CHAPTER 3 AVIATION ACTIVITY FORECASTS

3.1 INTRODUCTION

This chapter updates the aviation activity forecasts for the 20-year master plan period (2021-2041) at the Ontario Municipal Airport (ONO). The most recent activity forecasts for the Airport were developed and approved by the Federal Aviation Administration (FAA) in the 2007 Airport Master Plan.

The Ontario Municipal Airport is designated as a Category III Regional General Aviation airport in the *Oregon Aviation Plan v6.0* (OAP v6.0). As stated in the OAP v6.0, Category III airports "support most twin and single-engine aircraft and may accommodate occasional business jet operations. These airports support regional transportation needs with a large and often sparsely populated service area."

The Ontario Municipal Airport is further classified in the federal airport system National Plan of Integrated Airport Systems (NPIAS) as a Local Nonprimary General Aviation airport. According to the FAA, a local general aviation (GA) airport "supplements local communities by providing access to markets within a State or immediate region. They are most often located near larger population centers, but not necessarily in metropolitan or micropolitan areas. Most of the flying at local airports is done by piston aircraft in support of business and personal needs. These airports typically accommodate flight training, emergency services, and charter passenger service."

3.2 PURPOSE AND GOAL

The Forecasts of Aviation Demand are the basis for determining airport facility requirements. These requirements are then used to plan airport development, such as runways and taxiways, apron areas, and hangar locations, following specific airfield design standards.

Forecasts estimate the nature and magnitude of aeronautical activity and the associated need for airport development over the 20-year planning period. Aviation activity forecasts provide data to estimate future local and itinerant aircraft traffic. Aircraft activity also forms the justification and need for demand-driven improvements. The forecasts are often incorporated by reference into other studies and policy decisions. Forecast formulation is a subjective process concerning the extent to which one projection, or combination of several projections, or prevailing or anticipated conditions, represents a reasonable estimate of future aviation activity.

3.2.1 FORECASTING PROCESS

Guidance for preparing aviation activity projections is contained in FAA Advisory Circular 150-5070-6B, Airport Master Plans. The steps include:

1. Identify aviation activity measures
2. Review previous airport forecasts
3. Gather data
4. Identify and apply aviation and non-aviation forecasts metrics
5. Select forecast results
6. Compare forecast results to FAA Terminal Area Forecasts (TAF)
7. Acquire written approval from the FAA

There are generally no comprehensive historical accounts of aviation activity for airports operating without airport traffic control towers. A review of national, regional, and local factors that might influence activity constitutes baseline values in determining the forecast estimates.

The Forecasts of Aviation Demand are provided in increments of 5, 10, and 20 years over the 20-year planning period. These periods are also classified into phases. Phase I (short term) is the first five years, Phase II (intermediate term) is the second five years, and Phase III (long term) is the last 10 years. The year 2021 is the base forecast year and 2041 is the final forecast year. Efforts are made to report data and projections as percent change for easy reference.

Aeronautical forecasts are prepared to determine airport facility requirements for the Ontario Municipal Airport, which include the following:

- Based Aircraft
- Based Aircraft by Type
- General Aviation Operations
- General Aviation Operations by Type
- Aircraft Operations Mix
- Peak Period Aircraft Operations
- Instrument Aircraft Operations
- Summary and Design/Critical Aircraft

3.2.2 FAA APPROVAL PROCESS

The FAA TAF is an annual report of historical aviation data and forecasts for airports included in the NPIAS. The TAF is compiled to assist the FAA in meeting its planning, budgeting, and staffing requirements, and to provide information for use by state and local authorities, the aviation industry, and the public. The FAA's Seattle Airports District Office (ADO) reviews and approves the forecasts prepared as part of this Master Plan. Specifically, FAA considers a forecast consistent with the TAF if it differs by less than 10 percent in the 5-year forecast period, and 15 percent in the 10-year forecast period. If the forecasts are inconsistent with the TAF, differences are resolved before the forecast is approved by the FAA.

3.3 ECONOMIC CONDITIONS

Historically, general aviation activity correlates with the state of the economy. In times of weak economic conditions, such as the 2008 Great Recession, the financial ramifications trickle through local communities and into the general aviation sector. Then, as the economy improves, so do conditions within general aviation. For instance, the decade of sustained growth leading into 2020 resulted in overall increased demand for air travel.

Beginning in 2020, airport activity throughout the U.S. airport system was disrupted by the coronavirus pandemic at unprecedented levels. However, the underlying elements of demand used to update aviation activity forecasts at the Ontario Municipal Airport are anticipated to remain relevant and intact.

3.3.1 SOCIOECONOMIC INDICATORS

A review of projected socioeconomic activity can provide insights into the future use of the Ontario Municipal Airport. Demographics can be influenced by economic incentives, policy, and institutional reform as well as changes in technology, cultural norms, and behavior. They are, therefore, an important indicator of the pace and progress of economic development in a region.

The primary service area of the Ontario Municipal Airport, for the purpose of forecasting aviation activity, is the Ontario, OR-ID Micropolitan Statistical Area (MSA). Demographic trends from the Ontario, OR-ID MSA, which includes the City of Ontario and a majority of Malheur County, were used to provide a clear indication of activity.

Economic projections included in this forecast were sourced from Woods and Poole Economics, Inc. (WPE), a nationally recognized

firm specializing in long-term economic and demographic projections. WPE makes MSA-based projections using personal income, population, inflation, industry-specific earnings and employment, and other variables.

Select WPE socioeconomic indicators are inventoried for future years of consequence for this planning, as described further below. The referenced data is also listed in **Table 3.1** and depicted in **Figure 3.1**.

3.3.1.1 Population

The population of the State of Oregon has grown from 2,842,321 in 1990 to 4,237,256 in 2020 at a compound annual growth rate (CAGR) of 1.3 percent. In the most recent Oregon Office of Economic Analysis demographic forecast report, the state population is projected to increase by 3.9 percent from 4,256,700 in 2021 to 4,426,000 in 2026.

WPE's historical population data indicated the Ontario, OR-ID MSA has undergone steady growth and the population is projected to increase by 1.1 percent from 54,749 in 2021 to 55,330 in 2026 and by 4.4 percent over the next 20 years to 57,169 in 2041.

3.3.1.2 Employment

The Ontario, OR-ID MSA's employment projections show an expected increase of 2.9 percent from 28,427 people employed in 2021 to 29,244 in 2026, and of 10.8 percent over the 20-year planning period to 31,504 in 2041.

3.3.1.3 Earnings

The Ontario, OR-ID MSA's population earnings projections show an expected increase of 7.8 percent from $1.2 billion in 2021 to $1.3 billion in 2026 and of 33.7 percent over the 20-year planning period to $1.6 billion in 2041.

3.3.1.4 Personal Income

The Ontario, OR-ID MSA's personal income projections show an expected increase of 11.5 percent from $1.9 billion in 2021 to $2.13 billion in 2026 and of 52.9 percent over the 20-year planning period to $2.9 billion in 2041.

3.3.1.5 Per Capita Personal Income

The Ontario, OR-ID MSA's per capita personal income projections show an expected increase of 10.4 percent from $34,909 in 2021 to $38,529 in 2026 and of 46.4 percent over the 20-year planning period to $51,110 in 2041.

3.3.1.6 Households

The Ontario, OR-ID MSA's total number of households is projected to increase by 1.9 percent from 19,784 in 2021 to 20,159 in 2026 and by 4 percent over the 20-year planning period to 20,581 in 2041.

3.3.1.7 Retail Sales

The Ontario, OR-ID MSA's retail sales projections show an expected increase of 6.6 percent from $8.3 million in 2021 to $8.9 million in 2026 and of 23.8 percent over the 20-year planning period to $1.03 billion in 2041.

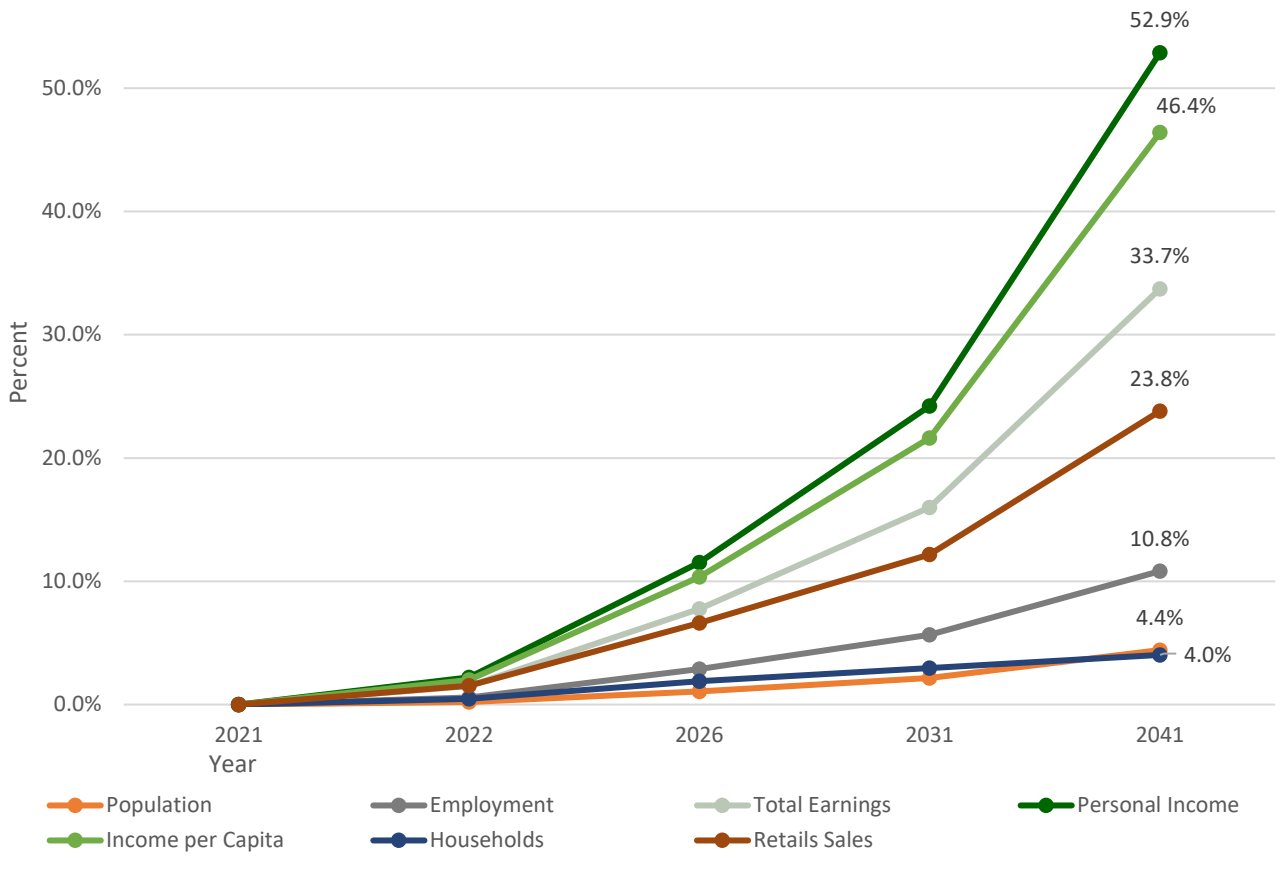
Sectors with the largest forecasted growth are personal income and per capita personal income and retail sales. Fundamentally, these are leading indicators for taxation, credit, and consumer confidence, which in turn drive the Marginal Propensity to Consume (MPC). MPC is defined by Investopedia as "the proportion of an aggregate raise in pay that a consumer spends on the consumption of goods and services, as opposed to saving it. Looking at the economic data the area is expected to see significant growth over the next 20 years.

