

Economic Impact
of Proposed Hotel Conference Center
Operations
in Yukon, Oklahoma
on the City of Yukon
and Canadian County

Three Rivers
A n a l y t i c s ,
L L C

“Making the case for jobs in Oklahoma”

December 21, 2013

STUDY QUESTION

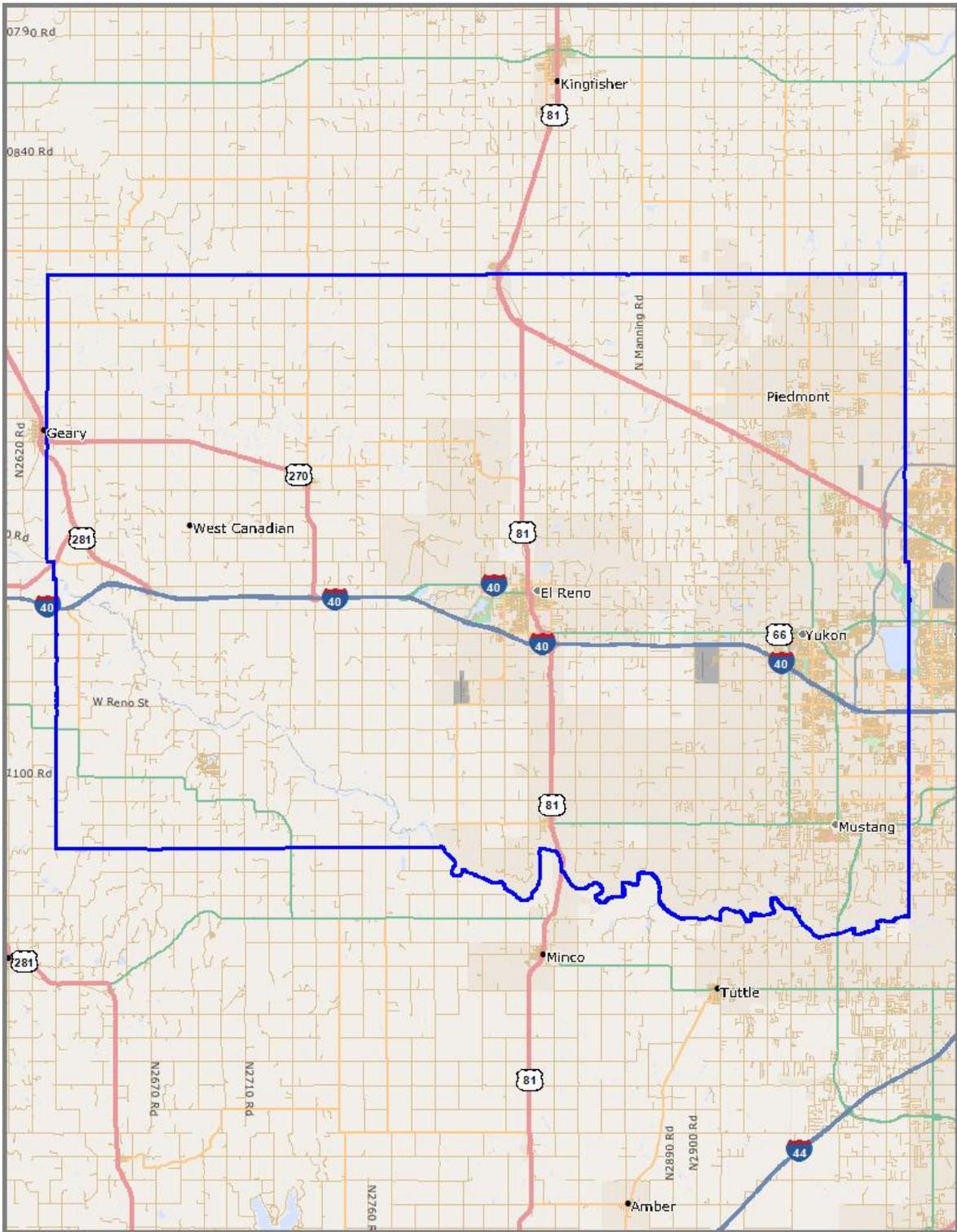
STUDY QUESTION → Determine the economic impact to Yukon and Canadian County of operating a 160-room (20,000 square foot) hotel conference center in Yukon, Oklahoma.

