



**MSP NOISE OVERSIGHT COMMITTEE
MEETING MINUTES**
Wednesday, January 19, 2022, at 1:30 PM
By MS Teams, and Teleconference Only



Call to Order

A regularly scheduled meeting of the Minneapolis-St. Paul International Airport (MSP) Noise Oversight Committee, (NOC) having been duly called, was held Wednesday, November 10, 2021, by teleconference only. Chair Hart called the meeting to order at 1:30 p.m. The following participated in the teleconference:

Representatives: R. Barette, J. Bergman, B. Cloud, C. Jacobson, J. Hart, R. Krzos, P. Martin, D. Miller, L. Olson, C. Potter

Staff: Y. Bizen, B. Juffer, J. Lewis, K. Martin, M. Ross, C. Boyd, R. Fuhrmann, D. Nelson, N. Pesky, B. Peters, J. Welbes, P. Hogan

Others: H. Rand – Inver Grove Heights, L. Moore – Bloomington, K. Gallatin – Saint Paul, G. Davis – Delta, S. Calvert – Delta, J. Ipsen – FAA, D. Langer – FAA, Dominika Drozdal – FAA, J. Ronken – FAA, W. Eckenrode – FAA, R. MacPherson – FAA, N. Rao – FAA, Kristi Regotti – FAA, K. Archer – FAA, and other members of the public

A quorum of four Community Representatives, and four Industry Representatives was established by roll call attendance:

Community Representatives: Bergman, Jacobson, Krzos, Martin, Miller, Olson

Industry Representatives: Barette, Cloud, Hart, Potter

1. Consent

1.1. Approval of November 10, 2021, Meeting Minutes

There were no questions or revisions to the, November 10, 2021, meeting minutes.

1.2. Reports

1.2.1. Monthly Operations Reports: November and December 2021

Each month, the MAC reports information on MSP aircraft operations, aircraft noise complaints, sound levels associated with MSP aircraft operations, and compliance with established noise abatement procedures on its interactive reporting website:

<https://customers.macnoms.com/reports>

Michele Ross, Assistant Technical Advisor to the NOC, and Assistant Manager for Community Relations for the MAC, provided November and December 2021 operations updates.

NOVEMBER

- Total Operations: 25,782
- Nighttime Operations: 1,320
- North/South/Mixed: 45/39/9 (%)
- RUS (Priority 1/2/3/4):39/14/0/47 (%)
- RJ/Narrow/Wide: 38.9/58.5/2.5 (%)
- Complaints: 9,652
- Complaint locations: 187
- Top 10 Households: 56%
- Hours of events*: 373
- Number of events*: 72,025
- R17 procedure: 99.3%
- EMH Corridor procedure: 95.7 %
- Crossing procedure day: 21.6%
- Crossing procedure night: 39.6%
- RUS: 52.7%

* Aircraft sound events above 65dB.

DECEMBER

- Total Operations: 25,627
- Nighttime Operations: 1,510
- North/South/Mixed: 41/47/5 (%)
- RUS (Priority 1/2/3/4):38/14/0/48 (%)
- RJ/Narrow/Wide: 39.3/57.1/3.6 (%)
- Complaints: 8,700
- Complaint locations: 157
- Top 10 Households: 65%
- Hours of events*: 335
- Number of events*: 67,564
- R17 procedure: 99.6%
- EMH Corridor procedure: 92.8%
- Crossing procedure day: 25.2%
- Crossing procedure night: 40.1%
- RUS: 52.3%

Ms. Ross provided operations updates for MSP for the months of November and December.

Chair Hart asked the Committee if they had any questions. Hearing none, Chair Hart asked for a **motion to approve** the consent agenda. **Co-chair Miller** made the motion to approve the consent agenda seconded by **Member Jacobson**. The motion passed on the following roll call vote:

Ayes: Ten - Barette, Bergman, Cloud, Hart, Jacobson, Krzos, Martin, Miller, Potter, Olson

Nays: None

Abstain: None

2. Public Comment Period

There were no public comments.