TABLE 3.1
ONTARIO, OR-ID MSA PROJECTED SOCIOECONOMICS DATA

Characteristic	2021	2026	*5-Year % Change**	5-Year CAGR	2041	*20-Year % Change**	*20-Year CAGR*
Population	54,749	55,330	1.1%	0.2%	57,169	4.4%	0.2%
Employment	28,427	29,244	2.9%	0.6%	31,504	10.8%	0.5%
Earnings**	$1.2 Billion	$1.3 Billion	7.8%	1.5%	$1.6 Billion	33.7%	1.5%
Personal Income**	$1.9 Billion	$2.13 Billion	11.5%	2.2%	$2.9 Billion	52.9%	2.1%
Per Capita Personal Income	$34,909	$38,529	10.4%	2%	$51,110	46.4%	1.9%
Households	19,784	20,159	1.9%	0.4%	20,581	4%	0.2%
Retail Sales**	$8.3 Million	$8.9 Million	6.6%	1.3%	$1.03 Billion	23.8%	1.1%

SOURCE: WPE / J-U-B
**5 and 20-year percent change and CAGR from 2021 baseline*
*** 2012 dollars*

FIGURE 3.1
ONTARIO, OR-ID MSA SOCIOECONOMICS PROJECTED PERCENT CHANGE



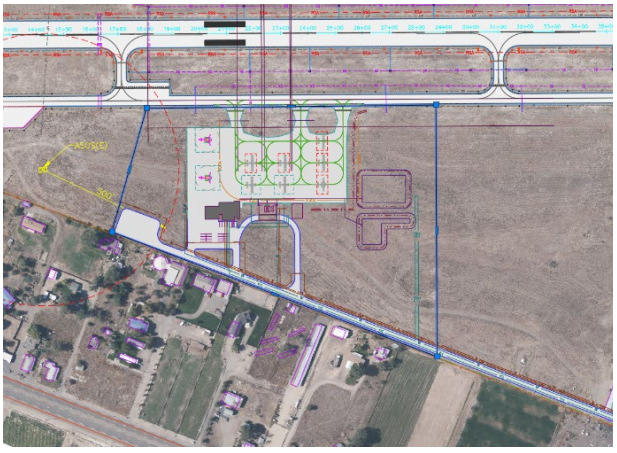
SOURCE: WPE / J-U-B

3.4 NON-AERONAUTICAL AND AERONAUTICAL REVENUES

3.4.1 HANGAR DEVELOPMENT

The existing Ontario Municipal Airport ALP indicates 35 hangar locations with multiple T-hangar spaces depicted as large individual hangars, 32 tie-downs, and main apron space that is approximately 304,347 square feet in size. The available hangar locations offer water, sewer, and power connections. Fuel sales, local based aircraft growth, local operations, and tenant requests for additional space are expected to translate directly to demand for additional hangars, apron space, and aircraft tie-downs, and the City should plan to address this growth. At the time of this report, there was an expressed interest in 13 additional hangar permits.

The Bureau of Land Management (BLM) is also developing additional space for their Single-Engine Air Tanker (SEAT) Base. This fire support unit has an 18-acre requirement, including a new building, taxilanes and apron space, and an aircraft wash/ run-off area.



Proposed BLM SEAT Base site

The Oregon Aviation Plan (OAP v6.0) based aircraft forecast projects an average annual growth rate (AAGR) of 0.71 percent at the Ontario Municipal Airport. The number of based aircraft at an airport will determine how many hangars are needed to store them. When applied to the existing 35 hangars and 13 permit requests, the AAGR for based aircraft produces a projection of 55 or more hangars in 2041 at the Airport.

3.4.2 FBO DEVELOPMENT

According to the Aviation Resource Group International, there has been a national increase of 2.5 percent in Fixed Base Operators (FBOs) between 1995 and 2015. Of the 3,537 public-use airports in the U.S. with paved runways measuring 3,000 feet or more in length, there is a combined total of 3,384 FBOs. In the State of Oregon, the 32 airports with runways longer than 5,000 feet are served by 26 FBOs.

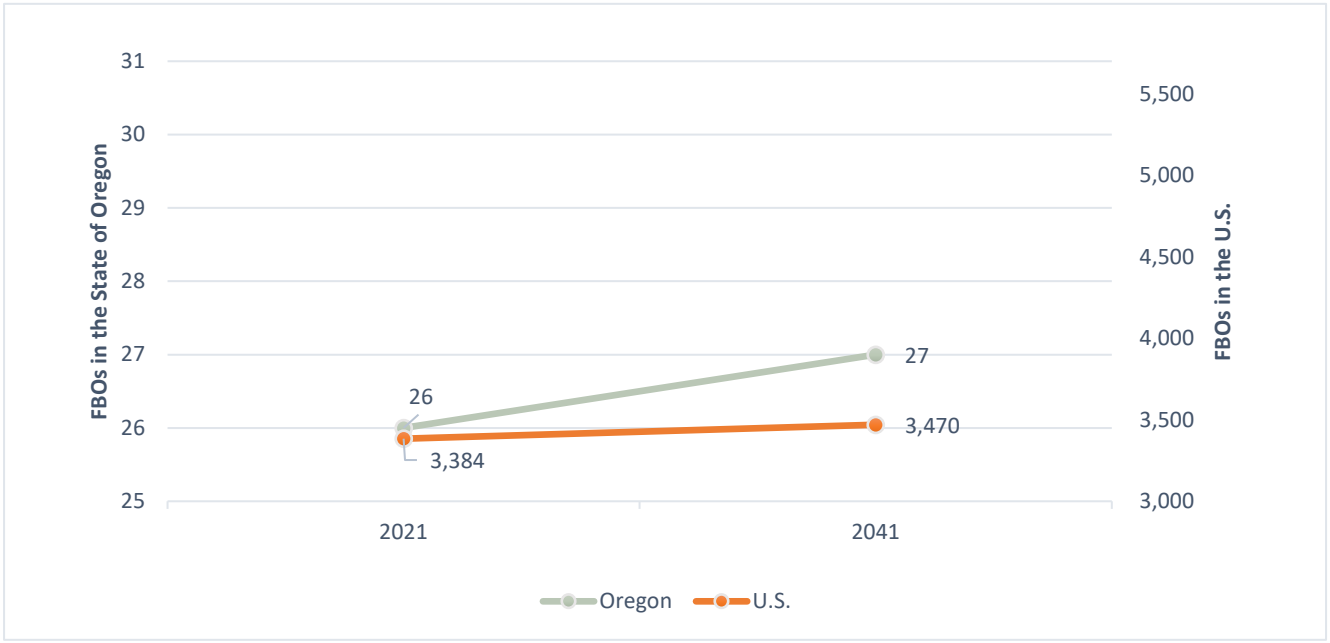
Frazier Aviation LLC was the FBO at the Ontario Municipal Airport for a number of years. In 2021, Silverhawk Aviation Academy (Silverhawk) replaced Frazier Aviation as the Airport's FBO. Silverhawk is a fixed-wing and helicopter flight training operator headquartered at the Caldwell Industrial Airport in Caldwell, Idaho. Typically, an FBO or Air Training Organization (ATO) will provide GA services like flight training, refueling, light maintenance, flight/weather planning facilities, pilot's lounge, and restroom facilities. As the sole provider of GA support services, the previous FBO's presence enabled an 11.2 percent growth in operations between 2013 and 2021. It is expected that Silverhawk will create its own opportunities for flight training, in addition to GA services.

The forecast for FBO growth assumes that the City would continue to be open to additional FBOs operating at the Ontario Municipal Airport; however, for the purpose of this planning effort, the number of FBOs is expected to remain at 1 during the forecast period.

According to the State of the FBO Industry, the national and state facilities are projected to grow at an annual rate of 0.125 percent over the forecasted period (2021-2041). At that rate, the 26 FBOs in Oregon will increase to 27 and the 3,384 in the U.S. to 3,470. **Figure 3.2** illustrates these general growth trends.

