# 3. FORECAST OF AVIATION DEMAND

Forecasts of aviation activity are used to identify expected activity levels and based aircraft at individual airports in the system.

A statewide perspective on aviation activity also affords the opportunity to examine the context for changes at Oregon airports. Where individual master plans or Airport Layout Plans (ALPs) look in detail at the local situation, the system plan offers the view from 30,000 feet. This makes it possible to look at regional and statewide trends that are resulting not only in absolute gains or declines at particular airports, but also changes that come from redistribution of activity.

The last system plan forecasts had a base year of 2005. This forecast starts with the base year of 2015[1] and estimates changes in the next 20 years from 2015 through 2035. The following components of aviation activity are considered in the forecasts:

- Commercial airline enplanements
- General aviation based aircraft
- Total commercial, general aviation, and military operations

This chapter also includes a discussion of national and regional factors that are impacting aviation activity in Oregon as well as changes in the drivers of aviation demand at the State level that could impact forecasts.

## 3.1 Scope of Aviation Activity in Oregon – Overview

Seven commercial service airports and 90 general aviation airports comprise the Oregon system. Oregon's economy reflects a rich diversity of economic activity in the state that includes both high tech and natural and agricultural resource industries. During the past three decades, Oregon made the transition from a resource-based economy to a more mixed manufacturing and marketing economy, with an emphasis on high technology. Oregon's hard times of the early 1980s signaled basic changes had occurred in traditional resource sectors—timber, fishing, and agriculture—and the state and industry worked to develop new economic sectors to replace older ones. Most important, perhaps, was the state's growing high-tech sector, which centered in the three counties around Portland. However, rural Oregon counties were generally left out of the shift to a new economy.

Population in Oregon is concentrated in a growing metropolitan area that spans from Portland and the Willamette Valley along Interstate 5 as far south as Eugene. It is on this corridor that the largest concentration of commercial air service activity and general aviation operations take place. Not surprisingly, since population correlates directly with aviation activity, Oregon's population is also concentrated in Oregon Department of Transportation's (ODOT) Connect Oregon Regions 1 and 2 where 75 percent of the state's population reside. See **Table 3-1**.

TABLE 3-1: CONNECT OREGON REGIONS POPULATION OVERVIEW

| Connect Oregon Region | Population | Share |
|---|---|---|
| Region 1 | 1,803,980 | 44% |
| Region 2 | 1,260,920 | 31% |
| Region 3 | 494,625 | 12% |

[1] Based aircraft forecasts were updated to 2017 due to revised FAA based aircraft figures

| Connect Oregon Region | Population | Share |
|---|---|---|
| Region 4 | 328,370 | 8% |
| Region 5 | 188,455 | 5% |
| **Total** | **4,076,350** | **100%** |

Source: Population Research Center (PRC), Jviation analysis

The Population Research Center (PRC) at Portland State University estimated that just over four million people reside in Oregon in 2016. **Table 3-2** shows PRC's 2006 and 2016 as well as Oregon's 2010 U.S. Census population for each county. Since 2006, population in Oregon has grown nearly one percent annually. The state's largest county, Multnomah, reached nearly 790,700 in 2016 and grew at an average rate of 1.5 percent annually. Deschutes County is the seventh largest county in Oregon and is the fastest growing county in the state, 1.7 percent annually, between 2006 and 2016. The rest of the state's population growth is mixed with other areas growing more slowly. Only three counties—Coos, Crook, and Morrow—have declined in population.

TABLE 3-2: OREGON POPULATION, 2006, 2010, AND 2016

| Rank | County | July 2006 | April 2010 | July 2016 | AAGR 2006-2016 |
|---|---|---|---|---|---|
| 28 | Baker | 16,243 | 16,134 | 16,510 | 0.16% |
| 11 | Benton | 79,061 | 85,579 | 91,320 | 1.45% |
| 3 | Clackamas | 374,230 | 375,992 | 404,980 | 0.79% |
| 19 | Clatsop | 37,315 | 37,039 | 38,225 | 0.24% |
| 17 | Columbia | 49,163 | 49,351 | 50,795 | 0.33% |
| 16 | Coos | 64,820 | 63,043 | 63,190 | -0.25% |
| 27 | Crook | 22,941 | 20,978 | 21,580 | -0.61% |
| 26 | Curry | 22,358 | 22,364 | 22,600 | 0.11% |
| 7 | Deschutes | 149,140 | 157,733 | 176,635 | 1.71% |
| 9 | Douglas | 105,117 | 107,667 | 110,395 | 0.49% |
| 34 | Gilliam | 1,775 | 1,871 | 1,980 | 1.10% |
| 31 | Grant | 7,250 | 7,445 | 7,410 | 0.22% |
| 32 | Harney | 6,888 | 7,422 | 7,320 | 0.61% |
| 24 | Hood River | 21,533 | 22,346 | 24,735 | 1.40% |
| 6 | Jackson | 197,071 | 203,206 | 213,765 | 0.82% |
| 25 | Jefferson | 20,352 | 21,720 | 22,790 | 1.14% |
| 12 | Josephine | 81,688 | 82,713 | 84,675 | 0.36% |
| 15 | Klamath Falls | 66,438 | 66,380 | 67,410 | 0.15% |
| 30 | Lake | 7,473 | 7,895 | 8,015 | 0.70% |
| 4 | Lane | 337,870 | 351,715 | 365,940 | 0.80% |
| 18 | Lincoln | 46,199 | 46,034 | 47,735 | 0.33% |
| 8 | Linn | 111,489 | 116,672 | 122,315 | 0.93% |
| 20 | Malheur | 31,247 | 31,313 | 31,705 | 0.15% |
| 5 | Marion | 311,304 | 315,335 | 333,950 | 0.70% |
| 29 | Morrow | 11,753 | 11,173 | 11,745 | -0.01% |

| Rank | County | July 2006 | April 2010 | July 2016 | AAGR 2006-2016 |
|---|---|---|---|---|---|
| 1 | Multnomah | 681,454 | 735,334 | 790,670 | 1.50% |
| 14 | Polk | 73,296 | 75,403 | 79,730 | 0.84% |
| 35 | Sherman | 1,699 | 1,765 | 1,795 | 0.55% |
| 23 | Tillamook | 25,380 | 25,250 | 25,920 | 0.21% |
| 13 | Umatilla | 72,928 | 75,889 | 79,880 | 0.91% |
| 21 | Union | 24,345 | 25,748 | 26,745 | 0.94% |
| 33 | Wallowa | 6,875 | 7,008 | 7,140 | 0.38% |
| 22 | Wasco | 23,712 | 25,213 | 26,700 | 1.19% |
| 2 | Washington | 514,269 | 529,710 | 583,595 | 1.27% |
| 36 | Wheeler | 1,404 | 1,441 | 1,465 | 0.43% |
| 10 | Yamhill | 94,678 | 99,193 | 104,990 | 1.04% |
| **Total Oregon Population** | | **3,700,758** | **3,831,074** | **4,076,350** | **0.97%** |

Source: Portland State University, Population Research Center (PRC), US Census 2010, Jviation analysis

Oregon has an exceptionally active system of airports given its population base, which is the 27th largest among U.S. states. Portland International (PDX) is the 30th busiest airport in the United States in terms of passengers and 24th in air cargo traffic[2]. PDX serves as a secondary connecting hub for Alaska Airlines.

## 3.2 Commercial Service Activity and Forecasts

Commercial service activity forecasts were developed for passenger enplanements and annual operations. Calendar year 2015 was used as the base year for these forecasts, with the most recent FAA TAF average annual growth rate used as both a reference and a forecast tool for individual airports. Population and economic growth rates were additionally applied to forecasts to provide a multi-sourced forecast estimate.

Oregon's commercial airports, as defined in Chapter 2, are divided in this chapter into the following two categories: commercial service and Essential Air Service (EAS).

TABLE 3-3: COMMERCIAL AND ESSENTIAL AIR SERVICE AIRPORTS IN OREGON

| Commercial Service Airports (6) | Essential Air Service (1) |
|---|---|
| Eugene Airport-Mahlon Sweet Field (EUG) | Eastern Oregon Regional Airport at Pendleton (PDT) |
| Crater Lake-Klamath Regional (LMT) | |
| Portland International Airport (PDX) | |
| Redmond Municipal Airport-Roberts Field (RDM) | |
| Rogue Valley International-Medford Airport (MFR) | |
| Southwest Oregon Regional Airport (OTH) | |

Source: Jviation

[2] Airports Council International, 2015 Traffic Report

### 3.2.1 Annual Passenger Enplanements

Passenger enplanement forecasts were developed by using three forecast methodologies. The passenger enplanements forecasts for Oregon's six commercial and one EAS airports are discussed in the following section.

As shown in **Table 3-4**, total statewide commercial service and EAS passenger enplanements based on FAA TAF data increased from 7,601,966 in 2005 to 9,282,648 in 2015, representing an average annual growth rate of 2.03 percent. Although this represents an overall increase, statewide passenger enplanements experienced a significant decline in 2009 as a result of the Great Recession which had negative impact on enplanement levels at all Oregon's airports.

Portland International Airport comprises over 85 percent of enplanements in Oregon. **Table 3-5** presents statewide enplanements for the all total statewide commercial service airports other than PDX. FAA TAF enplanement data indicates historical increases from 888,797 in 2005 to 1,136,992 in 2015, representing an average annual growth rate of 2.49 percent for all commercial airports excluding Portland International. Statewide passenger enplanements for the six airports outside of Portland also experienced a significant decline of 11 percent in 2009, as a result of the Great Recession.

For comparison, according to TAF data, total U.S. passenger enplanements grew by a lower average annual growth rate of 0.7 percent over the same period. Historical commercial service airport growth in Oregon is shown in **Figure 3-1**. Enplanements have increased overall from 2000 to 2015 but faced periods of decline as a result the Great Recession of 2008/2009. **Figure 3-2** identifies passenger enplanements for the same period but separates PDX enplanements from the six commercial service airports serving the state. **Figure 3-3** presents the market share of airports with scheduled commercial airline service.

TABLE 3-4: COMMERCIAL SERVICE AIRPORT PASSENGER ENPLANEMENTS, 2005-2015

| Historic | Enplanements | % Growth |
|---|---|---|
| 2005 | 7,601,966 | |
| 2006 | 7,835,050 | 3.07% |
| 2007 | 8,167,296 | 4.24% |
| 2008 | 8,315,061 | 1.81% |
| 2009 | 7,314,553 | -12.03% |
| 2010 | 7,433,322 | 1.62% |
| 2011 | 7,738,956 | 4.11% |
| 2012 | 8,028,743 | 3.74% |
| 2013 | 8,339,265 | 3.87% |
| 2014 | 8,879,479 | 6.48% |
| 2015 | 9,290,866 | 0.41% |
| **AAGR 2005-2015** | | **2.03%** |

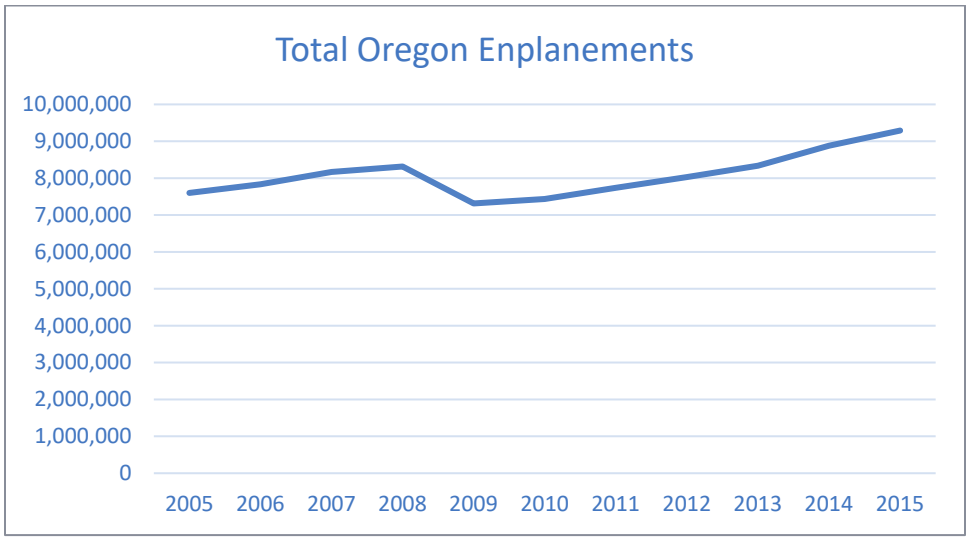
Source: FAA Terminal Area Forecast 2016, Jviation Analysis

TABLE 3-5: COMMERCIAL SERVICE AIRPORT PASSENGER ENPLANEMENTS (NOT INCLUDING PDX), 2005-2015

| Historic | Enplanements | % Growth |
|---|---|---|
| 2005 | 888,797 | |
| 2006 | 910,517 | 2.44% |
| 2007 | 981,033 | 7.74% |
| 2008 | 986,356 | 0.54% |
| 2009 | 873,558 | -11.44% |
| 2010 | 942,018 | 7.84% |
| 2011 | 975,112 | 3.51% |
| 2012 | 978,420 | 0.34% |
| 2013 | 997,677 | 1.97% |
| 2014 | 1,036,946 | 3.94% |
| 2015 | 1,136,992 | 9.65% |
| **AAGR 2005-** | | **2.49%** |

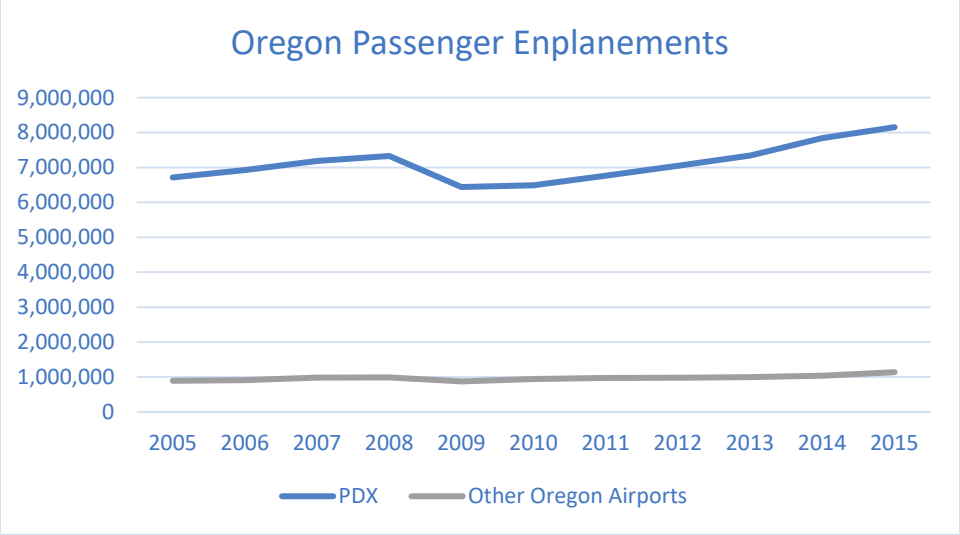
Source: FAA Terminal Area Forecast 2016, Jviation Analysis

FIGURE 3-1: TOTAL COMMERCIAL SERVICE AIRPORT PASSENGER ENPLANEMENTS, 2005-2015



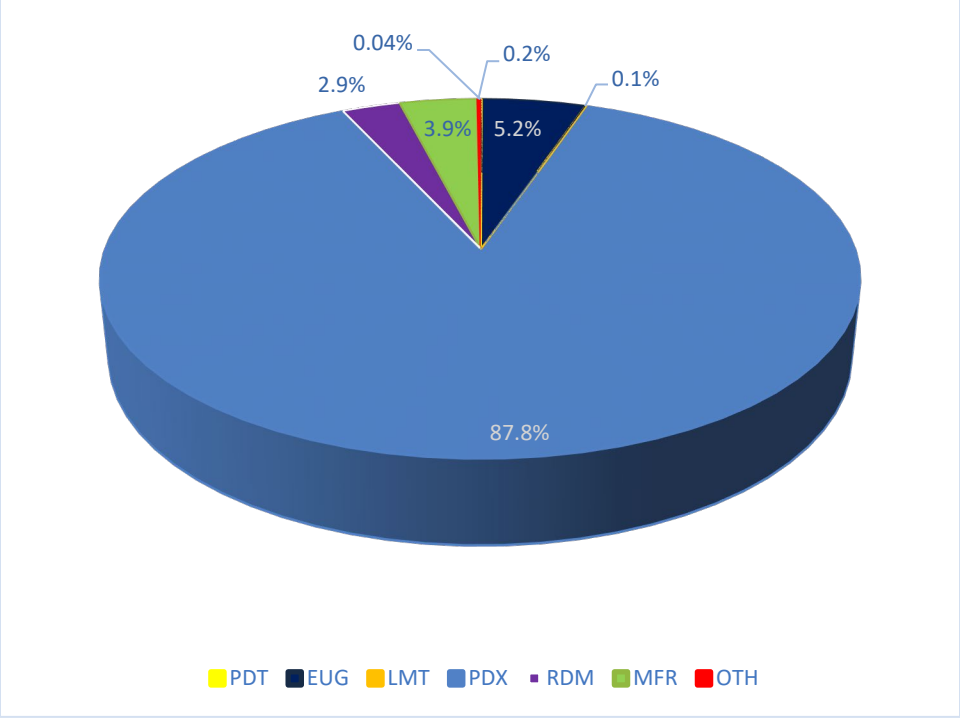

Source: FAA Terminal Area Forecast 2016, Jviation Analysis

FIGURE 3-2: COMMERCIAL SERVICE AIRPORT PASSENGER ENPLANEMENTS, PDX VS OTHER OREGON COMMERCIAL SERVICE AIRPORTS, 2005-2015




Source: FAA Terminal Area Forecast 2016, Jviation Analysis

FIGURE 3-3: 2015 AIRPORT ENPLANEMENT MARKET SHARE




Source: FAA Terminal Area Forecast 2016, Jviation Analysis

PDX by far has the majority of the Oregon passenger enplanements with nearly 88 percent of all passengers in the state boarding aircraft annually. Eugene Regional Airport is the second busiest in terms of passengers with 5.2 percent of the Oregon air service market, followed by Rogue Valley International Airport in Medford with 3.9 percent. In descending order, airport market shares include Redmond Municipal with 2.9 percent, Southwest Oregon Regional in North Bend with .2 percent, and Klamath with .1 percent. Eastern Oregon

Regional Airport at Pendleton (PDT) is Oregon's only Essential Air Service airport that receives federal subsidies for airline service. PDT has the smallest market share (0.1 Percent) in Oregon for scheduled passenger service.

