Port of Portland

Aviation Activity Forecasts

Prepared for
Port of Portland

Prepared by
Ricondo

Port of Portland

Aviation Activity Forecasts

Prepared for
Port of Portland

Prepared by
Ricondo

July 2024 I FINAL

Table of Contents

List of Tables

List of Exhibits

1. Aviation Activity Forecasts

This document describes historical aviation activity and trends at Portland International Airport (PDX or Airport) and presents the forecasts of aviation demand through calendar year (CY) 2045. Forecasts were prepared in conjunction with the Master Plan Update, known as PDX 2045. Historical data are presented from 2013 through 2023. The forecast period represents 2024 through 2045. Published airline schedules for the year ending June 2024 provided the basis for identifying the airlines currently serving the Airport and the destinations served from the Airport, as well as other attributes of air service. The forecasts were prepared in March 2024 and incorporated actual reported activity through December 2023. Forecasts were developed for passenger and cargo volumes, as well as passenger, cargo, general aviation (GA), and military aircraft operations. Industry trends and factors affecting aviation activity are also presented, including market characteristics, passenger airline trends, socioeconomic data, and technological shifts. These forecasts provide a foundation for evaluating the current facility's capacity and determining future facility requirements for PDX 2045.

Future activity levels at the Airport may differ from this forecast because of unexpected events, including economic, social, regulatory, political, technological, and environmental changes. Additionally, changes in aircraft operating costs, because of the cost of travel and availability of capacity, can influence demand, which would further affect actual future activity levels at the Airport. Forecasts are intended to represent approximate future activity levels.

This document is organized into the following sections:

- Historical Aviation Activity
- Factors Affecting Aviation Activity at the Airport
- Forecasts of Passenger Demand and Airline Operations
- Comparison with Terminal Area Forecast (TAF)

2. Historical Aviation Activity

Aviation activity can be characterized by the volume of passengers or cargo handled by the Airport, as well as the aircraft using the Airport's facilities. PDX serves as the primary airport for passenger and cargo airline activity for the Air Trade Area, which is defined as the Portland-Vancouver-Salem, Oregon-Washington Combined Statistical Area (Portland CSA). Additionally, the Airport has served the plurality of aircraft operations in the Air Trade Area throughout most of the historical period.

Table 1 summarizes the total passenger volume and aircraft operations during the historical period from 2013 to 2023, and components of these activity categorizations are detailed throughout this section. Total passengers using the Airport increased from 15.0 million in 2013 to 16.5 million in 2023, a compound annual growth rate (CAGR) of 0.9 percent. Total passenger volumes peaked in 2019, at 19.9 million. Aircraft operations decreased from 209,909 operations in 2013 to 190,150 operations in 2023, an average annual decrease of 1.0 percent. Similar to passengers, a peak of 238,384 total Airport operations occurred in 2019.

Table 1 Historical Total Passengers and Aircraft Operations Summary

Year	Total Passengers [1]	Annual Percent Change	Aircraft Operations	Annual Percent Change
2013	15,029,569	4.4%	209,909	-2.9%
2014	15,916,512	5.9%	216,253	3.0%
2015	16,850,952	5.9%	218,021	0.8%
2016	18,352,767	8.9%	227,709	4.4%
2017	19,080,494	4.0%	228,949	0.5%
2018	19,882,788	4.2%	233,993	2.2%
2019	19,891,365	0.0%	238,384	1.9%
2020	7,084,543	-64.4%	150,854	-36.7%
2021	11,806,921	66.7%	170,627	13.1%
2022	14,818,654	25.5%	176,507	3.4%
2023	16,486,688	11.3%	190,150	7.7%
CAGR				
2013 – 2019	4.8%		2.1%	
2013 – 2023	0.9%		-1.0%	

NOTES:
CAGR – Compound Annual Growth Rate
1 Includes charter passengers.

SOURCES:
Port of Portland, March 2024 (statistics reported by airlines); Ricondo & Associates, Inc., March 2024.

2.1 AIRLINES SERVING THE AIRPORT

As of March 2024, published schedules through June 2024 indicate scheduled passenger service will be provided at the Airport by a total of 22 airlines. Of these airlines, 16 airlines provide domestic service, and 6 foreign-flag airlines provide international service at the Airport. In addition, 13 other airlines provided service to the Airport in 2023, including Elite Airways, which provided nonscheduled passenger airline service, and 12 all-cargo airlines. **Table 2** lists the airlines serving the Airport by category.

Table 3 presents the years each scheduled domestic passenger airline serving the Airport has provided service between 2013 and 2024, according to published schedules as of March 2024. Ten domestic passenger airlines have consistently provided service to the Airport. Two airlines, Alaska Airlines (Alaska) and American Airlines (American), also merged with airlines that provided service to the Airport at the time of the merger during the period. Airline mergers, restructurings, acquisitions, and new entrants are discussed further in Section 3. In addition, Allegiant Air (Allegiant) has provided service throughout most of the period, suspending service in 2019 and 2020, while Boutique Air (Boutique) has provided service to the Airport since 2017. The number of scheduled domestic passenger airlines serving the Airport peaked at 15 airlines in 2017.

Table 2 Airlines Serving the Airport (Year Ending June 2024)

Scheduled Domestic Airlines (16)	Scheduled Foreign-Flag Airlines (6)	Nonscheduled Airlines (1)	All-Cargo Airlines[1] (12)
Alaska Airlines	Air Canada[1]	Elite Airways	ABX
Allegiant Air	British Airways		Air Pac Airlines
American Airlines	Condor		Air Transport International
Boutique Air	Icelandair		Ameriflight
Delta Air Lines	Volaris		Atlas Air
Envoy Air	WestJet Airlines		Cathay Pacific Airways
Frontier Airlines			Empire Airlines
Hawaiian Airlines			FedEx
Horizon Air			Kalitta Air
Jazz Aviation			Sun Country Airlines
JetBlue Airways			United Parcel Service
SkyWest Airlines			Western Air Express
Southwest Airlines			
Spirit Airlines			
Sun Country Airlines			
United Airlines			

NOTES:
Airlines scheduled through June 2024 as of March 2024, except where noted.
1 All-cargo service represents airlines serving the Airport in December 2023, per Airport reporting.

SOURCES:
Cirium Diio, March 2024 (published airline schedules); Port of Portland, March 2024 (cargo airline data).

Table 4 presents the years each scheduled foreign-flag passenger airline has provided service at the Airport. One scheduled foreign-flag passenger airline, Air Canada, has continuously provided service at the Airport. Three airlines have provided service during the majority of the period, with Volaris commencing service in 2014 and Condor and Icelandair commencing service in 2015. The latter two airlines suspended service during the COVID-19 pandemic, and both resumed service in 2022. British Airways also commenced service to the Airport in 2022. The roster of scheduled foreign-flag airlines providing service to the Airport has remained constant since 2022, with six airlines providing service, equal to the historical maximum.

Table 3 Historical Domestic Scheduled Passenger Airlines

Airline	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024[1]
Alaska Airlines[2]	●	●	●	●	●	●	●	●	●	●	●	●
American Airlines[3]	●	●	●	●	●	●	●	●	●	●	●	●
Delta Air Lines	●	●	●	●	●	●	●	●	●	●	●	●
Frontier Airlines	●	●	●	●	●	●	●	●	●	●	●	●
Hawaiian Airlines	●	●	●	●	●	●	●	●	●	●	●	●
JetBlue Airways	●	●	●	●	●	●	●	●	●	●	●	●
Southwest Airlines	●	●	●	●	●	●	●	●	●	●	●	●
Spirit Airlines	●	●	●	●	●	●	●	●	●	●	●	●
Sun Country Airlines	●	●	●	●	●	●	●	●	●	●	●	●
United Airlines	●	●	●	●	●	●	●	●	●	●	●	●
Allegiant Air[4]	●	●	●	●	●	●			●	●	●	●
Boutique Air					●	●	●	●	●	●	●	●
Elite Airways					●	●	●					
Peninsula Airways			●	●	●							
Casino Express / Xtra Airways			●	●	●							
Seaport Airlines[5]	●	●	●	●								
TOTAL	**12**	**12**	**14**	**14**	**15**	**13**	**12**	**11**	**12**	**12**	**12**	**12**

NOTES:
Includes regional affiliates, where applicable.
1 Represents scheduled service through June 30, 2024.
2 In December 2016, Alaska Airlines and Virgin America merged. The Federal Aviation Administration (FAA) granted a single-operating certificate on January 11, 2018.
3 In December 2013, American Airlines and US Airways merged. The FAA granted a single-operating certificate on April 8, 2015.
4 Allegiant Air service from 2013 to 2018 represents ad-hoc, nonscheduled passenger service; Allegiant Air service from 2021 to the present represents scheduled passenger service.
5 Seaport Airlines ceased operations on September 20, 2016.

SOURCES:
Port of Portland, March 2024 (statistics reported by airlines); Ricondo & Associates, Inc., March 2024.

Table 4 Historical Foreign-Flag Scheduled Passenger Airlines

Airline	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024[1]
Air Canada	●	●	●	●	●	●	●	●	●	●	●	●
Volaris		●	●	●	●	●	●	●	●	●	●	●
Condor			●	●	●	●	●			●	●	●
Icelandair			●	●	●	●	●		●	●	●	●
WestJet Airlines							●	●	●	●	●	●
British Airways										●	●	●
Aeroméxico					●	●	●					
TOTAL	**1**	**2**	**4**	**4**	**5**	**5**	**6**	**3**	**4**	**6**	**6**	**6**

NOTES:
Includes regional affiliates, where applicable.
1 Represents scheduled service through June 30, 2024.

SOURCES:
Port of Portland, March 2024 (statistics reported by airlines); Ricondo & Associates, Inc., March 2024.

2.2 AIR SERVICE ANALYSIS

The Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS) classifies the Airport as a medium-hub facility based on its percentage of nationwide passenger activity.[1] This section presents additional information regarding the characteristics of passengers using the Airport and the services provided by passenger airlines. **Table 5** presents the historical enplaned passengers at the Airport and in the United States. Prior to the COVID-19 pandemic, a higher rate of passenger growth occurred at the Airport than the nation, representing CAGRs of 4.8 percent and 3.9 percent, respectively, between 2013 and 2019. From 2013 to 2023, enplaned passengers at PDX increased at a CAGR of 0.9 percent, while enplaned passengers in the nation increased at a CAGR of 2.4 percent. The Airport's share of the nation's total enplaned passengers decreased slightly from 1.0 percent to 0.9 percent from 2013 to 2023, peaking at a share of 1.1 percent from 2016 through 2019.

Table 5 Historical Enplaned Passengers at the Airport and in the United States

	PDX		United States		
Year	Enplaned Passengers	Annual Growth	Enplaned Passengers	Annual Growth	PDX Share
2013	7,506,507	4.4%	747,392,123	1.0%	1.0%
2014	7,938,482	5.8%	768,260,887	2.8%	1.0%
2015	8,414,996	6.0%	805,686,715	4.9%	1.0%
2016	9,174,957	9.0%	834,928,634	3.6%	1.1%
2017	9,538,472	4.0%	862,536,462	3.3%	1.1%
2018	9,940,866	4.2%	904,351,525	4.8%	1.1%
2019	9,946,422	0.1%	939,955,342	3.9%	1.1%
2020	3,528,289	-64.5%	369,812,962	-60.7%	1.0%
2021	5,878,989	66.6%	657,610,054	77.8%	0.9%
2022	7,361,443	25.2%	851,017,125	29.4%	0.9%
2023	8,247,967	12.0%	942,891,521	10.8%	0.9%
CAGR					
2013 – 2019	4.8%		3.9%		
2013 – 2023	0.9%		2.4%		

NOTES:
CAGR – Compound Annual Growth Rate
PDX – Portland International Airport
1 Includes charter passengers.

SOURCES:
Port of Portland, March 2024 (statistics reported by airlines); Ricondo & Associates, Inc., March 2024.

[1] As defined by FAA, a medium-hub airport enplanes between 0.25 percent and 1.0 percent of the nationwide commercial enplaned passengers, representing between approximately 2.3 million and 9.3 million enplaned passengers in CY 2022.

2.2.1 Enplaned Passengers

Table 6 presents historical domestic and international enplaned passenger activity at the Airport between 2013 and 2023. The Airport experienced growth during the period, with total enplaned passengers at the Airport increasing from 7.5 million in 2013 to 8.2 million in 2023, representing a CAGR of 0.9 percent. Total enplaned passenger volumes peaked in 2019 at 9.9 million. Enplaned passengers decreased to 3.5 million in 2020 following the onset of the COVID-19 pandemic in March 2020. The effects of these events on passenger demand, aviation activity, and recovery are discussed further in Section 3. From 2013 to 2023, domestic enplaned passengers and international enplaned passengers increased at CAGRs of 0.8 percent and 5.5 percent, respectively. The share of total passengers represented by international passengers increased from 3 percent in 2013 to 5 percent in 2023.

Table 6 Historical Passengers – Domestic and International

	Enplaned Passengers			Share	
Year	Domestic	International	Total [1]	Domestic	International
2013	7,288,003	218,504	7,506,507	97%	3%
2014	7,694,094	244,388	7,938,482	97%	3%
2015	8,118,377	296,619	8,414,996	96%	4%
2016	8,845,434	329,523	9,174,957	96%	4%
2017	9,168,105	370,367	9,538,472	96%	4%
2018	9,513,275	427,591	9,940,866	96%	4%
2019	9,529,676	416,746	9,946,422	96%	4%
2020	3,438,894	89,395	3,528,289	97%	3%
2021	5,790,002	88,987	5,878,989	98%	2%
2022	7,091,768	269,675	7,361,443	96%	4%
2023	7,873,258	374,709	8,247,967	95%	5%
CAGR					
2013 – 2019	4.6%	11.4%	4.8%		
2013 – 2023	0.8%	5.5%	0.9%		

NOTES:
CAGR – Compound Annual Growth Rate
1 Includes charter passengers.

SOURCES:
Port of Portland, March 2024 (statistics reported by airlines); Ricondo & Associates, Inc., March 2024.

Notable details regarding passenger and air service activity at the Airport between 2013 and 2023 are as follows:

- **2013:** Total passengers recorded at the Airport increased 4.4 percent, with 15.9 million total passengers using the Airport during the year. Service to three international countries—Canada, Japan, and the Netherlands—was operated in 2013. United Airlines (United) ended service to Cleveland Hopkins International Airport (CLE) in 2013, a reduction made in conjunction with the airline's continued de-emphasis on hub operations at CLE. Southwest Airlines (Southwest) ended service to Boise (BOI) and Spokane International (GEG) Airport, reflecting ongoing trends in the Southwest network as the airline shifted emphasis from shorter flights to those with longer stage lengths. This trend was particularly notable in the Pacific Northwest, with Southwest having also ended service from Seattle-Tacoma International Airport (SEA) to BOI and GEG the prior year. In addition,

Hawaiian Airlines (Hawaiian) suspended service to Kahului Airport (OGG) during the year. Alaska, the largest passenger airline operating at the Airport, maintained nonstop service to BOI, GEG, and OGG.

