Economic Impact Analysis

The 2014 Update focuses on the Economic Impact Study that was completed as part of the Oregon Aviation Plan 2007. The Economic Impact Study Update (Update) was conducted to determine the value of the Oregon Aviation System. The Update includes fifty-seven Oregon airports listed in the National Plan of Integrated Airport Systems (NPAIS). The economic impact analysis of airports in Oregon was developed for each airport, measuring economic impacts of airport facilities, within regions and throughout the state. This study used the five regions of *ConnectOregon* to measure local/regional economic impacts of airports and for dependent non-aviation businesses.

Total economic impacts are the sum of on-airport economic activities, off-airport spending by visitors who arrive by air, and spin-off impacts (multiplier effect). Airport impacts are provided by region and state to show the contribution of each airport to the regional and state economies. In addition, aviation dependent impacts are provided by region to show the importance of airports in each region to non-aviation businesses. All impacts reported represent a base year of 2012. Each type of impact is defined in the following paragraphs.

On-Airport direct impacts represent economic activities that occur on airport grounds. Aviation related activities are those that would not occur without the airport, such as airlines, fixed base operators (FBO), government, and other tenants located at the airport or directly dependent on the airport. This category also includes airport management and other individuals employed directly by the airport, as well as retail and service operations for passengers, pilots, and other airport employees. In some cases, airports provide land or building space for companies that are not affiliated with aviation. These tenants are not related to the aviation mission of the airport, but are using the facility as a convenient and affordable business or industrial parks.

Off-Airport visitor spending (Direct Impacts) are expenditures made by air travelers who are visiting from outside the region, and occurs off the airport, in the regional economy. Visitor spending includes lodging, food, entertainment, retail purchases and ground transportation (retail purchases and on-airport car rentals are captured by on-airport impacts). Visitor spending is analyzed for commercial passengers as well as for general aviation pilots and passengers. Visitors flying into Oregon from another state or nation contribute to the airport's regional economy as well as to the state. However, passengers flying within Oregon, from one region to another, contribute to the region of their destination airport, but are not bringing additional money into Oregon. Therefore, in regions with air carrier airports, the direct impact of visitor spending for the region is higher than the impact of visitor spending for the state.

Airport dependent impacts represent area businesses that are dependent on an airport for incoming and outgoing, and for business travel. These businesses may relocate or suffer substantial loss if the airport were not available. This impact is not included in traditional economic impact methodology and is analyzed and reported by region for this study. Thus the economic dependence of a region on aviation represents the cumulative impacts of all airports within a region. The analysis is provided as an indicator of the importance of airports to regional economies.

Spin-off impacts (Multiplier Affect) are calculated using impact multipliers, which are used to reflect the recycling of dollars through both the regional and state economy. A dollar spent in the economy does not disappear; rather, it continues to move through the local economy in successive rounds until it is incrementally exported from the community. As the expenditures described above 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 (expenditures). These successive rounds of spending are known as spin-off impacts, and help to represent the full impact of each dollar spent in a region. An example would be an airport employee spending his or her salary for housing, food, and other services. Spending occurring outside the area is considered economic leakage and is not reflected in the multiplier. Spin-off impacts are often reported as indirect and induced impacts. Indirect impacts reflect the purchase of goods and services by businesses. Induced impacts reflect worker making consumer purchases.

The project team analyzed the economic contributions of 57 airports under the jurisdiction of the Oregon Department of Aviation (ODA) that are part of the NPIAS. The Port of Portland commissioned a separate economic impact study of Portland International Airport which is included by reference. The sum of economic impacts derived from the 2012 Update and the 2011 Port of Portland study account for economic impacts generated by the NPIAS airports in Oregon.

Contribution of Airports to the Economy of Oregon

As shown in **Table 1**, NPIAS airports in Oregon contributed a total economic impact of $9.1 billion to the state economy, including $3.6 billion from NPIAS airports and $5.5 billion from Portland International Airport.

Additional study highlights include:

- Oregon's NPIAS airports (excluding PDX), including airport tenants, directly employ 7,700 people for aviation related activities and expend $495 million in wages. PDX supports an additional 16,300 jobs and $922 million in wages.
- Oregon's NPIAS airports' (excluding PDX) employees and tenants earned an average annual salary $64,500 per year for aviation activities, including jobs related to administrating and maintaining airport facilities, servicing air carriers and GA aircraft, and providing terminal services to passengers, as well as to air crews and other employees.
- 5,000 jobs across the state are directly attributed to visitor spending at Oregon's NPIAS airports (excluding PDX).
- Air cargo and business travel services directly contribute $8 billion to the state economy by enabling long distance business sales of goods and services produced in Oregon. The value of instate productivity supported by aviation supports more than 23,700 jobs to State residents.

