

# Utah Economic and Business Review

**BE|BR**  
Bureau of Economic and Business Research  
DAVID ECCLES SCHOOL OF BUSINESS | UNIVERSITY OF UTAH

2012 | Volume 72, Number 3

*In this issue of the Utah Economic and Business Review we're featuring two recent studies by Bureau researchers. The first, by Senior Research Economist Jan Elise Stambro, looks at the economic impacts of the world-famous Sundance Film Festival, the most recent edition of which was held in Park City, Utah, this past January. The second, by Senior Research Analyst John Downen, is a cartographic exploration of employment along the Wasatch Front.*

## Economic Impacts of the 2012 Sundance Film Festival on the State of Utah

Jan Elise Stambro, Senior Research Economist

The Bureau of Economic and Business Research (BEBR) at the University of Utah has estimated the economic impacts of the 2012 Sundance Film Festival ("the Festival") held in the state of Utah from January 19, 2012 through January 29, 2012. The impact estimates were based on (1) intercept surveys of Festival attendees conducted by BEBR survey staff each day during the Festival and (2) expenditures made by the Sundance Institute to produce the Festival.

The survey findings summarized in this report are based on 410 intercept surveys conducted at three of the four areas where Festival films are shown ("locations"). These include Park City, Salt Lake City, and Ogden. Films are also shown at the Sundance Resort in Utah County. No surveys were conducted at that venue in 2012.

The economic impacts of the 2012 Sundance Film Festival have been estimated using a regional impact model known as RIMS II, developed by the U.S. Department of Commerce, Bureau of Economic Analysis.

### Major Findings

An estimated 46,731 people attended the Sundance Film Festival in 2012, a 2 percent increase over the 2011 attendance estimate of 45,797 and a 13 percent increase over 2010 attendance.

The economic impacts of nonresident visitor spending during the 2012 Festival include \$69.7 million in gross state product and \$36.0 million in earnings for Utah workers. This level of earnings supported 1,376 jobs in the state of Utah, and generated \$4.5 million in state tax revenue and \$2.0 million in tax revenue for

local units of government. These impacts occurred over a 10-day period from January 19 through January 29, 2012.

The economic impacts of spending made in Utah by the Sundance Institute to produce the 2012 Sundance Film Festival include \$10.5 million in gross state product and \$4.5 million in earnings for Utah workers. This level of earnings supported a total of 355 jobs, and generated almost \$397,000 in state tax revenue and about \$90,000 in revenue for local governments. These impacts occurred between September 2011 and February 10, 2012.

Slightly more than one-third of Festival attendees were Utah residents (15,610 or 33.4 percent). Of these, 45 percent were residents of Salt Lake County. About 25 percent lived in Summit County and 12.1 percent lived in Weber County. Film venues are located in all of these counties.

Nonresidents accounted for 66.6 percent of all Festival attendees in 2012, or 31,121 visitors. This is virtually the same ratio of nonresident attendees estimated in 2011. The largest share of nonresident visitors were residents of the U.S. (25,326 visitors). Of these, about 43 percent were residents of three states: California, New York and Colorado.

The Festival attracted an estimated 5,795 international visitors in 2012. People from 21 countries traveled to Utah for the 2012 Sundance Film Festival. Visitors from Canada accounted for the single largest share of international visitors (23.5 percent) followed by France, China and England. As a share of total attendance, this segment of film attendees has increased significantly over the past four years, growing from 6.8 percent of all Festival attendees in 2009 to 12.4 percent in 2012.

Of the estimated 31,121 nonresident Festival attendees, approximately 35 percent indicated this was their first visit to Utah, 84 percent said they traveled to Utah specifically to attend the Festival, and 44 percent indicated they would visit Utah again during the next year.

While the Sundance Film Festival appeals to people of all ages, more than one-quarter of those who attended in 2012 were between the ages of 26 and 35 and 22 percent were between the ages of 36 and 45. About 12 percent of attendees were over 55 and the smallest share (1 percent) were under the age of 19.

About 52 percent of Festival attendees in 2012 were male as compared with 44 percent in 2011.

Festival attendees tend to be well educated; about 77 percent are college graduates. Approximately 20 percent have attained a master's

degree and about 7 percent indicated they had a doctorate.

About 41 percent of those who attended the Festival in 2012 had an annual household income of \$100,000 or more—slightly lower than the 43 percent reported in 2011. Nonresident attendees were more likely to have high annual incomes—46 percent compared with 30 percent of Utah residents.