- **2014:** Total passengers increased 5.9 percent, representing a larger relative increase than the previous year. Volaris, a Mexican ultra-low-cost carrier (ULCC), commenced service from the Airport. Volaris began serving the Airport with flights to Miguel Hidalgo y Costilla Guadalajara International Airport (GDL), one of the airline's largest bases and the fourth-largest city in Mexico according to the 2010 Mexican census. Alaska also added service to Mexico during 2014, operating to Los Cabos International (SJD) and Licenciado Gustavo Díaz Ordaz International (PVR) Airport, markets located on the west coast of Mexico that primarily attract demand from leisure-oriented tourists. Additional new routes commenced by Alaska during the year included Glacier Park International (FCA) and Salt Lake City International (SLC) Airport, while service to Hartsfield-Jackson Atlanta International (ATL), Fairbanks International (FAI), and Long Beach (LGB) Airport was suspended. Southwest continued to reconfigure its Pacific Northwest network during the year, eliminating short-haul services to Reno-Tahoe International Airport (RNO) and SLC, while adding longer routes to Baltimore/Washington International Thurgood Marshall (BWI), William P. Hobby (HOU), and San Diego International (SAN) Airports. Legacy domestic airlines American and Delta Air Lines (Delta) commenced service to Los Angeles International Airport (LAX) and SEA, respectively, as the two airlines focused West Coast growth on expanding connecting opportunities at the airports as they attempted to develop their respective operations into international gateways to the Asia-Pacific region. During the year, United terminated its longstanding regional focus city at the Airport, in which SkyWest Airlines operated 30-seat Embraer 120 turboprops to a variety of airports in the Pacific Northwest, including SEA, Eugene Airport (EUG), Crater Lake–Klamath Regional Airport (LMT), and Redmond Municipal Airport (RDM), at the time operations ceased, and these destinations continued to be served by Alaska following United's network adjustment. United also terminated service to LAX during the year.
- **2015:** Total passenger volumes increased 5.9 percent relative to 2014. New airlines serving the Airport included Condor, Icelandair, and Peninsula Airways (PenAir). Condor and Icelandair commenced new European service to Frankfurt (FRA) and Keflavík International (KEF) Airport, respectively, while PenAir added regional Essential Air Service (EAS) to Del Norte County Regional Airport (CEC). All three airports were unserved prior to the start of service by the respective airlines. Among incumbent foreign-flag passenger airlines, Air Canada expanded seasonal service to Calgary International Airport (YYC) to operate year-round. Southwest expanded its route network during the year, commencing service to Dallas Love Field (DAL), which was previously unserved, and adding competition on routes to Southern California with flights to LAX and John Wayne Airport (SNA). Alaska expanded service to mid-continent airports, particularly Austin-Bergstrom International (AUS) and St. Louis Lambert International (STL) Airport, during the year, while Delta and JetBlue Airways (JetBlue) added point-to-point routes to destinations outside the continental US, adding service to Daniel K. Inouye International (HNL) and Ted Stevens Anchorage International (ANC) Airport, respectively.
- **2016:** Total passenger volumes increased 8.9 percent during the year. Alaska added several new destinations from the Airport in 2016, including transcontinental service to ATL and Newark Liberty International Airport (EWR); mid-continent service to Kansas City International Airport (MCI), Minneapolis–St. Paul International Airport (MSP), and Omaha Eppley Airfield (OMA); and regional leisure service to Friedman Memorial Airport (SUN) in Idaho. Southwest augmented Southern California service with a pair of new destinations, Hollywood Burbank (BUR) and Ontario International (ONT) Airport, while also adding competing service to STL. Air Canada augmented existing service to YYC and Vancouver International Airport (YVR) with flights to Toronto Pearson International Airport (YYZ) during the year. Domestic ULCCs Frontier Airlines (Frontier) and Spirit Airlines (Spirit) expanded competition on several routes, in addition to resumed service to CLE operated by Frontier. Regional airline Boutique commenced operations at the Airport, serving Eastern Oregon Regional Airport (PDT), while PenAir expanded service with new flights to several regional airports, including LMT, RDM, California Redwood Coast–Humboldt County Airport (ACV), and Southwest Oregon Regional Airport (OTH).
- **2017:** Total passenger volumes continued to increase in 2017, representing 4.0 percent growth relative to the prior year. The Airport received service to two new international destinations during the year, with Aeroméxico commencing service at the Airport during the year with flights to Mexico City Benito Juárez International Airport (MEX), and Delta augmenting its intercontinental route network with seasonal summer flights to London Heathrow Airport (LHR). The Airport has historically been one of the few Delta non-hub or non-focus city airports to receive regularly scheduled intercontinental flights, and the addition of service to LHR made PDX the only such airport in the continental US to receive Delta service to three intercontinental destinations in

2017; Delta also added service to Harry Reid International Airport (LAS). Alaska launched a major expansion during the year, adding service to eight new destinations, including BWI and DAL, as well as Albuquerque International (ABQ), Detroit Metropolitan Wayne County (DTW), John F. Kennedy International (JFK), Orlando International (MCO), Milwaukee Mitchell International (MKE), and Philadelphia International (PHL) Airport. Alaska's expansion included a number of hubs and focus cities for Southwest and legacy airlines, while MCO and MKE represented airports that were previously unserved from PDX. Southwest's network continued to evolve during the year, with the airline adding service to one destination, San Francisco International Airport (SFO), while eliminating service to another, SNA. PenAir eliminated service from LHR during the year, ending service to five regional destinations; these destinations remain unserved as of April 2024.

- **2018:** Passenger growth continued in 2018, with 4.2 percent more total passengers recorded during the year than 2017. Sun Country Airlines (Sun Country) added service to several destinations, including HNL, LAS, MCO, SFO, Phoenix Sky Harbor International Airport (PHX), and Palm Springs International Airport (PSP), and all destinations but MCO would continue to be served in 2019. Alaska ended service to several destinations during the year, including ATL, DTW, MKE, STL, SUN, Bellingham International Airport (BLI), and Tri-Cities Airport (PSC); BLI, MKE, PSC, and SUN remain unserved from the Airport as of April 2024. ULCCs and low-cost carriers adjusted service to the Airport as well, with Frontier ending service to AUS and CLE, Spirit ending service to DTW and Chicago O'Hare International Airport (ORD), and Southwest ending service to ABQ, AUS, and SFO; CLE remains unserved as of April 2024. Additionally, Hawaiian resumed service to OGG.
- **2019:** Compared to 2018, passenger volumes remained relatively constant, with approximately 9,000 additional passengers recorded in 2019. Among foreign-flag passenger airlines, Aeroméxico ended service to the Airport in 2019, while WestJet Airlines (WestJet) commenced service to PDX, adding flights to YYC. Alaska made several route network adjustments during the year, adding service to Seattle Paine Field International Airport (PAE) and removing service to BWI, OMA, and PHL. Southwest ended service to BWI and HOU during the year, while Sun Country continued to make adjustments to its network at the Airport. Delta and JetBlue reduced Hawaii and Alaska flights from the Airport, removing HNL and ANC, respectively.
- **2020:** Passenger volumes decreased 64.4 percent relative to the prior year during 2020 due to the onset of the COVID-19 pandemic, which diminished aviation activity around the globe. Health and safety concerns and fears of infection lowered consumer propensity to travel, and government-imposed entry restrictions limited international travel between countries. Among foreign-flag passenger airlines, WestJet suspended service to YYC, Condor and Icelandair did not resume summer seasonal service to the Airport, and Air Canada did not resume summer seasonal service to YYZ and ceased serving YYC. Delta ceased international operations at the Airport, suspending year-round service to Amsterdam Airport Schiphol (AMS), terminating year-round service to Tokyo-Narita International Airport (NRT), and not resuming summer seasonal service to LHR. Demand recovery began first with domestic leisure travel, focusing on destinations with available outdoor activities and beaches to allow for socially distanced leisure. Among international destinations, Latin American countries with outdoor tourism experienced demand recovery late in the year as COVID-19 testing protocols and social distancing measures were implemented. Accordingly, Alaska added service to Denver International (DEN), Fort Lauderdale–Hollywood International (FLL), and Cancun International (CUN) Airport, targeting these key segments in domestic and Latin American travel demand. Similarly, JetBlue also added service to FLL, while Boutique began serving RDM from the Airport, replacing previous service to EUG. Prior to the pandemic, JetBlue eliminated service to Southern California, previously serving LGB, while Southwest also reduced Southern California service after the onset of the pandemic, suspending service to four airports in the region. Other destinations receiving service suspensions included PAE and PHL, while service to Dane County Regional Airport (MSN) was eliminated. Among destinations mentioned in this summary, EUG, MSN, and NRT remain unserved as of April 2024.
- **2021:** Passenger volume recovery began in 2021, with 66.7 percent more passengers recorded during the year relative to the prior year. Travel demand was aided by renewed confidence in health and safety following the widespread rollout of the COVID-19 vaccines. Allegiant commenced scheduled service at the Airport in 2021, serving seven destinations during the summer of 2021, including five previously unserved destinations: Des Moines International (DSM), Grand Rapids Gerald R. Ford International (GRR), Idaho Falls Regional (IDA), Monterey Regional (MRY), and Santa Maria Public (SMX) Airports, of which IDA would be served through the winter, while two, DSM and GRR, would return the following summer. Alaska and Southwest also expanded their route networks at the Airport during the year, with the former adding San Luis Obispo County Regional

(SBP) and Tampa International (TPA) Airport, and the latter adding PSP, all of which target outdoor leisure tourism. Alaska also adjusted other routes at PDX, suspending service to RDM, terminating service to John Glenn Columbus International Airport (CMH) and DAL, and extending SJD from the winter season to operate year-round.

- **2022:** Recovery continued during the year, with 25.5 percent more passengers using the Airport compared to 2021. Much of the Airport's pre-pandemic international air service was restored during 2022, including flights from PDX to AMS, FRA, LHR, and YYZ. Service to LHR was provided by a new foreign-flag airline, British Airways (BA), with the route having previously been served by Delta prior to the COVID-19 pandemic. BA commenced service to the Airport in conjunction with Alaska's entrance into the oneworld Alliance (oneworld), of which BA is a member. Two seasonal international routes received expansion to year-round operation, with BA increasing LHR service, while Alaska also extended PVR service. Allegiant added service to Provo Municipal Airport (PVU) in 2022, and several domestic airlines restored routes served prior to the pandemic, including Southwest service to LAX and SAN in Southern California and Frontier service to PHX.
- **2023:** Passenger volumes increased 11.3 percent in 2023, with approximately 16.5 million total passengers using the Airport during the year, representing approximately 82.9 percent of the maximum annual total passenger volumes recorded prior to the COVID-19 pandemic. No changes in the airlines serving the Airport were recorded during the year. American resumed service to PHL during the year, while American and Alaska both added new service to Miami International Airport (MIA), strengthening the Airport's connection to other oneworld hubs. During the year, other domestic air service changes included Allegiant adding service to Appleton International (ATW) and Phoenix-Mesa Gateway (AZA) Airport, Southwest commencing service to LGB, and Alaska restoring service to destinations in the Pacific Northwest, including RDM and YVR.
- **2024 (January – April)**: Schedules for the year for airlines providing service indicate a pair of destinations with resumed service to the Airport, with Alaska commencing service to Nashville International Airport (BNA) and Spirit adding service to BWI. Additional route resumptions include Alaska's daily service to ATL and Spirit's restoration of ORD and SAN flights, all of which operated earlier in the historical period. According to published schedules, ULCCs intend to add competition to five existing destinations served from the Airport, including Frontier with service to Dallas Fort Worth International Airport (DFW), ONT, SFO, and SLC and Spirit with service to BUR.

Table 7 presents the historical share of origin and destination (O&D) and connecting passengers at the Airport. The Airport is the primary airport serving passenger airline activity in the Air Trade Area and is the only one currently receiving scheduled passenger airline service. Therefore, the Airport represents all O&D passenger activity in the Air Trade Area; this activity is augmented by connecting passenger activity primarily due to the Airport's role as a secondary hub in the Alaska route network. O&D passenger volumes represented a sizable majority of activity at the Airport during the historical period, increasing from 83 percent of total enplaned passengers in 2013 to 94 percent of total enplaned passengers in 2023.

Table 8 presents the historical share of total passengers by airline at the Airport between 2019 and 2023. Historically, Alaska has been the largest airline at the Airport by share of enplaned passengers, representing the plurality of enplaned passengers throughout the period from 2019 to 2023. The share of enplaned passengers represented by Alaska decreased from 43.3 percent in 2019 to 39.8 percent in 2023, peaking at a maximum of 45.0 percent in 2020. Southwest and Delta were the second- and third-largest airlines by share of enplaned passengers in 2019, with the former representing 17.0 percent of enplaned passengers and the latter representing 14.3 percent of enplaned passengers. Delta overtook Southwest as the second-largest airline by share of enplaned passengers in 2022. Both airlines recorded a 15.0 percent share of enplaned passengers in 2023, with Delta representing 3,600 more passengers than Southwest during the year. United and American represented the fourth- and fifth-largest shares of enplaned passengers between 2019 and 2023; the airlines represented 11.8 percent and 7.5 percent of enplaned passengers, respectively.

Table 7 Historical Enplaned Origin and Destination and Connecting Passengers

	Enplaned Passengers			Share	
Year	Origin and Destination	Connecting	Total	Origin and Destination	Connecting
2013	6,257,680	1,248,827	7,506,507	83%	17%
2014	6,610,499	1,327,983	7,938,482	83%	17%
2015	7,108,124	1,306,872	8,414,996	84%	16%
2016	7,865,186	1,309,771	9,174,957	86%	14%
2017	8,253,641	1,284,831	9,538,472	87%	13%
2018	8,634,817	1,306,049	9,940,866	87%	13%
2019	8,748,241	1,198,181	9,946,422	88%	12%
2020	3,138,435	389,854	3,528,289	89%	11%
2021	5,491,717	387,272	5,878,989	93%	7%
2022	6,927,016	434,427	7,361,443	94%	6%
2023	7,759,640	488,327	8,247,967	94%	6%
CAGR					
2013 – 2019	5.7%	-0.7%	4.8%		
2013 – 2023	2.2%	-9.0%	0.9%		

NOTES:
CAGR – Compound Annual Growth Rate
1 Includes charter passengers.

SOURCES:
Port of Portland, March2024 (statistics reported by airlines); Ricondo & Associates, Inc., March 2024.

2.2.2 Market Characteristics

In published airline schedules for the year ending in June 2024, the airlines serving the Airport offered an average of approximately 27,900 scheduled daily departing seats on an average of 192 daily domestic departures and an average of 10 daily international departures. During the year ending June 2024, 67 domestic destinations and 11 international destinations received scheduled passenger airline service. **Exhibit 1** presents the domestic destinations receiving nonstop service from the Airport in the year ending June 2024 and **Exhibit 2** presents the international destinations receiving nonstop service during the same period.

The distribution of O&D markets is an important characteristic of air service at the Airport, indicating where demand for aviation activity, and therefore airline service, is concentrated. **Table 9** presents the top 15 domestic O&D destination markets for 2023. During the year, all of the top 15 destination markets received nonstop service from Alaska and at least one other airline. The top 15 domestic O&D destination markets were relatively evenly distributed, with no market representing more than 11.8 percent of total domestic O&D passenger volumes, while 40.0 percent of total domestic O&D passengers were destined for markets outside the top 15. The Los Angeles area represented the largest destination market for O&D passengers, with five airlines providing an average of 170 departures per week to the five airports in the region receiving nonstop service from PDX. A total of 1.7 million O&D passengers traveled between the Los Angeles area and the Airport during the period. New York City was the largest destination market outside the West Coast and Mountain West regions, with 509,746 O&D passengers in 2023, representing 3.6 percent of total domestic O&D passengers.

