COUNTY of VENTURA
Department of Airports

Chapter 2
Forecasts

The definition of demand that may reasonably be expected to occur during the useful life of an airport's key components (e.g., runways, taxiways, terminal buildings, etc.) is an important factor in facility planning. In airport forecasting, this involves projecting potential aviation activity for a 20-year timeframe. Aviation demand forecasting for the Camarillo Airport (CMA) will primarily consider based aircraft, aircraft operations, and peak activity periods.

The Federal Aviation Administration (FAA) has oversight responsibility to review and approve aviation forecasts developed in conjunction with airport planning studies. FAA will review individual airport forecasts with the objective of comparing them to its *Terminal Area Forecasts* (TAF) and the *National Plan of Integrated Airport Systems* (NPIAS). While the TAF forecasts are a point of comparison for airport forecasts, they primarily serve other purposes, such as asset allocation by the FAA.

When reviewing a sponsor's airport forecast, the FAA must ensure that the forecast is based on reasonable planning assumptions, uses current data, and is developed using appropriate forecast methods. As stated in FAA Order 5090.5, *Formulation of the National Plan of Integrated Airport Systems (NPIAS) and Airports Capital Improvement* Plan (ACIP), 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 forecast process for an airport planning study consists of basic steps that vary in complexity depending upon the issues 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 forecast methods, preparation of the forecasts, and evaluation and documentation of the results. FAA Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, outlines seven standard steps involved in the forecast process for master plans, ALP updates, and other airport forecasting efforts:

1) **Identify Aviation Activity Measures**: The level and type of aviation activities likely to impact facility needs. For general aviation, this typically includes based aircraft and operations.
2) **Review Previous Airport Forecasts**: May include the FAA *Terminal Area Forecast*, state or regional system plans, and previous planning studies.
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**: There are several appropriate methodologies and techniques 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 for reasonableness.
6) **Summarize and Document Results**: Provide supporting text and data tables as necessary.
7) **Compare Forecast Results with FAA's TAF**: For general aviation airports, such as Camarillo Airport, forecasts for based aircraft and total operations are considered consistent with the TAF if they meet the following criteria:
    - Forecasts differ by less than 10 percent in the 5-year forecast period and 15 percent in the 10-year forecast period, or
    - Forecasts do not affect the timing or scale of an airport project, or
    - Forecasts do not affect the role of the airport as defined in the current version of FAA Order 5090.5, *Formulation of the NPIAS and ACIP*.

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

The forecasts for this study utilize a base year of 2022, with a long-range forecast year of 2042. For this study, the emphasis will be on activity expected within the forecast horizon in the ALP Update.

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 airport can accommodate. The airport service area is determined primarily by evaluating the location of competing airports, their capabilities, their services, and their relative attraction and convenience. In determining the aviation demand for an airport, it is necessary to identify the role of that airport, as well as the specific areas of aviation demand the airport is intended to serve. The primary role of Camarillo Airport is to relieve congestion at Los Angeles area commercial service airports and to serve general aviation demand in the area.

The airport service area is a geographical area where there is a potential market for airport services. Access to general aviation airports and transportation networks enter the equation to determine the size of a service area. Also, to be factored are subjective criteria, such as the services and amenities available.

Defining a service area for an airport is an important factor in the forecasting process. Once a general service area is identified, various statistical comparisons can be made for projecting aviation demand. For example, in rural areas, where there may be one general aviation airport in each county, the service area could reasonably be defined as the entire county. This would facilitate comparisons to county population and other factors pertaining to that county for forecasting purposes.

In urban areas, where there are many general aviation airports, the definition of a service area is not as simple. Aircraft owners in urban areas have many more choices when it comes to basing their aircraft. The number one reason aircraft owners select an airport at which to base their aircraft is convenience to home or work. Other reasons may include the capability of the runway system, services available, availability of hangar space, airport congestion, etc.

The service area will generally represent where most, but not all, based aircraft will come from. It is not unusual for some based aircraft to be registered outside the region or even outside the state. Particularly in urban areas, airport service areas will likely overlap to some extent as well.

The generalized service area of an airport can be estimated by its proximity to other airports providing similar levels of service. CMA is one of three airports serving the general aviation needs in the Ventura County area. **Table 2A** summarizes available facilities at airports in proximity to CMA. There are varying levels of service located at each airport. Oxnard Airport (OXR) is six nautical miles (nm) to the west of CMA. OXR has a comparable runway that is 5,953 feet long and an ILS approach with 1-mile visibility minimums. Point Mugu Naval Air Station (NTD) is six nm to the south-west with an 11,102-foot-long runway. This military base is not open to the public. Saint Paula Airport (SZP) is eight nm to the north-east with a 2,665-foot-long runway. This airport is limited to use by smaller aircraft due to the runway length. Van Nuys Airport (VNY), Whiteman Airport (WHP), and Santa Monica Airport (SMO) are all reliever general aviation airports located 30 nm or more to the east of CMA.

For purposes of this forecast analysis, CMA, OXR, and SZP serve the general aviation needs for Ventura County; therefore, Ventura County is considered the service area for each of these airports. They have overlapping service areas as an aircraft owner is likely to choose one of these three airports at which to base their aircraft.

TABLE 2A | Area Airports

Identifier	Airport	Nautical Miles/Direction from CMA	FAA Service Level[2]	Based Aircraft[1]	Local Ops	Itinerant Ops	Total Ops[1]	Longest Runway (ft.)[1]	Lowest Visibility Minimum[1]
CMA	**Camarillo Airport**	**NA**	**National GA - Reliever**	**383**	**103,600**	**83,500**	**187,100**	**6,013**	**¾-mile LPV**
OXR	Oxnard Airport	6 nm/W	Regional GA	122	55,600	32,300	87,900	5,953	1-mile ILS
NTD/PVT	Point Mugu NAS Airport	6 nm/SSW	NA/Naval Base	UK	UK	UK	UK	11,102	½-mile/ILS
SZP	Saint Paula Airport	8 nm/NNE	NA	309	72,750	24,250	97,000	2,665	NA
VNY	Van Nuys Airport	30 nm/E	National GA - Reliever	243	80,600	143,400	224,000	8,001	¾-mile ILS
WHP	Whiteman Airport	34 nm/E	Regional GA - Reliever	223	60,900	37,300	98,200	4,120	1-mile GPS
SMO	Santa Monica Airport	34 nm/E	Local GA - Reliever	74	27,700	39,800	67,500	3,500	1-mile GPS

PVT: Private Military Airport; UK: Unknown

Source: [1]www.airnav.com; [2]NPIAS

SOCIOECONOMIC FORECASTS

Socioeconomic conditions also provide an important baseline for preparing aviation demand forecasts. Local socioeconomic variables, such as population and employment, are indicators for understanding the dynamics of the community and can relate to local trends in aviation activity. Analysis of the demographics of the airport service area will give a more comprehensive understanding of the socioeconomic situations influencing the region which supports CMA. The following is a summary of the demographic and socioeconomic data presented in Chapter One, as well as forecasts of those socioeconomic characteristics.

Table 2B summarizes historical and forecast population, employment, and income estimates for Ventura County and the State of California. Population in Ventura County is forecast to grow at an average annual rate of 0.47 percent. Statewide population growth is projected to be slightly higher at 0.62 percent. Ventura County employment is projected to grow at 1.04 percent, while the state is projected to add jobs at an annual rate of 1.46 percent. Income levels are very similar between the state and county for both historical and forecast scenarios.

TABLE 2B | Socioeconomic Forecast Data

	HISTORICAL		FORECAST			CAGR
	2010	2022	2027	2032	2042	2022-2042
Ventura County						
Population	825,144	843,696	863,528	883,827	925,867	0.47%
Employment	424,867	484,907	519,601	546,213	596,286	1.04%
Income[1]	$47,893	$61,051	$65,915	$70,908	$81,029	1.43%
State of California						
Population	37,319,550	39,522,028	40,906,071	42,239,008	44,681,832	0.62%
Employment	19,642,445	24,197,137	27,106,637	28,880,442	32,335,947	1.46%
Income[1]	$45,170	$62,867	$67,878	$73,171	$84,227	1.47%

[1]Per capita personal income in 2012 dollars.
CAGR: Compound annual growth rate

Source: Woods & Poole Complete Economic and Demographic Data Source (CEDDS) 2022

NATIONAL AVIATION TRENDS

Each year, the FAA updates and publishes a national aviation forecast. Included in this publication are forecasts for the 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 to provide information that can be used by state and local authorities, the aviation industry, and the general public. The current edition used in preparation of this study was FAA *Aerospace Forecasts – Fiscal Years 2022-2042*, published in March 2022. 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 summarized from the FAA Aerospace Forecasts.

FAA GENERAL AVIATION FORECASTS

The FAA forecasts the fleet mix and hours flown for single engine piston aircraft, multi-engine piston aircraft, turboprops, business jets, piston and turbine helicopters, light sport, experimental, and others (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. As previously mentioned, 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.

The COVID-19 pandemic of 2020-2021 also had a significant impact on the aviation industry; however, the impact was less acute in the general aviation sector as more people began to see private aviation as a viable alternative to commercial airlines, which were severely impacted. In fact, some sectors of general aviation saw increases in activity such as charters and fractionals.

The long-term outlook for general aviation is relatively stable, as growth at the high-end offsets continuing retirements at the traditional low end of the segment. The active general aviation fleet is forecast to grow between 2022 and 2042. While steady growth in both 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 decline over the forecast period. Against the growing fleet, the number of general aviation hours flown is projected to increase by an average of 0.91 percent per year during the same period, as growth in turbine, rotorcraft, and experimental hours more than offset a decline in fixed-wing piston hours. Following declining numbers of pilots from 2010-2016, growth in pilots has returned and is forecast to grow by 0.27 percent through 2042. **Table 2C** shows the primary general aviation demand indicators as forecast by the FAA.

Exhibit 2A presents the historical and FAA forecast of the U.S. active general aviation aircraft fleet and operations.

TABLE 2C | FAA National General Aviation Forecast			
Demand Indicator	**2022**	**2042**	**CAGR 2022-2042**
Total General Aviation Fleet	**204,590**	**208,905**	**0.10%**
Total Fixed Wing Piston	133,815	112,915	-0.85%
Total Fixed Wing Turbine	26,480	38,455	1.88%
Total Helicopters	9,955	13,530	1.55%
Total Other (experimental, light sport, etc.)	34,340	44,005	1.25%
Total General Aviation Operations	**28,300,413**	**32,027,144**	**0.62%**
Local	13,731,399	15,767,539	0.69%
Itinerant	14,569,014	16,259,605	0.55%
Total General Aviation Hours Flown[1]	**22,665,047**	**27,165,249**	**0.91%**
Total Pistons	13,527,555	12,091,335	-0.56%
Total Turbine	9,137,492	15,073,915	2.53%
Total General Aviation Pilots[2]	**474,450**	**500,720**	**0.27%**

[1]Excludes Experimental, Light Sport, and Others (gliders, balloons, etc.)
[2]Excludes student pilots
CAGR: compound annual growth rate

Source: FAA Aerospace Forecast - Fiscal Years 2022-2042

UNMANNED AIRCRAFT SYSTEMS (UAS)

UAS are commonly referred to as drones which have been experiencing healthy growth in the U.S. and around the world the past few years. According to the *FAA Aerospace Forecasts Fiscal Years 2022-2042*:

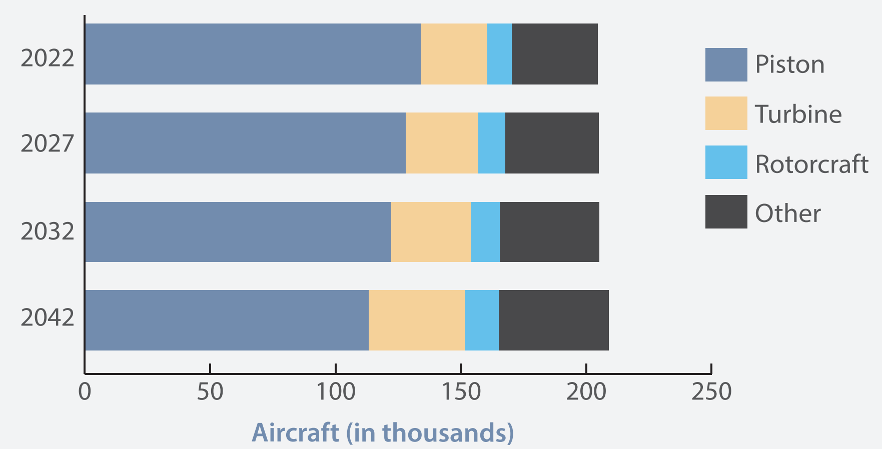
> "A drone consists of a remotely piloted aircraft and its associated elements – including the control station and the associated communication links – that are required for the safe and efficient operation in the national airspace system (NAS). The introduction of drones in the NAS has opened up numerous possibilities, especially from a commercial perspective. This has also brought challenges including drones' safe and secure integration into the NAS. Despite these challenges, the drone sector holds enormous promise; potential uses range from individuals flying solely for recreational purposes to large companies delivering commercial packages and delivering medical supplies. Public service uses, such as conducting search and rescue support missions following natural disasters, are proving promising as well."

On December 21, 2015, the FAA launched an online registration system for recreational/model small drones. This required all drones weighing more than 0.55 pounds (or 250 grams) and fewer than 55 pounds (or 25 kilograms) be registered. The registrations system captures the number of registered pilots but does not capture individual drone aircraft. Nonetheless, the registrations information does provide a basic understanding of the growth in drone activity from which the FAA has made a growth forecast for the next five years.

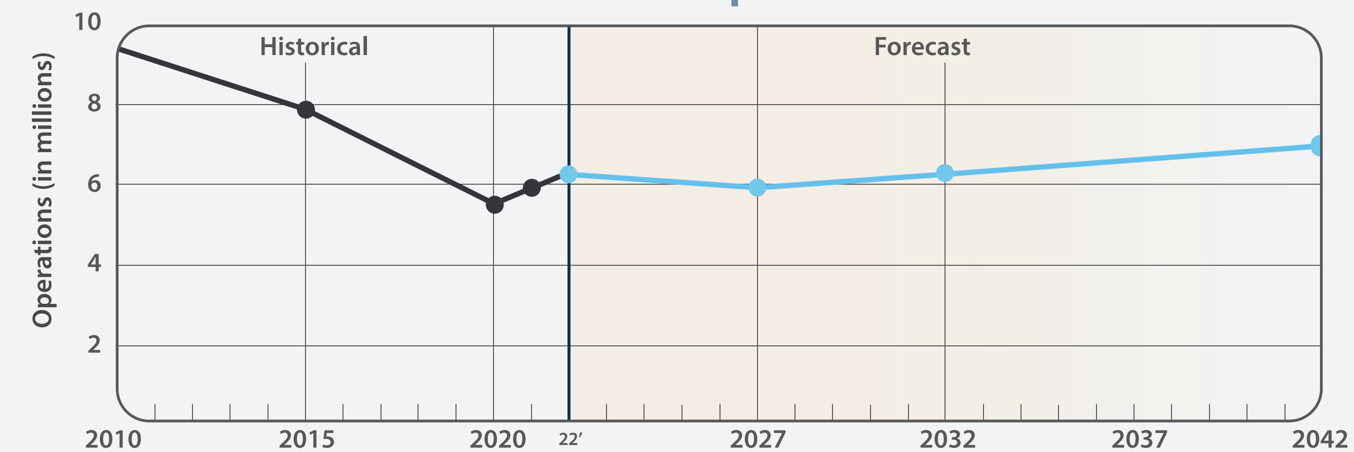
Trends in Recreational/Model Aircraft

Through an examination of the drone aircraft registrations and renewals, the FAA estimated that there were as many as 1.58 million small drones in the national fleet. FAA developed three forecasts which are presented in **Table 2D**. By 2026, FAA is forecasting as many as 1.83 million small drones.

