2019 ANNUAL REPORT

MINNEAPOLIS SAINT PAUL
METROPOLITAN AIRPORTS COMMISSION
MAC

Greetings:

While the year 2019 might seem an already distant time in the wake of 2020's world-changing COVID-19 pandemic, it was a period of tremendous growth in the aviation industry.

Minneapolis-St. Paul International Airport (MSP) enjoyed another record year, surpassing 39 million passengers for the first time. International travel reached new heights with new service to Dublin, Mexico City and Seoul. And nearly two dozen new restaurants joined the ranks of MSP's award-winning concession program. The Metropolitan Airports Commission's (MAC) reliever airport system also saw an increase in the number of aircraft operations and the number of aircraft based there.

Work continued on a multi-year project to expand and modernize Terminal 1's vintage ticketing and bag claim facilities, and a new 5,000-stall parking ramp took shape in preparation for its 2020 debut. The MAC also began planning and increasing investments in its reliever airports, helping ensure the Twin Cities will continue to enjoy not only the largest, but also we believe the best, airport system in the nation. We're not alone in holding that opinion. In 2019, for the third consecutive year, Airports Council International named MSP the Best Airport in North America in its size category based on passenger surveys.

In short, 2019 was a year of tremendous promise that illustrated the close connection between air transportation and a strong economy. History has shown that aviation both drives and benefits from economic growth – and it will again when the current crisis is behind us.

Thank you for your continued interest in the Metropolitan Airports Commission.

Sincerely,

Rick King
Chairman

Brian Ryks
Executive Director and CEO

Table of Contents

Who We Are

The Metropolitan Airports Commission (MAC) owns and operates an airport system that includes Minneapolis-St. Paul International and six general aviation airports - also known as Reliever Airports. One of the nation's largest airport systems, the MAC's system connects the region to the world and showcases Minnesota's extraordinary culture to the millions of passengers from around the globe who arrive or depart through MSP. MSP International Airport is centrally located in the Twin Cities metro area – as are the MAC's Reliever Airports, which are all within 35 miles of the downtowns of Minneapolis and Saint Paul.

The Twin Cities is home to 16 Fortune 500 companies – one of the highest per-capita concentrations of large companies in the U.S. A recent study found that the MAC delivers more than $16.7 billion annually for the local economy and supports more than 90,000 jobs.

The MAC's airport system showcases the region's rich culture through its strong arts programs and emphasis on local shops and restaurants at MSP.

The MAC airport system is also self-sustaining – it operates with no support from income or property taxes. Instead, MAC operations are funded by rent and fees from airport users. For the third year in a row, in 2019 MSP was named the most efficient North American airport in its class by the Air Transport Research Society.

Mission:
Connecting you to your world

Vision:
Providing your best airport experience

Partnering for Success

It takes cooperation among thousands of people from many different organizations – including airlines, airport service providers, concessionaires, the Airport Foundation MSP, the Federal Aviation Administration (FAA) and the Transportation Security Administration (TSA) – to ensure an exceptional experience for customers of the Metropolitan Airports Commission's (MAC) system of airports.

The MAC strives to build connections and community between these many organizations and their people to align everyone with its vision:

Providing your best airport experience

Improving the Passenger Experience

In 2019, the MAC worked closely with its partners, including the **Airport Foundation MSP, the airlines, and the TSA** - which is responsible for screening passengers - to ease congestion and wait times in Minneapolis-St. Paul International Airport's (MSP) Terminal 1 ticketing lobby.

As a result, additional employees and volunteers were deployed in the ticketing lobby of Terminal 1 to help direct travelers. Additional airline counters and check-in kiosks, along with earlier opening times for security lanes, resulted from this collaboration. The MAC also began discussions with the TSA and the InterContinental Hotel MSP Airport management to increase utilization of the hotel's security screening lane.

MSP Airport has one of the most well-regarded food and retail programs of any airport in the nation. Without our innovative concession partners, who envision, construct and manage these venues, the MAC could not have opened 23 service, retail, and food and beverage concepts – including six local concepts - in 2019 at MSP.

Those same companies participate in MSP's MSPjobs committee, whose members are dedicated to ensuring MSP Airport has the best and most prepared workforce possible. A milestone for the program occurred in February 2019 when a dozen MSP employees graduated from the first MSP Airport Workforce English class, put on in partnership with the Hubbs Center, a Saint Paul Schools program for adult learning.

Airport Foundation MSP

The MAC works closely with the **Airport Foundation MSP** - a non-profit organization whose mission it is to enhance the experience and exceed expectations of travelers at MSP - to help fulfill its mission to provide customers their best airport experience.

Incorporated in 1982, the Airport Foundation MSP runs one of the largest and most active volunteer programs of any airport in North America. More than 600 people spend a minimum of four hours every month helping passengers along their journey.
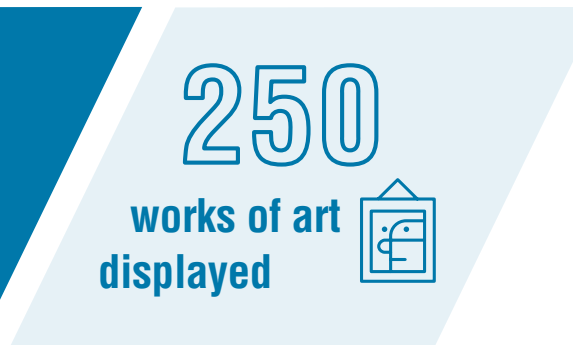
airport **foundation**

ARTS @MSP

The Arts@MSP program is a partnership between the Metropolitan Airports Commission and the Airport Foundation MSP. The program, staffed by the Foundation, is responsible for permanent art installations, booking live musical performances, and soliciting for art exhibits that showcase Minnesota talent and culture – from Hmong dancers to the Minnesota Boys Choir.

Learn more about the foundation at:
airportfoundation.org

605 volunteers provided
71,235 hours of service in 2019

99 Animal Ambassador teams (98 dogs and one cat)

900 musical performances

250 works of art displayed

Airfield Improvements

Every year, the MAC invests in major airfield projects to ensure existing infrastructure is maintained.

In 2019, at Minneapolis-St. Paul International Airport (MSP) a segment of Taxiway Charlie was reconstructed, centerline lights were added to Taxiways Bravo and Charlie, and a taxiway lighting system was installed on a portion of Runway 4/22.

In coordination with MSP airport's airlines, the MAC also installed additional electrical charging stations to provide power to airline ground service equipment.

Minnesota Armed Forces Service Center

The MAC worked with the **Armed Forces Service Center (AFSC)** to build out a new location inside the secure area at MSP Airport, which opened in November 2019.

The AFSC has been a stalwart at MSP for 50 years. Established by the mother of a Minnesota soldier killed in the Vietnam War, the AFSC provides a space for active and retired military personnel and their dependents to sleep, shower or just relax while at MSP.

The new center is more than double the size of its old location. The post-security location is also an added convenience for service members who are making flight connections.

Learn more about the center at: mnafsc.org

Noise Mitigation Program

Decades of **relationship building with and outreach to local community leaders and residents** has led to the MAC having one of the most comprehensive noise mitigation programs of any airport system in the U.S. The program provides residential noise abatement improvements to residential homes near MSP Airport that go well beyond the federal standard for mitigation.

