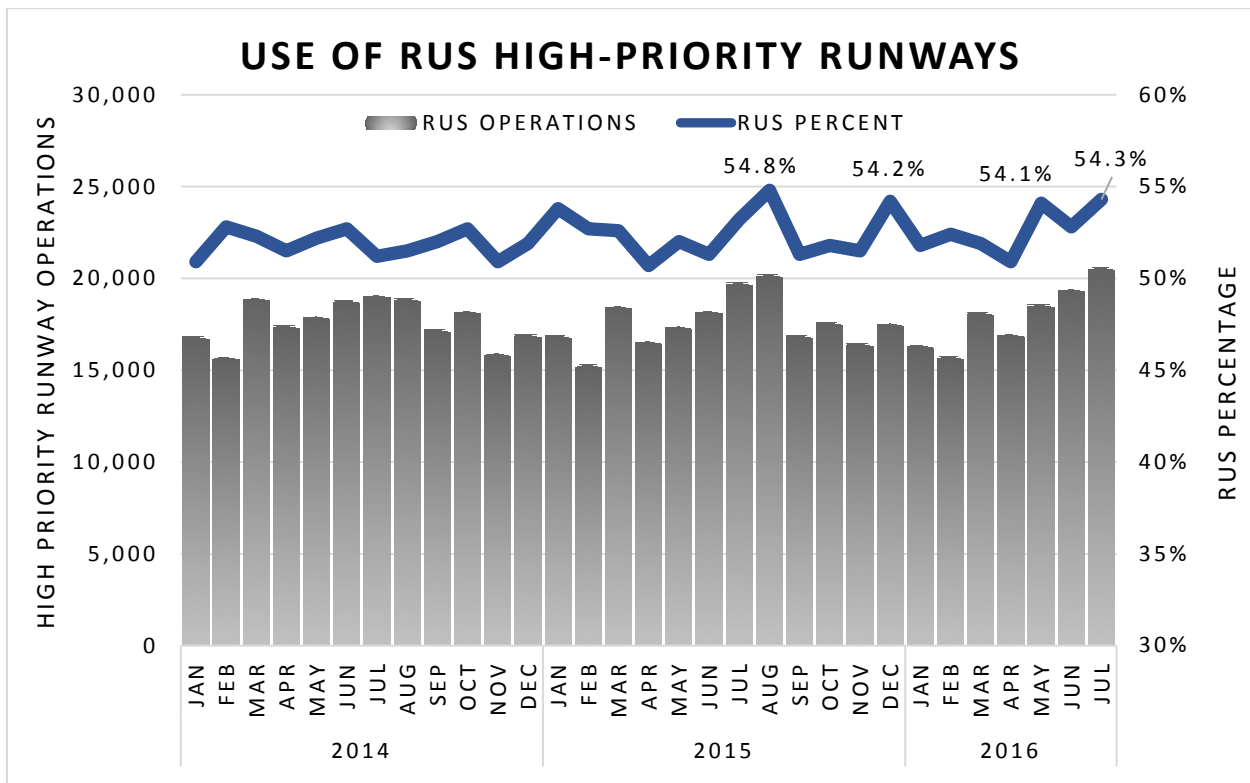
In 2014, the MAC Noise Program Office studied the use of the RUS and presented the findings to the NOC at its May 8, 2014 meeting¹.

¹ MAC Noise Program Office. (2014). *Runway Use Study*. http://www.macnoise.com/pdf/noc_agenda_5-8-14x.pdf

At the direction of the NOC, the MAC Noise Program Office began publishing a [monthly report in May 2015 to track the use of the RUS](#). The report begins with a description of the RUS and describes the factors that contribute to runway use determinations at MSP and graphically depicts the primary airport runway configurations.

The report summarizes the count and percent use of RUS high-priority runways for the month to give a high-level view of the preferred runway use. The report appendix includes an hourly breakout of airport operations, airport runway configurations, surface winds and winds aloft information for each day of the month.

The chart below summarizes the monthly trends of RUS high-priority runways. Each month between 50 and 55 percent of the operations have been on high-priority runways since January 2014. During this thirty month period, the four highest percentages occurred after July 2015.