3. Business

There were no business items on the agenda

4. Information:

4.1. VOR Minimum Operational Network

Rebecca MacPherson, FAA Great Lakes Regional Administrator, explained that a Very High Frequency Omni-Directional Range (VOR) is a ground-based electronic system that provides information for high and low altitude routes and airport approaches. VOR is part of a conventional navigation procedure and is used in instrument landings and navigation. VOR has been used by the FAA since the 1950s for all phases of flight.

The purpose of the VOR MON Program is to support the National Airspace System (NAS) transition from VOR-based routes to a more efficient Performance-Based Navigation (PBN) structure, consistent with NextGen goals.

Within the contiguous United States (CONUS), it enables pilots to:

- Revert from PBN to Conventional/VOR navigation in the event of a Global Positioning System (GPS) outage
- Identify an airport with a VOR MON approach, at a minimum altitude of 5000 feet above ground level (AGL) or higher
- Navigate to an MON airport within 100 nautical miles

FAA will discontinue approximately 30% (306) of VORs by 2030, in accordance with JO 7400.2 and established policies. Standard navigational aid removal procedures and circularization will be completed prior to initiating each VOR discontinuance.

Most procedures will be replaced with PBN and GPS navigation. Current departure procedures will be replicated with satellite-based Vector Standard Instrument Departures (SID) vs. ground-based navigation. Noise abatement procedures will be incorporated to the maximum extent possible. Coordination and synchronization will be required between FAA, MSP, and airlines.

Next Steps: Community Engagement

- The MSP VOR will be decommissioned on August 7, 2025.
- Significant efforts will be placed on Community Engagement and Community Involvement throughout the process, in addition to (National Environmental Policy Act) NEPA.
- The Great Lakes Regional Administrator's Office will develop a Community Engagement / Community Involvement Plan.
- The plan and associated timelines will be distributed to the MAC, the NOC and local communities through a variety of means.
- Community Engagement and Community Involvement will take approximately two to three years. Anticipated start will be third to fourth quarter of 2022.
- Identify Collaborative Workgroup and schedule meetings

Next Steps: Procedure Design

- Validate project scope
- IFP design phase
- NEPA
- IFP development
- Flight inspection
- Charting

List of area VORs on the VOR MON schedule include OTG, MKT, DWN, ODI, MSP, ROX, RST, FCM, GPZ.

MacPherson offered to take questions. **Chair Hart** recognized **Member Olson** for a question.

Member Olson thanked **Ms. MacPherson** and commented that there is a lot of history with implementation of PBN and concerns around it. The MAC and the NOC are on record in a number of different ways over the years outlining what could help the process be successful.

Olson said that one of the things that the Committee had looked for in the past was to see some examples of where departure procedures have been implemented effectively in a more populated area.

Olson reported that she was happy to hear that the FAA thinks that it's possible to get a condition at the end of the process that is going to replicate what is happening more naturally, noise has been dispersed without too many problematic concentrated tracks. Overall, it should be a great process and it could be an example of how to successfully engage the community and implement procedures. Minneapolis is looking forward to ensuring the necessary robust public engagement and hopes it won't be long before proposed tracks are available for review. The public will want some of the data that usually comes with the environmental assessment and the NOC should be prepared to talk to the community about potential noise analysis. **Olson** requested clarification for how the process can be done in a way that is going to work for long-term sustainability of the procedures at the airport and for the community around the airport.

MacPherson thanked **Member Olson** for her comments and said she looks forward to working with the group to make this process as smooth as possible. She went on to say that Minneapolis has a long history of community engagement and the mature relationship that the NOC and the MAC have developed with the surrounding communities will be helpful with early communications regarding expectations.

Chair Hart thanked **Committee Member, Olson** for her question and **Ms. MacPherson** for her response. **Chair Hart** asked if there were any additional questions and noting none moved the agenda on to item 4.2.

4.2. MSP Air Service Updates

Brian Peters, Director Air Service Development for the MAC, provided a high-level overview of where MSP's air service is currently, as well as where it is headed. One of the two graphics he provided outlined the difference between active and suspended routes. The beginning of February 2020 showed 225 active routes with no suspended routes. By late February 2020 Seoul and Tokyo were the first suspended routes which started a rapid downward trend. Early May 2020, there were more routes suspended than were active. It's been a steady climb upward ever since. Active routes peaked in December 2021, with 200 out of 225 operated - generally around the holidays. Active routes dropped a bit in January to 195 and will drop slightly again to about 192 by end of January and will remain around that number range through Spring break and into the early part of Summer. In May, June, July and August, should exceed 200 active routes again, though it is still a little bit dicey; the Omicron variant and pilot shortages are affecting schedules so can probably expect to be in the 215 active route range.