An increasing share of Festival attendees classified themselves as entertainment industry professionals. Of those attending the 2012 Film Festival, almost 27 percent said they were involved with the entertainment industry in a professional capacity, up from 22 percent in 2011. However, most Festival attendees identified themselves as “non-entertainment professionals” (50 percent) and students accounted for 11 percent of attendees.

### Film Festival Activities

Festival attendees expected to spend an average of 4.6 days at the Festival and attend about 6 screenings. A small share of attendees (13 percent) indicated they would participate in Festival activities for 9 or more days, and slightly more than one-quarter indicated they intended to see at least 10 films. The majority of these individuals were residents of Utah and California.

Film screenings are offered at theaters in four locations: Park City, Salt Lake City, Sundance Resort and Ogden. About 77 percent of Festival attendees who planned to see at least one movie indicated they would watch most of their films in Park City. This percentage was highest for nonresident attendees—93 percent compared with about 47 percent for Utah residents.

More than 60 percent of those attending the 2012 Sundance Film Festival have attended in the past. The average number of previous visits was about 5. Utah residents were most likely to have attended a past festival—about 84 percent indicated they had attended about 6 previous festivals. About half of all nonresidents indicated they had attended past festivals, with an average past attendance of 4 times.

A majority of those attending the 2012 Festival said they would attend a future Festival (81 percent), including 90 percent of Utah residents and 76 percent of nonresidents.

**Table 1**  
**2012 Sundance Film Festival**  
**Total Festival-Related Attendee Spending**

Category	Utah Residents	Non-Residents	Total
Lodging	\$49,796	\$30,007,491	\$30,057,287
Meals	\$1,840,263	\$15,972,853	\$17,813,116
Car Rental	\$0	\$2,975,790	\$2,975,790
Other Transportation	\$3,278	\$910,289	\$913,567
Recreation/Entertainment	\$562,116	\$4,472,399	\$5,034,515
Other Retail Purchases	\$1,444,706	\$8,899,050	\$10,343,756
<b>Total</b>	<b>\$3,900,159</b>	<b>\$63,237,872</b>	<b>\$67,138,031</b>

Note: Total spending is based on the average total spending per person during his/her stay.  
Source: Calculated by BEBR based on intercept surveys conducted during the Festival.

### Recreational Activities

Almost 30 percent of nonresident attendees said they intended to ski or snowboard in Utah during their stay. This equates to about 8,838 people. The most popular resorts for skiing were Park City and Deer Valley. More than 60 percent of nonresidents attending the Festival said they planned to ski at least one full day at Park City Mountain Resort and nearly 37 percent said they would ski at Deer Valley.

### Lodging and Transportation

Nonresidents planned to stay an average of almost 7 nights during their visit. Almost 46 percent stayed in a hotel, motel or inn and about 30 percent stayed in a condo or timeshare. Nearly 15 percent stayed with friends and family.

The Deer Valley/Park City area was the preferred location for nonresident attendees. An estimated 73 percent of nonresidents who attended the Festival stayed in this area, including those staying commercially as well as those staying with friends or family. Approximately 19 percent of nonresident attendees stayed in the Salt Lake City area, 3.4 percent stayed at the Sundance Resort, and 4.5 percent stayed in other areas of the state.

Eighty-four percent of nonresident attendees traveled to Utah via air services (26,235 people) and 13 percent traveled in private vehicles.

**Table 2**  
**2012 Sundance Film Festival**  
**Total Weighted Average**  
**Spending per Person**

Category	Amount
Lodging	\$643.20
Meals	\$381.18
Car Rental	\$63.68
Other Transportation	\$19.55
Recreation/Entertainment	\$107.73
Other Retail Purchases	\$221.35
<b>Total</b>	<b>\$1,436.69</b>

Source: Calculated by BEBR based on intercept surveys conducted during the Festival.

### Attendee Spending

During the Festival, attendees spent a total of \$67.1 million. Of this amount, nonresident spending totaled \$63.2 million while Utah residents spent \$3.9 million (Table 1). The weighted average daily spending by Festival attendees was \$252.99. Nonresidents averaged \$343.70 each day during their stay and Utah residents spent an average of \$72.15 each day they attended the Festival.