In 2019, more than 240 homes became eligible to participate in the program. Mitigation to these homes includes improvements to windows, doors and attic insulation; baffling of attic vents, mail slots and chimneys; and, often, the addition of central air conditioning.

To date, the MAC's Noise Mitigation Program has provided mitigation to more than 15,000 homes, more than 3,300 multi-family units and 19 schools at a total cost of nearly $500 million.

While passenger levels increased at MSP in 2019, the number of aircraft takeoffs and landings decreased – primarily due to airlines flying fewer aircraft that have more seats.

The effect is a reduced aircraft noise footprint compared with previous years. Nonetheless, the MAC remains committed to working with its neighbors and communities to respond to aircraft operations concerns.

Planning for the Future

The MAC's MSP Airport long term planning process for the year 2040 kicked off in 2019. The goal is to provide a guide for future improvements out to the year 2040 based on an analysis of future commercial aviation demand in the region.

As part of the process, the MAC established the **MSP Airport Long Term Plan Stakeholder Engagement Panel.** Made up of key airport and community stakeholders, the panel will help gather constituent aspirations and ideas, and serve as a conduit to their individual organizations and communities about the planning process.

The MAC's robust public outreach plan also includes the Experience MSP events, the first of which occurred in October 2019. These events are designed to attract a broad cross-section of interested individuals and provide people with all levels of experience with the airport to get an insider's peek at what's happening at MSP.

In addition to presentations about the long-term planning process, the events offer important information and insights about how the airport operates, activities for children, and a taste of some of the new restaurants at MSP.

Learn more at: mspairport.com/long-term-plan

Mapping a Sustainable Future

The MAC has a long history of operating sustainably. Examples include the creation of its aircraft deicing fluid recycling program in 1993, its public recycling program in 1997, and the installation of MSP airport's first solar installation in 2015.

In 2019, following a year-long effort that included a survey of MAC employees and in-depth interviews with senior leaders, MAC senior management is expected to bring to the MAC board for approval specific goals to reduce greenhouse gas emissions, water usage and waste – and to improve sustainability engagement among staff.

Growing Air Service

Passenger traffic at Minneapolis-St. Paul International Airport (MSP) grew four percent in 2019 – the third straight year of record growth. And with the help of the Regional Air Service Partnership (RASP), which helps the Metropolitan Airports Commission identify new route opportunities, and Greater MSP, travelers were able to fly nonstop to 167 destinations from MSP, including, Seoul, South Korea starting in April, Mexico City in June, and Dublin in July.

Multiple airlines served 59 of those routes. That helps create competition, which can reduce airfares for MSP travelers.

A large portion of MSP's growth was attributed to two carriers – Delta Air Lines, for which MSP is one of its major hubs, and Sun Country, MSP's hometown carrier.

RASP
MSP REGIONAL AIR SERVICES PARTNERSHIP

In 2019, Delta added four new routes, Sun Country added nine, and Southwest added one.

15 new routes in 2019

Providence (PVD)

Newark (EWR)

Philadelphia (PHL)

Sacramento (SMF)

Chicago-O'Hare (ORD)

St. Louis (STL)

Charleston (CHS)

Dallas-Love (DAL)

San Antonio (SAT)

Sarasota (SRQ)

Nassau (NAS)

Mexico City (MEX)

Aer Lingus

DELTA

sun country airlines

Southwest

OVERSEAS ROUTES

Seoul (ICN)

Dublin (DUB)
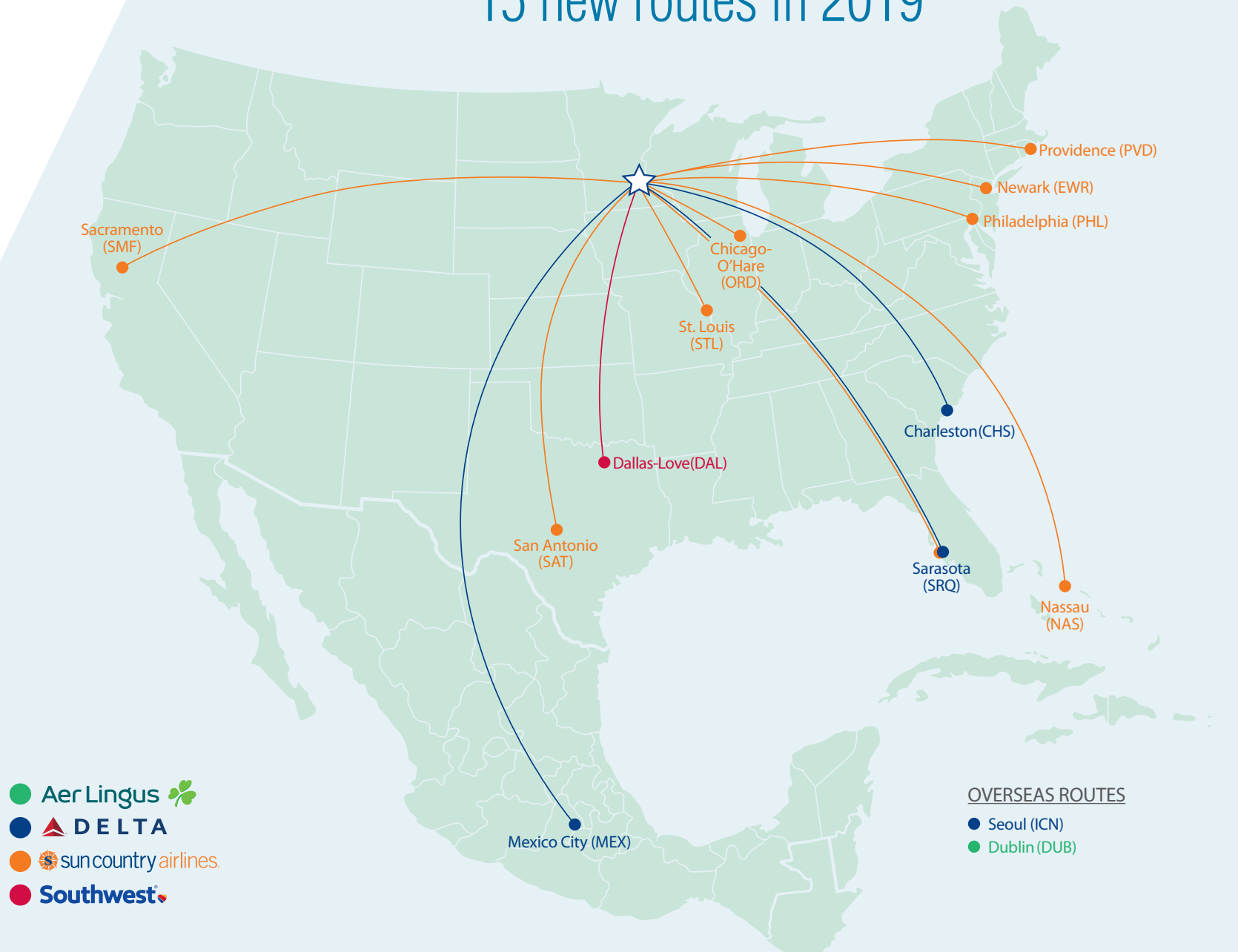
In July, Aer Lingus joined MSP's five other international airlines when it began offering direct service from MSP to Dublin, Ireland. Via Dublin, Aer Lingus passengers could connect directly to more than 20 European cities, including London, Paris and Rome. This route was a direct result of the RASP's work.

