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University of Texas at El Paso Capital Improvements: Economic Impact on El Paso, Texas

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UTEP Capital Improvements: Economic Impact Fact Sheet

• UTEP construction expenditures injected directly into EP economy (2008 dollars)	$ 103.7 mil.
• Total (direct + indirect + induced effects) increased Business Volume in EP over 2008-2011 construction period (2008 dollars)	$ 164.8 mil.
• Total increase in Labor Income to EP workers over 2008-2011 construction period (2008 dollars)	$ 64.0 mil.
• Jobs supported during construction period	2008 – 294 2009 – 510 2010 – 770 2011 – 123
• Compensation per new job	$37,700/yr.

UTEP Capital Improvements: Economic Impact on El Paso, Texas

Introduction

The University of Texas at El Paso (UTEP) is a significant contributor to the regional economy. UTEP serves approximately 20,000 students, employs over 2,900 individuals and has an annual operating budget of $280 million. The University is one of the largest business concerns in El Paso; impacting directly and indirectly local business volume, household income, and employment in the region. As of 2006, it is estimated that UTEP-related business volume is $375 million on an annual basis. In addition, UTEP directly and indirectly (that is, considering multiplier effects) creates 6,123 jobs and generates $343 million in personal income to local households annually.[1]

The figures above are impressive and result from UTEP's annual operating budget along with student expenditures in the local economy. What is **not** considered is the economic impact of various UTEP construction projects on regional business volume, household income, and jobs. The University is in the midst of the largest construction/expansion boom in its 90-plus year history. Over the 2008 through 2011 period, UTEP will complete over $235 million of projects ranging from engineering, health and science facilities; a basketball practice center; a swimming facility; a new University bookstore; along with 10 additional smaller projects.[2] The present report provides the economic impact effects of these construction projects on the El Paso economy.

Methodology

Economic impact studies are typically based upon input-output (I-O) analysis. I-O models develop tables which represent what industries buy and sell from one another to produce a product or provide a service. I-O models measure **multipliers** to estimate the activity of each dollar and its subsequent re-spending within a region. Multipliers are based on the concept that dollars introduced into an area generate economic activity. Regions and the exact type of industry affect the multiplier's size. Some industries have larger multipliers within a given region due to their level of interaction with other industries.

An I-O model impact begins with a **direct effect** of spending from industry, government or households, and originates from current or new expenditures, also known as changes in **demand** (expenditures include salaries and wages to workers). Current expenditures are used,

for example, to measure how current activities of a firm support and ripple through other regional economic sectors. New expenditures are used, for example, to measure the economic impact from new construction or business activity, an increase in household spending, a purchase order placed through a local business, or from spending of tourists.

The I-O model next identifies and quantifies the "ripple effects" of the demand change or direct effect; these "ripples" are referred to as **indirect** and **induced effects**. Usually, the biggest non-direct effect comes from induced household spending of labor income earned in affected industries. For instance, the auto industry spends ***x*** amount of dollars to manufacture cars. This initial spending amount (***x***) represents the direct economic impact. The model then estimates the auto industry's purchases of steel, rubber, plastic parts, etc. from other industries needed to manufacture the cars. These supplier sectors, in turn, must purchase inputs/materials from other industries to produce the steel, rubber, plastic parts, etc. that will be sold to the auto manufacturer. These intermediate sales are the **indirect effects**, and are measured in each "round" of economic activity until all required purchases are complete.

Further, the business to business purchases quantified in the direct and indirect rounds will involve compensating business proprietors and workers. A large portion of this earned income will be spent by these individuals on various goods and services, such as purchasing clothing or eating at a restaurant, generating more economic activity. These **induced effects** imply further increases in business volume, jobs and income to households throughout the economy. Overall, total economic impacts will be the sum of direct, indirect and induced effects, and the total impacts will be greater than or a multiple of the original direct effect.

The IMPLAN model[3] is selected for this economic impact analysis because its "regionalized" multipliers are believed to be more accurate at a local economy level, and generally are somewhat more conservative than other I-O models available.[4] In particular, IMPLAN provides efficient estimates on the magnitude of jobs affected by a change in demand, as well as its contribution to the economy; two key areas of interest for policy.

Results

Impact findings measure the effects on business activity, jobs and income resulting from construction capital improvement expenditures. The construction effects will be transitory, occurring only during the building phase.

Data concerning projected time lines, costs associated with the construction projects, and the portion of each project's budget spent locally were provided by UTEP's Business Affairs

– Facilities Services department and the University of Texas System's Office of Facilities Planning and Construction office.[5] The relevant data and assumptions associated with the construction phase of UTEP's capital improvement projects are presented in Table 1.

Table 1. Time Line and Construction Costs: 2008 to 2011

		Local Expenditures (nominal $ million)	Local Expenditures (2008 $ million)
2008	**Construction**	17.958	17.958
2009	**Construction**	31.654	31.149
2010	**Construction**	48.630	47.090
2011	**Construction**	7.900	7.528
2008-2011	**Total Construction**	106.142	**103.725**

As noted in Table 1, local construction expenditures total $106.1 million between 2008 and 2011. For the 2008 through 2011 period, the expenditure values are estimated in nominal dollars; that is, dollar estimates for each year in the future. The figures in the last column adjust these future amounts to current, 2008 values.

