



8. ECONOMIC IMPACT OF OREGON AIRPORTS

This chapter provides a restructuring of the Oregon Aviation Plan (OAP V6.0) 2014 Economic Impact Statement for NPIAS¹ Airports. The 2014 analysis identified the economic contributions of 57 airports to the state of Oregon's economy. While most of the information presented in this chapter is based on the 2014 methodology and analysis, some study components were updated with 2016 activity levels. Additionally, 40 public-use non-NPIAS airports are included in this analysis, for a total of 97 study airports.

The economic contributions made by airports are generated from on-airport economic activities and off-airport spending by visiting air travelers. Visitor spending impacts benefit the hospitality industry. Economic impacts documented in this chapter also include business sectors reliant on airports for business travel and for shipping locally manufactured goods to domestic and international markets.

8.1 Statewide Economic Impacts from Airports

Annual economic impacts for 97 study airports were estimated as part of the Oregon Department of Aviation's (ODA) economic impact research. Each airport was investigated, as applicable, to identify economic impacts related to:

- Airport Tenants/Government Activity
- Spending from Visitors Arriving on Commercial Airlines
- Spending from Visitors Arriving on General Aviation Aircraft
- Investment in Capital Projects
- Economic Impact of Business Reliance on Aviation
- Economic Impact of Portland International Airport

The prior ODA 2014 study used three primary measures to express both statewide and airport specific annual economic impacts:

- Employment/Jobs
- Annual Payroll
- Total Annual Economic Activity (Sales/Output)

Economic impacts reported in the 2014 study reflected direct impacts, as well as indirect/induced impacts that result from a multiplier effect. Together, direct and indirect/induced impacts equaled total statewide and airport specific annual economic impacts. A state model specific to Oregon was used in the 2014 analysis to estimate total economic impacts.

When total impacts (direct and indirect/induced) are considered, this updated analysis shows that the 97 study airports are responsible for the following annual economic impacts:

- Total Statewide Jobs: 213,240
- Total Statewide Annual Payroll: \$10.0 billion
- Total Statewide Economic Activity: \$28.5 billion

¹ FAA National Plan of Integrated Airport System (NPIAS)



ODA’s statewide economic impact study estimated total annual economic impacts for the study airports in each of the six categories of activity shown in **Table 8-1**. The impacts reported in this table include the indirect/induced impacts, also known as multiplier or spin-off impacts. Portland International Airport (PDX) impacts are identified in their own category.

TABLE 8-1: TOTAL ANNUAL IMPACTS FROM ALL SYSTEM AIRPORTS

Categories of Activity	Direct	Indirect/Induced	Total
Tenant/Business/Government*			
Jobs	7,482	10,738	18,220
Payroll	\$447,713,996	\$366,405,338	\$814,119,334
Sales/Output	\$1,490,462,771	\$1,196,635,226	\$2,687,097,996
Commercial Service Visitors			
Jobs	3,015	1,254	4,269
Payroll	\$101,884,822	\$80,012,692	\$181,897,514
Sales/Output	\$251,221,334	\$184,025,091	\$435,246,425
General Aviation Visitors*			
Jobs	820	380	1,200
Payroll	\$25,373,971	\$22,679,265	\$48,053,236
Sales/Output	\$68,031,425	\$37,951,542	\$105,982,967
Construction Projects			
Jobs	506	531	1,036
Payroll	\$27,624,668	\$20,633,456	\$48,258,125
Sales/Output	\$59,971,302	\$47,521,685	\$107,492,987
Business Reliance on Aviation			
Jobs	23,782	47,626	71,408
Payroll	\$1,989,215,000	\$2,413,332,000	\$4,402,547,000
Sales/Output	\$8,036,636,000	\$6,325,669,000	\$14,362,305,000
Portland International Airport*			
Jobs	73,855	43,252	117,107
Payroll	\$2,088,000,000	\$2,457,000,000	\$4,545,000,000
Sales/Output			\$10,799,000,000
Total Statewide Impacts			
Jobs	109,460	103,781	213,240
Payroll	\$4,679,812,456	\$5,360,062,751	\$10,039,875,207
Sales/Output	\$9,906,322,831	\$7,791,802,543	\$17,698,125,375
Sales/Output (PDX)*			\$10,799,000,000
Sales/Output Total			\$28,497,125,375

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

* PDX, Hillsboro and Troutdale totals taken directly from Port of Portland studies. Direct and Multiplier impacts for Sales/Output not provided for PDX. Port of Astoria provided economic impacts for AST.

8.2 Background

Total economic impacts of airports are the sum of on-airport economic activities, off-airport spending by visitors who arrive by air, and economic multiplier/spin-off impacts. Aviation-dependent business impacts include the value of air cargo and air business travel to industries throughout the state, as well as related spin-off/multiplier effects associated with these two activities.

For this study the economic contributions of 57 NPIAS airports and 40 non-NPIAS airports were considered. In addition, the Port of Portland completed a separate economic impact study for PDX, and tables throughout this section separately display results from that analysis. The sum of economic impacts from the 2014 analysis and PDX accounts for the economic impacts generated by all public-use airports in Oregon. Levels of economic impact are estimated for individual airports, regions within the state, and the state as a whole.

This chapter is organized into the following sections:

1. Methodology and Sources
2. Centers of Aviation Activity
3. Connect Oregon Region Impacts

8.3 Methodology and Sources for Airport Specific Economic Impacts

Annual economic impacts of the 97 study airports were estimated for each of the following: aviation-related airport tenants, investment related to capital improvements, and visitors arriving on general aviation aircraft. Impacts related to business reliance on aviation in the state are also included. Economic impacts associated with visitors arriving on commercial airlines were estimated for Oregon's six commercial airports. Results from *The Local and Regional Economic Impacts of The Port of Portland, Fiscal Year 2015*, as they pertain to Portland International Airport, were incorporated into this analysis. The six centers of economic activity estimated in this study are described below:

- **Airport Tenants/Businesses/Government:** Economic impacts measure business activities in terms of jobs, payroll, business sales/output, and budget expenditures. With respect to airports, the study reports the economic impacts of on-airport activities; on-airport activities include those associated with airport administration and airport tenants. Some, but not all, of Oregon's 97 public airports also have businesses on-site that provide aviation-related services or support to airport customers. Examples of airport tenants include fixed base operators (FBOs), aerial applicators, aircraft maintenance providers, commercial airlines, Part 135 operators, flight schools, corporate flight departments, concessionaires, military units, avionics repair shops, and/or other similar aviation-related businesses.

Some airports also have tenants on their property that are not aviation-related. For instance, if an airport has an on-site tenant that manufactures plastic bottles, even though the business is located at the airport, the tenant is not aviation-related. Economic impacts for any non-aviation businesses located on-airport are not considered in this analysis.

- **Visitors Arriving on Scheduled Commercial Airlines:** Commercial airports have economic impacts associated with spending from visitors who arrive on commercial airlines². Data from the U.S. Department of Transportation (USDOT) supported estimates of commercial visitors for each airport. USDOT data provides estimates of residents versus visitors as a percent of each airport's total annual passenger enplanements. Commercial airline visitors have spending that helps support jobs and the payroll associated with these jobs. Surveys of visitors using Oregon's commercial airports, conducted

² Portland International Airport is not included in this analysis but is presented in a separate section of this report.

in conjunction with the 2014 study and with the help of the commercial airports, were used to determine average length of stay and visitor spending patterns. Using estimates of annual visitors, visitor spending, and stay patterns, this study estimated annual economic impacts for this activity center.

- **Visitors Arriving on General Aviation Aircraft:** Throughout the year, all Oregon airports accommodate visitors who fly to communities that the airports serve. Both commercial and general aviation airports serve visitors who arrive in general aviation planes. General aviation visitors may arrive one person at a time, or they may arrive in large groups on non-scheduled charter aircraft that are counted in the general aviation category. Some visitors to Oregon rely on general aviation travel because it enables them to shorten the duration of their trip, or to fly directly to a destination not served by scheduled commercial airline flights.

Frequently, general aviation visitors arrive and depart on the same day, limiting the amount of spending they have in the community they visit. This is often the case for business travelers using general aviation aircraft who prefer to conduct travel and business in a single-day for efficiency. General aviation visitors that stay for multiple days have a greater economic impact on Oregon's economy. Overnight visitors often have spending for hotels, meals, retail, entertainment, and local transportation; typically, the longer the visitor stays, the more money they spend. Visitor spending helps support jobs and the payroll associated with the jobs in service, hospitality, recreational, entertainment, retail, and ground transportation categories.

- **Capital Improvements:** Airports in Oregon often undertake capital improvement projects for maintenance, expansion, and/or replacement. Projects are often funded with grants from ODA, Connect Oregon, and the Federal Aviation Administration (FAA). Larger airports sometimes generate enough revenue to fund development projects without federal or state assistance. Occasionally, third-party investment is also made, especially for hangar development. Unlike the other centers of economic impact discussed in this section, economic impacts in this category (jobs, payroll associated with the jobs, and annual economic output) occur only when spending associated with the project is taking place. Once project-related spending is over, economic impacts associated with capital investment are suspended until the next round of capital expenditures are made.

Since economic impact studies reflect economic conditions that are a "snapshot in time," economic impacts for this economic activity center have the propensity to change, perhaps even dramatically, between reporting periods. Economic impacts in the Capital Improvement Plan (CIP) investment category are not on-going; and they change year-to-year, unless CIP investment is constant and at the same level each year. This is seldom the case, since the need for capital improvement projects changes annually. For this analysis, CIP expenditures for construction activity are based on a three-year average.

- **Airport-Dependent and -Reliant Impacts:** These impacts represent area businesses that are dependent on an airport for just-in-time shipping, a high degree of corporate travel, or specialized airport facilities and services such as free trade zones. These businesses would relocate or suffer substantial loss if the airport were not available. This impact is provided as an indicator of the importance of airports to area businesses.
- **Economic Impact of Portland International Airport:** The Port of Portland commissioned a separate economic impact study of Portland International Airport in 2015. This chapter displays results from PDX separately.

In this analysis, the economic impacts from commercial service and general aviation visitor spending are presented separately.

8.3.1 Measures of Economic Impact

Each of the four impact types is measured in three ways: jobs, wages, and economic output.

