



CHAPTER 2

FORECASTS

An important factor in facility planning is estimating the demand that can be reasonably expected to occur during the useful life of an airport's key components (e.g., runways, taxiways, terminal facilities, etc.). In airport master planning, this involves projecting potential aviation activity for at least a 20-year timeframe. Aviation demand forecasting for Paso Robles Municipal Airport (PRB) primarily considers based aircraft, aircraft operations, peak activity periods, and critical aircraft.

The Federal Aviation Administration (FAA) has oversight responsibility to review and approve aviation forecasts developed in conjunction with airport planning studies. The FAA will review individual airport forecasts with the objective of comparing them to the FAA *Terminal Area Forecast* (TAF) for PRB.

When reviewing a sponsor's forecast (from the master plan), the FAA must ensure the forecast is based on reasonable planning assumptions, uses current data, and is developed using appropriate forecasting methods. According to the FAA, forecasts should be:

- Realistic;
- Based on the latest available data;
- Reflective of current conditions at the airport (as a baseline);
- Supported by information in the study; and
- Able to provide adequate justification for airport planning and development.

The forecasting process for an airport master plan consists of a series of basic steps that vary in complexity, depending on the issues to be addressed and the level of effort required. The steps include a review of previous forecasts, determination of data needs, identification of data sources, collection of data, selection of forecasting methods, preparation of the forecasts, and documentation and evaluation of the results. FAA Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, outlines the following seven standard steps involved in the forecast process.

1. **Identify Aviation Activity Measures:** Determine the level(s) and type(s) of aviation activities likely to impact facility needs. For general aviation, these typically include based aircraft and operations.
2. **Review Previous Airport Forecasts:** These may include the FAA TAF, state or regional system plans, and previous master plans.



3. **Gather Data:** Determine what data are required to prepare the forecasts, identify data sources, and collect historical and forecast data.
4. **Select Forecast Methods:** Several appropriate methodologies and techniques are available, including regression analysis, trend analysis, market share or ratio analysis, exponential smoothing, econometric modeling, comparison with other airports, survey techniques, cohort analysis, choice and distribution models, range projections, and professional judgment.
5. **Apply Forecast Methods and Evaluate Results:** Prepare the actual forecasts and evaluate them for reasonableness.
6. **Summarize and Document Results:** Provide supporting text and tables, as necessary.
7. **Compare Forecast Results with the FAA's TAF:** Based aircraft and total operations are considered consistent with the TAF if they meet one of the following criteria:
 - The forecasts differ by less than 10 percent in the five-year forecast period and less than 15 percent in the 10-year forecast period.
 - The forecasts do not affect the timing or scale of an airport project.
 - The forecasts do not affect the role of the airport as defined in the current version of FAA Order 5090.3, *Field Formulation of the National Plan of Integrated Airport Systems*.

Aviation activity can be affected by many influences on the local, regional, and national levels, making it virtually impossible to predict year-to-year fluctuations of activity over 20 years with any certainty; therefore, it is important to remember that forecasts are to serve only as guidelines, and planning must remain flexible enough to respond to a range of unforeseen developments.

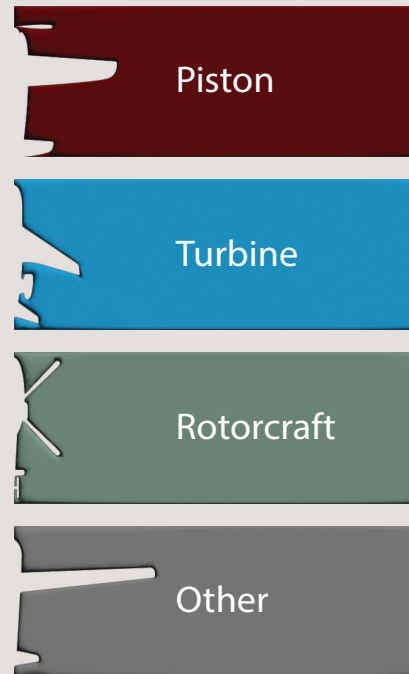
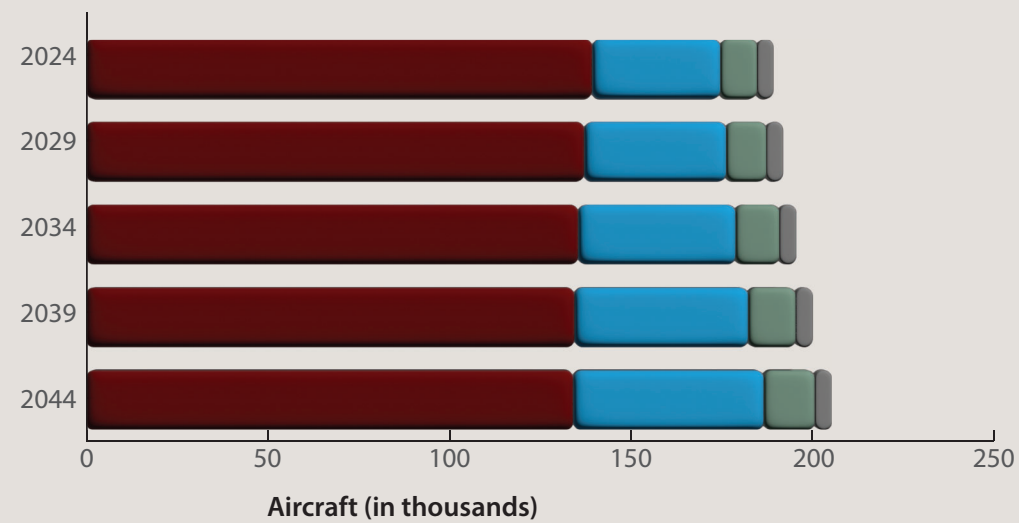
The following forecast analysis for the airport was produced following these basic guidelines. Existing forecasts are examined and compared against current and historical activity. The historical aviation activity is then examined along with other factors and trends that can affect demand with the intent to provide an updated set of aviation demand projections for the airport that will permit airport management to make planning adjustments as necessary to maintain a viable, efficient, and cost-effective facility.

The forecasts for this master plan utilize a base year of 2024 with a long-range forecast out to 2044.

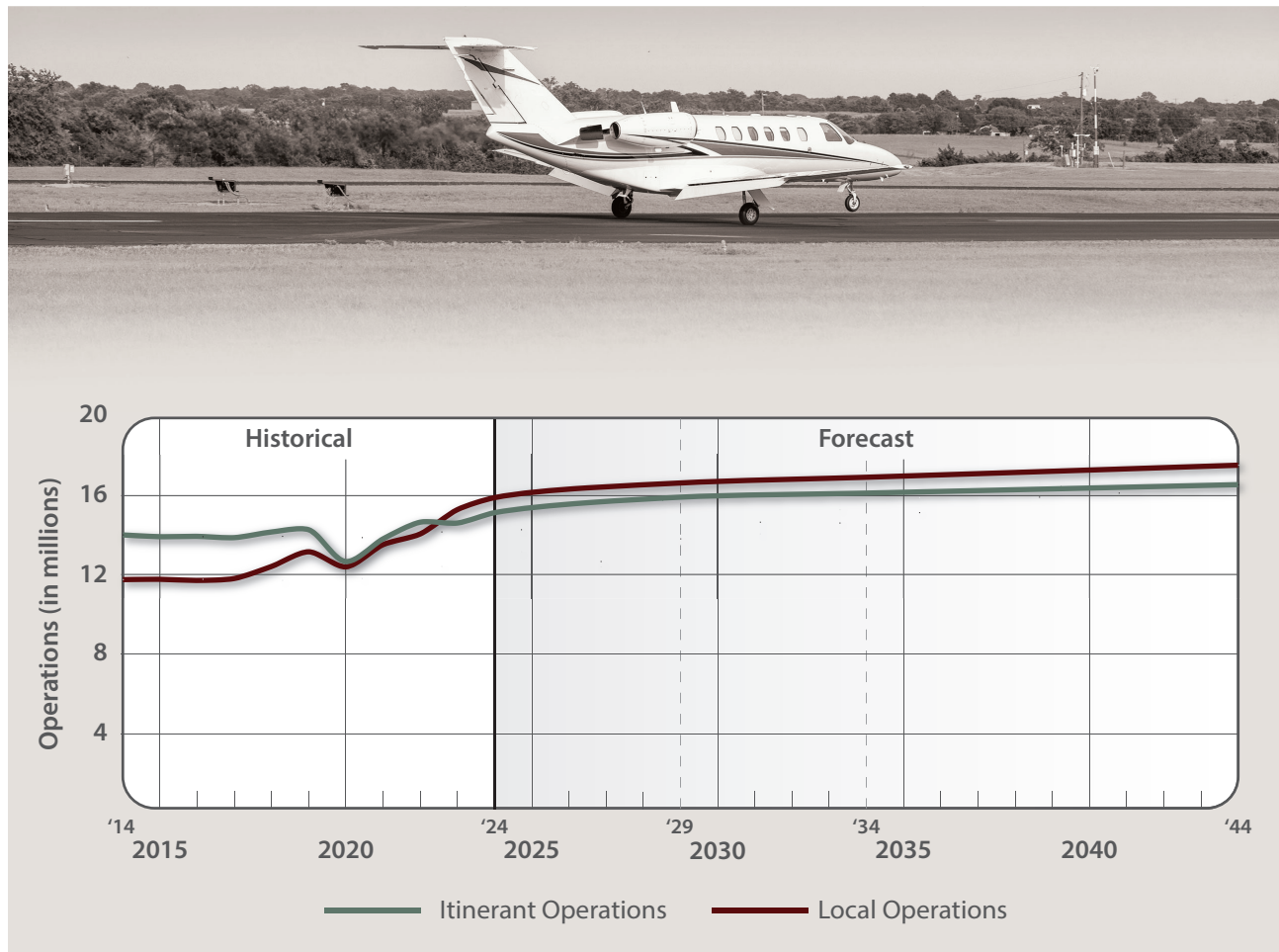
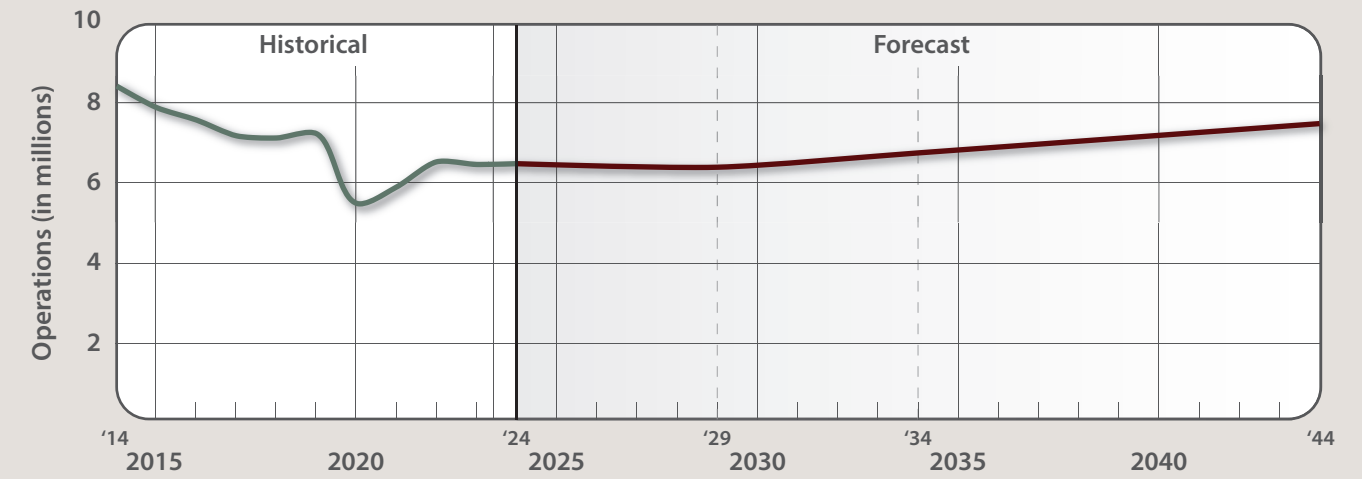
NATIONAL AVIATION TRENDS

Each year, the FAA updates and publishes a national aviation forecast. Included in this publication are forecasts for large air carriers, regional/commuter air carriers, general aviation, and FAA workload measures. The forecasts are prepared to meet the budget and planning needs of the FAA and provide information that can be used by state and local authorities, the aviation industry, and the public. At the time this chapter was prepared, the most recent edition was the *FAA Aerospace Forecast – Fiscal Years (FY) 2024–2044*. The FAA primarily uses the economic performance of the United States as an indicator of future aviation industry growth. Similar economic analyses are applied to the outlook for aviation growth in international markets. The following discussion is a brief synopsis of highlights from the FAA's national general aviation forecasts. A summary of the FAA forecasts is also shown on **Exhibit 2A**.