A summary of each airport's historic passenger enplanements is shown in **Table 3-6**. The historic totals and average annual growth rates depicted in **Table 3-6** represent FAA TAF passenger enplanement data from 2005 to 2015. To develop enplanements forecasts for the commercial service airports in Oregon, TAF airport-specific projected enplanements for 2016 to 2035 were used.

## *Total Statewide Passenger Enplanement Forecasts*

According to FAA TAF and average annual growth rate analysis by Jviation, Oregon enplanements are projected to increase from nearly 9.3 million in 2015 to 15.7 million in 2035 (**Table 3-7**). This growth in enplanements represents an overall statewide average annual growth rate of 2.64 percent. This rate is higher than national forecasts of domestic enplanement activity, which project total U.S. passenger enplanements to increase at a lower average annual growth rate of 1.96 percent from 2015 to 2045.[3] It is noteworthy to point out that Crater Lake-Klamath Regional experienced the absence of an air carrier at the airport in 2015 and as a result 2014 enplanement data was used as a proxy base year entry. In October 2016 PenAir initiated passenger service at Crater Lake-Klamath Regional but discontinued service in August 2017.

TABLE 3-6: HISTORIC PASSENGER ENPLANEMENTS BY AIRPORT AND AVERAGE ANNUAL GROWTH RATES

| | Eastern Oregon Reg'l at Pendleton | Eugene Airport-Mahlon Sweet Field | Crater Lake-Klamath Reg'l | Portland Int'l | Redmond Municipal - Roberts Field | Rogue Valley Int'l - Medford | Southwest Oregon Reg'l | Total |
|---|---|---|---|---|---|---|---|---|
| City | Pendleton | Eugene | Klamath Falls | Portland | Redmond | Medford | North Bend | |
| FAA ID | PDT | EUG | LMT | PDX | RDM | MFR | OTH | |
| AAGR | -3.1% | 1.8% | -7.6% | 1.2% | 2.8% | 1.5% | -4.9% | 1.3% |
| 2005 | 6,851 | 362,335 | 28,912 | 6,713,169 | 173,864 | 281,600 | 35,235 | 7,601,966 |
| 2006 | 7,494 | 357,267 | 28,348 | 6,924,533 | 197,223 | 283,866 | 36,319 | 7,835,050 |
| 2007 | 7,194 | 371,089 | 27,491 | 7,186,263 | 230,033 | 308,530 | 36,696 | 8,167,296 |
| 2008 | 8,073 | 365,893 | 30,060 | 7,328,705 | 243,197 | 300,565 | 38,568 | 8,315,061 |
| 2009 | 3,947 | 330,382 | 19,811 | 6,440,995 | 217,826 | 277,817 | 23,775 | 7,314,553 |
| 2010 | 4,900 | 361,696 | 21,670 | 6,491,304 | 225,561 | 305,602 | 22,589 | 7,433,322 |
| 2011 | 4,955 | 390,964 | 16,810 | 6,763,844 | 231,978 | 307,656 | 22,749 | 7,738,956 |
| 2012 | 4,986 | 400,239 | 15,415 | 7,050,323 | 230,833 | 307,699 | 19,248 | 8,028,743 |
| 2013 | 4,284 | 425,198 | 13,677 | 7,341,588 | 227,410 | 310,833 | 16,275 | 8,339,265 |
| 2014 | 4,268 | 440,373 | 8,218 | 7,842,533 | 255,865 | 312,235 | 15,987 | 8,879,479 |
| 2015 | 4,163 | 480,501 | 8,218 | 8,153,874 | 269,132 | 359,129 | 15,849 | 9,290,866 |

Source: FAA Terminal Area Forecast 2016, Jviation Analysis

Two alternative methodologies were compiled to forecast statewide enplanements. **Table 3-8** outlines a top-down approach by applying the U.S. BEA Regional Data Per Capita Real GDP[4] compound annual growth rate for Oregon. BEA data indicates that between 2005-2015, Per Capita Real GDP growth was 1.6 percent. This

[3] Jviation: Based on data on FAA TAF Forecast, Fiscal Years 2016 – 2045, pg. 19.

[4] Real GDP by state is an inflation-adjusted measure of each state's gross product that is based on national prices for the goods and services produced within the state. Total GDP is divided by the total population and compared between years to identify the average annual growth rate.

historical growth rate was applied to each airport's base year enplanement to facilitate its forecast with the assumption that this growth rate will continue for the next 20 years and that airline passenger traffic is tied to this measure of economic growth.

**Table 3-9** utilizes a bottom-up approach by applying the average annual population growth rate for each Connect Oregon Region and its corresponding airport with scheduled airline service. Population growth for Connect Oregon Regions is based on a weighted average of population growth for Oregon counties comprising each region. For example, Eastern Oregon Regional Airport at Pendleton is located in Connect Oregon Region 5 which has an historical population average annual growth rate of 0.71 percent from 2010 to 2016.

**Table 3-10** and **Figure 3-4** compare these three enplanement forecast results. The preferred growth rate is presented in a subsequent section of this chapter.

TABLE 3-7: FORECASTED PASSENGER ENPLANEMENTS IN OREGON - FAA TAF GROWTH RATES

| Airport | 2015 | 2020 | 2025 | 2035 | TAF AAGR 2015-2035 |
|---|---|---|---|---|---|
| Eastern Oregon Reg'l at Pendleton | 4,163 | 3,780 | 3,911 | 4,203 | 0.05% |
| Eugene Airport - Mahlon Sweet Field | 480,501 | 665,583 | 721,436 | 839,721 | 2.83% |
| Crater Lake-Klamath Reg'l* | 8,218 | 7,375 | 13,620 | 15,260 | 3.00% |
| Portland Int'l | 8,153,874 | 10,411,420 | 11,446,817 | 13,692,852 | 2.63% |
| Redmond Municipal-Roberts Field | 269,132 | 386,380 | 425,841 | 513,245 | 3.28% |
| Rogue Valley Int'l-Medford Airport | 359,129 | 438,797 | 479,408 | 568,069 | 2.32% |
| Southwest Oregon Reg'l | 15,849 | 15,970 | 16,781 | 18,530 | 0.78% |
| **Statewide Total** | **9,290,866** | **11,929,305** | **13,107,814** | **15,651,880** | **2.64%** |

Source: 2015 Base year FAA Terminal Area Forecast.
* In 2015 air carriers did not operate at Klamath but resumed in 2016. 2014 enplanement data is used for 2015.

TABLE 3-8: ENPLANEMENT FORECAST BASED ON FORECASTED STATE PER CAPITA REAL GDP GROWTH RATE, TOP-DOWN METHODOLOGY

| Airport | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Eastern Oregon Reg'l at Pendleton | 1.60% | 4,163 | 4,507 | 4,879 | 5,718 |
| Eugene Airport - Mahlon Sweet Field | 1.60% | 480,501 | 520,191 | 563,159 | 660,037 |
| Crater Lake-Klamath Reg'l* | 1.60% | 8,218 | 8,897 | 9,632 | 11,289 |
| Portland Int'l | 1.60% | 8,153,874 | 8,827,395 | 9,556,549 | 11,200,519 |
| Redmond Municipal-Roberts Field | 1.60% | 269,132 | 291,363 | 315,430 | 369,692 |
| Rogue Valley Int'l-Medford Airport | 1.60% | 359,129 | 388,794 | 420,908 | 493,315 |
| Southwest Oregon Reg'l | 1.60% | 15,849 | 17,158 | 18,575 | 21,771 |
| **Total** | **1.60%** | **9,290,866** | **10,058,304** | **10,889,132** | **12,762,341** |

Source: 2015 Base year FAA Terminal Area Forecast.
* In 2015 air carriers did not operate at Klamath but resumed in 2016. 2014 enplanement data is used for 2015.

TABLE 3-9: ENPLANEMENT FORECAST BASED ON HISTORIC REGIONAL POPULATION GROWTH RATE, BOTTOM-UP METHODOLOGY

| Airport | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Eastern Oregon Reg'l at Pendleton | 0.71% | 4,163 | 4,312 | 4,467 | 4,794 |

| Airport | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Eugene Airport - Mahlon Sweet Field | 0.81% | 480,501 | 500,248 | 520,807 | 564,495 |
| Crater Lake-Klamath Reg'l* | 1.59% | 8,218 | 8,891 | 9,619 | 11,259 |
| Portland Int'l | 1.32% | 8,153,874 | 8,707,964 | 9,299,706 | 10,606,558 |
| Redmond Municipal-Roberts Field | 1.59% | 269,132 | 291,170 | 315,013 | 368,716 |
| Rogue Valley Int'l-Medford Airport | 0.67% | 359,129 | 371,273 | 383,827 | 410,223 |
| Southwest Oregon Reg'l | 0.67% | 15,849 | 16,385 | 16,939 | 18,104 |
| **Total** | **1.28%** | **9,290,866** | **9,900,243** | **10,550,379** | **11,984,149** |

Source: 2015 Base year FAA Terminal Area Forecast.
* In 2015 air carriers did not operate at Klamath but resumed in 2016. 2014 enplanement data is used for 2015.

TABLE 3-10: COMPARISON SUMMARY OF PASSENGER ENPLANEMENT FORECAST METHODOLOGIES

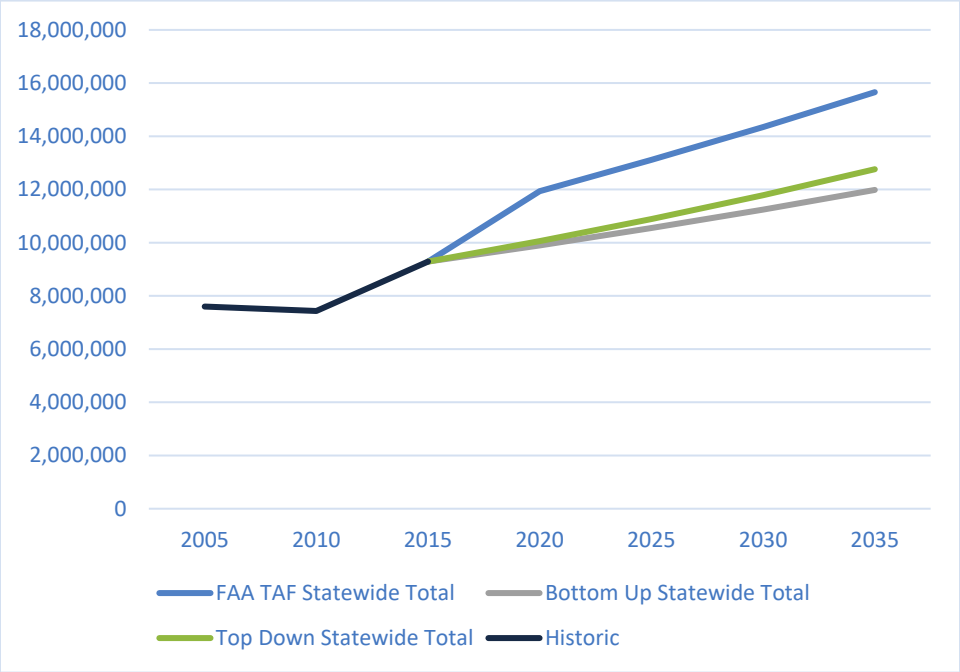
| | 2015 | 2020 | 2025 | 2035 | AAGR 2015-2035 |
|---|---|---|---|---|---|
| FAA TAF Statewide Total | 9,290,866 | 11,939,084 | 13,112,683 | 15,658,097 | 2.64% |
| Top-Down Statewide Total | 9,290,866 | 10,058,304 | 10,889,132 | 12,762,341 | 1.60% |
| Bottom-Up Statewide Total | 9,290,866 | 9,900,243 | 10,550,379 | 11,984,149 | 1.28% |

Source: 2015 Base year FAA Terminal Area Forecast, Jviation analysis

## *Preferred Passenger Enplanement Forecast*

**Figure 3-4** displays each forecasted method for passenger enplanements through 2035. A forecast based on the FAA's TAF shows an increase in enplanements to 15,651,880, an annual average of 2.64 percent growth each year and is heavily weighted on enplanement forecasts for PDX. The top-down forecasting approach, based on real GDP growth rate, produces an average growth rate of 1.6 percent each year to a forecast of 12,762,341 enplanements in 2035. The final method of forecasting passenger enplanements used a growth rate based on population growth. An average annual growth rate of 1.28 percent results in a forecast of 11,984,149 passenger enplanements. The preferred forecast for passenger enplanements is the FAA TAF Methodology, a 2.64 percent annual growth rate. This rate was selected since PDX market share is 88 percent of the Oregon enplanement market and is the fastest growing metropolitan area in the state.

FIGURE 3-4: COMPARISON SUMMARY OF PASSENGER ENPLANEMENT FORECAST

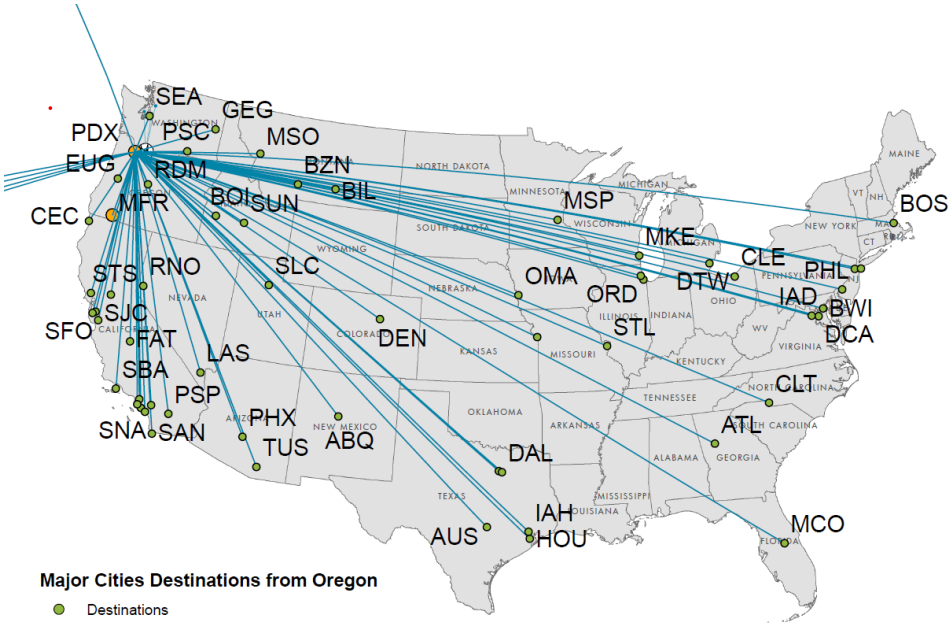



Source: FAA Terminal Area Forecast 2016, Jviation Analysis

## 3.3 Annual Air Carrier Operations Forecast

Commercial airline operations refer to those aircraft takeoffs and landings performed by scheduled airlines, including major, national, regional, and commuter carriers. Portland International is served by 17 air carriers with nonstop routes to over 75 North America destinations. There are several air carriers that serve Oregon's commercial airports. Eastern Oregon Regional Airport at Pendleton has one air carrier and is the only airport in Oregon associated with the federal Essential Air Service program. **Figure 3-5** identifies scheduled air carrier North America routes related to PDX while **Figure 3-6** shows routes related to six commercial service airports in Oregon. Scheduled passenger service generates a significant number of take offs and landings (aircraft operations) at Oregon airports. This section of the report forecasts air carrier aircraft operations for a 20-year planning period.

FIGURE 3-5: AIR CARRIER NORTH AMERICA ROUTES RELATED TO PDX




Source: Port of Portland routes data, Jviation

**Table 3-11** identifies the seven commercial airports in Oregon and their historic annual airline operations based on U.S. DOT Bureau of Transportation Statistics (BTS) data. Eastern Oregon Regional Airport at Pendleton and Southwest Oregon Regional Airport were the only airports that experienced gains in airline aircraft operations. Each of the remaining Oregon airports experienced a decline in air carrier operations from 2005 to 2015 ranging from an average annual decline of -3.4 percent at Medford to -0.6 percent at Portland International. It is important to point out that fewer annual operations do not necessarily translate into less annual passenger capacity. For example, an airline may change from operating a 50-seat regional jet aircraft on a route four times a day to a 90-seat aircraft operating the same route three times per day, thereby gaining 70 seats per day with one less operation.