A typical distribution of FBOs per airport is 1 for non-hub/GA airports according to the *Characteristics of the FBO Industry 2018-2019* published by the Airport Cooperative Research Program (ACRP).

FIGURE 3.2
FORECASTED FBO GROWTH IN THE STATE OF OREGON AND THE U.S.



SOURCE: J-U-B

Table 3.2 divides the FBO market profile into three tiers with correlating annual revenue and specific services. An FBO located at the Ontario Municipal Airport would likely be classified as a Tier 3 FBO and could expect to generate most of its income through fuel sales, the majority from based aircraft. Fuel sales will typically be under 1 million US Gallons (USG) annually. Facility/hangar services, aircraft charters and itinerant jet use have the potential to become a more significant revenue source along with fuel sales.

TABLE 3.2
TYPES OF FBO CLASSIFIED BY ANNUAL REVENUE AND SERVICES

Type	Annual Revenue	Services
Tier 1	More than $25 mil	▪ Full Line-services (Fuel) ▪ Facility & Hangar ▪ Turbine Aircraft Technical Services/Maintenance & Parts ▪ Turbine Aircraft Charter & Management ▪ Fully Developed OEM Certified Aircraft Service Centers
Tier 2	$10-25 mil	▪ Full Line-service (Fuel) ▪ Facility & Hangar ▪ Turbine Aircraft Maintenance & Parts ▪ Turbine Aircraft Charter & Management ▪ Specialized Missions/Geophysical/Medevac
Tier 3	Less than $10 mil	▪ Full Line-services (Fuel) - 40% of Revenue ▪ Facility & Hangar ▪ Piston/Turboprop/Maintenance & Parts ▪ Piston/Turboprop/Maintenance & Parts ▪ Piston/Turboprop/Aircraft Charter ▪ Flight School (Aircraft Rental and Flight Training)

SOURCE: AVIATION RESOURCE GROUP INTERNATIONAL (ARGI): FBO OPERATING SURVEY/NORTH AMERICA (DEC 2013) / J-U-B

Airport-operated FBOs have begun to increase as private investment value propositions at airports have declined, especially due to their dependence upon piston powered operations. While the FBO community is changing, FBOs continue to show increasing profitability and growth at airports with runways shorter than 5,000 feet.

Out of the top 100 GA airports with the most airport activity, a majority (45) have two FBOs selling jet fuel. Airports not ranked in the top 100 for operations are more likely to have one FBO selling jet fuel. Ontario Municipal Airport is lower than the 300th ranked airport and is unlikely to experience enough GA traffic to support more than one FBO business entity. **Table 3.3** lists the groups of ranked airports and identifies how many airports in each group have 1 to 6 FBOs that sell fuel.

Local governments have started to see the investment potential at GA airports. An airport can function as a gateway for economic investment in a community and as a link to nearby businesses. As leases come up for renewal, more and more airports are expecting, or requiring, FBOs to invest in high-end facilities. A collaborative ownership effort between a sponsor and airport stakeholders could qualify for a U.S. Economic Development Administration (EDA) grant, which would mitigate business risks and provide a unique opportunity to encourage an FBO's success.

TABLE 3.3
NUMBER OF AIRPORTS WITH FBOS SELLING JET FUEL

Airport Rankings by Number of GA Operations	Number of Airports Based on Number of FBOs					
	1 FBO	2 FBOs	3 FBOs	4 FBOs	5 FBOs	6 FBOs
Top 100	27	45	12	8	4	4
101-200	52	37	8	2	1	0
201-300	70	22	8	0	0	0

SOURCE: FBO PARTNERS, LLC / J-U-B

3.4.3 ADVANCED AIR MOBILITY NETWORK

As populations in megacities grow, the increased urbanization and traffic congestion continues to push ground transport systems to their limits. Urban mobility offers the potential to create a faster, cleaner, safer, and more integrated transportation system. As Advanced Air Mobility (AAM) networks grow, they will unlock new mobility options and economic opportunities for urban and regional communities.

An analysis of recent global trends suggests:

- The value of the wider aerial mobility market, including passenger and cargo transportation, will hit $9 trillion and 11-12 percent of global GDP by 2050 (Morgan Stanley).
- The top three market segments to attract customers in focus group studies were: (1) airport transfers, (2) end-to-end city transfers, and (3) daily commuters.

To enable on-demand Electronic Vertical Takeoff and Landing (eVTOL) operations within a city, it will be essential to tailor the infrastructure and operations needs based on patterns of local demand (e.g. an airport, mall, sports arena, city center) and focus primarily on a carpool-enabled eVTOL network consisting of multimodal trips. The extent of infrastructure that will need to be developed within a community could be considerable. Infrastructure to support eVTOL operations includes:

- Hangars
- Maintenance shops
- Certification centers
- Charging facilities
- Long-term car parking
- Skyports/vertiports
- AAM corridors
- Air/ground cargo businesses
- Supporting food and entertainment businesses

3.4.4 LOCAL VERTIPORT LOCATION AT THE ONTARIO MUNICIPAL AIRPORT

Short-term opportunities presented by a local vertiport exist where an airport's facilities can already sustain vertical operations. The City should monitor any future emergence within the local vicinity.

The similarity of operations could integrate vertiport operations easily at the airport. The initial certification process for commercial passengers requires automation oversight by an on-board pilot and allowing use of the Common Traffic Advisory Frequency (CTAF) which is in use at the Ontario Municipal Airport.

A vertiport is an area specifically designated for eVTOL operations. A vertiport located at an airport might be characterized with a terminal area for passengers, a raised or ground level landing and takeoff surface, and available power for charging of electric aerial vehicles.

An eVTOL flight between a vertiport at the Ontario Municipal Airport and Boise Air Terminal or the Capital Terrace Parkade/Garage in downtown Boise, Idaho would take approximately 29 minutes. Both locations in Boise are viable spots for vertiports and potential destinations along an existing transportation route between the cities of Ontario and Boise.

The forecast effort for this emerging technology considered socioeconomic and aviation related factors, as well as on-demand air mobility surveys. The eVTOL Passenger Acceptance Final Report states:

"One of the studies found that 25 percent of more than 2,500 consumers surveyed report that they are comfortable with unmanned aerial technology, whereas approximately 25 percent report they will not use UAS or eVTOLs when services become widely available, citing

concerns about safety, privacy, job security, environmental threats, noise, and visual disruption. Although the study concluded that "nearly half of all consumers surveyed are potentially comfortable with package delivery and UAM use cases." It is equally true that 75 percent of potential passengers are likely to have some concerns about the new technologies, beyond the customary attributes of safety, monetary cost, and value of time."

3.4.5 ONTARIO CITY'S COMMERCIAL BUSINESS INDUSTRY

The City has identified potential areas to be re-zoned for business activity, including some that will be used for off-airport businesses. Incentives for commercial business growth in this area include the availability of flat, undeveloped, subdivided, and zoned land within the Airport Industrial Business Park. Highlights of this location include existing and planned utilities like sewer, water, power, and Internet. The Airport's proximity to Interstate 84 can provide seamless access to quick transportation arteries— another critical component to business activity. Services for business planning and growth, such as financial lending assistance, social media/website development services, business training, and government contracting opportunities, are available through the City of Ontario's Community Development Center to entice and promote new and existing business activity.

Dan Cummings, the Community Development Director at the City of Ontario, shared some of the City's vision and identified several emerging opportunities. Highlights of some of these efforts include:

- Hemp farming in the old clubhouse (2 acres). Oregon has over 600 registered growers with the Department of Agriculture Hemp Program and a dozen registered hemp growers in Malheur County with business potential for additional growers, handlers, and testing laboratories.
- Scheduled extensions of Golfcourse Rd. connecting at 36th Street and 4th Ave.
- A western parallel taxiway to increase aircraft taxiing flow and runway capacity. This will be pivotal to accommodate increased air cargo, GA activity, flight training and charter operations.
- The annexation of additional industrial and commercial development land near the Airport.
- Preliminary Design Phase for interconnection of Airport and City sewer and water lines.
- Expansion opportunities leveraged by Kraft Heinz food company for the creation of new employment opportunities.
- A commercial area for additional economic growth, east of the Airport.

3.4.6 ONTARIO CITY'S RESTAURANT INDUSTRY

Currently, there are 10,456 food and beverage businesses serving the residents of Oregon. There are 23 restaurants within a 3-mile radius of the Ontario Municipal Airport, four of which are in a 1-mile radius.

Growth factors within the fast food and meals segment of the market are forecasted to grow at 1.56 percent over the 20-year planning period. This average growth per year considered a weighted average of three national industry indices — the Restaurant Growth Index (RGI), Restaurant Performance Index (RPI) and the Consumer Price Index (CPI). Currently, with four restaurants within a 1-mile radius of the airport, market growth could allow for an additional restaurant over the 20-year period (See **Figure 3.3).** An airport user would not need to drive

beyond three miles of the Ontario Municipal Airport to get increased food and beverage service. The airport's non-aeronautical revenue potential could experience increased seasonal growth from tourism, festivals, and creative activities engineered to attract additional visitors to the area.

FIGURE 3.3
DEMAND GROWTH FOR RESTAURANTS NEAR THE AIRPORT

SOURCE: J-U-B

3.5 AVIATION-RELATED INDICATORS

Although area socioeconomic data often closely correlates to aviation activity, more direct measures of aviation industry activity are also important.

3.5.1 AVIATION MARKET OVERVIEW

According to AvBuyer's February 2021 *Business Aviation Market Overview,* the November 2020 *Dealer Activity Report* published by International Aircraft Dealers Association (IADA) indicated strong global commitments to 2020 pre-owned business jets (see **Table 3.4**).

