

Final Report

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THE MOVE TO PAC-12: ECONOMIC IMPACT AND VISITOR EXPERIENCE OF UNIVERSITY OF UTAH FOOTBALL

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Michael T. Hogue

1. Highlights

- The University of Utah football program joined the Pac-12 conference starting in 2011–2012 season, following twelve seasons with the Mountain West Conference (MWC). The present study reports preliminary findings—based on the first season—of the economic impact of this transition.
- During the inaugural 2011–2012 season, out-of-state attendance per game was more than double the average out-of-state attendance of home games hosted between the 2004–2005 and 2009–2010 seasons while the football program was a member of the MWC—1,272 persons versus 546 persons per home game.
- Out-of-state attendees of the five Pac-12 home football games from the 2011–2012 season spent approximately \$5.5 million on in-state goods and services during their visit.
- Television revenues under the Pac-12 are expected to be \$3 million for the 2011–2012 season, climbing to \$15 million per year by 2015. Television revenues under the MWC were \$1.2 million per year.
- Expenditures of out-of-state attendees and television revenues sum to \$8.5 million in 2011–2012. We estimate that these funds support approximately 210 jobs with earnings of over \$5 million and approximately \$500,000 in state tax revenue.
- The switch from the MWC to the Pac-12 accounts for approximately 60 percent of impact associated with the five Pac-12 home games during 2011–2012—122 jobs with earnings of \$3 million and \$300,000 in state tax revenue. That is, had the five Pac-12 games been MWC games instead, we estimate the total impact would have been about 60 percent less.

2. Details

In 2011 the University of Utah joined the Pacific-12 athletic conference (Pac-12) following twelve seasons as a founding member of the Mountain West Conference (MWC).¹ The move to the Pac-12 may carry a number of benefits to the University and the state of Utah. This report presents a summary of preliminary estimates of the economic impacts attributable to the University's football program.

One of the ways the football program yields economic impacts—jobs and associated wage earnings, gross state product, and state tax revenue—to the state of Utah is through the in-state expenditures of

¹Prior to entering the MWC as a founding member in 1999, the University of Utah had belonged to the Western Athletic Conference (WAC) since joining as a founding member in 1962. Prior to WAC the University belonged to the Mountain States Conference since its founding in 1938.

out-of-state attendees to University of Utah football games.² A second way is through payments to the University of Utah from television networks for the right to televise games. A third way, potentially, is through improved perceptions of the state gained through visitation.

During the 2011–2012 season, the University of Utah played five home games against Pac-12 opponents. In order, these opponents were: University of Washington (UW), Arizona State University (ASU), Oregon State University (OSU), University of California at Los Angeles (UCLA), and the University of Colorado (CU). A total of 321 out-of-state attendees of these games were surveyed in order to gain information about their spending patterns while in the state. Combining the survey findings with estimates of the number of out-of-state attendees, we estimate that visitors to University of Utah football games spent \$5.5 million on in-state goods and services.³ This \$5.5 million injected into the Utah economy from the citizens of other states gives rise to additional economic impacts through indirect effects arising out of the flow of these funds through the Utah economy.

In addition to the spending of out-of-state visitors, funds are brought into the state when the University receives payments for the right to televise the games. Such revenues are expected to be \$3 million for the 2011–2012 season, gradually climbing to approximately \$15 million for the 2014–2015 season as the University's share in television revenue increases from partial to full. As a member of the MWC the University received \$1.2 million per season for television rights.⁴ Increased television revenues are clearly a major benefit of joining the Pac-12. Like the expenditures of out-of-state visitors, television revenues represent an injection into the state economy that creates additional indirect economic impacts.

The estimated total economic impacts to the state, both direct and indirect, are given in Table 1. In this table the impacts are divided according to whether the source of impact is out-of-state visitors (Visitors) or television revenues (Television). The impacts are measured by the number of supported jobs (Jobs) and associated earnings (Earnings), gross state product (GSP), state economic output (Output), and state tax revenue (State Tax Revenue).⁵ Visitor spending is seen to support about 121 jobs with total earnings of \$3,056,844 and \$310,086 of state tax revenues. Television revenues support about 89 jobs with total earnings of \$2,100,111 and \$205,035 in state tax revenues. As we are assuming television revenues of \$3 million for the 2011–2012 season, the state-wide impact due to television will increase greatly beyond what is reported here as television revenues reach \$15 million in 2014–2015. Altogether, the 2011–2012 season supported about 210 jobs with earnings over \$5 million and over \$500,000 of state tax revenue.