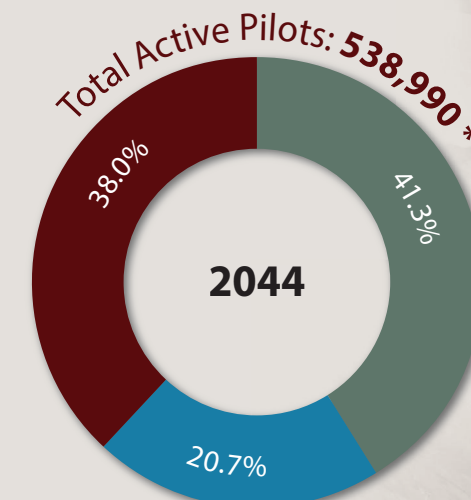
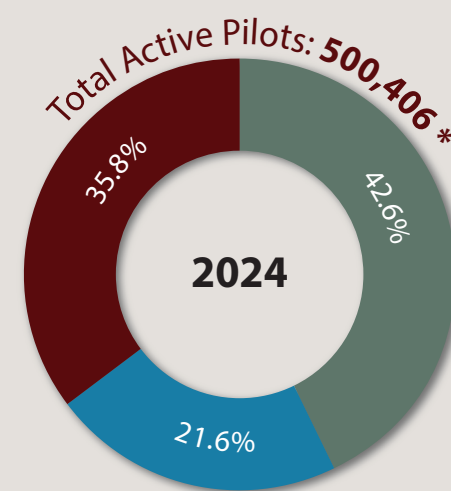
U.S. Active General Aviation Aircraft



U.S. Air Taxi Operations



Active Pilots By Certificate



- Recreational / Sport Pilot / Private / Glider / Rotorcraft
- Commercial
- Airline Transport

*Excludes Student Pilot Certificates

Source: FAA Aerospace Forecasts FY2024-2044

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NATIONAL GENERAL AVIATION TRENDS

The long-term outlook for general aviation is promising as growth at the high end of the segment (more sophisticated aircraft such as business jets, turboprops, and helicopters) offsets continuing retirements at the traditional low end (piston-powered aircraft). The active general aviation fleet is forecasted to remain relatively stable between 2024 and 2044, increasing by just 0.4 percent. While steady growth in gross domestic product (GDP) and corporate profits results in continued growth of the turbine and rotorcraft fleets, the largest segment of the fleet, fixed-wing piston aircraft, continues to shrink over the forecast period.

The FAA forecasts the fleet mix and hours flown for single-engine piston (SEP) and multi-engine piston (MEP) aircraft; turboprops; business jets; piston and turbine helicopters; and light sport, experimental, and other aircraft (e.g., gliders and balloons). The FAA forecasts active aircraft, not total aircraft; an active aircraft is one that is flown at least one hour during the year. From 2010 through 2013, the FAA undertook an effort to have all aircraft owners re-register their aircraft. This effort resulted in a 10.5 percent decrease in the number of active general aviation aircraft, mostly in the piston category. **Table 2A** shows the primary general aviation demand indicators as forecasted by the FAA.

TABLE 2A | FAA General Aviation Forecast

Demand Indicator	2024	2044	CAGR
General Aviation Fleet			
Total Fixed-Wing Piston	136,485	130,790	-0.2%
Total Fixed-Wing Turbine	27,905	41,580	2.0%
Total Helicopters	10,090	14,025	1.7%
Total Other (experimental, light sport, etc.)	35,625	42,580	0.9%
Total General Aviation Fleet:	210,105	228,975	0.4%
General Aviation Operations			
Local	15,900,404	17,570,920	0.5%
Itinerant	15,125,333	16,568,634	0.5%
Total General Aviation Operations:	31,025,737	34,139,554	0.5%

CAGR = compound annual growth rate (2024-2044)

Source: FAA Aerospace Forecast – FY 2024-2044

FAA forecasts of total operations are based on activity at control towers across the United States and are categorized as air carrier, air taxi/commuter, general aviation, and military. While the fleet size remains relatively level, the number of general aviation operations at towered airports is projected to increase from 31.0 million in 2024 to 34.1 million in 2044 with an average increase of 0.5 percent per year as growth in turbine, rotorcraft, and experimental hours offsets a decline in fixed-wing piston hours. This includes annual growth rates of 0.5 percent for both local and itinerant general aviation operations.

BUSINESS JET OPERATIONAL TRENDS

General aviation airports are often hubs of diverse activity, although they frequently experience a predominance of piston-powered aircraft. These aircraft, including single-engine and light twin-engine aircraft, comprise most of the based aircraft and operations at general aviation airports. Their routine activities include everything from local flights and flight training to recreational flying and short-haul travel. Piston-powered aircraft are generally more numerous and engage in more frequent, shorter operations, which contributes to a busy and vibrant atmosphere at general aviation airports.

In contrast, business jets are less numerous and conduct fewer operations overall but are physically demanding in a different way. Business jets require more space for their operations due to their larger size and need for longer runways. Their arrivals and departures can place greater demands on airport infrastructure, such as requiring more intensive ground handling, fueling, and maintenance services. The operational impacts of business jets require increased coordination with ground support services and infrastructure support (e.g., larger hangars, apron/taxilanes, and fuel loads), making their presence felt more prominently even if they operate less frequently than their piston-powered counterparts. At general aviation airports with higher amounts of jet traffic, such as PRB, business jets drive the critical aircraft discussion. For this reason, additional focus is placed on national business jet trends to help understand growth patterns and how they might impact future operations at PRB.

Since the early 2000s, business jet operational trends have significantly evolved, driven by advancements in technology, changing economic conditions, and shifts in travel preferences. Progress in aircraft technology has led to the development of business jets with greater range and performance capabilities. Newer models can cover longer distances non-stop, reducing the need for intermediate stops. Ultra-long-range business jets, such as the Gulfstream G700/G800, Bombardier Global 7500, and Boeing Business Jet (BBJ), have ranges over 7,000 nautical miles (nm) and are experiencing growing demand from corporations and high-net-worth individuals who seek more flexibility and range (ability to travel longer distances). Fuel efficiency improvements and operating cost reductions are focal points; modern business jets are designed with more efficient engines and aerodynamic enhancements that lower fuel consumption and operational expenses. Some of the most fuel-efficient business jet models include the Embraer Phenom 300, Pilatus PC-24, Cessna Citation XLS, and Learjet 75.

The FAA's *Traffic Flow Management System Counts* (TFMSC) database captures an operation when a pilot files a flight plan and/or when a flight is detected by the National Airspace System, usually via radar. As shown in **Table 2B**, the top 15 business jets with the most operations in 2024 are led by two of the most efficient business jets, the Embraer Phenom 300 and the Cessna Citation Excel/XLS. Of the top 15 business jets, eight have experienced declining growth rates over the past five years, reflecting a shift in operations to newer models.

TABLE 2B | 2024 Top 15 Busiest Business Jets by Operations

Aircraft Type	OPERATIONS						2019–2024 CAGR
	2019	2020	2021	2022	2023	2024	
E55P – Embraer Phenom 300	247,960	213,923	335,646	354,249	364,496	399,592	10.01%
C56X – Cessna Excel/XLS	340,406	242,977	357,612	380,367	348,207	341,568	0.07%
C68A – Cessna Citation Latitude	150,649	133,150	229,559	252,954	280,931	335,968	17.40%
CL35 – Bombardier Challenger 300	143,688	140,716	217,882	235,031	247,705	270,003	13.45%
C25B – Cessna Citation CJ3	146,270	125,983	179,269	193,852	205,427	221,978	8.70%
CL60 – Bombardier Challenger 600/601/604	185,781	131,174	193,995	202,902	191,212	192,776	0.74%
H25B – BAe HS 125/700-800/Hawker 800	205,703	158,778	240,801	229,572	199,976	188,903	-1.69%
C560 – Cessna Citation V/Ultra/Encore	208,845	170,545	228,409	219,329	197,471	183,614	-2.54%
GLF4 – Gulfstream IV/G400	177,559	133,027	202,549	196,146	175,091	167,300	-1.18%
CL30 – Bombardier (Canadair) Challenger 300	200,584	127,629	172,303	169,523	162,654	162,026	-4.18%
BE40 – Raytheon/Beech Beechjet 400/T-1	239,224	209,219	244,373	234,904	200,363	157,608	-8.01%
C525 – Cessna CitationJet/CJ1	156,999	124,413	166,026	166,923	152,957	142,491	-1.92%
GLF5 – Gulfstream V/G500	133,554	89,818	127,765	150,344	136,684	135,606	0.31%
F2TH – Dassault Falcon 2000	141,059	90,177	131,785	149,210	142,465	132,020	-1.32%
C680 – Cessna Citation Sovereign	148,348	101,731	151,397	158,480	137,461	125,118	-3.35%

CAGR = compound annual growth rate

Source: FAA TFMSC

Table 2C lists the business jets with the fastest operational growth rates over the past five years. These aircraft represent newer models, such as the Cessna Citation Longitude and Latitude (newest Cessna models), the Gulfstream G500 and Bombardier Global 7500 (ultra-long-range aircraft), and the Cirrus Vision SF50 (Vision Jet), HondaJet, and Cessna Citation Bravo (light business jets).

TABLE 2C | Top 15 Fastest Operational Growth Business Jets

Aircraft Type	OPERATIONS						2019–2024 CAGR
	2019	2020	2021	2022	2023	2024	
C700 – Cessna Citation Longitude	2,204	8,484	29,044	51,928	69,960	99,626	114.3%
GL7T – Bombardier Global 7500	1,356	3,351	8,808	15,338	20,692	29,921	85.7%
GA5C – G-7 Gulfstream G500	5,080	6,464	13,900	17,868	26,823	33,460	45.8%
C55B – Cessna Citation Bravo	7,218	11,275	21,828	27,608	33,537	31,035	33.9%
SF50 – Cirrus Vision SF50	25,240	36,700	62,547	82,853	98,641	94,984	30.4%
E545 – Embraer EMB-545 Legacy 450	39,244	39,788	62,344	71,203	82,854	92,470	18.7%
C68A – Cessna Citation Latitude	150,649	133,150	229,559	252,954	280,931	335,968	17.4%
HDJT – Honda HA-420 HondaJet	24,899	27,295	48,402	67,416	61,348	54,212	16.8%
C25M – Cessna Citation M2	25,696	25,778	38,670	49,915	52,383	53,121	15.6%
E550 – Embraer Legacy 500	26,790	20,039	30,973	36,636	42,616	53,739	14.9%
FA8X – Dassault Falcon 8X	3,572	2,503	4,146	7,052	7,028	6,880	14.0%
CL35 – Bombardier Challenger 300	143,688	140,716	217,882	235,031	247,705	270,003	13.4%
E55P – Embraer Phenom 300	247,960	213,923	335,646	354,249	364,496	399,592	10.0%
GLF6 – Gulfstream	52,603	37,724	55,534	73,457	79,805	84,261	9.9%
C25B – Cessna Citation CJ3	146,270	125,983	179,269	193,852	205,427	221,978	8.7%

CAGR = compound annual growth rate

Source: FAA TFMSC

Table 2D provides a five-year breakdown of business jet operations by aircraft reference code (ARC). These data show that the B-II and C-II categories account for over 68 percent of total business jet operations in 2024. The highest growth categories are the A-I (small/efficient jet) and B-III (ultra-long-range jet) categories. The A-I category has grown at a compound annual growth rate (CAGR) of 30.35 percent and is represented by a single aircraft: the Cirrus Vision SF50. The B-III category has a CAGR of 12.87 percent and is primarily comprised of the Dassault Falcon F7X and 8X and the Bombardier Global 7500.

TABLE 2D | National Business Jet Operations by ARC

Aircraft Reference Code (ARC) / Example Aircraft	OPERATIONS						2019–2024 CAGR
	2019	2020	2021	2022	2023	2024	
A-I / Cirrus Vision SF50	25,240	36,700	62,547	82,853	98,641	94,984	30.35%
B-I / Beechjet 400	751,782	619,231	788,859	805,071	719,090	647,915	-2.93%
C-I / Learjet 45	368,053	292,293	397,439	385,763	335,363	311,994	-3.25%
B-II / Phenom 300	1,660,622	1,310,085	1,948,103	2,046,043	2,004,440	2,078,328	4.59%
C-II / Challenger 300	1,429,196	1,054,897	1,560,040	1,634,500	1,554,549	1,553,837	1.69%
D-II / Gulfstream G400	177,559	133,027	202,549	196,146	175,091	167,300	-1.18%
B-III / Falcon F7X	39,309	28,092	42,908	59,531	64,428	72,020	12.87%
C-III / Global Express	178,013	128,218	195,516	234,013	249,617	258,536	7.75%
D-III / Gulfstream G500	133,554	89,818	127,765	150,344	136,684	135,606	0.31%

CAGR = compound annual growth rate

Source: FAA TFMSC



RISKS TO THE FORECAST

While the FAA is confident its forecasts for aviation demand and activity can be reached, these forecasts are dependent on several factors, including the strength of the global economy, security (including the threat of international terrorism), and oil prices. Higher oil prices could lead to further shifts in consumer spending away from aviation, dampening a recovery in air transport demand. The COVID-19 pandemic introduced a new risk, and although the industry has rebounded, the threat of future global health emergencies and potential economic fallout remains.

AIRPORT SERVICE AREA

The initial step in determining the aviation demand for an airport is to define its generalized service area for various segments of aviation. The service area is primarily defined by evaluating the locations of competing airports and their capabilities, services, and relative attraction and convenience. In determining the aviation demand for an airport, it is necessary to identify the role of the airport, as well as the specific areas of aviation demand the airport is intended to serve. PRB is classified in the *National Plan of Integrated Airport Systems* (NPIAS) as a general aviation regional airport, which means its main purpose is to serve general aviation operators, including moderate levels of jet and multi-engine propeller aircraft, within the broader regional area.