CLIENT: Mr. Larry Mitchell
City of Yukon, Oklahoma
lmitchell@cityofyukonok.gov

RESEARCHER: Brian Jackson, Ph.D.
Three Rivers Analytics, LLC
3105 Cherry Place
Muskogee, OK 74403
brianjackson@threeriversanalytics.com
918-914-9867

DATE OF STUDY: December 21, 2013

Study Area: Yukon and Canadian County



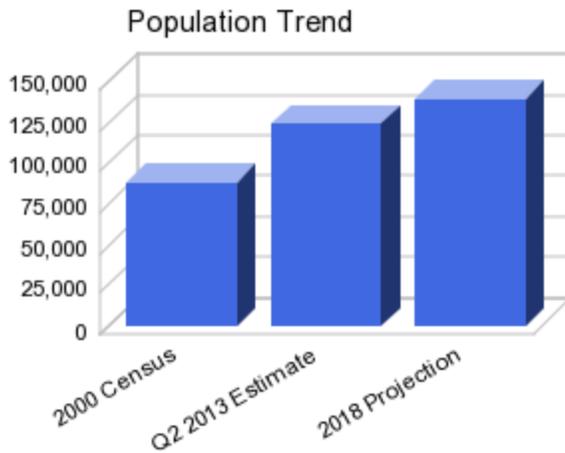
Demographics

**STI: PopStats - Executive Summary
Report with Charts**



Geography: **Canadian**

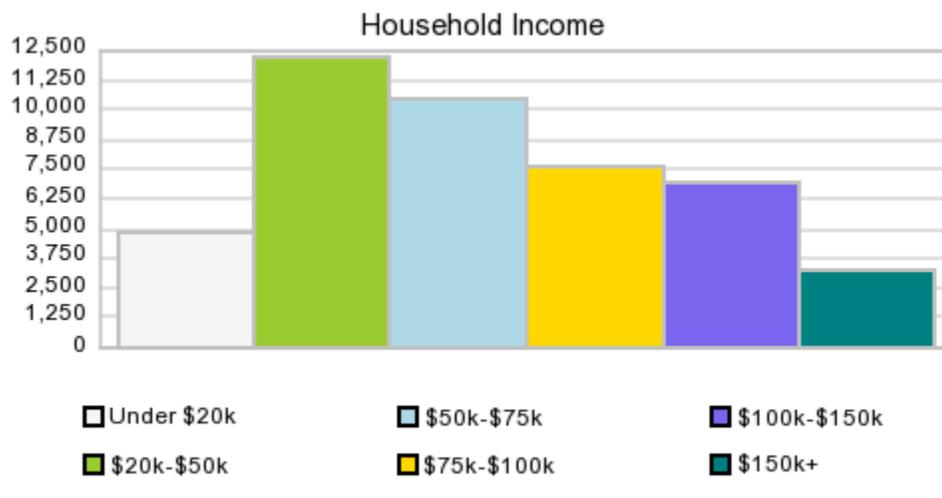
Population Demographics - Q2 2013



The number of households in the study area in 2000 was **31,529**. The household count in Q2 2013 is estimated to be **45,523**. For 2018, the High Range of the Five Year forecast was **56,273** and the Low Range was **47,554** with the actual household projection estimated at **50,919**, a change of **11.85%**. The population in the study area in 2000 it was **87,696**. The population in Q2 2013 is estimated to be **123,823**. For 2018, the High Range of the Five Year forecast was **152,331** and the Low Range was **129,408** with the actual household projection estimated at **138,350** representing a change of **11.73%**.