Table 1 2012 Economic Contribution of Airports to the Oregon Economy

	Jobs	Wages	Business Sales
Direct Effects of ODA On-Airport Aviation Activities and Visitor Spending			
On-Airport, including aviation-related tenants	7,677	$494,920,000	$1,680,058,000
Off-Airport: visitor spending	4,938	$102,187,000	$342,540,000
Subtotal of Direct Effects From ODA Airports	12,615	$597,107,000	$2,022,598,000
ODA Spin-off Effects of Supplier and Income Re-spending			
Due to On-Airport Aviation	11,193	$365,742,000	$1,351,803,000
Due to Visitor Spending	2,054	$80,250,000	$250,918,000
Subtotal of Spin-off Effects	13,247	$445,992,000	$1,602,721,000
Total ODA Airport Aviation Related Impacts	25,862	$1,043,099,000	$3,625,319,000
Portland International Airport Totals			
Airport Generated	16,308	$922,000,000	$3,725,000,000
Visitor Generated	35,963	$1,020,400,000	$1,752,700,000
Total Impact Portland International Airport	52,271	$1,942,500,000	$5,477,700,000
Grand Total – NPIAS Airports	**76,711**	**$2,811,790,000**	**$8,721,948,000**

Source: Airport and Tenant Surveys, EDR Group and Mead & Hunt Analyses, IMPLAN econometric package.
Note: Numbers may not add due to rounding.

Comparisons of 2007 and 2012 Studies

The 2007 and 2012 studies bracketed the severe national downturn that began in late 2008, and for which the effects are still being felt in states and communities across the United States. From 2007-2012 the Oregon gross state product increased in real terms by 15% but worker earnings fell by 2% and the number of jobs fell by 3%. Together, these data indicate that productivity per job of Oregon workers has increased, meaning on average it takes more economic activity to create a job and generate wages to those who are working.

Significant economic changes are also seen in air cargo. The International Trade Administration of the U.S. Census Bureau traces annual value and metric tonnage of international air exports from point of origin as well as by airport. (Unfortunately, no such data set is available for domestic cargo shipments.) Tonnage has decreased by 27% for goods produced in Oregon and shipped from Oregon airports (primarily Portland International Airport), while the value of Oregon generated goods has increased by 63% in constant value. Thus, less production is needed to sustain overall value across commodities. For domestic cargo shipments, PDX reported 127,890 tons enplaned in 2007 and 91,480 tons in 2012, a decrease of 28%.

The scopes of the 2007 and 2012 studies have two major differences. The first difference is in the airports that are covered by the two studies. The 2007 study encompassed all 93 public use airports in the state of Oregon, other than those operated by the Port of Portland. In contrast the 2012 study is limited to 56 NPIAS airports (National Plan for Integrated Air Service; NPIAS designation is by the Federal Aviation Administration). Three airports, Wasco State Airport, Hillsboro Airport and Troutdale airport are part of the 2012 study but were not included in the 2007 effort. Thus, 53 airports are in common in the two studies.

The second difference is that on-airport impacts counted in the 2007 studies included both aviation related and non-aviation related tenants, although these were separated when impacts were reported. The 2012 study is limited to aviation related tenants. A comparison of the 2007 and 2012 studies is shown in **Table 2**.

Table 2 Aviation impact comparison: 2007 vs. 2012 (in 2012 dollars) for 53 NPIAS airports

Impact Type	Jobs		Wages (thousands)		Business Sales (thousands)	
	2007	2012	2007	2012	2007	2012
On Airport tenants	7,287	6,774	$301,970	$417,349	$953,175	$1,445,103
Off Airport Visitor Spending	6,945	4,434	$120,299	$89,221	$377,978	$304,029
Subtotal Direct Contribution	14,232	11,208	$422,269	$422,269	$1,331,153	$1,749,132
Tenant Spin Off	12,033	9,836	$352,319	$309,185	$1,018,264	$1,173,627
Visitor Spending Spin Off	3,153	1,845	$92,081	$70,353	$357,883	$223,355
Subtotal Spin Off	15,186	11,681	$444,400	$379,538	$1,376,148	$1,396,982
Total Aviation Impacts	29,418	22,889	$866,669	$886,108	$2,707,300	$3,146,114
Reliant/Dependent Impacts	**91,645**	**75,984**	**$4,211,110**	**$4,680,386**	**$17,446,481**	**$15,500,260**

As shown is **Table 3**, it took 49% more business sales to generate a job in 2012 than in 2007, and workers were paid 31% more for the increase in productivity. For economic activities reliant on Oregon's NPIAS airports, labor productivity rose by 7% and wages were 34% higher, but as discussed above less cargo was moved and value per ton increased. Following **Table 3** is a summary entitled *Airport Role in Economy*, which illustrates the individual airport economic impact.