**Table 3**  
**2012 Sundance Film Festival**  
**Total Festival-Related Attendee Spending**  
**2011 and 2012 Comparison**  
(Not Adjusted for Inflation)

Category	2011	2012	Change
Lodging	\$25,825,453	\$30,057,287	\$4,231,834
Meals	\$16,478,005	\$17,813,116	\$1,335,111
Car Rental	\$2,513,917	\$2,975,790	\$461,873
Other Transportation	\$1,301,596	\$913,567	(\$388,029)
Recreation/Entertainment	\$5,766,604	\$5,034,515	(\$732,089)
Other Retail Purchases	\$6,706,547	\$10,343,756	\$3,637,208
<b>Total</b>	<b>\$58,592,121</b>	<b>\$67,138,031</b>	<b>\$8,545,910</b>

Note: Data for 2011 were obtained from a previous report compiled by BEBR for the Sundance Institute.  
Source: Calculated by BEBR based on intercept surveys conducted during the Festival.

Total spending per person averaged \$1,436.69. Nonresidents spent a total of \$2,032.00 per person during their stay and Utah residents spent an average of \$249.85. Total spending is the sum of the average daily amounts that each attendee spent during his/her stay in Utah. Total spending for lodging averaged \$643.20 and accounted for 45 percent of all expenditures made by Festival attendees (Table 2). Total spending for food and

beverages averaged \$381.18, followed by miscellaneous retail purchases (\$221.35) and recreation and entertainment (\$107.73).

Total Festival-related spending increased 15 percent over 2011 levels, driven by increases in lodging expenditures and retail purchases (Table 3). Lodging expenditures increased largely as the result of longer stays (an average of 7 nights in 2012 versus 6 nights in 2011). Daily spending for lodging remained relatively unchanged (\$101.13 in 2011 and \$99.97 in 2012).

### Economic Impact Estimates

The economic impact estimates presented here include (1) the impacts of purchases made by nonresidents who attended the 2012 Sundance Film Festival and (2) the impact of expenditures made in Utah by the Sundance Institute to produce the Festival. The impact estimates were generated using an economic impact model known as RIMS II, developed by the Bureau of Economic Analysis. The model has been regionalized for Utah.

### Impacts of Nonresident Spending

Spending by nonresidents attending the 2012 Sundance Film Festival totaled \$63.2 million. These expenditures translate to an increase in gross state product (GSP) of \$69.7 million. They also generated almost \$36 million in earnings for Utah residents and supported 1,376 jobs in Utah from January 19 through January 29, 2012.<sup>1</sup> Expenditures made by

1. Earnings are the sum of wage and salary disbursements, supplements to wages and salaries, and proprietors' income. Jobs include both full-time and part-time employment.

**Table 4**  
**2012 Sundance Film Festival**  
**Economic Impacts of Nonresident Spending**  
**2011 and 2012 Comparison**  
(Not Adjusted for Inflation)

Impact Type	2011	2012	Change
Gross State Product	\$64,515,559	\$69,730,659	\$5,215,100
Earnings	\$32,384,319	\$35,973,335	\$3,589,016
Jobs	1,338	1,376	38
State Tax Revenue	\$4,077,877	\$4,460,711	\$382,834
Local Tax Revenue	\$1,798,347	\$2,022,475	\$224,128
Passenger Facility Charges	\$82,202	\$97,857	\$15,655

Notes: (1) The economic impacts for 2011 were obtained from a previous report compiled by BEBR. (2) The 2011 impacts occurred during January 20–January 30, 2011. The 2012 impacts occurred during January 19–January 29, 2012.  
Source: Calculated by BEBR based on intercept surveys conducted during the Festival.

**Table 5**  
**2012 Sundance Film Festival**  
**Economic Impacts of Sundance Institute Spending**  
**2011 and 2012 Comparison**  
(Not Adjusted for Inflation)

Impact Type	2011	2012	Change
Gross State Product	\$7,939,743	\$10,525,259	\$2,585,516
Earnings	\$3,425,798	\$4,532,915	\$1,107,117
Jobs	298	355	57
State Tax Revenue	\$296,331	\$396,539	\$100,208
Local Tax Revenue	\$67,861	\$89,752	\$21,891

Notes: (1) The economic impacts for 2011 were obtained from a previous report compiled by BEBR. (2) The economic impacts for each year occur during the six-month period from September through February.  
Source: Calculated by BEBR based on data supplied by the Sundance Institute.

**Table 6**  
**2012 Sundance Film Festival Economic Impacts Summary**  
**Sundance Institute Spending and Nonresident Spending**

Impact Type	Sundance Institute Spending Impacts	Nonresident Festival Spending Impacts	Total Impacts
Gross State Product	\$10,525,259	\$69,730,659	\$80,255,918
Earnings	\$4,532,915	\$35,973,335	\$40,506,250
Jobs	355	1,376	1,731
State Tax Revenue	\$396,539	\$4,460,711	\$4,857,250
Local Tax Revenue	\$89,752	\$2,022,475	\$2,112,227

Notes: The impacts reported for the Sundance Institute spending occurred from September 2011 through February 10, 2012. The impacts reported for nonresident spending occurred between January 19 and January 29, 2012.  
Source: Calculated by BEBR based on data supplied by the Sundance Institute and intercept surveys conducted by BEBR during the Festival.