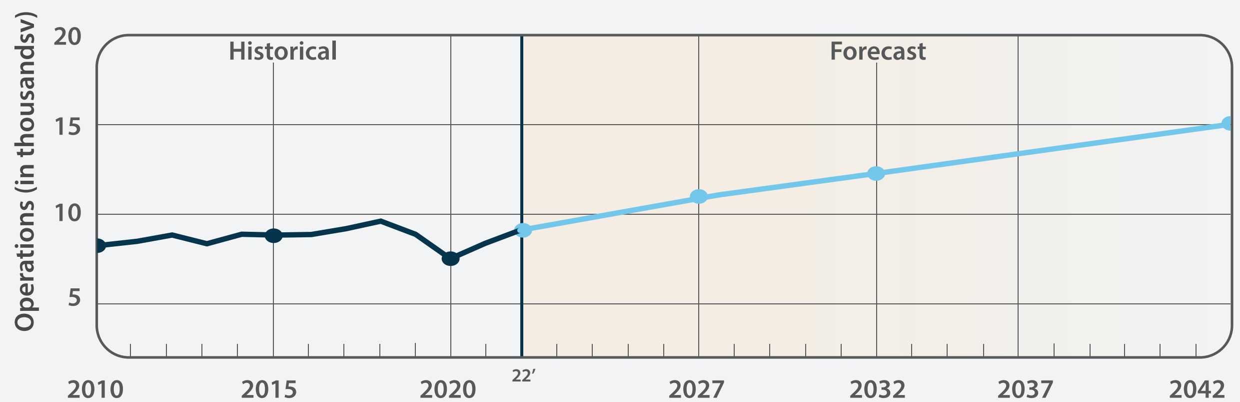
U.S. Active General Aviation Aircraft



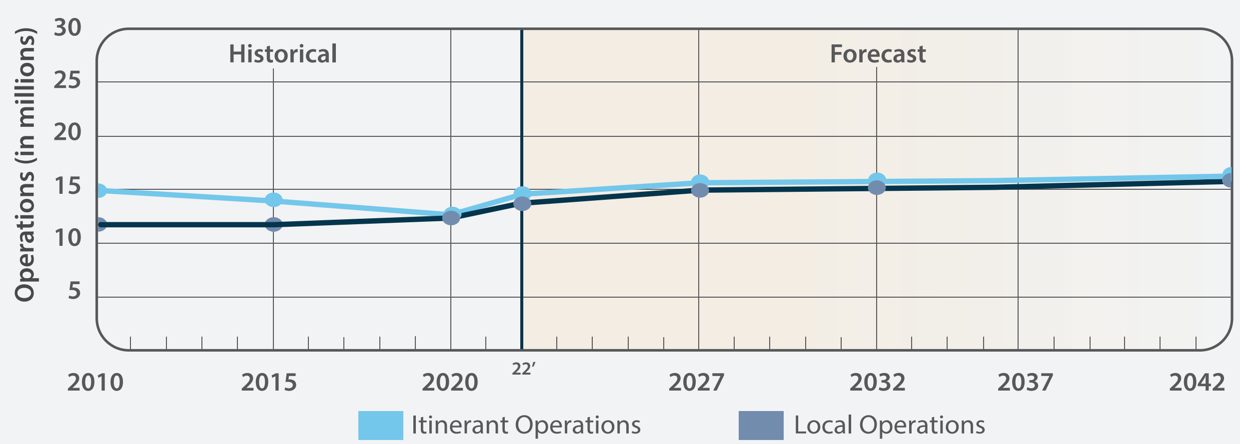
U.S. Air Taxi Operations



Active General Avaition & Air Taxi Hours Flown



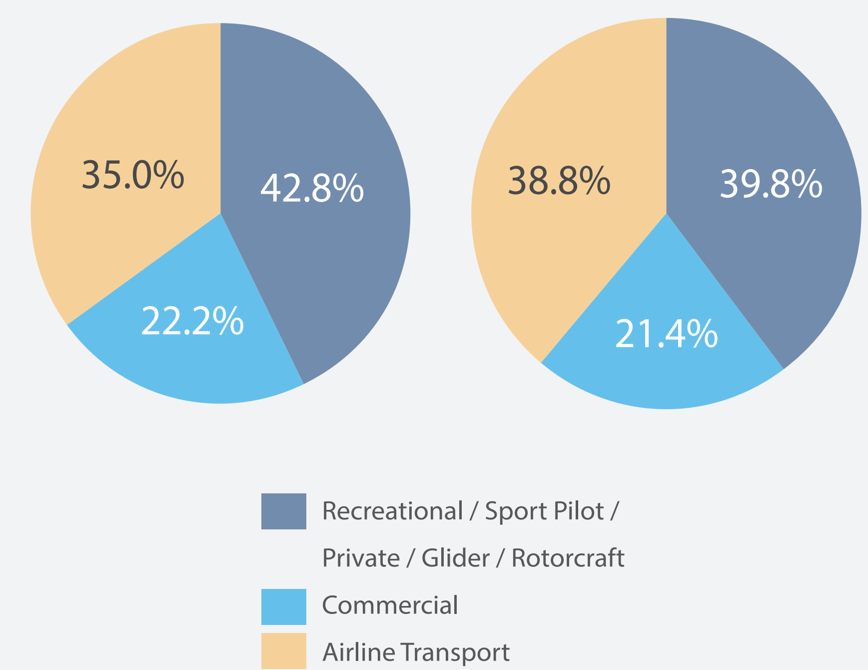
U.S. General Aviation Operations



Active Pilots By Certificate

2022
Total Active Pilots: **474,450***

2042
Total Active Pilots: **500,720**



**Excludes Student Pilot Certificates*

Source: FAA Aerospace Forecasts FY2022-2042

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TABLE 2D | Total Recreational/Model Fleet			
Fiscal Year	Low*	Base**	High**
2021	607,200	1,582,200	1,582,200
Forecast			
2022	650,900	1,696,500	1,698,100
2023	684,800	1,757,600	1,764,500
2024	709,600	1,796,500	1,818,200
2025	726,200	1,803,900	1,827,200
2026	737,800	1,807,500	1,836,000
CAGR	3.97%	2.70%	3.02%

CAGR: Compound annual growth rate
*Effective/Active fleet counts combined with multiplicity of aircraft ownership.
**New registration counts combined with multiplicity of aircraft ownership
Source: FAA Aerospace Forecasts FY 2022-2042

Trends in Commercial/Non-Model UAS Aircraft

Online registration for commercial/non-model small drones went into effect on April 1, 2016. These are commercial drones weighing less than 55 pounds. Unlike recreational/model ownership, each aircraft must be registered individually. Registrations of commercial/non-model UAS aircraft have been increasing year-over-year according to the FAA. **Table 2E** shows the FAA forecast for this category of UAS. It is estimated that there were up to 622,000 commercial/non-model UAS in 2021 which is forecast to increase to 968,000 by 2026.

Trends in Large UAS

Drones weighing 55 pounds or more cannot be operated as recreational remote piloted aircraft. They are registered with FAA using the existing aircraft registration system. At present most large drones are flown by government entities, but commercial operators have steadily increased in 2021 with most new large drone operators active in agricultural spraying operations. The FAA estimates there were 285 large drones operating in the NAD in 2021. By 2026, FAA is forecasting 568 commercial large drones will be operating.

TABLE 2E | Total Commercial/Non-Model Fleet			
Fiscal Year	Low*	Base**	High**
2021	328,000	622,000	622,000
Forecast			
2022	292,000	699,000	729,000
2023	301,000	757,000	809,000
2024	320,000	801,000	869,000
2025	339,000	834,000	918,000
2026	355,000	858,000	968,000
CAGR	1.59%	6.64%	9.25%

CAGR: Compound annual growth rate
*Effective/Active fleet counts combined with multiplicity of aircraft ownership.
**New registration counts combined with multiplicity of aircraft ownership
Source: FAA Aerospace Forecasts FY 2022-2042

UAS and Ventura County Airports

The FAA has initiated several UAS test programs including the UAS Test Site Program. Currently, there are seven designated UAS test sites in the U.S. The County of Ventura Department of Airports has partnered with the test site designated for the University of Alaska Fairbank's Alaska Center for Unmanned Aircraft Systems Integration (ACUASI), which is also known as the Pan-Pacific UAS Test Range Complex. This partnership is intended to capitalize on the growth in UAS and in doing so Ventura County could benefit from: (i) increased rent revenues; (ii) the ability to be an early adaptor of technologies that improve airport operations, safety and noise reduction; and (iii) establishing a more diverse tenant population, diminishing the impact of economic downturns. The UAS partnership may also lead to new capital investment and jobs in the community.

Advanced Air Mobility (AAM)

The AAM segment has some cross over with the functions of drone. AAM is defined as "a safe and efficient system for air passenger and cargo transportation, inclusive of small package delivery and other urban drone services, which support a mix of onboard/ground-piloted and increasingly autonomous operations."

AAM technology presents considerable opportunities for economic growth over the coming decades. The FAA Forecasts indicate that package delivery is likely to experience economic growth over the next decade. Passenger service, on the other hand, promise larger markets for AAM services, but safety challenges, infrastructure, public acceptance, and evolving technology, may slow full integration in the short term. Nevertheless, flight testing continues with numerous commercial companies conducting test flights. An example is the advancements that Joby Aviation has made with its Electric Vertical Takeoff and Landing Aircraft (eVTOL) which is expected to receive FAA certification in 2023 or 2024. Currently, this aircraft can fly over 150 miles on one battery charge and can carry four passengers.

One of the major challenges of eVTOL entering the marketplace is infrastructure. A system of vertiports for AAM services appears to be the preferred method. Joby Aviation and Archer have partnered with parking garage operator REEF Technology with the goal of using parking garage rooftops as vertiports. Other options may include establishing vertiports at existing airports. For example, there could be an eVTOL air taxi service from CMA or OXR to LAX in the future. Future infrastructure planning for both airports should consider establishing vertiports to take advantage of the emerging AAM market.

FORECASTING APPROACH

The development of aviation forecasts proceeds through both analytical and judgmental processes. A series of mathematical relationships is tested to establish statistical logic and rationale for projected growth; however, the judgment of the forecast analyst, based upon 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 trend line/time-series projections, correlation/regression analysis, and market share analysis. The forecast analyst may decide to employ one or all these methods to arrive at a reasonable single forecast. The following is a description of those methodologies utilized to develop the forecasts of aviation demand.

Trend Line/Time Series Extension: Trend line/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 trend line projection is produced. An assumption of this technique is that outside factors will continue to affect aviation demand in much the same manner as in the past. As broad as this assumption may be, the trend line projection does serve as a reliable benchmark for comparing other projections.

Ratio Projection: The ratio projection methodology examines the historical relationship between two variables as a ratio. A common example in aviation demand forecasting is to consider the number of based aircraft as a ratio of the service area population where there may be 1.8 aircraft per 1,000 people. This ratio can then be carried to future years in comparison to projections of population.

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

Socioeconomic Methodologies: Though trend line extrapolation and market share analysis may provide mathematical and formulaic justification for demand projections, many factors beyond historical levels of activity may identify trends in aviation and impact aviation demand locally. Socioeconomic or correlation analysis examines the direct relationship between two or more sets of historical data from which future aviation activity projections are developed.

Professional Judgement: Judgmental methods are educated estimations of future events based on the industry knowledge, experience, and intuition of the forecaster. This method permits the inclusion of a broad range of relevant information into the forecasting process and is usually used to refine the results of the other methods.

Forecasts will age the farther they are from the base year, thus the less reliable a forecast may become, due to changing local and national conditions. Nonetheless, the FAA indicates that a 20-year forecast be developed for long-range airport planning. 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 understate demand for facilities required 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 direct impacts on the level of aviation activity. Recessionary periods have been closely followed by declines in aviation activity. Nonetheless, over time trends emerge and provide the basis for airport planning.

Future facility requirements, such as hangar and apron 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

This forecasting effort was completed in January 2023, with a base year of 2022. The negative impacts of the COVID-19 pandemic appear to have largely passed and were not as impactful to certain general aviation airports, especially reliever type airports like CMA.

EXISTING FORECASTS

Consideration is given to any forecasts of aviation demand for the airport that have been completed in the recent past. These are typically sourced from the FAA *Terminal Area Forecast* (TAF), previous airport planning studies, and state or regional aviation plans. Since the most recent completed master plan is from 2011, it is considered to be out of date and is not referenced in this study.

FAA *TERMINAL AREA FORECAST* (TAF February 2023)

On an annual basis, the FAA publishes the *Terminal Area Forecast* (TAF) for each airport included in the *National Plan of Integrated Airport Systems* (NPIAS). The TAF is a generalized forecast of airport activity used by FAA primarily for internal planning purposes. It is available to airports and consultants to use as a point of comparison while developing local forecasts. The TAF was published in February 2023 and is based on the federal fiscal year (October-September).

Table 2F presents the 2022 TAF for CMA. The FAA TAF estimates that there are 388 based aircraft and 187,355 annual operations. The TAF forecast for based aircraft estimates a 1.18 percent annual growth rate with a 2042 based aircraft figure of 491. Operations are projected to grow more modestly at 0.43 percent annually which has a 2042 estimate of 204,145 annual operations.

TABLE 2F | 2022 FAA Terminal Area Forecast

	2022	2027	2032	2042	CAGR 2022-2042
ANNUAL OPERATIONS					
Itinerant					
Air Taxi	3,608	3,608	3,608	3,608	0.00%
General Aviation	79,567	81,318	83,107	86,804	0.44%
Military	476	476	476	476	0.00%
Total Itinerant	*83,651*	*85,402*	*87,191*	*90,888*	*0.42%*
Local					
General Aviation	103,615	105,925	108,285	113,168	0.44%
Military	89	89	89	89	0.00%
Total Local	*103,704*	*106,014*	*108,374*	*113,257*	*0.44%*
Total Operations	***187,355***	***191,416***	***195,565***	***204,145***	***0.43%***
BASED AIRCRAFT	**388**	**413**	**438**	**491**	**1.18%**
CAGR - Compound annual growth rate					

Source: FAA Terminal Area Forecast (TAF)*, Feb. 2023*

AVIATION FORECASTS

To determine the types and sizes of facilities that should be planned to accommodate aviation activity at the airport, certain elements of this activity must be forecast. These indicators of aviation demand include based aircraft, aircraft fleet mix, operations, and peak periods.

The number of based aircraft is the most basic indicator of aviation demand for general aviation airports. By first developing a forecast of based aircraft for CMA, other demand indicators can be projected. The process of developing forecasts of based aircraft begins with an analysis of aircraft ownership in the primary service area through a review of historical aircraft registrations. An initial forecast of service area registered aircraft is developed and will be used as one data point to arrive at a based aircraft forecast for CMA.

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

BASED AIRCRAFT FORECAST

Forecasts of based aircraft may directly influence needed facilities and the applicable design standards. The needed facilities may include hangars, aprons, taxilanes, etc. The applicable design standards may include separation distances and object clearing surfaces. The size and type 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.

Based Aircraft Inventory

The FAA has established a based aircraft inventory database in which it is possible to cross-reference based aircraft claimed by one airport with other airports. This database evolves daily as aircraft are added or removed, and it does not provide an annual history of based aircraft. It is the responsibility of the sponsor (owner) of each airport to input based aircraft information into the FAA database (www.basedaircraft.com). The FAA based aircraft database currently shows 350 verified aircraft and a total of 410 aircraft “in-inventory” for the airport. The difference between those “in-inventory” and those “verified” is attributable to those claimed by two airports and those with comments (typically registration or air worthiness issues).