FIGURE 3-6: AIR CARRIER DOMESTIC ROUTES RELATED TO OREGON AIRPORTS (MINUS PDX OUT-OF-STATE ROUTES)


Source: Flightaware.com

TABLE 3-11: COMMERCIAL AIR OPERATIONS RELATED TO OREGON AIRPORTS

| | Eastern Oregon Reg'l at Pendleton | Eugene Airport - Mahlon Sweet Field | Crater Lake-Klamath Reg'l | Portland Int'l | Redmond Municipal - Roberts Field | Rogue Valley Int'l - Medford | Southwest Oregon Reg'l |
|---|---|---|---|---|---|---|---|
| **City** | Pendleton | Eugene | Klamath Falls | Portland | Redmond | Medford | North Bend |
| **FAA ID** | PDT | EUG | LMT | PDX | RDM | MFR | OTH |
| **AAGR** | 1.4% | -1.9% | -2.9% | -0.6% | -1.5% | -3.4% | 0.1% |
| **2005** | 3,090 | 22,298 | 3,468 | 188,936 | 14,818 | 24,982 | 3,806 |
| **2006** | 3,128 | 21,614 | 3,292 | 192,060 | 16,458 | 24,956 | 3,730 |
| **2007** | 3,162 | 21,990 | 3,594 | 198,042 | 17,240 | 24,650 | 3,978 |
| **2008** | 3,068 | 19,502 | 4,290 | 192,094 | 16,160 | 21,352 | 4,218 |
| **2009** | 3,928 | 17,734 | 4,474 | 174,888 | 13,954 | 17,794 | 3,986 |
| **2010** | 3,808 | 17,364 | 4,284 | 173,190 | 13,466 | 17,856 | 3,910 |
| **2011** | 4,086 | 17,362 | 3,712 | 165,258 | 12,156 | 14,406 | 3,660 |

| | Eastern Oregon Reg'l at Pendleton | Eugene Airport - Mahlon Sweet Field | Crater Lake-Klamath Reg'l | Portland Int'l | Redmond Municipal - Roberts Field | Rogue Valley Int'l - Medford | Southwest Oregon Reg'l |
|---|---|---|---|---|---|---|---|
| **2012** | 3,848 | 17,636 | 3,348 | 167,510 | 11,894 | 14,766 | 4,580 |
| **2013** | 3,874 | 17,958 | 3,370 | 169,402 | 12,124 | 14,156 | 4,044 |
| **2014** | 3,940 | 18,094 | 2,692 | 174,382 | 12,208 | 14,402 | 3,848 |
| **2015** | 3,884 | 16,510 | 2,156 | 172,578 | 11,554 | 14,442 | 3,880 |

Source: US DOT Bureau of Transportation Statistics, Jviation analysis

**Table 3-12** presents total air carrier operations in Oregon from 2005 to 2015 and includes Portland International Airport. Overall, the average annual growth in operations show a decline of approximately 1.5 percent annually. This decline is a result of the airline industry trend of operating more efficiently in passenger transport, carrying more passengers on fewer flights. **Table 3-13** presents the same information minus annual air carrier operations data for Portland International Airport, an airport with over 76 percent operations market share in Oregon. Overall, the average annual growth in air carrier operations show a decline of approximately 3.2 percent annually.

TABLE 3-12: 2005 TO 2015 TOTAL OREGON CS AIRCRAFT OPERATIONS

| Historic | Annual Operations | % Growth |
|---|---|---|
| 2005 | 261,398 | |
| 2006 | 265,238 | 1.5% |
| 2007 | 272,656 | 2.8% |
| 2008 | 260,684 | -4.4% |
| 2009 | 236,758 | -9.2% |
| 2010 | 233,878 | -1.2% |
| 2011 | 220,640 | -5.7% |
| 2012 | 223,582 | 1.3% |
| 2013 | 224,928 | 0.6% |
| 2014 | 229,566 | 2.1% |
| 2015 | 225,004 | -0.2% |
| **AAGR 2005-2015** | | **-1.5%** |

Source: US DOT Bureau of Transportation Statistics, Jviation analysis

TABLE 3-13: 2005 TO 2015 COMMERCIAL OPERATIONS FOR ALL OREGON AIRPORTS EXCEPT PDX

| Historic | Annual Operations | % Growth |
|---|---|---|
| 2005 | 72,462 | |
| 2006 | 73,178 | 1.0% |
| 2007 | 74,614 | 2.0% |
| 2008 | 68,590 | -8.1% |
| 2009 | 61,870 | -9.8% |
| 2010 | 60,688 | -1.9% |
| 2011 | 55,382 | -8.7% |
| 2012 | 56,072 | 1.2% |

| Historic | Annual Operations | % Growth |
|---|---|---|
| 2013 | 55,526 | -1.0% |
| 2014 | 55,184 | -0.6% |
| 2015 | 52,426 | -5.0% |
| **AAGR 2005-2015** | | **-3.2%** |

Source: US DOT Bureau of Transportation Statistics, Jviation analysis

**Table 3-14** identifies projected annual commercial airline aircraft operations based on FAA TAF forecast growth rates. Statewide airline aircraft operations have decreased historically from 260,400 operations in 2005 to 225,000 operations in 2015, representing an average annual growth rate of -1.5 percent during the time period. The FAA forecast growth at Portland International at 2.28 percent annual growth for the 20-year planning period, increasing from 172,000 air carrier operations to over 270,000 by 2035. The FAA also forecast a decline in air carrier activity at Southwest Oregon Regional between 2015 and 2020 followed by a gradual rebound. Aircraft operations at Eastern Oregon Regional Airport at Pendleton, the only EAS airport in the state, to remain relatively steady. The same TAF forecasts for all commercial and EAS airports for 2015 to 2035 projects an overall statewide average annual growth rate of nearly 2.1 percent for airline operations.

TABLE 3-14: 2015 TO 2035 PROJECTED ANNUAL AIR CARRIER AIRCRAFT OPERATIONS BASED ON FAA TAF GROWTH RATES

| FAA ID | Airport | FAA TAF Forecast AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|---|
| PDT | Eastern Oregon Reg'l at Pendleton | 0.16% | 3,720 | 3,819 | 3,883 | 4,010 |
| EUG | Eugene Airport - Mahlon Sweet Field | 1.73% | 16,510 | 18,628 | 20,640 | 23,259 |
| LMT | Crater Lake-Klamath Reg'l | 2.01% | 2,156 | 2,940 | 3,028 | 3,211 |
| PDX | Portland Int'l | 2.28% | 172,578 | 215,874 | 233,389 | 270,657 |
| RDM | Redmond Municipal-Roberts Field | 2.35% | 11,554 | 14,956 | 15,938 | 18,397 |
| MFR | Rogue Valley Int'l-Medford Airport | 1.69% | 14,442 | 16,666 | 17,883 | 20,201 |
| OTH | Southwest Oregon Reg'l | -2.16% | 3,880 | 2,361 | 2,410 | 2,509 |
| | **Total** | **2.12%** | **225,004** | **275,245** | **297,170** | **342,244** |

Source: 2015 Base year US DOT BTS airline operations data, growth rate based on FAA Terminal Area Forecast 2016

Along with TAF projections, two alternative methodologies were compiled to forecast statewide air carrier operations. **Table 3-15** implements a top-down approach by applying the FAA national growth rate for commercial activity at airports with FAA and Contract towers. Commercial operations at FAA and Contract towers, on a nationwide basis, is forecast to increase at an average rate of 1.5 percent a year between 2017 and 2037. This growth rate was applied to each Oregon airport's base year air carrier operations to facilitate its forecast.

TABLE 3-15: 2015 TO 2035 AIR CARRIER OPERATIONS FORECAST BASED ON FORECASTED STATE PER CAPITA REAL GDP GROWTH RATE, TOP-DOWN METHODOLOGY

| FAA ID | Airport | Commercial Operations AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|---|
| PDT | Eastern Oregon Reg'l at Pendleton | 1.50% | 3,884 | 4,184 | 4,508 | 5,231 |
| EUG | Eugene Airport - Mahlon Sweet Field | 1.50% | 16,510 | 17,786 | 19,161 | 22,237 |

| FAA ID | Airport | Commercial Operations AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|---|
| LMT | Crater Lake-Klamath Reg'l | 1.50% | 2,156 | 2,323 | 2,502 | 2,904 |
| PDX | Portland Int'l | 1.50% | 172,578 | 185,916 | 200,284 | 232,438 |
| RDM | Redmond Municipal-Roberts Field | 1.50% | 11,554 | 12,447 | 13,409 | 15,562 |
| MFR | Rogue Valley Int'l-Medford Airport | 1.50% | 14,442 | 15,558 | 16,761 | 19,451 |
| OTH | Southwest Oregon Reg'l | 1.50% | 3,880 | 4,180 | 4,503 | 5,226 |
| | **Total** | **1.50%** | **225,004** | **242,393** | **261,126** | **303,048** |

Source: FAA Aerospace Forecast Fiscal Years 2017 to 2037 Page 26, Jviation Analysis

**Table 3-16** uses a bottom-up approach by applying the average annual growth rate based on Connect Oregon regional population growth rates that correspond with individual airports. This methodology was also applied to passenger enplanement forecasts. Population growth for Connect Oregon Regions is based on a weighted average of population growth for Oregon counties comprising each region. Overall annual statewide growth in air carrier operations for the planning period is 1.24 percent.

TABLE 3-16: 2015 TO 2035 PROJECTED ANNUAL AIR CARRIER AIRCRAFT OPERATIONS BASED ON HISTORIC POPULATION GROWTH RATES BY CONNECT OREGON REGION, BOTTOM-UP METHODOLOGY

| FAA ID | Airport | Connect Oregon Region | Population Growth Rate | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|---|---|
| PDT | Eastern Oregon Reg'l at Pendleton | 5 | 0.71% | 3,884 | 4,023 | 4,168 | 4,472 |
| EUG | Eugene Airport - Mahlon Sweet Field | 2 | 0.81% | 16,510 | 17,189 | 17,895 | 19,396 |
| LMT | Crater Lake-Klamath Reg'l | 4 | 1.59% | 2,156 | 2,333 | 2,524 | 2,954 |
| PDX | Portland Int'l | 1 | 1.32% | 172,578 | 184,305 | 196,830 | 224,489 |
| RDM | Redmond Municipal-Roberts Field | 4 | 1.59% | 11,554 | 12,500 | 13,524 | 15,829 |
| MFR | Rogue Valley Int'l-Medford Airport | 3 | 0.67% | 14,442 | 14,930 | 15,435 | 16,497 |
| OTH | Southwest Oregon Reg'l | 3 | 0.67% | 3,880 | 4,011 | 4,147 | 4,432 |
| | **Total** | | **1.24%** | **225,004** | **239,292** | **254,522** | **288,070** |

Source: 2015 Base year US DOT BTS data, Jviation Analysis

**Table 3-17** compares these three methodologies and depicts a wide range of growth rate possibilities and outcomes. Out of the three methodologies, the bottom-up and top-down forecasts provide moderate growth rates ranging from 1.24 percent to 1.5 percent, respectively. Air carrier annual forecasts based on FAA TAF growth provide a more robust forecast of 2.12 percent in air carrier operations over the planning period.

**Figure 3-7** illustrates the growth projections based on the three methodologies. The preferred growth rate is presented in a subsequent section of this chapter.

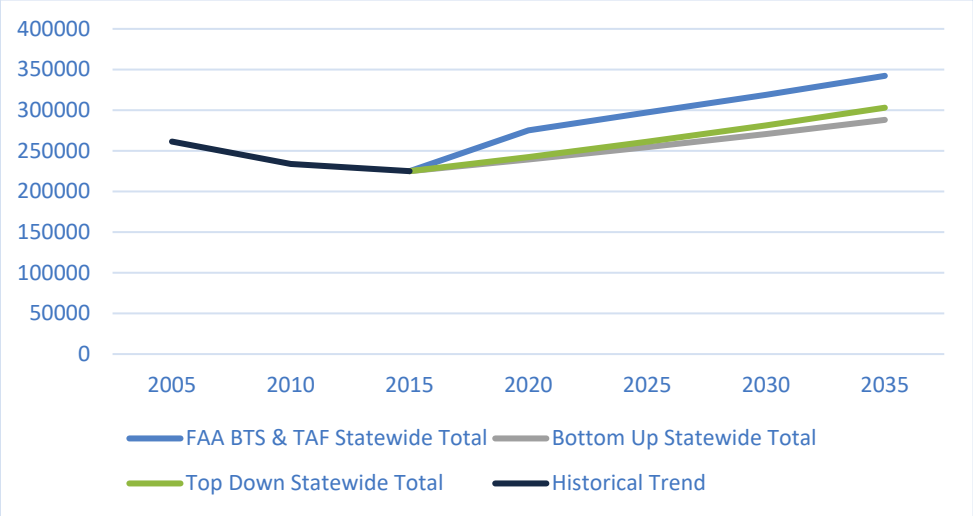
TABLE 3-17: COMPARISON SUMMARY OF AIR CARRIER OPERATIONS FORECAST METHODOLOGIES

| Forecast Method | 2015 | 2020 | 2025 | 2030 | 2035 | AAGR 2015-2035 |
|---|---|---|---|---|---|---|
| FAA BTS & TAF Statewide Total | 225,004 | 275,245 | 297,170 | 318,940 | 342,244 | 2.12% |

| Forecast Method | 2015 | 2020 | 2025 | 2030 | 2035 | AAGR 2015-2035 |
|---|---|---|---|---|---|---|
| Top-Down Statewide Total | 225,004 | 242,393 | 261,126 | 281,307 | 303,048 | 1.50% |
| Bottom-Up Statewide Total | 225,004 | 239,292 | 254,522 | 270,758 | 288,070 | 1.24% |

Source: 2015 Base year US DOT BTS data, growth rate based on FAA Terminal Area Forecast 2016, Jviation analysis

FIGURE 3-7: COMPARISON SUMMARY OF AIR CARRIER OPERATIONS FORECAST METHODOLOGIES




Source: US DOT BTS historical air carrier scheduled operations data, FAA Terminal Area Forecast 2016, Jviation analysis

### *Preferred Air Carrier Operations Forecast*

**Table 3-17** and **Figure 3-7** display each of the three methods used to forecast air carrier operations in Oregon over the 20-year planning period. The preferred forecast is based on a top-down methodology and has an average annual growth rate of 1.5 percent. This rate applies the FAA national growth rate for commercial activity at airports with FAA and Contract towers. This rate is lower than the preferred enplanement growth rate and is reflective of anticipated increases in average number of seats per departure over the planning period.

## 3.4 General Aviation Operations

In terms of aircraft operations, general aviation is the largest aviation segment in the state and takes place at all 97 system airports. General aviation includes private recreational flying, business and corporate flights, air taxi, and helicopter operations. In 2010, an estimated 1.68 million operations (takeoffs and landings) took place in the state for a wide variety of reasons including business and personal travel, recreational flying, flight instruction, emergency airlift, and agricultural spraying. **Table 3-18** shows the 20 airports in Oregon with the largest number of general aviation operations. These top 20 airports support 72 percent of total general aviation operations in the state. Portland-Hillsboro is by far the largest general aviation airport in the state, supporting approximately 12 percent of all general aviation operations.

TABLE 3-18: TOTAL ANNUAL GENERAL AVIATION OPERATIONS PROJECTION, 2015

| Airport | Connect Oregon Region | 2015 Total GA Operations* | Share of Operations |
|---|---|---|---|
| Portland -Hillsboro Airport | 1 | 199,155 | 12% |

| Airport | Connect Oregon Region | 2015 Total GA Operations* | Share of Operations |
|---|---|---|---|
| Bend Municipal Airport | 4 | 141,175 | 9% |
| Portland -Troutdale Airport | 1 | 121,977 | 8% |
| Aurora State Airport | 2 | 94,935 | 6% |
| McMinnville Municipal Airport | 2 | 63,500 | 4% |
| Scappoose Industrial Airpark | 1 | 60,000 | 4% |
| Crater Lake-Klamath Regional | 4 | 55,071 | 3% |
| Corvallis Municipal Airport | 2 | 52,300 | 3% |
| Eugene Airport -Mahlon Sweet Field | 2 | 51,866 | 3% |
| Portland International Airport | 1 | 51,445 | 3% |
| Redmond Municipal Airport -Roberts Field | 4 | 41,438 | 3% |
| Port of Astoria Regional Airport | 2 | 38,721 | 2% |
| Creswell Hobby Field Airport | 2 | 38,500 | 2% |
| Salem McNary Field | 2 | 35,657 | 2% |
| Independence State Airport | 2 | 33,658 | 2% |
| Roseburg Regional Airport | 3 | 31,750 | 2% |
| Rogue Valley International -Medford Airport | 3 | 31,589 | 2% |
| Ashland Municipal Airport - Sumner Parker Field | 3 | 26,050 | 2% |
| Tillamook Airport | 2 | 25,600 | 2% |
| Grants Pass Airport | 3 | 25,000 | 2% |
| Top 20 Airports for General Aviation Operations | | 1,219,387 | 75% |
| Remaining Airports | | 397,759 | 25% |
| **Total General Aviation Operations** | | **1,684,803** | |

Source: FAA 5010 and FAA TAF. *does not includes military operations

The estimated number of general aviation operations for 2015 is slightly larger than the 1.62 million general aviation operations estimated for 2005 and presented in the 2007 OAP. Higher fuel prices and the economic recession that began in 2007 had a large impact on general aviation activity. Because most general aviation airports estimate operations, it is difficult to discern trends. However, nationally there was a significant decline in operations following the spike of fuel prices in 2008 which impacted overall growth in general aviation operations.

## *General Aviation Operations Projections*

Total annual aircraft operational demand consists of several types of activity including air carrier, air taxi, military, and general aviation. For those airports with scheduled commercial air service, air carrier (including major/national and regional/commuter operations) activity was projected separately in a previous section. Additionally, air taxi operations are considered general aviation operations at general aviation airports. For those airports with military operations, the military operations were included in the total aircraft operations estimate, to arrive at a total annual general aviation operation for each system airport. Only those airports that have air traffic control towers have records of actual activity these airports include: Portland International, Eugene Airport, Aurora State, Crater Lake-Klamath Regional, Rogue Valley International-Medford Airport, Eastern Oregon Regional Airport at Pendleton, Redmond Municipal Airport-Roberts Field, Salem-McNary,

Southwest Oregon Regional, Portland-Troutdale, and Portland-Hillsboro. Airports without a tower provide estimates of annual operations when completing their FAA Form 5010. Therefore, annual operational estimates for this study were developed through a number of sources such as FAA 5010, FAA TAF, ODA, and airport data.

## *Bottom-Up: General Aviation Operations per Regional Population Growth Methodology*

In the bottom-up growth rate methodology, applies the average annual historical growth rate based on Connect Oregon regional population growth rates that correspond with individual airports. This methodology was also applied to passenger enplanement forecasts. Population growth for Connect Oregon Regions is based on a weighted average of population growth for Oregon counties comprising each region.

The proportional increase was determined by the projected population growth of each airport's associated ODOT Connect Oregon region. This type of projection is referred to as a bottom-up methodology as it looks at activity from the airport-specific level and then totals the individual projections to develop a statewide total. As shown in

**Table** 3-19, using the bottom-up methodology, total statewide general aviation operations[5] are projected to increase from 1.64 million in 2015 to 2.0 million in 2035, a statewide average annual growth rate of 1.1 percent over the 20-year planning period.