**Table 7**  
**2012 Sundance Film Festival**  
**Total Economic Impact Summary**  
**Sundance Institute Spending and**  
**Nonresident Spending**  
**2011 and 2012 Comparison**  
(Not Adjusted for Inflation)

Impact Type	2011	2012	Change
Gross State Product	\$70,866,820	\$80,255,918	\$9,389,098
Earnings	\$34,993,079	\$40,506,250	\$5,513,171
Jobs	1,605	1,731	126
State/Local Tax Revenue	\$5,876,125	\$6,969,477	\$1,093,352

Note: The economic impacts for 2011 were obtained from a previous report compiled by BEBR.  
Source: Bureau of Economic and Business Research, University of Utah, 2012.

nonresident attendees generated nearly \$6.5 million in state and local taxes.

Airline tickets purchased by nonresident attendees generate passenger facility charges that are paid to the Salt Lake City International Airport. The estimated amount of these charges generated by airline ticket purchases related to the Festival is \$97,857.

A comparison of the Festival's economic impacts for 2011 and 2012 is presented in Table 4.

### Impacts of Sundance Institute Spending in Utah

To produce the 2012 Film Festival, the Sundance Institute spent roughly \$8.8 million, of which \$5.7 million was spent in the state of Utah. The economic impacts of these expenditures include approximately \$10.5 million in GSP, \$4.5 million in earnings and 355 jobs (Table 5). These impacts occurred during a six-month period beginning in September 2011 and ending in February 2012. The fiscal impacts associated with the Institute's spending included \$396,539 in state tax revenue and \$89,752 in tax revenue for local units of government.

When the economic impacts of the Sundance Institute are combined with the impacts of nonresident spending during the Festival, the 2012 Sundance Film Festival supported 1,731 jobs in Utah, generated nearly \$41 million in earnings for Utah residents, and contributed \$80.3 million in GSP for the state (Table 6). Table 7 compares the total economic impacts of the Festival in 2011 and 2012.

BEBR



## Mean Centers of Employment and Population on the Wasatch Front

John C. Downen, Senior Research Analyst

A set of data points can be characterized by its mean, or average, median, standard deviation, etc. Spatial data have analogous measures like the mean center and the standard distance. To find the mean center, one calculates the average of all the data points' x-coordinates and the average of all their y-coordinates. In the case of a variable with a spatial element like population or employment, it is possible to calculate a weighted mean center, where each point is weighted by, say, the number of people or jobs at that point. The resulting mean center can be visualized as the point on a waiter's tray of food where it would balance on a fingertip, that is, its center of gravity.

Using 2010 employment figures by census tract for Weber, Davis and Salt Lake counties and 2011 data for Utah County, we calculated the employment-weighted mean center for the Wasatch Front. In this case, the data "points" are the centroids<sup>1</sup> of the census tracts and the weights are the number of jobs in each tract. The mean center for the four counties was found to lie in South Salt Lake at about 3450 South 250 East (Figure 1).

We made the same calculations using population as the weight. For this we used the Utah Automated Geographic Reference Center's Populated Block Areas, with 2010 Census population counts. To create this file they began with the census block boundaries provided by the U.S. Census Bureau. Census blocks are the smallest areal

1. The centroid would be the balancing point of an empty and, in this case, irregularly shaped tray. It is the geometrical center of a polygon.

unit at which the Bureau reports census data and they cover the whole of the state. In urban areas census blocks generally correspond to city blocks, but in rural areas with much lower populations, they can cover quite large areas, much of which are uninhabited. The AGRC used aerial photography to adjust the boundaries of census blocks to cover only residential areas. The resulting population-weighted mean center of the Wasatch Front is about 1.5 miles south of the employment center at roughly 4550 South State Street in Murray.