Looking at average daily departures scheduled by month. It is normal to have a little drop from December into January, but at 362 currently will increase slightly in February and then expect to jump to about 410 in March. At that point will only be down about 15% overall compared to pre-pandemic numbers. Should see a steady increase April through August. Projections are not much beyond that because some airlines have not yet filed their schedules beyond August. The expectation is that MSP will probably be in that 15% to 20%, down range. Overall, for the 2022,

forecasting to be at about 80% to possibly 85% of total passengers. MSP was at about 65% of pre-pandemic levels in 2021, compared to 2019.

Chair Hart went on to introduce **Greg Davis**, Delta General Manager of Future Schedules Networking, Atlanta.

Mr. Davis gave an overview of Delta's operations. Delta expects that by fall average daily departures will most likely be restored in the 85% range of departures. Delta is seeing some softness, currently, based on the Omicron variant and noted that there is still some chance of changes to some market starts as the airline reacts to the ebb and flow of the pandemic.

Highlights in international space would be Heathrow, Haneda, Incheon and our second. Amsterdam coming back this summer. Those are still subject to change based on any travel restrictions related to those countries. There are also questions about whether there is going to be slot relief provided and that is something determined on a country-by-country basis. There is a little more certainty regarding both Domestic and Canadian routes, as there are less restrictions to work around with Domestic markets. Delta has plans for Asheville, Burlington, Buffalo, Charleston, Jacksonville, Myrtle Beach, Providence, Portland, Maine, Savannah domestically as well as Montreal and Vancouver Canada.

Davis provided a chart displaying the newest, quietest aircraft at the top the oldest noisiest aircraft are at the bottom and he outlined that, over time, the progression has gone from a mix of new technology and older technology to now being more weighted towards the newer technology which will continue as we continue to take deliveries of A321s.

The A 321 NEOs first delivery is in February of this year. The NEO is an even quieter aircraft than the A321 CEOs, which Delta currently operates. Several more A220s, both 100s and 300s on the way. As those aircraft are delivered, they will replace some of our older, noisier, airplanes, so the trajectory is positive.

Chair Hart introduced **Casey Potter**, Assistant Chief Pilot, and First Officer for Sun Country Airlines. Mr. Potter also serves as an Industry Representative on the NOC.

Representative Potter spoke about 2022 increases in flight operations over the same months in 2019. For February 2022 there are 39 operations scheduled, which is a 26% increase over 2019. March 2022 shows 42 operations, a 24% increase and April 2022 shows 35 operations which is a 13% increase over the same month in 2019, mostly due to planned growth attributed to the addition of several aircraft in Q4, 2021.

Projections available through April 2022 anticipating two to three flights on an average day for departures out of MSP. 2022 new markets include Spokane Vancouver, Burlington, Vermont, Buffalo, Pittsburgh, Charleston and Jacksonville are additional routes that were flying direct out of MSP for Sun Country.

4.3. 2021 Complaint Data Assessment

Michele Ross, Assistant Technical Advisor to the NOC, provided an overview of the 2021 complaint data assessment. In 2020 there was a 46% decrease in the number of households filing complaints

and a 44% decrease in the number of complaints filed compared to 2019. And in 2021 there was a 21% increase in the number of households filing complaints with 996 households filing complaints and a 28% increase in the number of complaints received with 127,578 complaints.

Most of new households filing complaints in 2021 were located in the City of Minneapolis. Of the total households, there were 391 new households that filed complaints last year which is about 40% of all households filing complaints. These households filed 5,124 complaints, which is about 4% of all complaints for the year.