In 2019, the MAC also financed Sun Country's remodel of an underutilized hangar at MSP Airport so that it could consolidate many of the airline's functions into one space. The move allowed Sun Country to operate more efficiently and cost effectively.

167 Number of nonstop destinations

59 Number of competitive routes

15 Average percentage drop in domestic airfare at MSP since 2014

Reimagining the Airport Journey

In 2019, the MAC continued to improve Minneapolis-St. Paul International Airport's (MSP) 1960s-era infrastructure with the goal of providing airport facilities and services that could accommodate modern technology and passenger levels. In doing so, the MAC can continue to support the Twin Cities' and region's economies.

Auntie Anne's
PRETZEL PERFECT

HAMMER◆MADE

smashburger

Bottle ROCKET

Hi-LO

Starbucks

BUFFALO WILD WINGS

JOE & THE JUICE

THE COOK & THE OX
LOCALLY INSPIRED STEAKHOUSE

Caribou COFFEE™

LEEANN CHIN

VERDI MARKET

Chick-fil-A®

Moe's southwest grill®

ZONA COCINA

chili's

PiNKU

CINNABON

Prince

FIREHOUSE SUBS

SHAKE SHACK®

Major Initiatives Completed in 2019

NEW ESCALATORS ON THE SOUTH END OF TERMINAL 1 that transfer passengers between the Tram level, Baggage Claim and Ticketing. Similar escalators on the north end of the terminal opened in 2018.

THREE NEW CENTRALLY LOCATED ELEVATORS AT TERMINAL 1 now transport travelers between the Tram level, valet parking, and the Baggage Claim and Ticketing levels. (Three additional elevators are expected to open in 2020.)

A NEW EXIT TO BAGGAGE CLAIM FROM CONCOURSE G AT TERMINAL 1, creating space for an additional baggage carousel when the Airport Mall exit was closed.

A NEW ARMED FORCES SERVICE CENTER WAS CONSTRUCTED ON THE POST-SECURITY SIDE OF TERMINAL 1 to make room for renovations in the Ticketing Lobby. The original center had been on the Mezzanine level for almost 50 years.

AN EXPANDED AND REDESIGNED VALET PARKING GARAGE

TWO NEW FOOD COURTS OPENED IN TERMINAL 1, in the Airport Mall and on Concourse C, featuring both local and national restaurant brands.

THE NEW PRE-BOOKED PARKING system that allows travelers to reserve a parking spot in one of the MSP ramps while also saving $2 per day.

AND MANY OTHER IMPROVEMENTS THAT MAY NOT BE NOTICEABLE TO TRAVELERS BUT ARE CRITICAL FOR THE SAFE AND EFFICIENT OPERATION OF MSP, including four new passenger boarding bridges at airline gates and new centerline lights on a taxiway near Terminal 1.

Choose Your Dates

Select Parking Option

Complete Your Information

Confirmation

Prebooked Parking

NEW! Purchase your parking online before you arrive. When you prebook, you don't have to worry about getting a spot. You're guaranteed a place to park.

msp

Home   Manage My Bookings

🔒 Login

Select Your Airline

Please select

Entry Date/Time
📅 02/28/2020   🕐 08:00 AM ▼

Exit Date/Time
📅 03/07/2020   🕐 05:30 PM ▼

Apply your Promocode
▼

Search Parking

IT'S AS EASY AS 1-2-3

1 Select your parking online and pay with a credit card.

2 Print your confirmation email or save it on your mobile device.

3 Scan the QR code to gain entry and find the first open space.

Initiatives Underway

CONTINUED RENOVATION AND EXPANSION OF THE TICKETING AND BAGGAGE CLAIM LEVELS AT TERMINAL 1 will relieve congestion and ease the flow of passengers through these spaces.

COMPLETION OF THE NEW SILVER PARKING RAMP, which will make room for an additional 5,000 parking spots at MSP. (Opening Summer 2020).

NEW BAGGAGE CLAIM CAROUSELS THAT FEATURE LIGHTING with a water-like effect and nature sounds to indicate when bags are about to be delivered.

A NEW FOOD COURT IN TERMINAL 1'S CONCOURSE A

Perhaps the most visible change in 2020 will be the **installation of Aurora – named for the aurora borealis (northern lights) frequently visible in our "North Star State"** – by artist Jen Lewin. This artwork will hover between the Ticketing and Baggage Claim levels of Terminal 1. It is the result of a several-year effort by the Arts@MSP program to bring an iconic art piece to MSP.

Reliever Airports

The Metropolitan Airport Commission's six general aviation airports–referred to as the reliever airports – play a vital role in the MAC's seven-airport system. They are called relievers because they relieve aircraft congestion at Minneapolis-St. Paul International Airport (MSP). They also serve as home base for many businesses, as well as a Minnesota National Guard unit, Minnesota State Patrol planes and helicopters, several flight schools, and many private pilots.

In addition, corporate aircraft from companies large and small make their home at these airports.

Together the Reliever Airports logged 319,663 takeoffs and landings in 2019 – the equivalent of 79 percent of the 406,073 operations at MSP.

The Reliever Airports also play a key part in ensuring the Twin Cities can efficiently host large events like the NCAA Final Four basketball tournament held in Minneapolis in April 2019. Private jets carrying fans flew directly into five of the MAC's Reliever Airports, with Flying Cloud and St. Paul Downtown accommodating the majority.

In 2019, the MAC invested about $15 million in capital improvement projects at its Reliever Airports – mostly to improve runways, taxiways and roads; upgrade lighting; make improvements to the historic terminal building at St. Paul Downtown Airport; and develop land for additional hangars.

Learn more about the MAC's Reliever Airports at: metroairports.org/general-aviation

Visioning Study

In 2019, the MAC continued its work on a Primary Reliever Airport Visioning Study that, when completed, will lay the groundwork for developing long-term comprehensive plans for each of the primary Reliever Airports: Anoka County-Blaine, Flying Cloud and St. Paul Downtown.

The study will help inform the MAC about how pilots make decisions about which airports they prefer to operate from. Once completed, the study will help the MAC better determine how these airports fit into the MAC's overall system of airports and to plan for their future needs.

Airlake

Located south of the Twin Cities in Lakeville, Airlake Airport is used primarily by recreational pilots.

Airlake Airport (LVN) in 2019					
Takeoffs & landings	Rank of Operations among Relievers	Number of based aircraft	Rank of based aircraft among Relievers	Number of runways	Runway dimensions
29,835	6	141	5	1	4,099' x 75'

Following the annexation of approx. 120 acres of land in Eureka Township in 2018, the MAC in 2019 substantially completed the development of a new building area, which includes the infrastructure necessary for airport tenants to connect to sewer and water in that area.

Anoka County-Blaine

Located in the north metro area near the National Sports Center, the Anoka County-Blaine Airport serves the most diverse aircraft mix among the MAC's Reliever Airports, including vintage, experimental, recreational and corporate aircraft.