	2000 Census	Q2 2013 Estimate	2018 Projection	Percent Change 2013 to 2018
Total Population	87,696	123,823	138,350	11.73%
Total Households	31,529	45,523	50,919	11.85%

Households by Income - Q2 2013



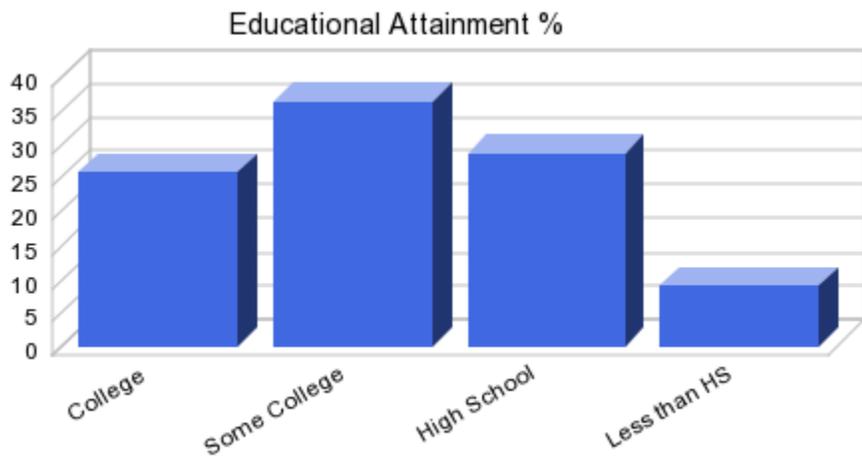
In Q2 2013 the predominant household income category in this study area is **\$20k to \$50k**, and the income group that is least represented in this geography is **\$150K +**. The following table ranks income groups by the Q2 2013 Income Classes.

	2000 Census		Q2 2013 Estimate	
\$0 - \$19,999	5,245	16.64%	4,880	10.72%
\$20,000 - \$49,999	12,280	38.94%	12,284	26.98%
\$50,000 - \$74,999	7,649	24.26%	10,462	22.98%
\$75,000 - \$99,999	3,521	11.16%	7,586	16.66%
\$100,000 - \$149,999	2,152	6.82%	6,997	15.37%
\$150,000 +	680	2.15%	3,310	7.27%
Average Hhld Income	\$53,470		\$74,014	
Median Hhld Income	\$45,514		\$62,542	
Per Capita Income	\$19,224		\$27,211	

Educational Attainment

Geography: **Canadian**

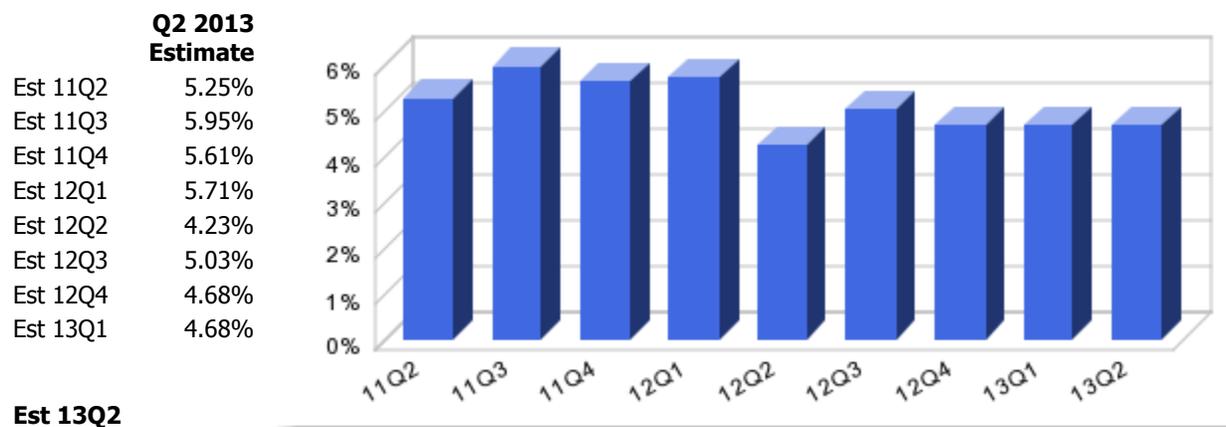
Educational Attainment	
College – Associate	6,347
College – Bachelors	14,997
College – Doctorate	436
College – Masters	4,343
College – Professional	1,060
Grade Less than 9	2,293
Grade 9 to 12	4,903
High School	23,034
Some college	22,829
Total Educated	80,243