The impacts reported in Table 1 are the impacts of the University of Utah football program rather than the change in such impacts due to the move to the Pac-12 from the MWC. In order to estimate the change in impact due to the move to the Pac-12, we would need an estimate of impacts during the years of MWC membership. Estimates of those impacts due to visitor spending during the MWC years would require knowledge of visitor spending patterns. The present study gains such estimates for the 2011–2012

²In this report, we use the phrase “out-of-state attendees” to refer only to out-of-state attendees who are fans of the opponents. The economic impacts and visitor perceptions are based only on this subset of out-of-state attendees since ticket sales information is not available for out-of-state attendees who are fans of the Utes. The impacts of out-of-state attendees who are fans of the Utes are in addition to those presented in this report.

³The University makes tickets for fans of the opposing team available through that team's ticket office. These ticket sales were provided to us by the University of Utah's Athletics Department for each of the five home games in the 2011–2012 season. Although ticket sales through opposing universities serve as our measure of the number of out-of-state attendees, we note that since tickets are also available through secondary sources, out-of-state attendance estimates and associated economic impacts are at least as great as what we report here.

⁴The exact amount of television revenues under Pac-12 is still subject to some uncertainty. The amounts assumed in this study are estimates current as of the beginning of this study. See <http://tinyurl.com/87res86>.

⁵Output is the value of all goods and services produced in the economy, including the value of goods and services used as intermediate inputs in the production of final goods and services. The value of final goods and services thus embodies the value of their intermediate inputs. Subtracting the value of intermediate inputs from the value of final goods and services gives the value added through production. This value added approximates the gross state product, which is what it is called in the table. Gross state product is the state-level analog of the widely reported gross domestic product at the national level.

	Earnings	Jobs	GSP	Output	State Tax Revenue
Visitors	\$3,056,844	121	\$6,201,710	\$11,222,154	\$310,086
Television	\$2,100,111	89	\$4,100,700	\$7,022,700	\$205,035
Total	\$5,156,955	210	\$10,302,410	\$18,244,854	\$515,121

Table 1: Economic Contributions of University of Utah Football

season through direct survey of attendees. To our knowledge no similar studies were undertaken in years past.

If visitor spending did not vary significantly according to the visiting team, then our estimates for the present year would serve well as stand-ins for prior-year spending patterns. Analysis of the 2011–2012 spending data suggests that spending may in fact vary somewhat according to the distance of the opposing team (distance would be a proxy, although sometimes a poor one, for the cost of traveling to Salt Lake City). Figure 1 depicts the person-by-person variation in total spending for each game. Underlying differences in spending patterns among the attendees of different games are reflected by the differences in the expenditure curves for those games. For example, compared to attendees of other games, a higher proportion of attendees of the Colorado game (CU) spent less than \$300 per day while in Utah. On the other side, a higher proportion of attendees of the UCLA game spent more than \$400 compared to attendees of other games.

The curves need not be identical—or even appear all that similar—with each other to warrant a claim that spending patterns do not vary appreciably from game to game. The curves are based on our sample of attendees. Since the attendees that ended up in the survey could have been different, so the curves could have been different. The question is whether the curves at hand so dissimilar that it is no longer plausible that their dissimilarity is only the result of chance, but that it reflects real underlying differences in spending patterns. A standard statistical test suggests that the dissimilarity depicted in Figure 1 may indeed signal underlying differences in spending patterns.⁶

Early evidence thus suggests between-game differences in spending patterns. More data would be needed, however, to precisely estimate how spending varies by game. Therefore, subject to revision in light of subsequent data, as a first approximation we assume that the average expenditure per person per day in recent past years is the same as the average reported by those surveyed in 2011–2012—\$243.

Early evidence also suggests that there may not be between-game differences in the average length of visit. Our tentative assumption then is that the average length of stay in recent past years is the same as the average from the 2011–2012 season.

Having working estimates of the length of stay and expenditures per day of stay, the last piece we need to estimate past impacts is past attendance. The Department of Athletics provided the study with tickets sales back to 2004. Using ticket sales as a proxy for attendance, average out-of-state attendance at home games between 2004 and 2010 was 546, ranging from a low of 303 in 2007 to a high of 713 in 2005. This year’s average attendance of 1,272 out-of-state visitors at the five Pac-12 home games is about 2.3 times the average attendance of out-of-state visitors during recent past years. Consequently, the estimated increase in economic impact from visitor spending due to the switch from the MWC to the Pac-12 is 57 percent of what is reported in Table 1. Because television revenues in 2011–2012 are 2.5 times greater

⁶The standard analysis in cases such as this one is the one-way analysis of variance (ANOVA). We carried out a variation on ANOVA which is robust to outliers and appropriate for the smaller number of surveys obtained for some games. The finding of this analysis is that if there were in fact no underlying differences in the spending patterns, the probability of getting spending patterns as or more dissimilar to those actually obtained from the would be quite small—less than one percent. That supports the view that there are spending pattern differences among games. The needs of this analysis did not necessitate the additional step of carrying out pairwise comparisons between games.

