

# Mead&Hunt

RINCON CONSULTANTS, INC.



## Aviation Activity Forecasts

**DRAFT**

March 2023

# 2023 SBA Master Plan Update Focus Areas



Preparing Airport for coming trends



Promoting financial resiliency



Addressing environmental challenges



Involving stakeholders in the process

# Forecast Introduction

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What is an aviation activity forecast, and why is it important?

# 2023 SBA Master Plan Update and aviation activity forecasts

- The SBA aviation forecast is part of the 2023 SBA Airport Master Plan Update
- A master plan **is**:
  - A 20-year plan, completed about every 5 to 10 years, addressing:
    - Capital investments
    - Land use compatibility
  - Typically sponsored by the Federal Aviation Administration (FAA)
- A master plan **is not**:
  - A business plan or a marketing plan
  - A wish list or funding guarantee
  - A binding document
  - A document that sets policies or rates

# Key characteristics of an aviation activity forecast

- Airport aviation demand forecasts are 20-year projections of passenger activity, operations (takeoffs and landings), and the number of aircraft based at the airport.
- The forecast results are used to inform future facility requirements at the airport for airfield, terminal, and landside improvements.
- The forecast is developed in Federal Aviation Administration (FAA) fiscal years (October to September).
- Multiple forecast methods are assessed, and a preferred forecast is selected for each forecast category.

# FAA provides oversight of master plan forecasts

- Aviation demand forecasts require approval from the FAA. The SBA forecast is being submitted for review by the FAA.
- The FAA compares the SBA forecast to its own Terminal Area Forecast (TAF) which it develops for airports throughout the United States.

## Aviation demand forecast process

1. Data gathering and analysis
2. Develop projections and document assumptions
3. Public review and comment period ← We are here
4. Submit to FAA for review
5. Address comments (if necessary)
6. FAA approval

# Several segments of the market are forecast

- **Enplanements** – revenue passengers (paying passengers) boarding aircraft (includes originations and transfers)
- **Commercial passenger service operations** – takeoff and landings by commercial airlines and on-demand air carriers carrying passengers for hire or compensation
- **Cargo operations** – operations by airlines carrying cargo for hire or compensation
- **General aviation operations** – operations performed by all civil aircraft, except air carriers or air taxis/commuters
- **Based aircraft** – aircraft that is operational and airworthy and based at an airport for a majority of the year