MAC staff will provide an update on this topic at the September NOC meeting.

MEMORANDUM

TO: MSP Noise Oversight Committee (NOC)

FROM: Dana Nelson, Manager—Noise, Environment & Planning

SUBJECT: **CONSENT DECREE AMENDMENT UPDATE**

DATE: September 7, 2016

The Federal Aviation Administration (FAA) replaced the Integrated Noise Model (INM) with the Aviation Environmental Design Tool (AEDT) in May 2015.

MAC staff is working with the parties to the Consent Decree to update the language in the Consent Decree from the Integrated Noise Model to allow the use of the FAA-approved noise modeling software.

MAC staff will provide an update on this topic at the September 21, 2016 NOC meeting.

MEMORANDUM

TO: MSP Noise Oversight Committee (NOC)

FROM: Dana Nelson, Manager—Noise, Environment & Planning

SUBJECT: **DRAFT 2017 NOC WORK PLAN**

DATE: September 7, 2016

Each year at its September meeting the NOC membership reviews and discusses the proposed draft Work Plan for the coming year. The final draft is presented as a NOC Agenda item at the November meeting and is then presented to the MAC Planning, Development and Environment Committee by the NOC Co-chairs. The preliminary list of 2017 Work Plan topics and brief descriptions are provided below:

DRAFT 2017 MSP NOC WORK PLAN

1. Residential Noise Mitigation Program

a) Review Residential Noise Mitigation Program Implementation Status

Description: Staff from MAC Airport Development will update the NOC on the First Amendment to the Consent Decree Noise Mitigation Program.

2. MSP Noise Program Specific Efforts

a) 2016 Actual Noise Contour Report and First Amendment to the Consent Decree Noise Mitigation Program Eligibility

Description: Each year in March, under the terms and conditions of the 2007 Consent Decree, MAC publishes an actual annual Noise Exposure Map for the previous year. The 2016 noise contours will be used to establish an address list of the single and multifamily parcels that have met one, two and three years of candidate eligibility under the First Amendment to the Consent Decree, as applicable. To be fully eligible, a candidate home must be located for a period of three consecutive years (the first of the three years cannot be later than calendar year 2020) in the actual 60-64 DNL noise contour and within a higher noise impact area when compared to the home's status under the noise mitigation program prior to the amendment.

b) NextGen Standard Terminal Arrival Routes (STARs) Amendments Update

Description: The FAA originally published and implemented RNAV STARs procedures for MSP in March 2015. In January 2017, the FAA is planning to publish and implement amendments to these procedures. Additionally, the MAC will continue to collect arrival flight information to assess the use of Optimized Profile Descents (OPDs), which are incorporated in the NextGen STAR procedures. This report will examine the procedure

amendment implementation by the FAA and the use of OPDs with associated fuel and carbon emission reduction benefits.

c) Investigate Noise-Reducing Landscaping Options

Description: In an effort to reduce ground-level noise, Schiphol Airport in Amsterdam has turned to an agricultural solution through landscaping areas on and around the airport. This report would investigate the possibility of such solutions around MSP to reduce ground-level noise.

d) Quantify Noise Reduction Benefits of Vortex Generators on Airbus Aircraft Arrivals at MSP

Description: Delta Air Lines' new fleet of Airbus A321 aircraft come equipped with Vortex Generators, which divert airflow from vents on the underside of wings. These devices reduce noise from arrival operations prior to landing gear and flap extension. Once the new A321 aircraft begin regularly scheduled operations at MSP, MAC staff will conduct a mobile noise monitoring study to gather sound level data for quantifying the noise reduction benefits from these devices and report it to Delta Air Lines for their consideration to retrofit their Airbus fleet.

e) Evaluate Distant Noise Abatement Departure Profile (NADP) Use at MSP

Description: Upon receiving unanimous support from the NOC in 2003, the Distant NADPs (NADP-2) were implemented off all runways at MSP. This study will evaluate carrier jet use of the Distant NADP at MSP.

