
The TPICS Web Tool: A Dataset of Transportation Project Impact Case Studies

Presented by:

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DEVELOPMENT CONFERENCE**

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Charleston, WV*

Strategic Highway Research Program 2 – Project C03

- Interactions Between Transportation Capacity, Economic Systems, and Land Use
- Consulting Team:
 - Economic Development Research Group, Inc.
 - ICF International
 - Cambridge Systematics, Inc.
 - Wilbur Smith Associates, Inc.
 - Susan Jones Moses and Associates

Project Work Products

- Research Reports
 - Study Design and Methodology
 - 100 Case Study Assessments
 - Meta-Analysis
 - Research Needs
- Transportation Project Impact Case Studies (TPICS) Web-Based Tool
 - Interactive Case Study Database
 - MyProject Impact Tool
- User's Guide
- Practitioner's Guide

Potential Uses of TPICS

- Compare Proposed Projects to Real-World Examples
 - Use case search to access outcomes of similar projects
- Evaluate Potential Range of Economic Impacts Associated with Proposed Highway Projects
 - Assess effects of key project characteristics
 - Identify potential effects of concurrent investments
- Prioritize Based on Long-Term Economic Development Potential
 - Decide which project types, settings and initiatives produce best overall results

Current Case Characteristics

- Project Type
 - 10 types in current data
- Urban/Rural Setting
 - Directly affects level and type of economic impacts
- Degree of Economic Distress
 - Sets stage for leverage and potential factor interactions
- Intensity of Activity
 - Addresses traffic volume, market size and access to intermodal facilities (e.g., airport ports)

Case Study Findings & Implications

Project Findings

- Size of Investment (\$\$) is not the Primary “Driver” of Long-Term Economic Impacts
- Project Types and Economic Conditions Have Greatest Influence on Investment Outcomes
- Non-transportation Initiatives Matter
- Greatest Economic Effects Attributable to:
 - Regional setting
 - Current level of economic activity/distress
 - Location and intensity of use
 - Concurrent economic development policies

Economic Impact - MyProject Tool

- Based on User-Specified Project Characteristics
 - Project type, location and economic conditions
- Applies Findings from Cases and Synthesis of Studies
 - Basic relationships establish range of economic impacts
- Users Provide Supplemental Adjustments
 - Includes policy and intensity of user-defined options
- Includes Internal Consistency and Checks

Key Interaction Factors

- Access to Alternative Modes
 - Airports
 - Rail Intermodal Facilities
 - Seaports
- Market Access
 - Labor Markets
 - Freight/Delivery Markets
- Congestion
 - Shifts spatial distribution of economic impacts

Effects of Interactions

- Effects of Concurrent Infrastructure
 - Water, sewer, broadband, power, etc.
 - Range of effects: -35% to +20%
- Supportive Land Use Policies
 - Permitting, zoning, special districts, etc.
 - Range of effects: -20% to +11%
- Business Incentives
 - Tax increment financing, abatements, job training programs, etc.
 - Range of effects: -5% to +5%



Transportation Project Impact Case Studies

Home

Case Search

my Project Tools

About T-PICS

The T-PICS System

contains a database of case studies of built transportation projects and pre/post project data regarding their impacts on the economy of proposed new projects by providing information on the range of actual impacts observed from already-built projects. The system at this time contains information only for highway-related projects.

Announcements

This is a draft version of the web site for Transportation Project Impact Case Studies (T-PICS). It provides access to a national database of case studies that can be used to assess the pre- and post-construction economic development and related effects of various kinds of transportation projects. The first sixty case studies are included in this release of T-PICS. Additional case studies and project types will be added in 2010. Click on the "About T-PICS" tab (above) for additional information.

Case Search

(Screen and Select)

You define a set of project characteristics. The system screens available cases and selects those that meet your criteria. You can then view the selected cases.