In 2019, the MAC reconstructed a service road and several taxi lanes at Anoka County-Blaine.

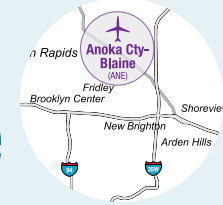| Anoka County-Blaine Airport (ANE) in 2019					
Takeoffs & landings	Rank of Operations among Relievers	Number of based aircraft	Rank of based aircraft among Relievers	Number of runways	Runway dimensions
71,740	2	378	1	2	5,000' x 100' 4,855' x 100'

Crystal

Crystal Airport lies within the cities of Crystal, Brooklyn Park and Brooklyn Center in the northwest Twin Cities metro area. The airport has four total runways, including the only turf runway in the system.

Crystal Airport (MIC) in 2019					
Takeoffs & landings	Rank of Operations among Relievers	Number of based aircraft	Rank of based aircraft among Relievers	Number of runways	Runway dimensions
41,541	3	165	4	4	3,266' x 75' 3,263 x 75' 2,499' x 75' 2,122 x 150

In July 2019, the MAC concluded an environmental assessment for improvements at this airport, which will include:

- Converting an existing runway into a full-length, lighted taxiway.
- Extending the main runway to 3,750 feet in 2020.
- Shortening the turf runway for safety purposes.

Flying Cloud

Flying Cloud Airport is the busiest among the MAC's Reliever Airports and ranks second in the MAC's system for the number of aircraft based there. Flying Cloud is located in the southwest suburb of Eden Prairie and is a popular home base for corporate business jets and turbo props.

Takeoffs and landings increased slightly at Flying Cloud in 2019 due to an increase in business and flight training activities. Flying Cloud has three runways, the longest of which is 5,000 feet.

Flying Cloud Airport (FCM) in 2019					
Takeoffs & landings	Rank of Operations among Relievers	Number of based aircraft	Rank of based aircraft among Relievers	Number of runways	Runway dimensions
104,405	1	369	2	3	5,000' x 100' 3,900' x 75' 2,691' x 75'

Flying Cloud is also home to some of the most popular aviation events in Minnesota. The AirExpo in July 2019 featured about 40 iconic aircraft – including a B-17 Flying Fortress – that attracted thousands of visitors.

In September, more than 2,000 people attended Girls in Aviation Day. Sponsored by the Stars of the North Chapter of Women in Aviation International, the organization's mission is to encourage more girls to pursue careers in aviation, science, technology, engineering and math.

In 2019, the MAC invested $1.2 million by reconstructing two taxiways and installing lights along the edges to improve safety.

Lake Elmo

Located in the east metro area of the Twin Cities, Lake Elmo Airport ranks third among the MAC Reliever Airports in the number of aircraft based there and fifth in takeoffs and landings and is convenient for both business and leisure travelers.

In 2019, the MAC reconstructed taxi lanes in front of hangars and the south-side taxiways. The MAC also plans to extend its primary runway to 3,500.

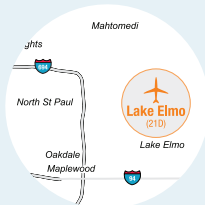| Lake Elmo Airport (21D) in 2019					
Takeoffs & landings	Rank of Operations among Relievers	Number of based aircraft	Rank of based aircraft among Relievers	Number of runways	Runway dimensions
31,208	5	191	3	2	2,850' x 75' 2,479' x 75'

St. Paul Downtown

The St. Paul Downtown Airport (STP) is the only reliever airport with a runway longer than 5,000 feet. This, along with its proximity to the City of Saint Paul, makes it a popular home base for corporate aircraft.

That runway is 6,491 feet long but can operate at a shortened length – with the help of a floodwall - when the nearby Mississippi River overflows its banks. In 2019, the floodwall was deployed for the sixth time since it was built in 2008.

St. Paul Downtown Airport (STP) in 2019					
Takeoffs & landings	Rank of Operations among Relievers	Number of based aircraft	Rank of based aircraft among Relievers	Number of runways	Runway dimensions
40,934	4	103	6	3	6,941 x 150' 4,004' x 150' 3,642' x 100'

The floodwall was particularly helpful in April when 78 private jets flew in for the Final Four basketball tournament in Minneapolis.

Capital projects in 2019 included storm sewer improvements and terminal building renovations.

The airport is also known for its amenities and customer service. In 2019, Signature Flight Support's operation at STP was named the best fixed-base operator in the United States based on Professional Pilot magazine's annual PRASE survey.

STP is the only reliever airport with a restaurant. Located in the newly renovated historic terminal building, **Holman's Table** has become a popular hot spot for foodies and aviation enthusiasts alike.

The restaurant's success also garnered praise in 2019 for both its cuisine and positive economic impact on this vital aviation asset:

☆ ☆ ☆ ☆ ☆ ☆ ☆

The Minnesota Council of Airports bestowed STP with its "non-aeronautical business development award" for improving the "economic viability of the airport through revenue generation, unique financing and/or community engagement."

Named one of 12 Best Places for Brunch in St. Paul

- Pioneer Press, 2019

Connecting You to Your World

The Minnesota Legislature created the Metropolitan Airports Commission (MAC) in 1943 to promote the efficient, safe handling of air commerce and to develop the full potential of the Minneapolis-Saint Paul metropolitan area as an aviation center.

As a public corporation of the state, the MAC generates the revenues it needs to operate through rents and user fees, not general tax appropriations. Bonding and financing authority – along with MAC-generated cash and state and federal aviation grants and fees – fund capital investments in the MAC's seven-airport system. The MAC maintains an AA- senior bond rating, among the highest of any U.S. airport operator.

The organization is governed by a 15-member policy board. The board chair and 12 commissioners are appointed by Minnesota's governor, eight of which represent metropolitan districts and four that represent Greater Minnesota. The mayor of Minneapolis and Saint Paul are commissioners but may appoint a voter to serve in their place. The chair and mayoral appointees serve at the will of the elected officials who appoint them. All other commissioners serve four-year, staggered terms, providing continuity when administrations change.

MAC Board Members

Rick King
Commission Chair

Carl Crimmins
District A

Braj Agrawal
District B

Katie Clark Sieben
District C

Steve Cramer
District D

James Deal
District E

Rodney Skoog
District F

Richard Ginsberg
District G

Yodit Bizen
District H

Leili Fatehi
City of Minneapolis

Ikram Koliso
City of Saint Paul

Patti Gartland
Outstate St. Cloud

Donald Monaco
Outstate Duluth

Dixie Hoard
Outstate Thief River Falls

Randy Schubring
Outstate Rochester

The MAC operates much like a city, with its own administrative offices and police, fire, emergency dispatch and maintenance departments. The MAC board establishes policies, ordinances and budgets. Executive Director and Chief Executive Officer Brian Ryks oversees day-to-day operations and administration of the organization. The MAC is among the most efficient airport operators in the nation, keeping the cost to airlines low and encouraging growth in air service and airline competition.

Learn more about the MAC and keep up to date on developments:

- Visit our websites at **metroairports.org** and **mspairport.com** and subscribe to our e-newsletters.