The service area for an airport is a geographic region from which an airport can be expected to attract the largest share of its activity. The definition of the service area can then be used to identify other factors, such as socioeconomic and demographic trends, that influence aviation demand at an airport. Aviation demand is also impacted by the proximity and strength of aviation services offered at competing airports, as well as the local and regional surface transportation network.

As in any business enterprise, the more attractive a facility is in terms of services and capabilities, the more competitive it will be in the market. If an airport's attractiveness increases in relation to nearby airports, so will the size of its service area. If its facilities and services are adequate and/or competitive, some level of aviation activity might be attracted to an airport from more distant locales.

As a rule, a general aviation airport's service area can extend for approximately 30 nm). There is only one public-use airport with at least one paved runway within a 30-nm radius of PRB: San Luis Obispo County Regional Airport (SBP). SBP is located 26 nm south of PRB and is included in the NPIAS as a commercial service airport. SBP has two runways, the longer of which measures 6,101 feet long and is equipped with instrument landing system (ILS) approach capabilities with visibility minimums as low as ½-mile. While SBP is a commercial service airport, it also accommodates general aviation traffic, which accounted for over 80 percent of its operations in 2024. In terms of facilities, SBP has a slight edge in runway length; its primary runway is 93 feet longer than PRB's, but PRB has a longer crosswind runway (4,701 feet) compared to SBP's (2,500 feet). SBP has lower instrument approach minimums than PRB (½-mile vs. ¾-mile). A major difference between the two airports is in available property for development, where PRB holds a significant advantage over SBP. With its Space Innovation and Technology Park, PRB is seeking new opportunities to grow its user base and diversify revenue streams. PRB's capacity for growth gives it a distinct advantage when trying to attract new private investments in hangars and commercial aviation businesses, which lead to higher activity levels and increased revenue generation.



When evaluating the general aviation service area, two primary demand segments must be considered: based aircraft and itinerant operations. An airport's ability to attract based aircraft is an important factor when defining its service area, as proximity is a consideration for most aircraft owners. Aircraft owners typically choose to base at airports that are close to their homes or businesses. **Exhibit 2B** depicts a radius of 10, 20, and 30 nm, along with a 30-minute drive time from PRB. These metrics are contained primarily within San Luis Obispo County and a small portion of southern Monterey County. Registered aircraft in the region and aircraft based at PRB are also shown on the exhibit, with large clusters of registered aircraft located along the Highway 101 corridor between the City of Paso Robles and the City of San Luis Obispo, including Templeton and Atascadero. In total, there are 442 registered aircraft within a 30-nm radius of PRB and almost 34 percent of those are within 10 nm of PRB. Of the 227 aircraft within its inventory, PRB has an FAA-validated based aircraft count of 197 aircraft, almost 74 percent of which are attributed to addresses within 30 nm of the airport. This map indicates that PRB's based aircraft service area is primarily within north San Luis Obispo County.

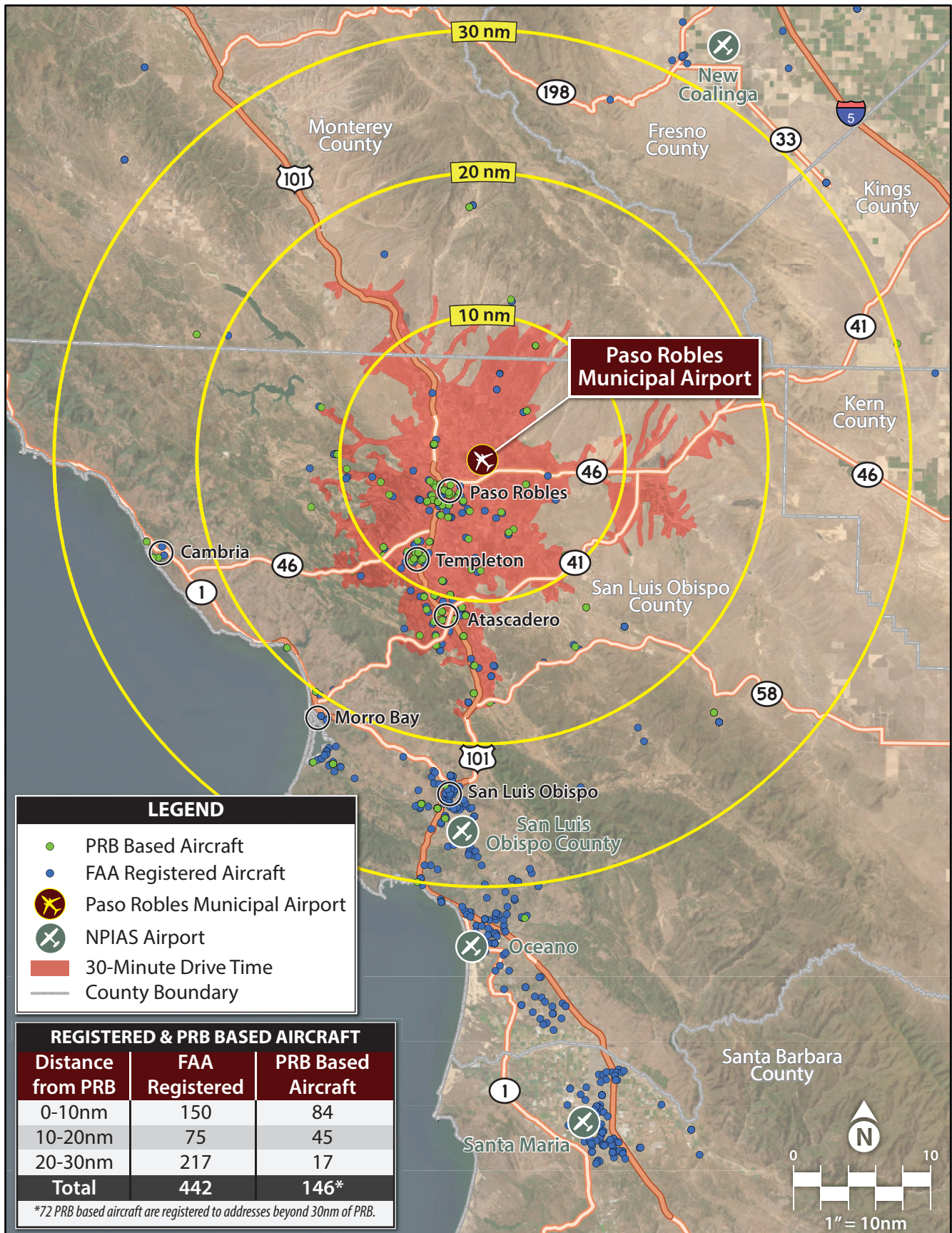
The second demand segment to consider is itinerant operations. These operations are performed by aircraft that arrive from outside the airport area and land at PRB or depart from PRB to fly to other airports. In most cases, pilots will use airports nearer their intended destinations; however, this is dependent on each airport's ability to accommodate aircraft operators in terms of the facilities and services available. As a result, airports with better facilities and services are more likely to attract a larger portion of the region's itinerant operations.

When compared to other public-use airports in the region, PRB offers a typical array of general aviation services and amenities, including fueling services, aircraft maintenance and repair services, ground handling, passenger and crew services, flight planning and support, aircraft storage and tiedowns, and administrative support. From a location standpoint, PRB is a convenient option for travelers visiting California's Central Coast.

Based on this discussion, PRB's primary service area for the purposes of this study is represented by the San Luis Obispo-Paso Robles metropolitan statistical area (MSA), which is comprised of San Luis Obispo County.

SERVICE AREA SOCIOECONOMICS

The socioeconomic characteristics of an airport's service area can provide valuable information from which an understanding of the dynamics of growth near that airport can be derived. This information is crucial in determining aviation demand level requirements, as most aviation demand is directly related to the socioeconomic conditions of the surrounding region. Statistical analysis of population, employment, income, and gross regional product (GRP) trends outline the economic strength of a region and can help determine the ability of the area to sustain a strong economy in the future. Socioeconomic data utilized in the development of new based aircraft and operations forecasts for PRB include historical and projected population, employment, per capita personal income (PCPI), and GRP data from Woods & Poole Economics, Inc. **Table 2E** summarizes 10 years of historical data and projections through 2044 for the service area.



Source: ESRI Basemap Imagery (2021), NFDC, 2024 FAA Registered Aircraft Database, Paso Robles Municipal Airport, Coffman Associates analysis



TABLE 2E | Socioeconomic Information for San Luis Obispo-Paso Robles MSA

Year	Population	Employment	Per Capita Personal Income (in 2017 dollars)	Gross Regional Product (in millions of 2017 dollars)
Historical				
2014	278,277	164,637	\$48,441	\$15,410
2015	280,153	169,364	\$51,288	\$16,401
2016	281,865	169,801	\$52,003	\$16,530
2017	282,376	172,932	\$53,632	\$16,821
2018	283,146	175,338	\$54,366	\$17,263
2019	282,612	175,039	\$56,969	\$17,482
2020	281,884	165,625	\$60,231	\$17,083
2021	279,464	172,018	\$63,005	\$18,018
2022	282,046	179,692	\$58,550	\$18,551
2023	281,639	182,237	\$60,540	\$19,236
2024	283,212	184,720	\$61,527	\$19,669
Forecast				
2029	291,174	196,604	\$66,403	\$21,822
2034	299,311	208,336	\$71,403	\$24,095
2044	316,125	233,107	\$81,907	\$29,163
CAGRs				
2014–2024	0.2%	1.2%	2.4%	2.5%
2024–2044	0.6%	1.2%	1.4%	2.0%
CAGR = compound annual growth rate MSA = metropolitan statistical area				

Source: Woods & Poole Economics, Inc., 2024

FORECASTING APPROACH

The development of aviation forecasts involves both analytical processes and expert judgment. A series of mathematical relationships is tested to establish statistical logic and rationale for projected growth; however, the judgment of the forecast analyst, which is based on professional experience, knowledge of the aviation industry, and assessment of the local situation, is important in the final determination of the preferred forecast. The most reliable approach to estimating aviation demand is through the utilization of more than one analytical technique. Methodologies frequently considered include trendline/time series projections, correlation/regression analysis, and market share analysis. The forecast analyst may elect not to use certain techniques based on the accuracy of the forecasts produced using other methods.

Trendline/time series projections are probably the simplest and most familiar of the forecasting techniques. By fitting growth curves to historical data and then extending them into the future, a basic trendline projection is produced. A basic assumption of this technique is that outside factors will continue to affect aviation demand in the same manner as in the past. As broad as this assumption may be, the trendline projection serves as a reliable benchmark for comparing other projections.

Correlation analysis provides a measure of the direct relationship between two separate sets of historical data. If there is a reasonable correlation between the data sets, further evaluation using regression analysis may be employed. Regression analysis measures statistical relationships between dependent and independent variables, thereby yielding a correlation coefficient. The correlation coefficient (Pearson's r) measures association between the changes in the dependent variable and the independent variable(s). If the r^2 value (coefficient determination) is greater than 0.90, it indicates good predictive reliability. A value less than 0.90 may be used, but with the understanding that the predictive reliability is lower.

Market share analysis involves a historical review of the airport activity as a percentage, or share, of a larger regional, state, or national aviation market. A historical market share trend is determined, which provides an expected market share for the future. These shares are then multiplied by the forecasts for the larger geographical area to produce a market share projection. This method has the same limitations as trendline projections but can be used to check the validity of other forecasting techniques.

Forecasts age, and the further a forecast is from the base year, the less reliable it may become, particularly due to changing local and national conditions; nevertheless, the FAA requires that a 20-year forecast be developed for long-range airport planning to assess and preserve options for future facility needs. Facility and financial planning usually require at least a 10-year view because it often takes more than five years to complete a major facility development program; however, it is important to use forecasts that do not overestimate revenue-generating capabilities or underestimate the demand for facilities needed to meet public (user) needs.

A wide range of factors are known to influence the aviation industry and can have significant impacts on the extent and nature of aviation activity in both the local and national markets. Historically, the nature and trend of the national economy have had a direct impact on levels of aviation activity. Recessionary periods have been closely followed by declines in aviation activity; nevertheless, trends emerge over time and provide the basis for airport planning.

Future facility requirements, such as hangar, apron, and terminal needs, are derived from projections of various aviation demand indicators. Using a broad spectrum of local, regional, and national socioeconomic and aviation information and analyzing the most current aviation trends, forecasts are presented for the following aviation demand indicators:

- Based aircraft
- Based aircraft fleet mix
- General aviation operations
- Air taxi and military operations
- Operational peaks

PREVIOUS FORECASTS

Consideration is given to any recently completed forecasts of aviation demand for the airport. For PRB, the recently prepared forecasts reviewed are those in the FAA TAF, which was prepared in January 2024, and the most recent airport master plan, which was completed in 2004.

On an annual basis, the FAA publishes the TAF for each airport included in the NPIAS. The TAF is a generalized forecast of airport activity that is used by the FAA primarily for internal planning purposes. It is available to airports and consultants to use as a baseline projection and is an important point of comparison when developing local forecasts.

The 2004 *Paso Robles Municipal Airport Master Plan Update* is now 21 years old. Since that time, the country has undergone the Great Recession (December 2007 – June 2009) and the COVID-19 pandemic, and methodologies for counting based aircraft and tracking operations have changed. While the baseline figures may be different, it is still valuable to consider master plan considerations and growth rates. **Table 2F** compares the 2024 TAF and 2004 master plan projections for PRB.



