MSP 2040 Long-Term Plan (LTP) Activity Forecast

Minneapolis - St. Paul International Airport

Executive Summary

Published June 2020

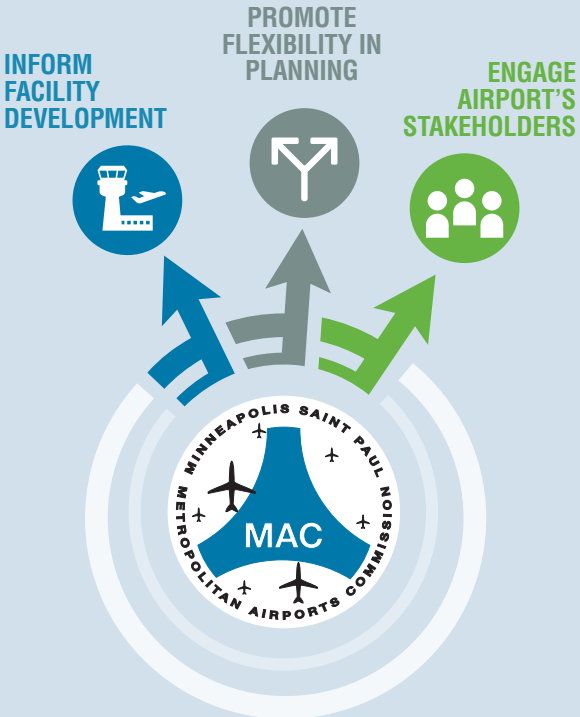
FORECAST OBJECTIVES

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

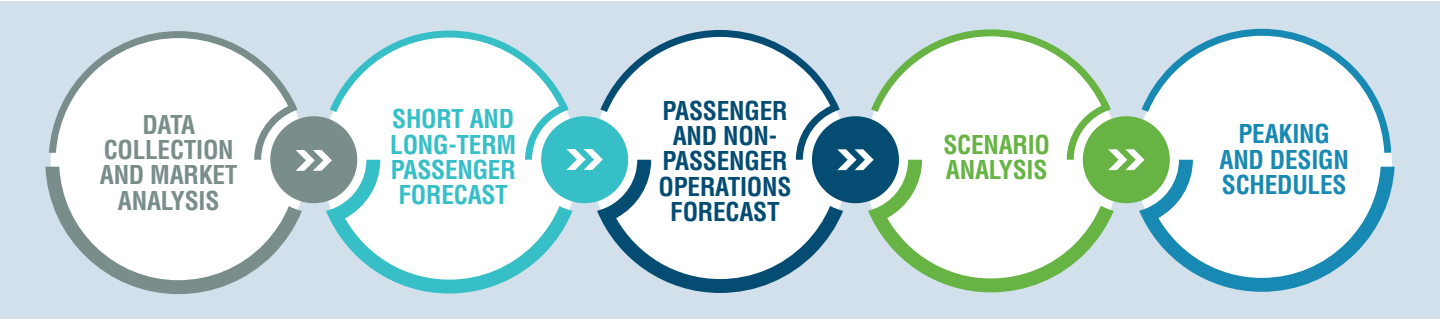


KEY INPUTS TO THE FORECAST

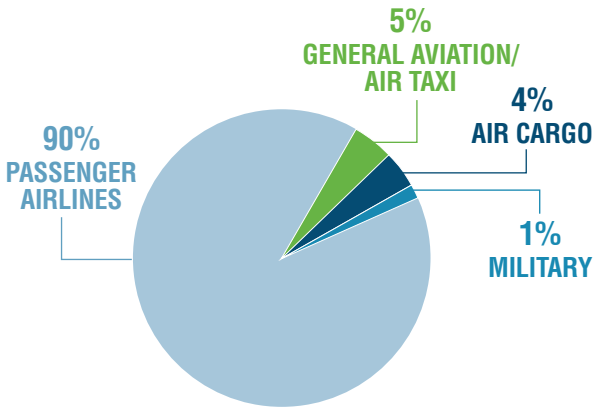
The 2040 LTP forecast incorporated data from several sources traditionally used to illustrate historical activity and/or provide insight into potential future activity. The primary sources of information used were:

- 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:



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

The assumptions in the following forecasts are based on input from airline and Airport officials, previous studies, relevant literature, and professional experience. 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 473,000 in 2040, a CAGR of 1.1 percent.

Dedicated air-cargo operations are forecast to grow from approximately 15,000 in 2018 to approximately 19,000 in 2040, a CAGR of 0.9 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 2,500 operations per year. Total aircraft operations are forecast to increase from approximately 407,000 in 2018 to approximately 517,000 in 2040 – a CAGR of 1.1 percent.

The more aggressive socioeconomic metric used to model the high scenario resulted in a total passenger forecast of approximately 62 million in 2040 – 9 percent higher than the baseline forecast. Increased passenger volumes in the high scenario drove 2040 annual passenger aircraft operations of approximately 508,000 in 2040 – approximately 7 percent higher than the 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.

Low scenario modeling impacted passenger-related activity only. Low scenario total passengers in 2040 of approximately 51 million are nearly 10 percent lower than the amount reflected in the baseline forecast. Due to lower passenger volumes, both passenger aircraft operations and total operations are approximately 56,000 lower than the baseline forecast.