- Follow MSP Airport on **Instagram, Facebook, Twitter,** and **YouTube.**

MAC Senior Leadership Team

Brian Ryks
Executive Director
Chief Executive Officer

Atif Saeed
Chief Financial Officer

Roy Fuhrmann
Chief Operating Officer

Eduardo Valencia
Chief Information Officer

Cameron Boyd
General Counsel

Mitch Kilian
Governmental Affairs

Scott Zaczkowski
Internal Audit

Jim Laurent
Human Resources
& Labor Relations

Bridget Rief
Planning &
Development

Chad Leqve
Management &
Operations

Naomi Pesky
Strategy & Stakeholder
Engagement

*Vacant Finance & Revenue Development

Appendix

This appendix is prepared in accordance with the requirements of Minnesota Statutes Section 473.621. It presents MSP passenger and aircraft operations activity, current airport capacity in terms of operations and passenger enplanements, average length of delay statistics, and technological developments affecting aviation and their effect on operations and capacity at the airport. The appendix also includes the number of operations and based aircraft at each of the MAC's Reliever Airports in 2019 compared with 2018.

MSP Revenue Passenger Summary

Rank	Airline	2017	2018	2019	Gain/Loss 2017-2019	% Change 2017-2019
1	Delta	25,995,533	26,254,595	27,305,753	1,310,220	5.04%
2	Sun Country	2,411,903	2,349,393	2,873,671	461,768	19.15%
3	American	2,363,226	2,103,725	2,055,211	(308,015)	-13.03%
4	Southwest	2,058,405	1,944,336	1,821,369	(237,036)	-11.52%
5	United	1,696,922	1,588,226	1,603,161	(93,761)	-5.53%
6	Spirit	1,232,433	1,149,731	1,160,057	(72,376)	-5.87%
7	Frontier	346,053	486,713	501,247	155,194	44.85%
8	Alaska Airlines	321,768	350,940	337,892	16,124	5.01%
9	JetBlue		153,816	224,595	224,595	---
10	Air Canada	103,146	118,141	120,308	17,162	16.64%
11	KLM	52,356	87,467	97,902	45,546	86.99%
12	Icelandair	99,406	90,858	82,629	(16,777)	-16.88%
13	Air France	63,570	56,040	71,946	8,376	13.18%
14	Aer Lingus			45,178	45,178	---
15	Condor	28,112	28,840	26,102	(2,010)	-7.15%
16	Air Choice One	10,128	10,093	10,413	285	2.81%
17	Boutique Air	11,334	9,605	9,830	(1,504)	-13.27%
Total		**36,794,295**	**36,782,519**	**38,347,264**	**1,552,969**	**4.22%**

Source: MAC Year End Operations Reports 1-26-2020. Note, this chart reflects numbers of paying passengers only. Each year's totals are greater if you also count non-revenue passengers such as airline employees with flight benefits.

MSP Revenue Passenger Market Share

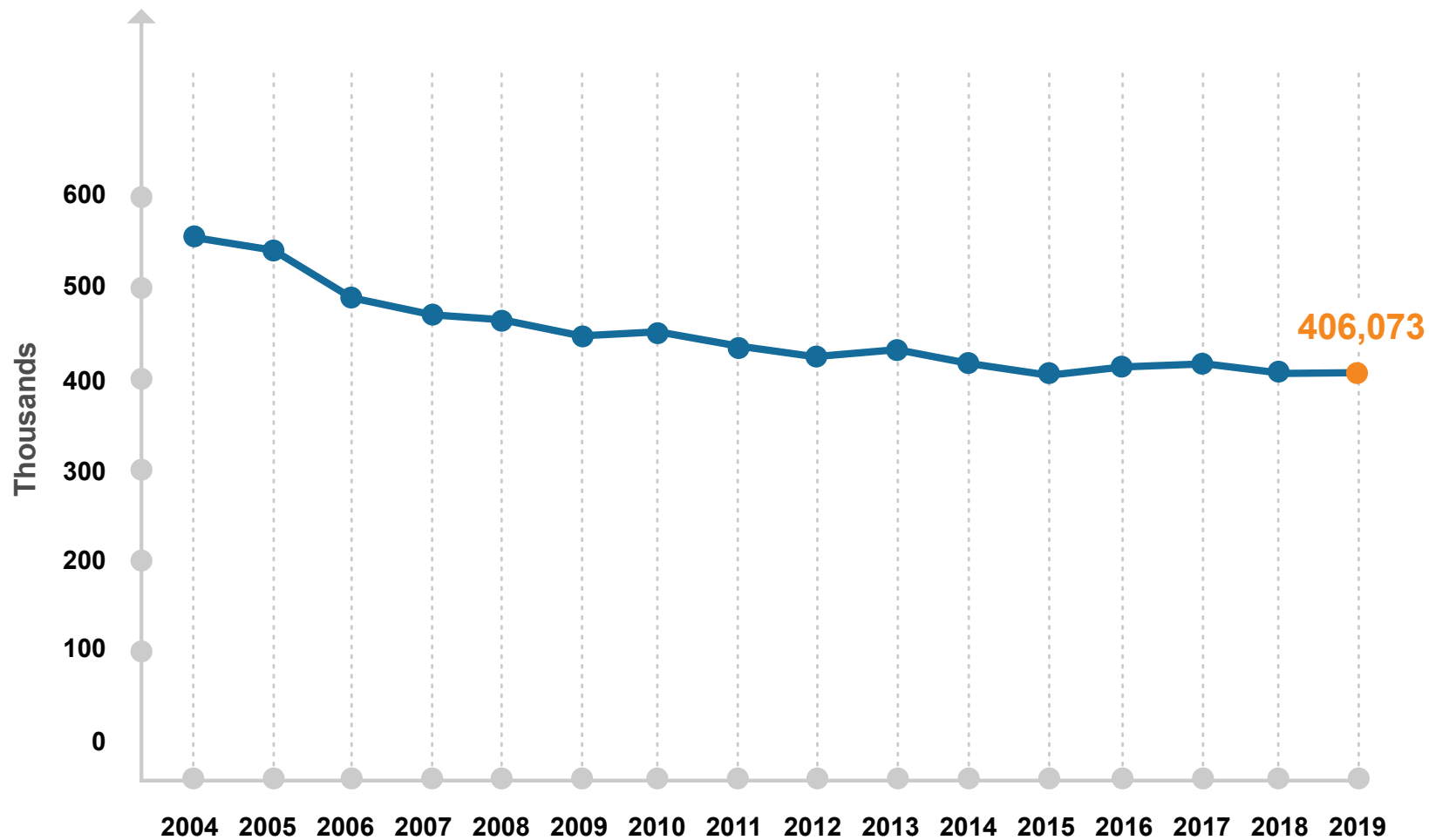| Rank	Airline	2017	2018	2019	Gain/Loss 2017-2019
1	Delta	70.65%	71.39%	71.21%	0.56%
2	Sun Country	6.56%	6.39%	7.49%	0.93%
3	American/US Airways	6.42%	5.72%	5.36%	-1.06%
4	Spirit	3.35%	3.13%	4.75%	1.40%
5	United	4.61%	4.32%	4.18%	-0.43%
6	Southwest/AirTran	5.59%	5.29%	3.03%	-2.56%
7	Frontier	0.94%	1.32%	1.31%	0.37%
8	Alaska Airlines	0.87%	0.95%	0.88%	0.01%
9	JetBlue	0.00%	0.42%	0.59%	0.59%
10	Air Canada	0.28%	0.32%	0.31%	0.03%
11	KLM	0.14%	0.21%	0.26%	0.12%
12	Icelandair	0.27%	0.25%	0.22%	-0.05%
13	Air France	0.17%	0.15%	0.19%	0.02%
14	Aer Lingus	0.00%	0.00%	0.12%	0.12%
15	Condor	0.08%	0.08%	0.07%	-0.01%
16	Air Choice One	0.03%	0.03%	0.03%	0.00%
17	Boutique Air	0.03%	0.03%	0.03%	0.00%