The FAA directs that the base year for a forecasting effort use only the verified based aircraft number as the starting point; therefore, the base year (2022) based aircraft number for CMA is 350. This does not mean that the other aircraft “in-inventory” are not based at the airport, only that they can’t be counted for the forecasting effort.

Registered Aircraft

The process of developing forecasts of based aircraft begins with an analysis of aircraft ownership in the primary service area (Ventura County) through a review of historical aircraft registrations. **Table 2G** presents historical data regarding aircraft registered in Ventura County since 2000. These figures are derived from the FAA aircraft registration database that categorized registered aircraft by county based on the zip code of the registered aircraft. Although this information generally provides a correlation to based aircraft, it is not uncommon for some aircraft to be registered in the county but based at an airport outside the county or vice versa.

TABLE 2G | Historical Registered Aircraft - Ventura County

Year	SEP	MEP	Turboprop	Jet	Helicopter	Other[1]	Total
2000	895	77	12	15	60	30	1,089
2001	895	68	48	15	63	31	1,120
2002	892	68	46	15	63	30	1,114
2003	870	61	74	21	67	36	1,129
2004	883	56	79	24	64	35	1,141
2005	930	60	80	28	63	37	1,198
2006	980	81	13	24	66	35	1,199
2007	1,005	89	19	24	64	43	1,244
2008	984	87	36	32	65	44	1,248
2009	991	85	37	28	70	44	1,255
2010	975	76	38	24	75	46	1,234
2011	957	72	31	21	71	45	1,197
2012	900	66	30	21	58	39	1,114
2013	819	63	30	22	50	50	1,034
2014	837	55	22	23	49	34	1,020
2015	815	52	18	23	48	39	995
2016	812	50	24	24	51	42	1,003
2017	788	52	18	23	49	41	971
2018	739	49	24	18	47	52	929
2019	713	42	19	15	47	41	877
2020	706	43	17	14	54	39	873
2021	686	43	14	17	61	27	848
2022	673	41	12	22	63	18	829

[1]Includes balloons, gliders, and others.

Source: FAA Aircraft Registration Database

In 2009, there were 1,255 aircraft registered in Ventura County. Beginning in 2010, the FAA initiated a three-year program nationally in which aircraft owners were required to re-register their aircraft. This resulted in about a 20 percent decline in the number of registered aircraft in the county. Since 2016, the number of registered aircraft has steadily declined, year-over-year and there are 829 registered aircraft in the county as of 2022.

Now that the current number of registered aircraft within the county is known, three projections of future registered aircraft are considered over the 20-year planning horizon.

The first projection is a market share forecast that considers the relationship between registered aircraft located in the county and active aircraft in the U.S. as projected by FAA. In 2022, the county had 0.405 percent of the U.S. active aircraft. By keeping this market share constant, a forecast emerges that shows very modest growth to 846 registered aircraft in 2042.

The second projection is a function of the FAA statewide TAF (published in Feb. 2023) which presents a growth rate of 0.83 percent for based aircraft over the next 20 years. By applying this growth rate to the current number of registered aircraft in the county, a forecast emerges. This forecast results in 978 registered aircraft by 2042.

The third registered aircraft forecast considers the relationship between the population and registered aircraft in the county. In 2022, Ventura County had 0.98 registered aircraft per 1,000 residents. By holding this ratio constant through the plan years, a forecast emerges. The constant ratio forecast results in 910 registered aircraft by 2042 and a CAGR of 0.47 percent.

Registered Aircraft Forecast Summary

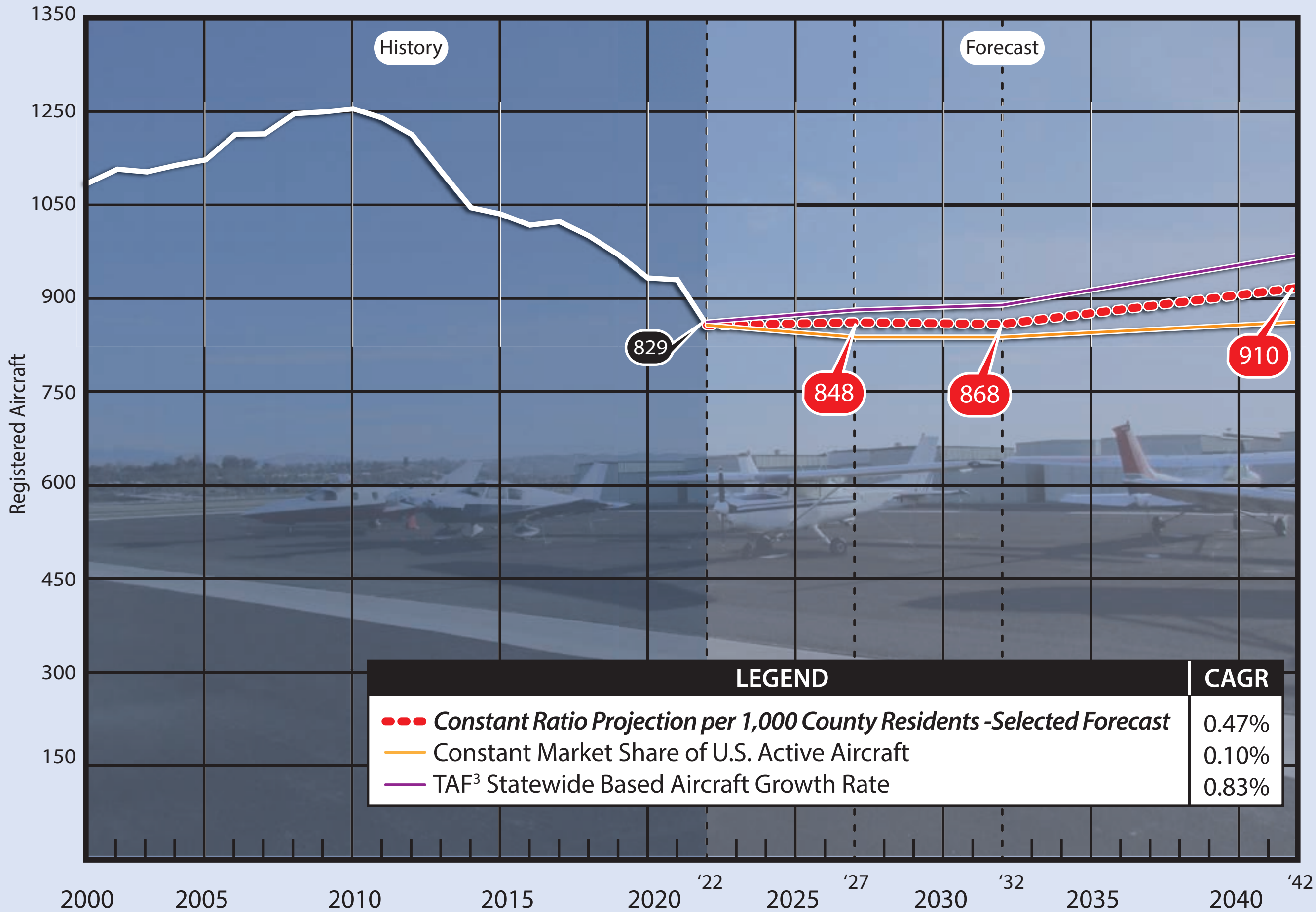
Exhibit 2B summarizes the three registered aircraft forecasts produced for the airport service area (Ventura County). The table includes all forecasts and provides the ability to see how the projection for each compares to the others, which is an indication of the reasonableness of each forecast. For example, while the TAF growth rate forecast is not influenced by the number of U.S. active aircraft or the population, one can see that the ratios for those other variables are consistent and reasonable as compared to the historical data.

It is at this stage that the forecast analyst must select one of the projections or choose to develop a blended forecast. All three forecasts of registered aircraft for Ventura County appear reasonable. There are no wild swings, and the three forecasts present a tight planning envelope. Since the forecast related to population growth is the one that utilizes data specific to the location, it is the selected forecast of registered aircraft.

The registered aircraft projection is one variable to be used in the development of a based aircraft forecast. The following section presents several potential based aircraft forecasts, as well as the selected based aircraft forecast, to be utilized in this study.

Constant Ratio of Based Aircraft to Population Forecast

Trends comparing the number of based aircraft with the airport's service area population were analyzed. In 2022, there were 0.41 based aircraft per 1,000 people in Ventura County. By maintaining this ratio as a constant through the plan years a forecast emerges. This forecast results in 384 based aircraft by 2042, which is an annual growth rate of 0.47 percent.



Year	Ventura County Registrations	US Active Aircraft[1]	Market Share of US Active Aircraft	Service Area Population[2]	Aircraft Per 1,000 Residents
2012	1,114	209,034	0.533%	833,594	1.34
2022	829	204,590	0.405%	843,696	0.98
Constant Market Share of U.S. Active Aircraft (CAGR 0.10%)					
2027	830	204,925	0.405%	863,528	0.96
2032	831	205,195	0.405%	883,827	0.94
2042	846	208,905	0.405%	925,867	0.91
TAF[3] Statewide Based Aircraft Growth Rate (CAGR 0.83%)					
2027	864	204,925	0.422%	863,528	1.00
2032	900	205,195	0.439%	883,827	1.02
2042	978	208,905	0.468%	925,867	1.06
Constant Ratio Projection per 1,000 County Residents (CAGR 0.47%) - SELECTED					
2027	848	204,925	0.414%	863,528	0.98
2032	868	205,195	0.423%	883,827	0.98
2042	910	208,905	0.435%	925,867	0.98

[1]FAA Aerospace Forecasts - Fiscal Years 2022-2042

[2]Woods & Poole Complete Economic and Demographic Data Source (CEDDS) 2022

[3]TAF published in Feb. 2023

Increasing Market Share of Based Aircraft to Registered Aircraft Forecast

The airport captured 42.2 percent of aircraft registered in Ventura County in 2022. The increasing market share forecast considers based aircraft at the airport to account for up to 50 percent of county registered aircraft by the long term. This projection yields 455 based aircraft by 2042, equating to a 1.32 percent annual growth rate.

TAF Statewide Based Aircraft Growth Rate

The FAA produces a Terminal Area Forecast (TAF) for each NPIAS airport in the state. The statewide TAF projects an annual growth rate for based aircraft of 0.83 percent through 2042. By applying that annual growth rate to the current number of based aircraft (350), a long-term forecast results in which there may be 413 based aircraft at CMA by 2042.

Increasing Share of Based Aircraft to Population

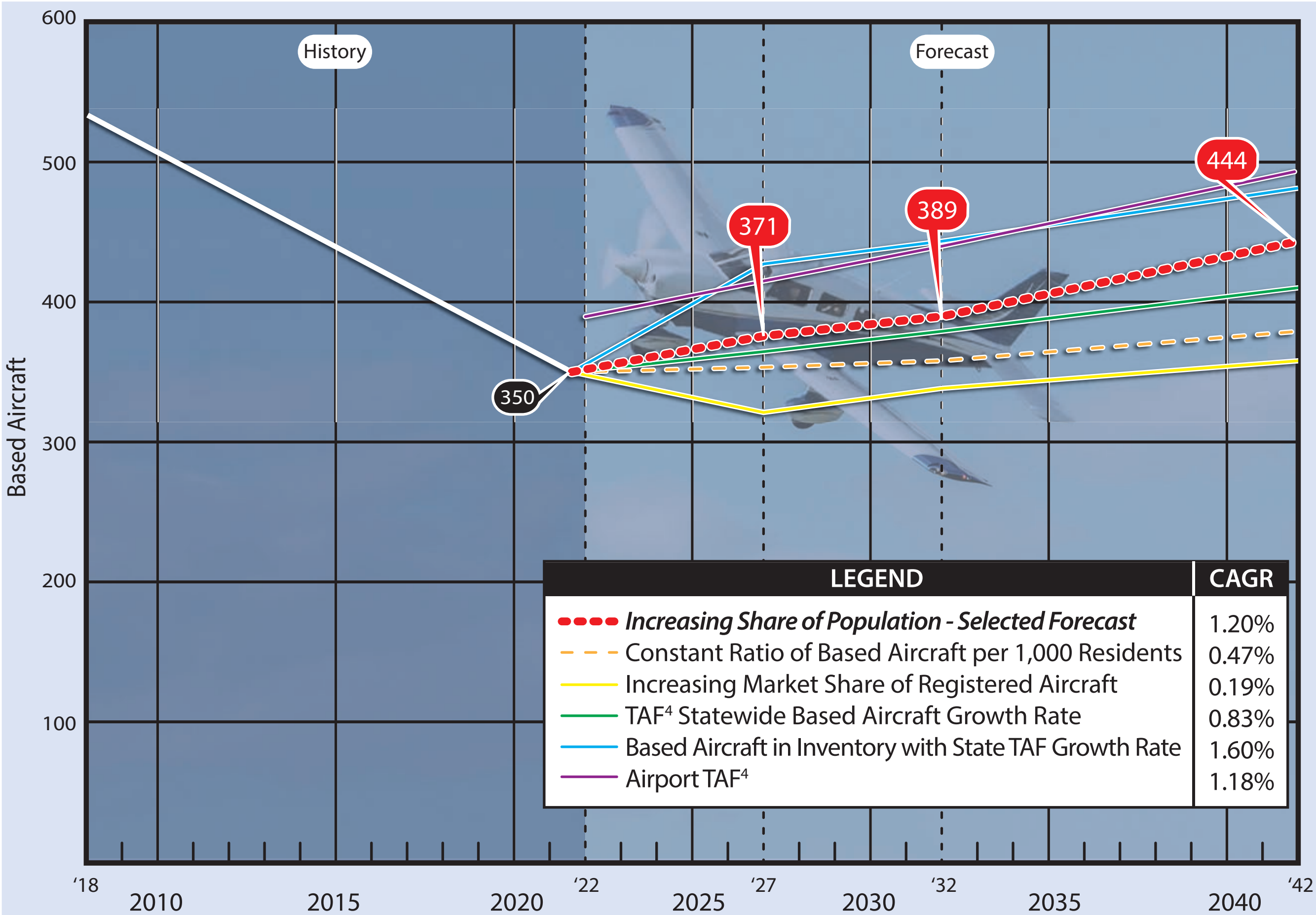
A final forecast of based aircraft was developed that considers a moderately increasing ratio to the county population. Currently, there are 0.41 based aircraft per 1,000 county residents. This forecast considers this ratio increasing to 0.48 over the course of the next 20 years and results in a long-term forecast of 444 based aircraft at CMA by 2042.

Based Aircraft Forecast Summary

The based aircraft forecasts are summarized on **Exhibit 2C**. The next step is for the forecast analyst to choose a selected forecast to be used to determine future facility needs.