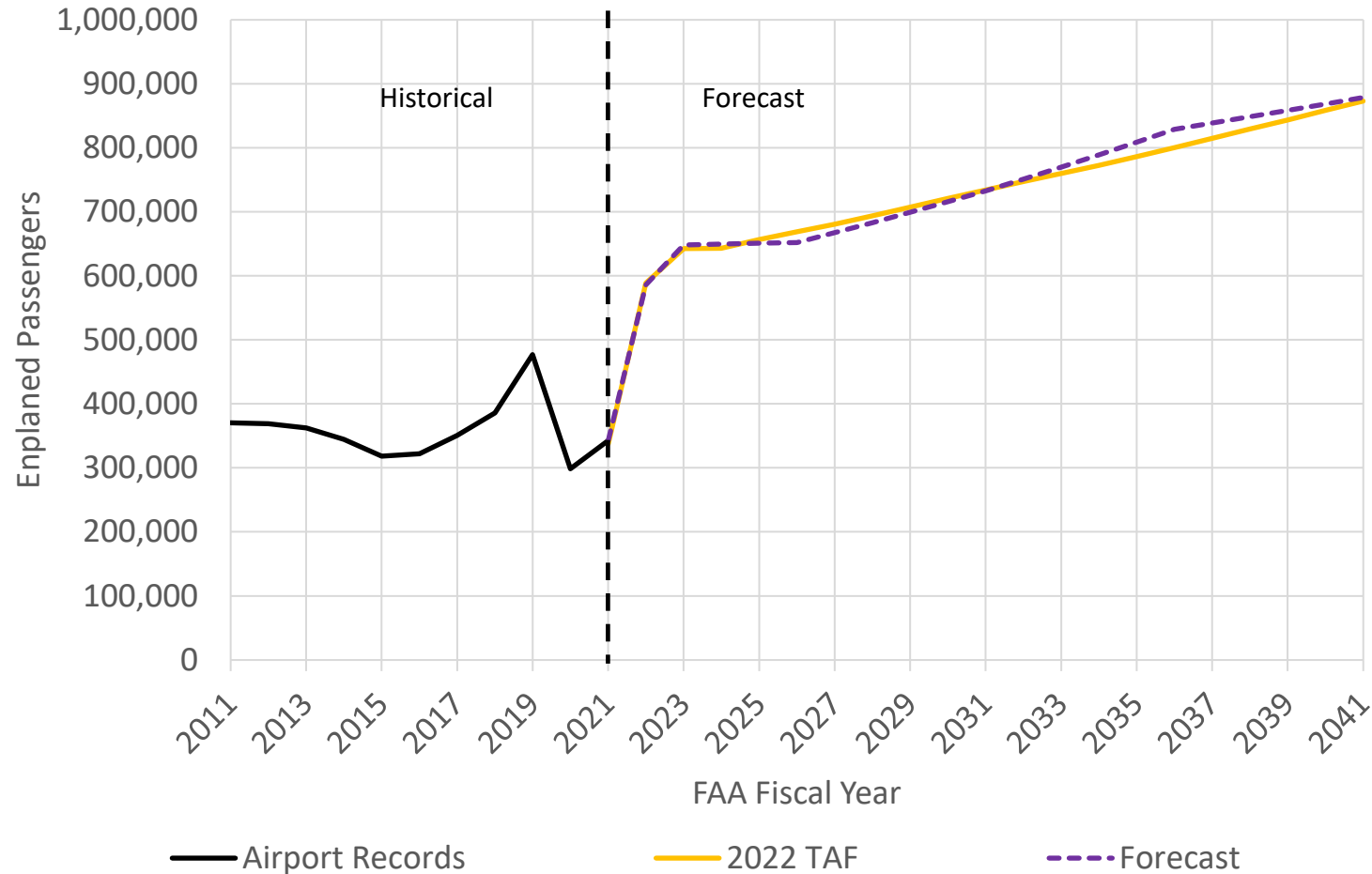
Source: FAA Terminal Area Forecast documentation.

# Forecast results and methodology

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# Enplaned passengers are projected to grow at 4.8% from 2021 to 2041

