MSP 2040
Long-Term Plan (LTP)
Activity Forecast

Minneapolis - St. Paul International Airport

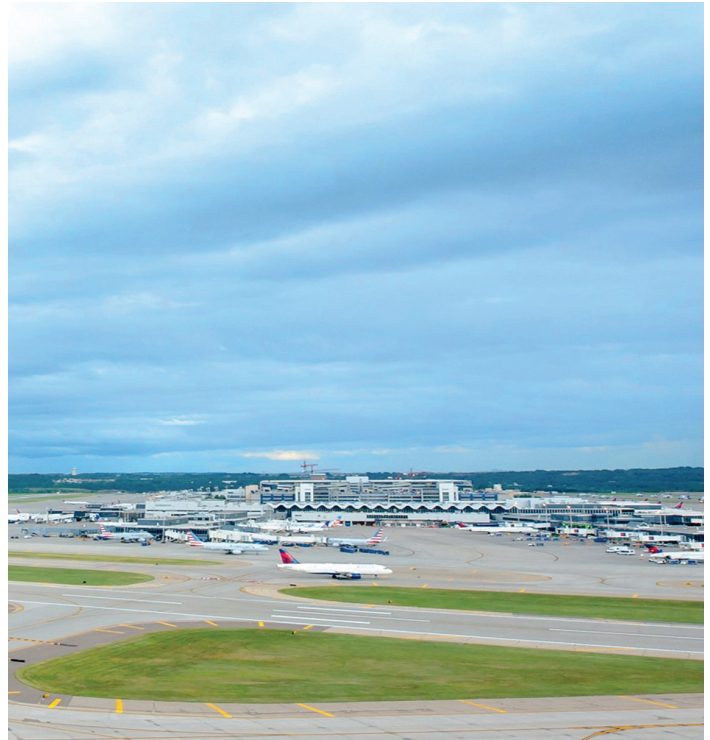*Executive Summary*

MAC

FORECAST OBJECTIVES

In February 2019, the Metropolitan Airports Commission (MAC) began the process of developing forecasts of aviation demand to inform its 2040 Long Term Plan (LTP) for Minneapolis-St. Paul International Airport (MSP or the Airport). The forecast used calendar year 2018 as its base year, as that was the most recent full year for which airport data existed.

The MAC's overall objective for the 2040 LTP forecast was to identify a likely range of demand levels for aviation services in a manner that would facilitate a meaningful evaluation of facility performance. More specifically, the forecast was to:

- Be constructed with a level of detail that informs the development of facilities necessary to meet future demand levels, provide high levels of customer service, and maximize economic benefit

- Provide a reasonable range of possible forecast activity outcomes, considering the inherent uncertainty in the forecasting process, that enables facility planning promoting operational efficiency and flexibility

- Engage stakeholders to provide insights and input into the forecast development, and to review and comment on forecast results

2040 LTP Forecast Objectives

INFORM FACILITY DEVELOPMENT

PROMOTE FLEXIBILITY IN PLANNING

ENGAGE AIRPORT'S STAKEHOLDERS

MINNEAPOLIS SAINT PAUL METROPOLITAN AIRPORTS COMMISSION

MAC

KEY INPUTS TO THE FORECAST

The 2040 LTP forecast incorporated data from several sources traditionally used to illustrate historical activity and/or provide insight into potential future activity. The primary sources of information used were:

- MSP Airport data reports: Airport-reported activity data specific to MSP

- MACNOMS (MAC Noise and Operations Monitoring System) data: Airport-reported data of actual operations including gate use, runway times, and gate times

- United States Department of Transportation (USDOT) O&D Survey: Passenger ticket information with data specific to passenger journeys, including routing, carriers, and airfares

- USDOT T-100: Flight segment report with details of passenger flights to or from US airports, including carrier, aircraft type, passenger volumes, and available seats

- Published airline schedules

- Economic forecasts provided by the Metropolitan Council (Met Council) and Woods & Poole Economics, Inc.