While each of the four forecasts of based aircraft form a reasonable planning envelope, a specific forecast or a blended forecast must be chosen for FAA planning studies. Additional local factors should also be considered. Currently, the Cloud Nine development is under construction which will add more than 100,000 square feet of hangar space to the airport. Once completed, it is anticipated that these hangars will house a mix of current based aircraft and new additional aircraft. In addition, Santa Monica Airport is planned for closure in 2028. Currently, there are 175 aircraft based there. Over the next five years, a portion of those aircraft owners may choose to base their aircraft at CMA. As a result of these additional factors, it is prudent to choose a forecast on the higher end of the planning envelope so that airport management can proactively address demand should it materialize. Therefore, the selected forecast is the one based on an increasing market ratio of the population to based aircraft. This forecast results in 444 based aircraft by the long-term planning period. The based aircraft forecast to be utilized for planning purposes is:

- 2022 – 350 Based Aircraft
- 2027 – 371 Based Aircraft
- 2032 – 389 Based Aircraft
- 2042 – 444 Based Aircraft



Year	Based Aircraft[1]	Registered Aircraft[2]	Market Share of Registered Aircraft	Service Area Population[3]	Based Aircraft Per 1,000 Residents
2008	533	1,248	42.7%	806,353	0.66
2022	350	829	42.2%	843,696	0.41
Constant Ratio of Based Aircraft per 1,000 Residents (CAGR = 0.47%)					
2027	358	848	42.2%	863,528	0.41
2032	367	868	42.2%	883,827	0.41
2042	384	910	42.2%	925,867	0.41
Increasing Market Share of Registered Aircraft (CAGR = 1.32%)					
2027	373	848	44.0%	863,528	0.43
2032	399	868	46.0%	883,827	0.45
2042	455	910	50.0%	925,867	0.49
TAF[4] Statewide Based Aircraft Growth Rate (CAGR = 0.83%)					
2027	365	848	43.02%	863,528	0.42
2032	380	868	43.76%	883,827	0.43
2042	413	910	45.40%	925,867	0.45
Increasing Share of Population (CAGR = 1.20%) - SELECTED					
2024	371	848	43.76%	863,528	0.43
2029	389	868	44.78%	883,827	0.44
2039	444	910	48.85%	925,867	0.48

[1]Airport and FAA records [2]FAA aircraft registration database for Ventura County and Coffman Associates forecast.
[3]Woods & Poole CEDDS Data for Ventura County [4]TAF published in Feb. 2023

Exhibit 2C
BASED AIRCRAFT FORECASTS

BASED AIRCRAFT FLEET MIX

The fleet mix of based aircraft is oftentimes more important to airport planning and design than the total number of aircraft. For example, the presence of one, or a few, business jets can impact the design standards more than many smaller, single engine piston-powered aircraft.

Knowing the aircraft fleet mix expected to utilize CMA is necessary to properly plan for facilities that will best serve the level of activity and the type of activities occurring at the airport. The existing fleet mix of aircraft based at the airport is comprised of 280 single engine piston aircraft, 24 multi-engine piston aircraft, four turboprops, 21 jets, and 21 helicopters for a total of 350 based aircraft.

The based aircraft fleet mix, as presented in **Table 2H**, was compared to the existing and forecast U.S. general aviation fleet mix trends as presented in *FAA Aerospace Forecast – Fiscal Years 2022-2042*, as well as to trends occurring at the airport. The national trend in general aviation continues to be toward a greater percentage of larger, more sophisticated aircraft. While single engine piston-powered aircraft will continue to account for the largest share of based aircraft at the airport, these aircraft are forecast to decline as a percentage of the total fleet mix. Multi-engine piston-powered aircraft are expected to decrease in number and decrease as a percentage of the total fleet mix during the planning period of this study. Consistent with national aviation trends, growth is anticipated to occur within turboprop, jet, and helicopter categories.

TABLE 2H | Based Aircraft Fleet Mix

	EXISTING		FORECAST					
Aircraft Type	**2022**	**Percent**	**2027**	**Percent**	**2032**	**Percent**	**2042**	**Percent**
Single Engine Piston	280	80.00%	285	76.82%	290	74.55%	303	68.24%
Multi-Engine Piston	24	6.86%	24	6.47%	24	6.17%	24	5.41%
Turboprop	4	1.14%	8	2.16%	13	3.34%	25	5.63%
Jet	21	6.00%	31	8.36%	37	9.51%	62	13.96%
Helicopter	21	6.00%	23	6.20%	25	6.43%	30	6.76%
Totals	**350**	**100.00%**	**371**	**100.00%**	**389**	**100.00%**	**444**	**100.00%**

Source: Airport Records: Coffman Associates analysis

As can be seen in the table, all categories of aircraft are projected to grow at the airport except multi-engine piston aircraft which are projected to remain flat through the planning period, which is in line with national trends. Also, in line with national trends, business jets are projected to experience the largest percentage growth during the forecast period.

GENERAL AVIATION ANNUAL OPERATIONS

General aviation operations are classified as either local or itinerant. A local operation is a take-off or landing performed by an aircraft that operates within sight of the airport, or which executes simulated approaches or touch-and-go operations at the airport. Generally, local operations are characterized by training operations. Itinerant operations are those performed by aircraft with a specific origin or destination away from the airport. Typically, itinerant operations increase with business and commercial use because business aircraft are not typically used for large scale training activities. Local operations include a portion of general aviation and military operations, while itinerant operations include general aviation, military, and air taxi (for-hire operators, such as air cargo, life flight, charters, and fractionals).

Each operational segment is forecast individually, then the segments are combined to arrive at a total operations forecast. **Table 2J** shows total historical operations since 2000. As can be seen, 2022 represented the fourth consecutive year that operations have increased and the highest total since 2002.

TABLE 2J | Historical Operations

	ITINERANT OPERATIONS			LOCAL OPERATIONS		
Year	**Air Taxi**	**General Aviation**	**Military**	**General Aviation**	**Military**	**Total Ops**
2000	2,560	101,260	123	82,428	103	186,476
2001	2,786	96,288	70	80,277	37	179,460
2002	2,823	107,365	92	93,651	10	203,941
2003	2,377	102,716	172	80,608	6	185,887
2004	2,367	91,503	176	68,827	16	162,889
2005	2,543	86,865	134	63,936	20	153,501
2006	2,996	81,266	147	64,902	514	149,825
2007	3,465	77,533	112	66,788	620	148,518
2008	3,909	78,227	184	75,590	328	158,949
2009	3,924	75,642	47	82,552	5	162,170
2010	3,782	67,547	40	75,448	44	146,863
2011	3,927	67,712	71	61,619	74	133,403
2012	3,286	65,965	114	63,205	109	132,679
2013	2,325	67,154	257	66,650	124	136,510
2014	2,969	74,330	285	66,776	277	144,637
2015	3,145	74,875	371	68,342	282	147,020
2016	3,228	69,180	427	62,343	338	135,517
2017	3,637	72,940	662	72,265	398	149,902
2018	3,637	67,314	593	68,669	385	140,598
2019	3,473	67,977	566	76,921	414	149,351
2020	2,796	68,443	358	87,009	175	158,782
2021	4,330	75,206	366	94,014	52	173,970
2022	3,220	79,760	488	103,490	118	187,076

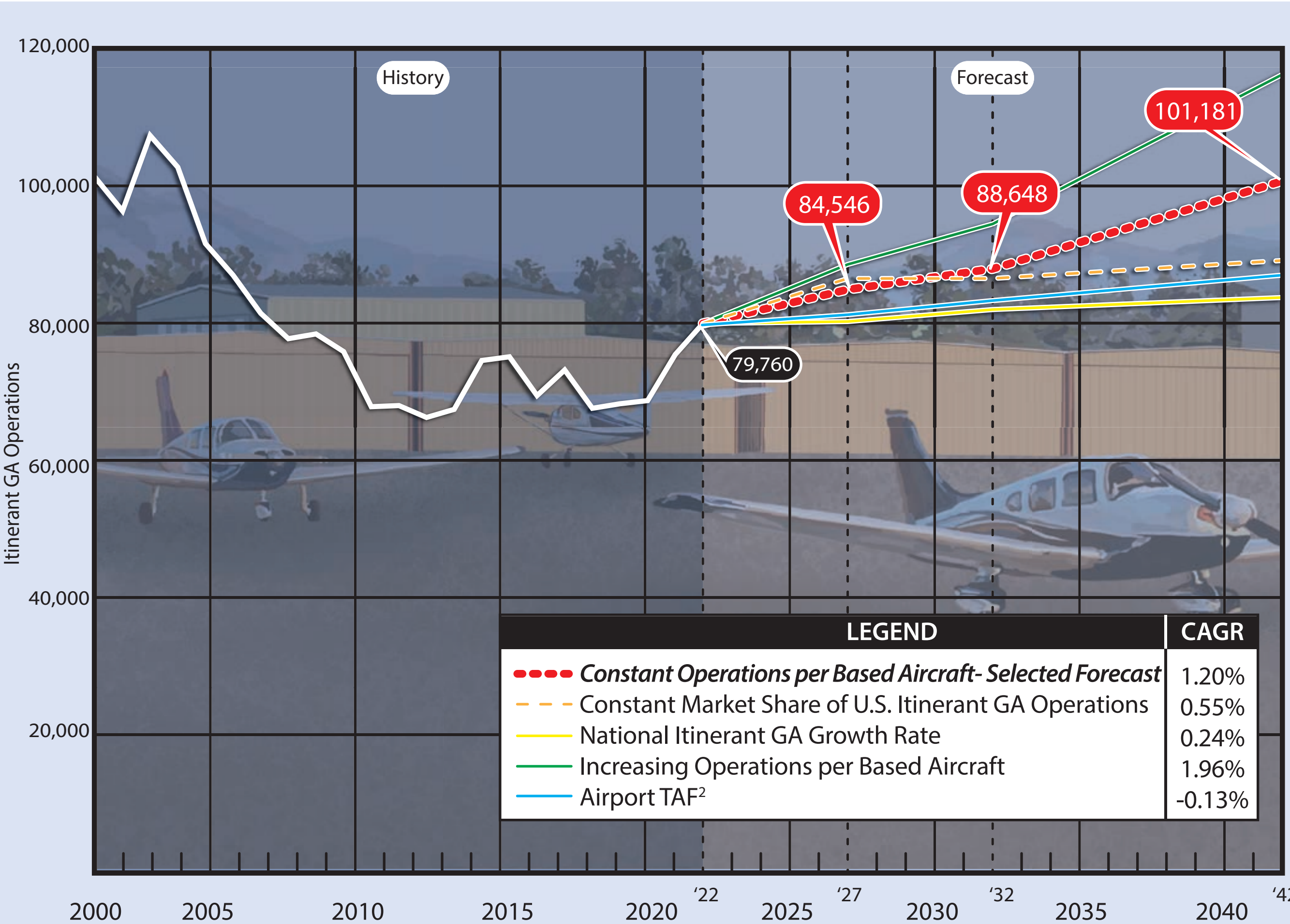
Source: OPSNET - FAA operations count from the CMA control tower.

Itinerant General Aviation Operations Forecast

Three itinerant general aviation operations forecasts have been developed and are shown on **Exhibit 2D**.

The first forecast of itinerant general aviation operations considers the relationship between the FAA's national itinerant general aviation operations forecast and the historical itinerant general aviation operations at the airport. Itinerant general aviation operations were 0.547 percent of the national total. By maintaining this ratio as a constant through the plan years a forecast emerges.

The second itinerant general aviation operations forecast simply applies the national growth rate for itinerant general aviation operations (0.24 percent) to airport itinerant general aviation operations and extends that growth rate into the future years.



Year	CMA Itinerant GA Operations	U.S. Itinerant GA Operations[1]	Market Share	CMA Based Aircraft	Itinerant GA Operations per Based Aircraft
2022	79,760	14,569,014	0.547%	350	228
Constant Market Share of U.S. Itinerant GA Operations (CAGR = 0.55%)					
2027	85,603	15,636,300	0.547%	371	231
2032	86,711	15,838,715	0.547%	389	223
2042	89,015	16,259,605	0.547%	444	200
National Itinerant GA Growth Rate (CAGR = 0.24%)					
2027	80,478	15,636,300	0.347%	371	217
2032	81,530	15,838,715	0.368%	389	210
2042	83,675	16,259,605	0.412%	444	188
Increasing Operations per Based Aircraft (CAGR 1.96%)					
2027	87,200	15,636,300	0.558%	371	235
2032	95,300	15,838,715	0.602%	389	245
2042	117,700	16,259,605	0.724%	444	265
Constant Operations per Based Aircraft (CAGR 1.20%) - SELECTED					
2027	84,546	15,636,300	0.541%	371	228
2032	88,648	15,838,715	0.560%	389	228
2042	101,181	16,259,605	0.622%	444	228

[1]FAA Aerospace Forecasts - Fiscal Years 2022-2042

[2]TAF published in Feb. 2023

Exhibit 2D - ITINERANT GENERAL AVIATION OPERATIONS FORECAST

The third forecast considers the relationship between general aviation itinerant operations and based aircraft. In 2022, there were 228 itinerant general aviation operation per based aircraft. The increasing ratio considers the national trend toward higher utilization rates of multi-engine, turboprops, jets, and helicopters. In the long term, 265 itinerant general aviation operations per based aircraft are considered.

The last itinerant general aviation operations forecast also utilized the based aircraft forecast, however, in this scenario, the ratio is maintained at a constant 228 per based aircraft. This forecast results in 101,181 itinerant general aviation operations by the long-term planning period. This forecast is the selected forecast for itinerant general aviation operations at the airport for several reasons:

1. The selected forecast falls within the planning envelope defined by the four forecasts.
2. Since itinerant general aviation operations have been increasing for the last four years, year-over-year, a higher range of the planning envelope is justified.
3. With the fleet mix evolving to include a higher proportion of turboprops and business jets, more itinerant operations can be anticipated.

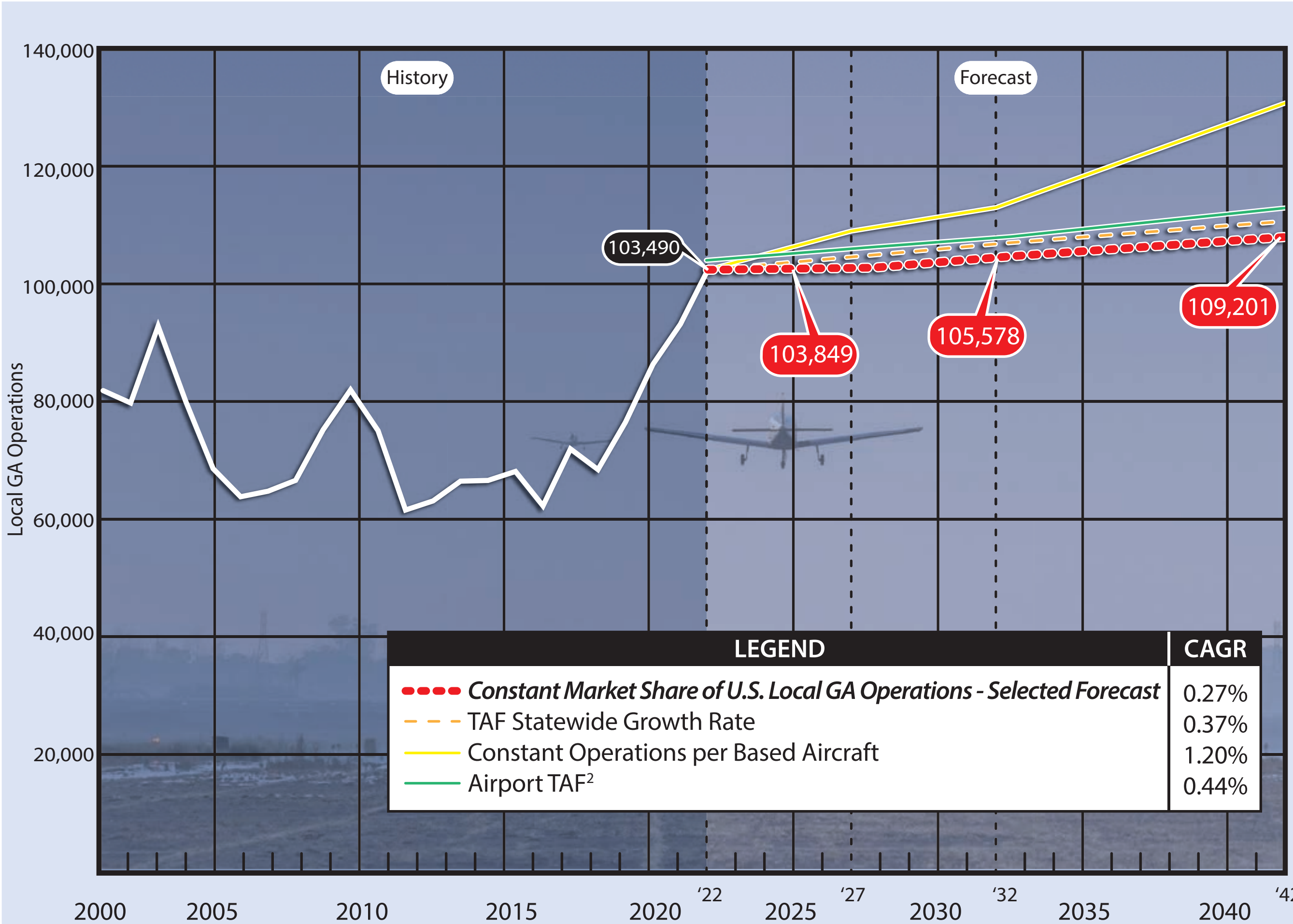
Local General Aviation Operations Forecast

Local general aviation operations are generally touch-and-go training operations. Most local operations are conducted by operators of smaller piston aircraft. It is common for pilots from other airports to fly to CMA, which is an itinerant operation, then conduct several touch-and-go's, which are local, then depart back to their home airport (another itinerant operation). Aircraft maintenance providers will also perform local operations as well, so some local operations will be in larger turboprops and business jets. In 2022, there were 103,490 local operations at the airport. This was the highest level in the last 20 years and represented the fourth consecutive year-over-year increase.