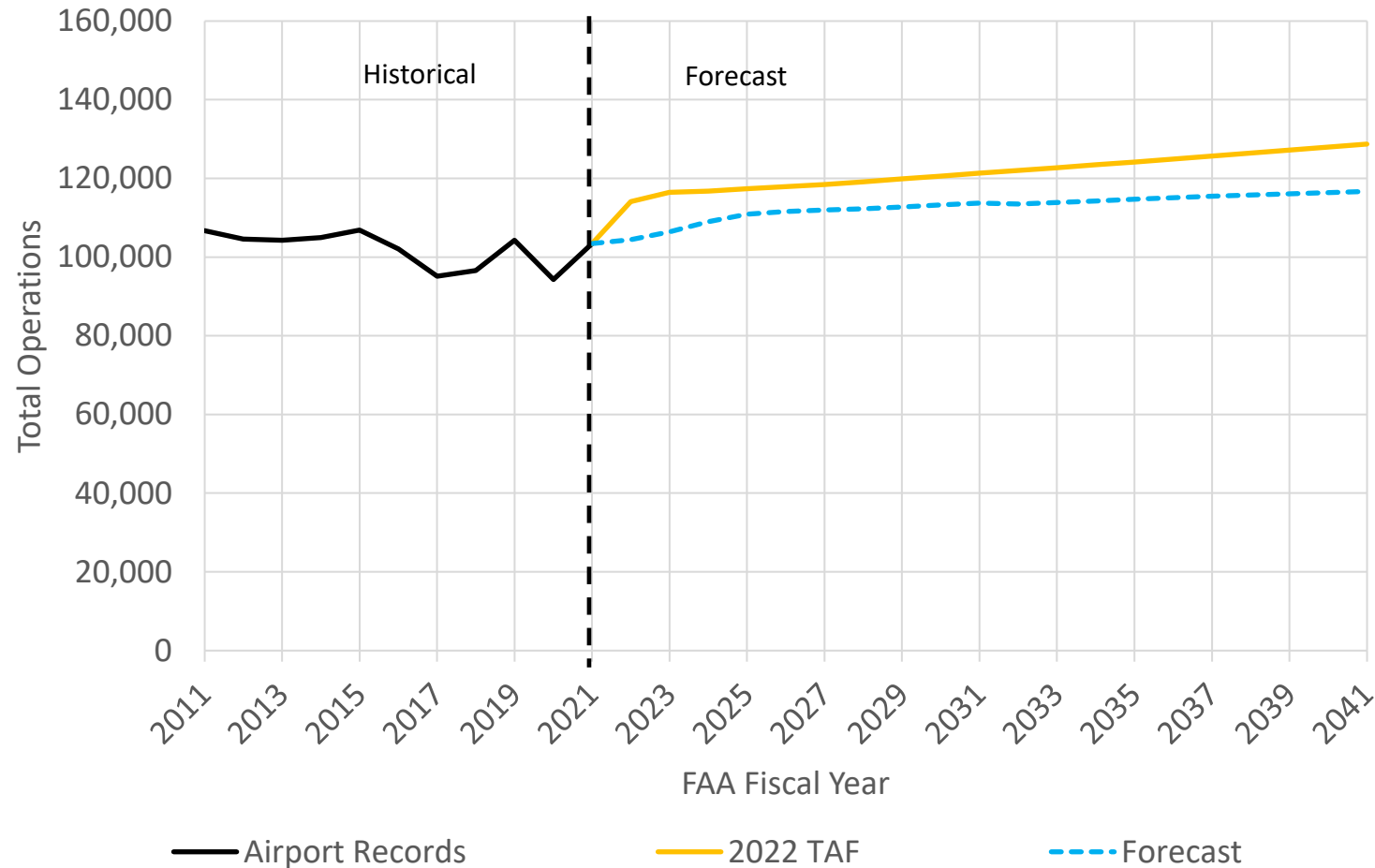


Enplanements are revenue passenger (paying passengers) boarding aircraft (includes originations and transfers)

CAGR	Forecast	2022 TAF
2011-2021	-0.8%	-0.91%
2021-2041	4.8%	4.9%

Source: historical records from the FAA; forecasts shown are from FAA 2022 TAF and SBA sponsor forecast generated by Mead & Hunt.

