OREGON AVIATION PLAN AIRPORT SUMMARY
SOUTHWEST OREGON REGIONAL AIRPORT

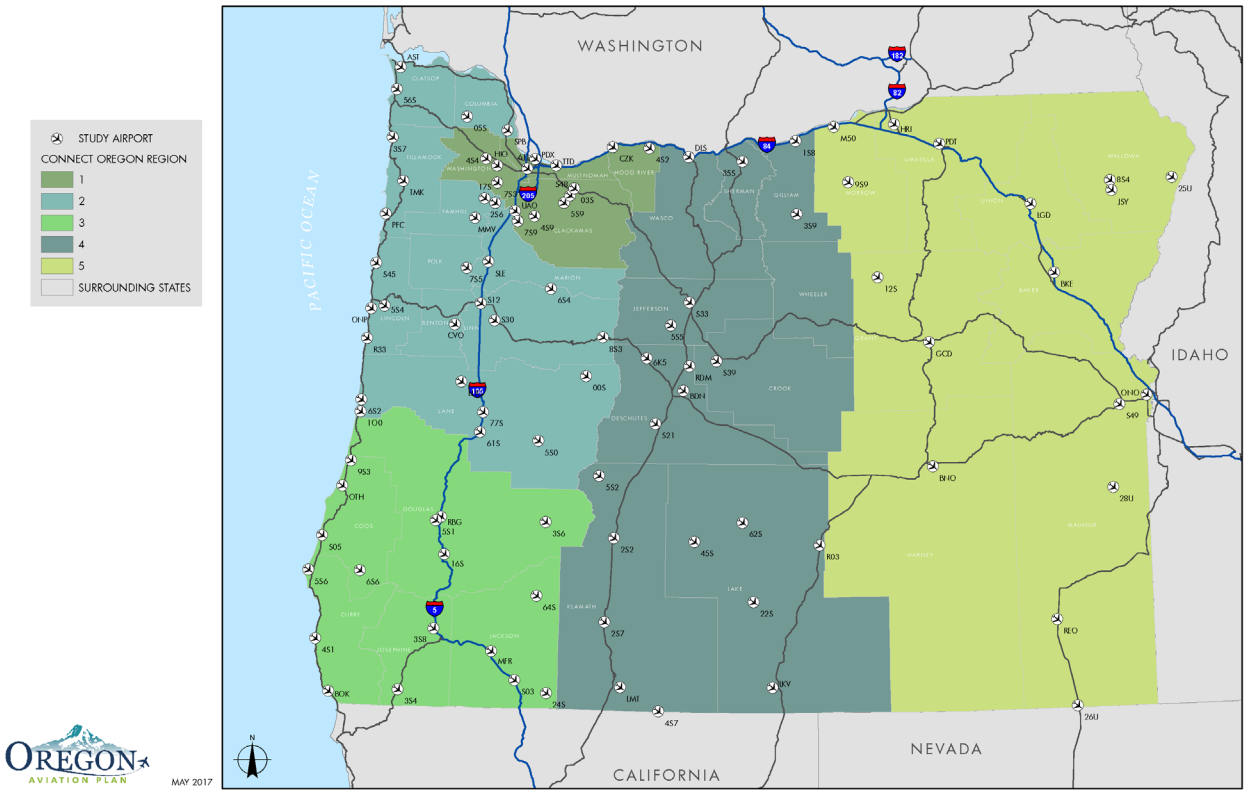
In 2018, the Oregon Department of Aviation (ODA) updated the Oregon Aviation Plan (OAP v6.0) for the state airport system which includes 95 airports, one heliport and one seaplane base. The study area was statewide and considered both commercial service and general aviation airports. Airports outside of Oregon in proximity to the state were considered as well. The study includes Southwest Oregon Regional Airport (OTH or the Airport). This section focuses on the system plan's individual findings and recommendations for this facility as well as documenting the various benefits the Airport provides in Oregon.

Aviation system plans are top down studies that must be implemented from the bottom up by individual airports. The ultimate success of the plan depends on each airport implementing recommendations from the study and following through on any identified improvement actions. Individual airport improvements will result in the enhancement of overall system performance.