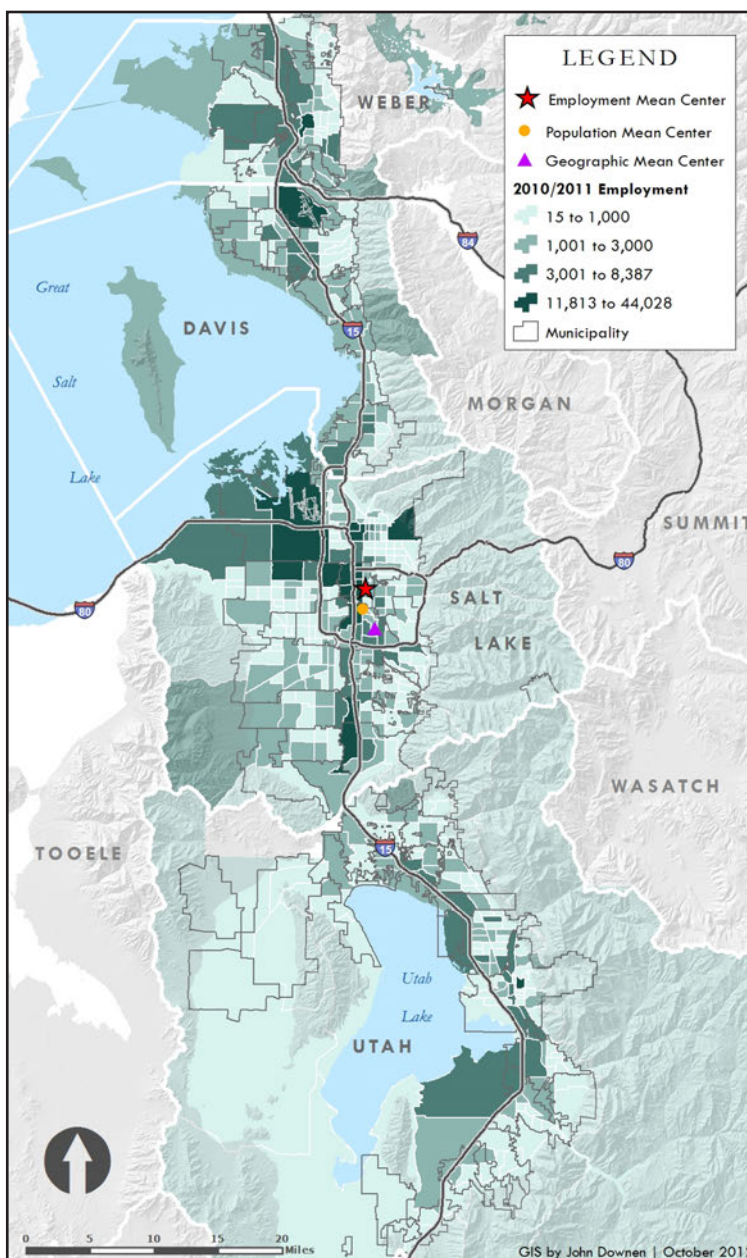
The difference in mean centers reflects the different distributions of employment and population, constrained by the region's geography. Because our region has a strong north-south orientation, it is unlikely that differences in mean centers would

exhibit a significant east-west component.

The difference between the employment mean center and the population mean center indicates that employment is distributed more to the north relative to population. This is evident in Figure 1, where large census tracts with over 11,000 jobs are located in Weber County, northern Davis County and northern Salt Lake County. In contrast, tracts with similarly large populations are located in southern Weber County, in Davis County from the northern border down through Kaysville in the center of the county, and in the central and southern parts of Salt Lake County. The southernmost of these tracts is also the most populous, with 21,591 residents.

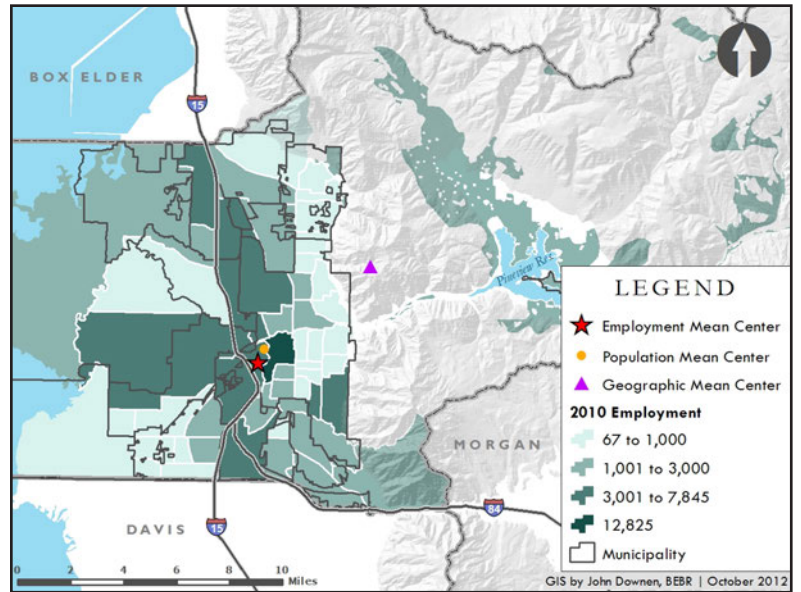
We also calculated employment and population mean centers for each of the four counties individually. Here they are, from north to south.