f) Update on the FAA's Survey to Re-Evaluate Noise Measurement Methods

Description: Throughout 2015 and 2016 the FAA conducted surveys of residents around select U.S. airports to assess perceptions of aviation noise. In 2017 the agency will assess the survey results to determine if changes to their noise measurement methods and/or compatible land use considerations are warranted. The NOC will receive updates on this process as developments are made.

g) Develop a New or Append an Existing Monthly Report to Evaluate the Eagan-Mendota Heights Departure Corridor Turboprop Activity

Description: Through coordination with the NOC and the Mendota Heights Airport Relations Commission, MAC staff will develop a new way to regularly report turboprop activity off Runways 12L and 12R in relation to the Eagan-Mendota Heights Departure Corridor.

h) Evaluate Steeper Glide Slopes for Aircraft Arrivals

Description: The standard 3-degree glide slope is used at MSP for aircraft arrivals. This report will investigate the prospect of using a higher glide slope for arrivals to MSP.

i) Noise Program Communication Enhancement Plan Implementation

Description: Complete and implement tactics 1-4 in the Noise Communication Enhancement Plan in coordination with MAC Public Affairs & Marketing.

- j) Improve MAC Noise and Operations Monitoring System (MACNOMS) for Better User Experience

Description: As the foundation of the MAC Noise Program Office, MACNOMS provides the public with readily-available online tools for assessing and investigating aircraft noise issues. This item will include several initiatives to improve the end-user experience.

- k) Annual MSP Nighttime Operations Assessment

Description: MSP is federally obligated to stay open 24 hours per day. Recognizing the impacts of nighttime operations, the NOC regularly assesses nighttime trends in airport operations. This is an annual assessment reviewing actual and scheduled nighttime operations at MSP.

- l) Annual MSP Fleet Mix Assessment

Description: The single largest factor of conventional noise reduction is source control. Over the past several years the numbers of noisy aircraft in the fleet at MSP has been declining. This report will examine the current fleet mix and provide trends analysis.

- m) Status of FAA Center of Excellence/ASCENT, TRB, and FICAN Initiatives

Description: This is an annual report on the status of scientific, engineering, and medical research literature prepared by universities, governmental organizations, and transportation boards located within United States.

3. Continue to Review Input Received from the Public Input Meetings as Possible Agenda Items

This is an information item, no NOC action is requested at this time. The final 2017 Work Plan will be placed on the NOC Agenda for November 16, 2016, with a request to recommend approval of the final 2017 NOC Work Plan to be presented by the NOC Co-Chairs to the MAC Planning Development and Environment Committee on December 2, 2016.

MEMORANDUM

TO: MSP Noise Oversight Committee (NOC)

FROM: Dana Nelson, Manager—Noise, Environment & Planning

SUBJECT: **REVIEW OF JULY 27, 2016 PUBLIC INPUT MEETING**

DATE: September 7, 2016

One of the elements of the annual work plan of the NOC requires MAC staff to conduct quarterly public input meetings. The intent is to ensure residents' concerns are considered as part of the ongoing effort by the MAC and the NOC to address noise issues around MSP. The NOC may also review these topics as possible future action items if the members so desire.

On July 27, 2016 at 7:00 P.M., MAC Noise Program Office staff conducted the 3rd Quarter 2016 Public Input Meeting at the MAC General Offices. One resident attended the meeting.

MAC staff had a focused discussion with the resident covering information about noise in the context of Federal Aviation Administration (FAA) procedures and policies and aircraft operations. The dialogue included a focus on the resident's specific aircraft noise issues, representatives from the FAA and the airlines were in attendance and joined in the discussion. This resident also completed the Public Input Meeting submission form on our website. While the questions were answered in person, MAC Staff has also responded to the questions in writing, mailed to them to the resident and posted them on the MAC Noise Program's website, accessible at www.macnoise.com. The presentation slides that were prepared for the meeting are also available on our website.

Specifically, comments/questions from the resident focused on:

- FAA's decision-making and consideration of community impact from aircraft overflights
- The difference between the impact on the community from MSP and from Denver International Airport

The next quarterly public input meeting is planned for October 26, 2016, 7:00 p.m., at the MAC General Offices, 6040 28th Avenue South, Minneapolis, MN 55450.