Within the statewide system, the Southwest Oregon Regional Airport has been designated as a Category I – Commercial Service Airport in the 2007 OAP. Within the OAP, these airports support some level of scheduled commercial airline service in addition to supporting a full range of general aviation aircraft activities. Commercial service includes both domestic and international destinations.

From a facilities standpoint, the Southwest Oregon Regional Airport meets most of the objectives for an OAP Category I Airport. It is worth noting, however, that the Airport's own capital improvement plan and/or master plan may recommend additional projects that it will be needed over the coming 10 years. The OAP also does not identify all maintenance, rehabilitation, and replacement costs that could be incurred by the Airport during this period.

EXISTING OREGON AIRPORT SYSTEM 2018



More information on the OAP can be obtained from the ODA Aviation website at https://www.oregon.gov/aviation/pages/index.aspx. In addition to the complete Technical Report, a statewide Executive Summary was produced to support the OAP. More information on all OAP-related products can be obtained from ODA.

OREGON AIRPORT ROLES/CATEGORIES

ODA's Oregon Aviation Plan was last published in 2007. This update to the OAP re-sets the bar for future system performance by evaluating each airport's facilities and services. Since 2007, a number of Oregon airports have made progress toward meeting various performance measures. As part of this study, airport infrastructure data, aviation activity projections and population growth in each airport's environs were used to determine whether the airport should be elevated to a higher OAP Category to improve overall system accessibility and performance. The OAP v6.0 also addressed the need for airports to support resiliency efforts related to a potential Cascadia Earthquake and Tsunami Event.

Recommended categories for airports in the Oregon Aviation Plan are shown below.

OAP AIRPORT CATEGORIES
RECOMMENDED OREGON AIRPORT ROLES

Category I	**Commercial Service Airport** - These airports support some level of scheduled commercial airline service in addition to supporting a full range of general aviation aircraft activities. Commercial service includes both domestic and international destinations. Objectives call for a minimum runway length of 6,000 feet.
Category II	**Urban General Aviation Airport** - These airports support all general aviation aircraft and accommodate corporate aviation activity, including piston and turbine engine aircraft, business jets, helicopters, gliders, and other general aviation activity. The most demanding user requirements are business-related. These airports service a large/multi-state geographic region or experience high levels of general aviation activity. The minimum runway length objective for Category II airports is 5,000 feet.
Category III	**Regional General Aviation -** These airports support most twin and single-engine aircraft and may accommodate occasional business jets. These airports support regional transportation needs with a large and often sparsely populated service area. The minimum runway length objective for Category III airports is 4,000 feet.
Category IV	**Local General Aviation Airport -** These airports support primarily single-engine general aviation aircraft but are capable of accommodating smaller twin-engine general aviation aircraft. These airports support local air transportation needs and special-use aviation activities. The minimum runway length objective for Category IV airports is 3,000 feet.
Category V	**Remote Access/Emergency Services (RAES) -** These airports support primarily single-engine general aviation aircraft, special-use aviation activities, access to remote areas, or provide emergency service access. These airports should have at least 2,500 feet of runway.