Employee Salary and Demand

Average Salary	\$43,560
National Average Salary	\$45,930

% Unemployment Rate by Quarter



PopStats Demographic Data

This PopStats demographic data utilized in this report is provided by Synergos Technologies. This data is updated quarterly to end users based on new ZIP+4 data (note that new data and statistics are delivered monthly, updated quarterly). This data is modeled where a growth factor is derived for every ZIP+4 in the country. This application occurs via a proprietary model that uses this information as well as other pertinent factors (see below) to generate a current estimate. The data sources for PopStats datasets come from:

- United States Postal Service (USPS)
- United States Department of Defense (DMDC)
- United States Census Bureau
- National Center for Education Statistics (NCES)
- Federal Financial Institutions Examination Council (FFIEC)
- Internal Revenue Service (IRS)
- Bureau of Economic Analysis (BEA)
- Bureau of Labor Statistics (BLS)
- Office of Federal Housing Enterprise Oversight (OFHEO)

Most data vendors and therefore most data analysts are using information that is delivered once annually and is based upon trended census growth figures (i.e., 1990 to 2000). Census trended data misses any new growth that may occur, particularly isolated hot communities that tend to flare up in a few years and sometimes a few quarters.

Economic Summary of Study Area

Study Area – Canadian County / 2011 GDP

Yukon Regional Shopping Center		Copyright 2013 Minnesota IMPLAN Group, Inc.			
Model Information					
Model Year		2011		Value Added	
GRP		\$3,035,124,464		Employee Compensation	
Total Personal Income		\$4,541,322,000		Proprietor Income	
Total Employment		45,383		Other Property Type Income	
				Tax on Production and Import	
Number of Industries		175			
Land Area (Sq. Miles)		900		Total Value Added	
Area Count		1			
Final Demand					
Population		119,492		Households	
Total Households		44,933		State/Local Government	
Average Household Income		\$101,068		Federal Government	
				Capital	
Trade Flows Method		Trade Flows Model		Exports	
Model Status		Multipliers		Imports	
				Institutional Sales	
Economic Indicators					
Shannon-Weaver Index		.70334		Total Final Demand:	
Top Ten Industries					
Sector	Description			Employment	Labor Income
437	* Employment and payroll only (state & local govt, non-education)			3,167	\$145,767,200
413	Food services and drinking places			2,592	\$47,181,290
438	* Employment and payroll only (state & local govt, education)			2,098	\$87,330,730
360	Real estate establishments			1,850	\$11,125,680
36	Construction of other new nonresidential structures			1,516	\$47,588,730
29	Support activities for oil and gas operations			1,418	\$129,023,600
329	Retail Stores - General merchandise			1,237	\$30,430,800
319	Wholesale trade businesses			1,209	\$55,987,590
39	Maintenance and repair construction of nonresidential Structures			1,090	\$32,945,740
335	Transport by truck			951	\$37,115,450
					\$166,644,400
					\$136,992,800
					\$100,562,200
					\$232,452,000
					\$131,286,600
					\$309,690,200
					\$69,022,830
					\$168,765,100
					\$81,056,260
					\$117,952,700

Source: IMPLAN v3.0

METHODOLOGY

For this study, standard input-output analysis utilizing regional social accounting matrices (SAM) was applied to initial parameter values associated with the particular activity of interest and related economic and demographic information. Social accounting matrices are built from state and federal government-supplied economic data and describe the monetary flows between all buying and selling sectors of an economy. Predictive multiplier models used for estimating economic impacts of initial economic disturbances in employment, income, or output are obtained from social accounting matrices.