TABLE 3.4
AVBUYERS GLOBAL PRE-OWNED JET GROWTH

Year	2019	2020	% Change
North America	1,609	1,774	+10.3%
Western Europe	146	143	-2.1%
Asia	23	19	-17.4%
Oceania	12	17	+41.7%
Eastern Europe	13	40	+207.7%
Middle East/ Africa	43	31	-27.9%
South America	92	116	+26.1%
TBD	47	49	-
Worldwide	1,985	2,189	+10.3%

SOURCE: AVBUYERS

Pre-owned jet sales saw an overall growth from 2019 to 2020. Small business jets were the highest in demand at 13.6 percent. Of the total global GA jet aircraft sales in December 2020, 66 percent originated in the U.S. During the same month, business jet flights in the U.S were down 10 percent year-on-year, an improvement from the 16 percent year-on-year decline the previous month. Additional highlights of the IADA activity report include:

- Charter activity continued to be robust, with sectors down by 7 percent year-on-year, while branded charter flight hours were up by 2 percent year-on-year.
- Aircraft operations were also robust, increasing 6 percent and inflated by third-party charters.
- Private operations lagged at 17 percent below normal, largely due to still-idle corporate flight departments.

Final interpretation of the IADA Report shows that Eastern Europe, Oceania, North and South America were the strongest markets with growth indications. However, the North American business jet market remained strong with 81 percent of jet market.

3.5.2 OREGON'S AVIATION SYSTEM PLAN

The Oregon Department of Aviation (ODA) uses three methodologies in the Oregon Aviation System Plan v6.0 (OAP v6.0) to derive the statewide based aircraft and operations forecasts. Forecasts were also produced for airports involved in the analysis, which includes Ontario Municipal Airport.

The forecasting methodologies used per capita real GDP, the FAA TAF, and population growth to determine the based aircraft forecasts. The following average annual growth rates (AAGR) from 2015 to 2035 were projected for based aircraft at Ontario Municipal Airport:

- A Top-down forecast using per capita real GDP – 1.6 percent
- A Bottom-up forecast using TAF projections – 1.1 percent
- A Bottom-up forecast using total based aircraft – 1 percent

The forecasting methodologies used to produce the aircraft operations forecasts considered population growth, GA hours flown, and per

capita real GDP. The ODA forecasted AAGRs from 2015 to 2035 for aviation operations at the Airport are as follows:

- A Bottom-up forecast of 0.71 percent using regional population growth
- A Top-down forecast of 0.9 percent using GA hours flown
- A Top-down forecast of 1.6 percent, using Per Capita Real GDP

Statewide GA based aircraft fleet mix forecasts from 2015 to 2035 presented an AAGR for the Ontario Municipal Airport using **Per Capita GDP growth** as follows:

- 1.6 percent for Single-Engine
- 1.6 percent for Multi-Engine
- 1.8 percent for Helicopters (calculated)
- 1.6 percent for Jet

Statewide GA based aircraft fleet mix forecasts from 2015 to 2035 presented an AAGR for the Ontario Municipal Airport using **population growth** as follows:

- 0.97 percent for Single-Engine
- 0.97 percent for Multi-Engine
- 0.97 percent for Helicopters
- 0.97 percent for Jet

Statewide GA based aircraft fleet mix forecasts from 2015 to 2035 presented an AAGR using the **FAA Aerospace Forecast (2020-2040) growth** as follows:

- 0.2 percent for Single-Engine
- 0.2 percent for Multi-Engine
- 0.21 percent for Helicopters
- 0.25 percent for Jet

From the results yielded by the forecasting methodologies, the OAP v6.0 selected the following preferred AAGRs for the Ontario Municipal Airport:

- **Operations** – A Bottom-up forecast of 0.71 percent using regional population growth
- **Based Aircraft** – A Bottom-up forecast using TAF growth - 1.1 percent
- **Based Aircraft Fleet Mix** – Based upon the FAA Aerospace Forecast (2020-2040):
  - 0.2 percent for Single-Engine
  - 0.2 percent for Multi-Engine
  - 0.21 percent for Helicopters
  - 0.25 percent for Jet

These preferred AAGRs for operations, based aircraft, and based aircraft fleet mix will be used for the purpose of this planning effort to produce the Ontario Municipal Airport's forecast of aviation demand.

3.5.3 FAA FORECASTING

The FAA Aerospace Forecasts Fiscal Years 2021-2041 is a recent edition of this annually updated forecasting document. This document notes: "Global economic growth accelerated in 2021 after slowing in 2019-2020." 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 slowing of global economic growth during 2019 and 2020 is evidenced by the 2.8 percent decline in manufactured aircraft deliveries in the U.S. reported by the FAA in a review of 2019-2020. While the current deliveries remain flat, the report forecasts a growth of 0.05 percent annually during the 2021-2041 forecast period.

Steady growth in both GDP and corporate profits resulted in continued growth of the turbine and rotorcraft fleets. The growth in U.S. GDP and corporate profits are catalysts for the growth in the turbine fleet. The turboprop fleet is expected to grow by 0.6 percent between 2021 and 2041, while the turbojet fleet is expected to grow by 2.3

percent during the same period. **Table 3.5** lists the 10 and 20-year AAGRs for active GA aircraft produced by the FAA Aerospace Forecast 2021-2041.

TABLE 3.5
ACTIVE GA AIRCRAFT TYPE FORECAST

Aircraft type	10-Year	20-Year
Single-Engine Piston	-1.0%	-0.9%
Multi-Engine Piston	-0.5%	-0.4%
Turboprop	0.2%	0.6%
Turbojet	2.5%	2.3%
Rotorcraft	1.3%	1.4%
Light Sport Aircraft	5.3%	4.0%
Experimental	1.7%	1.4%
Average	**1%**	**1.6%**

SOURCE: FAA AEROSPACE FORECAST 2021-2041, TABLE 28

Though the single-engine piston aircraft is shown to shrink in **Table 3.5** by 0.9 percent during the 20-year forecast period, it remained the largest segment of the fleet. It should also be noted, most of the national fleet consists of light sport aircraft, but this type is unrepresented in the validated based aircraft numbers at the Airport.

Rotorcraft hours flown are expected to grow by 2 percent overall, as indicated in **Table 3.6**. This is favorable to cities like Ontario that have several based helicopters (4 aircraft) and considerable activity for medical evacuation (Life Flight). The 10 and 20-year AAGRs for active GA aircraft hours flown, reported by the FAA Aerospace Forecast 2021-2024, are listed in **Table 3.6**.

TABLE 3.6
ACTIVE GA HOURS FORECAST

Aircraft type	10-Year	20-Year
Single-Engine Piston	-1.0%	-0.7%
Multi-Engine Piston	-0.8%	-0.3%
Turboprop	1.0%	1.0%
Turbojet	5.0%	3.5%
Rotorcraft	2.3%	2.0%
Light Sport Aircraft	6.2%	4.5%
Experimental	3.8%	2.7%
Average	**2.6%**	**2.1%**

SOURCE: FAA AEROSPACE FORECAST 2021-2041, TABLE 29

The increase in rotorcraft hours flown is also very promising for Jet-A fuel sale forecasts at the Ontario Municipal Airport. Growth in fuel consumption by piston rotorcraft is forecasted at 1.9 percent and by turbine rotorcraft at 1.4 percent. The turbojets, with a forecasted 3.5 percent increase in hours flown, also have a high forecasted fuel consumption of 2.8 percent. **Table 3.7** lists the 10 and 20-year AAGRs for GA aircraft fuel consumption produced by the FAA Aerospace Forecast 2021-2041.

TABLE 3.7
GA AIRCRAFT FUEL CONSUMPTION FORECAST

Aircraft type	10-Year	20-Year
Single-Engine Piston	1.1%	-0.8%
Multi-Engine Piston	-1.0%	-0.5%
Turboprop	0.7%	0.6%
Turbojet	4.2%	2.8%
Piston Rotorcraft	2.2%	1.9%
Turbine Rotorcraft	1.7%	1.4%
Light Sport Aircraft	5.8%	4.2%
Experimental	3.9%	2.6%
Average	**3%**	**1.9%**

SOURCE: FAA AEROSPACE FORECAST 2021-2041, TABLE 31

The FAA Aerospace Forecast 2021-2041 produced 10 and 20-year AAGRs for GA instrument operations with air traffic control, which are listed in **Table 3.8**:

TABLE 3.8
FAA AIRCRAFT INSTRUMENT OPERATIONS FORECAST

Operation Type	10-Year	20-Year
GA Itinerant	1.5%	0.9%
GA Local	0.9%	0.6%
Average	**1%**	**0.8%**

SOURCE: FAA AEROSPACE FORECAST 2021-2041, TABLE 32

The FAA Aerospace Forecasts growth rates are especially important and will be used as a consideration in the consultant's preferred growth rates.

3.5.4 FUEL SALES

Frazier Aviation arrived at Ontario Municipal Airport in 2013 and was able to provide competitive fuel pricing until 2021. The FBO ownership was recently transferred to Silverhawk, which will now be the provider of GA services at the airport. No baseline for previous fuel sales or quantities were available during this study; however, the 2021-2041 FAA Aerospace Forecasts indicates an outlook of 3.1 percent average annual growth over the ten-year forecast period and 2.2 percent average annual growth over the 20-year forecast period.

3.6 BASED AIRCRAFT FORECASTING

The FAA-validated number of current based aircraft at the Ontario Municipal Airport, for purposes of this planning, includes 84 Single-Engine Piston (SEP), 0 Multi-Engine Piston (MEP), 1 Jet, and 4 Helicopters for a total of **89 based aircraft**. Ultralight aircraft are not part of the count for master plan purposes. Historic socioeconomic data and fuel sales projections form the FAA Aerospace Forecasts are used to develop the Based Aircraft Forecasting.

3.6.1 BASED AIRCRAFT PROJECTIONS

The projections reviewed and analyzed earlier in this chapter are used in this section to develop based aircraft forecasts at the Ontario Municipal Airport. The socioeconomic projections from Section 3.3. and the ODA and FAA projections from Section 3.5 have been compiled into **Table 3.9**.