Source: Jviation

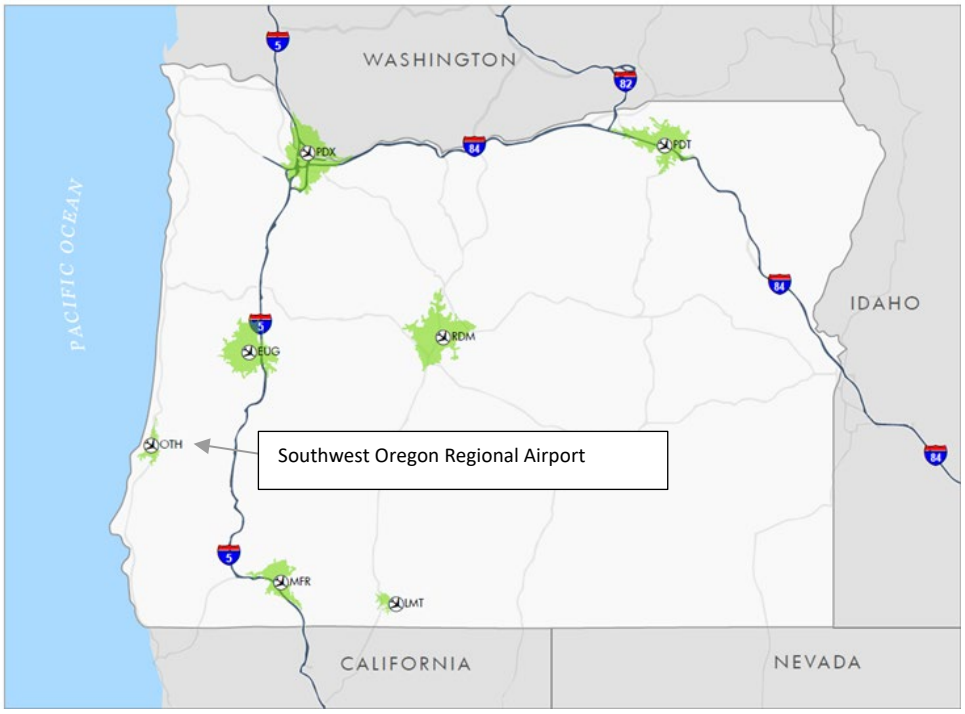
SOUTHWEST OREGON REGIONAL AIRPORT OVERVIEW

The City of North Bend is located along the coast in Southwestern Oregon, surrounded on three sides by Coos Bay. U.S. 101 (Oregon Coast Highway) provides north-south access to the area. Southwest Oregon Regional Airport is situated on 619 acres at the northern edge of the city directly adjacent to Coos Bay. The Airport is owned and operated by the Coos County Airport District. The Coos County area is best known for its beaches and the Oregon Dunes National Recreation Area. Other area attractions include Charleston Marina Complex, The Oregon Institute of Marine Biology, the Coos History Museum, and casinos. Major industries in Coos County have historically been agriculture, commercial fishing, and forestry products, while tourism is an increasing important segment the area.

The Airport is a Nonprimary Commercial Service airport serving short haul markets. Currently, commercial airline service is provided by United with service to San Francisco. In 2017, the Airport accommodated nearly 13,000 enplanements. Of the more than 18,000 total aircraft operations, nearly 6,000 were by general aviation aircraft. It is estimated that 67 percent of the general aviation activity is a result of itinerant operations. There are an estimated 56 general aviation aircraft based at Southwest Oregon Regional Airport. The Airport is a crucial asset to the region as it regularly accommodates activity by the U.S. Coast Guard, air ambulance operators, and scheduled air cargo carriers.

Located on the north side of the Airport, the primary runway (Runway 04/22) is oriented northeast southwest, is 5,980 feet long by 150 feet wide, and designed to accommodate Airport Reference Code (ARC) B-III group aircraft. Runway 04/22 is constructed of asphalt concrete, and is served by a full-length parallel taxiway (Taxiway C) located south of the runway. Located south of the primary runway, the crosswind runway (Runway 13/31) is oriented northwest/southeast, is 4,470 feet long by 150 feet wide, and is also designed to accommodate ARC B-III group aircraft. Runway 13/31 is constructed of asphalt concrete. Runway 13/31 is also served by a full-length parallel taxiway (Taxiway A) located west of the runway. Runway 04/22 lighting includes a High Intensity Runway Light (HIRL) edge lighting system, Runway End Identifier Lights (REIL) on Runway 04, a four-box Visual Approach Slope Indicator (VASI) lighting system on Runway 04, and a 1,400-foot medium-intensity approach lighting system with runway alignment indicator lights (MALSR) installed prior to the approach end of Runway 04.

30-MINUTE DRIVE TIME SERVICE AREA AND POPULATION
OAP CATEGORY I AIRPORTS



Source: Jviation

Airport roles consider the characteristics of the area the Airport serves. Analysis for the OAP was conducted using a geographic information system (GIS) and a 30-minute drive time for each airport. There are approximately 38,154 residents within a 30-minute drive of OTH and a labor force of approximately 18,984.

Southwest Oregon Regional Airport	
Population	
2016 30-minute drive	38,154
2016 Associated city	9,773
Labor force	
2016 30-minute drive	18,984

Source: US Census Bureau, Jviation Analysis, Oregon Zoomprospector.com, Oregon Population Center – Portland State University

RECOMMENDED ROLE FOR SOUTHWEST OREGON REGIONAL AIRPORT

Each airport's level generally reflects the type of aircraft and customers the airport serves as well as the characteristics of the airport's service area. Southwest Oregon Regional Airport will remain a Category I – Commercial Service Airport within the OAP.