IMPLAN (short for **IM** pact analysis for **PLAN** ning) is the standard data and software package used for performing economic impact analysis. Minnesota IMPLAN Group, Inc. (MIG) is the corporation responsible for the production of IMPLAN and was the company that aggressively pioneered the concept of using SAMs for economic modeling. We have employed IMPLAN Version 3.0 to perform the analysis of this study. This version of IMPLAN describes economic activity at the county level for 440 different industry sectors in addition to detailing commodity trade across regions, and monetary transfers between households, governments, and financial institutions. The most up-to-date data sets (2011) for Oklahoma and the U.S. provided by IMPLAN were used for this study.

Purchases for final use (**final demand**) drive an input-output model. **Direct effects** are the changes (e.g. to employment or output) in the industries in which a final demand change was made. These industries in turn purchase goods and services from other producers in the region. These purchases, called **indirect** purchases of the industry that experienced the initial final demand change, produce indirect effects (e.g. to employment or output) as well. Indirect purchases continue until leakages from the region through imports, wages, or profits eventually stop the cycle.

The additional household income generated by the direct and indirect effects will generate household expenditures to local industries. The resulting impacts (e.g. to employment or output) are called **induced effects**. The indirect and induced effects can be mathematically derived as sets of multipliers which describe the change (e.g. to employment or output) caused by a one dollar change in final demand for that industry. Through IMPLAN, this study has employed the most modern approach to estimating induced effects by using Type SAM multipliers that utilize all social accounts available from various government agencies to generate a model that captures inter-institutional transfers.

ECONOMIC INDICATORS

Employment includes total wage and salary employees as well as self-employed jobs in a region. It includes both full-time and part-time workers and is measured in annual average jobs.

Labor income includes all forms of employment income, including employee compensation (wages and benefits) and proprietor income.

Value-Added consists of four components.

1. Employee Compensation
2. Proprietor Income
3. Other Property Income
4. Indirect Business Tax

Employee compensation is wage and salary payments as well as benefits, including: health and life insurance, retirement payments, and any other non-cash compensation. It includes all income to workers paid by employers.

Proprietary income consists of payments received by self-employed individuals as income. This is income recorded on Federal Tax Form 1040C. Proprietary income includes income received by private business owners, doctors, lawyers, and so forth. Any income a person receives for payment of self-employed work is counted.

Other property type income consists of payments from interest, rents, royalties, dividends, and profits. This includes payments to individuals in the form of rents received on property, royalties from contracts, and dividends paid by corporations. This also includes corporate profits earned by corporations.

Indirect business taxes consist primarily of excise and sales taxes paid by individuals to businesses. These taxes occur during the normal operation of these businesses but do not include taxes on profit or income.

Total Industry Output (or simply “output”) is the value of production by industry for a calendar year. Output can be measured either by the total value of final purchases, or by intermediate outlays plus value-added. Output can also be thought of as a value of sales plus or minus inventory.

Output values used by IMPLAN as inputs are derived from a number of sources, including Bureau of Census economic censuses, BEA output estimates, and the BLS employment projections.

IMPACT CATEGORIES

Direct Effects represent the impacts (changes in employment, labor income, total value added, and output) to the industry receiving the initial final demand change. Purchases for final use (final demand) drive the input-output model built by IMPLAN. This impact correlates with an immediate direct effect to Labor Income (employee compensation plus proprietor income) and Total Value Added (labor income plus other property income and indirect business taxes) in the study area.