Table 3 Productivity analysis-change in wage and sales per job 2007 vs. 2012 (in 2012 dollars)

Impact Type	Wages per Job		Output per Job		% Change Wage	% Change Output
	2007	2012	2007	2012		
Total Aviation Related Impacts	$29,461	$38,713	$92,029	$137,451	31%	49%
Air Reliant/Dependent impacts	$45,950	$61,597	$190,371	$203,994	34%	7%

Fiscal Year 2012 Kingsley Field Air National Guard Base Financial Impact Summary

The 173rd Fighter Wing conducted an economic impact summary study for fiscal year 2012 (2012 Guard Study) which considered jobs created, payroll, operations and maintenance, assets, and indirect jobs created by the Air National Guard base which is located at Klamath Falls Airport. The 2012 Guard Study used different methodology to determine economic impact than the 2012 Update, so it is not possible to simply add the numbers together to create a comprehensive economic impact figure. Notable differences between the 2012 Update and the 2012 Guard Study are below.

- The 2012 Update included only full-time employees while the 2012 Guard Study included full-time and part-time employees (Drill Status Guardsmen) in employment figures.
- The 2012 Update metric for employee compensation was basic salary while 2012 Guard Study definition of payroll included basic pay, benefits, and allowances.

The Kingsley National Guard Base is an asset to the Klamath Falls Airport and Central Oregon Region. The annual spending summary from the 2012 Guard Study is presented in **Table 4**. Following **Table 4** is a summary entitled *Airport Role in Economy*, which illustrates the individual airport economic impact.

Table 4 2012 Guard Study

Impact Type	Amount
Total Employment	898
Annual Payroll	$61,019,071
Operations and Maintenance	$46,738,741
Military Personnel	$1,414,869
Indirect Jobs Created Dollar Value	$9,774,939
Oregon Economic Impact	**$118,947,620**

Source: 2012 Guard Study, September 30, 2012

Oregon Aviation Plan 2014

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Airport Role in Economy

Airport: Crater Lake - Klamath Falls Regional Airport
Airport Code: LMT

County: Klamath

Region: Central Oregon

Evaluated for Year: 2012

Activity Data

Total Commercial Operations:	8,379
Total Commercial Enplanements:	17,086
Total Commercial Visitors:	5,473
Total GA Operations:	8,656
Total GA Passengers:	8,656
Total GA Visitors:	8,656
Total Military Operations:	0

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On-going Contribution to the Regional and State Economies

	Jobs		Wages		Business Sales	
	Local	**State**	**Local**	**State**	**Local**	**State**
Direct Effects of On Airport Activities and Visitor Spending						
1. On Airport (incl. FBO and air related tenants)	987	987	$79,522,000	$79,522,000	$155,761,000	$155,761,000
2. Off-Airport: Visitor Spending	43	43	$1,138,000	$1,138,000	$3,257,000	$3,257,000
Total Direct	1,030	1,030	$80,660,000	$80,660,000	$159,018,000	$159,018,000
Spin-off Effects: Supplier and Income Re-spending						
3. Due to On Airport Aviation	971	1,199	$27,811,000	$37,856,000	$104,973,000	$139,335,000
4. Due to Visitor Spending	23	19	$621,000	$884,000	$1,835,000	$2,535,000
Total Spin-off	994	1,218	$28,432,000	$38,740,000	$106,808,000	$141,870,000
Total Airport Aviation Related Impacts	2,024	2,249	$109,092,000	$119,400,000	$265,826,000	$300,888,000
Total Airport Generated Impacts - Not Aviation						
5. On Airport Non-aviation Activities	0	0	$0	$0	$0	$0
6. Spin-offs due to Non-aviation Activities	0	0	$0	$0	$0	$0
Total Airport Non-aviation Impacts	0	0	$0	$0	$0	$0
Total Aviation and Non-aviation Related	2,024	2,249	$109,092,000	$119,400,000	$265,826,000	$300,888,000
Regional Off-Airport Aviation Dependent Business Activity						
7. Direct Business Activity	1,025	1,025	$54,505,000	$54,505,000	$241,318,000	$241,318,000
8. Spin-offs due to Dependent Activity	1,017	1,330	$39,630,000	$61,649,000	$111,807,000	$172,835,000
Total Off-airport Aviation Dependent Activity	2,042	2,355	$94,135,000	$116,154,000	$353,125,000	$414,153,000

Note: Regional Off-airport Aviation Dependent Business Activities account for business activity in the region that rely on aviation for business travel and cargo, and do not reflect a specific airport.

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