As a Category I airport, the OAP has identified certain facilities and services that should ideally be in place. These objectives are considered the "minimums" to which the Airport should be developed. Based on local needs and other justifications, it is quite possible that the Airport could exceed its minimum development objectives established in the OAP. Southwest Oregon Regional Airport's specific objectives, as they pertain to the Airport's Category I role in the state airport system, are listed below.

OBJECTIVES FOR CATEGORY I – COMMERCIAL SERVICE MINIMUM STANDARD

Airside Facilities

- **Airport ARC:** C-II
- **NPIAS:** Yes
- **Based Aircraft:** Not an Objective
- **Runway orientation:** 95% wind coverage (combined primary/secondary rwy)
- **Runway Pavement Type:** Bituminous, Concrete
- **Runway Pavement Strength:** Varies by Airport*/Design Aircraft
- **Runway length:** Minimum 6,000 feet
- **Runway width:** 100 feet
- **Taxiway:** Full parallel
- **Lighting systems:** MIRL/HIRL/ALS
- **Approach:** Precision w/ vertical guidance
- **Visual Approach Aids:** Both Runway Ends
- **Instrument Approach Aids:** One Runway End
- **Runway Lighting:** MIRL/HIRL/ALS
- **Taxiway Lighting:** MITL/HITL
- **Fencing:** Perimeter; controlled access

General Aviation Facilities

- **Rotating Beacon:** Yes
- **Weather reporting:** AWOS or ASOS
- **Lighted Wind Indicator:** Yes
- **Hangared aircraft storage:** 75% of based aircraft fleet
- **Apron parking/storage:** 75% of Daily Transient
- **Terminal/Building:** Yes
- **Auto parking:** Moderate
- **Cargo:** Small Handling Facility w/ Apron
- **Deicing Facility:** Yes

Services

- **Fuel:** 100 LL (24-hour self-service) & Jet A
- **FBO:** Full Service (normal business hours)
- **Transportation:** Offsite Rental Car, Taxi, etc.
- **Food Service:** Coffee Shop/Deli & Cold Foods
- **Restrooms:** Yes
- **Pilot Lounge:** Yes w/ Weather Reporting Station
- **Snow Removal:** Yes
- **Telephone:** Yes