- FAA Aerospace and Terminal Area Forecasts

- Inputs and feedback from airlines and other users of the Airport
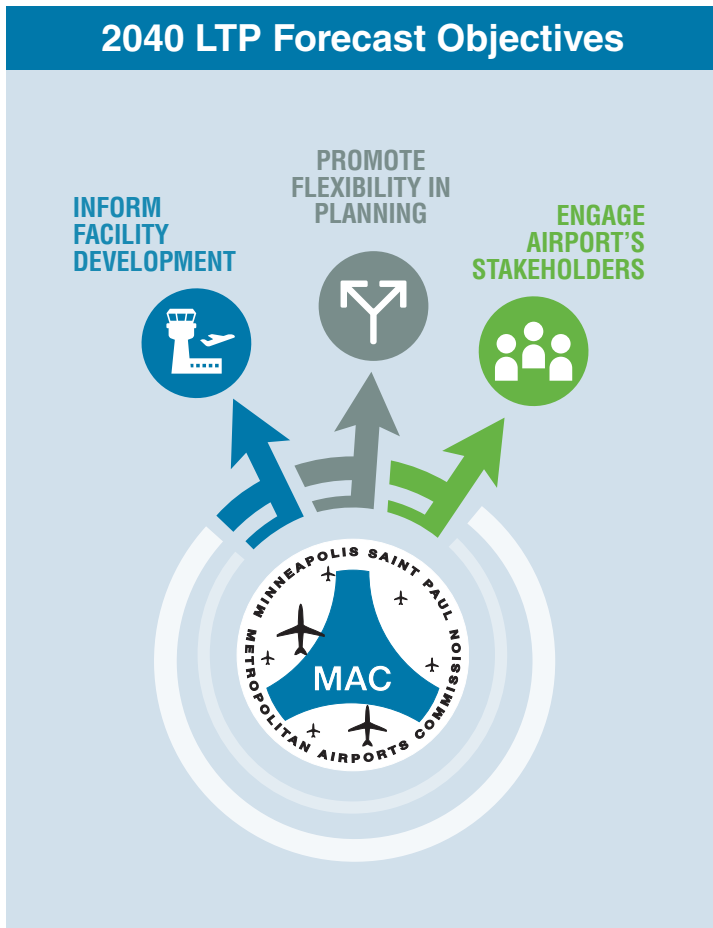
THE FORECAST PROCESS

The forecast was developed for both passenger-related activity (passenger volumes and aircraft operations) and non-passenger related activity (air cargo, general aviation/air taxi, and military aircraft operations) by year between 2018 and 2040. The percentage of aircraft operations generated by each of these categories in 2018 is as follows:

90% PASSENGER AIRLINES

5% GENERAL AVIATION/ AIR TAXI

4% AIR CARGO

1% MILITARY
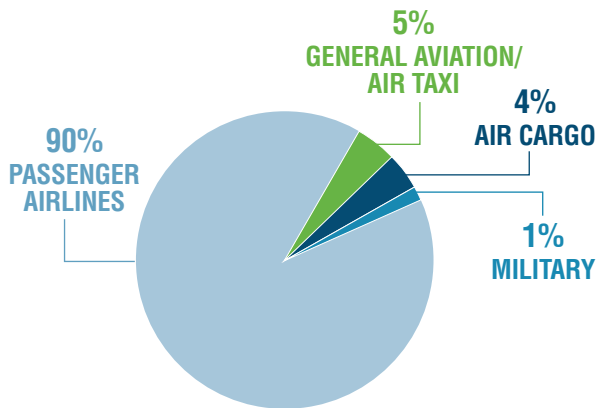
The forecast process began with the data collection and market analysis phase, which is an opportunity to research the factors that have historically influenced MSP's activity, and understand how those factors may evolve and ultimately shape MSP's future activity. As part of this phase, a group of internal and external stakeholders was engaged, either directly or indirectly, to inform the research and subsequently provide feedback throughout the forecast process. Stakeholders included:

• MAC staff and board members
• Passenger and cargo airlines
• The local community, including the Metropolitan Council

The short and long-term passenger forecasts were developed on an unconstrained basis, and reflect market-driven expectations of underlying demand shaped by third-party projections of several socioeconomic factors, estimates of passenger profitability, as well as direct input from the Airport's carriers. External factors including competing airports and airline services (such as nonstop flights that might allow previously-connecting passengers to bypass the Airport) were also considered as demand-shaping factors.

The forecast of passenger airline operations was developed using the enplaned passenger forecast and an analysis of airline schedule completion rates, load factors, and published and estimated airline fleet plans. Long-term passenger growth was forecast to be accommodated primarily through seat capacity driven by a combination of higher average seats per departure and growth in operations to both existing and new markets.