The directly affected industry will purchase goods and services from other producers, which in turn will also purchase goods and services from yet other producers. Hence, consequent to the direct effects are the **indirect effects** (or indirect purchases of the directly affected industry) which are ripples through backward linkages in the supply chain that eventually diminish because of leakages (outward cash flows due to imports, wages, profits, etc) from the study area.

Finally, we also note that there are **induced effects** resulting from the increase of income to households of people employed in the directly affected industry and those connected to it through the backward supply chain linkages. Household spending will change as household income increases or decreases. These spending effects will impact a whole array of businesses (grocery stores, restaurants, entertainment venues, etc).

Total Effects (= Direct + Indirect + Induced) for each sector result.

INCOME AND CASH FLOWS TO CITY AND COUNTY FROM PROJECT

Data provided by Mr. Larry Mitchell and contained in Table A1 of the Appendix serves as the primary data input for this study. Room revenue assumptions in this table are based upon the following room revenue rates:

Year 1: \$122 per room night Year 2: \$125 per room night Year 3: \$127 per room night.

Other assumptions include a 1.50% growth rate of all revenues after Year 3, a 1.50% growth rate for conference day visitors after Year 3, and a 2% growth rate in assessed value after Year 1. City sales tax for hotel overnight visitors is assumed to apply to a limit of \$75 per room night, and \$50 per day visitor.

The occupancy rate is assumed to stabilize in Year 3 at

$$37,172 \text{ Room Nights} \div (160 \text{ Rooms} \times 365.25 \text{ Nights per Year}) = 0.63607 \approx 64\%.$$

As the precision of this assumed occupancy rate a matter of concern for the client, we have performed a simple sensitivity analysis. Output tables generated from alterations of the occupancy rate are displayed in Tables A2 through A5 of the Appendix as listed in the left column of the matrix below. We label the base case as “Scenario A” and the altered states as Scenarios B through Scenario E. These tables demonstrate that the present value of net cash flows for the city of Yukon and Canadian County over the life of the project (10 years) is fairly minimally affected by significant changes in the occupancy rate.

Table A1: Scenario A (Base Case from primary data input supplied)	Occupancy Rate = 0.63607 ≈ 64% PV-Discount Rate = 6.00% Revenue Growth Rate = 1.50%	PV of Total City Income = \$3,273,403 NPV of Net Cash Flows to City = \$1,973,677 Canadian Co. Prop Tax = \$1,738,218 Canadian Co. Sales Tax = \$144,265
Table A2: Scenario B	Occupancy Rate = 60% PV-Discount Rate = 6.00% Revenue Growth Rate = 1.50%	PV of Total City Income = \$3,238,452 NPV of Net Cash Flows to City = \$1,938,726 Canadian Co. Prop Tax = \$1,738,218 Canadian Co. Sales Tax = \$144,207
Table A3: Scenario C	Occupancy Rate = 55% PV-Discount Rate = 6.00% Revenue Growth Rate = 1.50%	PV of Total City Income = \$3,190,005 NPV of Net Cash Flows to City = \$1,890,279 Canadian Co. Prop Tax = \$1,738,218 Canadian Co. Sales Tax = \$136,986
Table A4: Scenario D	Occupancy Rate = 50% PV-Discount Rate = 6.00% Revenue Growth Rate = 1.50%	PV of Total City Income = \$3,141,558 NPV of Net Cash Flows to City = \$1,841,832 Canadian Co. Prop Tax = \$1,738,218 Canadian Co. Sales Tax = \$132,729
Table A5: Scenario E	Occupancy Rate = 70% PV-Discount Rate = 6.00% Revenue Growth Rate = 1.50%	PV of Total City Income = \$3,335,346 NPV of Net Cash Flows to City = \$2,035,620 Canadian Co. Prop Tax = \$1,738,218 Canadian Co. Sales Tax = \$149,685

These occupancy rates are actually well within the range of recent rates exhibited by conference centers nationwide as illustrated by the following table provided by the International Association of Conference Centers (IACC).