**Figure 1**  
**Wasatch Front Employment and Population Mean Centers**



Source: Wasatch Front Regional Council, Mountainland Association of Governments, Utah Automated Geographic Reference Center.

**Figure 2**  
**Weber County Employment and Population Mean Centers**

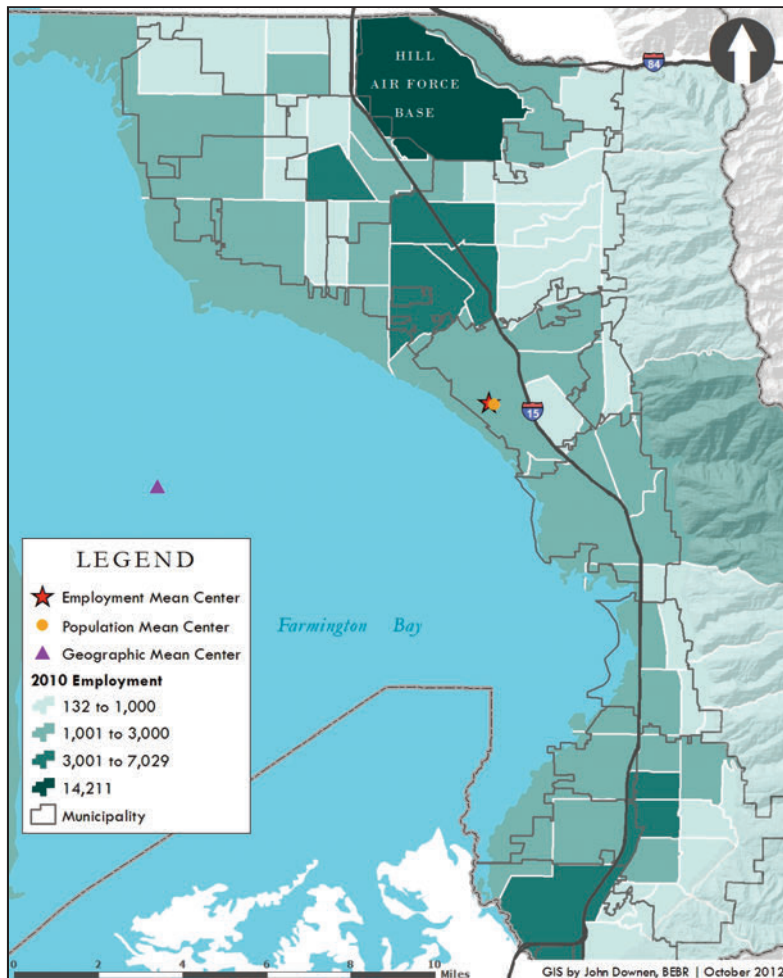


Source: Wasatch Front Regional Council, Utah Automated Geographic Reference Center.

## Weber County

Weber County's employment mean center is in Ogden near 24th Street between A and D Avenues, just west of Ft. Buenaventura State Park (Figure 2). The tract with the greatest number of jobs, 12,825 in 2010, is in downtown Ogden, between the Ogden River and roughly 27th Street, and between Hwy 89 and the train tracks. The largest employment sector in the tract is Public Administration, with 8,254 jobs. The county's population center is about 0.5 mile north-northeast of the employment center.

**Figure 3**  
**Davis County Employment and Population Mean Centers**



Source: Wasatch Front Regional Council, Utah Automated Geographic Reference Center.