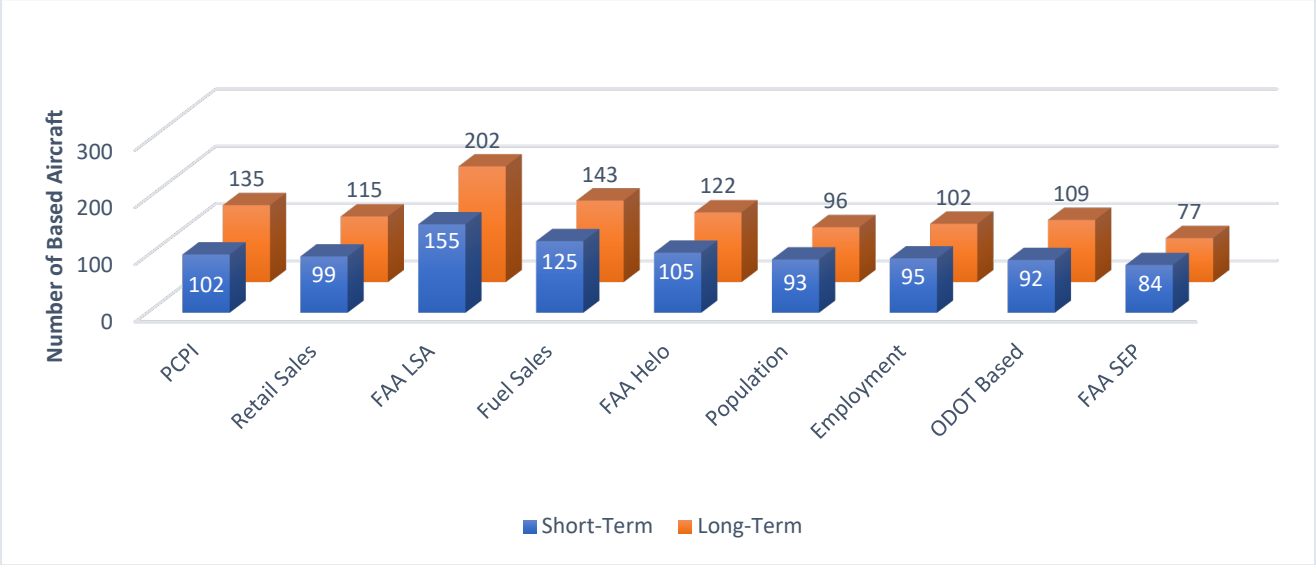
TABLE 3.9
BASED AIRCRAFT PROJECTIONS

Projection	Short-Term Overall Increase	Long-Term Overall Increase
Per Capita Personal Income	2%	1.9%
Retail Sales	1.3%	1.1%
Active Light Sport Aircraft	5.3%	4.0%
Fuel Sales / Consumption	3.1%	2.2%
Employment	0.6%	0.5%
Active Helicopters	1.3%	1.4%
Population	0.2%	0.2%
ODA Based Aircraft	N/A	1.1%
Active Single-Engine Piston Aircraft	-1.0%	-0.9%

SOURCE: WPE / FAA / ODA / J-U-B

Figure 3.4 shows the number of based aircraft obtained from the projections in **Table 3.9**.

FIGURE 3.4
BASED AIRCRAFT SHORT AND LONG-TERM PROJECTIONS



SOURCE: J-U-B

These projections suggest:

- More local economic-related indicators show strong growth, somewhat mitigated by weaker national expectations but is promising for complementary business activity at or near the airport.
- As personal income increases, more local aviators will be able to acquire aircraft to store at the Ontario Municipal Airport.
- Increased light sport aircraft storage capacity will quickly be filled.
- Helicopter activity is expected to increase.
- Aircraft based at Ontario Municipal Airport will increase faster than the national average.

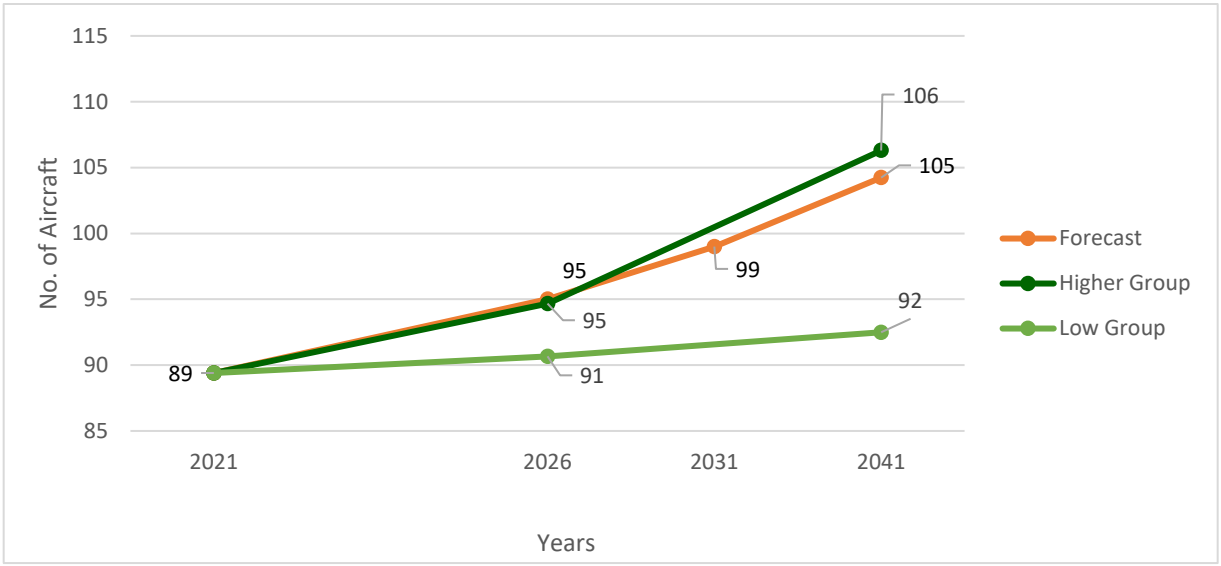
3.6.2 PREFERRED BASED AIRCRAFT FORECAST

A forecast of based aircraft can be taken from one of the above or a combination of projections. There is no need for extravagant statistical efforts given the nature and scope of the Ontario Municipal Airport aviation activity.

The factors mentioned previously suggest some optimism and are perhaps quantified within the larger group projections. However, a bit of trepidation is also in order in that economic uncertainties persist at the national level and will likely remain a concern for the aviation industry. The impacts of the coronavirus pandemic are likely to have some effect on operations and based aircraft over the next few years. What those effects will be are somewhat unknown at this point. Other possible issues could include potential terrorism and seemingly unforeseeable financial and monetary events. These factors are considered within the lower group projections.

The Preferred Forecast of Based Aircraft is shown by the orange line in **Figure 3.5**. Because of recent events this forecast predicts a 0.77 percent CAGR for the forecast period. This begins with the 2021 baseline count of 89 aircraft, until the final forecast year of 2041 with 105 aircraft. New based aircraft would likely come to the Ontario Municipal Airport when new hangar capacity is increased. If new hangars are built, by the City or a tenant, then demand could fill this space at the market price. The result is that the based aircraft count could possibly increase by 10 percent overall when a new set of hangars becomes occupied.

FIGURE 3.5
PREFERRED FORECAST OF BASED AIRCRAFT



SOURCE: J-U-B

3.6.3 PREFERRED BASED AIRCRAFT FORECAST BY TYPE

A further segregation of based aircraft by type is necessary to provide the data needed for facility planning. This subsection relies on both state (OAP v6.0) and national (2021-2041 FAA Aerospace Forecasts) planning efforts. **Table 3.10** lists the forecasted compound annual growth rate (CAGR) for single-engine piston, multi-engine piston, turboprop/turbojet, and helicopter.

TABLE 3.10
PREFERRED GROWTH IN TYPES AND SOURCE

Type	CAGR	Source
Single-Engine Piston	0.7%	FAA Aerospace Forecast 2021-2041 and, Projected 2015-2035 Per Capita GDP AAGR
Multi-Engine Piston	1.6%	AAGR from Per Capita GDP – ODA Oregon Aviation Plan v6.0
Turboprop/ Turbojet	2.5%	CAGR – FAA Aerospace Forecast 2021-2041
Helicopter	1.4%	CAGR – FAA Aerospace Forecast 2021-2041

SOURCE: FAA / ODA / J-U-B

FAA and ODA guidance expect that a more sophisticated, fuel efficient aircraft with greater passenger capacity will outnumber inefficient fuel aircraft in the future. Based upon this data, use of the Ontario Municipal Airport by larger, more expensive aircraft (fixed-wing) along with greater utility helicopters, are expected to increase over the next 20 years. These factors are considered in the formulation of the based aircraft forecast by type outlined in **Table 3.11**.