- Jobs represent the total number of individuals employed—not full-time equivalent positions.
- Wages are the full payroll expended for employees from the employers’ perspective, including all taxes and benefits.
- Economic Activity, otherwise known as output, represents business sales. For government or non-profit entities, output represents their annual budget. For visitors, output represents visitor spending.

8.3.2 Method to Estimate Airport Specific Economic Impacts

For this study, all economic impacts were assigned to the following categories: direct impacts, indirect/induced impacts, and total annual economic impacts. These categories are described below:

- **Direct Impacts:** All impacts measured in this study start with direct economic impacts. All direct impacts were collected from airports or airport tenants, from ODA, the FAA, USDOT, the military, aviation/aerospace employers, and/or from Oregon’s air visitors.
- **Indirect/Induced (Multiplier or Spin-off) Impacts:** When direct impacts enter state and local economies, they re-circulate or multiply, creating additional waves of economic impact. Impacts in this category are often referred to as multiplier impacts. For example, when a “direct” airport employee uses his or her payroll to buy groceries, pay for child care, or take their pet to a local veterinarian, the direct airport-related payroll is being infused into other sectors of the economy, creating “indirect/induced” economic impacts. “Indirect” impacts are most often associated with multipliers for industrial, distribution, professional services, or utility sectors of the economy. “Induced” impacts are related to employee expenditures and are most often associated with multiplier impacts in the retail and service sectors of the economy.
- **Total Economic Impacts:** For this study, total impacts are the sum of direct and indirect/induced impacts in each of the measurement categories.

8.3.3 Indirect/Induced (Multiplier) Impacts

Spin-off impacts (Indirect/induced impacts multiplier effect) are calculated considering multipliers, which are used to reflect the recycling of direct impacts through the economy. Each direct dollar spent in the economy does not disappear. Rather, it continues to move through the economy in successive rounds until it is incrementally exported from the geographic area being studied. As direct expenditures are released into the economy, they circulate among other industry sectors, creating successive waves of additional economic benefit in the form of jobs, payroll, and output/sales.

These successive rounds of spending are known as spin-off/multiplier impacts, and help to represent the full impact of each direct impact that enters the state’s economy. An example would be an airport employee spending his or her salary for housing, food, and other services, or an airport business purchasing needed supplies. Spending outside the area is considered economic leakage and is not reflected in the multiplier.

Multipliers for estimating indirect/induced impacts were derived from the IMPLAN model. The multipliers used in this analysis were developed specifically to measure economic impacts related to Oregon airports. Individual multipliers for each sector of the economy being modeled were used. Individual IMPLAN multipliers were obtained for various Industry Classifications. The Industry Classifications used for modeling on-airport impacts and visitor impacts in this analysis are depicted in **Table 8-2**.



TABLE 8-2: OREGON SPECIFIC IMPLAN MULTIPLIERS BY CATEGORY

	Jobs	Wages	Sales/Output
Airport Tenants/Government/Sponsors	2.46	1.74	1.80
Hospitality Industry	1.42	1.79	1.73
Construction Industries	2.05	1.75	1.79

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

8.4 Centers of Economic Activity: On-Airport

8.4.1 Airport Tenants/Businesses/Government: Employment

Table 8-3 identifies the total number of jobs supported by on-airport aviation-related tenants and businesses at Oregon airports. Direct jobs include those people who are engaged in the provision of on-airport aviation-related services as well as government agencies. In total, there are 7,482 direct jobs supported by the operation of Oregon’s airports. This employment estimate does not include jobs associated with on-airport non-aviation businesses.

Induced and indirect impacts are jobs that are created by multiplier effects stemming from direct jobs associated with tenants and businesses at Oregon’s airports. For example, an employee of a local fuel distributor may owe a portion of his job to an airport since the distributor sells fuel to the airport’s FBO. As a result of on-airport tenant/management activity, additional induced and indirect employment is created.

The multiplier impacts associated with the day-to-day operation of Oregon’s airports support over 10,738 jobs. When direct and indirect/induced employment is considered, Oregon’s airport tenants/airport management contributed over 18,220 jobs to Oregon’s employment base.

TABLE 8-3: OREGON ON-AIRPORT EMPLOYMENT

Airport	Employment		
	Direct	Indirect/Induced	Total
Albany Municipal	12	17	29
Alkali Lake State	0	0	0
Arlington Municipal	0	0	0
Ashland Municipal	63	92	155
Port of Astoria Regional	368	528	896
Aurora State	1,087	1,585	2,672
Baker City Municipal	13	19	32
Bandon State	5	7	12
Beaver Marsh	0	0	0
Bend Municipal Airport	350	510	860
Boardman	0	0	0
Brookings	0	0	0
Burns Municipal	13	19	32
Cape Blanco State Airport	0	0	0
Cascade Locks State Airport	0	0	0

TABLE 8-3: OREGON ON-AIRPORT EMPLOYMENT

Airport	Employment		
	Direct	Indirect/Induced	Total
Chehalem Airpark	10	15	25
Chiloquin State	0	0	0
Christmas Valley	0	0	0
Columbia Gorge/Dalles	43	63	106
Condon State	3	4	7
Corvallis Municipal	66	96	162
Cottage Grove State	6	9	15
Country Squire Airpark	1	1	1
Crescent Lake State Airport	0	0	0
Creswell Hobby Field	15	22	37
Davis Field	1	1	2
Eastern Oregon Regional Airport	16	23	39
Enterprise Municipal	4	6	10
Eugene Airport-Mahlon Sweet Field	346	504	850
Florence Municipal	0	0	0
George Felt	1	1	1
Gold Beach Municipal	2	3	5
Grant Co. Reg./Ogilvie Field	24	35	59
Grants Pass	70	102	172
Hermiston Municipal	34	50	84
Illinois Valley	1	1	2
Independence State	21	31	52
Joseph State	20	29	49
Ken Jernstedt Airfield	10	15	25
Crater Lake-Klamath Regional	987	1,439	2,426
La Grande/Union Co.	150	219	369
Lake Billy Chinook	1	1	2
Lake County	1	1	2
Lake Woahink SPB	0	0	0
Lakeside Municipal Airport	0	0	0
Lebanon State	7	10	17
Lenhardt Airpark	2	3	5
Lexington	0	0	0
Madras Municipal	15	22	37
Malin	1	1	2
McDermitt State	0	0	0
McKenzie Bridge State	0	0	0



TABLE 8-3: OREGON ON-AIRPORT EMPLOYMENT

Airport	Employment		
	Direct	Indirect/Induced	Total
McMinnville Municipal	659	961	1,620
Memaloose USFS	0	0	0
Miller Memorial Airpark	1	1	2
Monument Municipal	1	1	2
Mulino Airport	2	3	5
Myrtle Creek Municipal	0	0	0
Nehalem Bay State Airport	0	0	0
Newport Municipal	67	98	165
Oakridge State	0	0	0
Ontario Municipal	3	4	7
Owyhee Reservoir State	0	0	0
Pacific City State Airport	0	0	0
Paisley	0	0	0
Pinehurst State Airport	0	0	0
Portland Downtown Heliport	0	0	0
Portland-Hillsboro Airport	697	775	1,472
Portland-Troutdale	63	171	234
Powers Hayes Field	0	0	0
Prineville Airport	22	32	54
Prospect State	7	10	17
Redmond Municipal Airport-Roberts Field	82	120	202
Rogue Valley International	792	1,155	1,947
Rome State	0	0	0
Roseburg Regional	15	22	37
Salem McNary Field	580	846	1,426
Sandy River	3	4	7
Santiam Junction State	0	0	0
Scappoose Industrial Airpark	119	174	293
Seaside Municipal	3	4	7
Siletz Bay State	0	0	0
Silver Lake USFS	0	0	0
Sisters Eagle Air Airport	6	9	15
Skyport	1	1	1
Southwest Oregon Regional	455	663	1,118
Sportsman Airpark	46	67	113
Stark's Twin Oaks	7	10	17
Sunriver	0	0	0

TABLE 8-3: OREGON ON-AIRPORT EMPLOYMENT

Airport	Employment		
	Direct	Indirect/Induced	Total
Tillamook	79	115	194
Toketee State	0	0	0
Toledo State Airport	0	0	0
Valley View	1	1	1
Vernonia Municipal	0	0	0
Wakonda Beach State	0	0	0
Wasco State	4	6	10
Total	7,482	10,738	18,220

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

Note: Portland International Airport is not included in this table as it was not part of this survey.

8.4.2 Airport Tenants/Businesses/Government: Payroll

Table 8-4 identifies annual payroll benefits associated with on-airport activity at each of the study airports. As previously noted, this payroll includes on-airport businesses, as well as payroll supported by airport management and on-airport payroll from military units.

This study shows direct annual payroll impacts are over \$447.7 million. These direct payroll impacts ripple throughout the Oregon economy and create indirect/induced payroll impacts that are measured with the IMPLAN multipliers. The annual indirect/induced payroll impacts are almost \$366.4 million. Total direct and indirect/induced payroll impacts supported by airports are over \$814.1 million annually.