Three local general aviation operations forecasts have been developed which are shown on **Exhibit 2E.** The first considers the statewide TAF annual growth rate which is 0.344 percent. By applying this growth rate to the base year and extending it into the future plan years, a forecast results. This forecast shows 113,125 local operations by 2042.

The second local general aviation operations forecast considers maintaining the current level of local operations per based aircraft. In 2022, there were 296 local general aviation operations per based aircraft. This forecast results in an annual growth rate of 1.20 percent and 131,100 operations by 2042.

The third general aviation operations forecast considers the airport maintaining its market share of national general aviation operations. In 2022, the airport accounted for 0.754 percent of national local general aviation operations. By applying this percentage to the FAA forecast for local general aviation operations, a long-term forecast of 109,201 local general aviation operations for CMA in 2042 results. This forecast is the selected forecast for use in this study. This forecast was selected because it represents modest and reasonable growth while at the same time recognizing that the airport is already very busy (as compared to other national general aviation airports) and that there is a limit to operational growth simply based on the capacity of the airfield.



Year	CMA Local GA Operations	U.S. Local GA Operations[1]	Market Share	CMA Based Aircraft	Local GA Operations per Based Aircraft
2022	103,490	13,731,399	0.754%	350	296
TAF[2] Statewide Growth Rate (CAGR = 0.44%)					
2027	105,951	14,950,786	0.708%	371	285
2032	108,265	15,214,104	0.712%	389	278
2042	113,125	15,767,539	0.717%	444	255
Constant Operations per Based Aircraft (CAGR 1.20%)					
2027	109,700	13,779,091	0.796%	371	296
2032	115,000	14,008,496	0.821%	389	296
2042	131,300	14,489,123	0.906%	444	296
Constant Market Share of U.S. Local GA Operations (CAGR 0.27%) - SELECTED					
2027	103,849	13,779,091	0.754%	371	280
2032	105,578	14,008,496	0.754%	389	271
2042	109,201	14,489,123	0.754%	444	246

[1]FAA Aerospace Forecasts - Fiscal Years 2022-2042

[2]TAF published in Feb. 2023

Air Taxi Operations Forecast

Air taxi operations are those with the authority to provide "on-demand" or "for-hire" transportation of persons or property via aircraft with fewer than 60 passenger seats. Air taxi contains a broad range of operations, including some smaller commercial service aircraft, some charter aircraft, air cargo aircraft, many fractional ownership aircraft, and air ambulance services.

Two forecasts of overall air taxi growth are presented on **Exhibit 2F**. The first considers the airport maintaining a constant market share of total U.S. air taxi operations as projected by FAA. This results in a very modest growth for the airport. In fact, this 20-year air taxi forecast results in fewer air taxi operations in 2042 than in 2021; therefore, this forecast seems low, and a second forecast is considered.

The second air taxi operations forecast considers the airport to capture an increasing percent of national air taxi operations. Currently, CMA accounts for 0.51 percent of national air taxi operations. By the long-term planning horizon, this forecast considers CMA to account for 0.75 percent of national air taxi operations. This results in a long-term forecast of 5,225 air taxi operations. This forecast is the selected forecast for air taxi operations at CMA. This forecast also includes the potential for AAM/eVTOL passenger activity in the future.

Military Operations Forecast

Military aircraft can and do utilize civilian airports across the country. There is an inherent challenge to forecasting military operations, as recognized by FAA, because the military's mission can and does change quickly. As a result, FAA in their TAF for airports will include a placeholder figure. At Camarillo, 476 itinerant military operations are the placeholder for each year in the future. Local military operations have a placeholder of 89 operations for each year in the future. For this forecasting effort, the itinerant and local military operations will be maintained at the TAF constant rates.

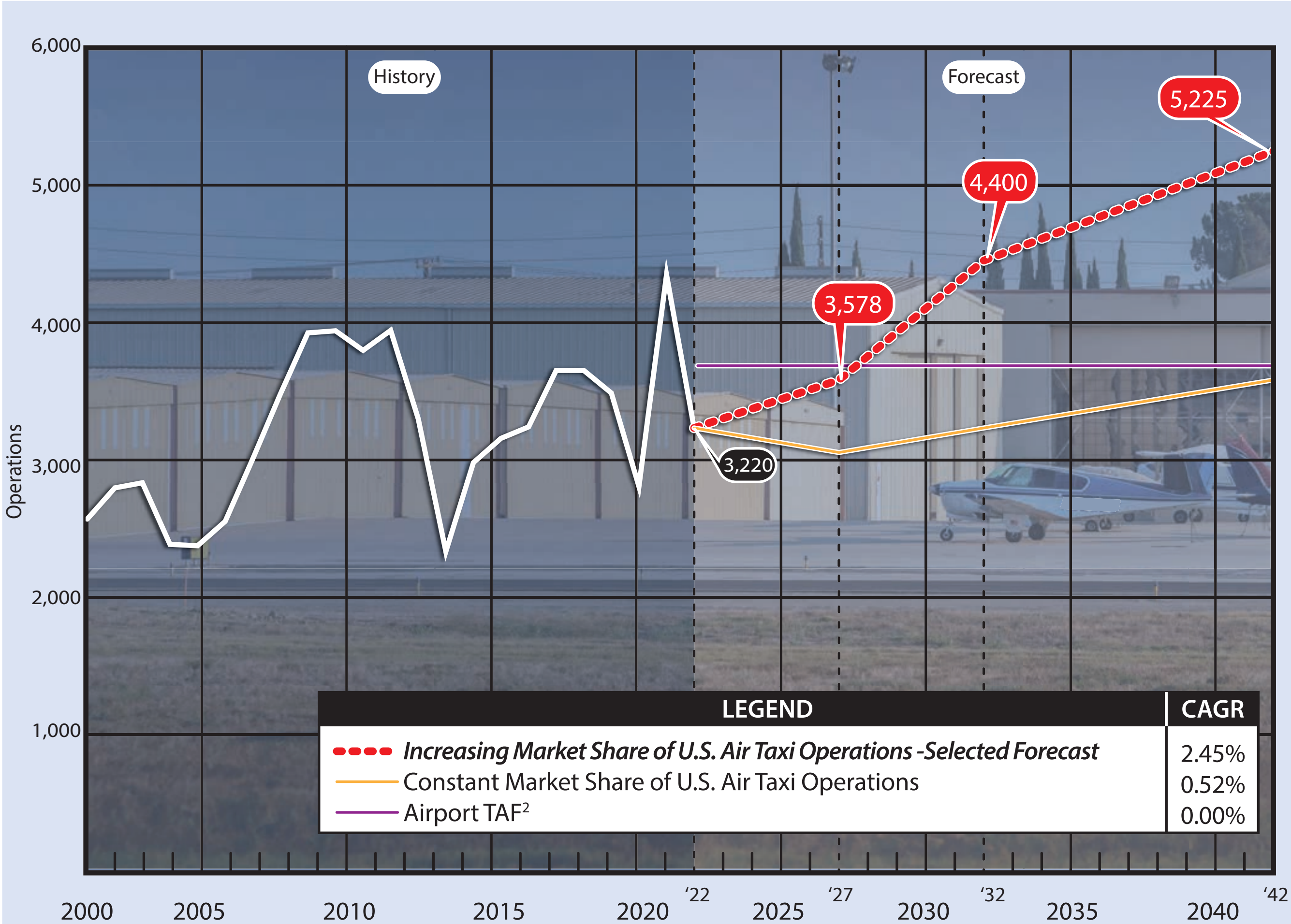
Total Operations Forecast Summary

Table 2K presents the total operations forecast. The airport experiences a mix of operation types, including general aviation, air taxi, and military. Multiple forecasts for each of these operational categories were developed which created a planning envelope that represents the feasible range. Based on local circumstances and the judgement of the forecast analyst, a single forecast was selected for each category. Combined, total operations are forecast to increase from 187,076 in 2022 to 216,172 in 2042 for an annual growth rate of 0.73 percent.

TABLE 2K | Total Operations Forecast Summary

Year	LOCAL OPERATIONS			ITINERANT OPERATIONS				Total Operations
	General Aviation	Military	Subtotal	Air Taxi	General Aviation	Military	Subtotal	
2022	103,490	118	103,608	3,220	79,760	488	83,468	187,076
2027	103,849	89	103,938	3,578	84,546	476	88,599	192,538
2032	105,578	89	105,667	4,400	88,648	476	93,523	199,191
2042	109,201	89	109,290	5,225	101,181	476	106,882	216,172

Source: Coffman Associates analysis.



Year	CMA Air Taxi Operations	U.S. Air Taxi Operations[1]	CMA Market Share
2022	3,220	6,284,713	0.051%
Constant Market Share of U.S. Air Taxi Operations (CAGR 0.52%)			
2027	3,055	5,962,583	0.051%
2032	3,220	6,285,528	0.051%
2042	3,569	6,966,613	0.051%
Increasing Market Share of U.S. Air Taxi Operations (CAGR 2.45%) - SELECTED			
2027	3,578	5,962,583	0.060%
2032	4,400	6,285,528	0.070%
2042	5,225	6,966,613	0.075%

[1]FAA Aerospace Forecasts - Fiscal Years 2022-2042

[2]TAF Published in Feb. 2023

PEAKING CHARACTERISTICS

Many aspects of facility planning relate to levels of peaking activity – times when an airport is busiest. For example, the appropriate size of terminal facilities can be estimated by determining the number of people that could reasonably be expected to use the facility at a given time. The following planning definitions apply to the peak periods:

- **Peak Month** – The calendar month when peak aircraft operations occur.
- **Design Day** – The average day in the peak month.
- **Design Hour** – The peak hour within the design day.

The peak month of 2022 was March when there was a total of 18,234 operations which is 9.75 percent of total annual operations. Future peak months were estimated at 9.75 percent of annual operations. The design day was determined by dividing the peak month by the number of days in that month, which is 31. The design hour was determined through analysis of hourly operations data from March 2022 as provided by the airport traffic control tower. The design hour is the average of the peak hour of each week of the peak month. These projections can be viewed in **Table 2L.**

TABLE 2L | Peak Period Forecast

Year	2022	2027	2032	2042
Annual Operations	**187,076**	**192,538**	**199,191**	**216,037**
Peak Month	18,234	18,772	19,421	21,077
Design Day	588	606	626	680
Design Hour	89	92	95	103

Source: Coffman Associates analysis.

OPERATIONS BY FLEET MIX

Developing an understanding of the operational fleet mix, including the approximate volume of operations by aircraft type, is an important input in determining future facility needs. The baseline operations mix is derived from an examination of FAA's Traffic Flow Management System Count (TFMSC) database, which captures operations by those that file a flight plan. The FAA believes this database captures approximately 95 percent of operations by jets and turboprops. Total operations by jets and turboprops are summarized in **Table 2M**.

TABLE 2M | Historical Jet and Turboprop Operations

Engine Type	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*
Jets	4,630	4,964	5,818	5,924	5,878	6,296	6,302	5,478	8,002	7,952
Turboprops	3,148	2,998	3,402	3,562	4,222	3,812	3,662	2,854	4,052	4,196
Total	**7,778**	**7,962**	**9,220**	**9,486**	**10,100**	**10,108**	**9,964**	**8,332**	**12,054**	**12,148**

*2022 data is from Dec 2021 through Nov 2022

Source: Traffic Flow Management System Count database (TFMSC) – Data normalized annually

Utilizing the TFMSC data for jets and turboprops, we can accurately establish a baseline operations number. Airport businesses perform maintenance repair and overhaul of turbine engines, therefore, a portion of the operations are local in nature to account for test flights. Future jet and turboprop operations are based on national trends with both aircraft types having higher utilization rates and representing a larger percentage of overall operations.

The operations estimate for helicopters and multi-engine piston aircraft are based on typical counts. Helicopter operations are estimated at 300 annually per based helicopter, and multi-engine piston are estimated at 200 annual operations per based aircraft. All remaining operations are assigned to single engine piston operations.

Table 2N presents the fleet mix operations forecast for CMA. Piston aircraft are anticipated to continue to represent most operations but are forecast to decline as a percent of the whole over time. Multi-engine piston operations are also forecast to decline as a percent of the whole over time. Growth areas are in turbine engines and helicopters. While turboprops and jets rarely are used for touch-and-go operations, due to the presents of turbine engine maintenance activities at the airport, some local operations are included by these aircraft.

TABLE 2N | Fleet Mix Operations Forecast

	EXISTING		FORECAST					
Aircraft Type	**2022**	**Percent**	**2027**	**Percent**	**2032**	**Percent**	**2042**	**Percent**
Local Operations								
Single Engine Piston	101,708	98.17%	101,878	98.02%	103,447	97.90%	106,790	97.71%
Multi-Engine Piston	600	0.58%	600	0.58%	600	0.57%	600	0.55%
Turboprop	200	0.19%	240	0.23%	280	0.26%	320	0.29%
Jet	100	0.10%	120	0.12%	140	0.13%	180	0.16%
Helicopter	1,000	0.97%	1,100	1.06%	1,200	1.14%	1,400	1.28%
Total Local	**103,608**	**100.00%**	**103,938**	**100.00%**	**105,667**	**100.00%**	**109,290**	**100.00%**
Itinerant Operations								
Single Engine Piston	60,020	71.91%	56,518	63.79%	53,283	56.97%	42,859	40.10%
Multi-Engine Piston	4,200	5.03%	4,200	4.74%	4,200	4.49%	4,200	3.93%
Turboprop	3,996	4.79%	8,152	9.20%	13,357	14.28%	25,905	24.24%
Jet	7,852	9.41%	11,629	13.13%	13,883	14.84%	23,318	21.82%
Helicopter	7,400	8.87%	8,100	9.14%	8,800	9.41%	10,600	9.92%
Total Itinerant	**83,468**	**100.00%**	**88,599**	**100.00%**	**93,523**	**100.00%**	**106,882**	**100.00%**
Total Operations	**187,076**		**192,538**		**199,191**		**216,172**	

Source: FAA TFMSC database; Coffman Associates analysis

FORECAST SUMMARY

This study has outlined the various activity levels that might reasonably be anticipated over the planning period. **Exhibit 2G** presents a summary of the aviation forecasts prepared in this study. The base year for these forecasts is 2022, with a 20-year planning horizon to 2042. The primary aviation demand indicators are based aircraft and operations.