TABLE 3-19: TOTAL ANNUAL GENERAL AVIATION OPERATIONS PROJECTION,

BOTTOM-UP METHODOLOGY

| Airport | Connect Oregon Region | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|---|
| Albany Municipal Airport | 2 | 0.81% | 23,300 | 24,258 | 25,255 | 27,373 |
| Alkali Lake State | 4 | 1.59% | 50 | 54 | 59 | 69 |
| Arlington Municipal | 4 | 1.59% | 910 | 985 | 1,065 | 1,247 |
| Ashland Municipal Airport - Sumner Parker Field | 3 | 0.81% | 26,000 | 27,069 | 28,181 | 30,545 |
| Port of Astoria Regional Airport | 2 | 0.81% | 38,721 | 40,693 | 42,772 | 47,277 |
| Aurora State Airport | 2 | 0.81% | 94,655 | 98,545 | 102,595 | 111,201 |
| Baker City Municipal Airport | 5 | 0.71% | 16,100 | 16,678 | 17,277 | 18,539 |
| Bandon State Airport | 3 | 0.67% | 7,000 | 7,237 | 7,481 | 7,996 |
| Beaver Marsh | 4 | 1.59% | 150 | 162 | 176 | 206 |
| Bend Municipal Airport | 4 | 1.59% | 141,075 | 152,627 | 165,125 | 193,276 |
| Boardman Airport | 5 | 0.71% | 1,500 | 1,554 | 1,610 | 1,727 |
| Brookings Airport | 3 | 0.67% | 22,500 | 23,261 | 24,047 | 25,701 |
| Burns Municipal Airport | 5 | 0.71% | 7,900 | 8,184 | 8,477 | 9,097 |
| Cape Blanco State Airport | 3 | 0.67% | 750 | 775 | 802 | 857 |
| Cascade Locks State Airport | 1 | 1.32% | 1,500 | 1,602 | 1,711 | 1,951 |

[5] Includes air taxi operations.

| Airport | Connect Oregon Region | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|---|
| Chehalem Airpark | 2 | 0.81% | 12,500 | 13,014 | 13,549 | 14,685 |
| Chiloquin State Airport | 4 | 1.59% | 3,500 | 3,787 | 4,097 | 4,795 |
| Christmas Valley Airport | 4 | 1.59% | 3,600 | 3,895 | 4,214 | 4,932 |
| Columbia Gorge Regional - The Dalles | 4 | 1.59% | 15,482 | 16,750 | 18,121 | 21,211 |
| Condon State Airport - Pauling Field | 4 | 1.59% | 3,940 | 4,263 | 4,612 | 5,398 |
| Corvallis Municipal Airport | 2 | 0.81% | 51,500 | 53,617 | 55,820 | 60,502 |
| Cottage Grove State Airport - Jim Wright Field | 2 | 0.81% | 16,685 | 17,371 | 18,085 | 19,602 |
| Country Squire Airpark | 1 | 1.32% | 2,000 | 2,136 | 2,281 | 2,602 |
| Crescent Lake State Airport | 4 | 1.59% | 300 | 325 | 351 | 411 |
| Creswell Hobby Field Airport | 2 | 0.81% | 38,500 | 40,082 | 41,730 | 45,230 |
| Davis Field | 2 | 0.81% | 1,000 | 1,041 | 1,084 | 1,175 |
| Eastern Oregon Regional Airport at Pendleton | 5 | 0.71% | 9,717 | 10,066 | 10,427 | 11,189 |
| Enterprise Municipal | 5 | 0.71% | 4,850 | 5,024 | 5,204 | 5,585 |
| Eugene Airport-Mahlon Sweet Field | 2 | 0.81% | 48,416 | 50,406 | 52,477 | 56,879 |
| Florence Municipal Airport | 2 | 0.81% | 5,500 | 5,726 | 5,961 | 6,461 |
| George Felt | 3 | 0.67% | 1,500 | 1,551 | 1,603 | 1,713 |
| Gold Beach Municipal Airport | 3 | 0.67% | 5,400 | 5,583 | 5,771 | 6,168 |
| Grant County Regional Airport | 5 | 0.71% | 8,900 | 9,219 | 9,550 | 10,248 |
| Grants Pass Airport | 3 | 0.67% | 24,900 | 25,742 | 26,612 | 28,443 |
| Hermiston Municipal Airport | 5 | 0.71% | 24,800 | 25,690 | 26,613 | 28,557 |
| Illinois Valley Airport | 3 | 0.67% | 6,000 | 6,203 | 6,413 | 6,854 |
| Independence State Airport | 2 | 0.81% | 33,658 | 35,041 | 36,481 | 39,542 |
| Joseph State Airport | 5 | 0.71% | 3,850 | 3,988 | 4,131 | 4,433 |
| Ken Jernstedt Airfield | 1 | 1.32% | 14,150 | 15,112 | 16,138 | 18,406 |
| Crater Lake-Klamath Regional | 4 | 1.59% | 34,305 | 37,114 | 40,153 | 46,999 |
| La Grande / Union County Airport | 5 | 0.71% | 15,500 | 16,056 | 16,633 | 17,848 |
| Lake Billy Chinook | 4 | 1.59% | 560 | 606 | 655 | 767 |
| Lake County Airport | 4 | 1.59% | 6,000 | 6,491 | 7,023 | 8,220 |
| Lake Woahink SPB | 5 | 0.71% | 3,000 | 3,108 | 3,219 | 3,455 |
| Lakeside Municipal Airport | 3 | 0.67% | 1,600 | 1,654 | 1,710 | 1,828 |
| Lebanon State Airport | 2 | 0.81% | 9,855 | 10,260 | 10,682 | 11,578 |
| Lenhardt Airpark | 1 | 1.32% | 6,000 | 6,408 | 6,843 | 7,805 |
| Lexington Airport | 5 | 0.71% | 4,420 | 4,579 | 4,743 | 5,090 |
| Madras Municipal Airport | 4 | 1.59% | 10,635 | 11,506 | 12,448 | 14,570 |

| Airport | Connect Oregon Region | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|---|
| Malin | 4 | 1.59% | 700 | 757 | 819 | 959 |
| McDermitt State Airport | 5 | 0.71% | 2,200 | 2,279 | 2,361 | 2,533 |
| McKenzie Bridge State | 2 | 0.81% | 400 | 416 | 434 | 470 |
| McMinnville Municipal Airport | 2 | 0.81% | 62,000 | 64,548 | 67,201 | 72,838 |
| Memaloose USFS | 5 | 0.71% | 600 | 622 | 644 | 691 |
| Miller Memorial Airpark | 5 | 0.71% | 2,000 | 2,072 | 2,146 | 2,303 |
| Monument Municipal | 5 | 0.71% | 130 | 135 | 140 | 150 |
| Mulino State Airport | 1 | 1.32% | 21,300 | 22,747 | 24,293 | 27,707 |
| Myrtle Creek Municipal Airport | 3 | 0.67% | 2,280 | 2,357 | 2,437 | 2,604 |
| Nehalem Bay State Airport | 2 | 0.81% | 2,260 | 2,353 | 2,450 | 2,655 |
| Newport Municipal Airport | 2 | 0.81% | 16,000 | 16,658 | 17,342 | 18,797 |
| Oakridge State | 2 | 0.81% | 1,800 | 1,874 | 1,951 | 2,115 |
| Ontario Municipal Airport | 5 | 0.71% | 12,930 | 13,394 | 13,875 | 14,889 |
| Owyhee Reservoir State | 5 | 0.71% | 550 | 570 | 590 | 633 |
| Pacific City State Airport | 2 | 0.81% | 2,000 | 2,082 | 2,168 | 2,350 |
| Paisley | 4 | 1.59% | 400 | 433 | 468 | 548 |
| Pinehurst State Airport | 3 | 0.67% | 620 | 641 | 663 | 708 |
| Portland Downtown Heliport | 1 | 1.32% | 5,040 | 5,382 | 5,748 | 6,556 |
| Portland-Hillsboro Airport | 1 | 1.32% | 198,780 | 212,288 | 226,714 | 258,573 |
| Portland International Airport | 1 | 1.32% | 47,928 | 51,185 | 54,663 | 62,345 |
| Portland-Troutdale Airport | 1 | 1.32% | 121,744 | 130,017 | 138,852 | 158,365 |
| Powers Hayes Field | 3 | 0.67% | 400 | 414 | 428 | 457 |
| Prineville Airport | 4 | 1.59% | 10,300 | 11,143 | 12,056 | 14,111 |
| Prospect State Airport | 3 | 0.67% | 1,225 | 1,266 | 1,309 | 1,399 |
| Redmond Municipal Airport-Roberts Field | 4 | 1.59% | 40,983 | 44,339 | 47,970 | 56,148 |
| Rogue Valley International-Medford Airport | 3 | 0.67% | 31,108 | 32,160 | 33,247 | 35,534 |
| Rome State | 5 | 0.71% | 100 | 104 | 107 | 115 |
| Roseburg Regional Airport | 3 | 0.67% | 31,700 | 32,772 | 33,880 | 36,210 |
| Salem McNary Field | 2 | 0.81% | 37,126 | 38,652 | 40,240 | 43,616 |
| Sandy River | 1 | 1.32% | 11,500 | 12,281 | 13,116 | 14,959 |
| Santiam Junction State | 2 | 0.81% | 100 | 104 | 108 | 117 |
| Scappoose Industrial Airpark | 1 | 1.32% | 59,400 | 63,436 | 67,747 | 77,268 |
| Seaside Municipal Airport | 2 | 0.81% | 2,200 | 2,290 | 2,385 | 2,585 |
| Siletz Bay State Airport | 2 | 0.81% | 3,830 | 3,987 | 4,151 | 4,500 |
| Silver Lake USFS | 4 | 1.59% | 25 | 27 | 29 | 34 |
| Sisters Eagle Air Airport | 4 | 1.59% | 1,400 | 1,515 | 1,639 | 1,918 |

| Airport | Connect Oregon Region | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|---|
| Skyport | 1 | 1.32% | 2,000 | 2,136 | 2,281 | 2,602 |
| Southwest Oregon Regional Airport | 3 | 0.67% | 10,831 | 11,197 | 11,576 | 12,372 |
| Sportsman Airpark | 2 | 0.81% | 11,650 | 12,129 | 12,627 | 13,686 |
| Stark's Twin Oaks | 1 | 1.32% | 22,195 | 23,703 | 25,314 | 28,871 |
| Sunriver Airport | 4 | 1.59% | 6,100 | 6,600 | 7,140 | 8,357 |
| Tillamook Airport | 2 | 0.81% | 25,500 | 26,548 | 27,639 | 29,958 |
| Toketee State | 3 | 0.67% | 350 | 362 | 374 | 400 |
| Toledo State Airport | 2 | 0.81% | 1,150 | 1,197 | 1,246 | 1,351 |
| Valley View | 1 | 1.32% | 2,965 | 3,166 | 3,382 | 3,857 |
| Vernonia Municipal | 1 | 1.32% | 3,000 | 3,204 | 3,422 | 3,902 |
| Wakonda Beach State | 2 | 0.81% | 830 | 864 | 900 | 975 |
| Wasco State Airport | 4 | 1.59% | 2,435 | 2,634 | 2,850 | 3,336 |
| **Total** | | **1.10%** | **1,636,699** | **1,728,135** | **1,825,189** | **2,037,667** |

Source: Jviation

## *Top-Down Methodology: FAA General Aviation Hours Flown*

This methodology uses the FAA's projected average annual growth rate of national general aviation hours flown, 0.9 percent, (as found in FAA Aerospace Forecast 2017) and applies that growth rate to each airport's total air taxi, local and itinerant general aviation operations. In this methodology, forecasted general aviation operations are based on the assumption that general aviation operations at Oregon system airports increase at the same rate as the number of hours flown nationally. The FAA's projected average annual growth rate of national general aviation hours flown from 2015 to 2035 is 0.9 percent. When this growth rate is applied to each of Oregon's system airports, total statewide general aviation operations at system airports increase from 1.64 million in 2015 to 1.96 million in 2035. **Table 3-20** identifies the projected general aviation operations for each of Oregon's system airports using this methodology.

TABLE 3-20: GENERAL AVIATION OPERATIONS PROJECTION,
TOP-DOWN METHODOLOGY, FAA GENERAL AVIATION HOURS FLOWN

| Airport | FAA Hours Flown AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Albany Municipal Airport | 0.90% | 23,300 | 24,368 | 25,484 | 27,873 |
| Alkali Lake State | 0.90% | 50 | 52 | 55 | 60 |
| Arlington Municipal | 0.90% | 910 | 952 | 995 | 1,089 |
| Ashland Municipal Airport - Sumner Parker Field | 0.90% | 26,000 | 27,191 | 28,437 | 31,103 |
| Port of Astoria Regional Airport | 0.90% | 38,721 | 40,810 | 43,016 | 47,807 |
| Aurora State Airport | 0.90% | 94,655 | 98,992 | 103,527 | 113,231 |
| Baker City Municipal Airport | 0.90% | 16,100 | 16,838 | 17,609 | 19,260 |
| Bandon State Airport | 0.90% | 7,000 | 7,321 | 7,656 | 8,374 |
| Beaver Marsh | 0.90% | 150 | 157 | 164 | 179 |
| Bend Municipal Airport | 0.90% | 141,075 | 147,539 | 154,299 | 168,762 |

| Airport | FAA Hours Flown AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Boardman Airport | 0.90% | 1,500 | 1,569 | 1,641 | 1,794 |
| Brookings Airport | 0.90% | 22,500 | 23,531 | 24,609 | 26,916 |
| Burns Municipal Airport | 0.90% | 7,900 | 8,262 | 8,640 | 9,450 |
| Cape Blanco State Airport | 0.90% | 750 | 784 | 820 | 897 |
| Cascade Locks State Airport | 0.90% | 1,500 | 1,569 | 1,641 | 1,794 |
| Chehalem Airpark | 0.90% | 12,500 | 13,073 | 13,672 | 14,953 |
| Chiloquin State Airport | 0.90% | 3,500 | 3,660 | 3,828 | 4,187 |
| Christmas Valley Airport | 0.90% | 3,600 | 3,765 | 3,937 | 4,307 |
| Columbia Gorge Regional - The Dalles | 0.90% | 15,482 | 16,191 | 16,933 | 18,520 |
| Condon State Airport - Pauling Field | 0.90% | 3,940 | 4,121 | 4,309 | 4,713 |
| Corvallis Municipal Airport | 0.90% | 51,500 | 53,860 | 56,327 | 61,607 |
| Cottage Grove State Airport - Jim Wright Field | 0.90% | 16,685 | 17,449 | 18,249 | 19,959 |
| Country Squire Airpark | 0.90% | 2,000 | 2,092 | 2,187 | 2,393 |
| Crescent Lake State Airport | 0.90% | 300 | 314 | 328 | 359 |
| Creswell Hobby Field Airport | 0.90% | 38,500 | 40,264 | 42,109 | 46,056 |
| Davis Field | 0.90% | 1,000 | 1,046 | 1,094 | 1,196 |
| Eastern Oregon Regional Airport at Pendleton | 0.90% | 9,717 | 10,162 | 10,628 | 11,624 |
| Enterprise Municipal | 0.90% | 4,850 | 5,072 | 5,305 | 5,802 |
| Eugene Airport-Mahlon Sweet Field | 0.90% | 48,416 | 50,634 | 52,954 | 57,918 |
| Florence Municipal Airport | 0.90% | 5,500 | 5,752 | 6,016 | 6,579 |
| George Felt | 0.90% | 1,500 | 1,569 | 1,641 | 1,794 |
| Gold Beach Municipal Airport | 0.90% | 5,400 | 5,647 | 5,906 | 6,460 |
| Grant County Regional Airport | 0.90% | 8,900 | 9,308 | 9,734 | 10,647 |
| Grants Pass Airport | 0.90% | 24,900 | 26,041 | 27,234 | 29,787 |
| Hermiston Municipal Airport | 0.90% | 24,800 | 25,936 | 27,125 | 29,667 |
| Illinois Valley Airport | 0.90% | 6,000 | 6,275 | 6,562 | 7,178 |
| Independence State Airport | 0.90% | 33,658 | 35,200 | 36,813 | 40,264 |
| Joseph State Airport | 0.90% | 3,850 | 4,026 | 4,211 | 4,606 |
| Ken Jernstedt Airfield | 0.90% | 14,150 | 14,798 | 15,476 | 16,927 |
| Crater Lake-Klamath Regional | 0.90% | 34,305 | 35,877 | 37,521 | 41,037 |
| La Grande / Union County Airport | 0.90% | 15,500 | 16,210 | 16,953 | 18,542 |
| Lake Billy Chinook | 0.90% | 560 | 586 | 612 | 670 |
| Lake County Airport | 0.90% | 6,000 | 6,275 | 6,562 | 7,178 |
| Lake Woahink SPB | 0.90% | 3,000 | 3,137 | 3,281 | 3,589 |
| Lakeside Municipal Airport | 0.90% | 1,600 | 1,673 | 1,750 | 1,914 |
| Lebanon State Airport | 0.90% | 9,855 | 10,307 | 10,779 | 11,789 |
| Lenhardt Airpark | 0.90% | 6,000 | 6,275 | 6,562 | 7,178 |
| Lexington Airport | 0.90% | 4,420 | 4,623 | 4,834 | 5,287 |