## Davis County

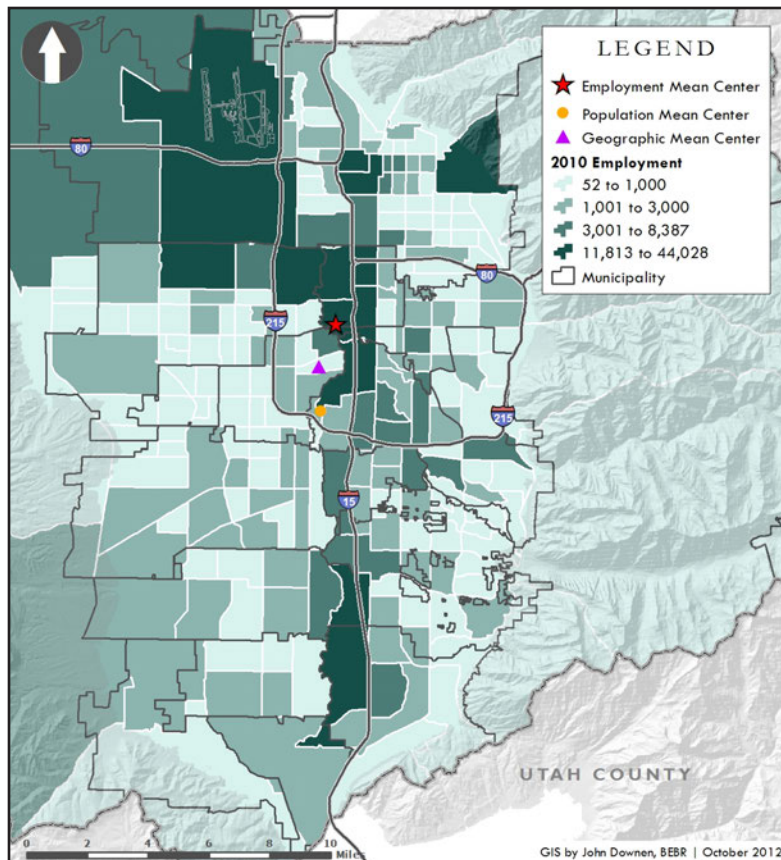
Davis County's employment center is in Kaysville, near the intersection of Angel Street and Smith Lane (Figure 3). The tract with the greatest number of jobs, 14,211 in 2010, is home to Hill Air Force Base. Not surprisingly, Public Administration employment accounts for 11,832 of the jobs in this tract. The county's population center is just 0.13 mile southeast of the employment center, the closest of the four counties.



### Salt Lake County

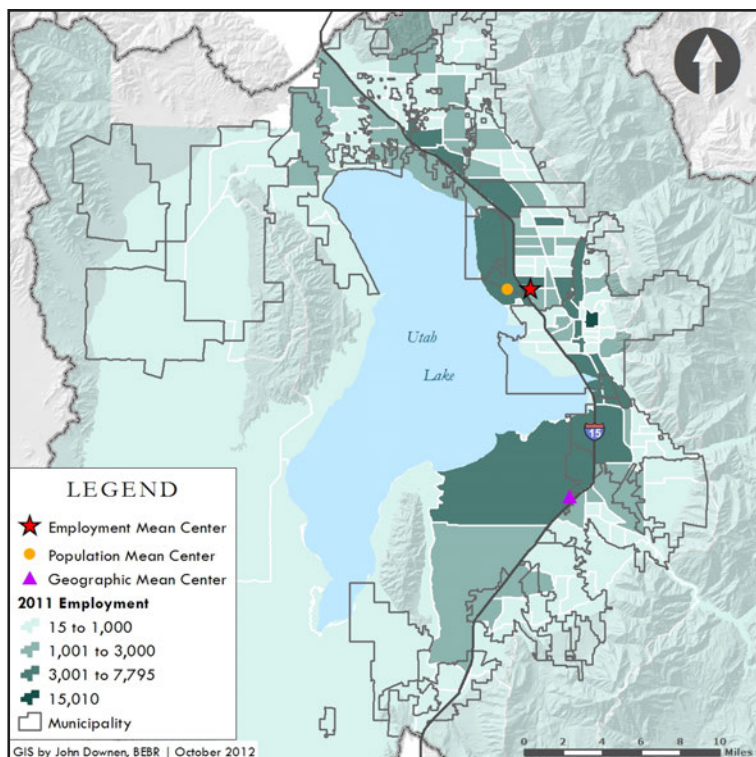
Salt Lake County's employment center is at roughly 3900 South 800 West in South Salt Lake (Figure 4). The tract with the greatest number of jobs, 44,028 in 2010, is a large tract containing the industrial area south of the Salt Lake International Airport. The largest employment sectors in this tract are Manufacturing (9,713 jobs) and Transportation and Warehousing (9,192 jobs). The county's population center is about 3 miles south-southwest of the employment center at 5760 South River Park Drive (1060 West) in Murray. This is the largest distance between mean centers out of the four counties.

**Figure 4**  
**Salt Lake County Employment and Population Mean Centers**



Source: Wasatch Front Regional Council, Utah Automated Geographic Reference Center.

**Figure 5**  
**Utah County Employment and Population Mean Centers**



Source: Mountainland Association of Governments, Utah Automated Geographic Reference Center.