TABLE 8-4: OREGON ON-AIRPORT ACTIVITY PAYROLL

Airport	Payroll		
	Direct	Indirect/Induced	Total
Albany Municipal	\$722,000	\$533,552	\$1,255,552
Alkali Lake State	\$0	\$0	\$0
Arlington Municipal	\$0	\$0	\$0
Ashland Municipal	\$4,004,000	\$2,958,925	\$6,962,925
Port of Astoria Regional	\$22,035,104	\$18,061,793	\$40,096,897
Aurora State	\$72,268,000	\$53,405,485	\$125,673,485
Baker City Municipal	\$398,000	\$294,119	\$692,119
Bandon State	\$298,000	\$220,220	\$518,220
Beaver Marsh	\$0	\$0	\$0
Bend Municipal Airport	\$18,527,000	\$13,691,308	\$32,218,308
Boardman	\$0	\$0	\$0
Brookings	\$0	\$0	\$0
Burns Municipal	\$727,000	\$537,247	\$1,264,247
Cape Blanco State Airport	\$0	\$0	\$0



TABLE 8-4: OREGON ON-AIRPORT ACTIVITY PAYROLL

Airport	Payroll		
	Direct	Indirect/Induced	Total
Cascade Locks State Airport	\$0	\$0	\$0
Chehalem Airpark	\$494,000	\$365,062	\$859,062
Chiloquin State	\$0	\$0	\$0
Christmas Valley	\$0	\$0	\$0
Columbia Gorge/Dalles	\$2,806,000	\$2,073,612	\$4,879,612
Condon State	\$82,000	\$60,597	\$142,597
Corvallis Municipal	\$4,276,000	\$3,159,930	\$7,435,930
Cottage Grove State	\$316,000	\$233,522	\$549,522
Country Squire Airpark	\$24,700	\$18,253	\$42,953
Crescent Lake State Airport	\$0	\$0	\$0
Creswell Hobby Field	\$958,000	\$707,954	\$1,665,954
Davis Field	\$49,400	\$36,506	\$85,906
Eastern Oregon Regional Airport	\$803,000	\$593,411	\$1,396,411
Enterprise Municipal	\$197,600	\$146,025	\$343,625
Eugene Airport-Mahlon Sweet Field	\$17,855,000	\$13,194,705	\$31,049,705
Florence Municipal	\$0	\$0	\$0
George Felt	\$24,700	\$18,253	\$42,953
Gold Beach Municipal	\$105,000	\$77,594	\$182,594
Grant Co. Reg./Ogilvie Field	\$1,208,000	\$892,703	\$2,100,703
Grants Pass	\$3,721,000	\$2,749,790	\$6,470,790
Hermiston Municipal	\$833,000	\$615,580	\$1,448,580
Illinois Valley	\$45,000	\$33,225	\$78,255
Independence State	\$1,164,000	\$860,187	\$2,024,187
Joseph State	\$488,000	\$360,628	\$848,628
Ken Jernstedt Airfield	\$930,000	\$687,263	\$1,617,263
Crater Lake-Klamath Regional	\$79,522,000	\$58,766,135	\$138,288,135
La Grande/Union Co.	\$6,850,000	\$5,062,096	\$11,912,096
Lake Billy Chinook	\$49,400	\$36,506	\$85,906
Lake County	\$23,000	\$16,997	\$39,997
Lake Woahink SPB	\$0	\$0	\$0
Lakeside Municipal Airport	\$0	\$0	\$0
Lebanon State	\$430,000	\$317,767	\$747,767
Lenhardt Airpark	\$98,800	\$73,012	\$171,812
Lexington	\$0	\$0	\$0
Madras Municipal	\$647,000	\$478,128	\$1,125,128
Malin	\$49,400	\$36,506	\$85,906
McDermitt State	\$0	\$0	\$0

TABLE 8-4: OREGON ON-AIRPORT ACTIVITY PAYROLL

Airport	Payroll		
	Direct	Indirect/Induced	Total
McKenzie Bridge State	\$0	\$0	\$0
McMinnville Municipal	\$45,763,292	\$33,818,714	\$79,582,005
Memaloose USFS	\$0	\$0	\$0
Miller Memorial Airpark	\$49,400	\$36,506	\$85,906
Monument Municipal	\$49,400	\$36,506	\$85,906
Mulino Airport	\$145,000	\$107,154	\$252,154
Myrtle Creek Municipal	\$0	\$0	\$0
Nehalem Bay State Airport	\$0	\$0	\$0
Newport Municipal	\$5,433,000	\$4,014,944	\$9,447,944
Oakridge State	\$0	\$0	\$0
Ontario Municipal	\$128,000	\$94,591	\$222,591
Owyhee Reservoir State	\$0	\$0	\$0
Pacific City State Airport	\$0	\$0	\$0
Paisley	\$0	\$0	\$0
Pinehurst State Airport	\$0	\$0	\$0
Portland Downtown Heliport	\$0	\$0	\$0
Portland-Hillsboro Airport	\$33,000,000	\$50,500,000	\$83,500,000
Portland-Troutdale	\$2,900,000	\$9,800,000	\$12,700,000
Powers Hayes Field	\$0	\$0	\$0
Prineville Airport	\$793,000	\$586,021	\$1,379,021
Prospect State	\$260,000	\$192,138	\$452,138
Redmond Municipal Airport-Roberts Field	\$3,009,000	\$2,223,627	\$5,232,627
Rogue Valley International	\$30,748,000	\$22,722,531	\$53,470,531
Rome State	\$0	\$0	\$0
Roseburg Regional	\$539,000	\$398,317	\$937,317
Salem McNary Field	\$31,803,000	\$23,502,168	\$55,305,168
Sandy River	\$148,200	\$109,519	\$257,719
Santiam Junction State	\$0	\$0	\$0
Scappoose Industrial Airpark	\$13,007,000	\$9,612,071	\$22,619,071
Seaside Municipal	\$158,000	\$116,761	\$274,761
Siletz Bay State	\$0	\$0	\$0
Silver Lake USFS	\$0	\$0	\$0
Sisters Eagle Air Airport	\$296,400	\$219,037	\$515,437
Skyport	\$24,700	\$18,253	\$42,953
Southwest Oregon Regional	\$29,225,000	\$21,597,046	\$50,822,046
Sportsman Airpark	\$3,067,000	\$2,266,489	\$5,333,489
Stark's Twin Oaks	\$345,800	\$255,543	\$601,343

TABLE 8-4: OREGON ON-AIRPORT ACTIVITY PAYROLL

Airport	Payroll		
	Direct	Indirect/Induced	Total
Sunriver	\$0	\$0	\$0
Tillamook	\$3,659,000	\$2,703,972	\$6,362,972
Toketee State	\$0	\$0	\$0
Toledo State Airport	\$0	\$0	\$0
Valley View	\$24,700	\$18,253	\$42,953
Vernonia Municipal	\$0	\$0	\$0
Wakonda Beach State	\$0	\$0	\$0
Wasco State	\$109,000	\$80,550	\$189,550
Total	\$447,713,996	\$366,405,338	\$814,119,334

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

Note: Portland International Airport is not included in this table as it was not part of this survey.

8.4.3 Airport Tenants/Businesses/Government: Annual Sales/Output

Table 8-5 identifies direct, indirect/induced, and total annual sales/output for all on-airport activities. Oregon’s economy is impacted when aviation-related businesses and government entities located on each study airport spend money. For example, if a tenant purchases supplies from an aircraft parts distributor, money would be spent by the supplier for materials, labor, utilities, and rent.

Total direct annual sales/output from on-airport businesses and activities is estimated at over \$1.5 billion. Using IMPLAN multipliers, indirect/induced annual sales/output is estimated at over \$1.2 billion. When direct and indirect/induced impacts are combined, the total annual sales/output for the study airports is over \$2.7 billion.

TABLE 8-5: OREGON ON-AIRPORT ANNUAL SALES/OUTPUT

Airport	Sales/Output		
	Direct	Indirect/Induced	Total
Albany Municipal	\$2,667,000	\$2,145,913	\$4,812,913
Alkali Lake State	\$0	\$0	\$0
Arlington Municipal	\$0	\$0	\$0
Ashland Municipal	\$21,825,000	\$17,560,763	\$39,385,763
Port of Astoria Regional	\$73,449,488	\$66,429,289	\$139,878,777
Aurora State	\$282,537,000	\$227,334,035	\$509,871,035
Baker City Municipal	\$2,349,000	\$1,890,045	\$4,239,045
Bandon State	\$970,000	\$780,478	\$1,750,478
Beaver Marsh	\$0	\$0	\$0
Bend Municipal Airport	\$92,226,000	\$74,206,595	\$166,432,595
Boardman	\$0	\$0	\$0
Brookings	\$0	\$0	\$0

TABLE 8-5: OREGON ON-AIRPORT ANNUAL SALES/OUTPUT

Airport	Sales/Output		
	Direct	Indirect/Induced	Total
Burns Municipal	\$3,878,000	\$3,120,304	\$6,998,304
Cape Blanco State Airport	\$0	\$0	\$0
Cascade Locks State Airport	\$0	\$0	\$0
Chehalem Airpark	\$1,680,000	\$1,351,756	\$3,031,756
Chiloquin State	\$0	\$0	\$0
Christmas Valley	\$0	\$0	\$0
Columbia Gorge/Dalles	\$10,519,000	\$8,463,765	\$18,982,765
Condon State	\$656,000	\$527,829	\$1,183,829
Corvallis Municipal	\$16,840,000	\$13,549,748	\$30,389,748
Cottage Grove State	\$895,000	\$720,132	\$1,615,132
Country Squire Airpark	\$84,000	\$67,588	\$151,588
Crescent Lake State Airport	\$0	\$0	\$0
Creswell Hobby Field	\$3,350,000	\$2,695,466	\$6,045,466
Davis Field	\$168,000	\$135,176	\$303,176
Eastern Oregon Regional Airport	\$1,758,000	\$1,414,516	\$3,172,516
Enterprise Municipal	\$672,000	\$540,703	\$1,212,703
Eugene Airport-Mahlon Sweet Field	\$58,586,000	\$47,139,284	\$105,725,284
Florence Municipal	\$0	\$0	\$0
George Felt	\$84,000	\$67,588	\$151,588
Gold Beach Municipal	\$122,000	\$98,163	\$220,163
Grant Co. Reg./Ogilvie Field	\$1,572,000	\$1,264,858	\$2,836,858
Grants Pass	\$19,516,000	\$15,702,903	\$35,218,903
Hermiston Municipal	\$6,290,000	\$5,061,040	\$11,351,040
Illinois Valley	\$72,000	\$57,932	\$129,932
Independence State	\$4,442,000	\$3,574,108	\$8,016,108
Joseph State	\$4,341,000	\$3,492,842	\$7,833,842
Ken Jernstedt Airfield	\$3,011,000	\$2,422,701	\$5,433,701
Crater Lake-Klamath Regional	\$155,761,000	\$125,327,927	\$281,088,927
La Grande/Union Co.	\$25,945,000	\$20,875,785	\$46,820,785
Lake Billy Chinook	\$168,000	\$135,176	\$303,176
Lake County	\$90,000	\$72,416	\$162,416
Lake Woahink SPB	\$0	\$0	\$0
Lakeside Municipal Airport	\$0	\$0	\$0
Lebanon State	\$1,229,000	\$988,874	\$2,217,874
Lenhardt Airpark	\$336,000	\$270,351	\$606,351
Lexington	\$0	\$0	\$0
Madras Municipal	\$1,870,000	\$1,504,634	\$3,374,634