# Operations are projected to grow at 0.6% from 2021 to 2041

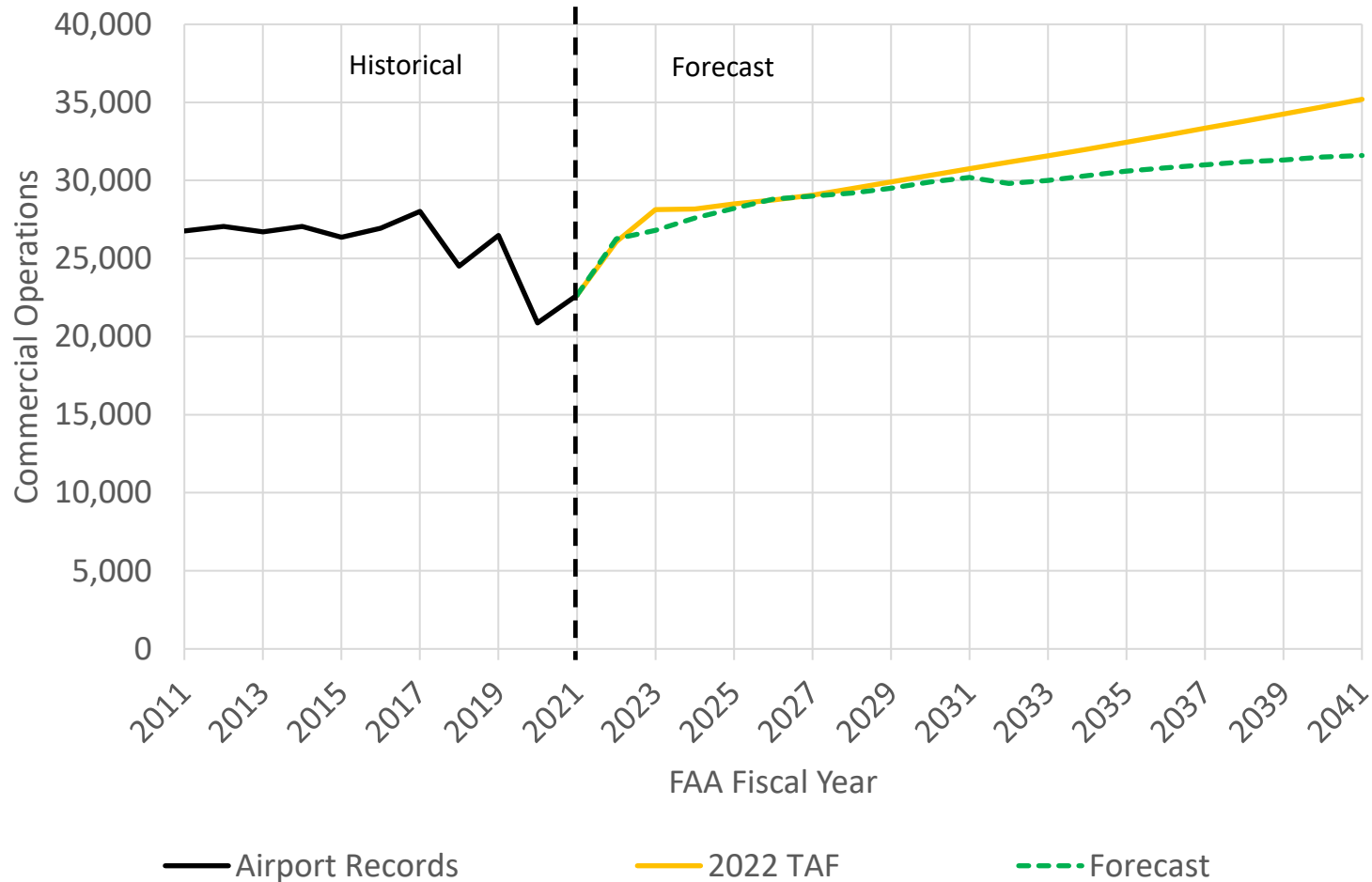


Total operations consist of all takeoff and landings by commercial passenger airlines, cargo, and general aviation operators at SBA

CAGR	Forecast	2022 TAF
2011-2021	-0.3%	-0.3%
2021-2041	0.6%	1.1%

Source: historical records from the FAA; forecasts shown are from FAA 2022 TAF and SBA sponsor forecast generated by Mead & Hunt.

# Commercial operations are projected to grow at 1.7% from 2021 to 2041



Commercial operations consist of all takeoff and landings at SBA by operators carrying passengers or cargo for compensation (e.g., Alaska Airlines, United Airlines, FedEx Express)