My Project Tools

(Rate and Rank and Predict Impacts)

You describe a proposed project (not yet built). You set allowances for 'importance weights' for various criteria. The system rates and ranks cases by how well they match to your defined criteria. You then view and compare best-ranked matches. The system then uses findings from available case studies to estimate the most likely level and range of economic impacts for your proposed project.





Case Search

You enter data characteristics of your own project. Then you can view projects that are similar to yours, and use the data to estimate the likely impacts of your project.

[View Results](#)

Basic Criteria

Other Criteria

Potential Matches: 9

Project Type:

[De-Select All](#)

- | | | | |
|---|---|---|--------------------------------------|
| <input checked="" type="checkbox"/> Bypass | <input checked="" type="checkbox"/> Limited Access Road | <input checked="" type="checkbox"/> Beltway | <input type="checkbox"/> Interchange |
| <input type="checkbox"/> Bridges | <input type="checkbox"/> Access Road | <input type="checkbox"/> Bundled | <input type="checkbox"/> Widening |
| <input checked="" type="checkbox"/> Connector | <input type="checkbox"/> Intermodal Freight | <input type="checkbox"/> Intermodal Passenger | |

Region:

[De-Select All](#)

- | | | | |
|---|---|------------------------------------|--|
| <input type="checkbox"/> New England/Mid-Atlantic | <input checked="" type="checkbox"/> Southwest | <input type="checkbox"/> Southeast | <input type="checkbox"/> International |
| <input checked="" type="checkbox"/> Rocky Mountain/Far West | <input type="checkbox"/> Great Lakes/Plains | | |

Motivation:

[De-Select All](#)

- | | | | | |
|--|--|--|---|----------------------------------|
| <input checked="" type="checkbox"/> Air Access | <input checked="" type="checkbox"/> Labor Market | <input type="checkbox"/> Int'l Border Access | <input checked="" type="checkbox"/> Site Development | <input type="checkbox"/> Tourism |
| <input type="checkbox"/> Rail Access | <input type="checkbox"/> Delivery Market | <input type="checkbox"/> Marine Port Access | <input checked="" type="checkbox"/> Congestion Mitigation | |

Urban/Class Level:

- | | | |
|--------------------------------|---|---|
| <input type="checkbox"/> Rural | <input checked="" type="checkbox"/> Mixed | <input checked="" type="checkbox"/> Metro |
|--------------------------------|---|---|

Economic Distress:

- All Distressed Only Non Distressed Only

Keywords:

[Search Keywords](#)

[Clear](#)



Case Search

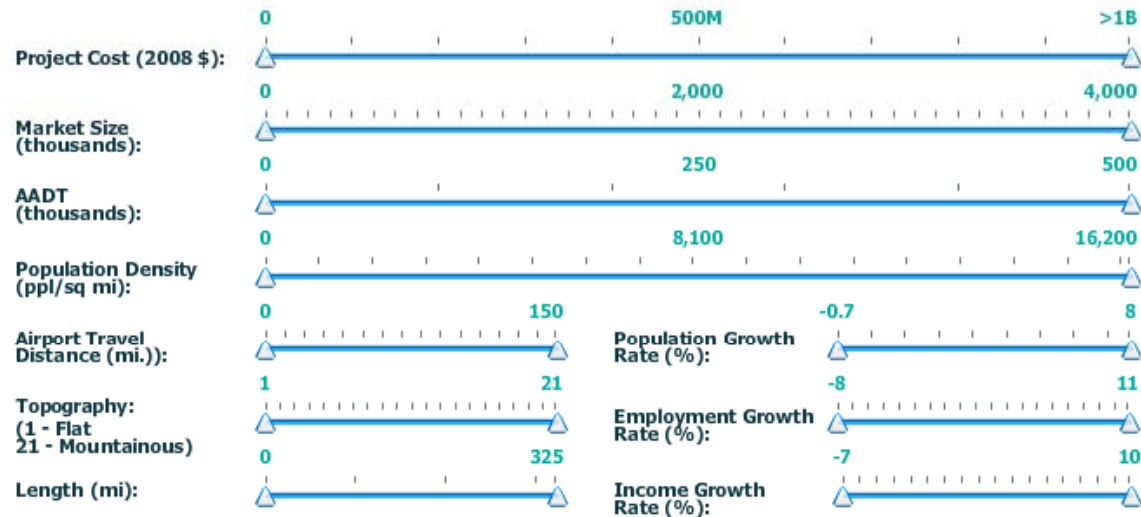
You enter data characteristics of your own project. Then you can view projects that are similar to yours, and use the data to estimate the likely impacts of your project.