| Airport | FAA Hours Flown AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Madras Municipal Airport | 0.90% | 10,635 | 11,122 | 11,632 | 12,722 |
| Malin | 0.90% | 700 | 732 | 766 | 837 |
| McDermitt State Airport | 0.90% | 2,200 | 2,301 | 2,406 | 2,632 |
| McKenzie Bridge State | 0.90% | 400 | 418 | 437 | 479 |
| McMinnville Municipal Airport | 0.90% | 62,000 | 64,841 | 67,812 | 74,168 |
| Memaloose USFS | 0.90% | 600 | 627 | 656 | 718 |
| Miller Memorial Airpark | 0.90% | 2,000 | 2,092 | 2,187 | 2,393 |
| Monument Municipal | 0.90% | 130 | 136 | 142 | 156 |
| Mulino State Airport | 0.90% | 21,300 | 22,276 | 23,297 | 25,480 |
| Myrtle Creek Municipal Airport | 0.90% | 2,280 | 2,384 | 2,494 | 2,727 |
| Nehalem Bay State Airport | 0.90% | 2,260 | 2,364 | 2,472 | 2,704 |
| Newport Municipal Airport | 0.90% | 16,000 | 16,733 | 17,500 | 19,140 |
| Oakridge State | 0.90% | 1,800 | 1,882 | 1,969 | 2,153 |
| Ontario Municipal Airport | 0.90% | 12,930 | 13,522 | 14,142 | 15,468 |
| Owyhee Reservoir State | 0.90% | 550 | 575 | 602 | 658 |
| Pacific City State Airport | 0.90% | 2,000 | 2,092 | 2,187 | 2,393 |
| Paisley | 0.90% | 400 | 418 | 437 | 479 |
| Pinehurst State Airport | 0.90% | 620 | 648 | 678 | 742 |
| Portland Downtown Heliport | 0.90% | 5,040 | 5,271 | 5,512 | 6,029 |
| Portland-Hillsboro Airport | 0.90% | 198,780 | 207,888 | 217,412 | 237,791 |
| Portland International Airport | 0.90% | 47,928 | 50,124 | 52,420 | 57,334 |
| Portland-Troutdale Airport | 0.90% | 121,744 | 127,322 | 133,156 | 145,637 |
| Powers Hayes Field | 0.90% | 400 | 418 | 437 | 479 |
| Prineville Airport | 0.90% | 10,300 | 10,772 | 11,265 | 12,321 |
| Prospect State Airport | 0.90% | 1,225 | 1,281 | 1,340 | 1,465 |
| Redmond Municipal Airport-Roberts Field | 0.90% | 40,983 | 42,861 | 44,824 | 49,026 |
| Rogue Valley International-Medford Airport | 0.90% | 31,108 | 32,533 | 34,024 | 37,213 |
| Rome State | 0.90% | 100 | 105 | 109 | 120 |
| Roseburg Regional Airport | 0.90% | 31,700 | 33,152 | 34,671 | 37,921 |
| Salem McNary Field | 0.90% | 37,126 | 38,827 | 40,606 | 44,412 |
| Sandy River | 0.90% | 11,500 | 12,027 | 12,578 | 13,757 |
| Santiam Junction State | 0.90% | 100 | 105 | 109 | 120 |
| Scappoose Industrial Airpark | 0.90% | 59,400 | 62,122 | 64,968 | 71,057 |
| Seaside Municipal Airport | 0.90% | 2,200 | 2,301 | 2,406 | 2,632 |
| Siletz Bay State Airport | 0.90% | 3,830 | 4,005 | 4,189 | 4,582 |
| Silver Lake USFS | 0.90% | 25 | 26 | 27 | 30 |
| Sisters Eagle Air Airport | 0.90% | 1,400 | 1,464 | 1,531 | 1,675 |
| Skyport | 0.90% | 2,000 | 2,092 | 2,187 | 2,393 |

| Airport | FAA Hours Flown AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Southwest Oregon Regional Airport | 0.90% | 10,831 | 11,327 | 11,846 | 12,957 |
| Sportsman Airpark | 0.90% | 11,650 | 12,184 | 12,742 | 13,936 |
| Stark's Twin Oaks | 0.90% | 22,195 | 23,212 | 24,275 | 26,551 |
| Sunriver Airport | 0.90% | 6,100 | 6,379 | 6,672 | 7,297 |
| Tillamook Airport | 0.90% | 25,500 | 26,668 | 27,890 | 30,504 |
| Toketee State | 0.90% | 350 | 366 | 383 | 419 |
| Toledo State Airport | 0.90% | 1,150 | 1,203 | 1,258 | 1,376 |
| Valley View | 0.90% | 2,965 | 3,101 | 3,243 | 3,547 |
| Vernonia Municipal | 0.90% | 3,000 | 3,137 | 3,281 | 3,589 |
| Wakonda Beach State | 0.90% | 830 | 868 | 908 | 993 |
| Wasco State Airport | 0.90% | 2,435 | 2,547 | 2,663 | 2,913 |
| **Total** | | **1,636,699** | **1,712,003** | **1,790,778** | **1,959,394** |

**Table 3-21** presents projected statewide general aviation operations for Oregon also using the top-down methodology. The U.S. Bureau Economic Analysis Per Capita Real GDP for Oregon 2005-2015 data indicates per capita GDP increased 1.6 percent annually between 2005 and 2015. This top-down projection assumes this average annual growth rate continues at this rate from 2015 to 2035. Individual airport general aviation aircraft operations projections were derived by applying this growth rate to each airport's current operations total through the end of the planning period. As shown in **Table 3-21**, using the top-down methodology, total statewide general aviation aircraft operations are projected to increase from 1.64 million in 2015 to 2.25 million in 2035.

TABLE 3-21: GENERAL AVIATION OPERATIONS PROJECTION,
TOP-DOWN METHODOLOGY, HISTORICAL PER CAPITA REAL GDP

| Airport | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Albany Municipal Airport | 1.60% | 23,300 | 25,225 | 27,308 | 32,006 |
| Alkali Lake State | 1.60% | 50 | 54 | 59 | 69 |
| Arlington Municipal | 1.60% | 910 | 985 | 1,067 | 1,250 |
| Ashland Municipal Airport - Sumner Parker Field | 1.60% | 26,000 | 28,148 | 30,473 | 35,715 |
| Port of Astoria Regional Airport | 1.60% | 38,721 | 41,719 | 44,951 | 52,192 |
| Aurora State Airport | 1.60% | 94,655 | 102,474 | 110,938 | 130,022 |
| Baker City Municipal Airport | 1.60% | 16,100 | 17,430 | 18,870 | 22,116 |
| Bandon State Airport | 1.60% | 7,000 | 7,578 | 8,204 | 9,616 |
| Beaver Marsh | 1.60% | 150 | 162 | 176 | 206 |
| Bend Municipal Airport | 1.60% | 141,075 | 152,728 | 165,344 | 193,787 |
| Boardman Airport | 1.60% | 1,500 | 1,624 | 1,758 | 2,060 |
| Brookings Airport | 1.60% | 22,500 | 24,359 | 26,371 | 30,907 |
| Burns Municipal Airport | 1.60% | 7,900 | 8,553 | 9,259 | 10,852 |
| Cape Blanco State Airport | 1.60% | 750 | 812 | 879 | 1,030 |

| Airport | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Cascade Locks State Airport | 1.60% | 1,500 | 1,624 | 1,758 | 2,060 |
| Chehalem Airpark | 1.60% | 12,500 | 13,533 | 14,650 | 17,171 |
| Chiloquin State Airport | 1.60% | 3,500 | 3,789 | 4,102 | 4,808 |
| Christmas Valley Airport | 1.60% | 3,600 | 3,897 | 4,219 | 4,945 |
| Columbia Gorge Regional - The Dalles | 1.60% | 15,482 | 16,761 | 18,145 | 21,267 |
| Condon State Airport - Pauling Field | 1.60% | 3,940 | 4,265 | 4,618 | 5,412 |
| Corvallis Municipal Airport | 1.60% | 51,500 | 55,754 | 60,359 | 70,743 |
| Cottage Grove State Airport - Jim Wright Field | 1.60% | 16,685 | 18,063 | 19,555 | 22,919 |
| Country Squire Airpark | 1.60% | 2,000 | 2,165 | 2,344 | 2,747 |
| Crescent Lake State Airport | 1.60% | 300 | 325 | 352 | 412 |
| Creswell Hobby Field Airport | 1.60% | 38,500 | 41,680 | 45,123 | 52,885 |
| Davis Field | 1.60% | 1,000 | 1,083 | 1,172 | 1,374 |
| Eastern Oregon Regional Airport at Pendleton | 1.60% | 9,717 | 10,520 | 11,389 | 13,348 |
| Enterprise Municipal | 1.60% | 4,850 | 5,251 | 5,684 | 6,662 |
| Eugene Airport-Mahlon Sweet Field | 1.60% | 48,416 | 52,415 | 56,745 | 66,506 |
| Florence Municipal Airport | 1.60% | 5,500 | 5,954 | 6,446 | 7,555 |
| George Felt | 1.60% | 1,500 | 1,624 | 1,758 | 2,060 |
| Gold Beach Municipal Airport | 1.60% | 5,400 | 5,846 | 6,329 | 7,418 |
| Grant County Regional Airport | 1.60% | 8,900 | 9,635 | 10,431 | 12,225 |
| Grants Pass Airport | 1.60% | 24,900 | 26,957 | 29,183 | 34,204 |
| Hermiston Municipal Airport | 1.60% | 24,800 | 26,849 | 29,066 | 34,066 |
| Illinois Valley Airport | 1.60% | 6,000 | 6,496 | 7,032 | 8,242 |
| Independence State Airport | 1.60% | 33,658 | 36,438 | 39,448 | 46,234 |
| Joseph State Airport | 1.60% | 3,850 | 4,168 | 4,512 | 5,289 |
| Ken Jernstedt Airfield | 1.60% | 14,150 | 15,319 | 16,584 | 19,437 |
| Crater Lake-Klamath Regional | 1.60% | 34,305 | 37,139 | 40,206 | 47,123 |
| La Grande / Union County Airport | 1.60% | 15,500 | 16,780 | 18,166 | 21,291 |
| Lake Billy Chinook | 1.60% | 560 | 606 | 656 | 769 |
| Lake County Airport | 1.60% | 6,000 | 6,496 | 7,032 | 8,242 |
| Lake Woahink SPB | 1.60% | 3,000 | 3,248 | 3,516 | 4,121 |
| Lakeside Municipal Airport | 1.60% | 1,600 | 1,732 | 1,875 | 2,198 |
| Lebanon State Airport | 1.60% | 9,855 | 10,669 | 11,550 | 13,537 |
| Lenhardt Airpark | 1.60% | 6,000 | 6,496 | 7,032 | 8,242 |
| Lexington Airport | 1.60% | 4,420 | 4,785 | 5,180 | 6,072 |
| Madras Municipal Airport | 1.60% | 10,635 | 11,513 | 12,464 | 14,609 |
| Malin | 1.60% | 700 | 758 | 820 | 962 |
| McDermitt State Airport | 1.60% | 2,200 | 2,382 | 2,578 | 3,022 |

| Airport | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| McKenzie Bridge State | 1.60% | 400 | 433 | 469 | 549 |
| McMinnville Municipal Airport | 1.60% | 62,000 | 67,121 | 72,666 | 85,166 |
| Memaloose USFS | 1.60% | 600 | 650 | 703 | 824 |
| Miller Memorial Airpark | 1.60% | 2,000 | 2,165 | 2,344 | 2,747 |
| Monument Municipal | 1.60% | 130 | 141 | 152 | 179 |
| Mulino State Airport | 1.60% | 21,300 | 23,059 | 24,964 | 29,259 |
| Myrtle Creek Municipal Airport | 1.60% | 2,280 | 2,468 | 2,672 | 3,132 |
| Nehalem Bay State Airport | 1.60% | 2,260 | 2,447 | 2,649 | 3,104 |
| Newport Municipal Airport | 1.60% | 16,000 | 17,322 | 18,752 | 21,978 |
| Oakridge State | 1.60% | 1,800 | 1,949 | 2,110 | 2,473 |
| Ontario Municipal Airport | 1.60% | 12,930 | 13,998 | 15,154 | 17,761 |
| Owyhee Reservoir State | 1.60% | 550 | 595 | 645 | 756 |
| Pacific City State Airport | 1.60% | 2,000 | 2,165 | 2,344 | 2,747 |
| Paisley | 1.60% | 400 | 433 | 469 | 549 |
| Pinehurst State Airport | 1.60% | 620 | 671 | 727 | 852 |
| Portland Downtown Heliport | 1.60% | 5,040 | 5,456 | 5,907 | 6,923 |
| Portland-Hillsboro Airport | 1.60% | 198,780 | 215,199 | 232,975 | 273,053 |
| Portland International Airport | 1.60% | 47,928 | 51,887 | 56,173 | 65,836 |
| Portland-Troutdale Airport | 1.60% | 121,744 | 131,800 | 142,687 | 167,233 |
| Powers Hayes Field | 1.60% | 400 | 433 | 469 | 549 |
| Prineville Airport | 1.60% | 10,300 | 11,151 | 12,072 | 14,149 |
| Prospect State Airport | 1.60% | 1,225 | 1,326 | 1,436 | 1,683 |
| Redmond Municipal Airport-Roberts Field | 1.60% | 40,983 | 44,368 | 48,033 | 56,296 |
| Rogue Valley International-Medford Airport | 1.60% | 31,108 | 33,678 | 36,459 | 42,731 |
| Rome State | 1.60% | 100 | 108 | 117 | 137 |
| Roseburg Regional Airport | 1.60% | 31,700 | 34,318 | 37,153 | 43,545 |
| Salem McNary Field | 1.60% | 37,126 | 40,193 | 43,513 | 50,998 |
| Sandy River | 1.60% | 11,500 | 12,450 | 13,478 | 15,797 |
| Santiam Junction State | 1.60% | 100 | 108 | 117 | 137 |
| Scappoose Industrial Airpark | 1.60% | 59,400 | 64,307 | 69,618 | 81,594 |
| Seaside Municipal Airport | 1.60% | 2,200 | 2,382 | 2,578 | 3,022 |
| Siletz Bay State Airport | 1.60% | 3,830 | 4,146 | 4,489 | 5,261 |
| Silver Lake USFS | 1.60% | 25 | 27 | 29 | 34 |
| Sisters Eagle Air Airport | 1.60% | 1,400 | 1,516 | 1,641 | 1,923 |
| Skyport | 1.60% | 2,000 | 2,165 | 2,344 | 2,747 |
| Southwest Oregon Regional Airport | 1.60% | 10,831 | 11,726 | 12,694 | 14,878 |
| Sportsman Airpark | 1.60% | 11,650 | 12,612 | 13,654 | 16,003 |
| Stark's Twin Oaks | 1.60% | 22,195 | 24,028 | 26,013 | 30,488 |

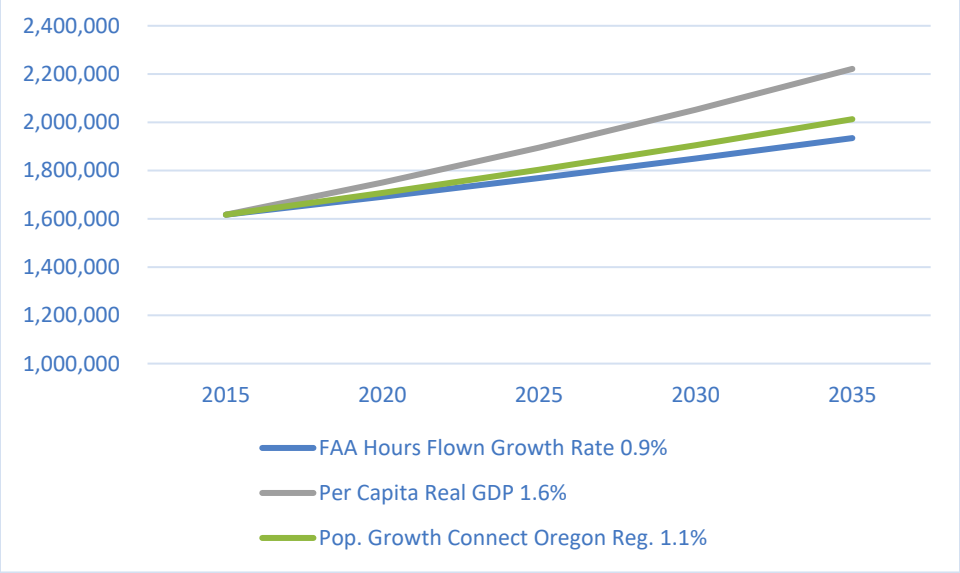
| Airport | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Sunriver Airport | 1.60% | 6,100 | 6,604 | 7,149 | 8,379 |
| Tillamook Airport | 1.60% | 25,500 | 27,606 | 29,887 | 35,028 |
| Toketee State | 1.60% | 350 | 379 | 410 | 481 |
| Toledo State Airport | 1.60% | 1,150 | 1,245 | 1,348 | 1,580 |
| Valley View | 1.60% | 2,965 | 3,210 | 3,475 | 4,073 |
| Vernonia Municipal | 1.60% | 3,000 | 3,248 | 3,516 | 4,121 |
| Wakonda Beach State | 1.60% | 830 | 899 | 973 | 1,140 |
| Wasco State Airport | 1.60% | 2,435 | 2,636 | 2,854 | 3,345 |
| **Total** | | **1,636,699** | **1,771,692** | **1,917,822** | **2,247,245** |

Source: Jviation

## *Preferred General Aviation Operations Forecast*

The results from the three general aviation operations projection methodologies developed in this forecast are compared in **Figure 3-8**. In 2015, the Oregon system airports examined in this analysis accommodated 1.6 million general aviation operations. The bottom-up methodology produced a 2035 statewide projection of 2.0 million general aviation operations, an average annual growth rate of 1.1 percent. The top-down methodology based on FAA Hours Flown projections produced a 2035 statewide projection of 1.93 million general aviation operations, an average annual growth rate of 0.9 percent. The alternative top-down methodology based on historical GDP growth produced a 2035 statewide projection of 2.22 million general aviation operations, an average annual growth rate of 1.6 percent. After comparing the results and the average annual growth rates of each methodology, the bottom-up growth rate of 0.9 percent was chosen as the preferred growth rate since it is based on FAA national average growth forecasted for hours flown. Although the preferred growth rate for general aviation based aircraft in Oregon is slightly higher, 1.1 percent, it is likely that operations per aircraft will decrease over the planning period.

FIGURE 3-8: GENERAL AVIATION OPERATIONS PROJECTIONS COMPARISON




Source: Jviation

## 3.5 Military Operations Forecast

FAA 5010 data indicates military operations occur at 43 Oregon system airports and reflect a wide range of activity levels. Crater Lake-Klamath Regional is the busiest airport in the state in terms of military followed by Port of Astoria Regional Airport. Astoria Regional is home of Coast Guard Air Station Astoria which support C130 aircraft and MH65 helicopters. Crater Lake-Klamath Regional is home to Kingsley Field Air National Guard Base site of the Oregon Air National Guard's 173rd Fighter Wing. Total military operations have increased from 39,345 in 2005 to 51,240 in 2015, reflecting an average annual growth rate of 1.33 percent. Future military operations in Oregon will be subject to a wide range of variables such as military budgets, national security issues, military participation in forest fire fighting and U.S. Coast Guard activity making it challenging to forecast. **Table 3-22** forecasts military operations for airports with known military operations for the 20-year planning period by utilizing this historical growth rate of 1.33 percent. Total annual military operations in Oregon are projected to increase from an estimated 67,700 to over 88,000 annual operations by 2035.