Most cities had an increase in the number of complaints filed in 2021 compared to 2020, with the exception being the city of Minneapolis with 1,329 fewer complaints filed compared to last year. All of the remaining cities had an increase in complaints. Not shown on these slides but available in the report on page 9 is a similar graphic showing the number of households that filed complaints. All cities shown in the presentation slide 34 had an increase in the number of households filing complaints with the exception of Mendota heights that had small increase.

There were 996 households that filed 127,578 complaints in 2021. While there is a visible concentration of complaints around the airport this map shows that proximity to the airport is not necessarily the primary factor contributing to the number of complaints submitted. The total number of operations for each complaint filed in 2020 was 2.44 and 2021 it was 2.35.

The operations to complaints ratio by hour of the day for 2020 and 2021 are similar except around the hours of 4 am and 5 pm hours when the 2021 ratio is higher than in 2020. In terms of the number of complaints filed, the most are filed in the 8 am hour with other peaks during the day in the 9pm hours.

Complaints can be filed either online or through our complaint hotline. Online, customers select the date, time, airport, and has the option of choosing one or all of the nine complaint descriptors provided (describe/name each one). When filing a complaint, one must select at least one of these nine reasons for the complaint.

Military operations generated the most complaints per operation, with helicopters generating the second highest number of complaints per operation. The CRJ9, CRJ2 and CRJ7 are all quieter aircraft, and the chart illustrates that relative to the number of operations flown using this aircraft the number of complaints received were fewer than other types of aircraft. These aircraft have higher than average operation to complaint ratios – the CRJ9 and the CRJ7 had ratios of 3 operations per complaint and the CRJ2 had a ratio of 4.6 operations per complaint. In general, smaller, regional aircraft had higher than average ratios, so more operations with fewer complaints, narrowbody aircraft are typically at or just below the annual average and large, widebody aircraft were below average, with fewer operations generation more complaints.

The top 2 flights on the top 10 list were F-16s that were diverted from Duluth due to weather and were unusual aircraft. The 7 Boeing 727-200 aircraft on the list were operated by Kalita which operates as a backup cargo charter for DHL. They operated 81 total flights in 2021.

The largest percentage of complaints were received while MSP operated in south and straight south flow runway configuration. The airport operated in this configuration about 42% of 2021 but 58% of all complaints were received during this configuration.

As expected, when the weather is nice, people are outside or their windows are open, they are more likely to notice aircraft activity and file a complaint when temperatures were between 60 and 80 degrees there were more complaints. Extreme temperatures, when most people are indoors with either heat or air conditioning results in fewer complaints.

Member Olson asked, regarding slide 41, specific incidences of planes that receive a lot of complaints, e.g. DHL cargo, night flights. Is the time of day contributing to complaints. **Ross** replied that she believes time of day is a contributing factor regarding the number of complaints.

Chair Hart noted that DHL uses 727-200s, which used to be a predominant fleet type here in MSP. He went on to say that they generate a lot of noise.

4.4. 2021 Fleet Mix and Nighttime Operations Assessment

Brad Juffer, Technical Advisor to the NOC, provided an overview of the Annual Fleet Mix and Nighttime Operations Assessment for 2021. MSP experienced stable growth in total operations from 1990 – 2004 when the airport peaked at more than 540,000 total takeoffs and landings. Airline mergers and economic disruptions caused by a housing crisis in the following 5 years reduced those totals. The airlines began the process of upgauging aircraft, flying more people on fewer flights using bigger aircraft. From 2014 – 2020, the airport had a period of stability in terms of total operations, while more and more passengers continued to use the facility each year. In 2020 in late March, when the pandemic began to impact the aviation sector, the airport was ahead of 2019 passenger and operations levels. From May of 2020 when the pandemic was at its worst, through the end of 2021, the industry slowly recovered, trying to climb back to 2019 levels. In 2020, total operations were down 40% from the 2019 number. In 2021, when the final number is released by FAA tomorrow, we expect to be very near to 304,000 operations, which would put the airport at 75% of 2019 levels and 24% above 2020.

The emergency stay-at-home orders early in the pandemic did begin to relax in the early summer of 2020. Leisure travelers began to return a little bit in summer and more so in the holiday travel season in 2020. Moreover, airlines began to understand and meet that demand more efficiently in Spring Break timeframe of 2021 as vaccine availability became more widespread and positive rates fell. Airport's passenger flown per flight reached normal levels in Summer 2021. Without having the data available, suspect that early 2022 data may dip, if but temporarily, due to the Omicron variant spread through the country.