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[Reset Sliders](#)

Include cases with missing data



Transportation Project Impact Case Studies

Home

Case Search

My Project Tools

About T-PICS

[Change Search Parameters](#)

Case Search Results Matches:9

Click on a column table header (for example, 'Project Cost') to sort the results by that column. Click two or more checkboxes in the 'Compare' column and click 'Compare Projects' to compare project data. Click on a case study title to view detailed information about that case. Project Cost is in 2008 dollars.

Your case search parameters are:

Project Type: Bypass, Limited Access Road, Beltway, Connector

Urban Class: Mixed, Metro

Region: Southwest, Rocky Mountain/Far West

Motivation: Air Access, Labor Market, Site Development, Congestion Mitigation

Project Cost (2008): \$0 - >\$1,000,000,000

Economic Distress: All

Compare	Title	Description	Project Type	State	BEA Region	Project Cost (2008)	Enr
<input type="checkbox"/>	Interstate 27	Interstate 27 is a north-south highway, which traverses the northern panhandle and high plains of Texas.	Limited Access Road	TX	Southwest	\$980,104,218.88	199
<input type="checkbox"/>	Beltway 8 Houston ...	Beltway 8 is a toll facility owned and operated by the Harris County Toll Road Authority (HCTRA). The improved accessibility accelerated the growth of residential and commercial development in the western part of Houston.	Beltway	TX	Southwest	\$147,171,161.67	198
<input type="checkbox"/>	I-515 Henderson	I-515 was built both to relieve traffic traveling south from Las Vegas on Route 15, and to improve highway access into the southeastern part of Clark County to Henderson.	Limited Access Road	NV	Southwest	\$160,195,288.75	199
<input type="checkbox"/>	E470 Denver	E-470 is a private, 47-mile long toll road that forms an outer beltway around	Beltway	CO	Rocky	\$1,999,520,762.52	200



Case Search Results

Huntsville Alabama

The Huntsville, AL International Intermodal Center (IIC) consists of air and rail cargo operations and includes an access road connection to the highway. The runway was extended in 2004 and the nearby JetPlex Industrial park has 5.6 m square feet of space.

Related Websites:

[Port of Huntsville](#)

Attachments:



[Back to results](#)

Characteristics

Intermodal

Setting

Pre/Post Conditions

Narrative

Impacts

Images

State:	AL	Length (mi):	0.87
City:	Huntsville	Impact Area:	Madison
AADT:	7000	Months Duration:	
Project Type:	Freight Intermodal	Actual Cost (YOE\$'s):	\$115,709,708
Planned Cost (YOE\$'s)	\$0	Actual Cost (\$2008):	\$115,709,708
Constr. Start Date:	1986	Constr. End Date:	2004
Initial Study Date:		Post Constr. Study Date:	2008
Region:	Southeast	GIS Lat/Long:	34.644841 - 86.759136

Print Current Tab



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[Back to results](#)

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Planned Cost (YOE\$'s) \$0

Intermodal Project Actual Cost (YOE\$'s) \$0

Access improvement costs (YOE\$'s) \$7,839,708

Actual Cost YOE\$'s) \$115,709,70

Intermodal Project Actual Cost (2008\$'s) \$107,870,00

Access improvement costs (2008\$'s) Metro

Actual Cost (2008\$) \$115,709,70

Freight Intermodal

General and Bulk Cargo Volume (Metric Tons): 0

Container Volume (Metric Tons): 73,569

Container Volume (TEU's): 0

Passenger Intermodal

Passenger Ridership per year: 0

Number of Parking Spaces: 0

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Attachments:



[Back to results](#)

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Urban/Class Level:	Metro
Economic Distress:	1.00
Population Density (ppl/sq mi):	381
Population Growth Rate (%):	1.7%
Employment Growth Rate (%):	2.2%
Market Size:	176,897
Airport Travel Distance (mi.)	20
Topography (1=Flat, 21=Mountainous):	6

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Attachments:



[Back to results](#)

Characteristics

Intermodal

Setting

Pre/Post Conditions

Narrative

Impacts

Images

Pre/Post Conditions Scale: Local County State

Measure	Pre-Project	Post-Project	Change	% Change
Personal Income	\$29,447	\$41,488	\$12,041	40.90 %
Economic Distress	N/A	0.64	N/A	N/A
Total Num. of Jobs	135,553	228,640	93,087	68.68 %
Population	196,966	320,914	123,948	62.93 %
Property Value	N/A	\$160,196	N/A	N/A
Business Sales (\$M's)	N/A	N/A	N/A	N/A
Tax Revenue (\$M's)	N/A	N/A	N/A	N/A
Density	341.27	398.69	57.42	16.83 %

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Attachments:



[Back to results](#)

Characteristics

Intermodal

Setting

Pre/Post Conditions

Narrative

Impacts

Images

Port of Huntsville

1.0 SYNOPSIS

The International Intermodal Center (IIC), an inland port complex located in Northern Alabama, is located at the Port of Huntsville. The port complex also includes the Huntsville International Airport and the Jetplex Industrial Park, which are under the jurisdiction of Huntsville–Madison County Airport Authority. The IIC includes two distinct operations: rail cargo, which began in 1986, and air cargo, which began in 1987. The total construction cost of these two operations combined was \$53.11 million (\$2008). To accommodate the expected increases in freight truck traffic to and from the port, the Wall Triana highway was completed in 1987 connecting the port of Huntsville to I-565 at a cost of \$7.83 million (\$2008). In 2003, rail operations were expanded to include additional sidings and lift capacity, costing an additional \$21.06 million (\$2008). Between 2000 and 2003, the Port of Huntsville extended an existing 8,000 foot runway by 4,600 feet to 12,600 feet to meet the international cargo shipment needs of Panalpina, an existing air cargo firm at the airport. The new 12,600 foot runway opened in May of 2004 and cost \$33.7 million (\$2008). In response to the runway extension, Panalpina flights throughout the U.S. and abroad increased from 7 per day in 2000 to 15 per day in 2008 accommodating an increase of 13,000 tons of freight. (Because of the recession of 2008-2010, Panalpina volumes have decreased, but are expected to increase again

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Attachments:



[Back to results](#)

Characteristics

Intermodal

Setting

Pre/Post Conditions

Narrative

Impacts

Images

Measure	Direct	Indirect	Total
Number of Jobs	514	294	808
Income/Wages (\$M's)	\$28	\$16	\$45
Output (\$M's)	\$70	\$40	\$110

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[Back to results](#)

[Characteristics](#)
[Intermodal](#)
[Setting](#)
[Pre/Post Conditions](#)
[Narrative](#)
[Impacts](#)
[Images](#)




My Project Tools

You enter data characteristics of your own project. On the View Results Screen you can see the likely ranges of economic impacts from your project, and estimates of project cost and traffic volume. You will have the opportunity to adjust cost and traffic estimates, and to adjust complementary regional economic development factors to properly reflect your region. In turn, these adjustments will drive changes in expected economic impacts of your project.