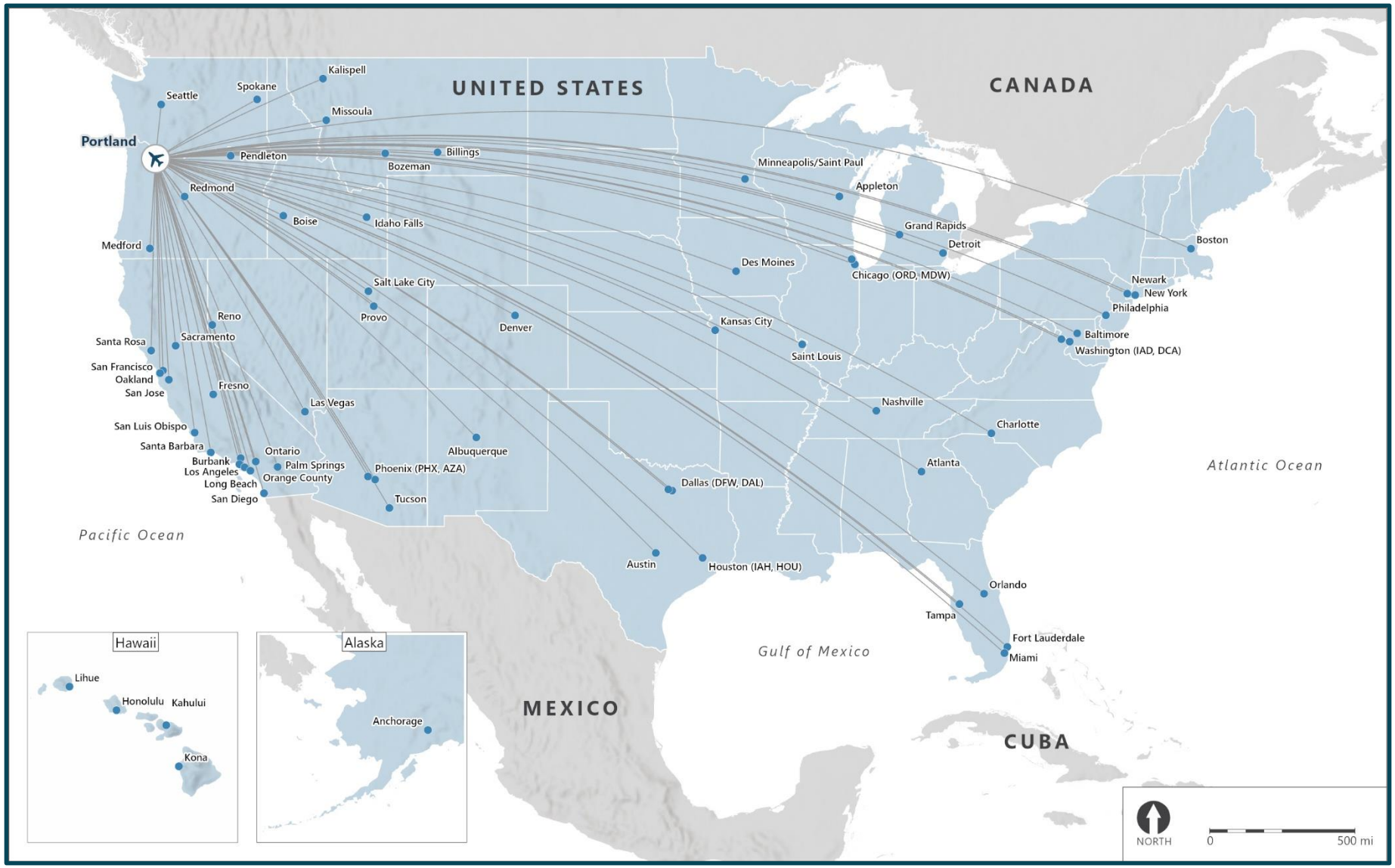
Table 8 Historical Total Passengers by Airline

	2019		2020		2021		2022		2023	
Airline	Enplaned Passengers	Share	Enplaned Passengers	Share	Enplaned Passengers	Share	Enplaned Passengers	Share	Enplaned Passengers	Share
Alaska Airlines	4,305,527	43.3%	1,587,545	45.0%	2,559,782	43.5%	3,066,368	41.7%	3,283,030	39.8%
Delta Air Lines	1,417,633	14.3%	428,670	12.1%	753,434	12.8%	1,160,392	15.8%	1,240,667	15.0%
Southwest Airlines	1,693,051	17.0%	602,137	17.1%	834,776	14.2%	985,356	13.4%	1,237,067	15.0%
United Airlines	1,022,345	10.3%	316,314	9.0%	695,815	11.8%	919,276	12.5%	969,188	11.8%
American Airlines	664,887	6.7%	323,562	9.2%	543,114	9.2%	549,051	7.5%	617,548	7.5%
Spirit Airlines	137,821	1.4%	59,757	1.7%	104,494	1.8%	143,578	2.0%	187,856	2.3%
Frontier Airlines	94,128	0.9%	63,637	1.8%	108,015	1.8%	101,679	1.4%	171,957	2.1%
Hawaiian Airlines	136,155	1.4%	41,294	1.2%	101,349	1.7%	142,864	1.9%	150,517	1.8%
Air Canada	100,833	1.0%	15,174	0.4%	18,459	0.3%	58,939	0.8%	71,001	0.9%
Volaris	44,502	0.4%	33,013	0.9%	42,000	0.7%	49,413	0.7%	59,139	0.7%
British Airways	0	0.0%	0	0.0%	0	0.0%	23,673	0.3%	57,041	0.7%
JetBlue Airways	125,893	1.3%	22,203	0.6%	58,063	1.0%	49,489	0.7%	56,791	0.7%
Allegiant Air	0	0.0%	0	0.0%	22,741	0.4%	33,232	0.5%	50,919	0.6%
Sun Country Airlines	145,806	1.5%	31,263	0.9%	29,142	0.5%	30,998	0.4%	31,847	0.4%
Icelandair	18,616	0.2%	0	0.0%	6,313	0.1%	18,006	0.2%	25,230	0.3%
WestJet Airlines	16,307	0.2%	3,720	0.1%	1,493	0.0%	17,531	0.2%	24,875	0.3%
Condor	21,391	0.2%	0	0.0%	0	0.0%	11,599	0.2%	13,293	0.2%
Others [1]	1,527	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Airport Total	9,946,422	100.0%	3,528,289	100.0%	5,878,989	100.0%	7,361,443	100.0%	8,247,967	100.0%

NOTES:
Totals may not equal due to rounding.
Totals include regional partners.
1 Consists of airlines no longer serving the Airport.

SOURCES:
Port of Portland, March 2024 (statistics reported by airlines); Ricondo & Associates, Inc., March 2024.

Exhibit 1 Domestic Destinations Served (Year Ending June 2024)



SOURCES:
Esri, 2023 (continent boundary, airports, lakes); US Census Bureau, 2023 (state boundary); Cirium Diio, May 2024 (published airline schedules); Ricondo & Associates, Inc., May 2024 (routes).

Exhibit 2 International Destinations Served (Year Ending June 2024)

SOURCES:
Esri, 2023 (continent boundary, airports, lakes); US Census Bureau, 2023 (state boundary); Cirium Diio, May 2024 (published airline schedules); Ricondo & Associates, Inc., May 2024 (routes).

Table 9 Top 15 Domestic Origin and Destination Markets (2023)

Rank	Market	Airport Code(s)	Trip Length [1]	Total O&D Passengers [2]	Weekly Nonstop Departures [3]	Number of Airlines	Airlines[4]
1	Los Angeles [5]	LAX, SNA, ONT, BUR, LGB	MH	1,658,499	170	5	AA, AS, DL, F9, WN
2	San Francisco [6]	SFO, OAK, SJC	SH	1,216,468	169	4	AS, F9, UA, WN
3	Las Vegas	LAS	MH	878,631	77	4	AS, F9, NK, WN
4	Phoenix	PHX	MH	787,435	74	5	AA, AS, F9, G4, WN
5	Denver	DEN	MH	561,051	98	4	AS, F9, UA, WN
6	New York City [7]	JFK, EWR, LGA	LH	509,746	42	3	AS, DL, UA
7	San Diego	SAN	MH	501,752	36	2	AS, WN
8	Chicago [8]	ORD, MDW	MH	394,285	85	5	AA, AS, NK, UA, WN
9	Dallas [9]	DFW, DAL	MH	372,804	67	4	AA, AS, F9, WN
10	Sacramento	SMF	SH	366,707	46	2	AS, WN
11	Washington, DC [10]	IAD, DCA, BWI	LH	304,577	21	3	AS, NK, UA
12	Seattle	SEA	SH	303,208	148	2	AS, DL
13	Honolulu	HNL	LH	294,781	14	2	AS, HA
14	Salt Lake City	SLC	MH	286,402	51	3	AS, DL, F9
15	Minneapolis	MSP	MH	261,983	49	3	AS, DL, SY
Other O&D Markets				5,326,495			
Total Domestic O&D Passengers				14,024,822			

NOTES:
Figures may not sum due to rounding.
O&D – Origin and Destination
1 Short Haul (SH) = 1 to 600 miles; Medium Haul (MH) = 601 to 1,800 miles; Long Haul (LH) = over 1,800 miles
2 This represents passengers traveling in both directions.
3 For the week of June 10, 2024, to June 16, 2024, regional affiliates were counted as part of their mainline airline.
4 AA – American Airlines; AS – Alaska Airlines; DL – Delta Air Lines; F9 – Frontier Airlines; G4 – Allegiant Air; NK – Spirit Airlines; SY – Sun Country Airlines; UA – United Airlines; WN – Southwest Airlines
5 Includes Los Angeles International, John Wayne (Orange County), Ontario International, Hollywood Burbank, and Long Beach Airports.
6 Includes San Francisco International, Metropolitan Oakland International, and Norman Y. Mineta San Jose International Airports.
7 Includes John F. Kennedy International, Newark Liberty International, and LaGuardia Airports.
8 Includes Chicago O'Hare International and Chicago Midway International Airports.
9 Includes Dallas Fort Worth International Airport and Dallas Love Field.
10 Includes Washington Dulles International, Ronald Reagan Washington National, and Baltimore/Washington International Thurgood Marshall Airports.

SOURCES:
Cirium Diio, (published airline schedules & US Department of Transportation, DB1B Survey) March 2024; Sabre Market Intelligence, March 2024 (passenger bookings data); Ricondo & Associates, Inc., March 2024 (analysis).

Table 10 presents the top 10 international O&D markets in 2023. The markets in the top 10 include a diverse array of destinations distributed between Canada, Mexico, and Europe. All destinations except Mexico City, the eighth-largest market, received nonstop service during the year. The top four international O&D markets were all located in Mexico, representing a mix of leisure-oriented and visiting friends and relatives and business-focused destinations. Guadalajara represented the largest international O&D passenger market, with 118,845 passengers in 2023, representing a 6.9 percent share of international O&D passengers. The other markets in the top four markets represented between 4.5 percent and 5.4 percent of international O&D passengers. The largest intercontinental market during the year was London, representing 3.3 percent of international O&D passengers. Markets outside the top 10 accounted for the majority of international demand, with 61.9 percent of international O&D demand represented by other markets.

Table 10 Top 10 International Origin and Destination Markets (2023)

Rank	Market	Airport Code	O&D Passengers[1]	Percentage of O&D Passengers
1	Guadalajara, Mexico	GDL	118,845	6.9%
2	Cancun, Mexico	CUN	92,571	5.4%
3	San Jose del Cabo, Mexico	SJD	81,779	4.8%
4	Puerto Vallarta, Mexico	PVR	76,863	4.5%
5	Vancouver, Canada	YVR	58,217	3.4%
6	London, United Kingdom	LHR	56,570	3.3%
7	Amsterdam, Netherlands	AMS	48,916	2.9%
8	Mexico City, Mexico	MEX	43,349	2.5%
9	Toronto, Canada	YYZ	42,468	2.5%
10	Frankfurt, Germany	FRA	34,400	2.0%
Other O&D Markets			1,060,500	61.9%
Total International O&D Passengers			1,714,479	100.0%

NOTES:
Figures may not sum due to rounding.
O&D – Origin and Destination
1 Represents passengers traveling in both directions.

SOURCES:
Cirium Diio, (published airline schedules & US Department of Transportation, DB1B Survey) March 2024; Sabre Market Intelligence, March 2024 (passenger bookings data); Ricondo & Associates, Inc., March 2024 (analysis).

2.2.3 Cargo Volumes

Cargo volumes at the Airport consist of both freight and mail volumes. Both freight and mail are carried on dedicated all-cargo freighter aircraft and in the belly compartments of passenger aircraft. The Airport is currently served by 12 airlines operating dedicated freighter aircraft. Two of the airlines serving the Airport with dedicated freighter aircraft, FedEx and United Parcel Service (UPS), are considered integrator airlines, with the remainder consisting of traditional all-cargo airlines. Integrator airlines typically offer direct end-to-end distribution and operate networks oriented around key logistics hubs, while all-cargo/integrator airlines usually operate point-to-point and ad-hoc air cargo service of dedicated shipments on routes that can be either regular or irregular routes.[2]

Typically, integrator cargo airlines operate more consistent route networks. FedEx and UPS provided regular service to several destinations throughout the historical period, including cargo hubs and connections to regional airports in the Pacific Northwest. For the entirety of the historical period, FedEx and its affiliated feeder airlines operated bidirectional regular service to six destinations, including hubs at Indianapolis International (IND), Memphis International (MEM), and Oakland International (OAK) Airports, and regional destinations such as LMT, Rogue Valley International–Medford Airport (MFR), and RDM. Bidirectional regular service was offered during portions of the historical period to FedEx's hub at Perot Field Fort Worth Alliance Airport (AFW) and Roseburg Regional Airport (RBG) in Oregon, while directional regular service was offered in at least one year of the historical period to Corvallis Municipal Airport (CVO), EUG, Newport Municipal Airport (ONP), OTH, and Salem Municipal Airport (SLE) in the Pacific Northwest, as well as FedEx's hub at EWR. UPS offered bidirectional regular service to ONT and Louisville Muhammad Ali International Airport (SDF) during the entire historical period, with bidirectional regular service offered to Boeing Field / King County International Airport (BFI), DFW, GEG, and Chicago Rockford International Airport (RFD) in at least one year during the period. Directional regular service was offered in at least one year to ANC, Billings Logan International Airport (BIL), and DSM. Six other airlines provided bidirectional regular service on at least one route during a portion of the historical period, while several airlines served the Airport only with ad-hoc, irregular service.

Table 11 presents the historical cargo volumes at the Airport in metric tonnes. Cargo volumes are primarily carried on cargo/integrator airlines when compared to passenger airline cargo volumes (i.e., belly cargo). From 2013 to 2023, cargo tonnage at the Airport increased from 198,983 metric tonnes to 282,733 metric tonnes, a 3.6 percent CAGR. Total cargo tonnage peaked at 345,867 tonnes in 2021, reflecting the increased demand for air cargo during the pandemic. Several factors influenced this increase, including supply chain and logistics availability and the need for rapid fulfillment of key products, of which air cargo was uniquely well-suited; however, recovery to more traditional cargo demand patterns is occurring across the global logistics network, and the Airport's cargo tonnage decreased in 2022 and 2023. From 2013 to 2023, cargo tonnage carried by passenger airlines decreased from 22,244 metric tonnes to 18,723 metric tonnes, an average annual decrease of 2.2 percent. Over the same period, cargo tonnage carried by cargo/integrator airlines increased from 176,739 metric tonnes to 264,010 metric tonnes, a CAGR of 4.2 percent.