TABLE 8-5: OREGON ON-AIRPORT ANNUAL SALES/OUTPUT

Airport	Sales/Output		
	Direct	Indirect/Induced	Total
Malin	\$168,000	\$135,176	\$303,176
McDermitt State	\$0	\$0	\$0
McKenzie Bridge State	\$0	\$0	\$0
McMinnville Municipal	\$158,917,283	\$127,867,526	\$286,784,808
Memaloose USFS	\$0	\$0	\$0
Miller Memorial Airpark	\$168,000	\$135,176	\$303,176
Monument Municipal	\$168,000	\$135,176	\$303,176
Mulino Airport	\$532,000	\$428,056	\$960,056
Myrtle Creek Municipal	\$0	\$0	\$0
Nehalem Bay State Airport	\$0	\$0	\$0
Newport Municipal	\$8,007,000	\$6,442,567	\$14,449,567
Oakridge State	\$0	\$0	\$0
Ontario Municipal	\$0	\$0	\$0
Owyhee Reservoir State	\$0	\$0	\$0
Pacific City State Airport	\$0	\$0	\$0
Paisley	\$0	\$0	\$0
Pinehurst State Airport	\$0	\$0	\$0
Portland Downtown Heliport	\$0	\$0	\$0
Portland-Hillsboro Airport	\$61,900,000	\$45,500,000	\$107,400,000
Portland-Troutdale	\$6,600,000	\$7,000,000	\$13,600,000
Powers Hayes Field	\$0	\$0	\$0
Prineville Airport	\$3,481,000	\$2,800,871	\$6,281,871
Prospect State	\$1,511,000	\$1,215,776	\$2,726,776
Redmond Municipal Airport-Roberts Field	\$14,528,000	\$11,689,474	\$26,217,474
Rogue Valley International	\$151,844,000	\$122,176,243	\$274,020,243
Rome State	\$0	\$0	\$0
Roseburg Regional	\$3,417,000	\$2,749,376	\$6,166,376
Salem McNary Field	\$134,787,000	\$108,451,893	\$243,238,893
Sandy River	\$504,000	\$405,527	\$909,527
Santiam Junction State	\$0	\$0	\$0
Scappoose Industrial Airpark	\$39,162,000	\$31,510,406	\$70,672,406
Seaside Municipal	\$183,000	\$147,245	\$330,245
Siletz Bay State	\$0	\$0	\$0
Silver Lake USFS	\$0	\$0	\$0
Sisters Eagle Air Airport	\$1,008,000	\$811,054	\$1,819,054
Skyport	\$84,000	\$67,588	\$151,588
Southwest Oregon Regional	\$74,164,000	\$59,673,605	\$133,837,605

TABLE 8-5: OREGON ON-AIRPORT ANNUAL SALES/OUTPUT

Airport	Sales/Output		
	Direct	Indirect/Induced	Total
Sportsman Airpark	\$12,052,000	\$9,697,242	\$21,749,242
Stark's Twin Oaks	\$1,176,000	\$946,229	\$2,122,229
Sunriver	\$0	\$0	\$0
Tillamook	\$15,058,000	\$12,115,921	\$27,173,921
Toketee State	\$0	\$0	\$0
Toledo State Airport	\$0	\$0	\$0
Valley View	\$84,000	\$67,588	\$151,588
Vernonia Municipal	\$0	\$0	\$0
Wakonda Beach State	\$0	\$0	\$0
Wasco State	\$874,000	\$703,235	\$1,577,235
Total	\$1,490,462,771	\$1,203,965,818	\$2,694,428,588

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

Note: Portland International Airport is not included in this table as it was not part of this survey.

8.5 Center of Economic Activity: Commercial Service Visitors

8.5.1 Commercial Service Visitors: Employment

Visitors arriving via commercial airlines spend money, thereby supporting additional employment in Oregon’s hospitality and service sectors. **Table 8-6** identifies the number of employees in Oregon whose jobs are supported by the spending of visitors arriving on commercial airlines via Oregon’s six commercial airports. Portland International Airport visitor impacts are presented separately in Section 8.9.

TABLE 8-6: EMPLOYMENT FROM COMMERCIAL SERVICE VISITOR SPENDING

Airport	Employment		
	Direct	Indirect/Induced	Total
Eastern Oregon Regional	4	2	6
Eugene Airport-Mahlon Sweet Field	1,141	475	1,616
Crater Lake-Klamath Regional	33	14	47
Redmond Municipal Airport-Roberts Field	390	162	553
Rogue Valley International	1,184	492	1,676
Southwest Oregon Regional	262	109	371
Total	3,015	1,254	4,269

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

Note: Portland International Airport is not included in this table as it was not part of this survey.

As previously discussed, it is possible to calculate visitor spending, and subsequently, the number of jobs supported by visitors. Direct jobs supported by visitor spending are attributed to a variety of sectors; however, most of the jobs are concentrated in the hospitality industry, which includes hotel/motel, restaurant, entertainment/recreation, and retail sectors.



There are 3,015 direct jobs supported by commercial service visitor spending³. Indirect/induced impacts include those jobs that exist due to the multiplier effect. Indirect/induced impacts result in 1,254 additional jobs supported by the spending of commercial service visitors. When direct and indirect/induced visitor-related employment impacts are combined, approximately 4,269 jobs are supported by spending from visitors to Oregon who arrive via commercial airlines.

8.5.2 Commercial Service Visitors: Payroll

Table 8-7 identifies the annual payroll impact attributed to employees whose jobs are supported by spending by commercial service visitors to Oregon’s six commercial airports.

TABLE 8-7: ANNUAL PAYROLL FROM COMMERCIAL SERVICE VISITOR SPENDING

Airport	Payroll		
	Direct	Indirect/Induced	Total
Eastern Oregon Regional	\$141,255	\$110,931	\$252,187
Eugene Airport - Mahlon Sweet Field	\$38,573,347	\$30,292,611	\$68,865,958
Crater Lake-Klamath Regional	\$1,110,498	\$872,101	\$1,982,599
Redmond Municipal Airport - Roberts Field	\$13,189,238	\$10,357,838	\$23,547,076
Rogue Valley International	\$40,014,376	\$31,424,288	\$71,438,664
Southwest Oregon Regional	\$8,856,108	\$6,954,922	\$15,811,030
Total	\$101,884,822	\$80,012,692	\$181,897,514

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

Note: Portland International Airport is not included in this table as it was not part of this survey.

Direct payroll consists of wages and benefits paid to employees working at restaurants, hotels/motels, retail businesses, and other service industries that are used by commercial service visitors.

Direct annual payroll attributable to spending by commercial service visitors is estimated at nearly \$101.9 million. As employees in the service industries spend their payroll, the money continues to circulate in Oregon, generating additional employment and subsequent payroll. Annual indirect/induced payroll impacts associated with commercial service visitor spending are estimated at more than \$80.0 million. Direct and indirect/induced annual payroll impacts stemming from commercial service visitor spending in Oregon combine for a total annual payroll impact of \$181.9 million.

8.5.3 Commercial Service Visitors: Sales/Output

Table 8-8 identifies the sales/output attributed to commercial visitor spending.

TABLE 8-8: SALES/OUTPUT FROM COMMERCIAL SERVICE VISITOR SPENDING

Airport	Sales/Output		
	Direct	Indirect/Induced	Total
Eastern Oregon Regional	\$348,299	\$255,136	\$603,435
Eugene Airport-Mahlon Sweet Field	\$95,111,789	\$69,671,454	\$164,783,243
Crater Lake-Klamath Regional	\$2,738,197	\$2,005,789	\$4,743,985

³ Portland International Airport is not included in this analysis.

Airport	Sales/Output		
	Direct	Indirect/Induced	Total
Redmond Municipal Airport-Roberts Field	\$32,521,213	\$23,822,496	\$56,343,708
Rogue Valley International	\$98,664,991	\$72,274,252	\$170,939,242
Southwest Oregon Regional	\$21,836,846	\$15,995,965	\$37,832,811
Total	\$251,221,334	\$184,025,091	\$435,246,425

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

Note: Portland International Airport is not included in this table as it was not part of this survey.

Direct output is comparable to total annual commercial visitor spending in Oregon. Direct output from commercial service visitor spending is estimated at more than \$251.2 million. As the service industries re-spend this output, the spending continues to circulate resulting in indirect/induced impacts estimated at more than \$184.0 million. In total, the combined annual sales/output from commercial service visitor spending is more than \$435.2 million.

8.6 Center of Economic Activity: General Aviation Visitors

8.6.1 General Aviation Visitors: Employment

Similar to visitors arriving to Oregon on a commercial airline flight, visitors arriving on general aviation aircraft typically spend money while visiting, thereby helping to support additional economic impacts. **Table 8-9** identifies the number of Oregon jobs supported by spending from visitors using general aviation aircraft to travel to the state.