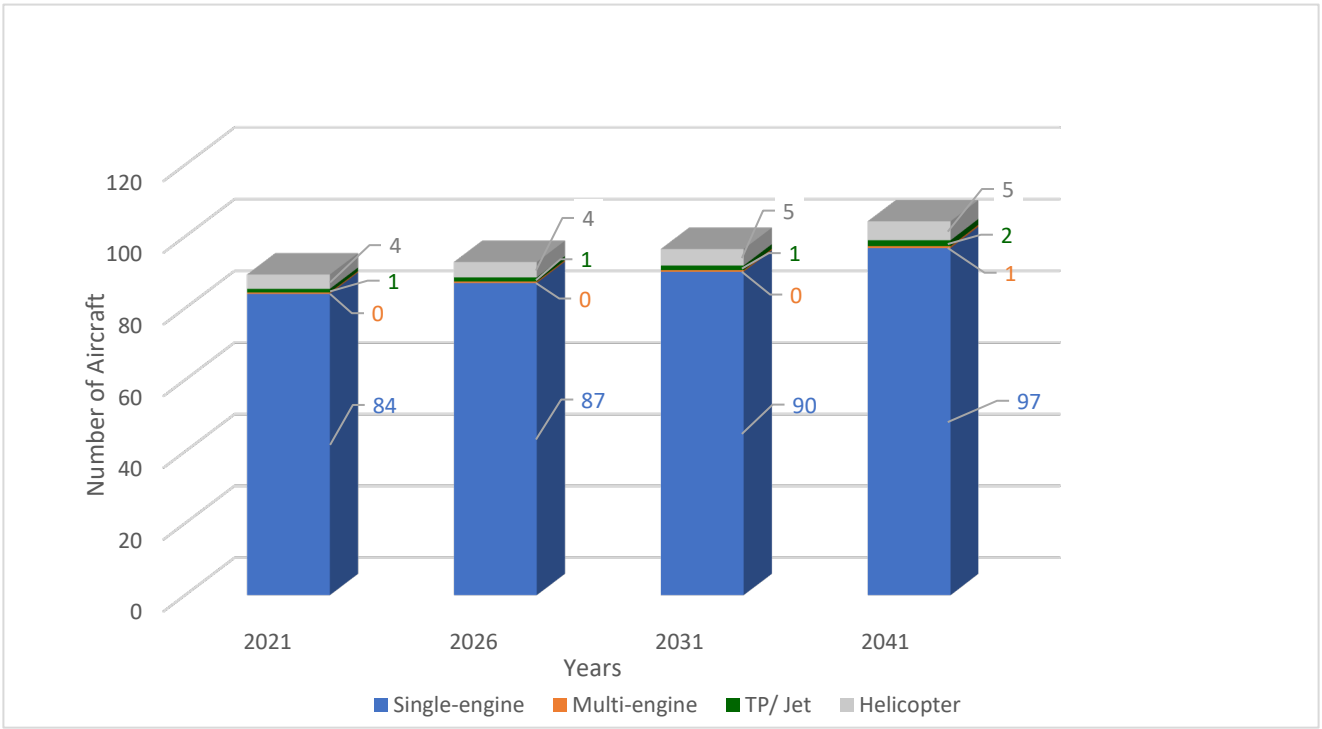
Figure 3.6 depicts the future number of based aircraft at the Ontario Municipal Airport based on the previously established average growth factors.

TABLE 3.11
PREFERRED FORECAST OF BASED AIRCRAFT BY TYPE

Aircraft Type	2021	2026	2031	2041
Single-Engine Piston	84	87	90	97
Multi-Engine Piston/Turboprop	0	0	0	1
Jet	1	1	1	2
Helicopter	4	4	5	5
Total Based Aircraft	**89**	**92**	**96**	**105**

SOURCE: J-U-B

FIGURE 3.6
PREFERRED FORECAST OF BASED AIRCRAFT BY TYPE



SOURCE: J-U-B

3.7 AIRCRAFT OPERATIONS FORECASTING

The Ontario Municipal Airport is an uncontrolled facility and exact counts of aircraft operational activity are not available. Estimates using various resources, however, indicate the number of aircraft operations has been stable. The Airport is consistently used by Life Flight, the BLM, the Experimental Aviation Association (EAA), Treasure Valley Community College (TVCC) Flight School, Silverhawk flight school, and the general flying public.

As previously discussed, GA as an industry has seen aircraft production and sales show slow growth in most categories of aircraft manufacturing, including executive aircraft. Larger business and charter GA aircraft are expected to fly only a few more hours on a national basis. However, it is anticipated that itinerant GA operations will continue to increase.

The OAP v6.0 indicates a preferred AAGR of 0.71 percent for GA operations at the Ontario Municipal Airport per regional population growth.

3.7.1 AIRCRAFT OPERATIONS PROJECTIONS

Indicators with statistical correlations to aviation activity are used to project the number of based aircraft. Many of the same indicators used to predict the number of based aircraft are also relevant to project aircraft operations, as statistical correlations continue to exist. The socioeconomic projections from Section 3.3. and the ODA and FAA projections from Section 3.5 have been compiled into **Table 3.12**.

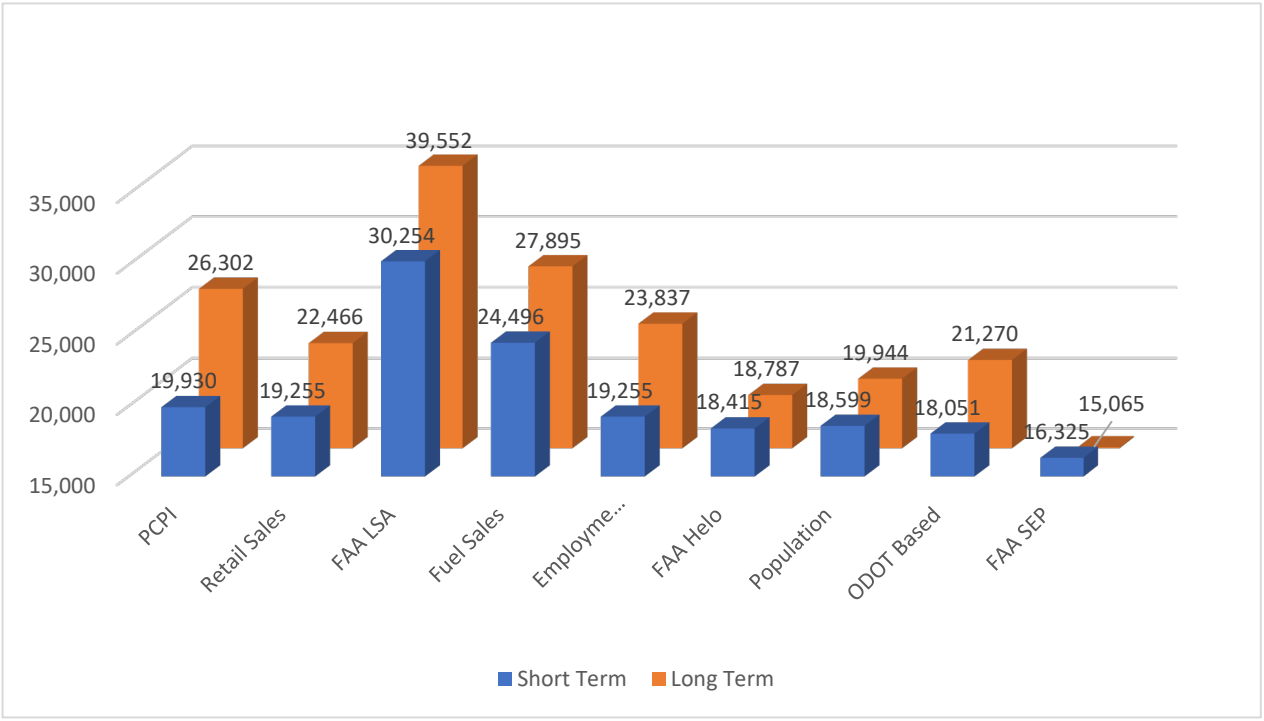
TABLE 3.12
AIRCRAFT OPERATIONS PROJECTIONS

Projection	Short-Term Annual Increase	Long-Term Annual Increase
Per Capita Personal Income	2%	1.9%
Retail Sales	1.3%	1.1%
Active Light Sport Aircraft	5.3%	4.0%
Fuel Sales/ Consumption	3.1%	2.2%
Employment	0.6%	0.5%
Active Helicopters	1.3%	1.4%
Population	0.2%	0.2%
ODA Operations	N/A	0.71%
Active Single-Engine Piston Aircraft	-1.0%	-0.9%

SOURCE: WPE / FAA / ODA / J-U-B

Figure 3.7 shows how the resulting number of aircraft operations would be derived as a statistical consequence of the projections, based on each individual variable. This is provided for context and comparison in selecting the overall operations forecast.

FIGURE 3.7
AIRCRAFT OPERATIONS SHORT AND LONG-TERM PROJECTIONS



SOURCE: J-U-B

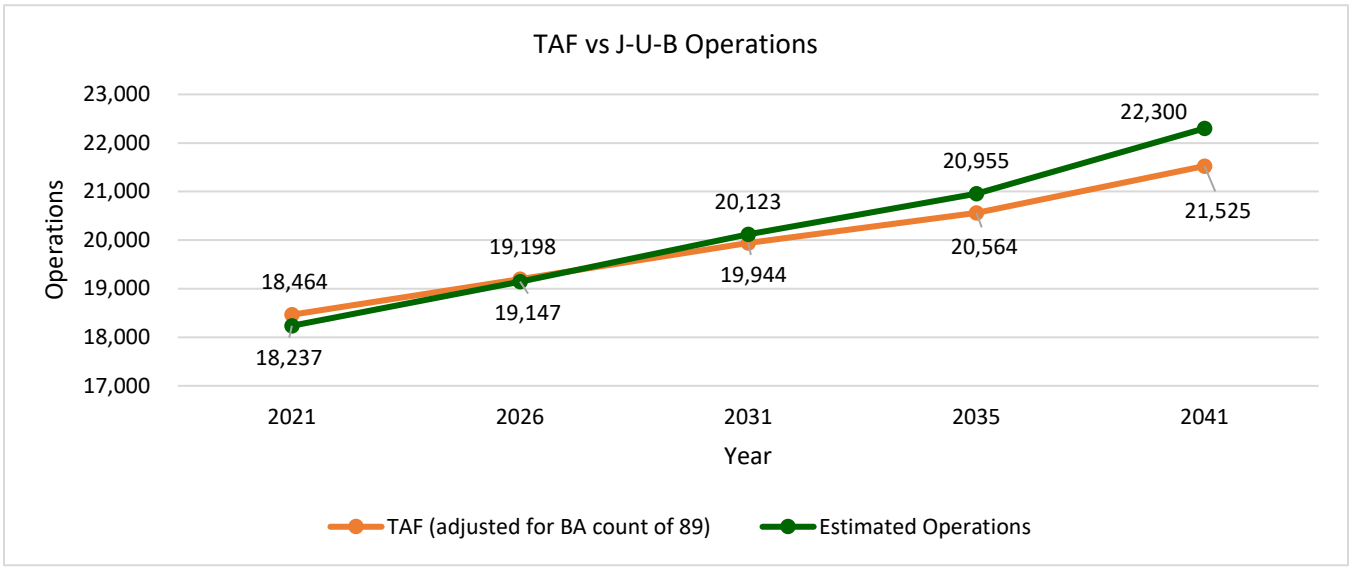
3.7.2 AIRCRAFT OPERATIONS BASELINE

The estimated number of 2020 aircraft operations at the Ontario Municipal Airport, for the purposes of this planning study, is 18,062 operations. The estimation is produced primarily from documented photos of aircraft taxiing for takeoff and on-site observations to estimate touch and goes, as well as possible uncaptured operations from October 2019 thru September of 2020. This period coincides with the height of the covid pandemic and a busy season for firefighting. Other methods to estimate total operations might consider operation records from FAA sources such as the TAF, TFMSC, or calculating by number of based aircraft. For the purposes of this planning, these methods may also be sufficient, however, the photographic evidence provides the most reliable records to fulfil this forecast effort.