Total Expenditure by Game

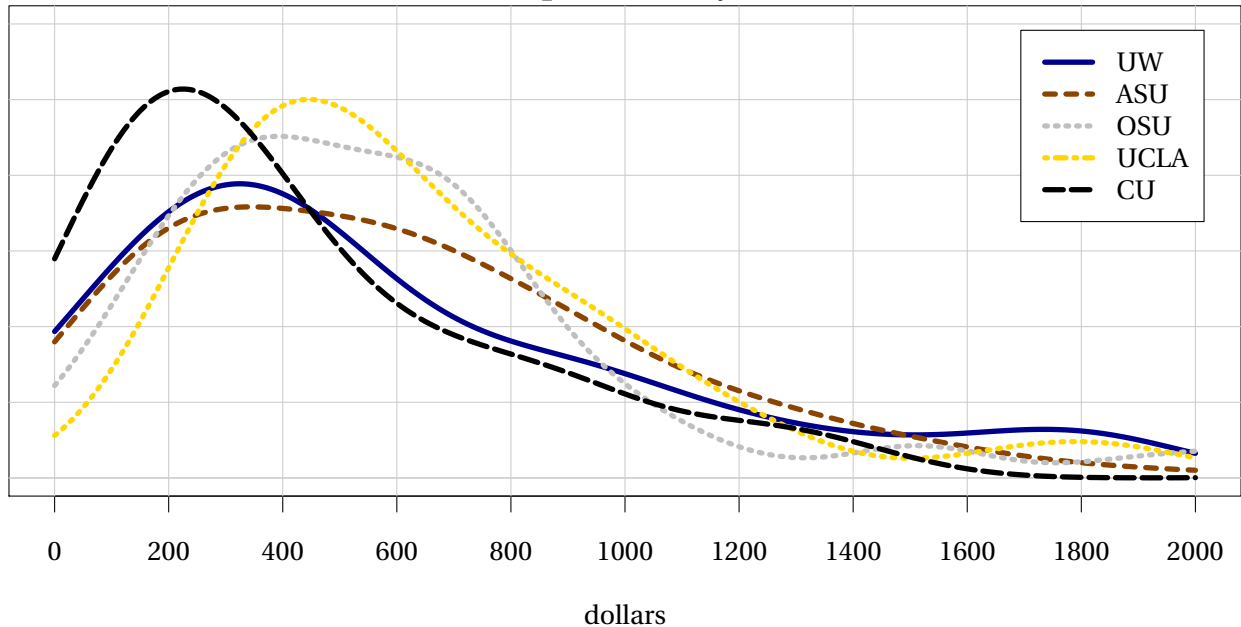


Figure 1: Patterns of total spending by game. The curves describe the person-to-person variation in total spending between and within each game.

under Pac-12 than under the MWC, the estimated increase in economic impacts from television revenue due to the switch to Pac-12 is 60 percent of what is reported in Table 1.

Table 2 shows economic impacts due solely to the switch to the Pac-12, separated according to whether the impacts are due to visitor spending or television revenues. The additional funds entering the state in the 2011–2012 season from visitor spending and television revenues support an estimated 122 jobs—with combined earnings of almost \$6 million—beyond those supported by the football program in recent past seasons.

We note again that the impacts reported above are based on the five Pac-12 home games of the 2011–2012 season. Not included in the analysis are the expenditures from the only non-Pac-12 home game of the season—that against Montana State University.

	Earnings	Jobs	GSP	Output	State Tax Revenue
Visitors	\$1,742,401	69	\$3,534,975	\$6,396,628	\$176,749
Television	\$1,260,067	53	\$2,460,420	\$4,213,620	\$123,021
Total	\$3,002,468	122	\$5,995,395	\$10,610,248	\$299,770

Table 2: Change in the economic impact of the University of Utah football program due to the switch to the Pac-12.

Table 3 summarizes visitor information by game, including average length of stay, spending, choice of lodging and mode of transportation. It shows, for example, that among the estimated 1,522 out-of-state attendees of the game against Arizona State University (ASU), the average length of stay was 3.2 days, average spending per attendee per day on lodging was \$96, 75% arrived in Utah via airplane, and 82% stayed at a Hotel or Motel while in Utah.