TABLE 8-9: EMPLOYMENT FROM GENERAL AVIATION VISITOR SPENDING

Airport Name	Employment		
	Direct	Indirect/Induced	Total
Albany Municipal	7.5	3.1	10.6
Alkali Lake State	0.0	0.0	0.0
Arlington Municipal	0.0	0.0	0.1
Ashland Municipal	15.4	6.4	21.9
Port of Astoria Regional	7.3	3.0	10.3
Aurora State	156.9	65.3	222.2
Baker City Municipal	6.7	2.8	9.6
Bandon State	3.2	1.3	4.5
Beaver Marsh	0.0	0.0	0.0
Bend Municipal Airport	44.4	18.5	62.9
Boardman	0.3	0.1	0.4
Brookings	8.3	3.4	11.7
Burns Municipal	2.0	0.8	2.9
Cape Blanco State Airport	0.1	0.0	0.1
Cascade Locks State Airport	0.2	0.1	0.3
Chehalem Airpark	4.7	1.9	6.6



TABLE 8-9: EMPLOYMENT FROM GENERAL AVIATION VISITOR SPENDING

Airport Name	Employment		
	Direct	Indirect/Induced	Total
Chiloquin State	0.6	0.2	0.8
Christmas Valley	0.6	0.2	0.8
Columbia Gorge/Dalles	6.2	2.6	8.7
Condon State	0.4	0.2	0.6
Corvallis Municipal	1.3	0.5	1.8
Cottage Grove State	7.9	3.3	11.2
Country Squire Airpark	0.1	0.0	0.2
Crescent Lake State Airport	0.0	0.0	0.1
Creswell Hobby Field	18.1	7.5	25.7
Davis Field	0.0	0.0	0.0
Eastern Oregon Regional Airport	3.8	1.6	5.3
Enterprise Municipal	1.4	0.6	1.9
Eugene Airport-Mahlon Sweet Field	17.2	7.2	24.4
Florence Municipal	3.2	1.4	4.6
George Felt	0.1	0.1	0.2
Gold Beach Municipal	2.0	0.8	2.8
Grant Co. Reg./Ogilvie Field	2.5	1.0	3.6
Grants Pass	14.0	5.8	19.8
Hermiston Municipal	4.4	1.8	6.3
Illinois Valley	1.2	0.5	1.7
Independence State	11.4	4.7	16.2
Joseph State	1.1	0.4	1.5
Ken Jernstedt Airfield	5.8	2.4	8.2
Crater Lake-Klamath Regional	9.4	3.9	13.4
La Grande/Union Co.	6.1	2.5	8.6
Lake Billy Chinook	0.0	0.0	0.0
Lake County	1.7	0.7	2.4
Lake Woahink SPB	0.0	0.0	0.0
Lakeside Municipal Airport	0.1	0.1	0.2
Lebanon State	3.3	1.4	4.7
Lenhardt Airpark	0.4	0.2	0.6
Lexington	0.1	0.0	0.1
Madras Municipal	1.7	0.7	2.4
Malin	0.0	0.0	0.1
McDermitt State	0.2	0.1	0.3
McKenzie Bridge State	0.0	0.0	0.0
McMinnville Municipal	19.6	8.1	27.7

TABLE 8-9: EMPLOYMENT FROM GENERAL AVIATION VISITOR SPENDING

Airport Name	Employment		
	Direct	Indirect/Induced	Total
Memaloose USFS	0.1	0.0	0.1
Miller Memorial Airpark	0.0	0.0	0.0
Monument Municipal	0.0	0.0	0.0
Mulino Airport	0.8	0.3	1.1
Myrtle Creek Municipal	1.0	0.4	1.4
Nehalem Bay State Airport	0.2	0.1	0.3
Newport Municipal	10.1	4.2	14.3
Oakridge State	0.2	0.1	0.3
Ontario Municipal	2.9	1.2	4.2
Owyhee Reservoir State	0.0	0.0	0.0
Pacific City State Airport	0.7	0.3	1.0
Paisley	0.1	0.0	0.1
Pinehurst State Airport	0.0	0.0	0.1
Portland Downtown Heliport	7.7	3.2	10.9
Portland-Hillsboro Airport	175.0	99.0	274.0
Portland-Troutdale	81.0	46.0	127.0
Powers Hayes Field	0.0	0.0	0.0
Prineville Airport	2.5	1.0	3.5
Prospect State	0.2	0.1	0.3
Redmond Municipal Airport-Roberts Field	23.5	9.8	33.2
Rogue Valley International	32.5	13.5	46.1
Rome State	0.0	0.0	0.0
Roseburg Regional	13.3	5.5	18.8
Salem McNary Field	16.5	6.9	23.4
Sandy River	0.1	0.1	0.2
Santiam Junction State	0.0	0.0	0.0
Scappoose Industrial Airpark	15.9	6.6	22.5
Seaside Municipal	1.2	0.5	1.7
Siletz Bay State	0.8	0.3	1.2
Silver Lake USFS	0.0	0.0	0.0
Sisters Eagle Air Airport	0.7	0.3	1.0
Skyport	0.0	0.0	0.0
Southwest Oregon Regional	3.1	1.3	4.4
Sportsman Airpark	3.9	1.6	5.5
Stark's Twin Oaks	12.3	5.1	17.5
Sunriver	2.9	1.2	4.2
Tillamook	6.9	2.9	9.8

TABLE 8-9: EMPLOYMENT FROM GENERAL AVIATION VISITOR SPENDING

Airport Name	Employment		
	Direct	Indirect/Induced	Total
Toketee State	0.0	0.0	0.0
Toledo State Airport	0.1	0.0	0.1
Valley View	0.2	0.1	0.2
Vernonia Municipal	0.1	0.1	0.2
Wakonda Beach State	0.3	0.1	0.5
Wasco State	0.1	0.1	0.2
Total	820	380	1,200

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

Note: Portland International Airport is not included in this table as it was not part of this survey.

As previously discussed, it is possible to calculate annual general aviation spending and subsequently, the number of jobs supported by this spending. Direct jobs associated with general aviation visitor spending are attributed to a variety of sectors; however, most of these hospitality industry jobs are concentrated in the hotel/motel, restaurant, recreational and entertainment, and retail sectors. As a result of general aviation visitor expenditures, there are over 800 direct jobs supported in Oregon. Another 373 jobs are supported as employees in the hospitality industry spend their earnings and businesses such as hotels, restaurants, and rental car companies buy goods and services. When direct and indirect/induced visitor-related employment impacts are combined, approximately 1,177 jobs are supported by spending from visitors to Oregon who arrive via general aviation aircraft.

8.6.2 General Aviation Visitor: Payroll

Table 8-10 identifies the payroll impacts attributed to spending by visitors using general aviation to reach Oregon.

TABLE 8-10: ANNUAL PAYROLL FROM GENERAL AVIATION VISITOR SPENDING

Airport	Payroll		
	Direct	Indirect/Induced	Total
Albany Municipal	\$253,137	\$198,795	\$451,931
Alkali Lake State	\$157	\$124	\$281
Arlington Municipal	\$1,291	\$1,014	\$2,304
Ashland Municipal	\$521,590	\$409,617	\$931,207
Port of Astoria Regional	\$246,551	\$193,622	\$440,173
Aurora State	\$5,303,326	\$4,164,834	\$9,468,160
Baker City Municipal	\$228,090	\$179,125	\$407,215
Bandon State	\$106,607	\$83,722	\$190,329
Beaver Marsh	\$708	\$556	\$1,265
Bend Municipal Airport	\$1,500,485	\$1,178,368	\$2,678,853
Boardman	\$9,999	\$7,852	\$17,851
Brookings	\$279,784	\$219,721	\$499,505

TABLE 8-10: ANNUAL PAYROLL FROM GENERAL AVIATION VISITOR SPENDING

Airport	Payroll		
	Direct	Indirect/Induced	Total
Burns Municipal	\$68,926	\$54,129	\$123,055
Cape Blanco State Airport	\$3,549	\$2,787	\$6,336
Cascade Locks State Airport	\$7,083	\$5,563	\$12,646
Chehalem Airpark	\$157,264	\$123,503	\$280,767
Chiloquin State	\$19,905	\$15,632	\$35,537
Christmas Valley	\$19,855	\$15,592	\$35,447
Columbia Gorge/Dalles	\$208,159	\$163,472	\$371,631
Condon State	\$15,049	\$11,818	\$26,867
Corvallis Municipal	\$43,549	\$34,200	\$77,750
Cottage Grove State	\$267,399	\$209,995	\$477,394
Country Squire Airpark	\$3,778	\$2,967	\$6,745
Crescent Lake State Airport	\$1,417	\$1,113	\$2,529
Creswell Hobby Field	\$612,592	\$481,084	\$1,093,677
Davis Field	\$0	\$0	\$0
Eastern Oregon Regional Airport	\$127,341	\$100,004	\$227,346
Enterprise Municipal	\$45,740	\$35,920	\$81,660
Eugene Airport-Mahlon Sweet Field	\$582,971	\$457,822	\$1,040,793
Florence Municipal	\$109,767	\$86,203	\$195,970
George Felt	\$4,093	\$3,214	\$7,307
Gold Beach Municipal	\$67,825	\$53,265	\$121,090
Grant Co. Reg./Ogilvie Field	\$84,747	\$66,554	\$151,300
Grants Pass	\$471,763	\$370,487	\$842,250
Hermiston Municipal	\$149,862	\$117,691	\$267,553
Illinois Valley	\$40,926	\$32,140	\$73,066
Independence State	\$385,875	\$303,037	\$688,912
Joseph State	\$36,080	\$28,334	\$64,414
Ken Jernstedt Airfield	\$195,633	\$153,635	\$349,268
Crater Lake-Klamath Regional	\$319,276	\$250,735	\$570,011
La Grande/Union Co.	\$206,122	\$161,873	\$367,995
Lake Billy Chinook	\$283	\$223	\$506
Lake County	\$56,775	\$44,587	\$101,362
Lake Woahink SPB	\$0	\$0	\$0
Lakeside Municipal Airport	\$4,102	\$3,222	\$7,324
Lebanon State	\$112,842	\$88,618	\$201,460
Lenhardt Airpark	\$14,954	\$11,743	\$26,697
Lexington	\$3,339	\$2,622	\$5,961
Madras Municipal	\$57,123	\$44,860	\$101,982