CAGR	Forecast	2022 TAF
2011-2021	-1.7%	-1.5%
2021-2041	1.7%	2.2%

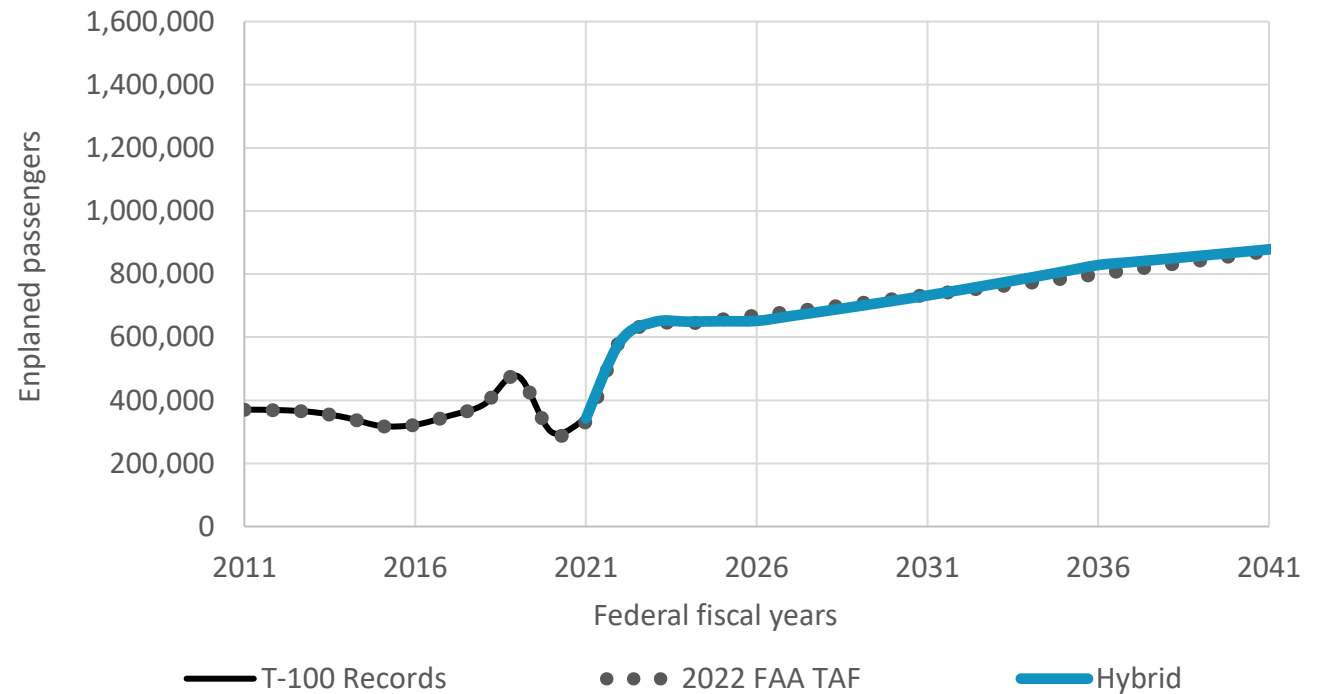
Source: historical records from the FAA; forecasts shown are from FAA 2022 TAF and SBA sponsor forecast generated by Mead & Hunt.

# Enplaned passenger forecast methodology

- Multiple methods were used to evaluate the forecast of passenger activity to project enplanements, including:
  - Trend analysis
  - Regression analysis
  - Market share analysis
  - Smoothing techniques
  - Bottom-up analysis for near-term
  - Combinations of the above
- Regression analysis is a statistical method that estimates the relationship between a dependent variable (in this case, enplaned passengers) and one or more independent variables (factors that drive the dependent variable).
- The geographic region used for socioeconomic independent variables is Santa Barbara County.

# The hybrid method was the selected enplaned passenger forecast

- The hybrid method adjusted the long-term econometric model results to account for near to mid-term growth from airlines, which results in a tapering off from the initial growth rate as the market matures.
- The population regression method was selected for the long-term 10 to 20-year forecast period serves as the projection model for enplanements as air service at SBA matures.



Fiscal Year	2022 TAF	SBA Forecast	Difference from TAF	% Variance
2021	332,658	342,669	10,011	3.0%
2022	588,482	586,000	-2,503	-0.4%
2026	668,777	652,000	-16,748	-2.5%
2031	734,175	732,500	-1,700	-0.2%
2036	800,122	829,000	28,858	3.6%
2041	872,782	878,700	5,880	0.7%
CAGR '21-'41	4.9%	4.8%	N/A	N/A

# Passenger aircraft operations forecast methodology

- Passenger aircraft operations are derived from the enplaned passenger forecasts and assumptions regarding the fleet mix of aircraft and load factors (the percentage of seats occupied on an aircraft)
- Load factor assumption based on SBA records and the FY2022-FY2042 FAA Aerospace Forecast
- Key assumptions include
  - Regional airlines expected to up-gauge 50-seat aircraft to 76-seat aircraft by 2036
  - Southwest Airlines to replace majority of 143-seat 737-700 with 150-seat 737 Max 7 (737-700 fleet to be gradually retired through 2031)
  - Aircraft seat configurations assumed to remain consistent through the forecast period (e.g. airlines will not reconfigure aircraft to add more seats)
  - Additional operations will result from the increasing frequency of current non-daily or seasonal routes, potential for up to three new carriers to enter the market within the forecast period, and the potential for up to five new routes or destinations

# Commercial Passenger aircraft operations are forecast to grow at approximately 1.7%

Fiscal Year	Air carrier operations (1)	Air taxi / commuter operations (2)	Total passenger aircraft operations
2021	10,328	11,213	21,541
2022	12,384	12,775	25,159
2026	14,000	13,300	27,300
2031	16,100	12,600	28,700
2036	17,300	12,000	29,300
2041	17,900	12,200	30,100
CAGR '21-'41	2.8%	0.4%	1.7%

Notes:

- (1) FAA defines air carrier operations as operations performed by aircraft with seating capacity of more than 60 seats or have a maximum payload capacity of more than 18,000 pounds, carrying passengers or cargo for hire or compensation.
- (2) FAA defines air taxi commuter operations as operations performed by aircraft with seating capacity of 60 seats or less or have a maximum payload capacity of 18,000 pounds or less, carrying passengers or cargo for hire or compensation.