3.7.3 AIRCRAFT OPERATIONS FORECAST

The preferred 20-year operations forecast is shown in **Figure 3.8** along with the forecasted operations from the FAA's Terminal Area Forecast (TAF), for comparison. Using a combination of average annual growth rates for various aircraft types shown in **Table 3.13**, the selected average annual growth rate is 1.01 percent. As a comparison the TAF average annual percent change for the same period is 0.77 percent. FAA's TAF does not reflect the current based aircraft count at the time of this study 59 vs 89. If its operation estimates are adjusted by the same percentage of difference as that with based aircraft, the operations values are comparable with the preferred forecast values. The overall growth for 20 years is calculated to be 22.2 percent.

FIGURE 3.8
VALIDATION OF THE CONSULTANT'S OPBA VS FAA'S TAF



SOURCE: FAA / J-U-B

3.7.4 PREFERRED FORECAST OF AIRCRAFT OPERATIONS BY TYPE

A further segregation of forecast aircraft operations by type is necessary to provide data for facility planning. This subsection relies on both state (OAP v6.0) and national (2021-2041 FAA Aerospace Forecasts) planning efforts. **Table 3.13** lists the forecasted compound annual growth rate (CAGR) for single-engine piston, multi-engine piston, turboprop/turbojet, and helicopter.

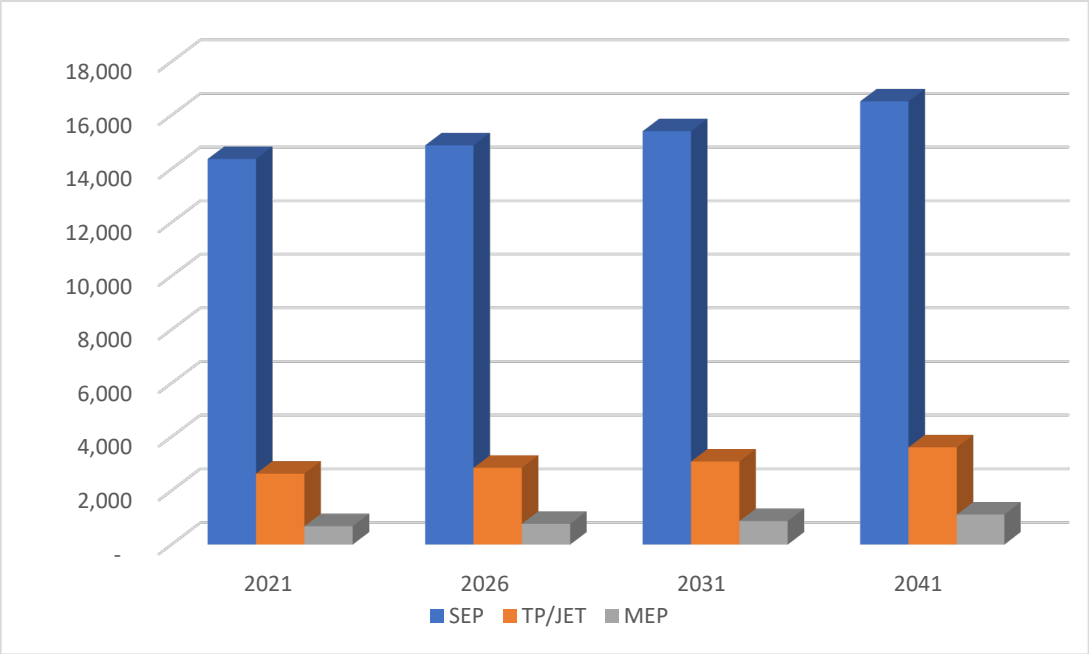
TABLE 3.13
PREFERRED GROWTH IN TYPES AND SOURCE

Type	CAGR	Source
Single-Engine Piston	0.7%	FAA Aerospace Forecast 2021-2041 and, Projected 2015-2035 Per Capita GDP AAGR
Multi-Engine Piston	1.6%	AAGR from Per Capita GDP – ODA Oregon Aviation Plan v6.0
Turboprop/ Turbojet	2.5%	CAGR – FAA Aerospace Forecast 2021-2041
Helicopter	1.4%	CAGR – FAA Aerospace Forecast 2021-2041

SOURCE: FAA / ODA / J-U-B

The OAP v6.0 preferred based aircraft fleet mix forecast can be used as an indicator for estimating aircraft operation trends. The report indicates a decrease in single-engine aircraft but an increase in multi-engine, jet, helicopters, and ultralights. A breakdown of operations by aircraft type is shown in **Figure 3.9**.

FIGURE 3.9
PREFERRED FORECAST OF AIRCRAFT OPERATIONS BY TYPE



SOURCE: J-U-B

3.7.5 PREFERRED AIRCRAFT MIX FORECAST

An itinerant operation is defined as any aircraft operation other than a local operation. A local operation includes operations within the traffic pattern in sight of the field, low approach and or simulated instrument approaches and transitions to a practice area. The most recent FAA 5010 (2019) Airport Master Record identifies an approximate 62/38 percent itinerant to local operations activity split at the Airport. Based on this split, the forecast mix of operations between local and itinerant is presented in **Table 3.14**

TABLE 3.14
PREFERRED AIRCRAFT MIX FORECAST OF OPERATIONS

Year	Itinerant Operations	% Itinerant Operations	Local Operations	% Local Operations	Total Operations
2021	11,307	62%	6,930	38%	18,237
2026	11,871	62%	7,276	38%	19,147
2031	12,476	62%	7,647	38%	20,123
2041	13,826	62%	8,474	38%	22,300

SOURCE: FAA 5010/ J-U-B

3.7.6 PEAK PERIOD OPERATIONS FORECAST

Existing and future airport facilities should be designed and constructed not for an average day's aircraft activity and not for the busiest day, but for activity somewhere in between.

FAA guidance for estimating peaking activity is reflected in **Table 3.15**. Peak day is defined as the average number of operations per day during the most active month. In FAA's Northwest Mountain Region and at the Ontario Municipal Airport, the most active month normally accounts for approximately 10 percent of total annual operations. For the Ontario Municipal Airport that would be 1,806 divided by 30 to calculate a Peak Day estimate of 60 operations. Approximately 15 percent of the peak day operations occur during the peak hour.

Baseline Peak Day (PD) operations are forecasted to grow from 60 to 74 operations in 2040. These operational activity estimates will be useful for analysis in upcoming chapters.

TABLE 3.15
PEAK PERIOD OPERATIONS FORECAST

Year	Total Operations	Peak Month Operations	Peak Day Operations	Peak Hour Operations
2021	18,237	1,824	61	9
2026	19,147	1,915	64	10
2031	20,123	2,012	67	10
2041	22,300	2,230	74	11

SOURCE: J-U-B

3.7.7 INSTRUMENT OPERATIONS FORECAST

The Ontario Municipal Airport's Instrument Flight Rules (IFR) operations are consistent with typical observations within the region. 2021 instrument aircraft operations are estimated at 830 operations, which is an average share of 4.6 percent of the historical IFR/ TFMSC GA operations applied to the total operations. Using the 2021-2041 Aerospace Forecast projections, **Table 3.16** projects instrument operations over a 20-year period, resulting in 1,024 operations.

TABLE 3.16
INSTRUMENT OPERATIONS FORECAST BY YEAR

Year	Instrument Operations
2021	839
2026	881
2031	926
2041	1026

SOURCE: FAA AEROSPACE FORECAST 2021-2041 / J-U-B

3.7.8 DESIGN/CRITICAL AIRCRAFT

The design/critical aircraft is an aircraft or more typically a group of aircraft with similar design or performance characteristics which completes at least 500 annual operations at the Ontario Municipal Airport.

With respect to Design/Critical Aircraft, note that:

A&B-I forecasts all aircraft types weighing less than 12,500 pounds, with approach speeds less than 121 knots, and wingspans less than 49 feet, inclusive. Example aircraft include:

- Cessna 152,172, 210, 340, 414, 425
- Beech Baron 55
- Beech Bonanza 33, 35, 36
- Raytheon Premier 1
- Raytheon/Beech Beechjet 400/T-1
- All Helicopters

A&B-II forecasts all aircraft types weighing less than 12,500 pounds, with approach speeds less than 121 knots and wingspans greater than 49 but less than 79 feet, inclusive. Example aircraft include:

- Pilatus PC-12
- BE9L Beech King Air 90
- Cessna Citation 525A

A&B-II Large forecasts all aircraft types weighing greater than 12,500 pounds, with approach speeds less than 121 knots and wingspans greater than 49 but less than 79 feet, inclusive. Example aircraft include:

- Air Tractor AT-802F Fire Boss
- Raytheon BE-20 Beech 200 Super King Air
- BE-40 Raytheon Beechjet 400
- E50P – Embraer Phenom 100
- Cessna Citation 550, 56X, 650, Sovereign
- SR20 – Cirrus SR-20

The FAA maintains a record of flight operations that, when normalized, that can identify most of the larger and faster aircraft operations at the Ontario Municipal Airport if they file a flight plan or are detected by the National Airspace System (NAS). As previously discussed, the baseline for operations came from in-field observations from cameras placed at the airport. This FAA data is provided for comparison but found to be lacking records for some of the most demanding operations at the Airport.