[2] Cargo airlines do not typically publish schedules of their planned flight operations. For the purposes of analyzing the existing service by dedicated freighter aircraft, regularly scheduled operations were defined as a series of flights performed by aircraft for the transport of cargo, freight, and/or mail, operated according to a public timetable or with flights so regular or frequent that they constitute a recognizably systematic series. For this analysis, a recognizably systematic series was defined as an average of at least one flight per month during a 12-month period. A series of flights can be regular in either one or both directions of a given route pair, as all-cargo and integrator airlines commonly employ triangular and multi-stop routings as part of scheduled and nonscheduled services.

Table 11 Historical Cargo Volumes

	Cargo Volumes (Metric Tonnes)			Share of Cargo Volumes	
Year	Passenger Airlines	Cargo/Integrator Airlines	Total	Passenger Airlines	Cargo/Integrator Airlines
2013	22,244	176,739	198,983	11%	89%
2014	25,872	181,478	207,350	12%	88%
2015	27,226	188,508	215,733	13%	87%
2016	24,656	193,601	218,258	11%	89%
2017	26,881	209,445	236,325	11%	89%
2018	24,291	222,575	246,866	10%	90%
2019	22,867	265,076	287,943	8%	92%
2020	13,436	299,277	312,713	4%	96%
2021	15,947	329,920	345,867	5%	95%
2022	20,234	312,883	333,116	6%	94%
2023	18,723	264,010	282,733	7%	93%
CAGR					
2013 – 2019	-0.4%	7.1%	6.4%		
2013 – 2023	-2.2%	4.2%	3.6%		

NOTES:
Totals may not sum due to rounding.
CAGR – Compound Annual Growth Rate

SOURCES:
Port of Portland, March 2024 (statistics reported by airlines); Ricondo & Associates, Inc., March 2024.

2.3 AIRCRAFT OPERATIONS

Aircraft operations represent takeoffs and landings at the Airport. Operations are presented for passenger airlines, cargo/integrator airlines, and non-passenger and non-cargo airline activity, which is represented by other air taxi, GA, and military operations. In addition to annual operations, a fleet mix summary is provided for passenger and cargo/integrator airlines.

2.3.1 Passenger Airline Operations

Table 12 presents historical domestic and international passenger airline operations activity at the Airport between 2013 and 2023. The Airport's total passenger airline operations increased prior to the COVID-19 pandemic, at a CAGR of 2.0 percent from 2013 to 2019. During the same period, domestic operations increased at a CAGR of 1.9 percent, while international passenger operations increased at a CAGR of 4.8 percent. From 2013 to 2019, regional/commuter passenger airline operations decreased at a CAGR of -0.8 percent, as narrowbody and widebody passenger airline operations increased at a CAGR of 4.1 percent and 0.4 percent, respectively. Average seats per operation increased from 111.2 seats in 2013 to 129.5 seats in 2019, a CAGR of 2.6 percent. Passenger airline operations remained below pre-pandemic levels through 2023; however, average seats per operation increased from 129.5 seats in 2019 to 142.9 seats in 2023.

Table 12 Historical Aircraft Operations and Fleet Mix Operations – Passenger Airlines

	Passenger Airline Operations			Passenger Airline Fleet Mix Operations			
Year	Domestic	International	Total	Regional/ Commuter	Narrowbody	Widebody	Average Seats Per Operation
2013	156,568	5,874	162,442	73,724	86,505	2,213	111.2
2014	160,792	6,386	167,178	76,763	88,075	2,340	113.6
2015	158,975	7,073	166,048	72,485	90,975	2,588	119.4
2016	171,816	7,268	179,084	76,028	100,408	2,648	121.9
2017	172,164	7,428	179,592	72,851	104,422	2,319	126.3
2018	175,263	8,405	183,668	67,441	113,774	2,453	130.7
2019	174,808	7,798	182,606	70,206	110,137	2,263	129.5
2020	97,156	2,458	99,614	45,332	53,826	456	125.1
2021	110,120	2,206	112,326	42,657	67,901	1,768	135.1
2022	115,736	5,044	120,780	36,256	83,136	1,388	142.5
2023	133,783	6,225	140,008	42,330	95,579	2,099	142.9
CAGR							
2013 – 2019	1.9%	4.8%	2.0%	-0.8%	4.1%	0.4%	2.6%
2013 – 2023	-1.6%	0.6%	-1.5%	-5.4%	1.0%	-0.5%	2.5%

NOTES:
Regional/commuter represents aircraft with 76 seats or less and may include turboprop activity.
Narrowbody represents single-aisle aircraft with more than 76 seats.
Widebody represents dual-aisle aircraft.
CAGR – Compound Annual Growth Rate

SOURCES:
Port of Portland, March 2024 (statistics reported by airlines); Ricondo & Associates, Inc., March 2024.

2.3.2 Cargo/Integrator Airline Operations

Table 13 presents the historical cargo/integrator airline operations at the Airport. From 2013 to 2019, cargo/integrator airline operations increased from 20,334 operations to 23,434 operations, representing a CAGR of 2.4 percent. In 2023, 22,468 operations were recorded, representing a CAGR of 1.0 percent from 2013 to 2023.

Among cargo/integrator airline operations, regional/commuter aircraft represent the dominant element of the cargo airline fleet mix. The regional/commuter aircraft share of cargo/integrator airline aircraft operations varied during the historical period from 2013 to 2023, decreasing from 63.5 percent in 2013 to 37.1 percent in 2023. Widebody aircraft represented the second largest share of cargo/integrator airline operations, increasing from 32.2 percent in 2013 to 48.5 percent in 2023, peaking at 52.0 percent of operations in 2022.

Table 13 Historical Aircraft Operations and Fleet Mix Percentage – Cargo/Integrator Airlines

		Cargo/Integrator Airline Fleet Mix (Percentage)		
Year	Cargo/Integrator Airline Operations	Regional/ Commuter	Narrowbody	Widebody
2013	20,334	63.5%	4.3%	32.2%
2014	19,308	63.6%	3.8%	32.7%
2015	19,196	62.2%	7.1%	30.8%
2016	19,072	60.5%	7.0%	32.5%
2017	20,076	56.5%	8.4%	35.1%
2018	21,370	51.2%	10.4%	38.4%
2019	23,434	45.9%	11.8%	42.4%
2020	25,448	42.1%	17.0%	41.0%
2021	26,852	36.4%	15.8%	47.8%
2022	25,778	36.3%	11.7%	52.0%
2023	22,468	37.1%	14.4%	48.5%
CAGR				
2013 – 2019	2.4%			
2013 – 2023	1.0%			

NOTES:
Regional/commuter represents aircraft with 76 seats or less and may include turboprop activity.
Narrowbody represents single-aisle aircraft with more than 76 seats.
Widebody represents dual-aisle aircraft.
CAGR – Compound Annual Growth Rate

SOURCES:
Port of Portland, March 2024 (statistics reported by airlines); Ricondo & Associates, Inc., March 2024.

2.3.3 General Aviation and Other Air Taxi Activity

Table 14 presents the historical operations for non-passenger and non-cargo airline activity, which is represented by other air taxi/GA and military operations. From 2013 to 2019, other air taxi/GA aircraft operations increased from 23,048 operations to 28,467 operations, a CAGR of 3.6 percent. Over the comparable period, military aircraft operations decreased from 4,085 operations to 3,877 operations, an average annual decrease of 0.9 percent. From 2013 to 2023, other air taxi/GA aircraft operations increased from 23,048 operations to 24,962 operations, a CAGR of 0.8 percent, and military aircraft operations decreased from 4,085 operations to 2,712 operations, an average annual decrease of 4.0 percent.

Table 14 Historical Aircraft Operations – Other Air Taxi / General Aviation and Military

Year	Other Air Taxi / General Aviation	Military
2013	23,048	4,085
2014	25,141	4,626
2015	29,282	3,495
2016	25,689	3,864
2017	25,137	4,144
2018	25,435	3,520
2019	28,467	3,877
2020	23,409	2,383
2021	28,459	2,990
2022	27,282	2,667
2023	24,962	2,712
CAGR		
2013 – 2019	3.6%	-0.9%
2013 – 2023	0.8%	-4.0%

NOTE:
CAGR – Compound Annual Growth Rate

SOURCES:
US Department of Transportation, Federal Aviation Administration, Operations Network (OPSNET), March 2024; Ricondo & Associates, Inc., March 2024.

2.3.4 Total Airport Operations

Table 15 presents historical aircraft operations at the Airport between 2013 and 2023. Total aircraft operations increased from 2013 through 2019 leading up to the pandemic, from 209,909 operations to 238,384 operations, a CAGR of 2.1 percent. From 2013 to 2023, total Airport operations decreased from 238,384 operations to 190,150 operations, an average annual decrease of 1.0 percent. From 2013 to 2023, passenger airline operations decreased at an average annual rate of 1.5 percent, cargo/integrator airline operations increased at a CAGR of 1.0 percent, other air taxi/GA operations increased at a CAGR of 0.8 percent, and military operations decreased at an average annual rate of 4.0 percent.

Table 15 Historical Total Airport Aircraft Operations

Year	Passenger Airlines	Cargo/ Integrator Airlines	Other Air Taxi / General Aviation	Military	Total Airport	Annual Percentage Change
2013	162,442	20,334	23,048	4,085	209,909	-2.9%
2014	167,178	19,308	25,141	4,626	216,253	3.0%
2015	166,048	19,196	29,282	3,495	218,021	0.8%
2016	179,084	19,072	25,689	3,864	227,709	4.4%
2017	179,592	20,076	25,137	4,144	228,949	0.5%
2018	183,668	21,370	25,435	3,520	233,993	2.2%
2019	182,606	23,434	28,467	3,877	238,384	1.9%
2020	99,614	25,448	23,409	2,383	150,854	-36.7%
2021	112,326	26,852	28,459	2,990	170,627	13.1%
2022	120,780	25,778	27,282	2,667	176,507	3.4%
2023	140,008	22,468	24,962	2,712	190,150	7.7%
CAGR						
2013 – 2019	2.0%	2.4%	3.6%	-0.9%	2.1%	
2013 – 2023	-1.5%	1.0%	0.8%	-4.0%	-1.0%	

NOTE:
CAGR – Compound Annual Growth Rate

SOURCES:
Port of Portland, March 2024 (statistics reported by airlines); US Department of Transportation, Federal Aviation Administration, Operations Network (OPSNET), March 2024; Ricondo & Associates, Inc., March 2024.

3. Factors Affecting Aviation Activity at the Airport

This section discusses the qualitative factors that may influence future aviation activity at the Airport. These factors were considered, either directly or indirectly, in developing the aviation activity forecasts for the Airport.

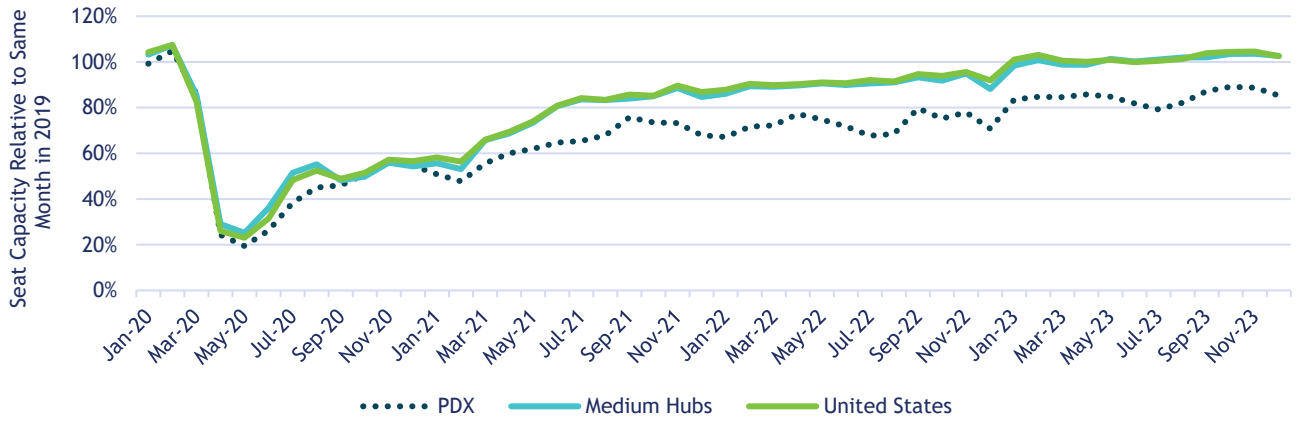
3.1 IMPACT OF THE COVID-19 PANDEMIC

The outbreak and spread of COVID-19 resulted in a severe contraction in demand for air travel that was driven by fear of illness, as well as government-imposed travel restrictions and quarantine requirements. The impact to air travel began in East Asia in December 2019 and rapidly accelerated to other regions of the world in March and April 2020. Airlines responded to the change in demand by parking aircraft and reducing capacity across their networks. Several large international foreign-flag airlines suspended all operations for a period in March and April 2020. By April 2020, which represented the low point in terms of passenger airline enplaned passengers, enplaned passengers decreased to 4 percent of April 2019 passengers for all US airports and at the Airport. A modest recovery in airline passengers occurred over the second half of 2020. By March 2021, enplaned passengers for all US airports had increased to 52 percent of March 2019 enplaned passengers, and enplaned passengers at the Airport had increased to 42 percent of March 2019 enplaned passengers.

Airlines accelerated the restoration of capacity as COVID-19 vaccines became widely available in the United States and demand for air travel increased. In March 2022, enplaned passengers represented 89 percent of March 2019 enplaned passengers for all US airports. For the Airport, March 2022 enplaned passengers represented 72 percent of March 2019 enplaned passengers. The restoration of enplaned passengers increased through 2023, despite interruptions in demand recovery that coincided with spikes in COVID-19 infections related to the Delta and Omicron variants of the virus. December 2023 enplaned passengers represented 98 percent of December 2019 enplaned passengers for all US airports and 79 percent of December 2019 enplaned passengers at PDX.

Exhibit 3 and **Exhibit 4** depict the Airport's seat capacity and enplaned passenger recovery relative to FAA medium-hub airports and the United States.

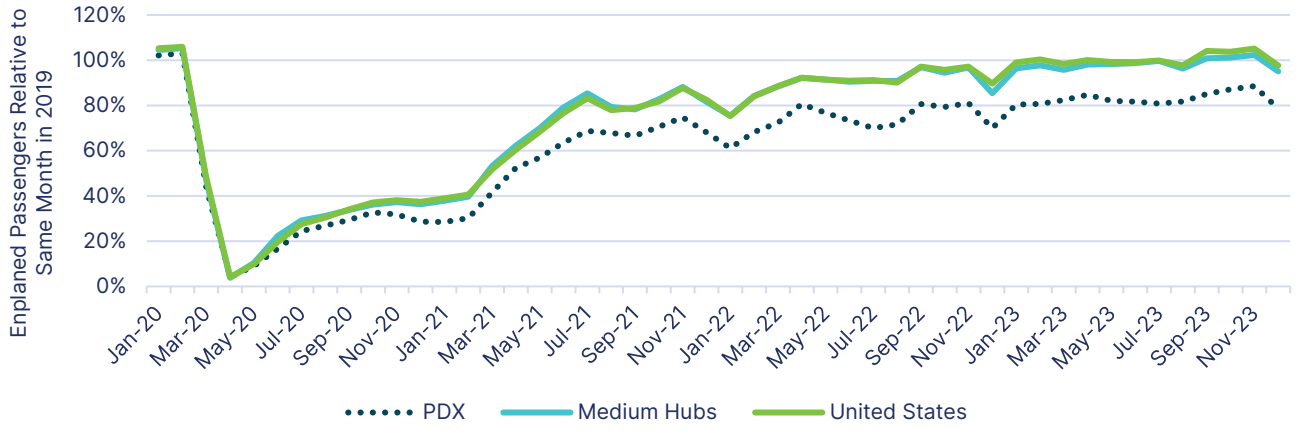
Exhibit 3 Seat Capacity Recovery – Airport, Medium Hubs, and United States



NOTES:
Seat capacity was indexed to the same month in 2019.
PDX – Portland International Airport

SOURCE:
Cirium Diio, April 2024 (US Department of Transportation, T-100 data).