Year	All Centers	Executive	Corporate	Resort	College/Univ
2011	62.6%	49.4%	76.5%	61.1%	50.0%
2012	64.3%	49.8%	77.2%	64.0%	53.5%
Percent Change	2.8%	0.8%	1.0%	4.7%	7.0%

(PKF Hospitality Research LLC Trends® in the Conference Centre Industry-North America 2013 Edition)
See http://hotel-online.com/press_releases/release/iacc-pkf-release-trends-in-the-conference-center-industry-2013 for the complete article.

A discount rate of 6% is used to calculate present values in Tables A1 through A5. As this rate is significantly higher than the present yield on 10-year U.S. Treasury bonds, we believe the present value of total city income and the NPV of net cash flows to the city are conservatively estimated. (For a lower rate, present values would be higher.)

ECONOMIC IMPACTS TO THE AREA ECONOMY

For the base case (Scenario A: Occupancy Rate = 0.63607 \approx 64%, PV-Discount Rate = 6.00%, and Revenue Growth Rate =1.50%) we have used IMPLAN v3.0 to estimate the direct, indirect, and induced impacts on employment, labor income, value added and output for the study area and for the top ten industries affected by employment over the first three years of operations. We estimate these values to be fairly stable with respect to changes in the three parameters that distinguish each scenario A through E.

Year 1

Total Impact Summary: Occupancy Rate = 0.63607 \approx 64%, PV-Discount Rate = 6.00%, and Revenue Growth Rate =1.50%

	Employment	Labor Income	Value Added	Output
Direct Effect	67.4	\$1,360,093	\$2,342,720	\$4,809,298
Indirect Effect	14.2	\$358,878	\$650,370	\$1,210,357
Induced Effect	5.9	\$154,988	\$376,992	\$626,468
Total Effect	87.6	\$1,873,960	\$3,370,082	\$6,646,123

Top Ten Industries Affected By Employment

	Employment	Labor Income	Value Added	Output
Sector 411 Hotels and motels, including casino hotels	34.1	\$792,887	\$1,352,261	\$3,214,158
Sector 330 Retail Stores – Misc	14.6	\$245,947	\$491,206	\$634,061
Sector 413 Food Services and Drinking Places	14.2	\$267,091	\$400,797	\$785,430
Sector 410 Other amusement and recreation industries	7.2	\$103,020	\$173,059	\$318,560
Sector 388 Services to buildings and dwellings	2.1	\$35,871	\$46,303	\$103,242
Sector 360 Real estate establishments	1.5	\$9,443	\$138,097	\$201,479
Sector 382 Employment Services	1.3	\$20,196	\$24,217	\$34,233
Sector 39 Maintenance and repair construction of nonresidential structures	1.2	\$37,678	\$40,764	\$91,961
Sector 368 Accounting, tax preparation, bookkeeping, and payroll services	0.8	\$14,058	\$29,671	\$46,723
Sector 377 Advertising and related services	0.6	\$9,704	\$30,229	\$58,049

Year 2

Total Impact Summary: Occupancy Rate = 0.63607 \approx 64%, PV-Discount Rate = 6.00%, and Revenue Growth Rate =1.50%

	Employment	Labor Income	Value Added	Output
Direct Effect	91	\$1,830,281	\$3,146,478	\$6,467,067
Indirect Effect	19.1	\$481,723	\$874,342	\$1,626,745
Induced Effect	8	\$208,464	\$507,067	\$842,619
Total Effect	118.2	\$2,520,468	\$4,527,887	\$8,936,431