In 2021, MSP continued to be dominated by airline carrier jet aircraft operations. 93.5% of all movements at MSP were in this category of aircraft, a return to a normal pre-pandemic level. The remaining categories include 3.5% in a general aviation jet aircraft, 2% in a turboprop aircraft, 1% in a piston driven aircraft.

In 2021, the split between regional jets, narrowbody jets and widebody jets was 44/53/4%. 2021 saw more than normal operations by proportion in regional jets vs narrowbody jets. While not

provided in this annual data, airlines continued to schedule more operations in narrowbody jets beginning in late summer and accelerated in the Fall of 2021.

In 2021, the most flown aircraft was the CRJ-900 by a significant margin. That aircraft was followed by the CRJ2 and then in a close third was the B738. As a quick plug, go check out the Meet the Fleet series to see more information on 2 of 3 of these aircraft. This order is unchanged from 2020 and also unchanged from 2019. To point out a couple key areas. The Regional Jet other includes a Dornier 328 flown by Denver Air Connection making hops to Thief River Falls. The other category in the narrowbody category includes limited operations in older model 737s, but also newer 737-Max aircraft that returned to service in 2021. For the widebody aircraft grouping, The Boeing 767s aircraft are flown by multiple cargo carriers and Delta Air Lines. Many of Delta's operations in this aircraft were to domestic airports as opposed to the European destinations popular before 2020. The 747-8 and 747-400 aircraft types flown by UPS doubled in 2021.

The Y-axis on the certificated noise level chart represents the certificated noise level relative to Stage 3 standards. The FAA and ICAO have set the maximum noise level an aircraft can produce as measured at 3 specific points along the track of a flight—lateral, flyover (takeoff), approach. For Stage 3 standards, the aircraft is given a maximum noise level at each of these points subject to the number of engines on the airplane and the maximum takeoff weight. Because of the engine and weight component, the maximum noise level is different for every aircraft on this chart.

When Stage 4 and Stage 5 regulations were codified, they were implemented relative to Stage 3. An aircraft certificated between 2006 and 2017 was required to have 3 noise measurements that were cumulatively 10 dB below the Stage 3 limit. Aircraft certificated after 2017 must have the 3 measurements points be 17 dB below Stage 3. Those lines are represented on the chart in black.

The lower the solid color goes, the quieter the aircraft will be, relative to its weight and engine configuration. The most used aircraft type last year was the CRJ-900. At last check, there were 46 different configurations of the CRJ-900 certificated by EASA. Just choosing one at random, the aircraft was certificated at 89.1 lateral, 83.6 flyover, 92.4 approach. Add all of those up and you get a 265.1 cumulative output. This aircraft weight limit based on the 2 engine and weight of the aircraft is 281.6. Math tells us then that this aircraft is 16.5 dB below the Stage 3 Limit.

One of the newer aircraft flying at MSP consistently is the Airbus A220-100, represented on the chart as A221. This one is nice, because at the moment, there is only one configuration certificated and reported by EASA. This aircraft is certificated at 88 lateral, 78.8 flyover, and 91.5 approach. The cumulative output on that is 258.3. The Stage 3 limit for this dual engine aircraft based on the weight is 286.3, meaning this aircraft is a full 28 dB below this certificated limit.

In 2021, Delta began flying regular operations using the Airbus A330-900 aircraft. Delta has long been flying the A330-200 and A330-300 but began taking deliveries of the new variant in 2019 and is now using them on flights at MSP. The A330-900 is outfitted with Rolls Royce Trent 7000 engines that have a more efficient and higher bypass ratio than the Pratt 4000s found on the A330-300. The A330-900 has certificated noise levels of 92.4 (lateral), 89.1 (flyover), and 98.4 (approach). The cumulative output is 279.9. The Stage 3 limit for this aircraft weight is 303.8, giving the aircraft a certificated noise level of 23.9 dB below Stage 3 limits.