Based aircraft are forecast to increase from 350 in 2022 to 444 by 2042, for a CAGR of 1.20 percent. Total operations are forecast to increase from 187,076 in 2022 to 216,172 by 2042, which is a CAGR of 0.73 percent. Several forecasts for each aviation demand indicator were developed to create a range of reasonable forecasts from which a single forecast was selected for use in determining facility needs.

	2022	2027	2032	2042
ANNUAL OPERATIONS				
Itinerant				
Air Taxi	3,220	3,578	4,400	5,225
General Aviation	79,760	84,546	88,648	101,181
Military	488	476	476	476
Total Itinerant Operations	***83,468***	***88,599***	***93,523***	***106,882***
Local				
General Aviation	103,490	103,849	105,578	109,201
Military	118	89	89	89
Total Local Operations	***103,608***	***103,938***	***105,667***	***109,290***
Total Annual Operations	***187,076***	***192,538***	***199,191***	***216,172***
Annual Instrument Approaches	***12,465***	***13,290***	***14,029***	***16,032***
BASED AIRCRAFT				
Single Engine	280	285	290	303
Multi-Engine Piston	24	24	24	24
Turboprop	4	8	13	25
Jet	21	31	37	62
Helicopter	21	23	25	30
Total Based Aircraft	***350***	***371***	***389***	***444***
PEAKING				
Annual Operations	187,076	192,538	199,191	216,172
Peak Month	18,234	18,772	19,421	21,077
Design Day	588	606	626	680
Design Hour	89	92	95	103

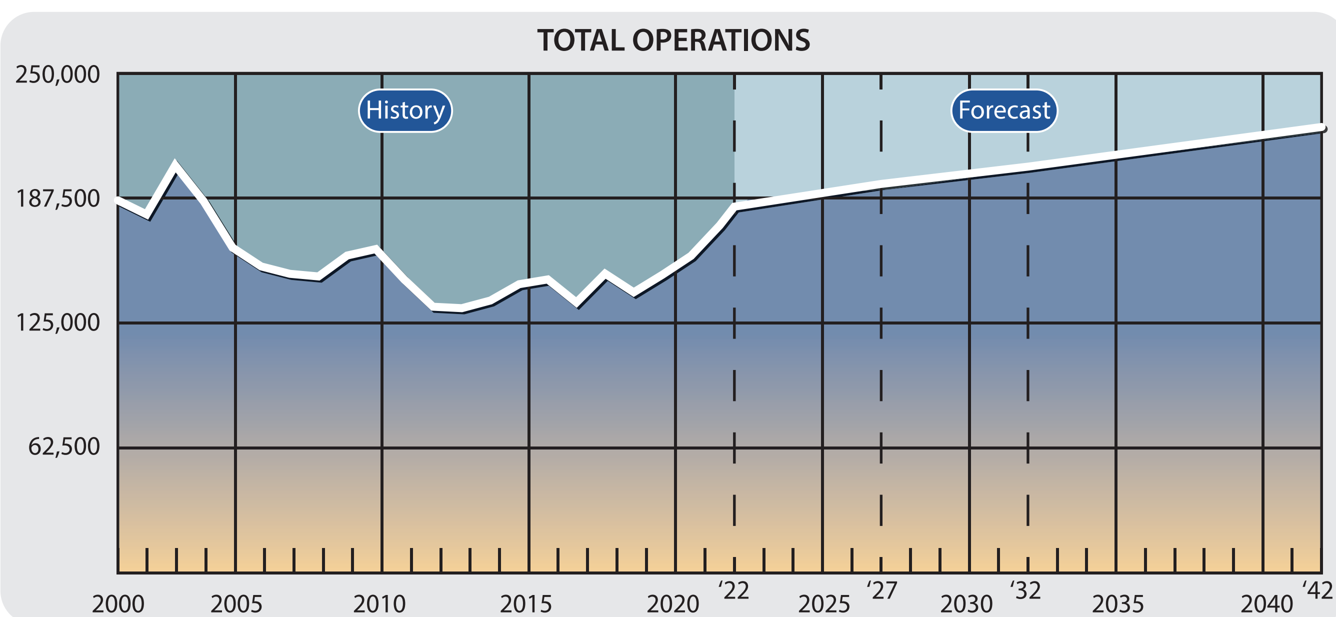


Exhibit 2G
FORECAST SUMMARY

Projections of aviation demand will be influenced by unforeseen factors and events in the future. Therefore, future demand will not likely follow the exact projection line, but over time, forecasts of aviation demand tend to fall within the planning envelope. The need for additional facilities will be based upon these forecasts; however, if demand does not materialize as projected, then implementation of facility construction can be slowed. Likewise, if demand exceeds these forecasts, then implementation of facility construction can be accelerated.

FORECAST COMPARISON TO THE TAF

The FAA reviews the aviation demand forecasts developed in aviation planning studies and compares them to the *Terminal Area Forecast* (TAF) for the airport. The forecasts are considered consistent with the TAF if they meet the following criteria:

- Forecasts differ by less than 10 percent in the 5-year forecast period, and 15 percent in the 10-year forecast period, or
- Forecasts do not affect the timing or scale of an airport project, or
- Forecasts do not affect the role of the airport as defined in the current version of FAA Order 5090.5, *Formulation of the National Plan of Integrated Airport Systems* (NPIAS) and *Airports Capital Improvement Plan* (ACIP).

If the forecasts exceed these parameters, they may be sent to FAA headquarters in Washington, D.C., for further review. **Table 2P** presents the direct comparison of the planning forecast with the TAF published in February 2023. The forecasts are not expected to affect the timing or scale of any major airport projects, and the role of the airport as a reliever general aviation facility is not expected to change. For total operations, the study forecasts are within TAF tolerance in the five-and-ten year timeframes. The five-year based aircraft forecast is less than one percent out of tolerance with the TAF and the ten year is within tolerance. This is easily explained because the TAF base year figure is approximately 10 percent higher than the actual based aircraft figure reported in the National Based Aircraft Inventory database (www.basedaircraft.com).

TABLE 2P | Forecast Comparison to the Terminal Area Forecast

	BASE YEAR	FORECAST			CAGR
	2022	2027	2032	2042	2022-2042
Total Operations					
Airport Forecast	187,076	192,538	199,191	216,172	0.73%
2022 FAA TAF[1]	187,355	191,416	195,565	204,145	0.43%
% Difference	**(0.15%)**	**0.58%**	**1.84%**	**5.72%**	
Based Aircraft					
Airport Forecast	350	371	389	444	1.20%
2022 FAA TAF[1]	388	413	438	491	1.18%
% Difference	**(10.30%)**	**(10.71%)**	**(11.85%)**	**(10.05%)**	

[1]TAF published in Feb. 2023
CAGR - Compound Annual Growth Rate

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 upon the characteristics of the aircraft which are currently using, or are expected to use, an airport. The critical design aircraft is used to define the design parameters for an airport. The design aircraft may be a single aircraft type or a composite aircraft representing a collection of aircraft with similar characteristics. The design 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 2H.**

Aircraft Approach Category (AAC): A grouping of aircraft based on a reference landing speed (V_{REF}), if specified, or if V_{REF} is not specified, 1.3 times stall speed (V_{SO}) at the maximum certificated landing weight. V_{REF}, V_{SO}, and the maximum certificated landing weight are those 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. The AAC, depicted by a letter A through E, is the aircraft approach category 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, depicted by a Roman numeral I through VI, is a classification of aircraft which 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 (TOFA), taxilane object free area, apron wingtip clearance, and various separation distances.

Taxiway Design Group (TDG): 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 design aircraft. The TDG is classified by an alphanumeric system: 1A, 1B, 2, 3, 4, 5, 6, and 7. The taxiway design elements determined by the application of the TDG include the taxiway width, 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 design aircraft utilizing those surfaces. It is appropriate for taxiways to be planned and built to different TDG standards based on expected use.

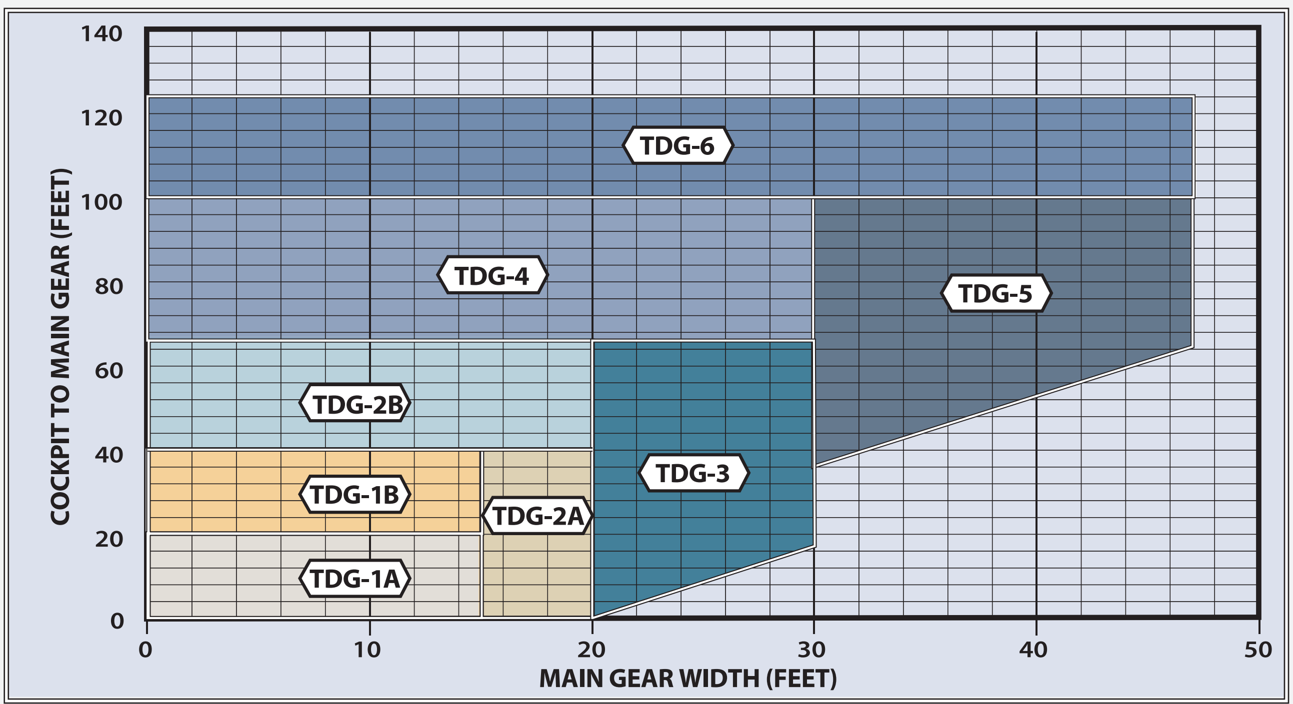
AIRCRAFT APPROACH CATEGORY (AAC)	
Category	**Approach Speed**
A	less than 91 knots
B	91 knots or more but less than 121 knots
C	121 knots or more but less than 141 knots
D	141 knots or more but less than 166 knots
E	166 knots or more

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)



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

Exhibit 2H
AIRCRAFT CLASSIFICATION PARAMETERS

Exhibit 2J summarizes the classification 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 ACC B and C, while the larger commercial aircraft will fall in AAC C and D.

AIRPORT AND RUNWAY CLASSIFICATIONS

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

Runway Design Code (RDC): A code signifying the design standards to which the runway is to be built. The RDC is based upon 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 design standards that apply. The first component, depicted by a letter, is the AAC and relates to aircraft approach speed (operational characteristics). The second component, depicted by a Roman numeral, is the ADG and relates to either the aircraft wingspan or tail height (physical characteristics), whichever is most restrictive. The third component relates to the available instrument approach visibility minimums expressed by RVR values in feet of 1,200 (⅛-mile), 1,600 (¼-mile), 2,400 (½-mile), 4,000 (¾-mile), and 5,000 (1-mile). The RVR values approximate standard visibility minimums for instrument approaches to the runways. The third component reads "VIS" for runways designed for visual approach use only.

Approach Reference Code (APRC): A code signifying the current operational capabilities of a runway and associated parallel taxiway regarding landing operations. Like the RDC, the APRC is composed of the same three components: the AAC, ADG, and RVR. The APRC describes the current operational capabilities of a runway under meteorological conditions where no special operating procedures are necessary, as opposed to the RDC, which is based upon planned development with no operational component. The APRC for a runway is established based upon the minimum runway-to-taxiway centerline separation.

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

***Airport Reference Code (ARC)*:** An airport designation that signifies the airport's highest Runway Design Code (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 current ALP for the airport lists D-II as the current (2011) ARC with a future ARC of D-III.



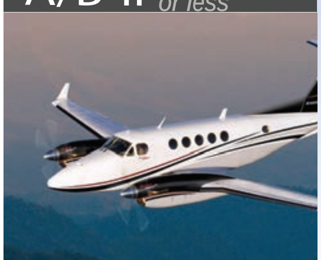
A-I

Aircraft	TDG
Beech Baron 55	1A
Beech Bonanza	**1A**
Cessna 150, 172	1A
Eclipse 500	1A
Piper Archer, Seneca	1A

B-I

Aircraft	TDG
Beech Baron 58	**1A**
Beech King Air 90	1A
Cessna 421	1A
Cessna Citation CJ1 (525)	1A
Cessna Citation 1 (500)	2A
Embraer Phenom 100	1B

A/B-II 12,500 lbs. or less

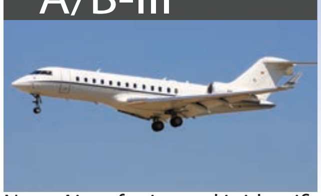


Aircraft	TDG
Beech Super King Air 200	**2A**
Cessna 441 Conquest	1A
Cessna Citation CJ2 (525A)	2A
Pilatus PC-12	1A

B-II over 12,500 lbs.

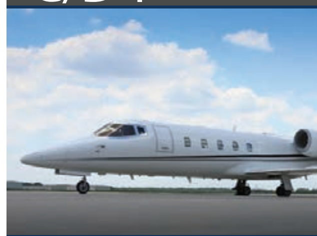
Aircraft	TDG
Beech Super King Air 350	2A
Cessna Citation CJ3(525B), V (560)	2A
Cessna Citation Bravo (550)	1A
Cessna Citation CJ4 (525C)	**1B**
Cessna Citation Latitude/Longitude	1B
Embraer Phenom 300	1B
Falcon 10, 20, 50	1B
Falcon 900, 2000	2A
Hawker 800, 800XP, 850XP, 4000	1B
Pilatus PC-24	1B

A/B-III



Aircraft	TDG
Bombardier Dash 8	3
Bombardier Global 5000, 6000, 7000, 8000	**2B**
Falcon 6X, 7X, 8X	2B

C/D-I



Aircraft	TDG
Lear 25, 31, 45, 55, **60**	**1B**
Learjet 35, 36 (D-I)	1B

C/D-II

Aircraft	TDG
Challenger 600/604/800/850	1B
Cessna Citation VII, X+	1B
Embraer Legacy 450/500	1B
Gulfstream IV, 350, 450 (D-II)	2A
Gulfstream G200/G280	1B
Lear 70, 75	1B
CRJ 700	2B
ERJ 175, 195	3
CRJ 900	2B

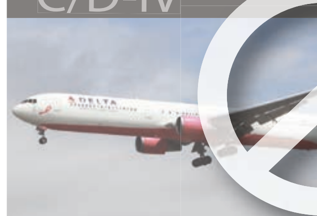
C/D-III less than 150,000 lbs.*

Aircraft	TDG
Gulfstream V	2A
Gulfstream G500, 550, 600, **650 (D-III)**	**2B**

C/D-III over 150,000 lbs.