Exhibit 4 Enplaned Passenger Recovery – Airport, Medium Hubs, and United States

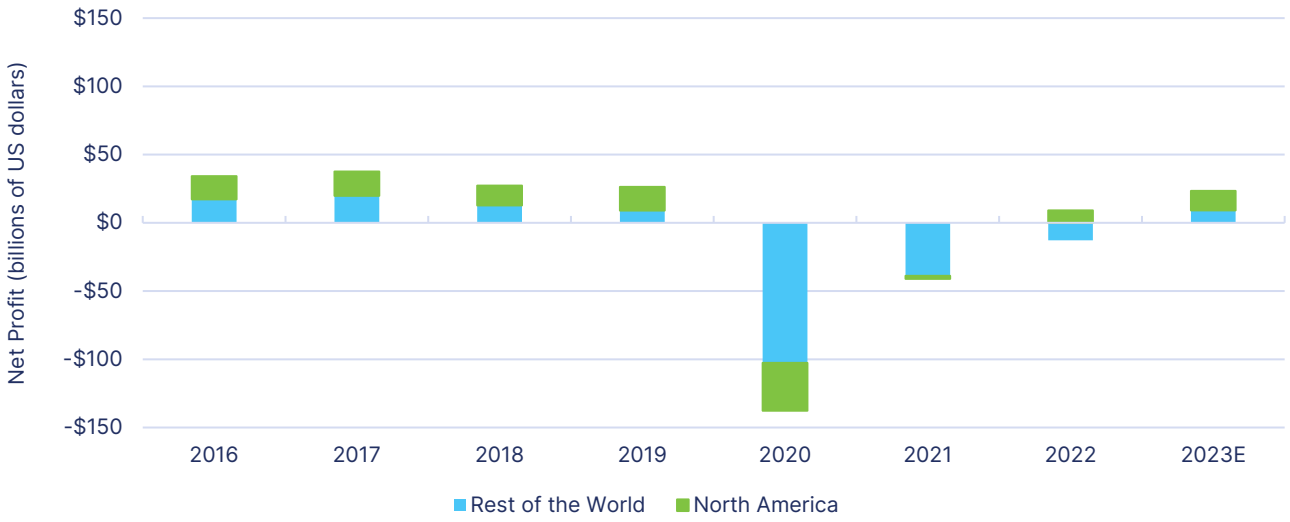


NOTES:
Enplaned passengers were indexed to the same month in 2019.
PDX – Portland International Airport

SOURCE:
Cirium Diio, April 2024 (US Department of Transportation, T-100 data).

The COVID-19 pandemic resulted in a drastic decrease in revenues and steep financial losses for most airlines. Per the International Air Transport Association (IATA), airlines globally experienced an operating loss of $137.7 billion in 2020 and were projected to lose an additional $41.1 billion in 2021. In 2022, US airlines recorded a marginal profit of $9.1 billion, while airlines throughout the rest of the world lost another $12.8 billion. In 2023, both US airlines and airlines throughout the rest of the world were projected to record profits. **Exhibit 5** shows the airline profitability for North America and for the rest of the world from 2016 to 2023 (as estimated).

Exhibit 5 Operating Profit and Revenue of US Commercial Airlines



NOTES:
Bankruptcy reorganization and large non-cash costs were excluded. These data include all commercial airlines.
E – Estimate

SOURCE:
International Air Transport Association, *Airline Industry Economic Performance Data Tables*, December 2023.

3.2 COST OF AVIATION FUEL

As of the third quarter of 2023, jet fuel accounted for 20.8 percent of total airline operating costs, second only to labor, according to Airlines for America.[3]

In February 2024, the average price of jet fuel was $2.83 per gallon, having grown steadily since January 2024, but still below previously sustained high prices in 2022. **Exhibit 6** shows the monthly averages for jet fuel and crude oil prices from February 2014 through February 2024. Fluctuating fuel costs will continue to affect airline profitability. This could lead to changes in air service as airlines adjust capacity and pricing to address increases or decreases in the cost of fuel.

3.3 THREAT OF TERRORISM AND GLOBAL CONFLICTS

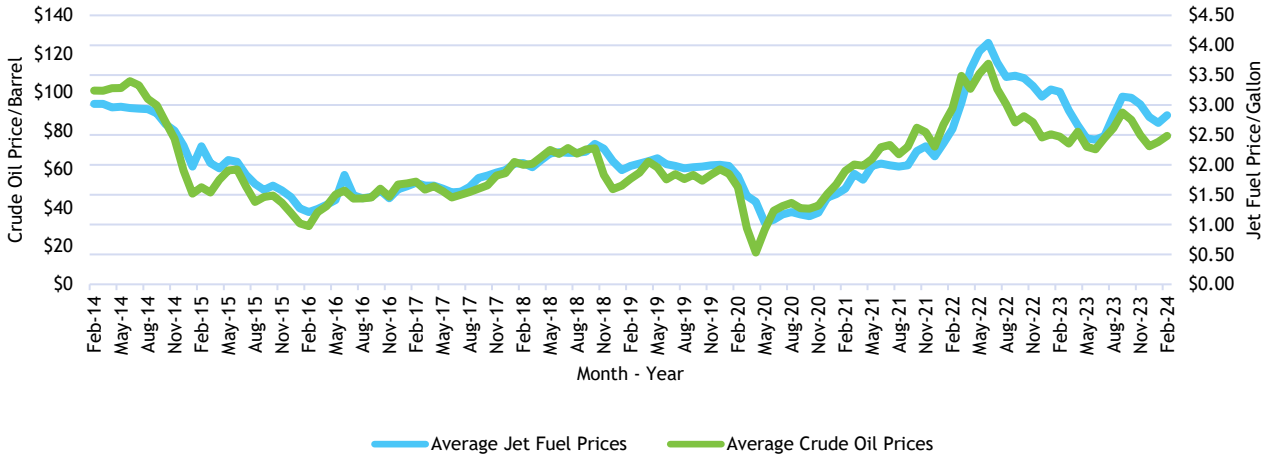
Since September 11, 2001, the recurrence of terrorism incidents against either domestic or world aviation has remained a risk to achieving forecast levels of activity. Tighter security measures have restored the public's confidence in the integrity of the US and global aviation security systems. However, any terrorist incident targeting aviation could have an immediate and significant impact on the demand for air travel.

Additionally, geopolitical issues may affect aviation activity during the forecast period. Potential governmental or regional instability in certain countries or locations may affect access to, or demand for, aviation service in these

[3] Airlines for America, *A4A Passenger Airline Cost Index (PACI)*, https://www.airlines.org/dataset/a4a-quarterly-passenger-airline-cost-index-u-s-passenger-airlines/ (accessed April 2024).

places. As an international gateway, the Airport provides service to nearly all major regions of the world. Future governmental or regional instability may have an impact on international aviation service demand at the Airport.

Exhibit 6 Historical Monthly Averages of Jet Fuel and Crude Oil Prices



SOURCE:
US Department of Energy, US Energy Information Administration, April 2024.

3.4 MERGERS, ACQUISITIONS, NEW AIRLINES, AND AIRLINE RESTRUCTURINGS

Airlines in the United States have merged with or acquired competitors to achieve operational and commercial synergies and to improve their financial performance. A wave of consolidation began in 2005 when America West Airlines merged with US Airways, retaining the US Airways brand for the consolidated airline. In 2009, Delta acquired Northwest Airlines. In 2010, United acquired Continental Airlines. In 2011, Southwest acquired AirTran Airways. In 2013, US Airways and American merged, with the consolidated airline retaining the American brand. The most recent consolidation occurred in 2016 when Alaska acquired Virgin America. The two airlines completed their integration in 2018. Sprit has terminated its prior merger agreement with Frontier that was announced in February 2022. JetBlue terminated its prior merger agreement with Spirit that was announced in July 2022. On December 3, 2023, Alaska and Hawaiian announced their intention to merge no later than the first half of 2025, pending government and shareholder approval. Alaska and Hawaiian will continue to operate as independent airlines until after the transaction closes.

Consolidation across the industry has resulted in the realignment of several airline route networks as airlines have sought efficiency in their service. Further consolidation of the US airline industry could affect the amount of capacity offered at the Airport and could alter the competitive landscape.

3.5 NATIONAL AND REGIONAL ECONOMY

Historically, trends in airline travel have been closely correlated with national and regional economic trends, such as population and, most notably, changes in gross domestic product (GDP). **Table 16** presents historical and projected socioeconomic variables for both the nation and region (Portland CSA), which may influence demand for air service over time. **Exhibit 7** shows the counties included in the Portland CSA. These socioeconomic data were incorporated into the analysis of the O&D passenger and cargo volume forecasts presented in Section 4. As shown, the Portland CSA outperformed the nation between 2013 and 2023 for all the socioeconomic variables presented. Socioeconomic variables for the Portland CSA are projected to continue to outperform the nation through 2045, except for per capita personal income. Projected growth in socioeconomic activity should support generally increasing demand for air service over the forecast period. Actual economic activity may differ from this projection, especially on a year-to-year basis.

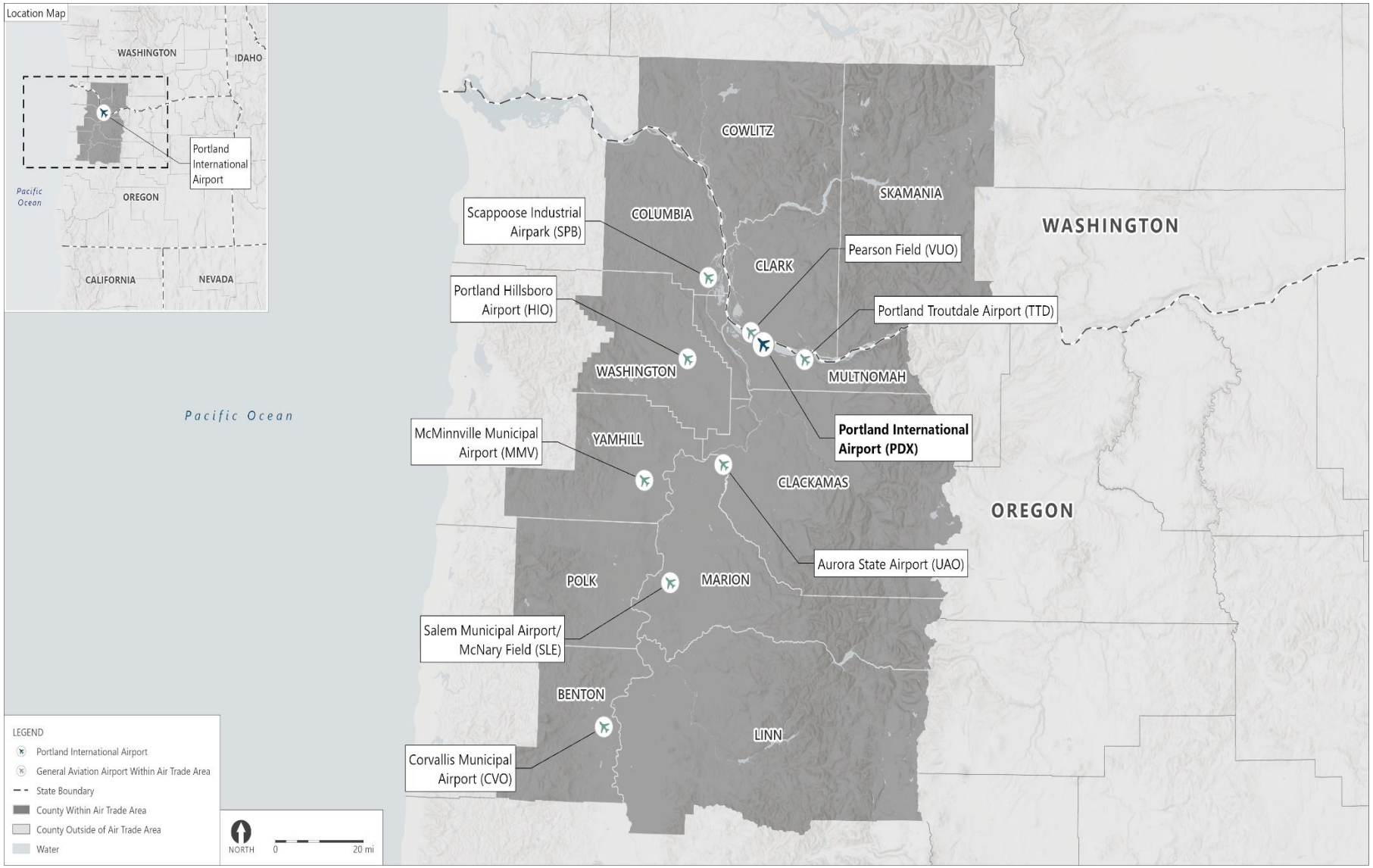
Table 16 Socioeconomics – Nation and Combined Statistical Area

Socioeconomic Metric and Region	2013	2023	2045	CAGR 2013 – 2023	CAGR 2023 – 2045
POPULATION (IN MILLIONS)					
Nation	316.7	335.5	382.2	0.6%	0.6%
Portland-Vancouver-Salem, OR-WA CSA	3.0	3.3	4.0	0.9%	0.8%
EMPLOYMENT (IN MILLIONS)					
Nation	182.3	211.9	272.1	1.5%	1.1%
Portland-Vancouver-Salem, OR-WA CSA	1.7	2.1	2.7	2.0%	1.2%
EARNINGS (IN BILLIONS)					
Nation	$10,095.4	$12,967.2	$19,647.7	2.5%	1.9%
Portland-Vancouver-Salem, OR-WA CSA	$92.6	$132.3	$200.8	3.6%	1.9%
PER CAPITA PERSONAL INCOME					
Nation	$44,209	$55,324	$76,783	2.3%	1.5%
Portland-Vancouver-Salem, OR-WA CSA	$41,489	$55,401	$73,883	2.9%	1.3%
GROSS DOMESTIC/REGIONAL PRODUCT (IN BILLIONS)					
Nation	$16,506.4	$21,082.2	$31,886.2	2.5%	1.9%
Portland-Vancouver-Salem, OR-WA CSA	$145.4	$201.4	$309.1	3.3%	2.0%

NOTES:
CAGR – Compound Annual Growth Rate
CSA – Combined Statistical Area
OR – Oregon
WA – Washington

SOURCE:
Woods & Poole Economics, Inc., May 2023.

Exhibit 7 Air Trade Area: Portland-Vancouver-Salem, Oregon-Washington Combined Statistical Area



SOURCES:
Esri and USGS, March 2024 (hillshade); Esri, 2023 (counties, states, water, airports).

4. Forecast of Passenger Demand and Airline Operations

Forecasts of Airport activity were developed for 2024 through 2045. The assumptions, techniques, and results of the forecast process are described in the following subsections and referred to as the baseline forecast.