TABLE 2F | Previous Forecasts

Year	Based Aircraft		Total Operations	
	FAA TAF 2024	PRB MP 2004	FAA TAF 2024	PRB MP 2004
2001	160	150	32,176	31,600
2005	208	166	33,039	36,500
2010	162	182	34,250	41,500
2015	160	204	34,250	50,000
2020	150	220	34,250	57,200
2024	190	234	44,000	63,700
2029	195	252	45,362	72,872
2034	200	272	46,778	83,366
2039	205	293	48,246	95,371
2044	210	316	49,769	109,104
2024–2044 CAGR	0.5%	1.5%	0.6%	2.7%

The 2004 master plan utilized a base year of 2001 with projections for 2005, 2010, 2015, and 2020. All other years included in the table have been interpolated or extrapolated.
CAGR = compound annual growth rate

Sources: FAA Terminal Area Forecast (FAA TAF), January 2024; Paso Robles Municipal Airport Master Plan Update (PRB MP), 2004

BASED AIRCRAFT AND OPERATIONS FORECASTS

The numbers of based aircraft and operations are the most basic indicators of aviation demand. By first developing a forecast of based aircraft for the airport, other demand indicators can be projected. The process of developing forecasts of based aircraft begins with an analysis of aircraft ownership in the primary general aviation service area through a review of historical aircraft registrations. An initial forecast of registered aircraft is developed and is used as one data point to arrive at a based aircraft forecast for the airport. To determine the types and sizes of facilities that should be planned to accommodate activity at PRB, certain elements must be forecasted. These indicators of demand include based aircraft, aircraft fleet mix, and annual operations.

BASED AIRCRAFT FORECAST

Forecasts of based aircraft may directly influence needed facilities and applicable design standards. The needed facilities may include hangars, aprons, taxiways, etc. The applicable design standards may include separation distances and object clearing surfaces. The sizes and types of based aircraft are also an important consideration; the addition of numerous small aircraft may have no effect on design standards, while the addition of a few larger business jets can have a substantial impact on applicable design standards.

Because of the numerous variables known to influence aviation demand, several separate forecasts of based aircraft are developed. Each forecast is examined for practicality and any outliers are discarded or given less weight. Collectively, the remaining forecasts create a planning envelope. A single planning forecast is then selected for use in developing facility needs for the airport. The selected forecast of based aircraft can be one of the forecasts developed, based on the experience and judgment of the forecaster, or it can be a blend of the forecasts.

Based Aircraft Inventory

Documentation of the historical number of based aircraft at PRB has been somewhat intermittent. The FAA did not require airports to report based aircraft numbers until recently, with the establishment of a based aircraft inventory in which it is possible to cross-reference based aircraft claimed by one airport with other airports. The FAA now utilizes this inventory as a baseline for determining how many and what type(s) of aircraft are based at any individual airport. Based aircraft levels factor into the formulation of asset classifications within the NPIAS and apply only to airports included in the NPIAS. This database evolves daily as aircraft are added or removed. It is the responsibility of the sponsor (owner) of each airport to input based aircraft information into the FAA database (www.basedaircraft.com).

Airport staff have undertaken and submitted a comprehensive physical count to the FAA for validation. The most recent validation of based aircraft at PRB identified 197 validated based aircraft. Of the validated based aircraft, there are 181 single-engine piston aircraft, one multi-engine aircraft, four turboprop aircraft, two business jets, and nine helicopters.

REGISTERED AIRCRAFT FORECASTS

Aircraft ownership trends for the primary service area typically dictate based aircraft trends for an airport. As such, a forecast of registered aircraft for the primary service area has been developed for use as an input to the subsequent based aircraft forecast.

The San Luis Obispo-Paso Robles MSA was previously established as the primary service area for PRB. **Table 2G** presents the historical registered aircraft for San Luis Obispo County over the past 10 years. These figures are derived from the FAA aircraft registration database, which categorizes aircraft registrations by county based on the zip codes of aircraft owners. Although this information generally provides a correlation to based aircraft, it is not uncommon for some aircraft to be registered in the county but be based at an airport outside the county, or vice versa.

TABLE 2G | Historical Service Area Registered Aircraft

Year	San Luis Obispo County
2014	575
2015	600
2016	607
2017	582
2018	552
2019	544
2020	530
2021	533
2022	533
2023	531
2024	537
10-Year CAGR	-0.7%
5-Year CAGR	-0.3%

Source: FAA Aircraft Registration Database

The registered aircraft in the service area show a declining trend over the past 10 years; however, the most significant drop in registrations occurred between 2016 and 2020. Since 2020, registrations have stabilized and shown a slight increase. Registrations in 2024 are now at the highest level since 2019.

Although there are no recently prepared registered aircraft forecasts for the service area counties, one was prepared for this study using market share, ratio, and historical growth rate projection methods. Several regression forecasts were also considered, which examined the correlation of registered aircraft (dependent variable) with the service area population, employment, income, and GRP. **Table 2H** details the results of this analysis.



None of the regressions produced a correlation over 0.72; this is well below 0.90, which is the threshold that indicates a reliable predictive value. Because of the low predictive value of the regressions, they have been excluded from consideration.

TABLE 2H | Regression Analysis

Independent Variable	r ²
Time Series	0.703
Population	0.059
Employment	0.237
Income	0.717
Gross Regional Product	0.506

Source: Coffman Associates analysis

Trendline/Historical Growth Rate Projection

Utilizing the last 10 years of registered aircraft data, a trendline projection was prepared that predicted 373 registered aircraft by 2044 (-1.8% CAGR). Over the last four years, the number of registered aircraft in the service area has grown at a CAGR of 0.3 percent. By applying this CAGR to the current number of registered aircraft, a forecast emerged that resulted in 573 registered aircraft by 2044.

Market Share of California Based Aircraft

Market share projections consider the ratio of service area registered aircraft to the total number of aircraft based in the State of California, both historically and as forecasted by the FAA. A market share projection was prepared due to the expected growth in based aircraft numbers at the state level, as opposed to the general declining historical trend of national registrations. The service area count of 537 registered aircraft in 2024 represents approximately 3.01 percent of all aircraft based in California. If the service area maintained this market share, it would result in 629 aircraft by 2044 (0.8% CAGR). An additional growth forecast was prepared based on an increasing market share scenario in which the service area returns to a 10-year average of 3.11 percent market share. This resulted in a total service area aircraft count of 649 by 2044 (1.0% CAGR). **Table 2J** shows the market share of the service area compared to California totals.

TABLE 2J | Registered Aircraft Projections – Market Share of California Based Aircraft

Year	Registered Aircraft	California Based Aircraft	Service Area Market Share %
2014	575	20,368	2.82%
2015	600	19,764	3.04%
2016	607	20,600	2.95%
2017	582	19,321	3.01%
2018	552	18,212	3.03%
2019	544	17,025	3.20%
2020	530	15,783	3.36%
2021	533	16,239	3.28%
2022	533	16,368	3.26%
2023	531	16,518	3.21%
2024	537	17,834	3.01%
2014–2024 CAGR	-0.7%	-1.3%	–
2020–2024 CAGR	0.3%	0.9%	–
Constant Market Share			
2029	559	18,556	3.01%
2034	581	19,295	3.01%
2044	629	20,897	3.01%
2024–2044 CAGR	0.8%	0.8%	–

(Continues)



TABLE 2J | Registered Aircraft Projections – Market Share of California Based Aircraft (continued)

Year	Registered Aircraft	California Based Aircraft	Service Area Market Share %
Increasing Market Share			
2029	563	18,556	3.03%
2034	590	19,295	3.06%
2044	649	20,897	3.11%
2024–2044 CAGR	1.0%	0.8%	–

Sources: California TAF, January 2024; Coffman Associates analysis

Ratio of Registered Aircraft to Population

The number of registered aircraft in an area often fluctuates based on population trends. As of 2024, the service area has 1.90 registered aircraft per 1,000 residents, which is also the average ratio over the past five years. Two projections were prepared: one based on maintaining the current ratio over the forecast period, and another projecting an increasing ratio that returned to the 10-year historical high of 2.15. Maintaining the current ratio (1.90) through 2044 resulted in 599 registered aircraft (0.5% CAGR). The increasing ratio projection resulted in 681 registered aircraft by 2044 (1.2% CAGR).

Registered Aircraft Forecast Summary

Table 2K summarizes the six registered aircraft forecasts for the PRB primary service area. Overall, registrations within San Luis Obispo County have stagnated since the COVID-19 pandemic in 2020 but the number of registrations and overall aircraft based in California are beginning to grow. Most of the projections indicate modest to moderate growth with CAGRs that range from 0.3 percent to 1.2 percent. The 10-year trendline is an outlier that reflects past decline that is not expected to continue. Service area socioeconomic data projections show growth and the overall state market for based aircraft is strong. This is reflected by the state CAGR of 0.8 percent, which is double the 0.4 percent CAGR projected nationally for active general aviation aircraft. Overall, the increasing market share projection that returned to the 10-year average market share is considered the most reasonable forecast because it is tied to a historical trend but allows for an increasing growth trend consistent with the socioeconomic growth projected for the county. The selected registered aircraft forecast resulted in 563 registered aircraft in 2029, 590 in 2034, and 649 in 2044.

TABLE 2K | Registered Aircraft Forecast Summary

Projection	2029	2034	2044	CAGR 2024-2044
4-Year Growth Rate	546	555	573	0.3%
10-Year Trendline	483	446	373	-1.8%
Constant % of CA Based Aircraft	559	581	629	0.8%
Increasing % of CA Based Aircraft	563	590	649	1.0%
Constant Aircraft/1,000 Population	552	568	599	0.5%
Increasing Aircraft/1,000 Population	571	606	681	1.2%

Boldface indicates the selected forecast.

CAGR = compound annual growth rate

Source: Coffman Associates analysis

Based Aircraft Market Share of Registered Aircraft Forecast

Utilizing the forecast of registered aircraft in PRB's primary service area, a market share forecast of based aircraft at PRB was developed. In 2024, the 197 FAA-validated based aircraft at PRB represented 36.69 percent of the aircraft registered in the service area. By maintaining this market share as a constant through the planning years, a forecast emerged that resulted in 238 based aircraft by 2044 (0.9% CAGR). An increasing market share projection that assumed PRB's market share would increase by 8.93 percent (the percentage change from 2019 to 2024) resulted in 296 based aircraft by 2044 (2.1% CAGR). The two market share projections are presented in **Table 2L**.

TABLE 2L | Based Aircraft Market Share of Registered Aircraft Forecast

Year	PRB Based Aircraft	Service Area Registered Aircraft	PRB Market Share %
2019	151	544	27.76%
2020	150	530	28.30%
2021	157	533	29.46%
2022	155	533	29.08%
2023	156	531	29.38%
2024	197	537	36.69%
CAGR	5.5%	-0.3%	—
Constant Market Share			
2029	207	563	36.69%
2034	216	590	36.69%
2044	238	649	36.69%
CAGR	0.9%	1.0%	—
Increasing Market Share			
2029	219	563	38.92%
2034	239	590	40.50%
2044	296	649	45.61%
CAGR	2.1%	1.0%	—

CAGR = compound annual growth rate

Sources: basedaircraft.com (2024); FAA TAF (2019-2023); Coffman Associates analysis

Growth Rate Projections

According to based aircraft records, PRB's count was steady from 2019 to 2023, increasing by only five aircraft; however, in 2024, the count increased by 41 aircraft because of the airport's utilization of automatic dependent surveillance-broadcast (ADS-B) data to identify potential new based aircraft. This information was submitted to the FAA as part of the airport's based aircraft inventory, resulting in the based aircraft increase to 197. This increase in based aircraft resulted in a five-year CAGR of 5.5 percent, which would result in 571 based aircraft by 2044 if maintained over the forecast period. This projection is an outlier that is unlikely to carry forward into the future.

Given that registered aircraft within the state and service area are projected to grow over the planning period, a growth rate projection utilizing the state's 20-year CAGR of 0.8 percent was also considered. When the 20-year CAGR was applied to PRB based aircraft, a forecast emerged that yielded 231 based aircraft by 2044.

Socioeconomic Growth Projections

Based aircraft growth is often related to population and economic activity in the service area. For this reason, based aircraft projections tied to the projected service area CAGRs for population (0.6%), employment (1.2%), income (1.4%), and GRP (2.0%) were also prepared. Applying these CAGRs resulted in 220 based aircraft for population, 249 for employment, 262 for income, and 292 for GRP by 2044.

Regression Analysis

Several forecasts were prepared utilizing five years of historical based aircraft data and the regression model. Correlations were examined utilizing independent variables, including population, employment, income, and GRP, as well as a time series regression. None of the regressions produced a strong correlation; the r^2 values produced were between 0.161 and 0.542. As previously described, correlation values over 0.90 indicate good predictive reliability. Because none of the regressions produced a correlation value over 0.90, the regression forecasts have been excluded from consideration.

Selected Based Aircraft Forecast

Selecting a based aircraft forecast ultimately falls to the judgment of the forecast analyst. The selected forecast should be reasonable and based on a sound methodology. The methodology presented in this analysis first examines the history of aircraft ownership in the service area (San Luis Obispo County). Utilizing the selected registered aircraft projection, a market share analysis was conducted based on maintaining a constant market share and an increasing market share over the forecast period. Additional projections considered the FAA TAF projection for based aircraft growth in California, maintaining PRB's five-year growth rate, and growth rates based on key socioeconomic indicators (population, employment, income, and GRP). These eight projections are summarized in **Table 2M**, along with the FAA's TAF projection for PRB, which utilizes a base year count of 190 aircraft and a CAGR of 0.5 percent.