TABLE 8-10: ANNUAL PAYROLL FROM GENERAL AVIATION VISITOR SPENDING

Airport	Payroll		
	Direct	Indirect/Induced	Total
Malin	\$1,574	\$1,236	\$2,810
McDermitt State	\$7,889	\$6,196	\$14,085
McKenzie Bridge State	\$0	\$0	\$0
McMinnville Municipal	\$661,109	\$519,186	\$1,180,295
Memaloose USFS	\$2,848	\$2,236	\$5,084
Miller Memorial Airpark	\$0	\$0	\$0
Monument Municipal	\$0	\$0	\$0
Mulino Airport	\$26,130	\$20,520	\$46,650
Myrtle Creek Municipal	\$33,440	\$26,261	\$59,700
Nehalem Bay State Airport	\$7,212	\$5,664	\$12,876
Newport Municipal	\$341,112	\$267,884	\$608,995
Oakridge State	\$6,640	\$5,214	\$11,854
Ontario Municipal	\$99,204	\$77,908	\$177,112
Owyhee Reservoir State	\$0	\$0	\$0
Pacific City State Airport	\$24,583	\$19,306	\$43,889
Paisley	\$1,899	\$1,491	\$3,390
Pinehurst State Airport	\$1,480	\$1,162	\$2,642
Portland Downtown Heliport	\$260,715	\$204,746	\$465,461
Portland-Hillsboro Airport	\$4,300,000	\$5,200,000	\$9,500,000
Portland-Troutdale	\$2,000,000	\$2,500,000	\$4,500,000
Powers Hayes Field	\$0	\$0	\$0
Prineville Airport	\$83,411	\$65,505	\$148,916
Prospect State	\$6,994	\$5,492	\$12,486
Redmond Municipal Airport-Roberts Field	\$792,555	\$622,413	\$1,414,967
Rogue Valley International	\$1,099,162	\$863,199	\$1,962,362
Rome State	\$0	\$0	\$0
Roseburg Regional	\$448,539	\$352,249	\$800,789
Salem McNary Field	\$557,537	\$437,848	\$995,385
Sandy River	\$4,722	\$3,708	\$8,431
Santiam Junction State	\$0	\$0	\$0
Scappoose Industrial Airpark	\$536,646	\$421,441	\$958,087
Seaside Municipal	\$41,609	\$32,676	\$74,285
Siletz Bay State	\$27,941	\$21,943	\$49,884
Silver Lake USFS	\$79	\$62	\$141
Sisters Eagle Air Airport	\$24,807	\$19,481	\$44,288
Skyport	\$0	\$0	\$0
Southwest Oregon Regional	\$104,824	\$82,321	\$187,144

TABLE 8-10: ANNUAL PAYROLL FROM GENERAL AVIATION VISITOR SPENDING

Airport	Payroll		
	Direct	Indirect/Induced	Total
Sportsman Airpark	\$131,859	\$103,552	\$235,411
Stark's Twin Oaks	\$416,758	\$327,290	\$744,048
Sunriver	\$99,352	\$78,024	\$177,376
Tillamook	\$233,277	\$183,198	\$416,476
Toketee State	\$0	\$0	\$0
Toledo State Airport	\$3,463	\$2,720	\$6,182
Valley View	\$5,761	\$4,524	\$10,285
Vernonia Municipal	\$4,722	\$3,708	\$8,431
Wakonda Beach State	\$11,451	\$8,993	\$20,444
Wasco State	\$4,980	\$3,911	\$8,891
Total	\$24,828,600	\$26,020,972	\$50,849,572

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

*Portland International Airport is not included in this table as it was not part of this survey.

Direct payroll includes salaries paid to employees working in visitor-related businesses and other service industries that are utilized by general aviation visitors. Direct annual payroll attributable to spending by general aviation visitors is estimated at over \$24.8 million.

As employees in the visitor-related industries spend their payroll, this spending continues to circulate, generating additional employment and subsequent payroll. The indirect/induced annual payroll impact associated with general aviation visitor spending is estimated at approximately \$26.0 million. Direct and indirect/induced payroll impacts stemming from general aviation visitor spending combine for a total payroll impact of \$50.8 million.

8.6.3 General Aviation Visitor: Sales/Output

Table 8-11 identifies the output attributed to general aviation visitors using airports in Oregon. Direct annual output is comparable to all general aviation visitor expenditures at these airports. Total direct annual output from general aviation visitor spending is estimated at approximately \$66.7 million.

TABLE 8-11: SALES/OUTPUT FROM GENERAL AVIATION VISITOR SPENDING

Airport	Annual Sales/Output		
	Direct	Indirect/Induced	Total
Albany Municipal	\$624,169	\$457,217	\$1,081,386
Alkali Lake State	\$388	\$284	\$672
Arlington Municipal	\$3,183	\$2,331	\$5,514
Ashland Municipal	\$1,286,104	\$942,099	\$2,228,202
Port of Astoria Regional	\$607,929	\$445,321	\$1,053,250
Aurora State	\$13,076,615	\$9,578,905	\$22,655,520
Baker City Municipal	\$562,410	\$411,978	\$974,388



TABLE 8-11: SALES/OUTPUT FROM GENERAL AVIATION VISITOR SPENDING

Airport	Annual Sales/Output		
	Direct	Indirect/Induced	Total
Bandon State	\$262,866	\$192,555	\$455,421
Beaver Marsh	\$1,747	\$1,279	\$3,026
Bend Municipal Airport	\$3,699,804	\$2,710,187	\$6,409,990
Boardman	\$24,654	\$18,060	\$42,714
Brookings	\$689,874	\$505,348	\$1,195,221
Burns Municipal	\$169,953	\$124,494	\$294,447
Cape Blanco State Airport	\$8,750	\$6,410	\$15,160
Cascade Locks State Airport	\$17,466	\$12,794	\$30,260
Chehalem Airpark	\$387,772	\$284,051	\$671,824
Chiloquin State	\$49,080	\$35,952	\$85,032
Christmas Valley	\$48,957	\$35,862	\$84,818
Columbia Gorge/Dalles	\$513,265	\$375,978	\$889,243
Condon State	\$37,106	\$27,181	\$64,288
Corvallis Municipal	\$107,381	\$78,659	\$186,040
Cottage Grove State	\$659,335	\$482,978	\$1,142,313
Country Squire Airpark	\$9,315	\$6,823	\$16,138
Crescent Lake State Airport	\$3,493	\$2,559	\$6,052
Creswell Hobby Field	\$1,510,493	\$1,106,469	\$2,616,962
Davis Field	\$0	\$0	\$0
Eastern Oregon Regional Airport	\$313,991	\$230,005	\$543,996
Enterprise Municipal	\$112,782	\$82,615	\$195,397
Eugene Airport-Mahlon Sweet Field	\$1,437,454	\$1,052,966	\$2,490,421
Florence Municipal	\$270,657	\$198,262	\$468,919
George Felt	\$10,091	\$7,392	\$17,483
Gold Beach Municipal	\$167,239	\$122,506	\$289,746
Grant Co. Reg./Ogilvie Field	\$208,963	\$153,070	\$362,032
Grants Pass	\$1,163,245	\$852,102	\$2,015,347
Hermiston Municipal	\$369,522	\$270,683	\$640,204
Illinois Valley	\$100,912	\$73,921	\$174,833
Independence State	\$951,466	\$696,970	\$1,648,436
Joseph State	\$88,963	\$65,167	\$154,130
Ken Jernstedt Airfield	\$482,380	\$353,354	\$835,733
Crater Lake-Klamath Regional	\$787,250	\$576,678	\$1,363,929
La Grande/Union Co.	\$508,243	\$372,299	\$880,542
Lake Billy Chinook	\$699	\$512	\$1,210
Lake County	\$139,993	\$102,548	\$242,541
Lake Woahink SPB	\$0	\$0	\$0

TABLE 8-11: SALES/OUTPUT FROM GENERAL AVIATION VISITOR SPENDING

Airport	Annual Sales/Output		
	Direct	Indirect/Induced	Total
Lakeside Municipal Airport	\$10,115	\$7,409	\$17,524
Lebanon State	\$278,240	\$203,817	\$482,057
Lenhardt Airpark	\$36,872	\$27,009	\$63,881
Lexington	\$8,233	\$6,031	\$14,264
Madras Municipal	\$140,849	\$103,175	\$244,025
Malin	\$3,881	\$2,843	\$6,724
McDermitt State	\$19,453	\$14,250	\$33,703
McKenzie Bridge State	\$0	\$0	\$0
McMinnville Municipal	\$1,630,123	\$1,194,101	\$2,824,224
Memaloose USFS	\$7,022	\$5,143	\$12,165
Miller Memorial Airpark	\$0	\$0	\$0
Monument Municipal	\$0	\$0	\$0
Mulino Airport	\$64,429	\$47,195	\$111,624
Myrtle Creek Municipal	\$82,453	\$60,399	\$142,852
Nehalem Bay State Airport	\$17,783	\$13,027	\$30,810
Newport Municipal	\$841,092	\$616,118	\$1,457,211
Oakridge State	\$16,372	\$11,993	\$28,365
Ontario Municipal	\$244,612	\$179,183	\$423,795
Owyhee Reservoir State	\$0	\$0	\$0
Pacific City State Airport	\$60,616	\$44,403	\$105,019
Paisley	\$4,682	\$3,430	\$8,112
Pinehurst State Airport	\$3,648	\$2,673	\$6,321
Portland Downtown Heliport	\$642,855	\$470,905	\$1,113,760
Portland-Hillsboro Airport	\$14,300,000	\$2,400,000	\$16,700,000
Portland-Troutdale	\$6,700,000	\$1,100,000	\$7,800,000
Powers Hayes Field	\$0	\$0	\$0
Prineville Airport	\$205,671	\$150,658	\$356,329
Prospect State	\$17,245	\$12,632	\$29,877
Redmond Municipal Airport-Roberts Field	\$1,954,232	\$1,431,518	\$3,385,750
Rogue Valley International	\$2,710,247	\$1,985,315	\$4,695,561
Rome State	\$0	\$0	\$0
Roseburg Regional	\$1,105,981	\$810,155	\$1,916,136
Salem McNary Field	\$1,374,741	\$1,007,028	\$2,381,769
Sandy River	\$11,644	\$8,529	\$20,173
Santiam Junction State	\$0	\$0	\$0
Scappoose Industrial Airpark	\$1,323,228	\$969,294	\$2,292,522
Seaside Municipal	\$102,597	\$75,154	\$177,751

TABLE 8-11: SALES/OUTPUT FROM GENERAL AVIATION VISITOR SPENDING

Airport	Annual Sales/Output		
	Direct	Indirect/Induced	Total
Siletz Bay State	\$68,896	\$50,468	\$119,364
Silver Lake USFS	\$194	\$142	\$336
Sisters Eagle Air Airport	\$61,167	\$44,806	\$105,974
Skyport	\$0	\$0	\$0
Southwest Oregon Regional	\$258,468	\$189,333	\$447,801
Sportsman Airpark	\$325,129	\$238,164	\$563,294
Stark's Twin Oaks	\$1,027,616	\$752,751	\$1,780,367
Sunriver	\$244,977	\$179,451	\$424,428
Tillamook	\$575,201	\$421,347	\$996,548
Toketee State	\$0	\$0	\$0
Toledo State Airport	\$8,539	\$6,255	\$14,794
Valley View	\$14,205	\$10,406	\$24,611
Vernonia Municipal	\$11,644	\$8,529	\$20,173
Wakonda Beach State	\$28,236	\$20,684	\$48,920
Wasco State	\$12,279	\$8,995	\$21,273
Total	\$66,686,684	\$36,966,490	\$103,653,173

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

*Portland International Airport is not included in this table as it was not part of this survey.