Source: SBA sponsor forecast generated by Mead & Hunt.

# All cargo operations forecast

- All cargo operations at SBA fall within air taxi operations definitions due to payload capacity
- Projected to have 2 daily operations by the 2 operators (Ameriflight and Empire Airlines)
- Expected to remain flat through forecast period as aircraft have capacity to accommodate additional volume
  - This is based on factors such as SBA’s location between Los Angeles and San Francisco along with industry use of ground transportation

Year	All cargo aircraft operations	Volume (metric tons)
<b>Historical</b>		
2011	1,193	1,822
2016	1,170	1,582
2021	1,098	1,537
<b>Forecast</b>		
2026	1,460	1,535
2031	1,460	1,535
2036	1,460	1,535
2041	1,460	1,535
CAGR	-0.8%	-1.7%
2011-2021		
CAGR	1.4%	0.0%
2021-2041		



# General aviation operations forecast

- General aviation operations are those performed by all civil aircraft, except air carriers or air taxis/commuters
- Multiple methods of forecasting were evaluated to inform the general aviation forecasts
- Regression analysis results were invalid given no strong relationships between demographics or economic factors could be demonstrated
- Accordingly, forecasts of general aviation operations were derived based on a market share analysis

Year	Itinerant	Local	Total
<b>Historical</b>			
2011	42,810	35,751	78,561
2021	42,258	36,695	78,953
<b>Forecast</b>			
2026	43,900	37,320	81,220
2031	44,260	37,680	81,940
2036	44,640	38,050	82,690
2041	45,020	38,440	83,460
CAGR 2011-2021	-0.1%	0.3%	0.0%
CAGR 2021-2041	0.3%	0.2%	0.3%

# Based aircraft forecast

- Based aircraft are aircraft that are operational and airworthy and based at an airport for a majority of the year
- Multiple methods of forecasting were evaluated to inform the based aircraft forecasts
- Consistent with the general aviation operations forecast, a market share analysis was the selected method

SBA Based Aircraft Forecast

Fiscal Year	Single-Engine Piston	Jet	Multi-Engine Piston	Helicopter	Other	Total
2021	104	25	8	2	2	141
2022	104	26	8	2	2	142
2026	109	29	11	3	2	154
2031	115	33	13	4	2	167
2036	115	38	15	5	2	175
2041	115	44	17	7	2	185
CAGR '21-'41	0.5%	2.9%	3.9%	6.5%	0.0%	1.4%

# The SBA forecast is consistent with the FAA TAF

	Year	SBA forecast	FAA TAF	SBA/TAF (% difference)
<b>Passenger enplanements</b>				
Base yr.	2021	342,669	337,592	1.5%
Base yr. + 5yrs.	2026	652,000	668,777	-2.5%
Base yr. + 10yrs.	2031	732,500	734,175	-0.2%
Base yr. + 15yrs.	2036	829,000	800,122	3.6%
<b>Commercial operations</b>				
Base yr.	2021	22,639	22,639	0.0%
Base yr. + 5yrs.	2026	28,800	28,750	0.2%
Base yr. + 10yrs.	2031	30,200	30,752	-1.8%
Base yr. + 15yrs.	2036	30,800	32,884	-6.3%
<b>Total operations</b>				
Base yr.	2021	103,419	103,419	0.0%
Base yr. + 5yrs.	2026	111,847	117,869	-5.1%
Base yr. + 10yrs.	2031	113,967	121,296	-6.0%
Base yr. + 15yrs.	2036	115,317	124,907	-7.7%

Note: the FAA typically considers an airport-generated forecast consistent with the TAF, when enplanements, commercial operations, and total operations are within 10% for the 5-year period and 15% for the 10-year period.

# Project Schedule and Next Steps