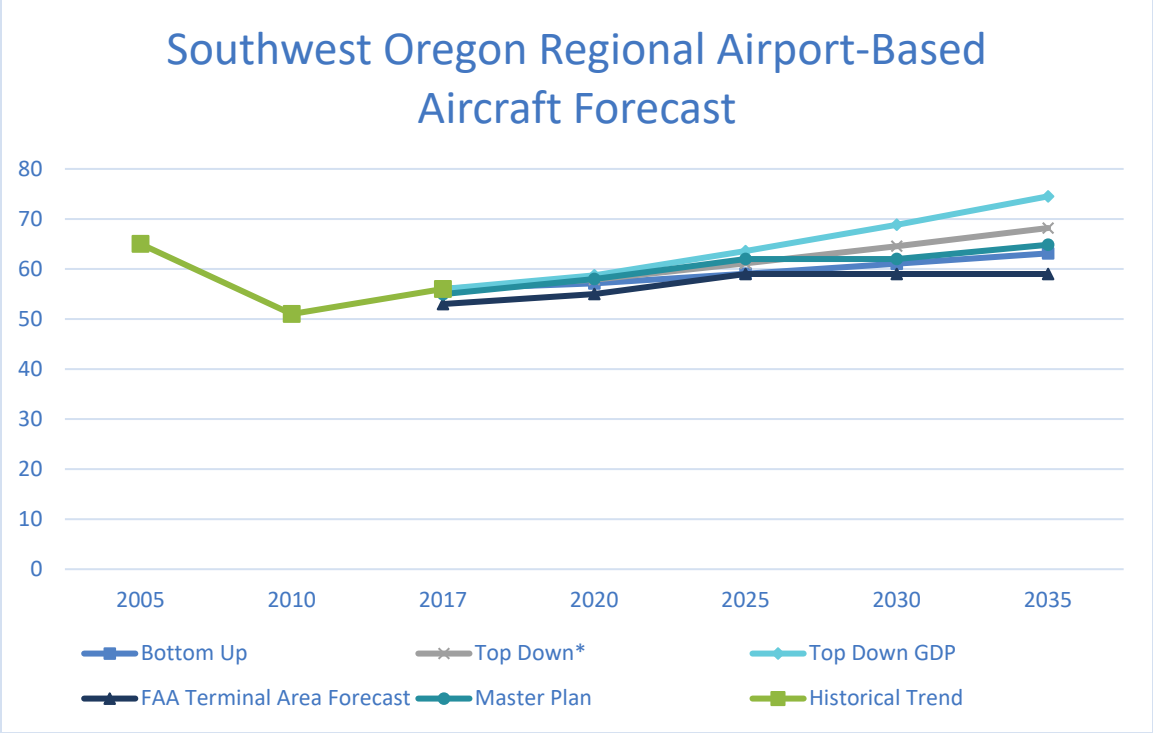
SOUTHWEST OREGON REGIONAL AIRPORT
PROJECTIONS OF GENERAL AVIATION DEMAND

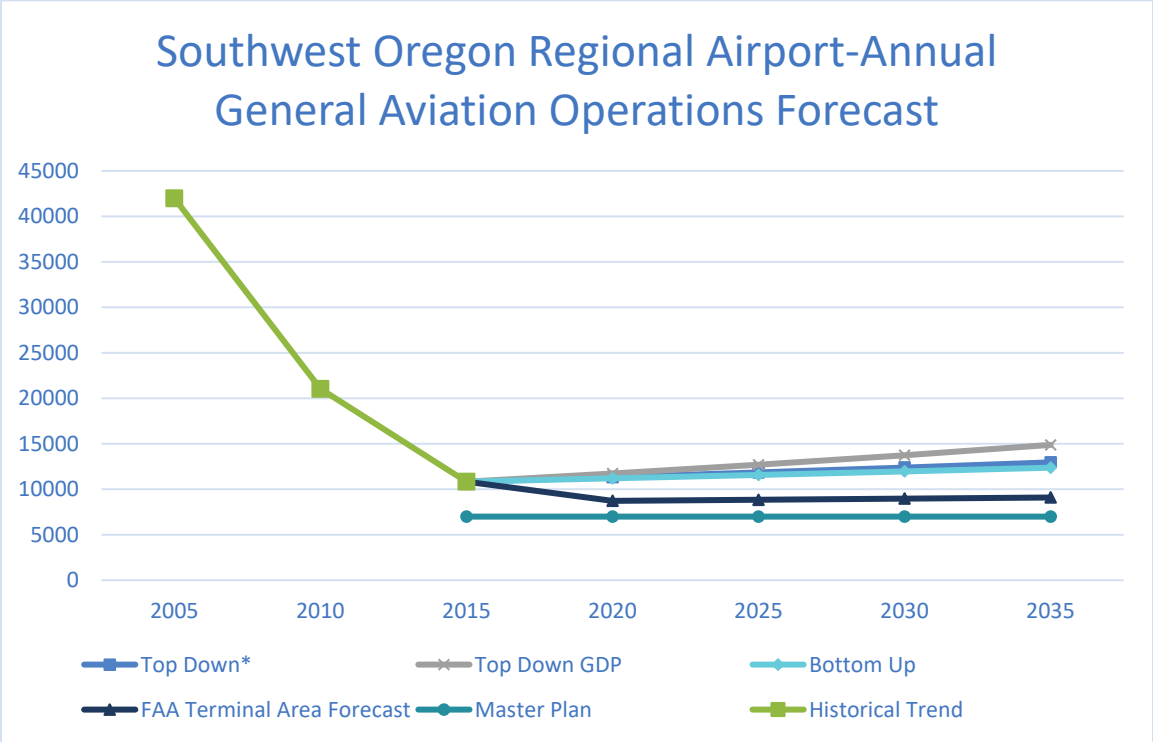
Over the past 10 years, general aviation has experienced a general decline on a nationwide basis and in Oregon. The high cost of acquiring and maintaining a general aviation aircraft, the cost to secure a private pilot's license, competing opportunities for allocation of disposable income, the economic recession, along with significant increases in the cost of aviation fuel, have all contributed to a contraction in general aviation demand.