TABLE 2M | Based Aircraft Forecast Summary

Projection	2024	2029	2034	2044	CAGR 2024–2044
Constant Market Share	197	207	216	238	0.9%
Increasing Market Share	197	219	239	296	2.1%
5-Year Growth Rate	197	257	335	571	5.5%
State TAF Growth Rate	197	205	213	231	0.8%
Service Area Population Growth Rate	197	202	208	220	0.6%
Service Area Employment Growth Rate	197	209	221	249	1.2%
Service Area Income Growth Rate	197	212	227	262	1.4%
Service Area GRP Growth Rate	197	217	240	292	2.0%
PRB 2024 TAF	190	195	200	210	0.5%
Boldface indicates the selected forecast. CAGR = compound annual growth rate GRP = gross regional product					

Sources: FAA TAF; basedaircraft.com; Coffman Associates analysis



The potential for available hangar space is not the only factor in future based aircraft levels. Economic conditions within the service area are projected to increase at strong rates, which will support aviation and based aircraft growth; therefore, **the increasing market share projection has been selected as the preferred forecast.** The selected forecast, which resulted in 296 based aircraft by 2044, is reasonably optimistic and assumes PRB can continue to gain market share of registered aircraft in the service area with new and expanded facilities.

Exhibit 2C presents the nine based aircraft forecasts that comprise the planning envelope.

BASED AIRCRAFT FLEET MIX FORECAST

It is important to understand the current and projected based aircraft fleet mix at an airport to ensure the planning of proper facilities. For example, the addition of one or several larger turboprop or business jet aircraft to the airfield could have a significant impact on the separation requirements and various obstacle clearing surfaces.

The current based aircraft fleet mix consists of 181 single-engine piston aircraft, one multi-engine piston aircraft, four turboprop aircraft, two jets, and nine helicopters. As a general aviation airport with a significant level of both small aircraft and business jet activities, PRB should continue to have a diverse fleet mix, including small single-engine piston aircraft, turbine-powered aircraft, and helicopters. The forecasted growth trends in the PRB based aircraft fleet mix take FAA projections of the national general aviation fleet mix into consideration, as well as the aircraft types included on the airport's hangar waiting list. Growth is anticipated to occur within the more sophisticated categories, including the turboprop, jet, and helicopter categories, consistent with national aviation trends. **Table 2N** presents the forecasted fleet mix for based aircraft at PRB.

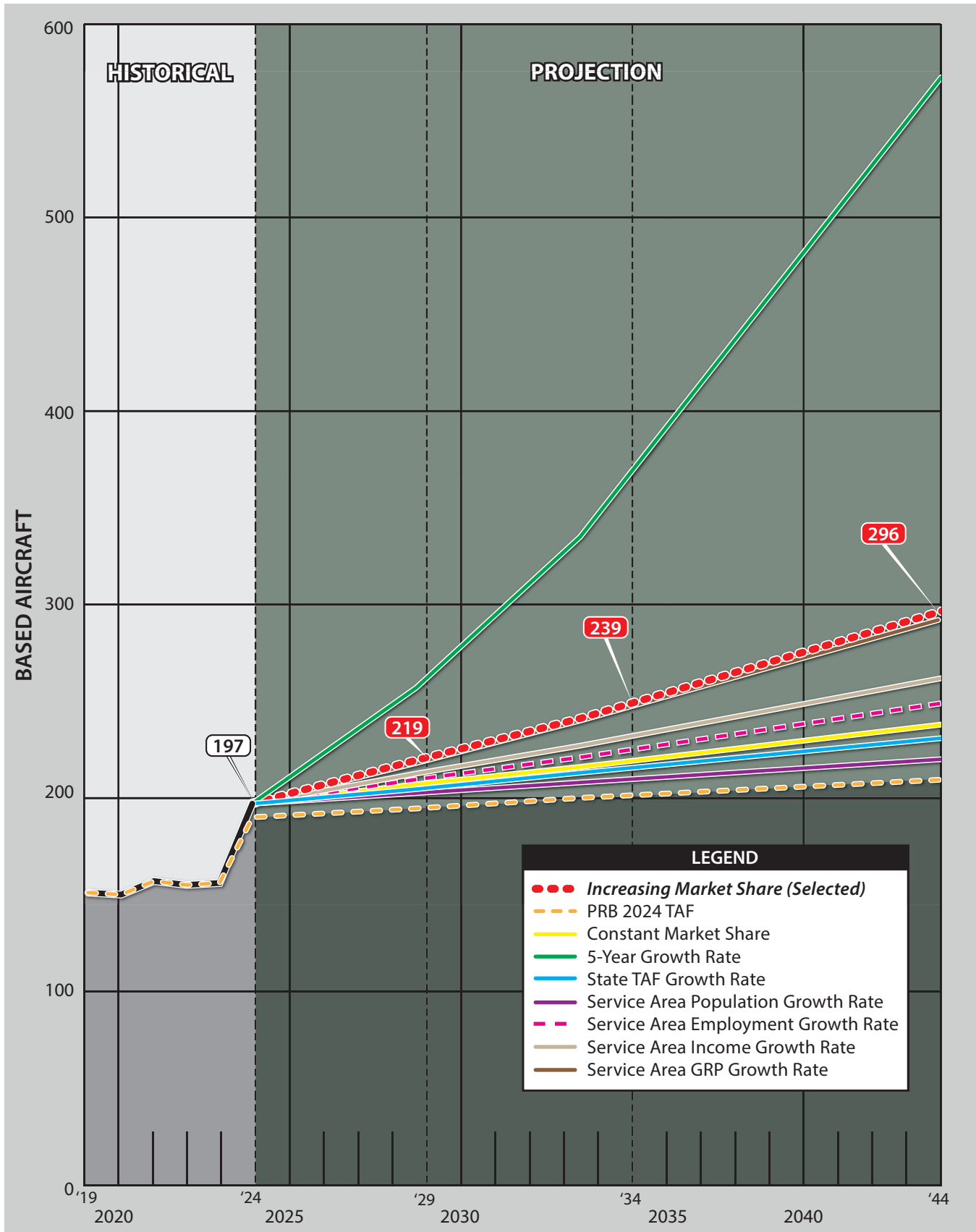
TABLE 2N | Based Aircraft Fleet Mix

Aircraft Type	2024	%	2029	%	2034	%	2044	%
SEP	181	91.9%	195	89.0%	203	84.9%	235	79.4%
MEP	1	0.5%	1	0.5%	1	0.4%	1	0.3%
Turboprop	4	2.0%	6	2.7%	9	3.8%	15	5.1%
Jet	2	1.0%	5	2.3%	10	4.2%	20	6.8%
Helicopter	9	4.6%	11	5.0%	15	6.3%	23	7.8%
Other	0	0.0%	1	0.5%	1	0.4%	2	0.7%
Total:	197	100%	219	100%	239	100%	296	100%
MEP = multi-engine piston								
SEP = single-engine piston								

Sources: FAA Based Aircraft Registry; Coffman Associates analysis

OPERATIONS FORECASTS

Operations at PRB are classified as general aviation (GA), air taxi, or military. GA operations include a wide range of activities, from recreational use and flight training to business and corporate uses. Air taxi operations are those conducted by aircraft operating under Title 14 Code of Federal Regulations (CFR) Part 135, otherwise known as for-hire or on-demand activity. Military operations are those conducted by various branches of the U.S. military. Air carrier operations are an additional category of operations that are conducted by large aircraft with 60 or more passenger seats. Air carrier flights are infrequent at PRB and are not included as part of the operations forecast.



Sources: FAA TAF; basedaircraft.com; Coffman Associates analysis

Aircraft operations are further classified as local and itinerant. A local operation is a takeoff or landing performed by an aircraft that operates within sight of an airport or executes simulated approaches or touch-and-go operations at an airport. Local operations are generally characterized by training activity. Itinerant operations are those performed by aircraft with specific origins or destinations away from an airport. Typically, itinerant operations increase with business and commercial use because business aircraft are primarily used to transport passengers between locations.

Because PRB is not equipped with an airport traffic control tower (ATCT), precise historical operational (takeoff and landing) counts are not available; however, PRB has contracted with 1200.aero, an air traffic management system, to provide operational data collected by utilizing ADS-B technology. 1200.aero began providing operational data to PRB in August 2022. Based on these data, PRB's total baseline operation count for 2024 was 48,236 operations. Among all 2024 operations, 16,174 (approximately 33.5 percent) were touch-and-go (local) operations; therefore, itinerant operations comprise the majority (66.5 percent) of operations at PRB. The FAA TAF for PRB provides historical operational estimates for years prior to the utilization of 1200.aero; however, these are only estimates and are not supported by a data collection process. The FAA TAF also estimated that GA itinerant operations represented 31 percent of total operations and GA local operations represented 58 percent. The ADS-B data show this is inaccurate; therefore, the FAA TAF figures have been adjusted to account for the data-supported GA itinerant/local operations split, which is approximately 71 percent itinerant and 28 percent local. The adjusted FAA TAF estimates are included in **Table 2P** for informational purposes but should not be considered an accurate accounting of operations at PRB from 2019 through 2022.

For air taxi operations, 1200.aero data indicate there were 3,015 total air taxi/commercial operations at PRB in 2024. The 1200.aero data also reflect 633 total military operations at PRB in 2024; however, it should be noted that military operators are not required to utilize ADS-B and the actual military operations number is higher than the data show. These data establish an operational baseline for the generation of forecasts.

A summary of historical operations data for PRB is shown in **Table 2P**. Because 2023 and 2024 baseline data are supported by actual ADS-B data, this is considered an accurate account of airport operations, whereas 2019 through 2022 counts from the adjusted TAF are estimates.

TABLE 2P | Historical Operations Data

Year	Itinerant					Local			Total Operations
	Air Carrier	Air Taxi	General Aviation	Military	Total	Civil	Military	Total	
2019	0	2,500	21,812	1,250	25,562	8,688	0	8,688	34,250
2020	0	2,500	21,812	1,250	25,562	8,688	0	8,688	34,250
2021	0	2,500	21,812	1,250	25,562	8,688	0	8,688	34,250
2022	0	2,500	21,964	1,250	25,714	8,748	0	8,748	34,462
2023	0	2,887	29,999	881	33,767	8,331	83	8,414	42,181
2024	0	3,015	28,878	499	32,392	15,710	134	15,844	48,236

2019–2023 general aviation operations are estimates only and are not supported by a data collection process.

Sources: 1200.aero data (2023–2024); Adjusted FAA TAF (2019–2022)



Market Share Projections

Market share analysis compares historical and forecasted data points to arrive at a trend for the unknown variable (PRB operations). The first forecast compares the current market share of itinerant and local GA operations and air taxi operations at the airport to the FAA TAF for operations in California.

In 2024, PRB accounted for 0.78 percent of itinerant GA operations in California, 0.34 percent of California local GA operations, and 0.60 percent of California air taxi operations. By carrying these percentages forward through the planning horizon, a constant market share forecast emerges; **Table 2Q** shows the results. The constant market share is considered a low-range projection, as it is anticipated with based aircraft growth; each operational segment should experience growth beyond maintaining a constant share.

A mid-range increasing market share projection was prepared that increased PRB's market share of itinerant GA operations to 1.05 percent, reflecting the historical growth trend and resulting in 42,400 annual operations. PRB's 2044 market share of local GA operations was taken to 0.45 percent and the 2044 market share of air taxi operations was taken to 0.74 percent, both of which reflect moderate historical market share increases. The results of the mid-range projections are also shown in **Table 2Q**.

High-range increasing market share projections were also prepared, which consider the potential for operations to exceed historical market share growth trends of the past five years. The resulting projections took PRB's 2044 market shares to 1.25 percent (itinerant GA), 0.75 percent (local GA), and 1.00 percent (air taxi). The results of the high-range projections are shown in **Table 2Q**.

TABLE 2Q | Operations Market Share Projections

Year	GA Itinerant			GA Local			Air Taxi		
	PRB	California	PRB Market %	PRB	California	PRB Market %	PRB	California	PRB Market %
2019	21,812	3,889,353	0.56%	8,688	4,140,145	0.21%	2,500	541,024	0.46%
2020	21,812	3,601,672	0.61%	8,688	4,005,606	0.22%	2,500	464,390	0.54%
2021	21,812	3,744,904	0.58%	8,688	4,340,756	0.20%	2,500	474,432	0.53%
2022	21,964	3,770,608	0.58%	8,748	4,320,929	0.20%	2,500	540,049	0.46%
2023	29,999	3,611,729	0.83%	8,331	4,370,012	0.19%	2,887	500,484	0.58%
2024	28,878	3,707,131	0.78%	15,710	4,556,991	0.34%	3,015	503,640	0.60%
CAGR ¹	5.8%	-1.0%	—	12.6%	1.9%	—	3.8%	-1.4%	—
Constant Market Share – Low Range									
2029	30,500	3,917,094	0.78%	16,340	4,741,125	0.34%	3,250	543,073	0.60%
2034	30,800	3,957,222	0.78%	16,530	4,796,280	0.34%	3,510	585,582	0.60%
2044	31,500	4,040,518	0.78%	16,930	4,911,585	0.34%	4,030	672,768	0.60%
CAGR ²	0.4%	0.4%	—	0.4%	0.4%	—	1.5%	1.5%	—
Increasing Market Share – Mid Range									
2029	31,700	3,917,094	0.81%	16,600	4,741,125	0.35%	3,400	543,073	0.63%
2034	34,800	3,957,222	0.88%	17,300	4,796,280	0.36%	3,900	585,582	0.67%
2044	42,400	4,040,518	1.05%	22,100	4,911,585	0.45%	4,900	672,768	0.74%
CAGR ²	1.9%	0.4%	—	1.7%	0.4%	—	2.5%	1.5%	—
Increasing Market Share – High Range									
2029	35,100	3,917,094	0.90%	21,100	4,741,125	0.45%	3,800	543,073	0.70%
2034	40,100	3,957,222	1.01%	26,300	4,796,280	0.55%	4,700	585,582	0.80%
2044	50,500	4,040,518	1.25%	36,800	4,911,585	0.75%	6,700	672,768	1.00%
CAGR ²	2.8%	0.4%	—	4.3%	0.4%	—	4.1%	1.5%	—

Notes: **Boldface** indicates selected forecast.