[View Results](#)

Project Type:

- Bypass
 Limited Access Road
 Beltway
 Interchange
 Widening
 Bridges
 Access Road
 Bundled
 Connector

Region:

- New England/Mid-Atlantic
 Southwest
 Southeast
 International
 Rocky Mountain/Far West
 Great Lakes/Plains

Urban/Class Level:

- Rural
 Mixed
 Metro

Economic Distress:

- Distressed Only
 Non Distressed Only

Length of your Project:

Miles

[Change Search Parameters](#)



My Project Tools

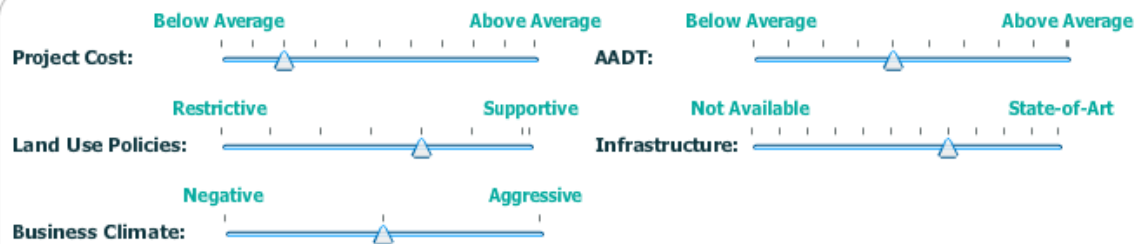
You can change the project cost and expected AADT of your project (the default location of the arrows for both represent the medians), and adjust the characteristics of your region to reflect local conditions. These changes will affect the economic impacts of your project.

Estimated Project Cost (\$):

\$271 million

Estimated AADT:

61,000



	Jobs	Wages	Output
Direct Impacts	1,990 - 3,320	\$83,425,000 - \$139,042,000	\$265,225,000 - \$442,042,000
Supplier and Wage Impacts	1,200 - 1,990	\$50,055,000 - \$83,425,000	\$159,135,000 - \$265,225,000
Total Impacts	3,190 - 5,310	\$133,480,000 - \$222,467,000	\$424,360,000 - \$707,267,000



Transportation Project Impact Case Studies

Home

Case Search

My Project Tools

About T-PICS



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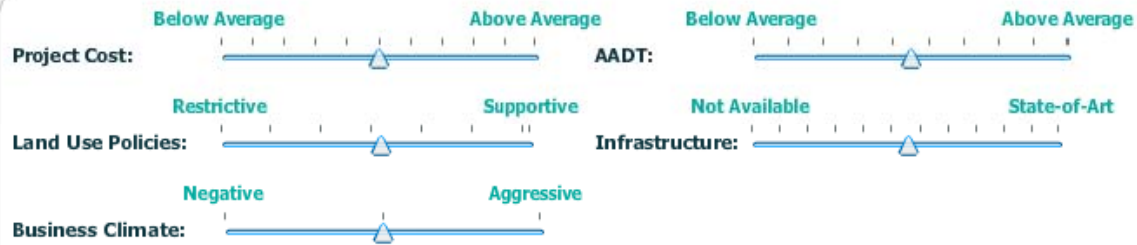
Estimated Project Cost (\$):

\$474.2 million

Estimated AADT:

67,000

[Change Search Parameters](#)



	Jobs	Wages	Output
Direct Impacts	2,850 - 4,750	\$119,408,000 - \$199,013,000	\$379,621,000 - \$632,701,000
Supplier and Wage Impacts	1,710 - 2,850	\$71,645,000 - \$119,408,000	\$227,772,000 - \$379,621,000
Total Impacts	4,560 - 7,600	\$191,052,000 - \$318,420,000	\$607,393,000 - \$1,012,321,000

T-PICS Documents

[GO TO T-PICS WEB SITE](#)

User Guide:

[T-PICS User Guide](#)

Tasks:

[Working Paper on Stakeholder Needs and Future Research](#)

[Economic Impact Performance Metrics](#)

[Case Study Design](#)

[Meta Analysis Design](#)

[Case Study Development](#)

Presentations:

[Transportation Research Board Presentation \(Part 1 of 2\)](#)

[Transportation Research Board Presentation \(Part 2 of 2\)](#)

Questions / Comments?