As the service industries re-spend direct output, money continues to circulate, resulting in indirect/induced impacts. The indirect/induced impacts related to general aviation visitor output are estimated at \$37.0 million each year. The total annual output from spending by visitors arriving via general aviation visitors at Oregon's airports exceeds \$103.6 million.

8.7 Centers of Economic Activity: Capital Improvements

As mentioned in the methodology section, each year many of Oregon's airports undertake capital improvement projects such as runway rehabilitation, hangar construction, apron paving, etc. These projects employ many people not otherwise related to an airport's day-to-day operations; these jobs are in categories such as construction and engineering.

For this analysis, airport-related construction impacts for Category I - Commercial Service Airports and Category II - Urban General Aviation Airports are presented separately for each airport. Construction impacts related to the remaining Category III to V general aviation airports are presented for as a group for all remaining airports in these two role categories since nearly all general aviation airport construction activity at these airports fluctuates and relies on construction workers and engineers from outside the airport's immediate market area. Impacts in this category are based on an average of three years, 2013 to 2015, of construction spending at airports in Oregon.

8.7.1 Capital Improvements: Employment

This study's findings support the conclusion that on-airport construction projects are an important source of jobs in Oregon. Direct employment from construction activities at Oregon's airports accounts for approximately 506 jobs, of which 67% are related to Category I - Commercial Service Airports and Category II - Urban General Aviation Airports. These jobs consist of people engaged directly in the projects—construction workers, equipment operators, foremen, management, etc. Indirect/induced employment supported by on-airport construction jobs accounts for another 531 jobs. These jobs are created by the multiplier effects stemming from direct construction jobs. For example, an employee of an equipment supplier may owe part of his job to a construction company that provides runway pavement maintenance.

Table 8-12 shows that a total of 1,036 jobs are associated with airport construction projects in Oregon annually. These employment figures include the direct and indirect/induced impacts. Approximately 346 of these jobs, or 33%, are related to Category III to V - General Aviation Airports.

TABLE 8-12: EMPLOYMENT IMPACTS OF CONSTRUCTION

Airport	Employment		
	Direct	Indirect/Induced	Total
Port of Astoria Regional	15.5	16.3	31.8
Aurora State	5.7	5.9	11.6
Bend Municipal Airport	19.5	20.5	39.9
Corvallis Municipal	2.2	2.3	4.5
Eugene Airport -Mahlon Sweet Field	28.8	30.2	58.9
Crater Lake-Klamath Regional	25.6	26.9	52.4
McMinnville Municipal	22.6	23.8	46.4
Newport Municipal	23.7	24.9	48.5
Redmond Municipal Airport -Roberts Field	61.7	64.8	126.6
Rogue Valley International	107.5	112.9	220.4
Salem McNary Field	7.3	7.6	14.9
Scappoose Industrial Airpark	0.6	0.6	1.2
Southwest Oregon Regional	16.2	17.0	33.1
CIP Spending at Category I - II	336.7	353.6	690.3
CIP Spending at Category III - V	168.8	177.3	346.1
Total Impacts	505.6	530.9	1,036.5

Source: Jviation, IMPLAN econometric package

*Portland International Airport is not included in this table as it was not part of this survey.

8.7.2 Capital Improvements: Payroll

The payroll impacts attributable to construction spending at Oregon's airports are important to the state's economy as well. The findings of this study show that nearly \$27.6 million are paid in wages to construction workers directly employed by capital improvement projects at the Oregon airports. Approximately 66% of this payroll is related to Category I - Commercial Service Airports and Category II - Urban General Aviation Airports. Construction activities at the remaining Category III to V general aviation airports support \$9.2 million in annual payroll.

As shown in **Table 8-13**, a total of approximately \$48.3 payroll is paid each year to employees who are involved in on-airport capital improvement-related construction projects; this includes direct and indirect/induced impacts. Approximately \$16.1 million of this payroll is related to Category III to V general aviation airports.

TABLE 8-13: PAYROLL IMPACTS OF CONSTRUCTION

Airport	Payroll		
	Direct	Indirect/Induced	Total
Port of Astoria Regional	\$847,869	\$633,291	\$1,481,160
Aurora State	\$309,186	\$230,937	\$540,123
Bend Municipal Airport	\$1,064,511	\$795,106	\$1,859,616
Corvallis Municipal	\$119,670	\$89,384	\$209,055
Eugene Airport -Mahlon Sweet Field	\$1,571,047	\$1,173,448	\$2,744,495
Crater Lake-Klamath Regional	\$1,397,610	\$1,043,904	\$2,441,514
McMinnville Municipal	\$1,236,230	\$923,367	\$2,159,596
Newport Municipal	\$1,293,921	\$966,458	\$2,260,379
Redmond Municipal Airport -Roberts Field	\$3,372,881	\$2,519,277	\$5,892,158
Rogue Valley International	\$5,874,661	\$4,387,910	\$10,262,571
Salem McNary Field	\$397,138	\$296,631	\$693,769
Scappoose Industrial Airpark	\$31,174	\$23,285	\$54,459
Southwest Oregon Regional	\$883,467	\$659,881	\$1,543,348
CIP Spending at Category I - II	\$18,399,364	\$13,742,879	\$32,142,242
CIP Spending at Category III - V	\$9,225,305	\$6,890,578	\$16,115,882
Total Impacts	\$27,624,668	\$20,633,456	\$48,258,125

Source: Jviation, IMPLAN econometric package

*Portland International Airport is not included in this table as it was not part of this survey.

8.7.3 Capital Improvements: Sales/Output

Output is synonymous with economic activity and includes annual gross sales and capital expenditures of firms involved in on-airport construction. Average annual direct output by companies involved in providing construction services to Oregon’s airports equals about \$60.0 million. Another \$47.5 million in impacts come from multiplier output impacts, such as those stemming from the equipment supplier company in the example discussed with employment.

In all, as shown in **Table 8-14**, about \$107.5 million in output is generated each year, on average, by capital-improvement-related construction spending at Oregon’s airports. Approximately \$69.7 million of this total output is related to Category I - Commercial Service Airports and Category II - Urban General Aviation Airports.

TABLE 8-14: SALES/OUTPUT IMPACTS OF CONSTRUCTION

Airport	Direct	Indirect/Induced	Total
Port of Astoria Regional	\$1,939,667	\$1,537,006	\$3,476,672
Aurora State	\$707,323	\$560,488	\$1,267,811
Bend Municipal Airport	\$2,435,278	\$1,929,731	\$4,365,009
Corvallis Municipal	\$273,769	\$216,937	\$490,706
Eugene Airport - Mahlon Sweet Field	\$3,842,190	\$3,044,579	\$6,886,769

Airport	Direct	Indirect/Induced	Total
Crater Lake-Klamath Regional	\$3,197,307	\$2,533,569	\$5,730,876
McMinnville Municipal	\$2,828,119	\$2,241,022	\$5,069,141
Newport Municipal	\$2,960,100	\$2,345,604	\$5,305,704
Redmond Municipal Airport - Roberts Field	\$7,716,130	\$6,114,316	\$13,830,446
Rogue Valley International	\$9,965,761	\$7,896,940	\$17,862,701
Salem McNary Field	\$908,531	\$719,927	\$1,628,458
Scappoose Industrial Airpark	\$71,317	\$56,512	\$127,828
Southwest Oregon Regional	\$2,021,106	\$1,601,538	\$3,622,644
CIP Spending at Category I - II	\$38,866,599	\$30,798,169	\$69,664,767
CIP Spending at Category III - V	\$21,104,703	\$16,723,516	\$37,828,219
Total Impacts	\$59,971,302	\$47,521,685	\$107,492,987

Source: FAA AIP and ODA records, Jviation, IMPLAN econometric package
 *Portland International Airport is not included in this table as it was not part of this survey.

8.8 Centers of Economic Activity: Airport Dependent and Reliant Business

The 2014 ODA Economic Impact of Airports Study identified benefits for businesses within the state and that rely on aviation. This section summarizes the findings from the business reliance analysis.

The value that airports contribute to the state’s economy goes beyond tenant, capital spending, and visitor impacts. Aviation-dependent impacts measure the reliance that Oregon manufacturers and agricultural producers have on Oregon airports in order to deliver their products and services to domestic and international customers. Industries also rely on air travel to attend business meetings, provide on-site consulting, and deliver on-site services. Business dependency includes:

- The cost of air-carrier business travel as a proportion of total business sales revenue per industry
- The value of goods (manufactured and agricultural products) produced in the state and exported as air cargo from Oregon’s airports

These two categories of dependence combine for over \$8.0 billion in direct annual sales/output (**Table 8-15**).

The sources of data to estimate reliance and dependence on aviation in Oregon include:

- The portion of business sales by industry used to purchase air transport was estimated using US Bureau of Economic Analysis (BEA) data aggregated by IMPLAN.
- The value of Oregon-produced goods shipped by air to domestic customers (by commodity type, volume, and value) was gathered from the Freight Analysis Framework (FAF) provided by the Federal Highway Administration. This information is based on FHWA’s Commodity Flow Survey (CFS), which is published every five years. Since the FAF data does not designate the airport of origin, commodity flows were collected at the state level, converted to three-digit NAICS, and then allocated to each of the five Connect Oregon regions within the state, according to the portion of output each region contributed, relative to the state total.
- Data from the Bureau of Census International Trade Administration provided by WISER were collected for all international goods manufactured in Oregon and shipped to foreign destinations. These exports were allocated to each the five regions within Oregon according to the portion of industry output for the region when compared to the state total.