Summary-level results of the baseline, high, and 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 PAL 3 HIGH	2040 PAL 3 LOW
ANNUAL	Passenger Aircraft Operations (000)	369	393	421	473	508	417
	Total Aircraft Operations (000)	407	433	462	517	555	461
	Total Passengers (mil)	38.0	45.0	48.9	56.3	61.5	50.8
	Enplaned Passengers (mil)	19.0	22.5	24.4	28.1	30.8	25.4
SUMMER DESIGN DAY	Daily Passenger Aircraft Operations	1,186	1,278	1,370	1,542	1,652	1,352
	Peak Hour Psgr. Aircraft Operations	99	104	105	127	131	108
	Total Daily Passengers (000)	127.7	156.6	171.3	194.8	205.0	172.0
	Total Peak Hour Passengers (000)	9.9	13.4	12.7	15.2	15.6	13.6
SPRING DESIGN DAY	Daily Passenger Aircraft Operations	1,113	1,176	1,270	1,422	1,548	1,248
	Peak Hour Psgr. Aircraft Operations	85	94	97	111	125	94
	Total Daily Passengers (000)	119.2	141.4	156.5	178.1	192.0	154.7
	Total Peak Hour Passengers (000)	9.0	10.7	12.2	14.2	15.2	11.9

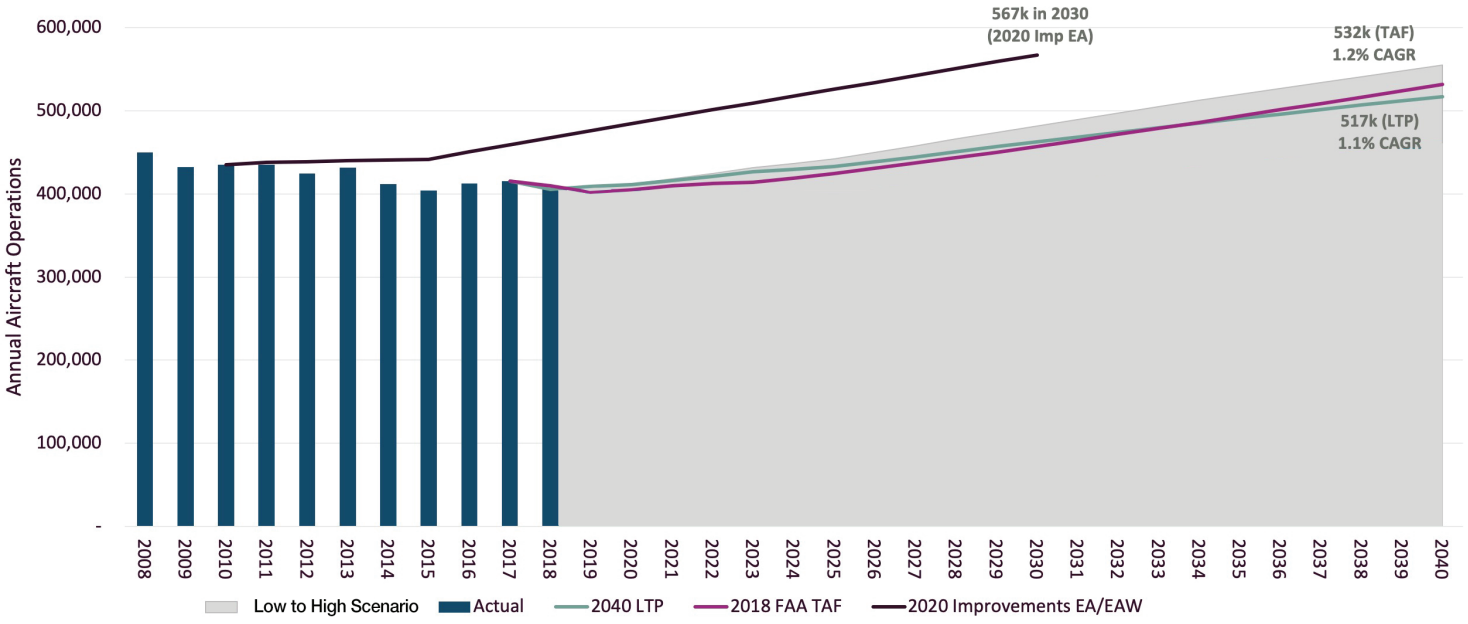
Sources: MAC Reports; US DOT data; Ricondo & Associates, Inc. (forecast) Note: The base-year spring day is in 2019.

COMPARISON TO OTHER FORECASTS

The annual results of the 2040 LTP forecast were compared to the MAC's 2020 Improvements EA/EAW forecast (completed in January 2013) and the FAA's 2018 Terminal Area Forecast (TAF) for the Airport. The 2040 LTP forecast anticipates 27.3 million revenue enplaned passengers in 2040, reflecting a CAGR of 1.8 percent in the period. In comparison, the 2018 TAF anticipates 26.4 million revenue enplaned passengers for 2040, a CAGR of 1.6 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 2040 LTP forecast projects approximately 517,000 annual aircraft operations in 2040; a CAGR of 1.1 percent. This compares to approximately 532,000 forecast in the 2018 FAA TAF and 567,000 (in 2030) in the 2020 Improvements EA/EAW forecast.

TOTAL AIRCRAFT OPERATIONS FORECAST COMPARISON



Source: As described for individual elements. TAF forecasts are for 12 months ending September (Federal fiscal year).

ENPLANED REVENUE PASSENGER FORECAST COMPARISONS