Recent economic recovery and increased use of general aviation as a tool to improve business efficiency have helped to stabilize the general aviation industry. For most airports in Oregon, however, including Southwest Oregon Regional Airport, anticipated growth in general aviation demand will be modest at best. The two graphs below show projections of based aircraft and annual general aviation operations for OTH as they were developed in the OAP v6.0.

Three based aircraft projection methodologies were developed in this forecast. The bottom-up methodology produced an average annual growth rate of 1.0 percent and the top-down methodology based on historical Per Capita Real GDP produced the highest average annual growth rate, of the three projections, at 1.6 percent. The alternative top-down methodology utilizing FAA Terminal Area Forecast (TAF) projections for NPIAS airports in Oregon produced more moderate growth rate. Comparing the results of the forecasts indicated that the historical Per Capita Real GDP projection had the strongest growth, but was considered to be overly optimistic, since sustaining a 1.6 percent GDP growth rate over the planning period is unlikely. Therefore, the more conservative bottom-up growth rate of 1.1 percent, which is based on FAA TAF growth rates for based aircraft, was chosen as the preferred forecast. Based aircraft at OTH are projected to increase from 56 in 2017 to 68 by 2035.

The results from the three general aviation operations projection methodologies developed in this forecast are compared in the graphs below. The bottom-up methodology produced an average annual growth rate of 1.1 percent while the top-down methodology based on FAA Hours Flown projections produced an average annual growth rate of 0.9 percent. The alternative top-down methodology based on historical GDP growth produced an average annual growth rate of 1.6 percent. The bottom-up growth rate of 0.9 percent was chosen as the preferred growth rate since it is based on FAA national average growth forecasted for hours flown. Annual general aviation aircraft operations at OTH are projected to increase from 10,831 to 12,957 by 2035.





Source: FAA TAF, Jviation analysis, OTH airport master plan, *indicates preferred growth rate

SOUTHWEST OREGON REGIONAL AIRPORT ECONOMIC IMPACT UPDATE

Annual economic impacts for 97 study airports were estimated as part of ODA's economic impact research. Total annual economic impacts for the Airport are attributed to one or more of the following four economic activity centers: airport management, airport tenants, average annual capital investment, and spending by visitors who arrive on general aviation aircraft.

This study uses three primary measures to express both statewide and airport-specific annual economic impacts:

- Employment
- Annual Payroll
- Sales/Output (or total annual economic activity)

Direct Impacts - Southwest Oregon Regional Airport is owned and operated by the Coos County Airport District. Approximately 12,127 visitors arrived on commercial airlines while general aviation aircraft operations at the Airport accounted for approximately 1,998 visitors who arrived in the area. The direct employment, payroll, and sales/output impacts relate to the Airport's tenants were derived from survey data. Visitor impacts were calculated using airport-specific expenditure estimates. Construction expenditures are based on FAA Airport Improvement Records. The total combined direct output stemming from all on-airport aviation-related tenants, capital improvements, and visitor-related expenditures was estimated at $98.2 million. On-airport tenants and visitors accounted for nearly 736 direct jobs with an estimated direct payroll of $39.1 million.

SOUTHWEST OREGON REGIONAL AIRPORT

	Direct	Indirect/Induced	Total
Employment			
– **Tenant**	455.0	663.4	1118.4
– **GA Visitor**	3.1	1.3	4.4
– **CS Visitor**	262.0	109.0	371.0
– **CIP**	16.2	17.0	33.1
Employment Total	***736.3***	***790.7***	***1,527.0***
Payroll			
– **Tenant**	$29,225,000	$21,597,046	$50,822,046
– **GA Visitor**	$104,824	$82,321	$187,144
– **CS Visitor**	$8,856,108	$6,954,922	$15,811,030
– **CIP**	$883,467	$659,881	$1,543,348
Payroll Total	***$39,069,399***	***$29,294,169***	***$68,363,568***
Sales/Output			
– **Tenant**	$74,164,000	$59,673,605	$133,837,605
– **GA Visitor**	$153,644	$107,013	$260,657
– **CS Visitor**	$21,836,846	$15,995,965	$37,832,811
– **CIP**	$2,021,106	$1,601,538	$3,622,644
Sales/Output Total	***$98,175,596***	***$77,378,121***	***$175,553,717***

Source: Mead and Hunt, EDR Group, Jviation, IMPLAN econometric package

Multiplier Impacts - Direct on-airport tenant and general aviation visitor impacts also create multiplier impacts throughout Oregon. These benefits are made up of indirect and induced impacts calculated with IMPLAN multipliers. Induced impacts result from employees on the airports and in the hospitality sector off-airport spending their earnings in Oregon while indirect impacts result from on-airport businesses and hospitality sector businesses spending for goods and services in Oregon. The table above presents the Airport's direct, indirect/induced, and total economic impacts for sales/output, payroll, and employment as they relate to all on-airport tenants and all general aviation visitors.