An additional objective of the study is to assess visitor attitudes toward the University and Salt Lake

Table 3: Between-game summaries of the estimated number of out-of-state visitors and the average length of stay in Utah, average spending per visitor per day (SPENDING), mode of transportation to Utah (TRANSPORT), and type of accommodations while in Utah (LODGING).

		UW	ASU	OSU	UCLA	CU
	Visitors	1,901	1,522	1,071	612	1,255
	Average Days per Visit	3.2	3.3	3.3	3.0	3.3
SPENDING	Lodging^a	\$87	\$96	\$90	\$94	\$48
	Food^a	\$88	\$99	\$96	\$109	\$80
	Transportation^a	\$33	\$34	\$27	\$45	\$38
	Shopping and Other^a	\$21	\$24	\$59	\$9	\$15
	Total^a	231	260	295	261	186
TRANSPORT	Airplane	57%	75%	47%	82%	53%
	R.V.	0%	1%	2%	0%	0%
	Automobile	42%	24%	33%	18%	47%
	Other	2%	0%	18%	0%	0%
LODGING	Hotels/Motels	73%	82%	65%	85%	56%
	R.V.	0%	1%	2%	0%	0%
	Friends/Relatives	22%	17%	28%	15%	44%
	Other	5%	0%	5%	0%	0%

^a Average spending per visitor per day

City and their experience while visiting. Specifically, participants were asked to indicate their perceptions of Salt Lake City and the University both before and after their arrival (as of the time of the survey) in the state. To express their impressions, participants chose among the options “very unfavorable,” “unfavorable,” “neutral,” “favorable,” and “very favorable.”

Figures 2 and 3 show the percentage of visitors reporting the indicated impressions before and after their visit to the state. For example, 20 percent of out-of-state attendees report a “very favorable” impression of the University before their visit and 34 percent report a “very favorable” impression after their visit.

Tables 4 and 5 show the before-after movement between each the five categories of impressions. In these tables, attendees are grouped according to their initial impressions. Each row in the table corresponds to a particular group. The first row, for example, refers to visitors who reported a “very unfavorable” initial impression. Each group, in turn, is divided according to their subsequent impressions. Moving from left to right on a particular row, these tables show the percentage of attendees having the initial impression indicated by that row who at the time of survey had the impressions indicated on the columns. For example, Table 4 shows that of those visitors having an initial “neutral” impression of Salt Lake City, 1 percent lowered their perception to “unfavorable,” 26 percent maintained their neutral impression, 38 percent moved to “favorable,” and 34 percent moved to a “very favorable” impression. As both tables show, very few visitors had their perceptions of the city and the University lowered by their experience in the state up to the time of survey.

Participants in the survey were also asked whether their experience in Utah had left them more or less likely to return in the future for reasons other than to attend football games (e.g. to ski). As shown in Table 6, more than 70 percent of first-time visitors to the state reported that their visit left them more likely to return in the future. Among those who have visited the state in the past, 87 percent reported

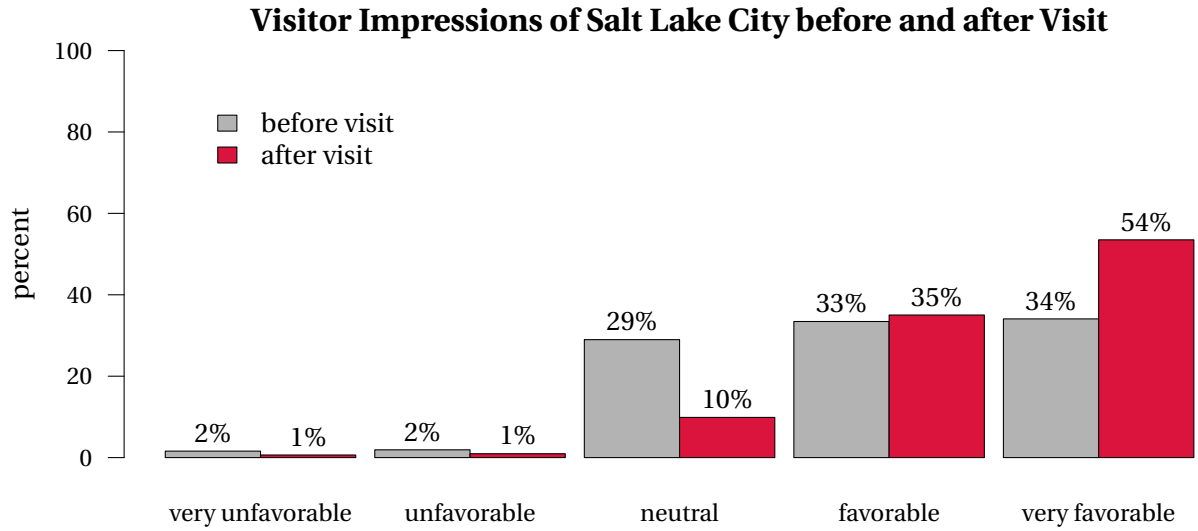


Figure 2: Percentage of visitors having the indicated impressions of Salt Lake City before and after their visit to Utah.