Cargo volumes were forecast considering the historical relationship between MSP's cargo volumes and US industry cargo volumes overall. Dedicated air-cargo carrier aircraft operations were developed considering the portion of MSP's forecast cargo volume expected to be served by the dedicated air-cargo market and their expected use of higher-volume aircraft.

General aviation/air taxi operations were developed using a ratio of activity relative to commercial operations. Military aircraft activity incorporated the FAA's Terminal Area Forecast, as the Department of Defense provides no guidance on future activity.

Annual forecasts were prepared for a baseline scenario (the expected outcome), as well as a single high and a single low scenario. The high scenario reflected demand growth driven by the most optimistic socioeconomic driver of those used in the formulation of the base scenario. The low scenario was informed by more conservative forecasts used for the financial planning process, and generally reflected lower demand due to an assumption of reduced hub connectivity.

In addition to the annual forecasts, design day flight schedules (DDFSs) representing single days of airport activity were created for the baseline scenario for the years 2018, 2025, 2030, and 2040. For each of those years, DDFSs were developed for both the summer and spring peak activity periods experienced at the Airport. DDFSs were also developed in a similar fashion for the high and low scenarios for the years 2030 and 2040. The forecasts (both the annual and DDFSs) were not constrained by any assumptions regarding the availability of Airport facilities, such as additional gates that would be needed to accommodate demand.

FORECAST RESULTS

In late 2021, the baseline forecast was updated to estimate the impact of the COVID-19 pandemic on forecast activity. Forecast inputs were revised to consider updates to the more traditional influences of activity (such as socioeconomic forecasts, air carrier financial performance and route networks, and air carrier fleet plans) and more notably, pandemic-related influences such as travel restrictions, fear of illness, and restrictive work/travel policies which did not exist when the forecast was originally completed, and which shape the outlook of activity in the shorter term. Two shorter-term recovery scenarios were modeled, with the results of the more aggressive recovery scenario incorporated herein. The original high and low forecast scenarios were not revised, and the summary data below reflect those original forecast results. Forecasting is not an exact science, and departures from forecasts of the local and national economies and airline business environment may cause variances in forecast results and timings. Forecasts should be periodically compared with actual Airport activity levels, and Airport plans and policies adjusted accordingly.

Total passengers are forecast to grow from approximately 38 million in 2018 to approximately 56 million in 2040, a compound annual growth rate (CAGR) of 1.8 percent. Passenger operations are forecast to increase from approximately 369,000 in 2018 to approximately 465,000 in 2040, a CAGR of 1.1 percent.

Dedicated air-cargo operations are forecast to grow from approximately 15,500 in 2018 to approximately 20,000 in 2040, a CAGR of 1.1 percent. General aviation/air taxi operations are forecast to grow at a CAGR of 0.6 percent, from approximately 20,000 in 2018 to approximately 23,000 in 2040. Military aircraft operations are forecast to remain constant at approximately 2,200 operations per year. Total aircraft operations are forecast to increase from approximately 407,000 in 2018 to approximately 510,000 in 2040 – a CAGR of 1.0 percent.

The more aggressive socioeconomic metric used to model the original high scenario resulted in a total revenue passenger forecast of approximately 62 million in 2040, 10 percent higher than the updated baseline forecast. Increased passenger volumes in the high scenario drove 2040 annual passenger aircraft operations of approximately 508,000 in 2040 – approximately 9 percent higher than the updated baseline forecast. Slightly higher cargo volumes and correspondingly higher dedicated cargo carrier operations helped drive total high-scenario aircraft operations of approximately 555,000 in 2040.

Original low scenario modeling impacted passenger-related activity only. Low-scenario total passengers in 2040 of approximately 51 million are nearly 9 percent lower than the amount in the updated baseline forecast. Total operations are approximately 49,000 lower than the updated baseline forecast.

Summary-level results of the updated baseline, original high, and original low scenario forecasts are presented for the base year, 2025, 2030, and 2040 at the annual level and for representative design days in the spring and summer peak periods. Because of the inherent uncertainty of forecast timings, these years are also presented as planning activity levels (PALs).