- Aviation-reliant and dependent impacts by Connect Oregon region are presented in **Table 8-16**.

Utilization of aviation services by Oregon businesses for shipping cargo and conducting air travel contribute an estimated total of \$15.5 billion to the state economy, as shown in **Table 8-15**. Aviation business reliant activity supports 76,000 jobs and \$4.7 billion in annual payroll (averaging more than \$61,600 per job).

TABLE 8-15: STATEWIDE ECONOMIC IMPACTS FROM AVIATION RELIANT AND DEPENDENT BUSINESSES

	Direct	Indirect/Induced	Total
Employment	23,782	52,202	75,984
Payroll	\$1,989,215,000	\$2,691,171,000	\$4,680,386,000
Sales/Output	\$8,036,636,000	\$7,463,624,000	\$15,500,260,000

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

Aviation reliant/dependent business airports are not necessarily associated with one system airport; therefore, impacts in this category are reported for a statewide total and are not estimated/listed for each airport. Impacts in this category are, however, provided by region within the state as an indicator of the importance of airports to area businesses.

Impacts were allocated to each region according to the percentage of output each region has, compared to the state total for each industry type. PDX is the dominant airport in facilitating business travel and air cargo movement within the state. The Portland/Metro region accounts for over 75% of the estimated value of goods shipped and aviation travel.

Aviation-reliant and aviation-dependent impacts, categorized by region, are illustrated in **Table 8-16**. Total impacts for each region related to reliant and dependent business use are based on regional multipliers from IMPLAN and do not sum to the statewide total presented in Table 8-15.

TABLE 8-16: RELIANT AND DEPENDENT BUSINESS BY CONNECT OREGON REGION

Connect Oregon Region	Direct	Indirect/Induced	Total
Employment			
Region 1-Portland Metro	15,983	39,188	55,171
Region 2-Willamette Valley & Coast	4,717	5,586	10,303
Region 3-Southwestern Oregon	1,677	1,526	3,203
Region 4-Central Oregon	1,025	1,017	2,042
Region 5-Eastern Oregon	380	309	689
Employment Total	23,782	47,626	71,408
Payroll			
Region 1-Portland Metro	\$1,537,267,000	\$2,084,491,000	\$3,621,758,000
Region 2-Willamette Valley & Coast	\$310,238,000	\$222,057,000	\$532,295,000
Region 3-Southwestern Oregon	\$69,936,000	\$56,270,000	\$126,206,000
Region 4-Central Oregon	\$54,505,000	\$39,630,000	\$94,135,000
Region 5-Eastern Oregon	\$17,269,000	\$10,884,000	\$28,153,000
Payroll Total	\$1,989,215,000	\$2,413,332,000	\$4,402,547,000
Sales/Output			
Region 1-Portland Metro	\$5,992,196,000	\$5,380,935,000	\$11,373,131,000

Connect Oregon Region	Direct	Indirect/Induced	Total
Region 2-Willamette Valley & Coast	\$1,319,304,000	\$629,692,000	\$1,948,996,000
Region 3-Southwestern Oregon	\$355,256,000	\$169,848,000	\$525,104,000
Region 4-Central Oregon	\$241,318,000	\$111,807,000	\$353,125,000
Region 5-Eastern Oregon	\$128,562,000	\$33,387,000	\$161,949,000
Sales/Output Total	\$8,036,636,000	\$6,325,669,000	\$14,362,305,000

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

8.9 Center of Economic Activity: Portland International Airport

8.9.1 Summary of Economic Impacts from Portland International Airport

The Port of Portland retained the services of Martin Associates to quantify the economic impact of the Port's seaport and airport activities in fiscal year 2015. The Port of Portland owns and operates Portland International Airport, as well as general aviation airports at Troutdale and Portland-Hillsboro. The airport impact analysis completed by the Port included the quantification of the economic impacts supported by passengers, freight, military, and general aviation activity at PDX for fiscal year 2015. **Table 8-17** presents the economic impacts of Portland International Airport, as estimated in the Port of Portland study.

8.9.2 PDX Economic Impact Methodology

For the PDX economic impact analysis, local re-spending models were developed to estimate the impact of local purchases by individuals directly employed by PDX operations, as well as economic impacts from firms providing support services to airport operations. The economic impact of air cargo terminals, shippers, and consignees using PDX to support their services was also quantified.

In the PDX study, the flow of economic impacts was measured for four separate and non-additive types of impacts. Those impact measures, as presented in the Port of Portland, study are:

- Employment impact
- Personal earnings impact
- Business revenue impact
- Tax impact

Direct jobs are those jobs held by employees of a particular firm, and these jobs are measured in terms of full-time equivalent workers (the number of jobs reported by a firm as paid employees). Direct employees were estimated from surveys of 916 firms; surveys were completed by Martin Associates.

In fiscal year 2015, passenger and air freight activity at PDX had the following reported impacts:

- 17,756 direct and induced/indirect jobs were supported for residents of the Portland area. Of the 17,756, jobs, 10,574 were direct jobs, while 5,013 jobs were induced throughout the region, supported by the purchase of goods and services by the 10,574 direct employees. An additional 2,169 indirect jobs were also supported in the local economy, as a result of \$205 million in local purchases by firms directly dependent on the airport.
- \$1.0 billion of direct and induced/indirect personal earnings and consumption expenditures were generated in the Portland area.
- Over \$4.9 billion in business revenue was supported.

- The federal government received \$309 million in airport-specific taxes.
- State and local governments received \$102 million in tax revenues.

TABLE 8-17: ECONOMIC IMPACT OF PORTLAND INTERNATIONAL AIRPORT

	Direct	Indirect/Induced	Total
On-Airport Tenants			
Employment	10,574	7,182	17,756
Payroll	\$485,000,000	\$546,000,000	\$1,031,000,000
Sales/Output			\$4,929,000,000
Visitor Impacts			
Employment	63,281	36,070	99,351
Payroll	\$1,603,000,000	\$1,911,000,000	\$3,514,000,000
Sales/Output			\$5,870,000,000
Total Impacts			
Employment	73,855	43,252	117,107
Payroll	\$2,088,000,000	\$2,457,000,000	\$4,545,000,000
Sales/Output			\$10,799,000,000

Source: The Local and Regional Economic Impacts of The Port of Portland, 2015

In addition to these airport-supported impacts, it is estimated that 99,351 direct and induced/indirect jobs were supported in the Portland area visitor industry due to expenditures by the 4.8 million visitors who arrived via PDX. The impacts from visitor spending were estimated from the results of an on-going passenger survey conducted at PDX. Domestic and international visitors to Oregon, arriving via PDX, spend about \$5.9 billion (direct, indirect, induced) on area hotels, restaurants, retail stores, and entertainment establishments. This spending in turn supported other jobs in the Portland area visitor industry; \$314 million in state and local tax revenues were generated as a result of spending from visitors arriving via PDX.

Total economic impact of PDX in 2015 was estimated at \$10.8 billion. The 117,000 total full-time equivalent employees are estimated to have a total payroll associated of \$4.5 billion.

8.10 Economic Impacts by Connect Oregon Regions

ODOT breaks the state into five regions known as Connect Oregon Regions. The table presented below shows the economic contributions of airports to each of the five regional economies within Oregon. The contribution made by an airport to a regional economy, as opposed to its contribution to the state economy, differs for two reasons:

- Regional impacts account for visitors traveling within Oregon, as well as for visitors that arrive from out-of-state. When measuring contributions to the state economy, only travelers arriving from out-of-state were counted in the analysis. For general aviation visitors, only those visitors that are true transient⁴ are included in the analysis.
- Economic multipliers (spin-off effects reflected as indirect/induced impacts) for the state are larger than regional multipliers. This is because regional analyses are limited to regional borders when accounting for multiplier effects. Transactions that cross a regional border, but that stay within

⁴ True transient visitors on general aviation aircraft are assumed to travel from a distance and make purchases off airport in the hospitality industry.

Oregon, are not counted in the analyses for regional economic impacts. These cross-regional purchases, however, are counted in the statewide context and are reflected in the total statewide economic impact estimate. For example, if a business or consumer purchases a computer one town outside a regional boundary, that purchase would be counted the state’s total annual economic impact estimate, but not in that region’s economic impact estimate. Statewide multipliers are larger than multipliers in the individual Connect Oregon Regions.

TABLE 8-18: TOTAL ANNUAL IMPACTS FROM ALL SYSTEM AIRPORTS BY REGION

Connect Oregon Region	Direct	Indirect/Induced	Total
Jobs			
Region 1-Portland Metro	91,077	83,669	174,746
Region 2-Willamette Valley and Coast	9,670	10,678	20,348
Region 3-Southwestern Oregon	4,786	4,035	8,821
Region 4-Central Oregon	3,199	2,948	6,147
Region 5-Eastern Oregon	729	598	1,327
Jobs Total	109,460	101,928	211,388
Payroll			
Region 1-Portland Metro	\$3,685,569,036	\$4,615,197,771	\$8,300,766,807
Region 2-Willamette Valley and Coast	\$577,005,331	\$389,332,093	\$966,337,424
Region 3-Southwestern Oregon	\$199,574,050	\$134,665,044	\$334,239,095
Region 4-Central Oregon	\$185,607,136	\$118,242,757	\$303,849,893
Region 5-Eastern Oregon	\$32,056,902	\$18,057,406	\$50,114,308
Payroll Total	\$4,679,812,456	\$5,275,495,070	\$9,955,307,526
Sales/Output			
Region 1-Portland Metro	\$6,134,602,910	\$5,469,598,981	\$22,403,201,891
Region 2-Willamette Valley and Coast	\$2,231,905,038	\$1,226,994,382	\$3,458,899,420
Region 3-Southwestern Oregon	\$773,367,883	\$433,422,998	\$1,206,790,880
Region 4-Central Oregon	\$583,408,962	\$303,209,431	\$886,618,393
Region 5-Eastern Oregon	\$183,038,039	\$58,129,241	\$241,167,279
Sales/Output Total	\$9,906,322,831	\$7,491,355,032	\$28,196,677,863

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

*PDX totals taken directly from Port of Portland study. Direct and Multiplier impacts for Sales/Output not provided for PDX



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