Top Ten Industries Affected By Employment

	Employment	Labor Income	Value Added	Output
Sector 411 Hotels and motels, including casino hotels	45.4	\$1,056,084	\$1,801,141	\$4,281,090
Sector 413 Food services and drinking places	19.5	\$367,770	\$551,875	\$1,081,492
Sector 330 Retail Stores – Misc	18.8	\$317,389	\$633,889	\$818,241
Sector 410 Other amusement and recreation industries	10.8	\$154,501	\$259,541	\$477,752
Sector 388 Services to buildings and dwellings	2.9	\$48,037	\$62,007	\$138,257
Sector 360 Real estate establishments	2.1	\$12,779	\$186,886	\$272,658
Sector 382 Employment services	1.7	\$27,227	\$32,648	\$46,151
Sector 39 Maintenance and repair construction of nonresidential structures	1.6	\$50,429	\$54,559	\$123,081
Sector 368 Accounting, tax preparation, bookkeeping, and payroll services	1	\$18,959	\$40,016	\$63,015
Sector 377 Advertising and related services	0.8	\$12,976	\$40,421	\$77,622

Year 3

Total Impact Summary: Occupancy Rate = 0.63607 \approx 64%, PV-Discount Rate = 6.00%, and Revenue Growth Rate =1.50%

	Employment	Labor Income	Value Added	Output
Direct Effect	100.7	\$2,024,032	\$3,479,614	\$7,147,051
Indirect Effect	21.1	\$531,793	\$965,579	\$1,796,331
Induced Effect	8.8	\$230,446	\$560,534	\$931,468
Total Effect	130.7	\$278,270	\$5,005,727	\$9,874,850

Top Ten Industries Affected By Employment

	Employment	Labor Income	Value Added	Output
Sector 411 Hotels and motels, including casino hotels	50	\$1,164,078	\$1,985,324	\$4,718,869
Sector 413 Food services and drinking places	21.7	\$408,184	\$612,521	\$1,200,338
Sector 330 Retail stores – misc	20.9	\$352,372	\$703,758	\$908,430
Sector 410 Other amusement and recreation industries	12	\$171,666	\$288,376	\$530,831
Sector 388 Services to buildings and dwellings	3.2	\$52,999	\$68,413	\$152,540
Sector 360 Real estate establishments	2.3	\$14,135	\$206,711	\$301,584
Sector 382 Employment services	1.9	\$30,071	\$36,059	\$50,972
Sector 39 Maintenance and repair construction of nonresidential structures	1.8	\$55,644	\$60,201	\$135,809
Sector 368 Accounting, tax preparation, bookkeeping, and payroll services	1.1	\$20,945	\$44,209	\$69,616
Sector 377 Advertising and related services	0.9	\$14,319	\$44,606	\$85,658

Three Rivers Economists

Brian Jackson, Ph.D. has served on the faculty of Northeastern State University in Tahlequah, Oklahoma since 2008 where he is currently an assistant professor of accounting and economics. He obtained a B.S. (math and chemistry) from Northeastern State in 1982, an M.S. in mathematics from the University of Oklahoma in 1984, and a Ph.D. in economics from Oklahoma State University in 2005. He has published articles in microeconomic theory in the *Journal of Economics (MVEA)* and the *Journal of Economic Education*. Past employment includes service to the United States Government / Central Intelligence Agency, and almost fifteen years as an instructor of mathematics. He lives in Muskogee with his wife Kathy and two grown children.

Ray Murphy, M.S. has over 25 years' experience in creating Retail Planning Computer Models that assisted companies in Network Planning and Retail Site Evaluation in the Petroleum, Quick Serve Restaurant, Banking, Supermarket, and Convenience Store industries in North and South America, Europe, Asia, Australia, and Africa. In 2002, Ray began assisting communities within Oklahoma in their economic development endeavors. In 2005, Ray created a strategic planning site development tool, TruPicture.

In 2009 Ray founded TruVue LLC, formed to expand operations into community development, retail development site selection, hospital location analysis and retail center development. The MarketVue program was developed to create opportunity between cities, developers, and retailers for economic growth. The TruPicture software tools have been used by many regional and national clients to make data-based decisions about facility locations and market potentials. Ray has an M.S. degree in economics from the University of North Carolina.

APPENDIX