Aircraft	TDG
Airbus A319-100, 200	3
Boeing 737 -800, 900, BBJ2 (D-III)	3
MD-83, 88 (D-III)	4

C/D-IV



Aircraft	TDG
Airbus A300-100, 200, 600	5
Boeing 757-200	4
Boeing 767-300, 400	5
MD-11	6

D-V

Aircraft	TDG
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.

*CMA operations are limited to 115,000 lbs. per the 1976 Joint Powers Agreement, except when authorized by the airport director or in case of emergencies.

Exhibit 2J
AIRCRAFT REFERENCE CODES

CRITICAL AIRCRAFT

The selection of appropriate FAA design standards for the development and location of airport facilities is based primarily upon the characteristics of the aircraft which are currently using, 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 representing a collection of aircraft classified by three parameters: AAC, ADG, and TDG.

The first consideration is the safe operation of aircraft 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 airport design on an aircraft that uses the airport infrequently.

The critical aircraft is defined as the most demanding aircraft type, or grouping of aircraft with similar characteristics, that make regular use of the airport. Regular use is 500 annual operations, excluding touch-and-go operations. Planning for future aircraft use is of importance since 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.

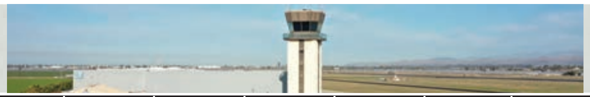
According to FAA AC 150/5300-13B, *Airport Design*, “Airport designs based only on existing aircraft can severely limit the ability to expand the airport to meet future requirements for larger, more demanding aircraft. Airport designs that are based on large aircraft never likely to be served by the airport are not economical.” Selection of the current and future critical aircraft must be realistic in nature and supported by current data and realistic projections.

CURRENT AIRPORT CRITICAL AIRCRAFT

There are three elements for classifying the airport design aircraft. The three elements are the AAC, ADG, and the TDG. The AAC and ADG are examined first, followed by the TDG.

The primary source of operations data is the FAA’s TFMSC database, which captures an operation when a pilot files a flight plan and/or when flights are detected by the National Airspace System, usually via radar. It includes documentation of commercial traffic (air carrier and air taxi), general aviation, and military aircraft. Due to factors, such as incomplete flight plans, limited radar coverage, and VFR operations, TFMSC data does not account for all aircraft activity at an airport by a given aircraft type; however, the TFMSC does provide an accurate reflection of IFR activity. Operators of high-performance aircraft, such as turboprops and jets, tend to file flight plans at a high rate. **Exhibit 2K** presents the last 10 years of TFMSC data for turboprops and business jets for the airport.

On **Exhibit 2K**, the data has been organized to easily analyze operations by classifications. The exhibit includes a table for the Approach Category. Over the last 10 years, there have been more than 500 operations by aircraft in approach category D but only a few in category E; therefore, the appropriate current AAC is D.



ARC	Aircraft	TDG	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*
A-I	B36T - Allison 36 Turbine Bonanza	1A	6	0	0	2	2	10	4	6	6	4
	EA50 - Eclipse 500	1A	34	50	102	182	220	176	98	134	276	196
	EPIC - Dynasty	1A	0	2	0	90	60	18	12	12	92	102
	EVOL - Lancair Evolution	1A	2	2	0	0	0	0	0	0	0	0
	EVOT - Lancair Evolution Turbine	1A	0	0	2	4	4	16	6	4	6	16
	KODI - Quest Kodiak	1A	14	26	22	4	2	2	4	2	12	36
	LNP4 - Lancair Propjet four-seat	1A	0	0	0	0	0	26	26	24	6	4
	P46T - Piper Malibu Meridian	1A	140	144	142	166	136	100	70	64	104	114
	PC7 - Pilatus PC-7	1A	2	0	2	2	0	0	8	2	4	2
	SF50 - Cirrus Vision SF50	1A	0	0	0	0	2	12	38	62	112	184
	TBM7 - Socata TBM-7	1A	748	586	538	436	790	396	410	266	344	374
	TBM8 - Socata TBM-850	1A	786	926	1,050	1,010	800	672	638	358	496	390
	TBM9 - Socata TBM	1A	0	2	4	222	580	812	858	806	896	1,140
	TMB8 - SOCATA TBM 700	1A	0	2	0	4	2	0	0	2	2	0
	Total		1,732	1,740	1,862	2,122	2,598	2,240	2,172	1,742	2,356	2,562
A-II	C12 - CS2 C212 CASA/IPTN 212 Aviocar	1A	0	0	0	4	0	0	0	0	0	0
	C208 - Cessna 208 Caravan	1A	22	22	106	38	34	34	42	30	6	12
	DHC6 - DeHavilland Twin Otter	1A	0	0	4	0	0	0	6	0	2	2
	PC12 - Pilatus PC-12	1A	186	172	218	348	534	554	552	424	634	598
	Total		208	194	328	390	568	588	600	454	642	612
A-III	DHC7 - De Havilland DHC-7	3	0	0	0	0	0	0	0	2	0	0
	Total		0	0	0	0	0	0	0	2	0	0
B-I	AC80 - Aero Commander Turbo 680	1A	4	0	0	0	2	0	0	0	0	0
	BE10 - Beech King Air 100 A/B	1A	14	10	10	4	4	0	2	0	2	0
	BE40 - Raytheon/Beech Beechjet 400/T-1	1A	262	206	82	82	68	68	50	38	66	56
	BE9 - Beechcraft C99 Airliner; Beech Aircraft	1A	0	0	0	0	0	2	0	0	0	0
	BE90 - Beech King Air 90	1A	4	12	6	4	2	0	0	0	0	2
	BE9L - Beech King Air 90	1A	196	150	260	274	216	126	122	102	180	76
	C25M - Cessna Citation M2	1A	0	0	0	4	10	22	26	34	52	76
	C425 - Cessna 425 Corsair	1A	82	146	52	34	8	10	10	4	10	4
	C500 - Cessna 500/Citation I	2A	48	42	64	4	0	4	0	0	0	8
	C501 - Cessna I/SP	2A	28	14	30	18	28	46	34	8	8	0
	C510 - Cessna Citation Mustang	1A	120	94	64	64	48	90	50	72	72	62
	C525 - Cessna CitationJet/CJ1	1A	322	330	286	498	414	518	392	182	194	126
	DA10 - Dassault Falcon/Mystère 10	1B	0	0	0	0	2	0	0	0	0	0
	E50P - Embraer Phenom 100	1B	286	278	370	290	184	238	144	58	98	124
	F1 - Farnborough F1	1A	0	0	0	2	0	0	0	0	0	0
	FA10 - Dassault Falcon/Mystère 10	1B	16	28	8	8	32	28	6	10	6	4
	H25C - BAe/Raytheon HS 125-1000/ Hawker 1000	1B	102	160	134	52	0	2	2	4	6	4
	HDJT - HONDA HA-420 HondaJet	1A	0	0	0	12	40	66	46	28	68	68
	L29 - Aero L-29 Delfin	1B	2	0	0	0	0	0	0	0	0	0
	L39 - Aero L-139 Albatross	1B	8	0	0	4	2	0	0	2	2	10
	MU2 - Mitsubishi Marquise/Solitaire	1A	60	44	42	2	12	8	14	8	14	10
	MU2B - Marquise/Solitaire; Mitsubishi	1A	0	0	2	0	0	0	0	0	0	0
	MU30 - Mitsubishi MU300/ Diamond I	1A	0	0	0	0	2	0	0	0	0	0
	P180 - Piaggio P-180 Avanti	2B	46	2	10	4	8	12	24	12	6	18

ARC	Aircraft	TDG	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*
B-I Cont.	PAY1 - Piper Cheyenne 1	2A	2	0	0	0	0	2	0	0	4	2
	PAY2 - Piper Cheyenne 2	2A	56	8	6	4	0	4	6	4	8	8
	PAY3 - Piper PA-42-720 Cheyenne 3	2A	4	0	0	2	0	6	0	0	6	0
	PAY4 - Piper Cheyenne 400	2A	8	0	0	0	0	0	0	0	0	0
	PAYE - Cheyenne	2A	2	2	0	0	0	0	0	0	0	0
	PRM1 - Raytheon Premier 1/390 Premier 1	1A	26	28	20	34	18	38	64	26	60	54
	SBR1 - North American Rockwell Sabre 40/60	1A	4	2	2	0	0	0	6	0	2	0
	SJ30 - Swearingen SJ-30	1A	0	0	0	0	0	0	0	0	0	14
	TEX2 - Raytheon Texan 2	1A	0	0	0	4	0	0	0	0	2	0
	Total		1,702	1,556	1,448	1,404	1,100	1,290	998	592	866	726
B-II	AC69 - Jet Prop /Gulfstream	2A	4	0	2	0	0	0	0	0	0	0
	AC90 - Gulfstream Commander	2A	54	48	102	90	68	56	32	56	38	28
	B190 - Beech 1900/C-12J	2A	8	2	2	2	0	2	4	0	136	2
	B350 - Beech Super King Air 350	2A	170	204	288	274	394	376	312	186	334	366
	B39L - Raytheon 300 Super King Air	2A	0	0	0	0	2	0	0	0	0	0
	BE20 - Beech 200 Super King	2A	212	250	262	298	284	276	352	254	372	416
	BE30 - Raytheon 300 Super King Air	2A	36	40	68	60	44	34	20	56	126	206
	BE9T - Beech F90 King Air	1A	16	10	16	12	12	4	2	36	46	6
	C25A - Cessna Citation CJ2	2A	82	76	260	266	168	138	196	94	172	134
	C25B - Cessna Citation CJ3	2A	258	226	266	182	372	412	520	422	556	238
	C25C - Cessna Citation CJ4	1B	58	74	80	70	58	98	100	92	66	60
	C441 - Cessna Conquest	1A	232	178	176	152	148	168	68	24	20	20
	C550 - Cessna Citation II/Bravo	2A	152	150	162	176	128	106	108	66	70	54
	C551 - Cessna Citation II/SP	2A	0	0	0	0	0	0	2	4	2	8
	C55B - Cessna Citation Bravo	2A	0	0	0	0	0	0	6	10	12	22
	C560 - Cessna Citation V/Ultra/Encore	2A	108	178	192	170	170	116	112	112	148	142
	C56X - Cessna Excel/XLS	1B	158	194	270	246	350	358	274	226	388	398
	C680 - Cessna Citation Sovereign	1B	86	112	128	108	94	110	112	112	162	92
	C68A - Cessna Citation Latitude	1B	0	0	0	0	42	72	168	242	322	344
	C700 - Cessna Citation Longitude	1B	0	0	0	0	0	0	0	4	66	174
	C750 - Cessna Citation X	1B	484	544	492	308	238	272	280	248	292	312
	CITA - 525A Citation CJ2	2A	2	0	0	0	0	0	0	0	0	0
	CL30 - Bombardier (Canadair) Challenger 300	1B	92	72	110	150	184	170	206	126	176	230
	CL35 - Bombardier Challenger 300	1B	0	0	2	96	142	276	296	358	556	628
	D328 - Dornier 328 Series	1B	0	0	0	0	2	0	0	0	0	0
	E120 - Embraer Brasilia EMB 120	3	0	0	0	0	2	2	4	0	0	0
	E55P - Embraer Phenom 300	1B	28	54	134	114	166	286	232	232	478	394
	F2TH - Dassault Falcon 2000	2A	88	68	80	106	198	192	210	132	144	110
	F900 - Dassault Falcon 900	2A	32	18	66	42	50	100	120	96	116	156
	FA20 - Dassault Falcon/Mystère 20	1B	12	4	10	2	2	6	10	4	4	0
	FA50 - Dassault Falcon/Mystère 50	1B	38	22	24	42	92	28	82	138	124	116
	HA4T - Hawker 4000	1B	6	4	0	0	2	4	6	6	4	0
	J328 - Fairchild Dornier 328 Jet	1B	0	0	0	0	2	2	0	0	4	0
	PC24 - Pilatus PC-24	1B	0	0	0	0	0	0	4	34	66	128
	SH33 - Shorts 330	1B	4	0	0	0	0	0	0	0	0	0
	SW3 - Fairchild Swearingen SA-226T/TB Merlin 3	1B	2	0	0	2	0	0	0	2	28	84
	SW4 - Swearingen Merlin 4/4A Metro2	1B	14	2	2	0	2	8	2	2	6	2
	Total		2,436	2,530	3,194	2,968	3,416	3,672	3,840	3,374	5,034	4,870

Exhibit 2K
HISTORICAL JET AND TURBOPROP OPERATIONS

ARC	Aircraft	TDG	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*
B-III	AT43 - Aérospatiale/Alenia ATR 42-200/300/320	5	0	0	0	0	0	6	0	0	0	0
	AT45 - Aérospatiale/Alenia ATR 42-500	5	0	0	0	0	4	6	0	0	0	0
	AT72 - Aérospatiale/Alenia ATR-72	2A	0	0	0	0	4	0	0	0	0	0
	AT73 - Alenia ATR 42/72	2A	0	0	0	0	8	2	0	0	0	0
	AT75 - Aerospatiale/Alenia ATR 72-500	2A	0	0	0	0	2	0	0	0	0	0
	C2 - Grumman C-2 Greyhound	3	0	2	0	0	6	0	2	6	4	6
	CN35 - CASA CN-235	1A	0	0	0	0	0	4	0	0	0	0
	CVLT - Convair CV-540/580/600/640, VC-131H	3	2	0	0	0	4	0	2	2	0	0
	E2 - Grumman TE-2 Hawkeye	5	2	0	2	2	2	6	2	0	4	2
	FA7X - Dassault Falcon F7X	2A	0	4	8	10	34	40	10	26	60	40
	FA8X - Dassault Falcon 8X	1B	0	0	0	0	0	0	0	0	0	8
	GL5T - Bombardier BD-700 Global 5000	2B	78	82	70	74	28	36	28	50	74	100
	GL7T - Bombardier Global 7500	2B	0	0	0	0	0	0	0	52	110	176
	GLEX - Bombardier BD-700 Global Express	2B	92	106	118	216	204	224	250	284	404	336
	LEZ - ATR 42-320	5	6	0	0	0	0	0	0	0	0	0
	Total		180	194	198	302	296	324	294	420	656	668
C-I	A4 - Skyhawk	1B	2	0	0	0	0	0	0	0	0	0
	H25A - BAe HS 125-1/2/3/400/600	1B	2	0	0	4	0	0	0	2	2	0
	HAWK - BAe Systems Hawk	1B	2	0	0	0	0	6	0	0	0	2
	HS25 - BAe HS 125; British Aerospace	1B	2	2	0	2	0	0	0	2	0	0
	LJ24 - Bombardier Learjet 24	1B	2	0	0	0	0	0	0	0	0	0
	LJ25 - Bombardier Learjet 25	1B	8	0	0	0	0	2	0	0	0	0
	LJ31 - Bombardier Learjet 31/A/B	1B	6	12	22	12	26	20	2	2	10	2
	LJ40 - Learjet 40; Gates Learjet	1B	6	14	0	0	18	46	48	70	106	190
	LJ45 - Bombardier Learjet 45	1B	28	22	64	24	28	32	24	46	72	62
	LJ55 - Bombardier Learjet 55	1B	16	70	42	112	34	2	10	10	10	6
	LJ60 - Bombardier Learjet 60	1B	76	86	236	230	158	226	158	102	102	120
	LR25 - Bombardier Learjet 25	1B	2	0	0	0	0	0	0	0	0	0
	LR60 - Bombardier Learjet 60	1B	2	2	8	0	2	2	2	0	0	0
	WW24 - IAI 1124 Westwind	1B	6	8	8	10	0	4	6	0	0	12
	Total		160	216	380	394	266	340	250	234	302	394
C-II	A10 - Fairchild A10	ND	0	0	0	0	2	2	0	0	0	0
	ASTR - IAI Astra 1125	1B	38	42	50	88	48	6	10	4	12	8
	C650 - Cessna III/VI/VII	1B	18	10	24	34	28	18	12	8	12	20
	CL60 - Bombardier Challenger 600/601/604	1B	196	222	212	226	230	380	256	246	344	372
	CRJ2 - Bombardier CRJ-200	1B	6	0	0	0	2	0	2	2	6	8
	E135 - Embraer ERJ 135/140/Legacy	2B	14	28	28	4	16	2	2	0	2	0
	E145 - Embraer ERJ-145	2B	0	0	0	0	0	2	0	0	0	0
	E35L - Embraer 135 LR	2B	0	0	4	2	4	10	44	16	20	28
	E545 - Embraer EMB-545 Legacy 450	1B	0	0	0	4	2	14	8	42	54	82
	E550 - Embraer Legacy 500	1B	0	0	0	6	6	6	10	6	182	204
	G150 - Gulfstream G150	1B	4	0	8	18	20	12	22	20	18	6
	G159 - Gulfstream Aerospace G 159/VC-4	1B	0	2	2	0	0	0	8	0	0	0
	G280 - Gulfstream G280	1B	2	4	2	18	12	80	184	166	172	172
	GLF3 - Gulfstream III/G300	2A	84	90	58	58	46	10	4	2	0	6
	H25B - BAe HS 125/700-800/Hawker 800	1B	356	426	446	344	360	246	256	228	436	296
	LJ70 - Learjet 70	1B	0	0	0	0	2	0	0	0	4	0