SUMMARY OF FORECAST RESULTS

		2018 Base Year	2025 PAL 1	2030 PAL 2	2040 PAL 3	2040 HIGH	2040 LOW
ANNUAL	Passenger Aircraft Operations (000)	369	382	407	465	508	417
	Total Aircraft Operations (000)	407	423	450	510	555	461
	Total Passengers (mil)	38.0	44.7	48.2	56.1	61.5	50.8
	Enplaned Passengers (mil)	19.0	22.3	24.1	28.1	30.8	25.4
SUMMER DESIGN DAY	Daily Passenger Aircraft Operations	1,186	1,254	1,350	1,526	1,652	1,352
	Peak Hour Psgr. Aircraft Operations	99	102	103	124	131	108
	Total Daily Passengers (000)	127.7	157.4	171.8	195.3	205	172
	Total Peak Hour Passengers (000)	9.9	13.4	12.7	15.3	15.6	13.6
SPRING DESIGN DAY	Daily Passenger Aircraft Operations	1,113	1,154	1,256	1,406	1,548	1,248
	Peak Hour Psgr. Aircraft Operations	85	93	96	111	125	94
	Total Daily Passengers (000)	119.2	141.9	156.9	178.5	192	154.7
	Total Peak Hour Passengers (000)	9.0	10.8	12.1	14.3	15.2	11.9

Sources: MAC Reports; US DOT data; Ricondo & Associates, Inc. (forecast) Note: The base-year spring day is in 2019.

COMPARISON TO OTHER FORECASTS

The annual results of the updated baseline 2040 LTP forecast were compared to the original baseline 2040 LTP forecast results, the MAC's 2020 Improvements EA/EAW forecast (completed in January 2013), and the FAA's 2018 and 2020 Terminal Area Forecasts (TAF) for the Airport. The updated 2040 LTP forecast anticipates 27.2 million revenue enplaned passengers in 2040, reflecting a CAGR of 1.8 percent in the period. In comparison, the 2020 TAF anticipates 26.8 million revenue enplaned passengers for 2040, a CAGR of 1.7 percent. The 2020 Improvements EA/EAW forecast projected 26.4 million revenue enplanements in 2030, the last year of that forecast. (Note: revenue enplaned passengers are compared to be consistent with TAF reporting).
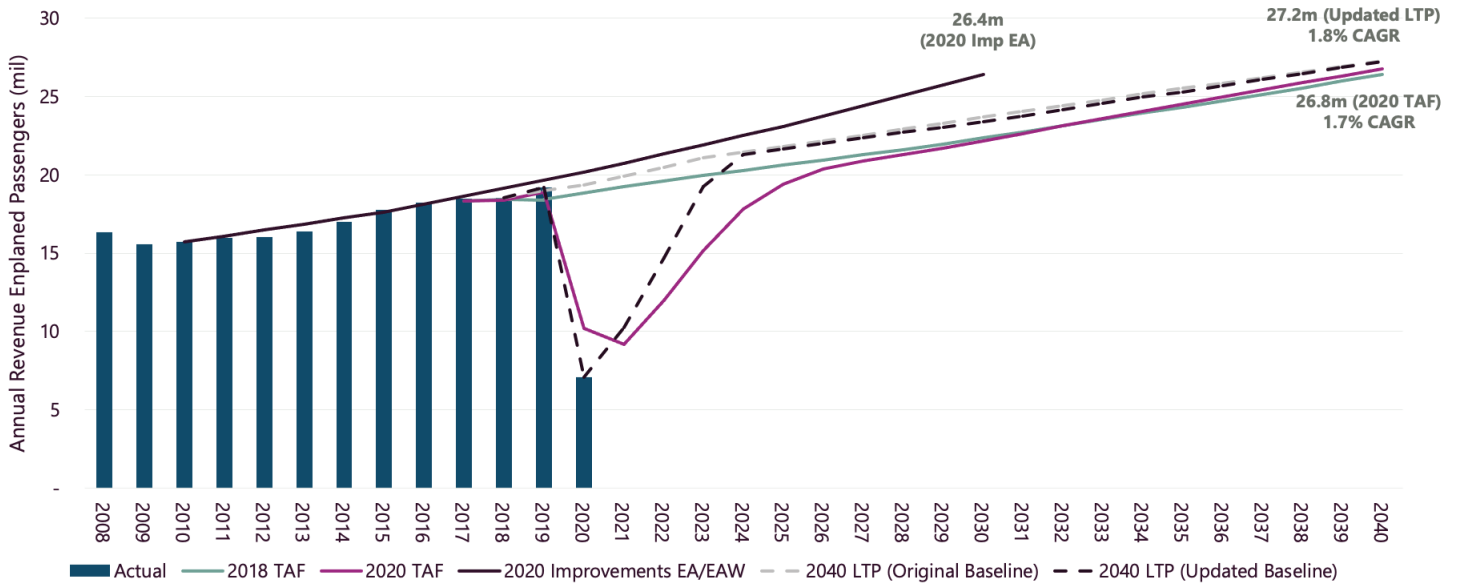
The updated 2040 LTP forecast projects approximately 510,000 annual aircraft operations in 2040; a CAGR of 1.0 percent. This compares to approximately 528,000 forecast in the 2020 FAA TAF and 567,000 (in 2030) in the 2020 Improvements EA/EAW forecast.