Total Impacts - The total output (including direct and multiplier impacts) stemming from all on-airport tenants, construction, and all general aviation visitors to Southwest Oregon Regional Airport was approximately $176 million. Total full-time employment related to all tenants and general aviation visitors, including all multiplier impacts is approximately 1,527 jobs. A total annual payroll associated with these jobs is estimated at $68.4 million.

MUNICIPALITIES NEAR SOUTHWEST OREGON REGIONAL AIRPORT WITH LAND USE CONTROLS

Having land uses adjacent to airports that are compatible with aircraft operations is imperative from a safety standpoint. Airports that accept state and/or federal grants are obligated to take steps to promote compatible land use and activities in the environs of their airport. For the OAP analysis, airports and their immediate or adjacent municipalities in the environs of the airport were identified. Analysis of each airport's airspace were compared to local jurisdiction boundaries on Google Earth. If a jurisdiction was entirely or partly under the airport's airspace local zoning ordinances were reviewed. County land use ordinances related to airports and height restrictions were also analyzed.

Research was undertaken for municipalities identified during the OAP to determine if the municipalities are taking steps to promote compatible land use and protect the operating environments for airports. Municipalities near Oregon airports were investigated to determine the following key land uses controls:

- **Has the municipality adopted land use zoning controls?**
- **Does the municipality have an airport-specific overlay zone or district?**
- **Does the municipality have a land use map that shows the location of the airport?**
- **Has the municipality adopted some type of height zoning?**

The following table shows municipalities near Southwest Oregon Regional Airport and summarizes the status of land use controls for each. Municipalities and airports throughout Oregon should work together to help ensure airports are protected from incompatible land uses and from the encroachment of obstacles that pose a height hazard to safe airport operations.

LAND USE CONTROL SUMMARY FOR SOUTHWEST OREGON REGIONAL AIRPORT

Type of Control	Jurisdictions Impacting Airport	
	City of North Bend	Coos County
Airport Zone	Yes	Yes
Adopted Height Zoning Restrictions	Yes	Yes
RPZ Protection	Yes	Yes
Airport Safety Overlay Zone	Yes	Yes

Source: Angelo Planning Group, Jviation

AIRPORT REPORT CARD AND RECOMMENDATIONS

This section provides information on ODA facility/service objectives associated with a Category I airport in the OAP. The "report card" shows Southwest Oregon Regional Airport's ability to meet its objectives. If the Airport does not meet an objective, an estimated cost to enable the Airport to meet the objective was developed.

A number of deficiencies are identified as necessary for improving the Airport to meet all the facility objectives. Total costs to address OAP deficiencies are estimated at $15.2 million. The majority of the costs ($10.7 million) are related to extending the runway to 6,000 feet.