ARC	Aircraft	TDG	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*
C-II cont.	LJ75 - Learjet 75	1B	0	2	2	8	6	10	8	6	16	16
	STAR - Beech 2000 Starship	ND	0	0	0	0	0	0	2	0	0	0
	Total		718	826	836	810	784	798	828	746	1,278	1,218
C-III	A20N - Airbus A320 Neo	3	0	0	0	0	0	0	0	0	2	0
	B462 - BAe 146 -200	2B	0	2	0	0	0	0	0	0	0	0
	B737 - Boeing 737-700 (BBJ)	3	0	0	0	0	2	14	0	6	0	0
	C27J - Alenia C-27J Spartan	1B	0	0	0	0	18	42	22	42	10	6
	DH8D - Bombardier Q-400	5	0	0	0	0	18	0	0	0	0	0
	E190 - Embraer 190 (Lineage 1000)	3	0	0	0	0	0	0	0	0	50	38
	E75L - Embraer 175	3	0	0	0	0	2	0	0	0	0	0
	G5 - unknown	2B	2	0	0	0	0	0	0	0	0	0
	P3 - Lockheed P-3C Orion	ND	0	2	0	0	0	0	0	0	0	0
	Total		2	4	0	0	40	56	22	48	62	44
C-IV	C130 - Lockheed 130 Hercules	1B	2	0	4	8	2	4	10	12	10	6
	C17 - Boeing Globemaster 3	5	0	0	2	2	2	2	2	0	0	4
	C30J - C-130J Hercules ; Lockheed	1B	0	2	2	0	0	6	8	10	10	4
	E6 - Boeing E-6 Mercury	6	0	0	0	0	0	0	0	0	2	0
	K35R - Boeing KC-135 Stratotanker	4	0	0	0	0	0	0	0	2	0	2
	KC35 - Boeing C-135	6	0	0	0	0	0	0	0	0	0	2
	Total		2	2	8	10	4	12	20	24	22	18
D-I	F15 - Boeing F-15 Eagle	1A	2	2	0	4	0	0	0	0	0	0
	F18 - Boeing FA-18 Hornet	1A	2	0	0	0	0	0	0	0	0	0
	F18H - F/A 18 Hornet	1A	0	0	0	0	0	0	0	2	0	0
	F18S - F18 Hornet	1A	0	0	0	0	0	0	4	2	0	0
	F22 - Boeing Raptor F22	1A	0	0	0	0	0	0	0	0	2	0
	L36 - Bombardier Learjet 36	1B	0	2	0	0	0	0	0	0	0	0
	LJ35 - Bombardier Learjet 35/36	1B	22	16	44	30	28	50	70	22	50	14
	LJ36 - Learjet 36	1B	0	0	0	0	2	4	0	0	0	0
	LR35 - Learjet 35	1B	0	0	2	0	0	0	0	0	0	0
	T38 - Northrop T-38 Talon	1A	0	0	0	0	6	0	2	0	0	0
	Total		26	20	46	34	36	54	76	26	52	14
D-II	G4 - Gulfstream IV	2A	4	0	0	0	0	0	0	0	0	2
	GALX - IAI 1126 Galaxy/Gulfstream G200	1B	78	56	64	22	36	36	24	22	36	28
	GL20 - Gulfstream 2	1B	2	4	4	0	0	2	0	0	0	0
	GLF2 - Gulfstream II/G200	1B	6	0	2	2	0	0	0	0	0	0
	GLF4 - Gulfstream IV/G400	2A	118	214	314	454	398	254	418	326	390	406
	Total		208	274	384	478	434	292	442	348	426	436
D-III	G550 - Gulfstream G550	2B	0	0	0	2	0	0	2	0	0	0
	GA5C - G-7 Gulfstream G500	2B	0	0	0	0	0	0	2	2	0	6
	GA6C - G-7 Gulfstream G600	2B	0	0	0	0	0	0	0	0	12	74
	GLF5 - Gulfstream V/G500	2B	402	382	466	522	482	358	330	210	250	260
	GLF6 - Gulfstream	2B	2	24	70	50	76	82	88	110	94	246
	Total		404	406	536	574	558	440	422	322	356	586
E-I	AJET - Dassault-Bréguet/Dornier Alpha Jet	1A	0	0	0	0	0	0	0	0	2	0
	F16 - Lockheed F-16 Fighting Falcon	1A	0	0	0	0	0	2	0	0	0	0
	Total		0	0	0	0	0	2	0	0	2	0

Exhibit 2K
HISTORICAL JET AND TURBOPROP OPERATIONS

AIRPORT REFERENCE CODE (ARC) SUMMARY

ARC	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*
A-I	1,732	1,740	1,862	2,122	2,598	2,240	2,172	1,742	2,356	2,562
A-II	208	194	328	390	568	588	600	454	642	612
A-III	0	0	0	0	0	0	0	2	0	0
B-I	1,702	1,556	1,448	1,404	1,100	1,290	998	592	866	726
B-II	2,436	2,530	3,194	2,968	3,416	3,672	3,840	3,374	5,034	4,870
B-III	180	194	198	302	296	324	294	420	656	668
C-I	160	216	380	394	266	340	250	234	302	394
C-II	718	826	836	810	784	798	828	746	1,278	1,218
C-III	2	4	0	0	40	56	22	48	62	44
C-IV	2	2	8	10	4	12	20	24	22	18
D-I	26	20	46	34	36	54	76	26	52	14
D-II	208	274	384	478	434	292	442	348	426	436
D-III	404	406	536	574	558	440	422	322	356	586
E-I	0	0	0	0	0	2	0	0	2	0
TOTAL	7,778	7,962	9,220	9,486	10,100	10,108	9,964	8,332	12,054	12,148

APPROACH CATEGORY (AC)

AC	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*
A	1,940	1,934	2,190	2,512	3,166	2,828	2,772	2,198	2,998	3,174
B	4,318	4,280	4,840	4,674	4,812	5,286	5,132	4,386	6,556	6,264
C	882	1,048	1,224	1,214	1,094	1,206	1,120	1,052	1,664	1,674
D	638	700	966	1,086	1,028	786	940	696	834	1,036
E	0	0	0	0	0	2	0	0	2	0
TOTAL	7,778	7,962	9,220	9,486	10,100	10,108	9,964	8,332	12,054	12,148

AIRPLANE DESIGN GROUP (DG)

DG	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*
I	3,620	3,532	3,736	3,954	4,000	3,926	3,496	2,594	3,578	3,696
II	3,570	3,824	4,742	4,646	5,202	5,350	5,710	4,922	7,380	7,136
III	586	604	734	876	894	820	738	792	1,074	1,298
IV	2	2	8	10	4	12	20	24	22	18
TOTAL	7,778	7,962	9,220	9,486	10,100	10,108	9,964	8,332	12,054	12,148

JETS AND TURBOPROPS

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*
Jets	4,630	4,964	5,818	5,924	5,878	6,296	6,302	5,478	8,002	7,952
TP	3,148	2,998	3,402	3,562	4,222	3,812	3,662	2,854	4,052	4,196
TOTAL	7,778	7,962	9,220	9,486	10,100	10,108	9,964	8,332	12,054	12,148

TAXIWAY DESIGN GROUP

TDG	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*
1A	3,294	3,148	3,208	3,698	4,176	3,954	3,632	2,754	3,790	3,748
1B	2,286	2,552	3,012	2,694	2,666	3,216	3,084	2,970	4,528	4,748
2A	1,560	1,634	2,230	2,216	2,398	2,176	2,466	1,854	2,702	2,354
2B	634	626	766	874	818	726	770	736	972	1,244
3	2	2	0	0	16	16	8	16	56	44
4,5,6	2	0	4	4	26	20	4	2	6	10
TOTAL	7,778	7,962	9,220	9,486	10,100	10,108	9,964	8,332	12,054	12,148

Source: TFMSC - January 2013 thru August 2022. Data normalized annually
*2022 Data from September 2021 through August 2022

ARC - Airport Reference Code
ND - No Data

Exhibit 2K
HISTORICAL JET AND TURBOPROP OPERATIONS

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The airport has been experiencing a growing number of operations by aircraft in ADG III. In 2021 and 2022, there were more than 1,000, and over the last 10 years there have been more than 500 every year. There are only a few operations by aircraft in ADG IV. A current ADG of III is clearly supported for the airport.

The TDG is the third component of the airport design aircraft determination. The TDG is primarily based on the main gear wheel width. Medium and large business jets, as well as turboprops, tend to have the greatest wheel widths. The table called taxiway design group on **Exhibit 2K** summarizes the annual operations of jets and turboprops by TDG. Over the last 10 years, the airport has consistently had more than 500 operations by aircraft in TDG 2B. There have been some operations by aircraft in TDG 3 but not enough to exceed the 500 operations threshold; therefore, TDG 2B is the current TDG classification**.** The current ALP for the airport does not list a TDG because this classification element did not apply at the time of the drafting of the previous ALP.

The current critical aircraft is classified as D-III-2B. Examples of aircraft that fall in this category include the Gulfstream 500, 550, 650 models.

FUTURE CRITICAL AIRCRAFT

It is not unusual for an airport to transition from one critical design aircraft to another. This will not be the case at CMA as it is already classified in the category (D-III) which captures all general aviation aircraft in service today; however, an operational fleet mix by aircraft classification is useful when determining certain environmental impacts (i.e., noise analysis). **Table 2Q** summarizes the forecast of all fixed wing turbine operations (jets and turboprops). The growth areas are by aircraft in ACC C and D with a modest decline, as a percentage of the total, by aircraft in AAC A and B.

TABLE 2Q | Jet and Turboprop Operations by Approach Category

	HISTORICAL TURBINE OPERATIONS				FORECAST TURBINE OPERATIONS			
Design Categories	2013	Percent	2022*	Percent	2027	2032	2042	2042 Percent
Approach Category A/B	6,258	80.46%	9,438	77.69%	15,408	20,607	35,303	71.00%
Approach Category C	882	11.34%	1,674	13.78%	2,920	4,287	8,453	17.00%
Approach Category D	638	8.20%	1,036	8.53%	1,813	2,766	5,967	12.00%
Total	**7,778**	**100%**	**12,148**	**100%**	**20,141**	**27,660**	**49,723**	**100%**

*2022 data is from Dec 2021 through Nov 2022

Source: Traffic Flow Management System Count database (TFMSC) - Data normalized annually

Determining the future taxiway design group is a little more challenging because there are only a few general aviation aircraft that have a TDG higher than the current 2B TDG. Examples are the Embraer Lineage and Boeing Business Jet. These variants of passenger transport aircraft are not common to the general aviation fleet. If a TDG 3 aircraft were to base at the airport and operate more than 500 times annually, then the future TDG would transition to 3. The primary difference between TDG 2B and 3 is the standard taxiway width increases from 35 feet to 50 feet. Since the primary taxiways at CMA are already 50 feet wide, it is recommended that a future TDG of 3 remain the planning standard for the airport in order to maintain the existing taxiway dimensions.

The analysis presented examined each of the three elements for classifying the airport design aircraft. **The future critical aircraft is characterized as D-III-3.** This could be represented by a single aircraft type or by a combination of aircraft types with more than 500 operations.

RUNWAY DESIGN CODE

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

Runway 8-26 is 6,013 feet long and 150 feet wide, which is to be narrowed to 100 feet during the next reconstruction project to meet design standard. Runway 26 has an instrument approach with visibility minimums of not lower than ¾-mile. The current master plan (2011) reserved ground and airspace to support a Category I (CAT-I) precision instrument approach to Runway 26 with ½-mile visibility minimums. This type of instrument approach and visibility minimums are common to national general aviation reliever airports, like CMA, and should continue to be considered for the future. Based on current activity, the RDC is **D-III-4000**. The future RDC for Runway 8-26 is planned as **D-III-2400**, however, subsequent analysis in the Facility Requirements section of this study will analyze the feasibility of lower visibility minimums.

APPROACH AND DEPARTURE REFERENCE CODES

The approach and departure reference codes (APRC and DPRC) describe the operational capabilities of each runway and the adjacent parallel taxiways, where no special operating procedures are necessary. Essentially, the APRC and DPRC describe the current conditions at an airport in runway classification terms when considering the parallel taxiway. Runway 8-26 is served by parallel Taxiway F, which is 700 feet from the runway centerline. The runway/taxiway system meets the standards associated with the current and future APRC and DPRC.

CRITICAL AIRCRAFT SUMMARY

Table 2R summarizes the airport and runway classification for CMA. The current critical aircraft is defined by those aircraft in D-III-2B, and the future critical aircraft is D-III-3. The current RDC for Runway 8-26 is D-III-4000, and the future RDC is D-III-2400.

TABLE 2R | Existing/Ultimate Runway Design Characteristics

	Critical Aircraft	Runway Design Code	Approach Reference Code	Departure Reference Code
Current	D-III-2B	D-III-4000	D/IV/4000	D/VI
Future[1]	D-III-2B	D-III-2400	D/IV/2400 D/V/2400	D/IV D/V

[1]Assumes a future runway/taxiway separation of 400'.

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

SUMMARY

This study has outlined the various activity levels that might reasonably be anticipated over the 20-year planning period, as well as the critical aircraft for the airport. Based aircraft are forecast to increase from 350 in 2022 to 444 by 2042, for an annual growth rate of 1.20 percent. Total operations are forecast to increase from 187,076 in 2022 to 216,172 by 2042, which is an annual growth rate of 0.73 percent.

The critical aircraft for the airport was determined by examining the FAA TFMSC database of flight plans. The current critical aircraft is described as D-III-2B and is best represented by large business jets such as the Gulfstream 550. In the future, aircraft with wider wheelbases may frequent the airport which would lead to a future critical aircraft of D-III-3.