Investigating the airport's recorded operations shows that, Aircraft Approach Category (AAC) B and Airplane Design Group (ADG) II are the most demanding aircraft designations in the 2020 baseline data. Most of these operations come from agricultural operators, the BLM firefighting SEATs, Life Flight and commuter jet traffic. It should also be noted that the airport's documented operations for helicopters does not

show many operations, there are considerable operations records available from the FAA TFMSC and Flight Aware reports. The helicopter operations are such that they were not as readily captured by the cameras that were placed at the Ontario Municipal Airport.

For the Design/Critical Aircraft, the forecast relies on the aircraft operations observed by motion activated cameras at the Ontario Municipal Airport in 2020. **Table 3.17** provides the first year of the forecasted operations by type with the anticipated average annual growth rate for each category.

TABLE 3.17
PREFERRED DESIGN/CRITICAL AIRCRAFT FORECAST

	Baselines	Growth
A-I	15,208	0.7%
A-II	288	2.5%
B-I	354	1.6%
B-II	2,190	2.5%

SOURCE: FAA AEROSPACE FORECAST 2021-2041 / J-U-B

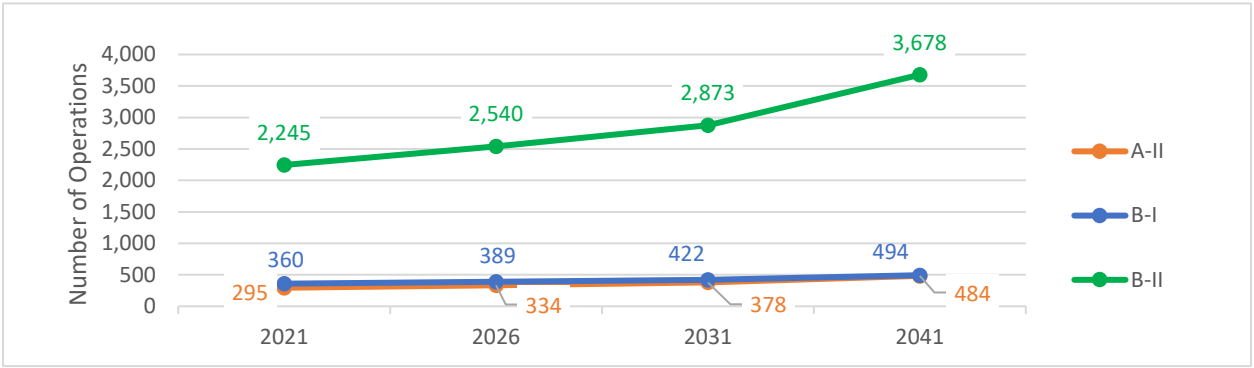
These growth rates reflect the growth by aircraft type provided in **Table 3.13** where most Group II aircraft are turboprop or jet powered.

An outlook of the BLM's firefighting operations at the airport suggests strong growth as well. Firefighting agencies have begun to strategize their missions by combining several AT-802F Fire Boss aircraft as coordinated flight groups. This offers a cost-effective strategy to contain a fire quickly. A flight of four land-based 802F air tankers can deliver 3,200 gallons of water and one round of retardant to 2.5 – 3.5 acres of land. This enables contracted agencies to tailor their response according to the fire size and behavior with a high degree of success. In 2021 and 2022, the BLM is constructing an expanded apron and facilities to better deploy firefighting operations from the Ontario Municipal airport.

Figure 3.10 shows the applied average annual growth rates by AAC/ADG designations. The airport has completed construction and development projects for many years to a **B-II** design standard. This forecast indicates that the airport should continue to support design standards, facilities, and airspace for the current **ARC (B-II)** in the near and long-term planning period.

The next larger potential AAC/ADG, Category C or Group III aircraft did not achieve sufficient annual operations within the 2021-2041 forecast period for a consideration to change the Airport's Design Code (data not displayed).

FIGURE 3.10
PREFERRED DESIGN/CRITICAL AIRCRAFT FORECAST



SOURCE: FLIGHT AWARE/ TFMSC/ J-U-B

Based upon the forecast showing increasing numbers of **Group-II** aircraft, a representative design aircraft for the near-term design group is the **Air Tractor AT-802 Fire Boss** with an ARC of **B-II Large**, and Taxiway Design Group (TDG) of **1B.** The current ALP design aircraft is a **Beechcraft King Air 200** and is also representative of the **B-II Large** category with a **TDG 2**.

These aircraft represent the forecast for the Ultimate Critical Design Aircraft group with an **ARC** of **B-II Large**, **TDG Group 1B.**

The information contained in **Table 3.18** for each planning period is provided according to the 500 annual aircraft operations minimum design threshold of the FAA for planning purposes. Anticipated helicopter operations were not included.

TABLE 3.18
CRITICAL/DESIGN AIRCRAFT DETERMINATION BY YEAR

	2021	2026	2031	2041
Aircraft Approach Category (AAC)	Category B	Category B	Category B	Category B
Airplane Design Group (ADG)	Group II	Group II	Group II	Group II
Aircraft Weight (<, >12,500 SWG)	Large	Large	Large	Large
Taxiway Design Group (TDG)	Group 1B	Group 1B	Group 1B	Group 1B

SOURCE: TFMSC / AIRNAV / J-U-B

3.8 20-YEAR FORECAST DISPARITY

The disparity between the FAA's Terminal Area Forecast (TAF) for based aircraft and operations at present day as well as key points in the future is largely attributed to a significant difference in the number of based aircraft reported in the TAF. The TAF shows 59 aircraft at the Ontario Municipal Airport, when in reality there were 89 aircraft listed in 2021.

The 20-year forecast for based aircraft has a significant difference in number of based aircraft and projected growth rate. This is expected when understanding the inaccurate number of aircraft with no growth shown in the TAF.

Forecasted operations vs the TAF values also show some disparity; however, when normalized by percentage of difference between the TAF number of based aircraft and the actual number of based aircraft, the difference in forecasted operations is 0.48 percent at 5 years and 3.25 percent at 20 years and should be considered reasonable (see **Table 3.19**).

Noted differences attributed to:

- The undocumented growth in based aircraft within FAA records.
- The uncaptured operations such as seasonal firefighting.

TABLE 3.19
FORECASTED OPERATIONS VS TAF VALUES

	Based Aircraft Growth			Operations Growth		
	2021 Based	**5-Year Forecast**	**20-Year Forecast**	**2021 Operations**	**5-Year Forecast**	**20-Year Forecast**
TAF	59	59	59	13,138	13,660	15,316
Forecast	89	93	105	18,237	19,147	22,300
Percent Difference	40.5	44.7	55.3	32.5	33.5	37.1
Adjusted TAF	N/A	N/A	N/A	18,464	19,198	21,525
Adjusted Percent Difference	N/A	N/A	N/A	1.24	0.27	3.54
Growth Percent Difference	N/A	N/A	17.4	N/A	N/A	N/A

SOURCE: FAA / J-U-B

3.9 SUMMARY

Aviation factors such as based aircraft and operations are strong at the Ontario Municipal Airport. The area is also characterized by economic growth that surpasses that of the State of Oregon and the Pacific Northwest Region. Growth is expected to continue in the City of Ontario area and at the Airport. The City would like to see growth and advancement of the airfield over the next few years. The current situation with the 2020 coronavirus pandemic is something to pay attention to, but long-term growth looks strong. Here are highlights from the forecasting effort:

- Based Aircraft
  - Current count: 89 aircraft
  - 20-year projection: 105 aircraft
- Operations
  - 2020 estimate: 18,062 operations
  - 20-year projected estimate: 22,300 operations
  - Peak Day operations current estimate: 60 operations
  - Peak Day operations 20-year projected estimate: 74 operations
- Short-term Design Aircraft Group
  - ADG B-II Large/ TDG-1B
  - Air Tractor AT-802F Fire Boss
  - Beechcraft King Air 200
- Ultimate Design Aircraft Group
  - ADG B-II Large/ TDG-1B
  - Air Tractor AT-802F Fire Boss
  - Beechcraft King Air 200
- Hangar Development
  - Current estimate (including permit requests): 48
  - 20-year projected estimate: 55
- Fixed Based Operator (FBO) Development
  - Current national count: 3,384
  - National 20-year projection: 3,470
  - Current Oregon State count >5,000 ft: 26
  - Oregon State 20-year projection: 27
  - Current Ontario Municipal Airport count: 1
  - Ontario Municipal Airport 20-year projection: 1
- UAM/ UAV/ eVTOL Development
  - Current estimate: None
  - 20-year projected estimate: Potential growth in air transit operations
- Commercial Business Industry
  - Current count in Oregon State: 10,456
  - Oregon State 20-year projected estimate: 14,273
  - Current restaurants within 3-mile radius: 23
  - 20-year 3-mile radius projected estimate: 31
  - Current restaurants within 1-mile radius: 4
  - 20-year 1-mile radius projected estimate: 5
- Forecast differences between the FAA TAF and the Consultant
  - Operations 20-year difference of 3.54 percent
  - Operations 20-year growth forecast: 1.01 percent