SOUTHWEST OREGON REGIONAL AIRPORT REPORT CARD

Category I Performance Criteria		OTH	Southwest Oregon Regional Airport	North Bend
Facilities	**Basic Criteria**	**Actual**	**Action Needed to Meet Criteria**	**Estimated Cost**
Airside Facilities				
FAA – ARC	C-II	C-III		
NPIAS	Yes	Yes		
Based Aircraft	Not an Objective	56		
Runway Orientation	95% wind coverage (combined primary/secondary rwy)	Yes		
Runway Length	6,000 feet	5,980	Extend 20 feet	$ 10,700,000
Runway Width	100 feet	150		$ -
Runway Pavement Type	Bituminous, Concrete	Bituminous		
Runway Pavement	Varies by Airport*/Design Aircraft	106,000		$ -
Runway Pavement PCI	65			$ -
Taxiways	Full Parallel	Full Parallel		$ -
Approach Type	Precision	Precision		$ -
Visual Approach Aids	Both Runway Ends	VASI, REIL		
Instrument Approach	One Runway End	MALSR		
Runway Lighting	MIRL/HIRL/ALS	HIRL		
Taxiway Lighting	MITL/HITL	MITL		$ -
General Facilities				
Rotating Beacon	Yes	Yes		$ -
Lighted Wind Indicator	Yes	Wind Cone, Lighted Wind		$ -
Weather Reporting	AWOS/ASOS	AWOS		$ -
Hangared Aircraft	75% of Based Aircraft	90%		$ -
Apron Parking/Storage	75% of Daily Transient	10%	Provide additional apron	$ 560,000
Terminal Building	Yes	Yes		$ -
Auto Parking Spaces	Moderate	70		$ -
Fencing	Perimeter; controlled access	Entire airport perimeter with controlled access gates		$ -
Cargo	Small Handling Facility w/ Apron	Cargo facility/building with apron		$ -
Deicing Facility	Yes	None	Provide deicing facility	$ 3,750,000
Services				
Fuel	100 LL & Jet A (24-hour self-service)	No	Provide 24 hour self-service for 100 LL	$ 200,000
FBO	Full Service (normal business hours)	Yes		
Ground Transportation	Rental Car, Taxi, or Other	Onsite rental car, Uber/taxi, courtesy car		
Food Service	Coffee Shop/Deli & Cold Foods	Yes		
Restrooms	Yes	Yes		
Pilot Lounge	Yes w/ Weather Reporting Station	Yes		
Snow Removal	Yes	No	Provide snow removal	Exempt
Telephone	Yes	Yes		
Total				**$ 15,210,000**

Source: Jviation, Century West, Marr Arnold Planning

OTHER IDENTIFIED FACILITY IMPROVEMENT COSTS

Projects identified in the deficiencies analysis from the OAP represent a portion of the total development and maintenance costs that Oregon airports could require in the near term. In order to have a better picture of total investment needs for Oregon's airport system, it is important to also consider projects identified in each airport's current Statewide Capital Improvement Program (SCIP) and in Oregon's most recent Statewide Pavement Maintenance Program (PMP).

SCIP - Current SCIPs were reviewed to provide ODA with a general understanding of what projects are already being considered on the local level that would address deficiencies noted in the OAP. A review was performed to ensure project costs were not duplicated between the OAP and current SCIP projects for each airport. Analysis of 2018 SCIP data indicates that over $20.1 million in improvements for Southwest Oregon Regional Airport are identified in the SCIP over the next five to ten years. This estimate does not include transfers or PMP funds.

ODA SCIP Improvements (OTH)	Costs
Apron Rehab	$3,250,000
ARFF Building	$5,500,000
Rehab Airfield Lighting & Signs Phase 1	$227,078
Rehab Airfield Lighting and Signs - Construction Phase 2	$2,970,000
EA- Runway 22 RSA Improvements	$500,000
Runway 22 RSA Improvements Ph 1	$5,500,000
Runway 22 RSA Improvements - Ph 2	$3,000,000
Total	**$20,947,078**

Source: ODA SCIP 2018, Jviation analysis

PMP - ODA's Pavement Maintenance Program (PMP) identifies maintenance, repair, and rehabilitation projects needed to sustain functional pavements at Oregon airports. The PMP program provides some level of pavement maintenance for all paved airports across the state. For NPIAS airports receiving federal monies, this work assists the airports in meeting their grant assurances. Since OTH is a Primary airport with AIP entitlement funding the Airport is not included in the ODA pavement management plan.

Cost Summary - The OAP v6.0 summarized the Airport's development needs over the next five to ten years. Costs to improve and maintain the Airport over that time frame consider not only projects identified by the OAP, but also projects from ODA's Pavement Maintenance Program and the Airport's own locally generated capital improvement plan reported to ODA (SCIP). These three sources indicate an estimated $36.1 million will be needed to maintain and improve the Airport over the next ten years.

As ODA's Statewide Economic Impact Study has shown, on an annual basis the Southwest Oregon Regional Airport supports an estimated $175.6 million in economic benefit. The Airport's annual economic impact far exceeds its financial need for maintenance and improvement. ODA's economic impact analysis shows the Airport is well worth the investment.

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