Source: MAC Year End Operations Reports 1-26-2020

MSP Aircraft Operations

Calendar Year	Air Carrier	Air Taxi	Itinerant General Aviation	Military	Total Operations
2013	285,278	132,241	11,510	2,544	431,573
2014	292,445	105,606	11,272	2,437	411,760
2015	303,357	86,497	11,691	2,829	404,374
2016	311,271	87,198	11,489	2,940	412,898
2017	319,278	82,861	11,521	2,043	415,703
2018	321,650	72,609	10,081	2,573	406,913
2019	**329,323**	**64,980**	**9,732**	**2,038**	**406,073**

Source: FAA Air Traffic Operations Network (OPSNET)

MSP Aircraft Operations

406,073

Thousands

600	
500	
400	
300	
200	
100	
0	

2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

Source: FAA Air Traffic Operations Network (OPSNET)

MSP Revenue Passengers

38,347,264

Millions

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
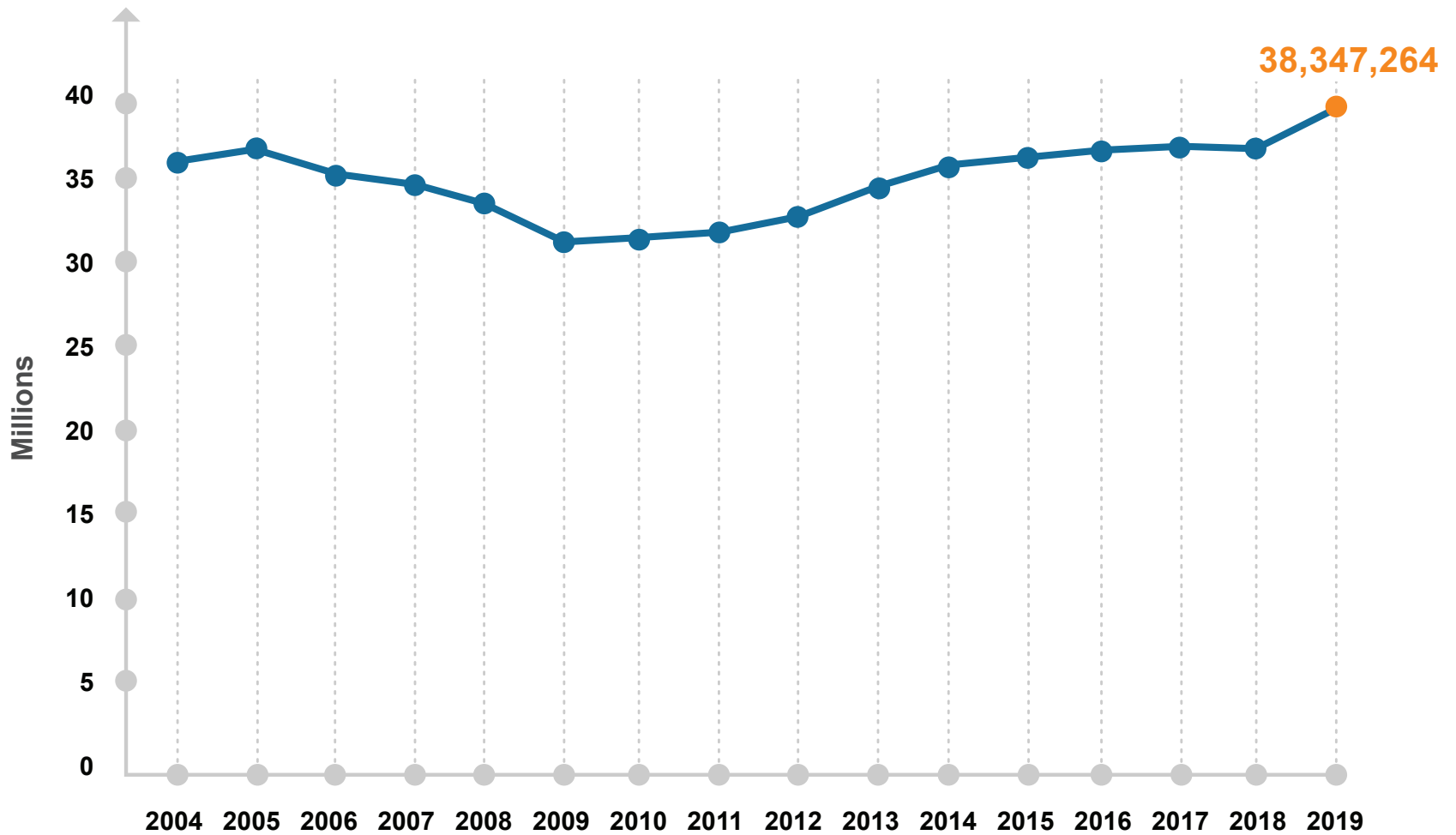
Source: MAC Year End Operations Reports 1-26-2020

AIRFIELD CAPACITY

Airfield capacity is typically described in terms of hourly capacity and annual capacity under various weather conditions. The table below reflects the hourly capacity for MSP in optimum, marginal and poor weather conditions.

MSP Airfield Capacity

Weather Conditions	Operations per hour
Optimal Rate (1)..	158
Marginal Rate (2)	146
IFR Rate (3)	114

Notes:
(1) Ceiling and visibility above minima for visual approaches.
(2) Below visual approach minima but better than instrument conditions.
(3) Instrument flight rules (IFR) are required in meteorological conditions with a cloud ceiling less than 1,000 feet or visibility less than 3 miles.