4.1 PASSENGER AIRLINE FORECASTS

4.1.1 Short-Term Activity Forecast Methodology

The COVID-19 pandemic severely disrupted patterns of demand and aviation activity globally, nationally, and at the Airport. Socioeconomic variables that have been traditionally used to model demand for air travel, such as economic output, employment, and personal income, are not as useful for predicting short-term future aviation activity due to travel restrictions, fear of illness, labor shortages, and other factors that have emerged since the onset of the COVID-19 pandemic. While traditional drivers of demand are returning and are expected to influence travel patterns in the long-term, an approach was used to forecast activity in the short-term using the demonstrated recovery of demand since the onset of the COVID-19 pandemic and assumptions on airline seat capacity and load factors for 2024. The activity forecast for this period was modeled on estimates of departing seat capacity and passenger activity by domestic and international activity, recognizing demand has recovered differently by region due to the variable effect of COVID-19 and its associated impacts. Gradual increases in departing seats and passengers represent the recovery in demand, considering different rates of recovery as O&D enplaned passengers are forecast to align with long-term econometric results discussed in the next subsection. The short-term forecast incorporates actual reported activity for January 2024 and published airline schedules through December 2024.

The following factors were also considered in the development of the short-term forecast:

- While the widespread deployment of effective vaccines to inhibit COVID-19 infection and treatments for illness have mitigated the severity of the COVID-19 pandemic, new variants of the COVID-19 virus may emerge, and the full duration of the global pandemic and resulting impact on air travel remain unknown. It is assumed that the emergence of any new variants of the COVID-19 virus would not result in a severe reduction in air service as experienced at the onset of the pandemic.
- Transborder travel restrictions have impacted demand for international travel. While most travel restrictions have been lifted, the timeline for lifting all restrictions is unknown, and the United States and other countries may impose new restrictions (or reinstate restrictions that have been lifted) if new surges of COVID-19 infection emerge. It is assumed a progressive reduction in travel restrictions will occur, or the efficiency and availability of approaches to meet requirements will advance.

4.1.2 Long-Term Activity Forecast Methodology

As passenger demand and airline capacity recover to pre–COVID-19 pandemic levels, it is expected that the traditional relationships between demand and socioeconomics will drive long-term passenger growth. Longer term passenger activity was forecast using socioeconomic regression analysis techniques that identified predictive statistical relationships between historical O&D passenger volumes and independent socioeconomic variables (such as gross regional product [GRP], employment, and population) over a 20-year period ending in 2019. Activity that occurred in 2020 through 2023 was not incorporated into the socioeconomic regression analysis, as activity during this period was heavily influenced by factors that were specific to the COVID-19 pandemic. Once the Airport exceeds pre-pandemic levels of activity, the COVID-19 pandemic impacts are not expected to influence demand for air travel in the long-term. A standard measure of how well each variable explains passenger demand is the regression model's coefficient of determination, or R-squared value. A result of 100 percent is the maximum value possible and represents a perfect fit between the variables analyzed. For the purposes of this analysis, an R-squared value of 80 percent or better was considered adequate.

Independent forecasts were developed for domestic and international O&D passengers. The resulting regression equations were populated with independent projections of the relevant socioeconomic variables (sourced from

Woods & Poole Economics, Inc.). **Table 17** presents the R-squared results in the forecast of PDX domestic and international O&D passengers and their implied CAGRs from 2019 through 2045. In addition, the domestic and international O&D passenger results were combined to provide an implied CAGR from 2019 through 2045 for total O&D passengers.

The connecting passenger forecasts were based on (1) the return of Alaska's pre-pandemic capacity and connecting passenger flows at the Airport and (2) historical trends of the Airport's connecting passengers compared to FAA forecasts of total US passengers. In 2019, connecting passengers at PDX represented 12 percent of total passengers traveling on domestic itineraries, and because Alaska reduced capacity during the pandemic, connecting passengers at PDX represented 6 percent of total passengers in 2023. The forecasts of domestic O&D, international O&D, and connecting passengers were consolidated to derive long-term year-over-year growth rates of O&D and connecting enplaned passengers.

Table 17 Socioeconomic Regression Analysis Outputs – Domestic and International Origin/Destination Passengers

	CSA		United States	
Socioeconomic Metric and Passenger Segment	Implied 2019 – 2045 CAGR	R-Square	Implied 2019 – 2045 CAGR	R-Square
DOMESTIC ORIGIN/DESTINATION				
Population	1.2%	0.71	1.2%	0.66
Employment	1.8%	0.93	2.1%	0.90
Earnings	2.2%	0.97	2.5%	0.89
Per Capita Personal Income	2.1%	0.96	2.4%	0.88
Gross Domestic/Regional Product	2.1%	0.90	2.3%	0.81
INTERNATIONAL ORIGIN/DESTINATION				
Population	2.0%	0.88	2.2%	0.86
Employment	2.7%	0.88	3.1%	0.87
Earnings	3.0%	0.82	3.6%	0.85
Per Capita Personal Income	2.9%	0.83	3.4%	0.88
Gross Domestic/Regional Product	3.1%	0.91	2.6%	0.86
TOTAL ORIGIN/DESTINATION				
Population	1.3%	NA	1.3%	NA
Employment	1.9%	NA	2.2%	NA
Earnings	2.3%	NA	2.7%	NA
Per Capita Personal Income	2.2%	NA	2.5%	NA
Gross Domestic/Regional Product	2.2%	NA	2.4%	NA

NOTES:
CAGR – Compound Annual Growth Rate
Portland-Vancouver-Salem, OR-WA CSA – Combined Statistical Area
NA – Not Applicable

SOURCE:
Ricondo & Associates, Inc., April 2024.

The following assumptions were also incorporated into the passenger forecasts:

- For these analyses, and as with the FAA assumptions for its nationwide forecasts, it was assumed that no terrorist incidents that materially impact US air traffic demand during the forecast period will occur.
- Economic disturbances will occur in the forecast period causing year-to-year traffic variations; however, a long-term increase in nationwide traffic was expected to occur.
- It was assumed no major "acts of God" or public health emergencies that may disrupt the national and/or global airspace system will occur during the forecast period that negatively impact aviation demand.
- It was assumed that factors affecting aviation demand, such as those identified in Section 3, will not have a significant impact over the forecast period.

Table 18 presents the historical and forecast total O&D and total connecting enplaned passengers at PDX. Total O&D enplaned passengers are forecast to increase from 7.8 million in 2023 to 15.1 million in 2045, a CAGR of 3.1 percent. Total connecting enplaned passengers are forecast to increase from 488,327 in 2023 to 1.9 million in 2045, a CAGR of 6.3 percent. The O&D share of total passengers is forecast to decrease from 94 percent in 2023 to 89 percent in 2045. Total enplaned passengers are forecast to increase from 8.2 million in 2023 to 17.0 million in 2045, a CAGR of 3.3 percent.

Table 19 presents the historical and forecast domestic and international enplaned passengers. Domestic enplaned passengers are forecast to increase from 7.9 million in 2023 to 15.5 million in 2045, a CAGR of 3.1 percent. International enplaned passengers are forecast to increase from 374,709 in 2023 to 1.5 million in 2045, a CAGR of 6.5 percent.

4.1.3 Passenger Airline Aircraft Operations Forecast Methodology and Results

Enplaned passenger growth at the Airport is expected to be accommodated through a combination of larger aircraft, new flights, and increasing load factors. The average seats per departure assumptions were informed by published airline schedules through December 2023, as well as the current and expected future fleet mix of airlines serving the Airport. Load factor assumptions were based on historical patterns, with gradual increases over the long-term reflecting expected improvements in the processes and tools that airlines use to manage seat inventory more efficiently. Growth in average seats per departure and higher load factors will enable airlines to accommodate more passengers per passenger aircraft operation.

Table 20 presents historical and forecast passenger airline metrics at the Airport through 2045. Between 2013 and 2023, departures decreased at a CAGR of 1.3 percent, while enplaned passengers increased at a CAGR of 0.8 percent, as increases in load factor and average seats per departure enabled an increase in passengers per operation. The Airport's load factor is forecast to increase from 82.3 percent in 2023 to 86.8 percent in 2045, and average seats per departure are forecast to increase from 140.4 in 2023 to 150.4 in 2045.

Table 21 presents historical and forecast passenger airline operations at the Airport through 2045. Total domestic passenger airline operations are forecast to increase from 133,783 in 2023 to 239,800 in 2045, a CAGR of 2.7 percent, compared to a CAGR of 3.1 percent for total domestic enplaned passengers during the same period. Total international passenger airline operations are forecast to increase from 6,225 in 2023 to 20,400 in 2045, a CAGR of 5.5 percent, compared to a CAGR of 6.3 percent for total international enplaned passengers during the same period. As a result, total passenger airline operations are forecast to increase from 140,008 in 2023 to 260,200 in 2045, a CAGR of 2.9 percent, compared to a CAGR of 3.3 percent for total enplaned passengers during the same period.

Table 18 Enplaned Passengers Forecast – Origin/Destination and Connecting

Year	Origin/Destination	Connecting	Total	Origin/Destination	Connecting
2013	6,257,680	1,248,827	7,506,507	83%	17%
2014	6,610,499	1,327,983	7,938,482	83%	17%
2015	7,108,124	1,306,872	8,414,996	84%	16%
2016	7,865,186	1,309,771	9,174,957	86%	14%
2017	8,253,641	1,284,831	9,538,472	87%	13%
2018	8,634,817	1,306,049	9,940,866	87%	13%
2019	8,748,241	1,198,181	9,946,422	88%	12%
2020	3,138,435	389,854	3,528,289	89%	11%
2021	5,491,717	387,272	5,878,989	93%	7%
2022	6,927,016	434,427	7,361,443	94%	6%
2023	7,759,640	488,327	8,247,967	94%	6%
FORECAST					
2024	8,392,000	509,200	8,901,200	94%	6%
2025	8,852,000	689,000	9,541,000	93%	7%
2026	9,321,000	891,000	10,212,000	91%	9%
2027	9,755,000	1,111,000	10,866,000	90%	10%
2028	10,199,000	1,167,000	11,366,000	90%	10%
2029	10,641,000	1,225,000	11,866,000	90%	10%
2030	11,088,000	1,283,000	12,371,000	90%	10%
2031	11,428,000	1,329,000	12,757,000	90%	10%
2032	11,774,000	1,377,000	13,151,000	90%	10%
2033	12,020,000	1,413,000	13,433,000	89%	11%
2034	12,268,000	1,450,000	13,718,000	89%	11%
2035	12,517,000	1,487,000	14,004,000	89%	11%
2040	13,788,000	1,682,000	15,470,000	89%	11%
2045	15,099,000	1,889,000	16,988,000	89%	11%
CAGR					
2013 – 2019	5.7%	-0.7%	4.8%		
2013 – 2023	2.2%	-9.0%	0.9%		
2019 – 2045	2.1%	1.8%	2.1%		
2023 – 2045	3.1%	6.3%	3.3%		

NOTES:
Totals may not sum due to rounding.
CAGR – Compound Annual Growth Rate

SOURCES:
Port of Portland, March 2024; Cirium Diio, April 2024 (published airline schedules; US Department of Transportation, DB1B data); Sabre Market Intelligence, April 2024; Ricondo & Associates, Inc., April 2024.

Table 19 Enplaned Passengers Forecast – Domestic and International

Year	Domestic	International	Total	Domestic	International
2013	7,288,003	218,504	7,506,507	97%	3%
2014	7,694,094	244,388	7,938,482	97%	3%
2015	8,118,377	296,619	8,414,996	96%	4%
2016	8,845,434	329,523	9,174,957	96%	4%
2017	9,168,105	370,367	9,538,472	96%	4%
2018	9,513,275	427,591	9,940,866	96%	4%
2019	9,529,676	416,746	9,946,422	96%	4%
2020	3,438,894	89,395	3,528,289	97%	3%
2021	5,790,002	88,987	5,878,989	98%	2%
2022	7,091,768	269,675	7,361,443	96%	4%
2023	7,873,258	374,709	8,247,967	95%	5%
FORECAST					
2024	8,479,900	421,300	8,901,200	95%	5%
2025	8,950,400	590,600	9,541,000	94%	6%
2026	9,430,800	781,200	10,212,000	92%	8%
2027	9,874,900	991,100	10,866,000	91%	9%
2028	10,329,700	1,036,300	11,366,000	91%	9%
2029	10,786,600	1,079,400	11,866,000	91%	9%
2030	11,251,000	1,120,000	12,371,000	91%	9%
2031	11,607,700	1,149,300	12,757,000	91%	9%
2032	11,971,100	1,179,900	13,151,000	91%	9%
2033	12,229,800	1,203,200	13,433,000	91%	9%
2034	12,491,100	1,226,900	13,718,000	91%	9%
2035	12,754,000	1,250,000	14,004,000	91%	9%
2040	14,101,600	1,368,400	15,470,000	91%	9%
2045	15,502,000	1,486,000	16,988,000	91%	9%
CAGR					
2013 – 2019	4.6%	11.4%	4.8%		
2013 – 2023	0.8%	5.5%	0.9%		
2019 – 2045	1.9%	5.0%	2.1%		
2023 – 2045	3.1%	6.5%	3.3%		

NOTES:
Totals may not sum due to rounding.
CAGR – Compound Annual Growth Rate

SOURCES:
Port of Portland, March 2024; Cirium Diio, April 2024 (published airline schedules); Ricondo & Associates, Inc., April 2024.

Table 20 Passenger Airline Aircraft Operation Metrics

Year	Enplaned Passengers	Departing Seats	Load Factor	Departures	Average Seats Per Departure
2013	7,506,507	9,039,323	83.0%	81,388	111.1
2014	7,938,482	9,509,992	83.5%	83,540	113.8
2015	8,414,996	9,928,065	84.8%	83,053	119.5
2016	9,174,957	10,928,618	84.0%	89,668	121.9
2017	9,538,472	11,355,020	84.0%	90,907	124.9
2018	9,940,866	12,024,182	82.7%	93,147	129.1
2019	9,946,422	11,837,076	84.0%	92,592	127.8
2020	3,528,289	6,245,939	56.5%	51,109	122.2
2021	5,878,989	7,612,723	77.2%	58,049	131.1
2022	7,361,443	8,631,570	85.3%	62,521	138.1
2023	8,247,967	10,025,619	82.3%	71,394	140.4
FORECAST					
2024	8,901,200	10,870,695	81.9%	78,740	138.1
2025	9,541,000	11,619,412	82.1%	83,800	138.7
2026	10,212,000	12,402,515	82.3%	89,000	139.4
2027	10,866,000	13,161,489	82.6%	94,000	140.0
2028	11,366,000	13,727,875	82.8%	97,600	140.7
2029	11,866,000	14,291,004	83.0%	101,200	141.2
2030	12,371,000	14,856,873	83.3%	104,800	141.8
2031	12,757,000	15,277,009	83.5%	107,300	142.4
2032	13,151,000	15,704,331	83.7%	109,900	142.9
2033	13,433,000	15,995,951	84.0%	111,400	143.6
2034	13,718,000	16,289,504	84.2%	113,000	144.2
2035	14,004,000	16,582,578	84.5%	114,600	144.7
2040	15,470,000	18,065,732	85.6%	122,500	147.5
2045	16,988,000	19,568,194	86.8%	130,100	150.4
CAGR					
2013 – 2019	4.6%	4.6%		2.2%	2.4%
2013 – 2023	0.8%	1.0%		-1.3%	2.4%
2019 – 2045	2.1%	2.0%		1.3%	0.6%
2023 – 2045	3.3%	3.1%		2.8%	0.3%

NOTES:
Totals may not sum due to rounding.
CAGR – Compound Annual Growth Rate

SOURCES:
Port of Portland, March 2024; Cirium Diio, April 2024 (published airline schedules); US Department of Transportation, Federal Aviation Administration, Operations Network (OPSNET), April 2024; Ricondo & Associates, Inc., April 2024.