CAGR = compound annual growth rate: ¹2019–2024; ²2024–2044

N/A = not available

Sources: 1200.aero data (2023-2024); Adjusted FAA TAF (2019-2022); FAA TAF (all California operations); Coffman Associates analysis



Regression Analysis

Development of regressions requires reliable historical data so correlations between dependent and independent variables can be examined. Because PRB does not have reliable historical operational data, as all data prior to 2023 are estimates, regression analysis cannot be used; therefore, regressions are not included in the operations forecast analysis.

General Aviation and Air Taxi Operations Forecast Summary

When reliable historical operational trends are unavailable to predict future activity, an approach that considers a variety of forward-looking factors must be used to select an operations forecast. Market trends indicate GA and air taxi operations will continue to grow in the State of California. Airlines are developing new programs to grow the next generation of pilots, which has led to the establishment of new flight schools and flight training programs.

PRB management is committed to developing new facilities and services to grow PRB's position as the best choice for airport services in San Luis Obispo County. Socioeconomic indicators suggest PRB's service area will continue to thrive over the planning period, bringing new business opportunities and potential users and tenants. As discussed in the based aircraft section, there is strong demand for new based aircraft at PRB, including business jets and turboprops, which would support operational growth across the GA and air taxi categories. For these reasons, the mid-range increasing market share projections of itinerant and local GA operations have been selected. The high-range growth scenarios for GA operations are possible but would require sustained CAGRs that are well above what is expected to occur within the state. For air taxi operations, the high-range scenario has been selected because the FAA projects stronger growth within this category across the state. As a popular tourist destination, and as economic opportunities grow within the local area, PRB should continue to experience strong growth within this category, as well. **Exhibit 2D** graphically represents the operations projections that comprise the planning envelope.

Military Operations Forecast

Military aircraft can (and do) utilize civilian airports across the country, including PRB; however, it is inherently difficult to project future military operations due to their national security nature and the fact that such missions can change without notice, so it is typical for the FAA to use a flat-line number for military operations. For this planning study, military operations at PRB are projected to represent 2,500 annual operations, as reflected in the FAA TAF.

Total Operations Forecast Summary

Table 2R presents the summary of the selected operations forecasts. The summary table details the culmination of each selected operations forecast. Over the planning horizon, total operations at PRB are projected to grow from 48,236 in 2024 to 73,700 by 2044 at a CAGR of 2.1 percent.

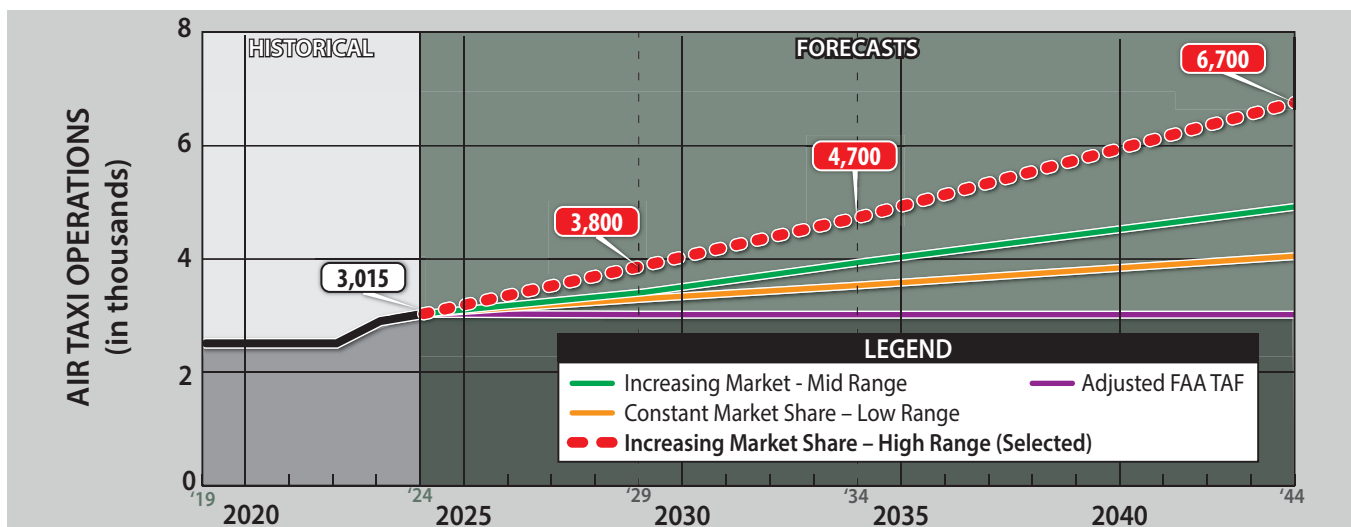
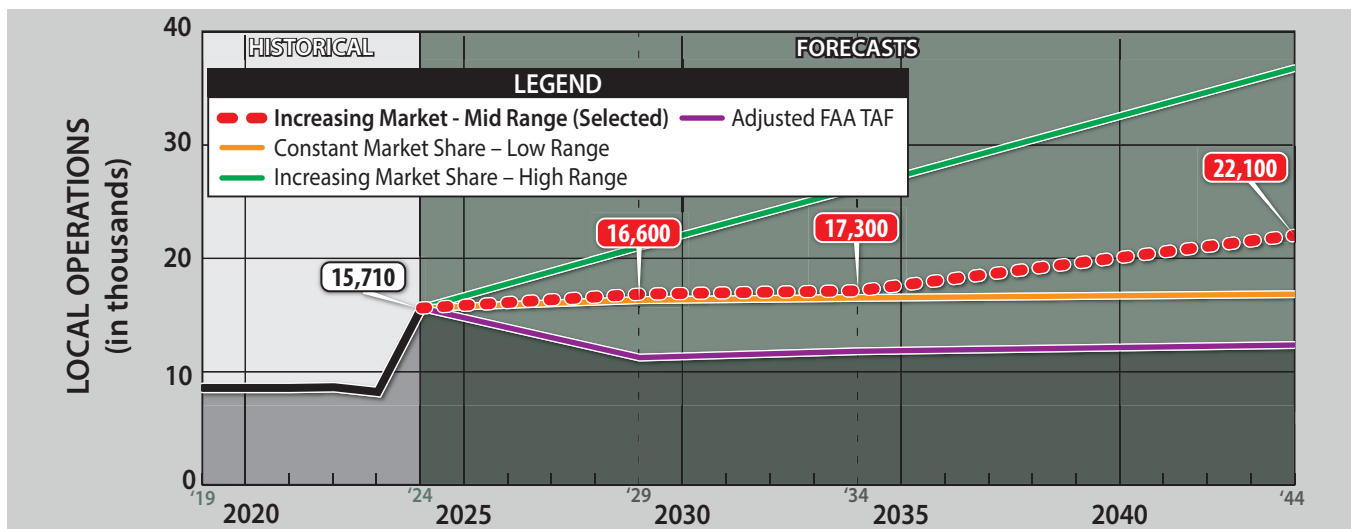
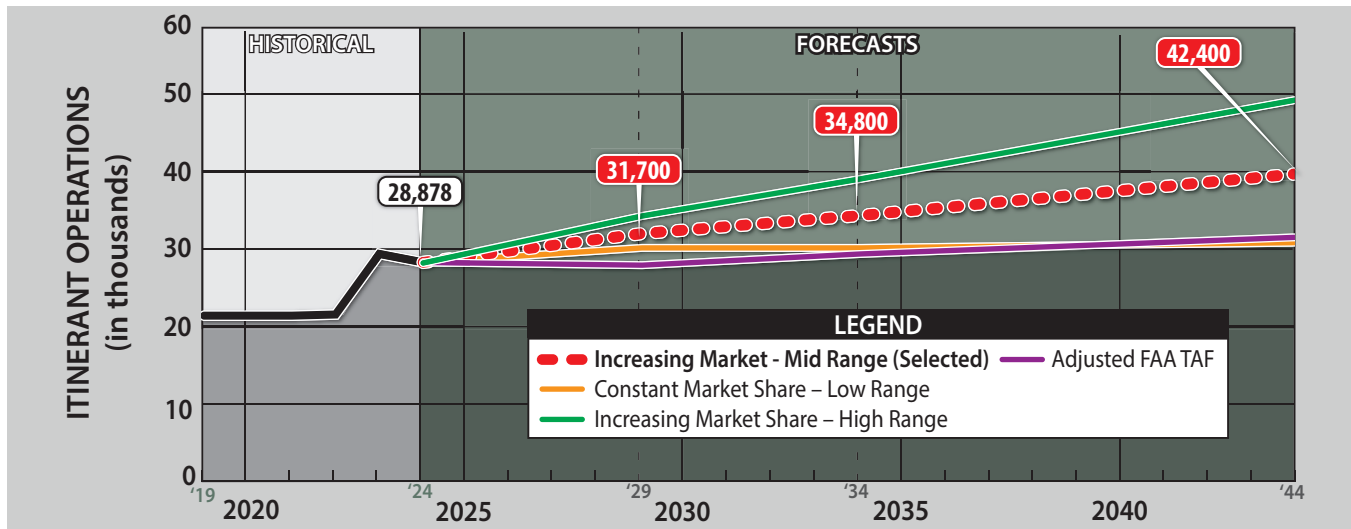




TABLE 2R | Total Operations Forecast Summary

Year	Itinerant					Local			Total Operations
	Air Carrier	Air Taxi	General Aviation	Military	Subtotal	General Aviation	Military	Subtotal	
2024	0	3,015	28,878	499	32,392	15,710	134	15,844	48,236
2029	0	3,800	31,700	2,500	38,000	16,600	0	16,600	54,600
2034	0	4,700	34,800	2,500	42,000	17,300	0	17,300	59,300
2044	0	6,700	42,400	2,500	51,600	22,100	0	22,100	73,700
CAGR	—	4.1%	1.9%	8.4%	2.4%	1.7%	0.0%	1.7%	2.1%

Notes: CAGR = compound annual growth rate

Source: Coffman Associates analysis

PEAK PERIOD FORECASTS

Peaking characteristics play an important role in determining airport capacity and facility requirements. The 1200.aero data collected for the full calendar years 2023 and 2024 have been examined to identify peaking periods. The peaking periods used to develop facility requirements are described as follows.

- **Peak Month** | The peak month for the baseline year was October 2024, which represented 11.1 percent of the year's operations. October was also the peak month in 2023, representing 9.8 percent of the year's operations; therefore, the average peak month over the two-year period was 10.5 percent. Carrying the 10.5 percent average peak month forward through the forecast period resulted in a peak month of 7,724 operations by 2044.
- **Design Day** | Design day is calculated by dividing the peak month by the number of days of the month. Because October was the peak month, the design day was calculated as the peak month divided by 31.
- **Busy Day** | Busy day is calculated by averaging the busiest day each week during the peak month. In this case, the busiest day each week during the month of October 2024 represented approximately 19.8 percent of the weeks' total operations.
- **Design Hour** | Design hour is calculated by identifying the average hourly operations during the peak month. Calculations excluded low-activity hours (between 8:00 p.m. and 9:00 a.m.), which would skew down the design hour. The design hour of October 2024 represented 8.3 percent of design day operations.

Peak period projections based on the baseline calculations are included in **Table 2S**.

TABLE 2S | Peak Period Forecasts

	2024	2029	2034	2044
Annual Operations	48,236	54,600	59,300	73,700
Peak Month	5,362	5,722	6,214	7,724
Design Day	173	185	200	249
Busy Day	239	256	277	344
Design Hour	14	15	17	21

Source: Coffman Associates analysis

FORECAST SUMMARY

This chapter has outlined the various activity levels that might reasonably be anticipated over the planning period. **Exhibit 2E** presents a summary of the aviation forecasts prepared in this chapter. The base year for these forecasts is 2024 with a 20-year planning horizon to 2044. The primary aviation demand indicators are based aircraft and operations. The number of based aircraft at PRB is forecasted to increase from 197 in 2024 to 296 by 2044 (2.1% CAGR). Total operations at PRB are forecasted to increase from 48,236 in 2024 to 73,700 by 2044 (2.4% CAGR).