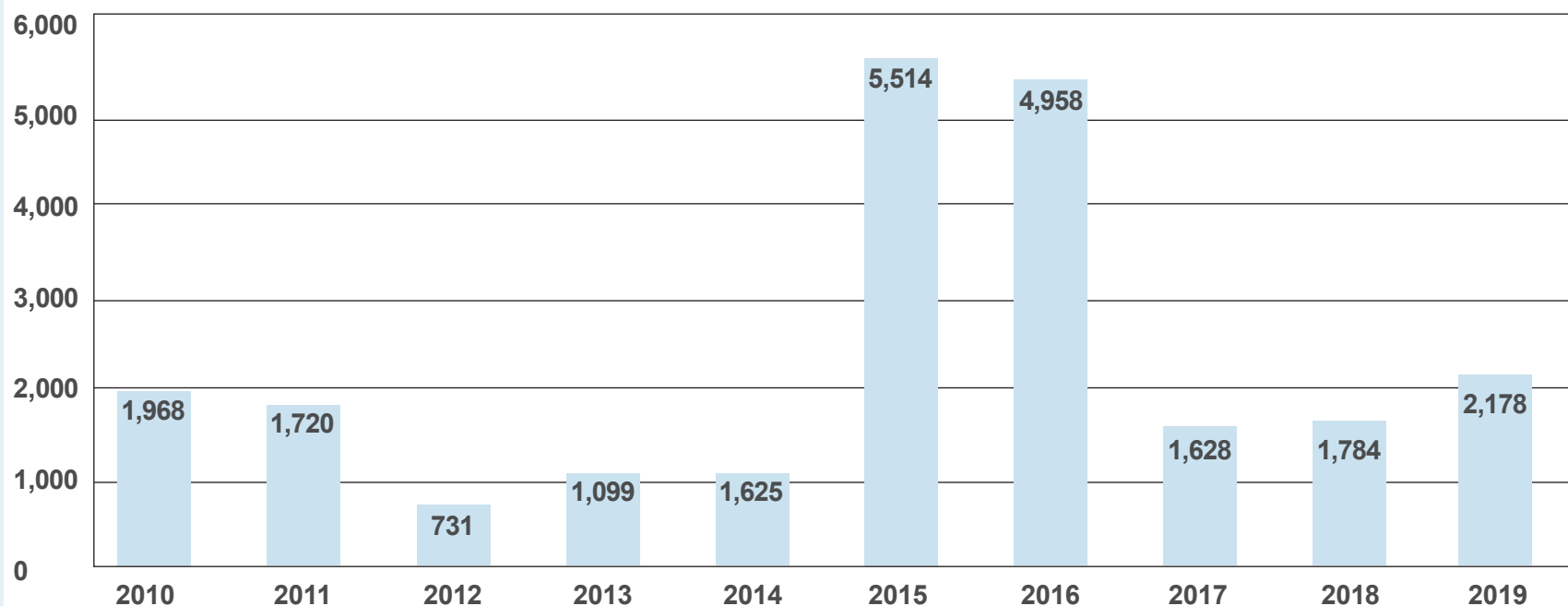*Source: Federal Aviation Administration Air Traffic Control Tower Analysis*

MSP's current airfield capacity is 158 aircraft operations in optimum conditions. When instrument flight rules are being used due to low-level, heavy cloud cover and/or low visibility capacity drops to 114 operations.

Converging Runway Operations (CRO) were implemented in 2015 which resulted on an impact to airfield capacity. During 2018, the FAA continued the implementation of tools and agreements designed to standardize operating expectations within its air traffic control system. The three MSP air traffic control facilities – Tower (ATCT), Terminal Radar Approach Control (TRACON), and Minneapolis Center (ARTCC) – have similar interests in controlling air traffic but different constraints on their activity. To standardize the agreements regarding use of CRO, the facilities began to develop standard operating procedures between the three facilities that identify the variables necessary to commence CRO measures.

In January 2019, the FAA completed a 180-day testing period of a new standardized process to support demand-based CRO. Under the new process, MSP air traffic will only use Runway 35 for arrivals (and implement the CRO mitigations) when demand at the airport justifies the use of that runway. Currently there are three, well-defined arrival/departure banks at MSP when traffic demand is at its highest points (Monday through Friday during the 7AM, 4PM and 6PM hours), when such a need has been demonstrated. The results of the 180-day test were incorporated into Standard Operating Procedure (SOP) by the ATCT, TRACON and ARTCC at MSP.

In late 2018 and early 2019, the MAC began the data collection process for the Minneapolis-St. Paul International Airport 2040 Long-Term Comprehensive Plan. The Plan is a forward-looking planning tool that studies facility and infrastructure needs based on projected 20-year passenger demand and aircraft operations. A component of the planning process is conducting a thorough capacity evaluation using state-of-the-art simulation tools. This evaluation will help predict how the MSP airfield and close-in airspace will perform under future aircraft activity levels.

MSP Flights Delayed by ATC

Year	Flights Delayed
2010	1,968
2011	1,720
2012	731
2013	1,099
2014	1,625
2015	5,514
2016	4,958
2017	1,628
2018	1,784
2019	2,178

Notes: Beginning in 2015, RNAV arrival procedures and Converging Runway Operations were implemented at MSP.
Source: FAA Air Traffic Operations Network (OPSNET)

AIRFIELD DELAY

The FAA Air Traffic Operations Network (OPSNET) database counts flights that were reported by Air Traffic Control (ATC) to be delayed for more than 15 minutes. The chart above depicts the annual number of MSP flights delayed by ATC in 2010 through 2019.

The FAA combines arrival and enroute delays into one category, and reports delays for aircraft that accumulate 15 minutes or more holding delay at each facility throughout the entire route of flight. Delays of fewer than 15 minutes are not counted, nor are delays not initiated by ATC.

In 2019, there were 2,178 delayed flights at MSP, which is an increase of 394 flights when compared to 2018. In 2015 and 2016 delays at MSP largely were attributed to the implementation of new RNAV/RNP arrival procedures in March and April 2015, and implementation of new CRO requirements beginning in August 2015.

AIRFIELD DELAY PER AIRCRAFT OPERATION

When calculating the average delay per flight operation, delay is averaged by each flight's taxi time and airborne time. The total averaged delay is expressed in minutes of delay per operation. The current industry standard for estimating delay is established by the Federal Aviation Administration (FAA) Aviation System Performance Metrics (ASPM). The FAA uses ASPM results to create performance benchmarks for airports each year. Since 2005, use of ASPM data

has been a well-supported methodology to calculate aircraft delays, accepted by both government and industry, as the most valid, accurate and reliable metric.[1]

When compared to other large hub U.S. airports as shown in the table below, MSP ranked 20th with an overall average delay of 5.7 minutes in 2019; in 2018 MSP ranked 16th with an overall average of 6.2 minutes of delay.

Top 25 Large Hub Airports with Highest Average Total Delay per Operation 2018-2019

Rank	Airport	2019 Total Airports Operations	2019 Average Minutes of Delay per Operation	2018 Average Minutes of Delay per Operation	2018 Rank	Change from 2018 to 2019
1	LGA	374,539	11.9	11.2	1	0.7
2	ORD	919,704	11.7	11.1	2	0.6
3	EWR	449,543	10.7	9.9	3	0.8
4	CLT	579,147	10.6	9.9	4	0.7
5	JFK	463,198	9.3	9.7	5	-0.4
6	PHL	390,321	9.1	9.6	6	-0.5
7	SEA	450,487	8.7	8.0	10	0.7
8	DFW	720,007	8.4	8.2	8	0.2
9	SFO	458,502	8.3	8.6	7	-0.3
10	IAH	478,070	8.2	7.3	12	0.9
11	DCA	298,310	7.8	7.9	11	-0.1
12	DEN	640,098	7.1	5.9	19	1.2
13	LAX	691,257	7.0	8.1	9	-1.2
14	IAD	308,159	6.9	6.5	13	0.3
15	RDU	223,249	6.5	6.2	17	0.3
16	BOS	432,853	6.5	6.3	15	0.1
17	MIA	416,773	6.2	6.5	14	-0.3
18	MCO	366,169	6.2	6.1	18	0.1
19	FLL	331,455	6.2	5.1	27	1.1
20	**MSP**	**406,073**	**5.7**	**6.2**	**16**	**-0.5**
21	HPN	158,672	5.7	5.5	22	0.2
22	DTW	396,909	5.6	5.6	21	0.0
23	SAN	231,354	5.3	4.9	28	0.4
24	DAL	231,879	5.3	5.1	26	0.2
25	MEM	229,451	5.2	5.2	24	0.1

Source: FAA Aviation System Performance Metrics

[1] Prior to 2005, the industry standard was the FAA's Consolidated Operations and Delay Analysis System (CODAS); the U.S. Department of Transportation (DOT) Airline Service Quality Performance (ASQP) data were used to compare optimal versus actual taxi and flight times for MSP.