Table 21 Passenger Airline Aircraft Operations – Domestic and International

Year	Domestic	International	Total	Domestic	International
2013	156,568	5,874	162,442	96%	4%
2014	160,792	6,386	167,178	96%	4%
2015	158,975	7,073	166,048	96%	4%
2016	171,816	7,268	179,084	96%	4%
2017	172,164	7,428	179,592	96%	4%
2018	175,263	8,405	183,668	95%	5%
2019	174,808	7,798	182,606	96%	4%
2020	97,156	2,458	99,614	98%	2%
2021	110,120	2,206	112,326	98%	2%
2022	115,736	5,044	120,780	96%	4%
2023	133,783	6,225	140,008	96%	4%
FORECAST					
2024	150,240	7,240	157,480	95%	5%
2025	157,600	10,000	167,600	94%	6%
2026	164,800	13,200	178,000	93%	7%
2027	171,600	16,400	188,000	91%	9%
2028	178,200	17,000	195,200	91%	9%
2029	184,800	17,600	202,400	91%	9%
2030	191,600	18,000	209,600	91%	9%
2031	196,400	18,200	214,600	92%	8%
2032	201,200	18,600	219,800	92%	8%
2033	204,200	18,600	222,800	92%	8%
2034	207,200	18,800	226,000	92%	8%
2035	210,200	19,000	229,200	92%	8%
2040	225,200	19,800	245,000	92%	8%
2045	239,800	20,400	260,200	92%	8%
CAGR					
2013 – 2019	1.9%	4.8%	2.0%		
2013 – 2023	-1.6%	0.6%	-1.5%		
2019 – 2045	1.2%	3.8%	1.4%		
2023 – 2045	2.7%	5.5%	2.9%		

NOTES:
Totals may not sum due to rounding.
CAGR – Compound Annual Growth Rate

SOURCES:
Port of Portland, March 2024; Cirium Diio, April 2024 (published airline schedules); US Department of Transportation, Federal Aviation Administration, Operations Network (OPSNET), April 2024; Ricondo & Associates, Inc., April 2024.

4.2 CARGO VOLUMES AND CARGO OPERATIONS FORECASTS

4.2.1 Cargo Volumes Forecast Methodology

The COVID-19 pandemic did not impact cargo volumes and cargo airline activity in the same manner as observed with passenger airline activity. Due to the pandemic and a reduction in passenger airline operations, most all-cargo/integrator airlines experienced growth in cargo volumes during the pandemic compared to the significant decline in passenger demand. As a result, cargo activity that occurred from 2020 to 2023 was incorporated into the socioeconomic regression analysis to inform long-term cargo volume growth. **Table 22** presents the regression results in the regional forecast of cargo volumes and their CAGRs from 2023 through 2045. Cargo volume was

forecast based on regressions with acceptable correlation coefficients between socioeconomic data and cargo volumes.

Table 22 Socioeconomic Regression Analysis Outputs – Total Cargo Volumes

Socioeconomic Metric and Passenger Segment	CSA		United States	
	Implied 2023 – 2045 CAGR	R-Square	Implied 2023 – 2045 CAGR	R-Square
Population	2.2%	0.80	2.5%	0.76
Employment	1.9%	0.81	2.2%	0.77
Earnings	2.1%	0.85	2.8%	0.83
Per Capita Personal Income	1.9%	0.86	2.9%	0.85
Gross Domestic/Regional Product	2.4%	0.89	2.3%	0.80

NOTES:
CAGR – Compound Annual Growth Rate
Portland-Vancouver-Salem, OR-WA CSA – Combined Statistical Area

SOURCE:
Ricondo & Associates, Inc., April 2024.

4.2.2 Cargo Volumes and Cargo/Integrator Airline Operations Forecast Results

The Airport's cargo volumes carried by cargo/integrator airlines increased from 89 percent in 2013 to 93 percent in 2023. The cargo/integrator airline activity forecast was informed by the regional cargo volume forecasts from the socioeconomic regression analysis, as well as historical cargo volumes handled by passenger airlines relative to passenger seat capacity. **Table 23** presents the historical and forecast cargo activity (i.e., cargo volumes and cargo/integrator airline aircraft operations). Cargo volumes experienced a historical high in 2021; however, volumes decreased in 2022 and 2023 as cargo/integrator airlines experienced reduced demand for premium service during the pandemic recovery. During the forecast period, overall cargo volumes are forecast to increase from 282,733 metric tonnes in 2023 to 526,868 metric tonnes in 2045, a CAGR of 2.9 percent. Based on historical trends, the cargo/integrator airline share of total Airport cargo volumes is forecast to increase from 93 percent in 2013 to 96 percent in 2045. As a result, cargo volumes for cargo/integrator airlines are forecast to increase from 264,010 metric tonnes to 503,570 metric tonnes, a CAGR of 3.0 percent.

The forecast of cargo/integrator airline operations was based on the historical relationship between tonnage and aircraft operations. After a decrease in tonnage per operation in 2022 and 2023 due to the increase in cargo operations outpacing the increase in cargo volumes, cargo tonnage per operation was assumed to increase during the forecast period based on the historical trend. As a result, cargo/integrator airline aircraft operations are forecast to increase from 22,468 operations in 2023 to 27,440 operations in 2045, a CAGR of 0.9 percent.

Table 23 Cargo Activity Forecasts – Cargo Volume and Cargo/Integrator Airline Aircraft Operations

Year	Airport Tonnage	Cargo/Integrator Airline Tonnage	Cargo/Integrator Airline Tonnage Share	Cargo/Integrator Airline Operations
2013	198,983	176,739	89%	20,334
2014	207,350	181,478	88%	19,308
2015	215,733	188,508	87%	19,196
2016	218,258	193,601	89%	19,072
2017	236,325	209,445	89%	20,076
2018	246,866	222,575	90%	21,370
2019	287,943	265,076	92%	23,434
2020	312,713	299,277	96%	25,448
2021	345,867	329,920	95%	26,852
2022	333,116	312,883	94%	25,778
2023	282,733	264,010	93%	22,468
FORECAST				
2024	272,020	254,279	93%	21,100
2025	282,379	264,245	94%	21,400
2026	292,846	274,332	94%	21,690
2027	303,468	284,586	94%	21,970
2028	314,250	295,012	94%	22,260
2029	325,206	305,623	94%	22,550
2030	336,339	316,422	94%	22,850
2031	347,641	327,402	94%	23,140
2032	359,128	338,579	94%	23,430
2033	370,809	349,963	94%	23,730
2034	382,693	361,561	94%	24,020
2035	394,777	373,373	95%	24,320
2040	458,188	435,636	95%	25,850
2045	526,868	503,570	96%	27,440
CAGR				
2013 – 2019	6.4%	7.0%		2.4%
2013 – 2023	3.6%	4.1%		1.0%
2019 – 2045	2.4%	2.5%		0.6%
2023 – 2045	2.9%	3.0%		0.9%

NOTE:
CAGR – Compound Annual Growth Rate

SOURCES:
Port of Portland, March 2024; Ricondo & Associates, Inc., April 2024.

4.3 OTHER AIR TAXI, GENERAL AVIATION, AND MILITARY ACTIVITY FORECASTS

Other Airport operations consist of non-passenger airline and non-cargo airline air taxi aircraft operations (other air taxi), GA aircraft operations, and military aircraft operations. Together, these three categories of operations represented approximately 14 percent of total operations in 2023. Analyses of historical activity did not identify predictive relationships with the factors that are forecast to drive demand for passenger airline and all-cargo airline activity. Therefore, the forecast for other air taxi and GA operations was based on national growth rates established in the 2023 FAA Aerospace Forecast and an historical trend of the Airport's share of these operations compared to the 2023 FAA TAF for the nation. Military operations are forecast to remain constant at 2023 levels. **Table 24** presents historical and forecast combined other air taxi and GA operations and military operations. Other air taxi and GA operations are forecast to increase from 24,962 operations in 2023 to 38,580 operations in 2045, a CAGR of 2.0 percent.

4.4 AIRCRAFT OPERATIONS AND FLEET MIX

Table 25 presents the forecast of total aircraft operations at the Airport by segment (i.e., passenger airlines, cargo/integrator airlines, other air taxi, GA, military) and total operations. Total Airport operations are forecast to increase from 190,150 in 2023 to 328,930 in 2045, a CAGR of 2.5 percent. **Table 26** presents the Airport's fleet mix for 2023 and forecast of 5-, 10-, and 20-year periods.

5. Comparison with Terminal Area Forecast

Table 27 compares the Airport's aviation activity forecast of enplaned passengers with the 2023 TAF for the Airport. To properly align and compare results to the TAF, the forecast of enplaned passengers is presented in the federal fiscal year (October to September) and represents revenue-only enplaned passengers. For the 2023 to 2045 period, enplaned passengers are forecast to increase from 8.1 million in 2023 to 16.6 million 2045, a CAGR of 3.3 percent, which is slightly above the 2.9 percent CAGR for the same period in the TAF. The enplaned passenger forecast is within the variance tolerance levels specified by the FAA (within 10 percent over 5 years and within 15 percent over 10 years).

Table 28 compares the Airport's aviation activity forecast of total operations with the 2023 TAF for the Airport. As with the enplaned passenger comparison, the forecast of total operations is presented in the federal fiscal year (October to September). For the 2023 to 2045 period, total operations are forecast to increase from 190,150 operations in 2023 to 328,930 operations in 2045, a CAGR of 2.5 percent. The operations forecast is higher than the TAF throughout the forecast period; however, it is within the variance tolerance levels specified by the FAA (within 10 percent over 5 years and 15 percent over 10 years).

Exhibit 8 and **Exhibit 9** present the baseline and FAA TAF comparison information (i.e., enplaned passengers and total Airport operations) in graphical form.

Table 24 Other Air Taxi, General Aviation, and Military Operations Forecast

Year	Other Air Taxi / General Aviation	Annual Percent Change	Military	Annual Percent Change
2013	23,048	-20.5%	4,085	-10.0%
2014	25,141	9.1%	4,626	13.2%
2015	29,282	16.5%	3,495	-24.4%
2016	25,689	-12.3%	3,864	10.6%
2017	25,137	-2.1%	4,144	7.2%
2018	25,435	1.2%	3,520	-15.1%
2019	28,467	11.9%	3,877	10.1%
2020	23,409	-17.8%	2,383	-38.5%
2021	28,459	21.6%	2,990	25.5%
2022	27,282	-4.1%	2,667	-10.8%
2023	24,962	-8.5%	2,712	1.7%
FORECAST				
2024	25,520	2.2%	2,710	-0.1%
2025	26,080	2.2%	2,710	0.0%
2026	26,640	2.1%	2,710	0.0%
2027	27,220	2.2%	2,710	0.0%
2028	27,800	2.1%	2,710	0.0%
2029	28,390	2.1%	2,710	0.0%
2030	28,990	2.1%	2,710	0.0%
2031	29,580	2.0%	2,710	0.0%
2032	30,180	2.0%	2,710	0.0%
2033	30,800	2.1%	2,710	0.0%
2034	31,420	2.0%	2,710	0.0%
2035	32,040	2.0%	2,710	0.0%
2040	35,220		2,710	
2045	38,580		2,710	
CAGR				
2013 – 2019	3.6%		-0.9%	
2013 – 2023	0.8%		-4.0%	
2019 – 2045	1.1%		-1.4%	
2023 – 2045	2.0%		0.0%	

NOTE:
CAGR – Compound Annual Growth Rate

SOURCES:
Port of Portland, March 2024; US Department of Transportation, Federal Aviation Administration, *Aerospace Forecast FY 2023–2043*, April 2024; US Department of Transportation, Federal Aviation Administration, Operations Network (OPSNET), April 2024; Ricondo & Associates, Inc., April 2024.

Table 25 Total Aircraft Operations Forecast

Year	Passenger Airlines	Cargo/Integrator Airlines	Other Air Taxi / General Aviation	Military	Total	Passenger Airlines	Cargo Airlines	Other Air Taxi / General Aviation	Military
2013	162,442	20,334	23,048	4,085	209,909	77%	10%	11%	2%
2014	167,178	19,308	25,141	4,626	216,253	77%	9%	12%	2%
2015	166,048	19,196	29,282	3,495	218,021	76%	9%	13%	2%
2016	179,084	19,072	25,689	3,864	227,709	79%	8%	11%	2%
2017	179,592	20,076	25,137	4,144	228,949	78%	9%	11%	2%
2018	183,668	21,370	25,435	3,520	233,993	78%	9%	11%	2%
2019	182,606	23,434	28,467	3,877	238,384	77%	10%	12%	2%
2020	99,614	25,448	23,409	2,383	150,854	66%	17%	16%	2%
2021	112,326	26,852	28,459	2,990	170,627	66%	16%	17%	2%
2022	120,780	25,778	27,282	2,667	176,507	68%	15%	15%	2%
2023	140,008	22,468	24,962	2,712	190,150	74%	12%	13%	1%
FORECAST									
2024	157,480	21,100	25,520	2,710	206,810	76%	10%	12%	1%
2025	167,600	21,400	26,080	2,710	217,790	77%	10%	12%	1%
2026	178,000	21,690	26,640	2,710	229,040	78%	9%	12%	1%
2027	188,000	21,970	27,220	2,710	239,900	78%	9%	11%	1%
2028	195,200	22,260	27,800	2,710	247,970	79%	9%	11%	1%
2029	202,400	22,550	28,390	2,710	256,050	79%	9%	11%	1%
2030	209,600	22,850	28,990	2,710	264,150	79%	9%	11%	1%
2031	214,600	23,140	29,580	2,710	270,030	79%	9%	11%	1%
2032	219,800	23,430	30,180	2,710	276,120	80%	8%	11%	1%
2033	222,800	23,730	30,800	2,710	280,040	80%	8%	11%	1%
2034	226,000	24,020	31,420	2,710	284,150	80%	8%	11%	1%
2035	229,200	24,320	32,040	2,710	288,270	80%	8%	11%	1%
2040	245,000	25,850	35,220	2,710	308,780	79%	8%	11%	1%
2045	260,200	27,440	38,580	2,710	328,930	79%	8%	12%	1%
CAGR									
2013 – 2019	2.0%	2.4%	3.6%	-0.9%	2.1%				
2013 – 2023	-1.5%	1.0%	0.8%	-4.0%	-1.0%				
2019 – 2045	1.3%	0.6%	1.1%	-1.4%	1.2%				
2023 – 2045	2.9%	0.9%	2.0%	0.0%	2.5%				

NOTES:
Totals may not sum due to rounding.
CAGR – Compound Annual Growth Rate

SOURCES:
Port of Portland, March 2024; Cirium Diio, April 2024 (published airline schedules); US Department of Transportation, Federal Aviation Administration, Operations Network (OPSNET), April 2024; Ricondo & Associates, Inc., April 2024.