For arrivals, the altitude measurement point is an imaginary gate at 5 nautical miles from the runway threshold. For departures the measurement point is an arc that is 5 nautical miles from the beginning of the 5 primary runways. All aircraft approaching MSP follow a 3° glideslope into the runway which would mean at 5 NM, the aircraft should be at 1,592 feet above the ground.

In general, the departure altitude of aircraft is impacted by aircraft weight and weather conditions—primarily temperature and wind. Prior to the pandemic, you'll note that aircraft perform better in the winter than summer. That trend also exists post-pandemic, but now aircraft weight is an important consideration as well. In April and May 2020, there were less than 50 passengers on each airplane on average. The lack of weight allowed aircraft to climb faster, and altitudes peaked. In 2021, while total operations have not returned, the average passenger per aircraft has generally returned to pre-pandemic levels and now average departure altitudes are also in the range of average altitudes prior to 2020.

Operations during the federal definition of night, 10:00 PM and 7:00 AM, as well as activity during the MSP nighttime (10:30 PM – 6:00 AM), was fairly stable from 2016 – 2019. That level fell with other metrics during the pandemic and returned somewhat in 2021. Last year there were 41 total arrivals or departures on average every day between 10:30 PM and 6:00 AM.

Those 41 average daily nighttime operations are split roughly 70/30 between arrivals and departures. 70% of the arrivals used the south parallel runway 30L or 12R for arrival while 53% of the departures used one of those runway ends.

Delta Air Lines had the highest contribution to the total nighttime traffic at MSP. While they contribute the most, a full 96.4% of their schedule was flown during the daytime hours in 2021. Cargo carriers operate more than passenger airline at night. What is a common misconception is that it isn't the entire schedule and in the case of MSP in 2021, it isn't even the majority of their schedule. UPS flew only 33% of its flights at night and FedEx flew only 20% of its flights at night.

2021 will not meet the average of 2018 -2020 because 2 of those years were not impacted by the pandemic. For 2021, the majority of the night flights happen in the 11:00 PM hour, 10:30 PM half-hour and 5:00 AM hour.

4.5 Website Update

Brad Juffer, Technical Advisor to the NOC, provided a brief introduction to the new Metropolitan Airports Commission website, metroairports.org and provide a few before and after pictures of the project.

This project was done to enhance the user experience. This website is a gateway to the communities we serve so we wanted to build a website that produces meaningful engagement, provides timely and relevant information to users of the site, and does so in an easy and intuitive manner.

The previous metroairports.org website was spread across three separate platforms. The previous metroairports.org site, the MAC Sustainability site, and the macnoise.com site. One of the goals of this project was to align messaging and branding and provide the content to users in one location.

The new and redesigned metroairports.org replaces those individual platforms and combines the information into one experience for our community. The site is meant to be more approachable and community focused view of MAC. The community relations team spends a considerable amount of time building relationships with the NOC and neighbors and stakeholders around all MAC airports. We do that by being approachable and ready to talk about our airports with anyone who is interested. Our goal during this project was to build a site that reflected that.

The new metroairports.org site has a Community Connections section that discusses MAC in the Community. A subsection of that is the Aircraft Noise area of the website. Our macnoise.com presence was a highly curated and mature repository for information related to aircraft noise in this area. The team has spent years delivering that information to proactively answer some of the questions we often hear from our customers. We had a clear understanding of what our customers used on the old site and how to structure the new page to continue to meet that need. I want to take the time to recognize Jennifer Lewis for building that deep understanding of the needs of our customers and to Michele for working with the project team to deliver that positive experience to our customers. I encourage everyone to browse through the Community Connections site and the broader MetroAirports site after the meeting.

Member Bergman commented that his Member Bios says Member At-Large and suggested that it to note the cities the At-Large represents.

Juffer appreciated the input and remarked he would pass it along.

5. Announcements

Winter Listening Session

Wednesday, January 26, 2022 @ 6:00 pm

Location: Via Teams

March NOC Meeting

Wednesday, March 16, 2022 @ 1:30 pm

Location: Via Teams

6. Adjourn

Chair Hart thanked the members of the Committee, NOC staff and residents in attendance. The meeting was adjourned at 3:01 pm.