TECHNOLOGICAL DEVELOPMENTS AND CAPACITY ENHANCEMENTS AT MSP

The FAA continuously explores potential capacity-enhancing development/technology to increase airport efficiency and reduce delay. When advances are identified, efforts are made to implement the technology at the busiest airports. This section describes these efforts as they apply to MSP.

Installation of ASDE-X at MSP was completed in 2009 and provides seamless coverage for complete aircraft identification information. This equipment also allows for future implementation and upgrade to Next Generation (NextGen) navigation technology (Automatic Dependence Surveillance – Broadcast, "ADS-B"); ADS-B uses a Global Navigation Satellite System to broadcast critical information.

Federal policy requires aircraft operating in capacity-constrained airspace, at capacity-constrained airports or in any other airspace deemed appropriate by the FAA, to be equipped with ADS-B/Cockpit Display of Traffic Information (ADS-B/CDTI) technology by 2020. This includes MSP.

Runway 4-22 Taxiway Lighting System

In 2019 the MAC completed a project as part of the Capital Improvement Program for the construction of taxiway lighting systems for Runway 4-22 between Runway 12L-30R and Runway 17-35 with lead-in/off centerline lighting on the end connector taxiways.

The project included installation of taxiway edge and centerline lights and cabling. This provides the FAA aircraft control tower the ability to convert runway 4-22 into a fully functional taxiway and back to a runway configuration as required. The lighting system allows for the safe aircraft taxi operations on Runway 4-22 during peak operational periods without the risk of a possible pilot caused runway incursion due to confusion of current lighting systems. This unique operation conversion is fully compliant with the FAA design requirements for a taxiway operation. The flexibility allows the tower to better utilized existing infrastructure and allow for more efficient ground handling of aircraft.

FAA'S NEXTGEN INITIATIVE

As part of the FAA's NextGen initiative to modernize the national airspace system, in 2011 the agency began to pursue advanced aircraft navigation technology at MSP in the form of Performance-based Navigation/Area Navigation (PBN/RNAV) flight procedures. After extensive review and community input, the FAA chose to implement approved new arrival procedures incorporating Optimized Profile Descents (OPD) at MSP. Publication of the arrival flight procedures and air traffic control implementation began in March 2015 and was fully implemented by April 2015. OPDs occur when pilots keep the throttle pulled back for a continuous descent into the airport rather than using more traditional procedures that involve descending in steps, reducing fuel and carbon emissions. In 2017, MAC staff completed an evaluation to quantify the benefits of OPDs. The findings were endorsed by the FAA showed that the OPDs provide the largest carbon emission reduction in documented history at MSP with a savings of approximately 2.9 million gallons of fuel per year resulting in 28,465 fewer metric tons of carbon dioxide.

Also in April 2017, the FAA introduced Data Communications at MSP. Data Comm, as it is known, is a NextGen technology that allows traditional voice transmissions to be sent to aircraft as text. The technology is most beneficial when air traffic controllers modify the routing of aircraft flight plans. These long verbal instructions can now be sent in seconds, reducing radio congestion, decreasing the potential for error, and increasing the accuracy of the communications.

Ongoing Precision Instrument Approach Capabilities

In addition to runway separation and configuration, airfield capacity can be affected greatly by how the runways are equipped for inclement weather. A number of precision instrument approaches continue to be available at MSP as summarized in the table to the right.

Precision Instrument Approaches *Table A-3*

MSP	CAT 1	CAT 2	CAT 3
Runways	30R	30L	12L
			12R
			35

Notes: The term decision height is defined as the height at which a decision must be made during a precision approach to either continue the landing maneuver or execute a missed approach.

Precision approaches are categorized based on decision height and the horizontal visibility that a pilot has along the runway. Visibility values are expressed in statute miles or in terms of runway visual range (RVR) if RVR measuring equipment is installed at an airport. The different classes of precision instrument approaches are:

i. Category I (CAT I) – provides approaches to a decision height down to 200 feet and a basic visibility of ¾ statute miles or as low as 1,800 feet runway visual range (RVR).

ii. Category II (CAT II) – provides approaches to a decision height down to 100 feet and an RVR down to 1,200 feet.

iii. Category IIIa (CAT IIIa) – provides approaches without a decision height (down to the ground) or a decision height below 100 feet and an RVR down to 700 feet.

iv. Category IIIb (CAT IIIb) – provides approaches without a decision height or a decision height below 50 feet and an RVR down to 150 feet.

v. Category IIIc (CAT IIIc) – provides approaches without a decision height and RVR. This will permit landings in "0/0 conditions," that is, weather conditions with no ceiling and visibility as during periods of heavy fog.

Source: MSP Airfield Operations, FAA

THE MAC RELIEVER AIRPORTS

MAC's six general aviation reliever airports are open for public use 24 hours per day. Aircraft operators must choose an airport at which to base their aircraft. Airports in Minnesota are required to submit to the State a report that identifies the aircraft based at their facilities for 180 days or more. The tables below show the 2018 and 2019 reliever airport operations and reliever airport

based aircraft. The operations totals are obtained from the FAA for MAC reliever airports with an air traffic control tower. For the two reliever airports without an air traffic control tower (LVN and 21D), the operations totals are estimated through various methods and available data.

Reliever Airport Operations

Airport	LVN	21D	MIC	STP	FCM	ANE	ANNUAL TOTAL
2018	32,986	31,693	38,109	40,116	88,762	75,465	**307,131**
2019	29,835	31,208	41,541	40,934	104,405	71,740	**319,663**
YY Comparison 2019-2018	(3,151)	(485)	3,432	818	15,643	(3,725)	**12,532**

Source: MAC Airfield Development, MAC Reliever Airports, and FAA Air Traffic Operations Network

Reliever Airports Based Aircraft

Airport	LVN	21D	MIC	STP	FCM	ANE	ANNUAL TOTAL
2018	142	189	168	90	364	381	**1,334**
2019	141	191	165	103	369	378	**1,347**
YY Comparison 2019-2018	(1)	2	(3)	13	5	(3)	**13**

Source: MAC Airfield Development and MAC Reliever Airports

LVN = Airlake | **21D** = Lake Elmo | **MIC** = Crystal | **STP** = St. Paul Downtown | **FCM** = Flying Cloud | **ANE** = Anoka County-Blaine

Minneapolis-St. Paul International • Airlake • Anoka County-Blaine • Crystal • Flying Cloud • Lake Elmo • St. Paul Downtown

6040 28th Avenue South, Minneapolis, MN 55450 | (612) 726-8100 | metropairports.org