Projections of aviation demand will be influenced by unforeseen factors and events in the future; therefore, it is not reasonable to assume future demand will follow the exact projection line, but forecasts of aviation demand tend to fall within the planning envelope over time. The forecasts developed for this master planning effort are considered reasonable for planning purposes. The need for additional facilities will be based on these forecasts; however, if demand does not materialize as projected, the implementation of facility construction can be slower. Likewise, if demand exceeds these forecasts, the airport may accelerate construction of new facilities.

FORECAST COMPARISON TO THE FAA TAF

Historically, forecasts have been submitted to the FAA to be evaluated and compared to the TAF. The FAA has preferred that forecasts differ by less than 10 percent in the five-year period and less than 15 percent in the 10-year period. Where the forecasts differ, supporting documentation has been necessary to justify the difference.

Table 2T presents a summary of the selected forecasts and a comparison to the FAA TAF for PRB. The master plan operations forecast is outside the FAA-established tolerance in the five- and 10-year periods, but only because the baseline operations count (as established by 1200.aero data) is 9.2 percent higher than the FAA TAF baseline count. If the TAF baseline were adjusted to match 1200.aero operational data, the master plan forecasts would be within TAF tolerances in the five- and 10-year periods.

TABLE 2T | Comparison of Master Plan Forecasts to FAA TAF

	2024	2029	2034	2044	CAGR
Total Operations					
Master Plan Forecast	48,236	54,600	59,300	73,700	2.1%
TAF	44,000	45,362	46,778	49,769	0.6%
% Difference from TAF	9.2%	18.5%	23.6%	38.8%	–
Adjusted FAA TAF	48,236	49,745	51,301	54,560	0.6%
% Difference from Adjusted TAF	0.0%	9.3%	14.5%	29.8%	–
Based Aircraft					
Master Plan Forecast	197	219	239	296	2.1%
TAF	190	195	200	210	0.5%
% Difference from TAF	3.6%	11.6%	17.8%	34.0%	–
Adjusted FAA TAF	197	202	207	218	0.5%
% Difference from Adjusted TAF	0.0%	8.1%	14.3%	30.5%	–

Sources: FAA Terminal Area Forecast (TAF); Coffman Associates analysis



	BASE	FORECAST			CAGR
	2024	2029	2034	2044	2024-2044
ANNUAL OPERATIONS					
<i>Itinerant Operations</i>					
Air Carrier	0	0	0	0	N/A
Air Taxi	3,015	3,800	4,700	6,700	4.1%
General Aviation	28,878	31,700	34,800	42,400	1.9%
Military	499	2,500	2,500	2,500	8.4%
<i>Itinerant Subtotal</i>	<i>32,392</i>	<i>38,000</i>	<i>42,000</i>	<i>51,600</i>	<i>2.4%</i>
<i>Local Operations</i>					
Itinerant	42,621	43,870	44,933	47,137	0.50%
Local	29,976	30,486	31,225	32,756	0.44%
<i>Total General Aviation Operations</i>	<i>72,597</i>	<i>74,356</i>	<i>76,158</i>	<i>79,893</i>	<i>0.48%</i>
General Aviation	15,710	16,600	17,300	22,100	1.7%
Military	134	0	0	0	N/A
<i>Local Subtotal</i>	<i>15,844</i>	<i>16,600</i>	<i>17,300</i>	<i>22,100</i>	<i>1.7%</i>
Total Operations	48,236	54,600	59,300	73,700	2.1%
Peak Month	5,362	5,722	6,214	7,724	1.8%
Design Day	173	185	200	249	1.8%
Busy Day	239	256	277	344	1.8%
Design Hour	14	15	17	21	2.0%

BASED AIRCRAFT					
Single-Engine Piston	181	195	203	235	1.3%
Multi-Engine Piston	1	1	1	1	0.0%
Turboprop	4	6	9	15	6.8%
Jet	2	5	10	20	12.2%
Helicopter	9	11	15	23	4.8%
Other	0	1	1	2	N/A
TOTAL BASED AIRCRAFT	197	219	239	296	2.1%

Notes: N/A = Not Applicable

Source: Coffman Associates analysis



The based aircraft count has the same issue as the operations count; the FAA-validated baseline count of 197 is 3.6 percent higher than the FAA TAF baseline count of 190, causing the master plan forecast to be outside tolerance in the five- and 10-year periods. If the TAF baseline count were adjusted to match the FAA-validated count of 197, the master plan forecast would be within TAF tolerances.

AIRCRAFT/AIRPORT/RUNWAY CLASSIFICATION

The FAA has established several aircraft classification systems that group aircraft types based on their performance (approach speed in landing configuration) and design characteristics (wingspan and landing gear configuration). These classification systems are used to determine the appropriate airport design standards for specific airport elements, such as runways, taxiways, taxilanes, and aprons.

AIRCRAFT CLASSIFICATION

The selection of appropriate FAA design standards for the development and location of airport facilities is based primarily on the characteristics of the aircraft that currently use or are expected to use an airport. The critical aircraft is used to define the design parameters for an airport. The critical aircraft may be a single aircraft type or a composite aircraft that represents a collection of aircraft with similar characteristics. The critical aircraft is classified by three parameters: aircraft approach category (AAC), airplane design group (ADG), and taxiway design group (TDG).

FAA AC 150/5300-13B, *Airport Design*, describes the following airplane classification systems, the parameters of which are presented on **Exhibit 2F**.

Aircraft Approach Category (AAC) | The AAC is a grouping of aircraft based on a reference landing speed (V_{REF}), if specified. If V_{REF} is not specified, it is based on 1.3 times the stall speed (V_{SO}) at the maximum certificated landing weight. V_{REF} , V_{SO} , and the maximum certificated landing weight are values established for the aircraft by the certification authority of the country of registry.

The AAC generally refers to the approach speed of an aircraft in landing configuration. The higher the approach speed, the more restrictive the applicable design standards will be. The AAC is depicted by a letter (A through E) and relates to aircraft approach speed (operational characteristics). The AAC generally applies to runways and runway-related facilities, such as runway width, runway safety area (RSA), runway object free area (ROFA), runway protection zone (RPZ), and separation standards.

Airplane Design Group (ADG) | The ADG is depicted by a Roman numeral (I through VI) and is a classification of aircraft that relates to aircraft wingspan or tail height (physical characteristics). When the aircraft wingspan and tail height fall in different groups, the higher group is used. The ADG influences design standards for taxiway safety area (TSA), taxiway object free area (TOFA), taxilane object free area, apron wingtip clearance, and various separation distances.

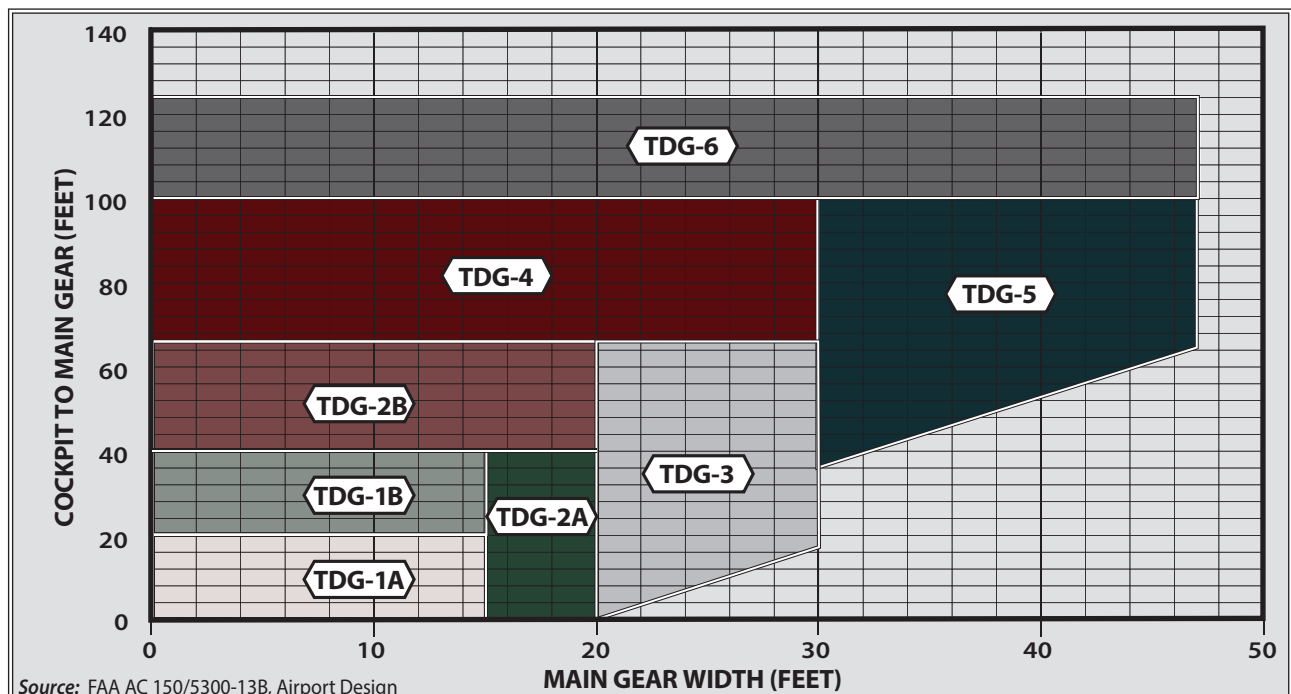
Taxiway Design Group (TDG) | The TDG is a classification of airplanes based on outer-to-outer main gear width (MGW) and cockpit-to-main gear (CMG) distance. The TDG relates to the undercarriage dimensions of the critical aircraft and is classified by an alphanumeric system (1A, 1B, 2A, 2B, 3, 4, 5, 6, and 7). The taxiway design elements determined by the application of the TDG include the taxiway width,



AIRCRAFT APPROACH CATEGORY (AAC)		
Category	Approach Speed	
A	Less than 91 knots	
B	91 knots or more but less than 121 knots	
C	121 knots or more but less than 141 knots	
D	141 knots or more but less than 166 knots	
E	166 knots or more	
AIRPLANE DESIGN GROUP (ADG)		
Group #	Tail Height (ft)	Wingspan (ft)
I	<20	<49
II	20-<30	49-<79
III	30-<45	79-<118
IV	45-<60	118-<171
V	60-<66	171-<214
VI	66-<80	214-<262
VISIBILITY MINIMUMS		
RVR* (ft)	Flight Visibility Category (statute miles)	
VIS	3-mile or greater visibility minimums	
5,000	Not lower than 1-mile	
4,000	Lower than 1-mile but not lower than ¾-mile	
2,400	Lower than ¾-mile but not lower than ½-mile	
1,600	Lower than ½-mile but not lower than ¼-mile	
1,200	Lower than ¼-mile	

*RVR: Runway Visual Range

TAXIWAY DESIGN GROUP (TDG)



A-I	Aircraft	TDG	C/D-I	Aircraft	TDG
	• Beech Bonanza 1A • Cessna 150, 172 1A • Piper Comanche, Seneca 1A			• Lear 35, 40, 45, 55, 60XR 1B • F-16 1A	
B-I	• Eclipse 500 1A • Beech Baron 55/58 1A • Beech King Air 100 1A • Cessna 425 2A • Cessna Citation M2 (525) 1A • Cessna Citation 1(500) 1A • Embraer Phenom 100 1A		C/D-II	• Challenger 600/604 1B • Cessna Citation III, VI, VII, X 1B • Embraer Legacy 135/140 2B • Gulfstream IV (D-II) 2A • Gulfstream G280 1B • Lear 70, 75 1B • Falcon 50, 900, 2000 2A • Hawker 800XP, 4000 1B	
A/B-II 12,500 lbs. or less	• Beech Super King Air 200 2A • Beech King Air 90 1A • Cessna 441 Conquest 1A • Cessna Citation CJ2 2A • Pilatus PC-12 2		C/D-III less than 150,000 lbs.	• Gulfstream V 2B • Gulfstream 550, 600, 650 2B • Global 5000, 6000 2B	
B-II over 12,500 lbs.	• Beech Super King Air 350 2A • Cessna Citation CJ3(525B) 2A • Cessna Citation CJ4 (525C) 1B • Cessna Citation Latitude 1B • Embraer Phenom 300 1B • Falcon 20 1B • Pilatus PC-24 2A		C/D-III over 150,000 lbs.	• Airbus A319, A320, A321 3 • Boeing 737-800, 900 3 • MD-83, 88 4	
A/B-III	• Bombardier Dash 8 3 • Bombardier Global 7500 2B • Falcon 7X, 8X 2A		C/D-IV	• Airbus A300 5 • Boeing 757-200 4 • Boeing 767-300, 400 5 • MD-11 6	
			C/D-V	• Airbus A330-200, 300 5 • Airbus A340-500, 600 6 • Boeing 747-100 - 400 5 • Boeing 777-300 6 • Boeing 787-8, 9 5	

Note: Aircraft pictured is identified in bold type.



taxiway edge safety margin, taxiway shoulder width, taxiway fillet dimensions, and (in some cases) the separation distance between parallel taxiways/taxilanes. Other taxiway elements, such as the taxiway safety area (TSA), taxiway/taxilane object free area (TOFA), taxiway/taxilane separation to parallel taxiway/taxilanes or fixed or movable objects, and taxiway/taxilane wingtip clearances, are determined solely based on the wingspan (ADG) of the critical aircraft utilizing those surfaces. It is appropriate for taxiways to be planned and built to different TDG standards, based on expected use.