TOTAL AIRCRAFT OPERATIONS FORECAST COMPARISON
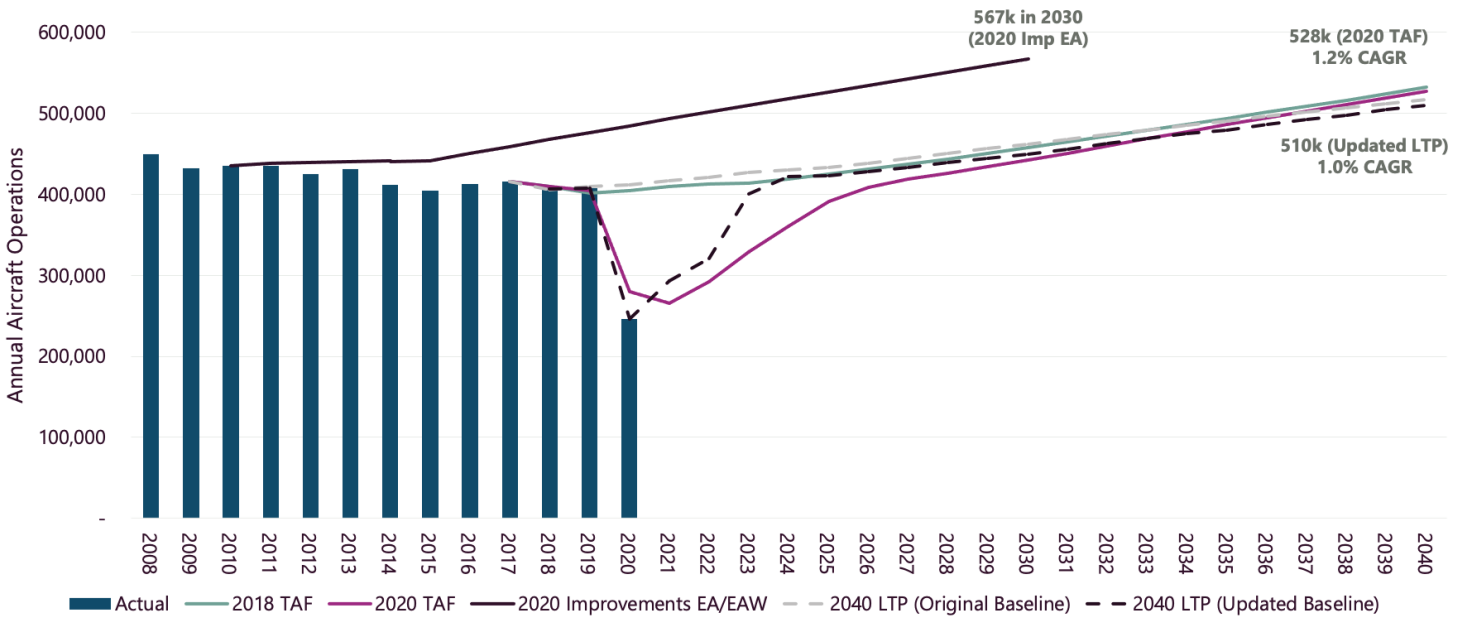
SOURCES: MAC Reports (actual and 2020 Improvements EA/EAW forecast); Ricondo (LTP forecasts); FAA Terminal Area Forecasts
Note: FAA Terminal Area Forecasts reflect federal fiscal year (October-September).

ENPLANED REVENUE PASSENGER FORECAST COMPARISONS

SOURCES: MAC Reports (actual and 2020 Improvements EA/EAW forecast); Ricondo (LTP forecasts); FAA Terminal Area Forecasts
Note: FAA Terminal Area Forecasts reflect federal fiscal year (October-September).