### Utah County

Utah County's employment mean center is in southwestern Orem, near the intersection of University Parkway and I-15 (Figure 5). The tract with greatest number of jobs, 15,010 in 2011, is the one that contains Brigham Young University in Provo. The (private) Education sector accounts for 14,904 of the jobs in this tract. The county's population mean center is about 1.2 miles due west of the employment center.

Table 1 provides employment profiles of the census tract with the highest employment in each county.

<b>Sector</b>	<b>Weber</b>		<b>Davis</b>		<b>Salt Lake</b>		<b>Utah</b>	
	<b>Number</b>	<b>Share</b>	<b>Number</b>	<b>Share</b>	<b>Number</b>	<b>Share</b>	<b>Number</b>	<b>Share</b>
Agriculture					4	0.0%		
Mining					421	1.0%		
Utilities					276	0.6%		
Construction	45	0.4%	5	0.0%	3,530	8.0%		
Manufacturing	296	2.3%	19	0.1%	9,713	22.1%		
Wholesale Trade	196	1.5%	8	0.1%	4,605	10.5%		
Retail Trade	157	1.2%	368	2.6%	1,598	3.6%	7	0.0%
Transportation and Warehousing	102	0.8%	452	3.2%	9,192	20.9%		
Information	23	0.2%	101	0.7%	1,148	2.6%		
Finance and Insurance	363	2.8%	43	0.3%	4,466	10.1%	30	0.2%
Real Estate and Rental and Leasing	52	0.4%			355	0.8%		
Professional, Scientific, and Technical Services	925	7.2%	749	5.3%	1,118	2.5%		
Management of Companies and Enterprises	14	0.1%			1,118	2.5%		
Administrative and Waste Management Services	781	6.1%	109	0.8%	3,348	7.6%		
Educational Services	113	0.9%	37	0.3%	304	0.7%	14,904	99.3%
Health Care and Social Assistance	202	1.6%	196	1.4%	158	0.4%	1	0.0%
Arts, Entertainment, and Recreation	243	1.9%	70	0.5%	8	0.0%		
Accommodation and Food Services	654	5.1%	157	1.1%	306	0.7%	34	0.2%
Other Services	405	3.2%	65	0.5%	1,388	3.2%	34	0.2%
Public Administration	8,254	64.4%	11,832	83.3%	972	2.2%		
<b>Total Employment</b>	<b>12,825</b>	<b>100%</b>	<b>14,211</b>	<b>100%</b>	<b>44,028</b>	<b>100%</b>	<b>15,010</b>	<b>100%</b>

Employment is as of July 1. Figures for Weber, Davis and Salt Lake counties are for 2010; those for Utah County are 2011.  
Source: Wasatch Front Regional Council, Mountainland Association of Governments.

BEER

## Subscription Info

Current and past issues (since 1990) of the *Utah Economic and Business Review* are available online at <http://www.bibr.utah.edu/UtahEconomicandBusinessReview.html>.

Print subscriptions to the *Review* are free for addresses in the United States. To subscribe, go to [www.bibr.utah.edu/BEERsubscribe.html](http://www.bibr.utah.edu/BEERsubscribe.html).

If you need to change an existing subscription address, please e-mail us at [bureau@business.utah.edu](mailto:bureau@business.utah.edu) with both your old and new address information.

Bureau of Economic and Business Research  
University of Utah  
401 Business Classroom Building  
1655 East Campus Center Drive  
Salt Lake City, Utah 84112-8939

**NON-PROFIT ORG.**  
U.S. POSTAGE PAID  
Salt Lake City, UT  
Permit No. 1529

**Address Service Requested**

Utah  
**Economic and  
Business  
Review**

**BEBR**  
Bureau of Economic and Business Research  
David Eccles School of Business University of Utah

2012 | Volume 72, Number 3

**University of Utah**

David W. Pershing, *President*

**David Eccles School of Business**

Taylor Randall, *Dean*

**Bureau of Economic and Business Research**

James A. Wood, *Director*

**RESEARCH STAFF**

DJ Benway, *Research Analyst*

John C. Downen, *Senior Research Analyst*

B. Austin Firth, *Research Assistant*

Diane S. Gillam, *Administrative Officer*

Michael T. Hogue, *Research Analyst*

Darius Li, *Research Analyst*

Pamela S. Perlich, *Senior Research Economist*

Jan E. Stambro, *Senior Research Economist*



<http://www.bibr.utah.edu>

The University seeks to provide equal access to its programs, services, and activities to people with disabilities.