TABLE 3-22: MILITARY AIRCRAFT OPERATIONS PROJECTION,
TOP-DOWN METHODOLOGY, HISTORICAL MILITARY OPERATIONS

| Airport | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Albany Municipal Airport | 1.33% | - | - | - | - |
| Alkali Lake State | 1.33% | - | - | - | - |
| Arlington Municipal | 1.33% | - | - | - | - |
| Ashland Municipal Airport - Sumner Parker Field | 1.33% | 50 | 53 | 57 | 65 |
| Port of Astoria Regional Airport | 1.33% | 14,000 | 14,956 | 15,977 | 18,234 |
| Aurora State Airport | 1.33% | 280 | 299 | 320 | 365 |
| Baker City Municipal Airport | 1.33% | 100 | 107 | 114 | 130 |
| Bandon State Airport | 1.33% | 100 | 107 | 114 | 130 |
| Beaver Marsh | 1.33% | - | - | - | - |
| Bend Municipal Airport | 1.33% | 100 | 107 | 114 | 130 |
| Boardman Airport | 1.33% | - | - | - | - |
| Brookings Airport | 1.33% | 100 | 107 | 114 | 130 |
| Burns Municipal Airport | 1.33% | 100 | 107 | 114 | 130 |
| Cape Blanco State Airport | 1.33% | 150 | 160 | 171 | 195 |
| Cascade Locks State Airport | 1.33% | - | - | - | - |
| Chehalem Airpark | 1.33% | - | - | - | - |
| Chiloquin State Airport | 1.33% | - | - | - | - |
| Christmas Valley Airport | 1.33% | - | - | - | - |
| Columbia Gorge Regional - The Dalles | 1.33% | 971 | 1,037 | 1,108 | 1,265 |
| Condon State Airport - Pauling Field | 1.33% | - | - | - | - |
| Corvallis Municipal Airport | 1.33% | 800 | 855 | 913 | 1,042 |
| Cottage Grove State Airport - Jim Wright Field | 1.33% | - | - | - | - |
| Country Squire Airpark | 1.33% | - | - | - | - |
| Crescent Lake State Airport | 1.33% | - | - | - | - |
| Creswell Hobby Field Airport | 1.33% | - | - | - | - |

| Airport | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Davis Field | 1.33% | - | - | - | - |
| Eastern Oregon Regional Airport at Pendleton | 1.33% | 2,129 | 2,274 | 2,430 | 2,773 |
| Enterprise Municipal | 1.33% | - | - | - | - |
| Eugene Airport-Mahlon Sweet Field | 1.33% | 3,450 | 3,686 | 3,937 | 4,493 |
| Florence Municipal Airport | 1.33% | 1,500 | 1,602 | 1,712 | 1,954 |
| George Felt | 1.33% | - | - | - | - |
| Gold Beach Municipal Airport | 1.33% | 150 | 160 | 171 | 195 |
| Grant County Regional Airport | 1.33% | 25 | 27 | 29 | 33 |
| Grants Pass Airport | 1.33% | 100 | 107 | 114 | 130 |
| Hermiston Municipal Airport | 1.33% | 50 | 53 | 57 | 65 |
| Illinois Valley Airport | 1.33% | - | - | - | - |
| Independence State Airport | 1.33% | - | - | - | - |
| Joseph State Airport | 1.33% | - | - | - | - |
| Ken Jernstedt Airfield | 1.33% | 60 | 64 | 68 | 78 |
| Crater Lake-Klamath Regional | 1.33% | 20,766 | 22,184 | 23,699 | 27,047 |
| La Grande / Union County Airport | 1.33% | 500 | 534 | 571 | 651 |
| Lake Billy Chinook | 1.33% | - | - | - | - |
| Lake County Airport | 1.33% | - | - | - | - |
| Lake Woahink SPB | 1.33% | - | - | - | - |
| Lakeside Municipal Airport | 1.33% | 200 | 214 | 228 | 260 |
| Lebanon State Airport | 1.33% | - | - | - | - |
| Lenhardt Airpark | 1.33% | - | - | - | - |
| Lexington Airport | 1.33% | 12 | 13 | 14 | 16 |
| Madras Municipal Airport | 1.33% | 100 | 107 | 114 | 130 |
| Malin | 1.33% | - | - | - | - |
| McDermitt State Airport | 1.33% | - | - | - | - |
| McKenzie Bridge State | 1.33% | - | - | - | - |
| McMinnville Municipal Airport | 1.33% | 1,500 | 1,602 | 1,712 | 1,954 |
| Memaloose USFS | 1.33% | - | - | - | - |
| Miller Memorial Airpark | 1.33% | - | - | - | - |
| Monument Municipal | 1.33% | - | - | - | - |
| Mulino State Airport | 1.33% | - | - | - | - |
| Myrtle Creek Municipal Airport | 1.33% | - | - | - | - |
| Nehalem Bay State Airport | 1.33% | 50 | 53 | 57 | 65 |
| Newport Municipal Airport | 1.33% | 3,600 | 3,846 | 4,108 | 4,689 |
| Oakridge State | 1.33% | - | - | - | - |
| Ontario Municipal Airport | 1.33% | - | - | - | - |
| Owyhee Reservoir State | 1.33% | - | - | - | - |

| Airport | AAGR | 2015 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Pacific City State Airport | 1.33% | - | - | - | - |
| Paisley | 1.33% | - | - | - | - |
| Pinehurst State Airport | 1.33% | - | - | - | - |
| Portland Downtown Heliport | 1.33% | 100 | 107 | 114 | 130 |
| Portland-Hillsboro Airport | 1.33% | 375 | 401 | 428 | 488 |
| Portland International Airport | 1.33% | 3,517 | 3,757 | 4,014 | 4,581 |
| Portland-Troutdale Airport | 1.33% | 233 | 249 | 266 | 303 |
| Powers Hayes Field | 1.33% | - | - | - | - |
| Prineville Airport | 1.33% | 100 | 107 | 114 | 130 |
| Prospect State Airport | 1.33% | - | - | - | - |
| Redmond Municipal Airport-Roberts Field | 1.33% | 455 | 486 | 519 | 593 |
| Rogue Valley International-Medford Airport | 1.33% | 481 | 514 | 549 | 626 |
| Rome State | 1.33% | - | - | - | - |
| Roseburg Regional Airport | 1.33% | 50 | 53 | 57 | 65 |
| Salem McNary Field | 1.33% | 4,084 | 4,363 | 4,661 | 5,319 |
| Sandy River | 1.33% | - | - | - | - |
| Santiam Junction State | 1.33% | 6 | 6 | 7 | 8 |
| Scappoose Industrial Airpark | 1.33% | 600 | 641 | 685 | 781 |
| Seaside Municipal Airport | 1.33% | 400 | 427 | 456 | 521 |
| Siletz Bay State Airport | 1.33% | 50 | 53 | 57 | 65 |
| Silver Lake USFS | 1.33% | - | - | - | - |
| Sisters Eagle Air Airport | 1.33% | - | - | - | - |
| Skyport | 1.33% | - | - | - | - |
| Southwest Oregon Regional Airport | 1.33% | 6,113 | 6,530 | 6,976 | 7,962 |
| Sportsman Airpark | 1.33% | - | - | - | - |
| Stark's Twin Oaks | 1.33% | - | - | - | - |
| Sunriver Airport | 1.33% | 50 | 53 | 57 | 65 |
| Tillamook Airport | 1.33% | 100 | 107 | 114 | 130 |
| Toketee State | 1.33% | - | - | - | - |
| Toledo State Airport | 1.33% | - | - | - | - |
| Valley View | 1.33% | - | - | - | - |
| Vernonia Municipal | 1.33% | - | - | - | - |
| Wakonda Beach State | 1.33% | - | - | - | - |
| Wasco State Airport | 1.33% | - | - | - | - |
| **Total** | | **67,657** | **72,277** | **77,213** | **88,120** |

Source: Jviation

## 3.6 Based Aircraft Forecast

In 2017, there were 4,521 based aircraft at Oregon system airports. Of these, 755 are located at commercial airports and 3,766 are located at general aviation airports. **Table 3-23** lists the airports in Oregon with the largest number of based aircraft. Aurora State Airport out-distances all the other airports by a large margin with 7.7 percent of all based aircraft in the state.

TABLE 3-23: TOP 20 AIRPORTS WITH THE LARGEST NUMBER OF BASED AIRCRAFT, 2015

| Airport | Connect Oregon Region | OAP Functional Role | Based Aircraft Count | Percentage of Share |
|---|---|---|---|---|
| Aurora State Airport | 2 | II | 346 | 7.7% |
| Portland-Hillsboro Airport | 1 | II | 296 | 6.5% |
| Bend Municipal Airport | 4 | II | 241 | 5.3% |
| Rogue Valley International-Medford Airport | 3 | I | 207 | 4.6% |
| Ken Jernstedt Airfield | 1 | IV | 197 | 4.4% |
| Independence State Airport | 2 | IV | 191 | 4.2% |
| Grants Pass Airport | 3 | III | 189 | 4.2% |
| Eugene Airport-Mahlon Sweet Field | 2 | I | 185 | 4.1% |
| Salem McNary Field | 2 | II | 136 | 3.0% |
| Corvallis Municipal Airport | 2 | II | 134 | 3.0% |
| Scappoose Industrial Airpark | 1 | II | 119 | 2.6% |
| Prineville Airport | 4 | IV | 117 | 2.6% |
| Lenhardt Airpark | 1 | IV | 113 | 2.5% |
| Stark's Twin Oaks | 1 | V | 113 | 2.5% |
| McMinnville Municipal Airport | 2 | II | 109 | 2.4% |
| Roseburg Regional Airport | 3 | III | 105 | 2.3% |
| Creswell Hobby Field Airport | 2 | IV | 102 | 2.3% |
| Albany Municipal Airport | 2 | IV | 92 | 2.0% |
| Crater Lake-Klamath Regional | 4 | I | 84 | 1.9% |
| Redmond Municipal Airport-Roberts Field | 4 | I | 83 | 1.8% |
| Top 20 Airports | | | **3,159** | 69.9% |
| Other Airports | | | **1,362** | 30.1% |
| Total | | | **4,521** | 100.0% |

Source: FAA 5010, Basedaircraft.com, FAA Terminal Area Forecast, Jviation Analysis

### 3.6.1 Based Aircraft Projections

#### *Bottom-Up: General Aviation Operations per Based Aircraft Methodology*

The bottom-up growth rate methodology, applies the average annual historical growth rate based on Connect Oregon regional population growth rates that correspond with individual airports in each region. This methodology was also applied to passenger enplanement forecasts and general aviation operations forecasts. Population growth for Connect Oregon Regions is based on a weighted average of population growth for

Oregon counties comprising each region. Overall annual statewide growth in air carrier operations for the planning period is 1.25 percent.

The proportional increase was determined by the projected population growth of each airport's associated region. This type of projection is referred to as a bottom-up methodology as it looks at activity from the airport-specific level and then totals the individual projections to develop a statewide total. As shown in **Table 3-24**, using the bottom-up methodology, total statewide based aircraft are projected to increase from 4,530 in 2017 to 5,463 in 2035, a statewide average annual growth rate of 1.0 percent over the planning period.

TABLE 3-24: GENERAL AVIATION BASED AIRCRAFT PROJECTION, BOTTOM-UP METHODOLOGY

| Airport | Connect Oregon Region | AAGR * | 2017 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|---|
| Albany Municipal Airport | 2 | 0.81% | 92 | 94 | 98 | 106 |
| Alkali Lake State | 4 | 1.59% | 0 | 0 | 0 | 0 |
| Arlington Municipal | 4 | 1.59% | 1 | 1 | 1 | 1 |
| Ashland Municipal Airport-Sumner Parker Field | 3 | 0.81% | 58 | 59 | 62 | 67 |
| Port of Astoria Regional Airport | 2 | 0.81% | 45 | 46 | 48 | 52 |
| Aurora State Airport | 2 | 0.81% | 346 | 354 | 369 | 400 |
| Baker City Municipal Airport | 5 | 0.71% | 24 | 25 | 25 | 27 |
| Bandon State Airport | 3 | 0.67% | 25 | 26 | 26 | 28 |
| Beaver Marsh | 4 | 1.59% | 0 | 0 | 0 | 0 |
| Bend Municipal Airport | 4 | 1.59% | 241 | 253 | 273 | 320 |
| Boardman Airport | 5 | 0.71% | 0 | 0 | 0 | 0 |
| Brookings Airport | 3 | 0.67% | 18 | 18 | 19 | 20 |
| Burns Municipal Airport | 5 | 0.71% | 14 | 14 | 15 | 16 |
| Cape Blanco State Airport | 3 | 0.67% | 7 | 7 | 7 | 8 |
| Cascade Locks State Airport | 1 | 1.32% | 0 | 0 | 0 | 0 |
| Chehalem Airpark | 2 | 0.81% | 31 | 32 | 33 | 36 |
| Chiloquin State Airport | 4 | 1.59% | 6 | 6 | 7 | 8 |
| Christmas Valley Airport | 4 | 1.59% | 0 | 0 | 0 | 0 |
| Columbia Gorge Regional - The Dalles | 4 | 1.59% | 62 | 65 | 70 | 82 |
| Condon State Airport - Pauling Field | 4 | 1.59% | 11 | 12 | 12 | 15 |
| Corvallis Municipal Airport | 2 | 0.81% | 134 | 137 | 143 | 155 |
| Cottage Grove State Airport - Jim Wright Field | 2 | 0.81% | 26 | 27 | 28 | 30 |
| Country Squire Airpark | 1 | 1.32% | 27 | 28 | 30 | 34 |
| Crescent Lake State Airport | 4 | 1.59% | 0 | 0 | 0 | 0 |
| Creswell Hobby Field Airport | 2 | 0.81% | 102 | 104 | 109 | 118 |
| Davis Field | 2 | 0.81% | 5 | 5 | 5 | 6 |
| Eastern Oregon Regional Airport at Pendleton | 5 | 0.71% | 77 | 80 | 83 | 70 |

| Airport | Connect Oregon Region | AAGR * | 2017 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|---|
| Enterprise Municipal | 5 | 0.71% | 31 | 32 | 33 | 35 |
| Eugene Airport - Mahlon Sweet Field | 2 | 0.81% | 185 | 193 | 201 | 214 |
| Florence Municipal Airport | 2 | 0.81% | 12 | 12 | 13 | 25 |
| George Felt | 3 | 0.67% | 17 | 18 | 18 | 19 |
| Gold Beach Municipal Airport | 3 | 0.67% | 10 | 10 | 11 | 11 |
| Grant County Regional Airport | 5 | 0.71% | 13 | 13 | 14 | 14 |
| Grants Pass Airport | 3 | 0.67% | 189 | 193 | 199 | 206 |
| Hermiston Municipal Airport | 5 | 0.71% | 39 | 40 | 41 | 43 |
| Illinois Valley Airport | 3 | 0.67% | 35 | 36 | 37 | 38 |
| Independence State Airport | 2 | 0.81% | 191 | 196 | 204 | 212 |
| Joseph State Airport | 5 | 0.71% | 14 | 14 | 15 | 15 |
| Ken Jernstedt Airfield | 1 | 1.32% | 197 | 205 | 219 | 234 |
| Crater Lake-Klamath Reg'l | 4 | 1.59% | 84 | 88 | 95 | 103 |
| La Grande / Union County Airport | 5 | 0.71% | 65 | 66 | 69 | 71 |
| Lake Billy Chinook | 4 | 1.59% | 10 | 10 | 11 | 12 |
| Lake County Airport | 4 | 1.59% | 16 | 17 | 18 | 20 |
| Lake Woahink SPB | 5 | 0.71% | 0 | 0 | 0 | 0 |
| Lakeside Municipal Airport | 3 | 0.67% | 6 | 6 | 6 | 7 |
| Lebanon State Airport | 2 | 0.81% | 49 | 50 | 52 | 54 |
| Lenhardt Airpark | 1 | 1.32% | 113 | 118 | 126 | 134 |
| Lexington Airport | 5 | 0.71% | 12 | 12 | 13 | 13 |
| Madras Municipal Airport | 4 | 1.59% | 67 | 70 | 76 | 82 |
| Malin | 4 | 1.59% | 4 | 4 | 5 | 5 |
| McDermitt State Airport | 5 | 0.71% | 1 | 1 | 1 | 1 |
| McKenzie Bridge State | 2 | 0.81% | 0 | 0 | 0 | 0 |
| McMinnville Municipal Airport | 2 | 0.81% | 109 | 112 | 116 | 121 |
| Memaloose USFS | 5 | 0.71% | 0 | 0 | 0 | 0 |
| Miller Memorial Airpark | 5 | 0.71% | 4 | 4 | 4 | 4 |
| Monument Municipal | 5 | 0.71% | 0 | 0 | 0 | 0 |
| Mulino State Airport | 1 | 1.32% | 63 | 66 | 70 | 75 |
| Myrtle Creek Municipal Airport | 3 | 0.67% | 12 | 12 | 13 | 13 |
| Nehalem Bay State Airport | 2 | 0.81% | 0 | 0 | 0 | 0 |
| Newport Municipal Airport | 2 | 0.81% | 24 | 25 | 26 | 27 |
| Oakridge State | 2 | 0.81% | 5 | 5 | 5 | 6 |
| Ontario Municipal Airport | 5 | 0.71% | 38 | 39 | 40 | 42 |
| Owyhee Reservoir State | 5 | 0.71% | 0 | 0 | 0 | 0 |
| Pacific City State Airport | 2 | 0.81% | 5 | 5 | 5 | 6 |

| Airport | Connect Oregon Region | AAGR * | 2017 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|---|
| Paisley | 4 | 1.59% | 0 | 0 | 0 | 0 |
| Pinehurst State Airport | 3 | 0.67% | 7 | 7 | 7 | 8 |
| Portland Downtown Heliport | 1 | 1.32% | 0 | 0 | 0 | 0 |
| Portland-Hillsboro Airport | 1 | 1.32% | 296 | 308 | 329 | 375 |
| Portland International Airport | 1 | 1.32% | 78 | 81 | 87 | 99 |
| Portland-Troutdale Airport | 1 | 1.32% | 41 | 43 | 46 | 52 |
| Powers Hayes Field | 3 | 0.67% | 1 | 1 | 1 | 1 |
| Prineville Airport | 4 | 1.59% | 117 | 123 | 133 | 155 |
| Prospect State Airport | 3 | 0.67% | 1 | 1 | 1 | 1 |
| Redmond Municipal Airport- | 4 | 1.59% | 113 | 118 | 128 | 150 |
| Rogue Valley International- | 3 | 0.67% | 207 | 211 | 218 | 233 |
| Rome State | 5 | 0.71% | 0 | 0 | 0 | 0 |
| Roseburg Regional Airport | 3 | 0.67% | 105 | 107 | 111 | 118 |
| Salem McNary Field | 2 | 0.81% | 136 | 139 | 145 | 157 |
| Sandy River | 1 | 1.32% | 28 | 29 | 31 | 35 |
| Santiam Junction State | 2 | 0.81% | 0 | 0 | 0 | 0 |
| Scappoose Industrial Airpark | 1 | 1.32% | 119 | 124 | 132 | 151 |
| Seaside Municipal Airport | 2 | 0.81% | 3 | 3 | 3 | 3 |
| Siletz Bay State Airport | 2 | 0.81% | 13 | 13 | 14 | 15 |
| Silver Lake USFS | 4 | 1.59% | 0 | 0 | 0 | 0 |
| Sisters Eagle Air Airport | 4 | 1.59% | 17 | 18 | 19 | 23 |
| Skyport | 1 | 1.32% | 0 | 0 | 0 | 0 |
| Southwest Oregon Regional | 3 | 0.67% | 56 | 57 | 59 | 63 |
| Sportsman Airpark | 2 | 0.81% | 44 | 45 | 47 | 51 |
| Stark's Twin Oaks | 1 | 1.32% | 113 | 118 | 126 | 143 |
| Sunriver Airport | 4 | 1.59% | 28 | 29 | 32 | 37 |
| Tillamook Airport | 2 | 0.81% | 19 | 19 | 20 | 22 |
| Toketee State | 3 | 0.67% | 0 | 0 | 0 | 0 |
| Toledo State Airport | 2 | 0.81% | 9 | 9 | 10 | 10 |
| Valley View | 1 | 1.32% | 33 | 34 | 37 | 42 |
| Vernonia Municipal | 1 | 1.32% | 5 | 5 | 6 | 6 |
| Wakonda Beach State | 2 | 0.81% | 3 | 3 | 3 | 3 |
| Wasco State Airport | 4 | 1.59% | 4 | 4 | 5 | 5 |
| **Total** | | | **4,489** | **4,631** | **4,879** | **5,420** |