The figures presented in the last column of Table 1 will create incremental business activity or output, as well as jobs and income to the labor/household sector. The total impacts in these three categories include the sum of direct, indirect and induced effects. Table 2 presents the economic impact values.

Table 2. Total Annual Impacts from Construction (output and labor income in current, 2008 $ millions)

Year	Output	Labor Income	Employment
2008	28.5	11.1	294
2009	49.5	19.2	510
2010	74.8	29.1	770
2011	12.0	4.6	123
2008 - 2011	164.8	64.0	

Note: Total Impacts = Direct + Indirect + Induced Impacts

Table 2 reveals the following with respect to additional business sector volume or output:

- The El Paso economy will experience $164.8 million incremental business volume over the 2008 through 2011 time frame.

- $74.8 million of increased business activity will occur during 2010 when construction activity is greatest. Output effects are lower during 2008 as projects ramp up and during 2011 when these construction capital improvements end. Even so, $40.5 million of additional business volume will be experienced locally over these two years.

With respect to employment:

- Annual employment figures cannot be summed to a total over the four year construction period. Incremental jobs will be generated on a year-to-year basis and depend upon the amount and type of expenditures annually, as well as the number of construction jobs that roll over from year to year.

- Consistent with the output figures discussed above, the major employment effects occur in 2009 (510 jobs) and 2010 (770 jobs). 2008 and 2011 employment effects are lower as expected, although 294 and 123 jobs are supported in these years, respectively.

Concerning Labor Income:

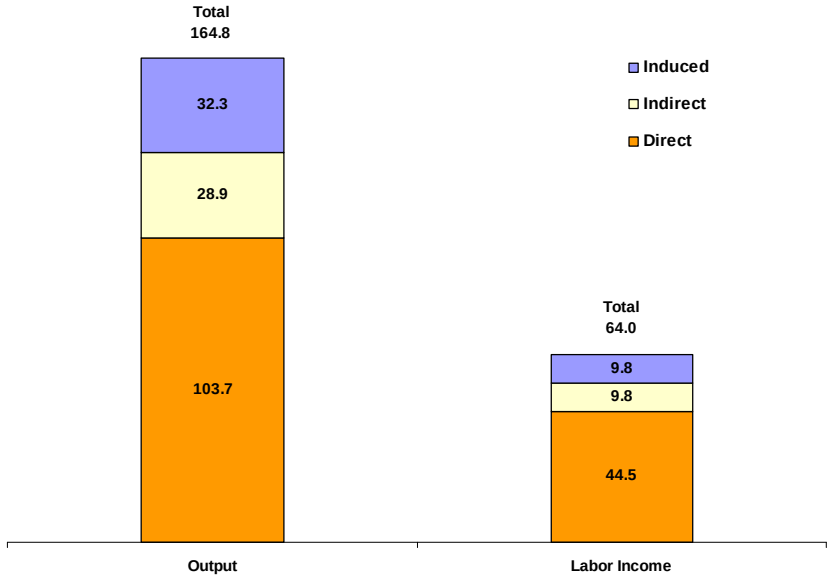
- Incremental business activity causes an increase in employment which implies increased compensation to the El Paso labor sector. Over the four year construction period, $64 million of incremental income is generated in the region. Approximately 39 percent of the increase in business volume or revenues goes to labor of households in the form of wages, salaries, and benefits.[6]

- As with employment figures, labor income rises significantly during 2009 and 2010. Compensation is relatively low for 2008 and 2011 although over $15.7 million flows to workers during the two years.

The employment and income values imply significant impacts in terms of number of jobs and total dollar compensation levels. Further, the incremental jobs are relatively high paying jobs, averaging $37.7 thousand per year (incremental income for a given year divided by jobs during the year).

Figure 1 disaggregates the total dollar impacts for output and labor income into the direct, indirect and induced components noted earlier. The implied multipliers are 1.59 and 1.44 for incremental output and labor income, respectively (total impact divided by direct impact).

Figure 1. 2008 through 2011 Aggregate Impacts from Construction and Start Up Costs (2008 $ millions)



[1] Schauer, David A. and Mathew McElroy. 2007. "2006 Economic Impact of the University of Texas at El Paso," Institute for Policy and Economic Development, Technical Report #2007-06.
[2] Poulos, Ryan. 2008. "UTEP's $236 Million Building Boom," **El Paso Inc**., Vol.13, No. 24 (February 10-16). The specific time frame analyzed in this study is January 1, 2008 through May 31, 2011. The recent delay in the Bookstore project will not affect the economic impact values to any significant degree.
[3] IMPLAN Professional®, Version 2.0, Minnesota IMPLAN Group, Inc.
[4] Rickman, Dan S. and Keith Schwer. 1995. "A Comparison of the Multipliers of IMPLAN, REMI, and RIMS II: Benchmarking Ready-Made Models for Comparison," **The Annals of Regional Science**, Vol. 29, p 363-374.
[5] IPED acknowledges and thanks G. McNicol (UTEP) and E.J. Gill (UT System) for their assistance in this project.
[6] The IMPLAN model includes employer-provided benefits as part of total compensation to labor.