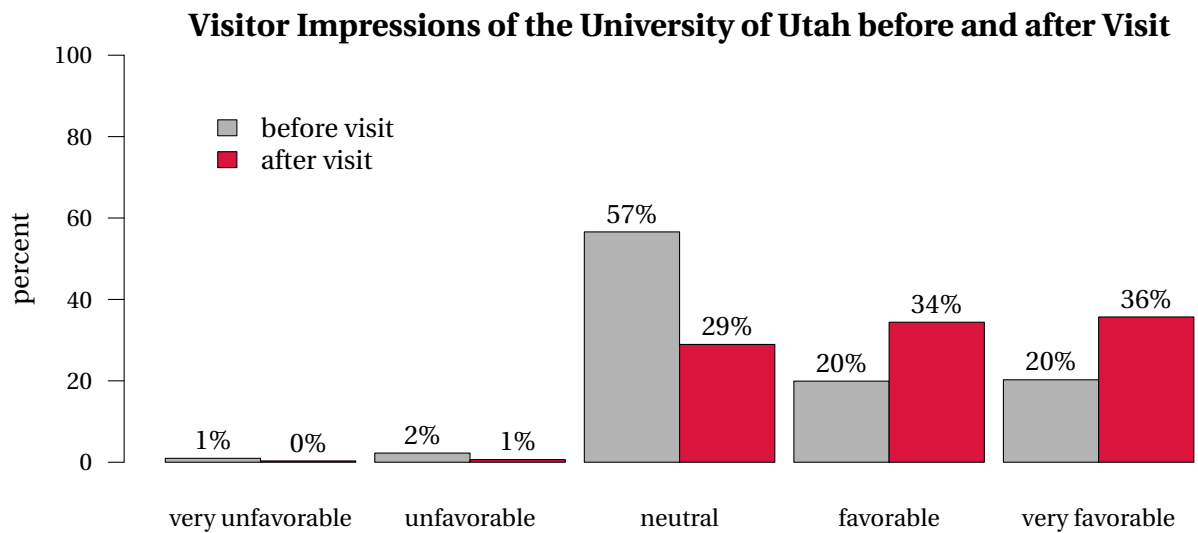


Figure 3: Percentage of visitors having the indicated impressions of Utah before and after their visit to Utah.

being more likely to return.

		SUBSEQUENT				
		Very Unfavorable	Unfavorable	Neutral	Favorable	Very Favorable
INITIAL	Very unfavorable	40%	0%	20%	20%	20%
	Unfavorable	0%	0%	33%	33%	33%
	Neutral	0%	1%	26%	38%	34%
	Favorable	0%	2%	3%	68%	28%
	Very Favorable	0%	0%	1%	1%	98%

Table 4: Percentage of visitors having the indicated impressions of Salt Lake City before and subsequent to their arrival in the state.

		SUBSEQUENT				
		Very Unfavorable	Unfavorable	Neutral	Favorable	Very Favorable
INITIAL	Very Unfavorable	33%	33%	0%	33%	0%
	Unfavorable	0%	14%	14%	43%	29%
	Neutral	0%	0%	50%	29%	21%
	Favorable	0%	0%	2%	82%	16%
	Very Favorable	0%	0%	0%	2%	98%

Table 5: Percentage of visitors having the indicated impressions of the University of Utah before and subsequent to their arrival in the state.

	First-Time Visitor	Return Visitor
More Likely	73	87
Less Likely	1	0
Equally Likely	26	13

Table 6: Percentage of first-time and returning visitors stating the experience of their visit left them more, less, of equally likely to visit Utah again for reasons other than to attend a football game.

3. Conclusions

This study presents some of the quantifiable economic benefits to the University of Utah and the State of Utah from the University's football program during its inaugural season as a member of the Pac-12. We find that the transition from the MWC to the Pac-12 increased the economic impact of the 2011–2012 football season by approximately 60 percent. The vast majority of out-of-state visitors at the 2011–2012 Pac-12 home games reported that their experience while in Utah had left them with a more favorable impression of University and Salt Lake City and that their experience increased the chance of future visits to the state.