Source: Oregon Population Center, Source: FAA 5010, FAA Terminal Area Forecast, Jviation Analysis
* Based on Connect Oregon region population growth

## *Top-Down Methodology*

**Table 3-25** presents projected statewide based general aviation aircraft for Oregon using the top-down methodology. The US Bureau Economic Analysis Regional Data Per Capita Real GDP Oregon 2005-2015 increased 1.6 percent annually between 2005 and 2015. This top down projection assumes this average annual growth rate continues at this rate from 2017 to 2035. Individual airport based aircraft projections were derived

by applying these growth rates to each airport's current based aircraft total through the end of the planning period. As shown in **Table 3-25**, using the Top Down methodology, total statewide based aircraft are projected to increase from 4,530 in 2017 to 6,028 in 2035.

TABLE 3-25: GENERAL AVIATION BASED AIRCRAFT PROJECTION, TOP-DOWN METHODOLOGY, HISTORICAL PER CAPITA REAL GDP

| Airport | AAGR | 2017 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Albany Municipal Airport | 1.60% | 92 | 96 | 104 | 122 |
| Alkali Lake State | 1.60% | 0 | 0 | 0 | 0 |
| Arlington Municipal | 1.60% | 1 | 1 | 1 | 1 |
| Ashland Municipal Airport - Sumner Parker Field | 1.60% | 58 | 61 | 66 | 77 |
| Port of Astoria Regional Airport | 1.60% | 45 | 47 | 51 | 60 |
| Aurora State Airport | 1.60% | 346 | 363 | 393 | 460 |
| Baker City Municipal Airport | 1.60% | 24 | 25 | 27 | 32 |
| Bandon State Airport | 1.60% | 25 | 26 | 28 | 33 |
| Beaver Marsh | 1.60% | 0 | 0 | 0 | 0 |
| Bend Municipal Airport | 1.60% | 241 | 253 | 274 | 321 |
| Boardman Airport | 1.60% | 0 | 0 | 0 | 0 |
| Brookings Airport | 1.60% | 18 | 19 | 20 | 24 |
| Burns Municipal Airport | 1.60% | 14 | 15 | 16 | 19 |
| Cape Blanco State Airport | 1.60% | 7 | 7 | 8 | 9 |
| Cascade Locks State Airport | 1.60% | 0 | 0 | 0 | 0 |
| Chehalem Airpark | 1.60% | 31 | 33 | 35 | 41 |
| Chiloquin State Airport | 1.60% | 6 | 6 | 7 | 8 |
| Christmas Valley Airport | 1.60% | 0 | 0 | 0 | 0 |
| Columbia Gorge Regional - The Dalles | 1.60% | 62 | 65 | 70 | 83 |
| Condon State Airport - Pauling Field | 1.60% | 11 | 12 | 12 | 15 |
| Corvallis Municipal Airport | 1.60% | 134 | 141 | 152 | 178 |
| Cottage Grove State Airport - Jim Wright Field | 1.60% | 26 | 27 | 30 | 35 |
| Country Squire Airpark | 1.60% | 27 | 28 | 31 | 36 |
| Crescent Lake State Airport | 1.60% | 0 | 0 | 0 | 0 |
| Creswell Hobby Field Airport | 1.60% | 102 | 107 | 116 | 136 |
| Davis Field | 1.60% | 5 | 5 | 6 | 7 |
| Eastern Oregon Regional Airport at Pendleton | 1.60% | 62 | 65 | 70 | 83 |
| Enterprise Municipal | 1.60% | 31 | 33 | 35 | 41 |
| Eugene Airport-Mahlon Sweet Field | 1.60% | 185 | 194 | 210 | 246 |
| Florence Municipal Airport | 1.60% | 22 | 23 | 25 | 29 |
| George Felt | 1.60% | 17 | 18 | 19 | 23 |
| Gold Beach Municipal Airport | 1.60% | 10 | 10 | 11 | 13 |
| Grant County Regional Airport | 1.60% | 13 | 14 | 15 | 17 |
| Grants Pass Airport | 1.60% | 189 | 198 | 215 | 252 |

| Airport | AAGR | 2017 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Hermiston Municipal Airport | 1.60% | 39 | 41 | 44 | 52 |
| Illinois Valley Airport | 1.60% | 35 | 37 | 40 | 47 |
| Independence State Airport | 1.60% | 191 | 200 | 217 | 254 |
| Joseph State Airport | 1.60% | 14 | 15 | 16 | 19 |
| Ken Jernstedt Airfield | 1.60% | 197 | 207 | 224 | 262 |
| Crater Lake-Klamath Regional | 1.60% | 84 | 88 | 95 | 112 |
| La Grande / Union County Airport | 1.60% | 65 | 68 | 74 | 86 |
| Lake Billy Chinook | 1.60% | 10 | 10 | 11 | 13 |
| Lake County Airport | 1.60% | 16 | 17 | 18 | 21 |
| Lake Woahink SPB | 1.60% | 0 | 0 | 0 | 0 |
| Lakeside Municipal Airport | 1.60% | 6 | 6 | 7 | 8 |
| Lebanon State Airport | 1.60% | 49 | 51 | 56 | 65 |
| Lenhardt Airpark | 1.60% | 113 | 119 | 128 | 150 |
| Lexington Airport | 1.60% | 12 | 13 | 14 | 16 |
| Madras Municipal Airport | 1.60% | 67 | 70 | 76 | 89 |
| Malin | 1.60% | 4 | 4 | 5 | 5 |
| McDermitt State Airport | 1.60% | 1 | 1 | 1 | 1 |
| McKenzie Bridge State | 1.60% | 0 | 0 | 0 | 0 |
| McMinnville Municipal Airport | 1.60% | 109 | 114 | 124 | 145 |
| Memaloose USFS | 1.60% | 0 | 0 | 0 | 0 |
| Miller Memorial Airpark | 1.60% | 4 | 4 | 5 | 5 |
| Monument Municipal | 1.60% | 0 | 0 | 0 | 0 |
| Mulino State Airport | 1.60% | 63 | 66 | 72 | 84 |
| Myrtle Creek Municipal Airport | 1.60% | 12 | 13 | 14 | 16 |
| Nehalem Bay State Airport | 1.60% | 0 | 0 | 0 | 0 |
| Newport Municipal Airport | 1.60% | 24 | 25 | 27 | 32 |
| Oakridge State | 1.60% | 5 | 5 | 6 | 7 |
| Ontario Municipal Airport | 1.60% | 38 | 40 | 43 | 51 |
| Owyhee Reservoir State | 1.60% | 0 | 0 | 0 | 0 |
| Pacific City State Airport | 1.60% | 5 | 5 | 6 | 7 |
| Paisley | 1.60% | 0 | 0 | 0 | 0 |
| Pinehurst State Airport | 1.60% | 7 | 7 | 8 | 9 |
| Portland Downtown Heliport | 1.60% | 0 | 0 | 0 | 0 |
| Portland-Hillsboro Airport | 1.60% | 296 | 310 | 336 | 394 |
| Portland International Airport | 1.60% | 78 | 82 | 89 | 104 |
| Portland-Troutdale Airport | 1.60% | 41 | 43 | 47 | 55 |
| Powers Hayes Field | 1.60% | 1 | 1 | 1 | 1 |
| Prineville Airport | 1.60% | 117 | 123 | 133 | 156 |

| Airport | AAGR | 2017 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Prospect State Airport | 1.60% | 1 | 1 | 1 | 1 |
| Redmond Municipal Airport-Roberts Field | 1.60% | 113 | 119 | 128 | 150 |
| Rogue Valley International-Medford Airport | 1.60% | 207 | 217 | 235 | 275 |
| Rome State | 1.60% | 0 | 0 | 0 | 0 |
| Roseburg Regional Airport | 1.60% | 105 | 110 | 119 | 140 |
| Salem McNary Field | 1.60% | 136 | 143 | 154 | 181 |
| Sandy River | 1.60% | 28 | 29 | 32 | 37 |
| Santiam Junction State | 1.60% | 0 | 0 | 0 | 0 |
| Scappoose Industrial Airpark | 1.60% | 119 | 125 | 135 | 158 |
| Seaside Municipal Airport | 1.60% | 3 | 3 | 3 | 4 |
| Siletz Bay State Airport | 1.60% | 13 | 14 | 15 | 17 |
| Silver Lake USFS | 1.60% | 0 | 0 | 0 | 0 |
| Sisters Eagle Air Airport | 1.60% | 17 | 18 | 19 | 23 |
| Skyport | 1.60% | 0 | 0 | 0 | 0 |
| Southwest Oregon Regional Airport | 1.60% | 56 | 59 | 64 | 75 |
| Sportsman Airpark | 1.60% | 44 | 46 | 50 | 59 |
| Stark's Twin Oaks | 1.60% | 113 | 119 | 128 | 150 |
| Sunriver Airport | 1.60% | 28 | 29 | 32 | 37 |
| Tillamook Airport | 1.60% | 19 | 20 | 22 | 25 |
| Toketee State | 1.60% | 0 | 0 | 0 | 0 |
| Toledo State Airport | 1.60% | 9 | 9 | 10 | 12 |
| Valley View | 1.60% | 33 | 35 | 37 | 44 |
| Vernonia Municipal | 1.60% | 5 | 5 | 6 | 7 |
| Wakonda Beach State | 1.60% | 3 | 3 | 3 | 4 |
| Wasco State Airport | 1.60% | 4 | 4 | 5 | 5 |
| **Total** | | **4,489** | **4,708** | **5,097** | **5,974** |

Source: US Bureau Economic Analysis Regional Data Per Capita Real GDP, Jviation Analysis

## *Top-Down Methodology*

**Table 3-26** presents projected statewide based general aviation aircraft for Oregon using an additional top-down methodology. The FAA Terminal Area Forecast indicates based aircraft for NPIAS airports in Oregon will increase 1.1 percent annually between 2017 and 2035. Individual airport based aircraft projections were derived by applying these growth rates to each airport's current based aircraft total through the end of the planning period. Although 41 of the 97 airports in Oregon are not in the NPIAS this forecast assumes this based aircraft growth rate applies to all ODA system airports. However, 89 percent of based aircraft in 2017 on Oregon system airports were located on NPIAS airports. As shown in **Table 3-26**, using the Top Down methodology, total statewide based aircraft are projected to increase from 4,530 in 2017 to 5,505 in 2035.

TABLE 3-26: GENERAL AVIATION BASED AIRCRAFT PROJECTION,
TOP-DOWN METHODOLOGY, FAA TERMINAL AREA FORECAST FOR OREGON

| Airport | AAGR 2015-2035 | 2017 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Albany Municipal Airport | 1.10% | 92 | 95 | 100 | 112 |
| Alkali Lake State | 1.10% | 0 | 0 | 0 | 0 |
| Arlington Municipal | 1.10% | 1 | 1 | 1 | 1 |
| Ashland Municipal Airport - Sumner Parker Field | 1.10% | 58 | 60 | 63 | 71 |
| Port of Astoria Regional Airport | 1.10% | 45 | 47 | 49 | 55 |
| Aurora State Airport | 1.10% | 346 | 358 | 378 | 421 |
| Baker City Municipal Airport | 1.10% | 24 | 25 | 26 | 29 |
| Bandon State Airport | 1.10% | 25 | 26 | 27 | 30 |
| Beaver Marsh | 1.10% | 0 | 0 | 0 | 0 |
| Bend Municipal Airport | 1.10% | 241 | 249 | 263 | 293 |
| Boardman Airport | 1.10% | 0 | 0 | 0 | 0 |
| Brookings Airport | 1.10% | 18 | 19 | 20 | 22 |
| Burns Municipal Airport | 1.10% | 14 | 14 | 15 | 17 |
| Cape Blanco State Airport | 1.10% | 7 | 7 | 8 | 9 |
| Cascade Locks State Airport | 1.10% | 0 | 0 | 0 | 0 |
| Chehalem Airpark | 1.10% | 31 | 32 | 34 | 38 |
| Chiloquin State Airport | 1.10% | 6 | 6 | 7 | 7 |
| Christmas Valley Airport | 1.10% | 0 | 0 | 0 | 0 |
| Columbia Gorge Regional - The Dalles | 1.10% | 62 | 64 | 68 | 75 |
| Condon State Airport - Pauling Field | 1.10% | 11 | 11 | 12 | 13 |
| Corvallis Municipal Airport | 1.10% | 134 | 138 | 146 | 163 |
| Cottage Grove State Airport - Jim Wright Field | 1.10% | 26 | 27 | 28 | 32 |
| Country Squire Airpark | 1.10% | 27 | 28 | 29 | 33 |
| Crescent Lake State Airport | 1.10% | 0 | 0 | 0 | 0 |
| Creswell Hobby Field Airport | 1.10% | 102 | 105 | 111 | 124 |
| Davis Field | 1.10% | 5 | 5 | 5 | 6 |
| Eastern Oregon Regional Airport at Pendleton | 1.10% | 62 | 64 | 68 | 75 |
| Enterprise Municipal | 1.10% | 31 | 32 | 34 | 38 |
| Eugene Airport-Mahlon Sweet Field | 1.10% | 185 | 191 | 202 | 225 |
| Florence Municipal Airport | 1.10% | 22 | 23 | 24 | 27 |
| George Felt | 1.10% | 17 | 18 | 19 | 21 |
| Gold Beach Municipal Airport | 1.10% | 10 | 10 | 11 | 12 |
| Grant County Regional Airport | 1.10% | 13 | 13 | 14 | 16 |
| Grants Pass Airport | 1.10% | 189 | 195 | 206 | 230 |
| Hermiston Municipal Airport | 1.10% | 39 | 40 | 43 | 47 |
| Illinois Valley Airport | 1.10% | 35 | 36 | 38 | 43 |

| Airport | AAGR 2015-2035 | 2017 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Independence State Airport | 1.10% | 191 | 197 | 208 | 233 |
| Joseph State Airport | 1.10% | 14 | 14 | 15 | 17 |
| Ken Jernstedt Airfield | 1.10% | 197 | 204 | 215 | 240 |
| Crater Lake-Klamath Regional | 1.10% | 84 | 87 | 92 | 102 |
| La Grande / Union County Airport | 1.10% | 65 | 67 | 71 | 79 |
| Lake Billy Chinook | 1.10% | 10 | 10 | 11 | 12 |
| Lake County Airport | 1.10% | 16 | 17 | 17 | 19 |
| Lake Woahink SPB | 1.10% | 0 | 0 | 0 | 0 |
| Lakeside Municipal Airport | 1.10% | 6 | 6 | 7 | 7 |
| Lebanon State Airport | 1.10% | 49 | 51 | 53 | 60 |
| Lenhardt Airpark | 1.10% | 113 | 117 | 123 | 138 |
| Lexington Airport | 1.10% | 12 | 12 | 13 | 15 |
| Madras Municipal Airport | 1.10% | 67 | 69 | 73 | 82 |
| Malin | 1.10% | 4 | 4 | 4 | 5 |
| McDermitt State Airport | 1.10% | 1 | 1 | 1 | 1 |
| McKenzie Bridge State | 1.10% | 0 | 0 | 0 | 0 |
| McMinnville Municipal Airport | 1.10% | 109 | 113 | 119 | 133 |
| Memaloose USFS | 1.10% | 0 | 0 | 0 | 0 |
| Miller Memorial Airpark | 1.10% | 4 | 4 | 4 | 5 |
| Monument Municipal | 1.10% | 0 | 0 | 0 | 0 |
| Mulino State Airport | 1.10% | 63 | 65 | 69 | 77 |
| Myrtle Creek Municipal Airport | 1.10% | 12 | 12 | 13 | 15 |
| Nehalem Bay State Airport | 1.10% | 0 | 0 | 0 | 0 |
| Newport Municipal Airport | 1.10% | 24 | 25 | 26 | 29 |
| Oakridge State | 1.10% | 5 | 5 | 5 | 6 |
| Ontario Municipal Airport | 1.10% | 38 | 39 | 41 | 46 |
| Owyhee Reservoir State | 1.10% | 0 | 0 | 0 | 0 |
| Pacific City State Airport | 1.10% | 5 | 5 | 5 | 6 |
| Paisley | 1.10% | 0 | 0 | 0 | 0 |
| Pinehurst State Airport | 1.10% | 7 | 7 | 8 | 9 |
| Portland Downtown Heliport | 1.10% | 0 | 0 | 0 | 0 |
| Portland-Hillsboro Airport | 1.10% | 296 | 306 | 323 | 360 |
| Portland International Airport | 1.10% | 78 | 81 | 85 | 95 |
| Portland-Troutdale Airport | 1.10% | 41 | 42 | 45 | 50 |
| Powers Hayes Field | 1.10% | 1 | 1 | 1 | 1 |
| Prineville Airport | 1.10% | 117 | 121 | 128 | 142 |
| Prospect State Airport | 1.10% | 1 | 1 | 1 | 1 |
| Redmond Municipal Airport-Roberts Field | 1.10% | 113 | 117 | 123 | 138 |