The reverse side of **Exhibit 2F** summarizes the classifications of the most common aircraft in operation today. Generally, recreational and business piston and turboprop aircraft will fall in AAC A and B, and ADG I and II. Business jets typically fall in AAC B and C, while the larger commercial aircraft will fall in AAC C and D.

AIRPORT AND RUNWAY CLASSIFICATIONS

Along with the previously defined aircraft classifications, airport and runway classifications are used to determine the appropriate FAA design standards to which airfield facilities should be designed and built.

Runway Design Code (RDC) | The RDC is a code that signifies the design standards to which the runway should be built. The RDC is based on planned development and has no operational component. The AAC, ADG, and runway visual range (RVR) are combined to form the RDC of a runway. The RDC provides the information needed to determine certain applicable design standards. The first component, the AAC, is depicted by a letter and relates to aircraft approach speed (operational characteristics). The second component, the ADG, is depicted by a Roman numeral and relates to either the aircraft wingspan or tail height (physical characteristics), whichever is most restrictive. The third component relates to the currently published¹ instrument approach visibility minimums expressed by RVR values in feet of 1,200 ($\frac{1}{8}$ -mile), 1,600 ($\frac{1}{4}$ -mile), 2,400 ($\frac{1}{2}$ -mile), 4,000 ($\frac{3}{4}$ -mile), and 5,000 (1-mile). The RVR values approximate standard visibility minimums for instrument approaches to the runways. The third component is labeled "VIS" for runways that are designed for visual approach use only.

Approach Reference Code (APRC) | The APRC is a code that signifies the current operational capabilities of a runway and associated parallel taxiway in regard to landing operations. The APRC has the same three components as the RDC: AAC, ADG, and RVR. The APRC describes the current operational capabilities of a runway under particular meteorological conditions in which no special operating procedures are necessary, as opposed to the RDC, which is based on planned development and has no operational component. The APRC for a runway is established based on the minimum runway-to-taxiway centerline separation.

Departure Reference Code (DPRC) | The DPRC is a code that signifies the current operational capabilities of a runway and associated parallel taxiway in regard to takeoff operations. The DPRC represents those aircraft that can take off from a runway while any aircraft are present on adjacent taxiways, under particular meteorological conditions with no special operating conditions. The DPRC is similar to the APRC but has two components: AAC and ADG. A runway may have more than one DPRC, depending on the parallel taxiway separation distance.

¹ Instrument approach procedures are published in the FAA's Instrument Flight Procedures Information Gateway at https://www.faa.gov/air_traffic/flight_info/aeronav/procedures/.



Airport Reference Code (ARC) | The ARC is an airport designation that signifies the airport's highest RDC minus the third (visibility) component of the RDC. The ARC is used for planning and design only and does not limit the aircraft that may be able to operate safely at an airport. The PRB airport layout plan (ALP) currently on file with the FAA (dated December 2019) reflects an existing ARC C-III for Runway 1-19 and ARC B-III for Runway 13-31.

CRITICAL AIRCRAFT

The selection of appropriate FAA design standards for the development and location of airport facilities is based primarily on the characteristics of the aircraft that currently use or are expected to use an airport. The critical aircraft is used to define the design parameters for an airport. The critical aircraft may be a single aircraft or a composite aircraft that represents a collection of aircraft classified by the three parameters: AAC, ADG, and TDG.

The first consideration is the safe operation of aircraft that are likely to use an airport. Any operation of an aircraft that exceeds the design criteria of an airport may result in a lesser safety margin; however, it is not the usual practice to base the design of an airport on an aircraft that infrequently uses the airport.

The critical aircraft is defined as the most demanding aircraft type, or grouping of aircraft with similar characteristics, that makes regular use of the airport. Regular use is 500 annual operations, excluding touch-and-go operations. Planning for future aircraft use is important because the design standards are used to plan separation distances between facilities. These future standards must be considered now to ensure that short-term development does not preclude the reasonable long-range potential needs of the airport.

According to FAA AC 150/5300-13B, *Airport Design*, "airport designs based only on aircraft currently using the airport can severely limit the airport's ability to accommodate future operations of more demanding aircraft. Conversely, it is not practical or economical to base airport design on aircraft that will not realistically use the airport." Selection of the current and future critical aircraft must be practical in nature and supported by current data and realistic projections.

AIRPORT DESIGN AIRCRAFT

Three elements are used to classify the airport design aircraft: AAC, ADG, and TDG. The AAC and ADG are examined first, followed by the TDG. The FAA's *Aircraft Characteristics Database*² (most recently updated in October 2024) is the source for data pertaining to an aircraft's designated AAC, ADG, and TDG.

The FAA's TFMSC database includes documentation of commercial (air carrier and air taxi), general aviation, and military aircraft traffic. Due to factors such as incomplete flight plans, limited radar coverage, and visual flight rules (VFR) operations, TFMSC data do not account for all aircraft activity at an airport by a given aircraft type; however, the TFMSC provides an accurate reflection of instrument flight rules

² The FAA Aircraft Characteristics Database can be accessed at https://www.faa.gov/airports/engineering/aircraft_char_database.



(IFR) activity. Operators of high-performance aircraft, such as turboprops and jets, tend to file flight plans at a high rate. The 1200.aero database also includes operational data by aircraft type and is more robust in terms of collecting VFR and IFR data. Because 1200.aero data have been collected for the full 2023 and 2024 calendar years, the 1200.aero database is the data source for those years, while TFMSC data are utilized for additional history from 2019 to 2022.

According to historical 1200.aero and TFMSC data for PRB, which are summarized in **Table 2U**, operations conducted by aircraft in AAC C reached 745 annual operations at PRB in 2024, which is a significant increase over prior years, which had AAC C operations in the 400s. ADG II operations totaled 3,293 in 2024: well above the threshold of 500 annual operations. Annual ADG III and IV operations have been trending up in recent years; for example, ADG III operations, which include the British Aerospace 146 (BAe 146) firefighting tanker, increased by over 121 percent in 2024 compared to the previous year. Additionally, the Lockheed C-130 aerial firefighting tanker (a C-IV aircraft) has been used more frequently at PRB in recent years, and CAL FIRE plans to base one at the airport starting in 2026.

As previously noted, the current approved PRB ALP identifies the existing critical aircraft for Runway 1-19 as based on AAC C and ADG III. This classification aligns with operational trends, which indicate increasing operations by larger and faster business jets and firefighting aircraft. Furthermore, Runway 1-19 geometry has long been planned to meet C-III design standards and currently meets those standards; therefore, **the existing critical aircraft for Runway 1-19 is identified as C-III, represented by the BAe 146.**

To determine PRB's future ARC, annual operations by ARC were forecasted through 2044 using a growth rate forecast based on industry growth trends within each ARC category. Forecasted operations by ARC are depicted in **Table 2U**. Operations levels within the higher B-III and C-III categories are anticipated to continue to increase, following national business jet trends. Additionally, the C-IV category, which includes the Lockheed C-130 firefighting tanker aircraft, is anticipated to grow to exceed 500 annual operations by 2029 due to the aircraft basing at PRB's CAL FIRE station starting in 2026. As such, **PRB's ultimate ARC is C-IV, represented by the Lockheed C-130 as the ultimate critical aircraft.**

TABLE 2U | Historical and Forecasted Operations by Airport Reference Code

Year	B-I	B-II	B-III	C-I	C-II	C-III	C-IV	D-II	D-III
Historical									
2019	649	1,078	6	29	233	16	17	24	5
2020	467	733	4	20	158	14	69	18	3
2021	642	1,101	4	43	314	30	49	38	17
2022	518	1,044	8	44	275	18	102	28	14
2023	1,055	2,549	32	68	195	32	204	28	9
2024	1,114	2,962	44	89	311	110	235	20	8
CAGR	11.4%	22.4%	49.0%	25.1%	5.9%	47.0%	69.1%	-3.6%	9.9%
Forecast									
2029	1,142	3,604	70	100	361	200	500	40	13
2034	1,171	4,384	115	110	418	350	600	60	21
2044	1,231	6,490	300	125	562	500	700	100	54
CAGR	0.5%	4.0%	10.1%	1.7%	3.0%	7.9%	5.6%	8.4%	10.0%

A-I and A-II are not shown, as smaller/slower aircraft are unlikely to impact the critical design aircraft.

C-V and above are not shown due to limited activity at PRB.

Sources: 1200.aero data (2023–2024); FAA TFMSC (2019–2022); Coffman Associates analysis

TAXIWAY DESIGN GROUP

The TFMSC also provides a breakdown of aircraft operations by TDG. According to PRB operations data (presented in **Table 2V**), the highest TDG that exceeded the threshold of 500 annual operations in 2024 is TDG 2A, which is represented by the BAe 146, Beechcraft Super King Air 200/300/350, Cessna Citation CJ3, Pilatus PC-12, and Dassault Falcon 900; as such, TDG 2A is considered the existing TDG critical design aircraft for taxiway planning purposes. Operations within TDG 2B, which is a group that includes the Lockheed C-130, have also increased in recent years and are projected to become the ultimate critical design TDG for PRB.

TABLE 2V | PRB Operations by Taxiway Design Group (TDG)

TDG	2019	2020	2021	2022	2023	2024	CAGR
1A	2,060	1,997	2,471	2,178	2,322	2,309	2.3%
1B	515	388	618	542	568	720	6.9%
2A	1,052	785	1,224	1,271	1,381	1,164	2.0%
2B	26	17	66	54	80	79	24.9%
3	11	36	25	40	124	156	70.0%

Sources: 1200.aero data (TDG 2B & 3 in 2023 and 2024); FAA TFMSC (all other data)

RUNWAY DESIGN CODE

The RDC relates to specific FAA design standards that should be met in relation to a runway. The RDC takes the AAC, ADG, and the RVR into consideration. In most cases, the critical design aircraft will also be the RDC for the primary runway.

At PRB, the current runway design for primary Runway 1-19 should meet the overall airport design aircraft, which has been identified as the BAe 146, a C-III aircraft. The runway has a global positioning system (GPS)-based approach with vertical guidance (APV) with visibility minimums as low as $\frac{3}{4}$ -mile. The RVR value assigned to a runway with $\frac{3}{4}$ -mile minimums is 4000; therefore, **the applicable existing RDC for Runway 1-19 is C-III-4000**. The APRC for Runway 1-19, which has a minimum runway/taxiway separation distance of 400 feet, is established as D/IV/4000 and D/V/4000. The DPRC is the same as the APRC with the RVR component removed. The ultimate critical aircraft for the airport has been established as the Lockheed C-130, which is a C-IV aircraft; therefore, **the ultimate RDC for Runway 1-19 is C-IV-4000**.

Crosswind Runway 13-31 has a GPS-based non-precision instrument approach with 1-mile visibility minimums. Runway usage data indicate that Runway 13-31 was used for more than 21 percent of operations in 2024, including those conducted by CAL FIRE aircraft. CAL FIRE has also indicated that Runway 13-31 is vital to its operations at PRB when tankers are required to operate during high crosswind conditions, which are highly variable daily at PRB. ADS-B data show that Runway 13-31 was used 358 days in 2024 and 351 days in 2023; this runway is vital to the CAL FIRE operation, as well as the general aviation operators at PRB. The existing geometry of Runway 13-31 is designed to meet B-III standards, as reflected on the currently approved 2019 ALP. B-III and C-III standards are identical, and because the critical aircraft for the airport is the BAe 146 (a C-III aircraft), **the existing and ultimate RDC for Runway 13-31 is planned to be maintained at C-III-5000, represented by the BAe 146**. Runway 13-31 does not have an associated parallel taxiway, so it does not have an applied APRC or DPRC.



CRITICAL AIRCRAFT SUMMARY

Table 2W summarizes the current and future runway classifications.

TABLE 2W | Airport and Runway Classifications

	Runway 1-19		Runway 13-31
	Existing	Ultimate	Existing & Ultimate
Airport Reference Code (ARC)	C-III	C-IV	C-III
Critical Aircraft	BAe 146	Lockheed C-130	BAe 146
Runway Design Code (RDC)	C-III-4000	C-IV-4000	C-III-5000
Taxiway Design Group (TDG)	2A	2B	2A
Approach Reference Code (APRC)	D/IV/4000; D/V/4000		N/A
Departure Reference Code (DPRC)	D/IV; D/V		N/A
APRC and DPRC data can be found in FAA AC 150/5300-13B, Appendix L, Tables L-1 and L-2.			
N/A = not applicable			

Source: FAA AC 150/5300-13B, Airport Design

SUMMARY

This chapter has outlined the various activity levels that might reasonably be anticipated over the planning period, as well as the critical aircraft for the airport. Total based aircraft are forecasted to grow from the current count of 197 to 296 by 2044. Operations are forecasted to grow from 48,236 in 2024 to 73,700 by 2044. This projected growth is driven by the FAA's positive outlook for GA activity nationwide, as well as positive socioeconomic outlooks for the region and the capacity for new developments at PRB.

The existing critical aircraft for Runway 1-19 is described as C-III, with the BAe 146 tanker as the representative aircraft. The ultimate critical aircraft is described as C-IV, represented by the Lockheed C-130 aerial firefighting aircraft. For crosswind Runway 13-31, the existing and ultimate ARC is C-III, with the BAe 146 aircraft as the representative aircraft.

The next step in the planning process is to assess the capabilities of the existing facilities to determine what upgrades may be necessary to meet future demands. The range of forecasts developed in this chapter will be carried forward to the next chapter as planning horizon activity levels that will serve as milestones or activity benchmarks in evaluating facility requirements.