Table 26 Airport Fleet Mix

Category, Representative Aircraft & Totals	2023 Operations	2023 Share	2028 Operations	2028 Share	2033 Operations	2033 Share	2043 Operations	2043 Share
PASSENGER AIRLINES								
Pilatus PC-12	2,133	5.1%	2,190	3.9%	2,510	4.1%	2,540	4.0%
Canadair CRJ 700	0	0.0%	0	0.0%	730	1.2%	760	1.2%
Embraer 175	39,888	94.9%	53,950	96.1%	58,045	94.7%	60,250	94.8%
REGIONAL/COMMUTER TOTAL	**42,021**	**30.0%**	**56,140**	**28.8%**	**61,285**	**27.5%**	**63,550**	**25.0%**
Airbus A320/A321 & Boeing 737 Series	95,327	99.4%	135,170	99.5%	157,620	100.0%	185,566	100.0%
Boeing 757 Series	563	0.6%	720	0.5%	0	0.0%	0	0.0%
NARROWBODY TOTAL	**95,890**	**68.5%**	**135,890**	**69.6%**	**157,620**	**70.7%**	**185,566**	**73.0%**
Boeing 767 Series	18	0.8%	0	0.0%	0	0.0%	0	0.0%
Airbus A330/A350 & Boeing 777/787 Series	2,079	99.2%	3,170	100.0%	3,895	100.0%	5,084	100.0%
WIDEBODY TOTAL	**2,097**	**1.5%**	**3,170**	**1.6%**	**3,895**	**1.7%**	**5,084**	**2.0%**
PASSENGER AIRLINE TOTAL	**140,008**	**73.6%**	**195,200**	**78.7%**	**222,800**	**79.6%**	**254,200**	**79.2%**
ALL-CARGO/INTEGRATOR AIRLINES								
Turboprop	12,248	54.5%	12,350	55.5%	12,960	54.6%	13,670	51.0%
Narrowbody	1,304	5.8%	1,340	6.0%	1,550	6.5%	2,150	8.0%
Widebody	8,916	39.7%	8,570	38.5%	9,220	38.9%	10,980	41.0%
ALL-CARGO/INTEGRATOR AIRLINE TOTAL	**22,468**	**11.8%**	**22,260**	**9.0%**	**23,730**	**8.5%**	**26,800**	**8.4%**
OTHER AIR TAXI/GENERAL AVIATION AND MILITARY								
Piston	10,395	41.6%	10,870	39.1%	11,265	36.6%	11,720	31.5%
Turbine	2,085	8.4%	2,300	8.3%	2,520	8.2%	2,980	8.0%
Jet	10,465	41.9%	12,355	44.4%	14,460	46.9%	19,350	52.0%
Helicopter	2,017	8.1%	2,275	8.2%	2,555	8.3%	3,160	8.5%
OTHER AIR TAXI/GENERAL AVIATION TOTAL	**24,962**	**13.1%**	**27,800**	**11.2%**	**30,800**	**11.0%**	**37,210**	**11.6%**
Piston	48	1.8%	50	1.8%	50	1.8%	50	1.8%
Turbine	32	1.2%	30	1.1%	30	1.1%	30	1.1%
Jet	2,469	91.0%	2,470	91.1%	2,470	91.1%	2,470	91.1%
Helicopter	163	6.0%	160	5.9%	160	5.9%	160	5.9%
MILITARY TOTAL	**2,712**	**1.4%**	**2,710**	**1.1%**	**2,710**	**1.0%**	**2,710**	**0.8%**
AIRPORT TOTAL	**190,150**	**100.0%**	**247,970**	**100.0%**	**280,040**	**100.0%**	**320,920**	**100.0%**

NOTE:
Totals may not sum due to rounding.

SOURCES:
Port of Portland, March 2024; Cirium Diio, April 2024 (published airline schedules); US Department of Transportation, Federal Aviation Administration, Operations Network (OPSNET), April 2024; Ricondo & Associates, Inc., April 2024.

Table 27 Enplaned Passengers Forecast Comparison – Baseline Forecast and Federal Aviation Administration's 2023 Terminal Area Forecast

Year	Baseline	FAA TAF	Variance (Baseline vs. FAA TAF)
2013	7,481,400	7,341,588	
2019	9,821,773	9,786,535	
2023	8,133,533	7,939,500*	
FORECAST			
2024	8,723,000	8,503,819	
2025	9,350,000	9,378,149	
2026	10,008,000	9,704,849	
2027	10,649,000	9,966,547	
2028	11,139,000	10,231,749	9%
2029	11,629,000	10,487,106	
2030	12,124,000	10,745,051	
2031	12,502,000	11,010,518	
2032	12,888,000	11,277,239	
2033	13,164,000	11,540,981	14%
2034	13,444,000	11,804,524	
2035	13,724,000	12,081,856	
2036	14,008,000	12,369,650	
2037	14,293,000	12,666,945	
2038	14,579,000	12,962,947	
2039	14,870,000	13,266,589	
2040	15,161,000	13,581,278	
2041	15,454,000	13,892,603	
2042	15,750,000	14,220,831	
2043	16,048,000	14,553,363	
2044	16,346,000	14,885,652	
2045	16,648,000	15,222,676	
CAGR			
2013 – 2019	4.6%	4.6%	
2013 – 2023	0.8%	0.8%	
2019 – 2045	2.1%	1.7%	
2023 – 2045	3.3%	2.9%	

NOTES:
The FAA TAF is presented in the federal fiscal year (October 1 to September 30).
Forecasts represent revenue-only passengers.
CAGR – Compound Annual Growth Rate
FAA – Federal Aviation Administration
TAF – Terminal Area Forecast
*2023 represents actual calendar year passengers in the baseline column and a forecast value in the TAF column

SOURCES:
US Department of Transportation, Federal Aviation Administration, ***Terminal Area Forecast***, March 2024; Ricondo & Associates, Inc., April 2024.

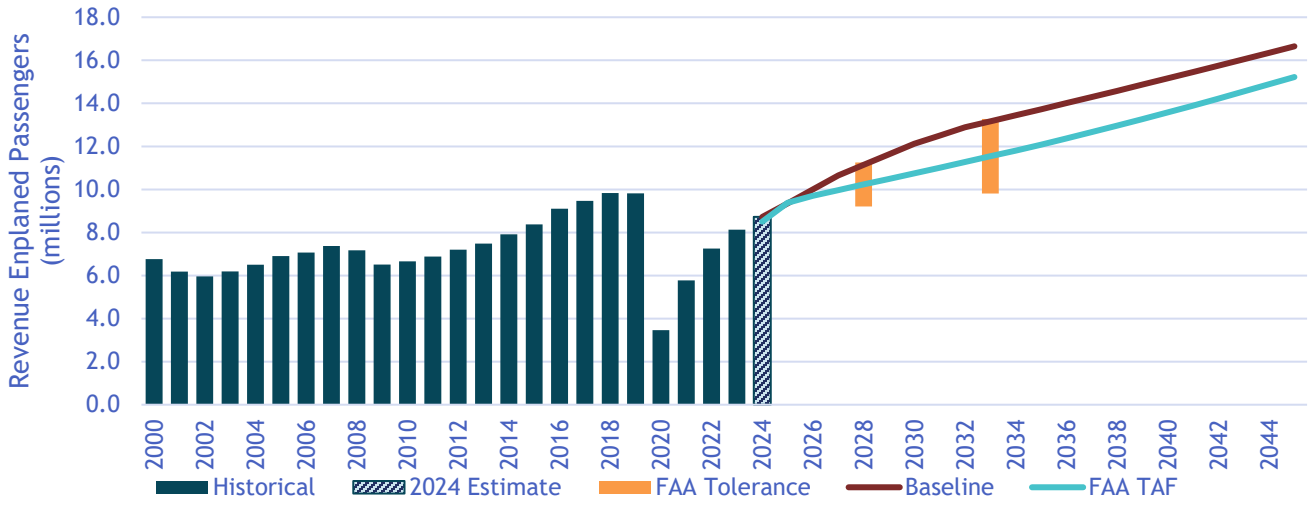
Table 28 Total Operations Forecast Comparison – Baseline Forecast and Federal Aviation Administration's 2023 Terminal Area Forecast

Year	Baseline	FAA TAF	Variance (Baseline vs. FAA TAF)
2013	209,909	208,075	
2019	238,384	237,051	
2023	190,150	184,867*	
FORECAST			
2024	206,810	198,879	
2025	217,790	218,948	
2026	229,040	225,648	
2027	239,900	231,421	
2028	247,970	236,624	5%
2029	256,050	241,287	
2030	264,150	245,989	
2031	270,030	250,759	
2032	276,120	255,537	
2033	280,040	260,244	8%
2034	284,150	264,931	
2035	288,270	269,857	
2036	292,410	274,957	
2037	296,530	280,210	
2038	300,480	285,425	
2039	304,620	290,761	
2040	308,780	296,279	
2041	312,560	301,719	
2042	316,730	307,449	
2043	320,920	313,238	
2044	324,920	319,007	
2045	328,930	324,844	
CAGR			
2013 – 2019	2.1%	2.1%	
2013 – 2023	-1.0%	-1.3%	
2019 – 2045	1.2%	1.2%	
2023 – 2045	2.5%	2.6%	

NOTES:
The FAA TAF is presented in the federal fiscal year (October 1 to September 30).
CAGR – Compound Annual Growth Rate
FAA – Federal Aviation Administration
TAF – Terminal Area Forecast
*2023 represents actual calendar year operations in the baseline column and a forecast value in the TAF column

SOURCES:
US Department of Transportation, Federal Aviation Administration, ***Terminal Area Forecast***, March 2024; Ricondo & Associates, Inc., April 2024.

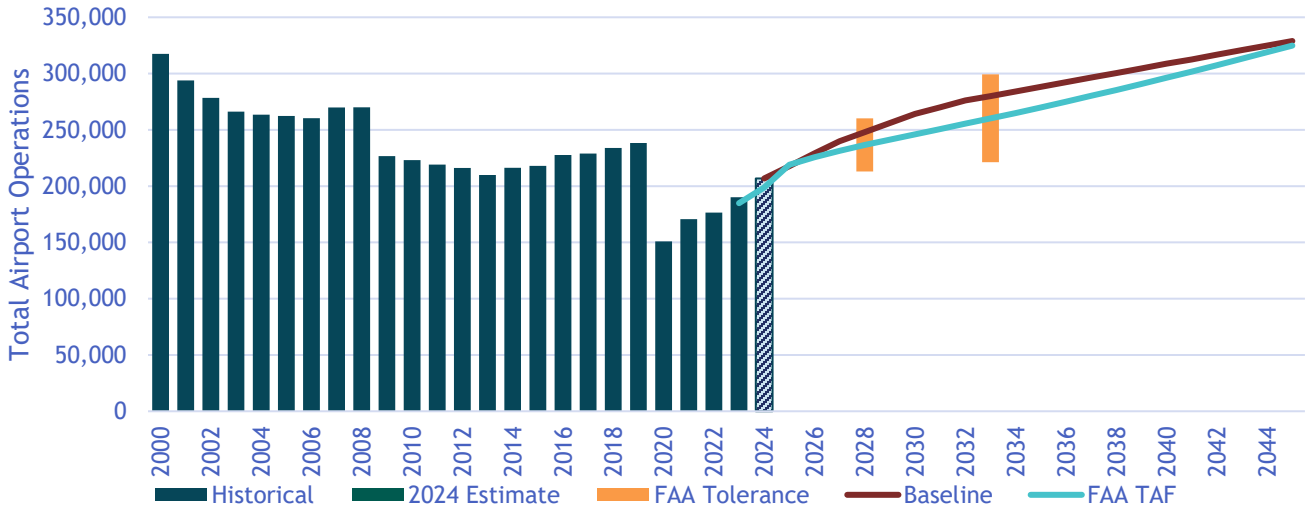
Exhibit 8 Enplaned Passengers Forecast Comparison – Baseline Forecast and Federal Aviation Administration's 2023 Terminal Area Forecast



NOTES:
The FAA TAF is presented in the federal fiscal year (October 1 to September 30).
The forecasts represent revenue-only passengers.
FAA – Federal Aviation Administration
TAF – Terminal Area Forecast

SOURCES:
US Department of Transportation, Federal Aviation Administration, ***Terminal Area Forecast***, March 2024; Ricondo & Associates, Inc., April 2024.

Exhibit 9 Total Operations Forecast Comparison – Baseline Forecast and Federal Aviation Administration's 2023 Terminal Area Forecast



NOTES:
The FAA TAF is presented in the federal fiscal year (October 1 to September 30).
FAA – Federal Aviation Administration
TAF – Terminal Area Forecast

SOURCES:
US Department of Transportation, Federal Aviation Administration, ***Terminal Area Forecast***, March 2024; Ricondo & Associates, Inc., April 2024.

U.S. Department
of Transportation
**Federal Aviation
Administration**

Northwest Mountain Region
Colorado · Idaho · Montana · Oregon · Utah
Washington · Wyoming

Seattle Airports District Office
2200 S 216th Street, Rm 1W-422
Des Moines, WA 98198

July 9, 2024

Mr. Aaron Ray
Senior Aviation Planner
Planning & Development
Port of Portland
Aaron.Ray@portofportland.com

Federal Aviation Administration (FAA)
Portland International Airport (PDX) Aviation Activity Forecast Approval
Airport Improvement Program Grant Number 3-41-0048-092-2023

The FAA Airports District Office has reviewed the aviation forecast for the Portland International Airport (PDX) Airport Master Plan dated July 18, 2024. The FAA approves these forecasts for airport planning purposes, including Airport Layout Plan (ALP) development, in addition to the existing and future critical aircraft. The FAA approval is based on the information submitted in Aviation Activity Forecast Chapter, specifically Table 27 and Table 28 of the Master Plan Update, summarized as follows:

Airport Name: Portland International Airport (PDX)

	Year	Airport Forecast	TAF	AF/TAF (% Difference)
Passenger Enplanements				
Base yr.	2023	8,133,533	7,939,500	2.4%
Base yr. + 5 yrs.	2028	11,139,000	10,231,749	8.9%
Base yr. + 10 yrs.	2033	13,164,000	11,540,981	14.1%
Base yr. + 15 yrs.	2038	14,579,000	12,962,947	12.5%
Total Operations				
Base yr.	2023	190,150	184,867	2.9%
Base yr. + 5 yrs.	2028	247,970	236,624	4.8%
Base yr. + 10 yrs.	2033	280,040	260,244	7.6%
Base yr. + 15 yrs.	2038	300,480	285,425	5.3%

Our approval is based on the following:

- The forecast is supported by reasonable planning assumptions and current data
- The forecast appears to be developed using acceptable forecasting methodologies
- The difference between the FAA Terminal Area Forecast (TAF) and the Airport's forecast for total operations is within the 10 percent and 15 percent allowance for the 5 and 10 year planning horizons.

Approval of this forecast does not automatically justify any of the capital improvements shown on the ALP or recommended in the master plan. All future projects will need to be justified by current activity levels at the time of proposed implementation. Lastly, the approved forecasts may be subject to additional analysis, or the FAA may request a sensitivity analysis if this data is to be used for environmental or Part 150 noise planning purposes.

This forecast was prepared at the same time as the evolving impacts of the COVID-19 public health emergency. Forecast approval is based on the methodology, data, and conclusions at the time the document was prepared. However, consideration of the impacts of the COVID-19 public health emergency on aviation activity is warranted to acknowledge the reduced confidence in growth projections using currently-available data.

Accordingly, FAA approval of this forecast does not constitute justification for future projects. Justification for future projects will be made based on activity levels at the time the project is requested for development. Documentation of actual activity levels meeting planning activity levels will be necessary to justify AIP funding for eligible projects.

If you have any questions about this forecast approval, please call me at (206) 231-4248.

Sincerely,
Tim House

TIMOTHY ALLEN HOUSE
Digitally signed by TIMOTHY ALLEN HOUSE
Date: 2024.08.09 17:49:02 -07'00'

Lead Planner
SEA Airports District Office