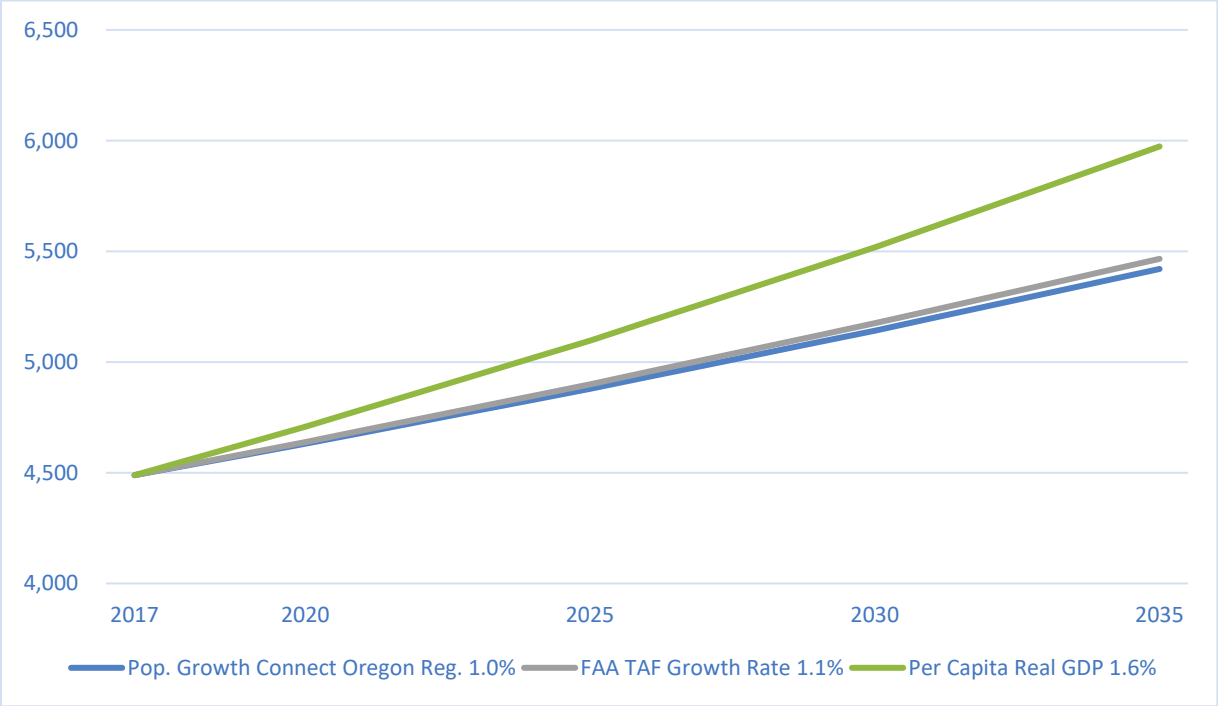
| Airport | AAGR 2015-2035 | 2017 | 2020 | 2025 | 2035 |
|---|---|---|---|---|---|
| Rogue Valley International-Medford Airport | 1.10% | 207 | 214 | 226 | 252 |
| Rome State | 1.10% | 0 | 0 | 0 | 0 |
| Roseburg Regional Airport | 1.10% | 105 | 109 | 115 | 128 |
| Salem McNary Field | 1.10% | 136 | 141 | 148 | 166 |
| Sandy River | 1.10% | 28 | 29 | 31 | 34 |
| Santiam Junction State | 1.10% | 0 | 0 | 0 | 0 |
| Scappoose Industrial Airpark | 1.10% | 119 | 123 | 130 | 145 |
| Seaside Municipal Airport | 1.10% | 3 | 3 | 3 | 4 |
| Siletz Bay State Airport | 1.10% | 13 | 13 | 14 | 16 |
| Silver Lake USFS | 1.10% | 0 | 0 | 0 | 0 |
| Sisters Eagle Air Airport | 1.10% | 17 | 18 | 19 | 21 |
| Skyport | 1.10% | 0 | 0 | 0 | 0 |
| Southwest Oregon Regional Airport | 1.10% | 56 | 58 | 61 | 68 |
| Sportsman Airpark | 1.10% | 44 | 45 | 48 | 54 |
| Stark's Twin Oaks | 1.10% | 113 | 117 | 123 | 138 |
| Sunriver Airport | 1.10% | 28 | 29 | 31 | 34 |
| Tillamook Airport | 1.10% | 19 | 20 | 21 | 23 |
| Toketee State | 1.10% | 0 | 0 | 0 | 0 |
| Toledo State Airport | 1.10% | 9 | 9 | 10 | 11 |
| Valley View | 1.10% | 33 | 34 | 36 | 40 |
| Vernonia Municipal | 1.10% | 5 | 5 | 5 | 6 |
| Wakonda Beach State | 1.10% | 3 | 3 | 3 | 4 |
| Wasco State Airport | 1.10% | 4 | 4 | 4 | 5 |
| **Total** | | **4,489** | **4,639** | **4,900** | **5,466** |

Source: FAA Terminal Area Forecast Based Aircraft Projection Growth Rate for Oregon, Jviation Analysis

## *Preferred Based Aircraft Forecast*

The results from the three based aircraft projection methodologies developed in this forecast are compared in **Figure 3-9**. In 2017, the Oregon airports examined as part of this analysis were home to 4,489 based aircraft. The bottom-up methodology produced a 2035 statewide projection of 5,420 based aircraft and an average annual growth rate of 1.0 percent. The top-down methodology based on historical Per Capita Real GDP produced a 2035 statewide projection of 5,974 based aircraft with the highest average annual growth rate, of the three projections, at 1.6 percent. The alternative top-down methodology utilizing FAA Terminal Area Forecast projections for NPIAS airports in Oregon produced more moderate 5,466 based aircraft total at the end of the planning period. After comparing the results and the average annual growth rates of each methodology, and although the historical Per Capita Real GDP projection had the strongest growth, it was decided to be highly optimistic since sustaining a 1.6 percent GDP growth rate over the planning period is unlikely. As a result, the more conservative bottom-up growth rate of 1.1 percent was chosen as the preferred forecast which is based on FAA TAF growth rates for based aircraft.

FIGURE 3-9: BASED AIRCRAFT FORECAST COMPARISON

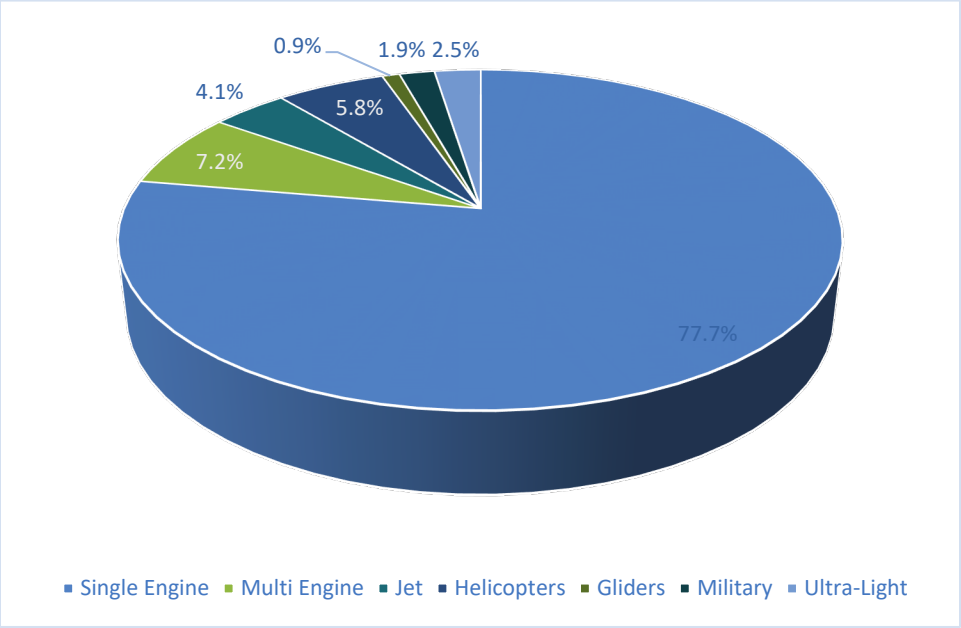



Source: Jviation

## 3.7 Oregon Aircraft Fleet Mix Forecast

Forecasts of the types of based aircraft within Oregon were based on 2015 fleet mix from each airport's FAA 5010 Airport Master Record. Multiple growth rates were utilized in developing based aircraft fleet mix forecasts over the 20-year planning period. These rates came from Oregon population forecasts, historical per capita real GDP (2010 to 2016) and the 2017 FAA Aerospace Forecast publication. Forecasting based aircraft fleet mix assists in understanding Oregon's future airport activity and system growth. **Figure 3-10** identifies total aircraft type by market share. Nearly 78 percent of all general aviation based aircraft are single-engine aircraft with seven percent being twin engine. Jet aircraft comprise over four percent of the fleet with helicopters making up nearly six percent.

FIGURE 3-10: 2015 OREGON AIRCRAFT FLEET MIX




Source: Jviation

**Table 3-27**, **Table 3-28**, and **Table 3-29** show the results of each growth rate applied to the based aircraft base year by aircraft type. An historical statewide average annual population growth rate of 0.97% was applied as this forecasting method. The result of the analysis indicates total single-engine aircraft increase from 3,608 to 4,337 by the end of the planning period while multi-engine and jet aircraft increase from 332 to 403 and 189 to 229 respectively. Helicopters increase from 269 to 3026, gliders from 43 to 52 and military increase from 87 to 105. Ultralights increase from 114 to 139 over the planning horizon.

TABLE 3-27: BASED AIRCRAFT FLEET MIX FORECAST PER POPULATION GROWTH

| | Single-Engine | Multi-Engine | Jet | Helicopters | Gliders | Military | Ultra-Light | Total |
|---|---|---|---|---|---|---|---|---|
| AAGR | 0.97% | 0.97% | 0.97% | 0.97% | 0.97% | 0.97% | 0.97% | |
| 2015 | 3,608 | 332 | 189 | 269 | 43 | 87 | 114 | **4,642** |
| 2020 | 3,787 | 349 | 198 | 282 | 45 | 91 | 120 | **4,872** |
| 2025 | 3,974 | 366 | 208 | 296 | 47 | 96 | 126 | **5,112** |
| 2035 | 4,377 | 403 | 229 | 326 | 52 | 105 | 139 | **5,631** |

Source: Jviation

A second forecasting method used was applying the US BEA Regional Data Per Capita Real GDP[6] compound annual growth rate for Oregon, (**Table 3-28**). BEA data indicates that between 2005-2015, Per Capita Real GDP growth was 1.6 percent for Oregon. This historical growth rate was applied to each airport's 2015 based aircraft count to facilitate its forecast with the assumption that this growth rate will continue for the next 20 years and that based aircraft ownership is tied to this measure of economic growth. A 1.6 percent growth rate and is the most robust growth rate of the fleet mix projections presented in this analysis. The result indicates total single-

[6] Real GDP by state is an inflation-adjusted measure of each state's gross product that is based on national prices for the goods and services produced within the state. Total GDP is divided by the total population and compared between years to identify the average annual growth rate.

engine aircraft increase from 3,608 to 4,956 by the end of the planning period while multi-engine and jet aircraft increase from 332 to 456 and 189 to 259 respectively. Helicopters increase from 269 to 369, gliders from 43 to 59, and military increase from 87 to 119. Ultralights increase from 114 to 157 over the planning horizon.

TABLE 3-28: BASED AIRCRAFT FLEET MIX FORECAST PER CAPITA GDP GROWTH

| | Single-Engine | Multi-Engine | Jet | Helicopters | Gliders | Military | Ultra-Light | Total |
|---|---|---|---|---|---|---|---|---|
| AAGR | 1.60% | 1.60% | 1.60% | | 1.60% | 1.60% | 1.60% | |
| 2015 | 3,608 | 332 | 189 | 269 | 43 | 87 | 114 | **4,642** |
| 2020 | 3,906 | 360 | 204 | 291 | 47 | 94 | 124 | **5,025** |
| 2025 | 4,229 | 389 | 221 | 315 | 50 | 102 | 134 | **5,441** |
| 2035 | 4,956 | 456 | 259 | 369 | 59 | 119 | 157 | **6,376** |

Source: Jviation

The FAA Aerospace Forecast prepares forecasts for the years 2015-2035 and looks at segments of the industry including: Airline Traffic, General Aviation activity, other FAA work and Unmanned Aircraft System trends. This report is respected throughout the industry and is utilized in other forecasting capacities. This forecast utilizes the FAA Aerospace Forecast of Active General Aviation Aircraft growth rate of 0.2 percent over the 20-year planning period. The exception to this rate is jet aircraft and helicopters which are forecast to grow at the national forecasted manufacturing rate of 2.5 and 2.1 percent respectively. **Table 3-29** shows the results of this forecasting method.

The result of the analysis indicates total single-engine aircraft decrease from 3608 to 3755 by the end of the planning period while multi-engine and jet aircraft increase from 342 to 515 and 183 to 257 respectively. Helicopters increase from 257 to 367, gliders from 44 to 91, and military increase from 89 to 113. Ultralights increase from 116 to 239 over the planning horizon. Total based aircraft increase slightly overall from 4642 to 5094 which is the slowest total based aircraft forecast of the three presented.

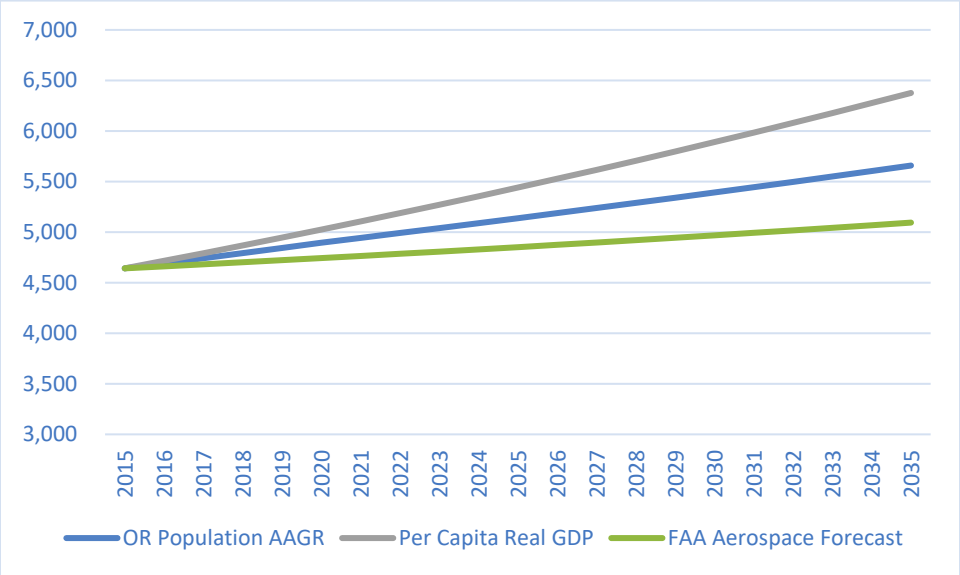
TABLE 3-29: BASED AIRCRAFT FLEET MIX FORECAST PER 2016 FAA AEROSPACE FORECAST GROWTH RATES

| | Single-Engine | Multi-Engine | Jet | Helicopters | Gliders | Military | Ultra-Light | Total |
|---|---|---|---|---|---|---|---|---|
| AAGR | 0.20% | 0.20% | 2.50% | 2.10% | 0.20% | 1.33% | 0.20% | |
| 2015 | 3,608 | 332 | 189 | 269 | 43 | 87 | 114 | **4,642** |
| 2020 | 3,645 | 336 | 213 | 298 | 43 | 93 | 115 | **4,743** |
| 2025 | 3,681 | 339 | 241 | 331 | 44 | 99 | 117 | **4,852** |
| 2035 | 3,755 | 346 | 309 | 407 | 45 | 113 | 119 | **5,094** |

Source: Jviation

**Figure 3-11** displays the difference between each forecast. As seen, the FAA Aerospace fleet mix forecast has the lowest total growth rate, with based aircraft totaling just 5094 in 2035. A forecast based on per capita GDP results in the highest forecast at 6,376 based aircraft in 2035.

FIGURE 3-11: FLEET MIX FORECASTS OF TOTAL BASED AIRCRAFT IN OREGON THROUGH 2035




Source: Jviation

## *Preferred Forecast of Based Aircraft Fleet Mix*

As seen in **Figure 3-11**, the three methodologies vary widely. The preferred forecast for based aircraft in Oregon is based on the FAA Aerospace forecast and a comparison of 2015 fleet mix to 2035 forecasted fleet mix is illustrated in **Figure 3-12**.

FIGURE 3-12: FLEET MIX FORECAST BY PERCENT SHARE COMPARISON 2015 VS. 2035 BASED ON FAA FORECAST GROWTH RATES