

## New Economic Analysis Tools Allow Planners to Quantify Impacts of Transportation Projects

### *New tools provide more accurate estimates of the economic impacts of highway capacity projects based on case studies*

Elected officials, agency staff, and taxpayers need to define the economic impacts of highway capacity improvements to make the business case for investments and to inform decision making. This is not a simple matter: transportation projects influence economic vitality in complex and often indirect ways. Current tools for estimating economic impacts are difficult to explain to decision makers and the public, resulting in a failure to understand the critical role that capacity investments play in a region's economic health. Because economic impacts can be difficult to measure, planning processes neither fully integrate economic effects nor reflect the economic effects of highway capacity on land use. Agencies need forecasting models that are more realistic and easier to articulate, and that provide a more complete picture of economic impacts.

Developed through the second Strategic Highway Research Program (SHRP2), these new economic development tools build on existing practices by better assessing the net impacts—economic gains and losses—as well as primary and secondary effects of highway capacity projects on regional economic vitality.

This includes **straightforward, transparent, open-source statistical forecasting models based on actual case studies**, as well as guidance for developing economic development performance measures and impact studies.

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*Interactions between Transportation Capacity, Economic Systems, and Land Use  
Merged with Ingetrating Economic Considerations into Project Development  
and Development of Improved Economic Analysis Tools*

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## The Solution

This suite of new forecasting tools and statistical models incorporate the full range of reasonable economic impacts of proposed highway projects. This includes impacts that may vary by region of the country, whether the region is urban or rural; political attitudes; land use and development policies; major economic drivers; economic growth forces; the nature of capacity problems; and the solutions proposed. It also includes such secondary effects as environmental justice factors, the value of environmental resources lost or degraded, and cumulative impacts.

These new tools provide for broader economic analyses by integrating four components: reliability of travel time, connectivity to intermodal facilities for freight and passengers, access to labor and product markets, and an accounting

### Clearer Economic Projections Deliver Better Return on Investment

FOCUS AREA:  
Capacity (C03/11)

New suite of economic analysis tools include web-based sketch planning tools, forecasting tools, statistical models, and case studies along with a practitioner's handbook.

#### Save Money

- Informed decision making results in better economic returns on capacity investments.



#### Save Time

- Optimal capacity improvements reduce traffic delays, saving drivers time.



tool that integrates the other three components and creates benchmarks to local areas. **The end result is a clear picture of a project's ultimate economic impact in terms of direct effect, total local effect, and total national effect.**

The toolkit includes *Transportation Project Impact Case Studies (T-PICS)*, a web-based sketch planning tool that helps planners quickly estimate the likely range of economic impacts of a proposed project. It measures the economic development impacts of a project on the basis of 100 case studies of already-built highway capacity projects. Each case study includes pre- and post-project economic and land development data and local interviews that, together, portray the actual, observed economic development impacts of those projects, as measured at least five years after implementation.

By considering the net economic effects of potential projects, these SHRP2 tools provide decision makers with better information for answering the question about whether a region will be economically better off because of a transportation investment, and, if so, by how much.

## The Benefits

Highway capacity improvements can support economic vitality by providing better access to markets and the labor force, saving time and money otherwise spent as a result of traffic delays, improving safety, reducing pollution, and supporting a higher quality of life. The question is: Which improvements actually make a difference and how do we make accurate projections about that? Better understanding how changes in productivity such as improvements in market accessibility, intermodal connectivity, scheduling, logistics, and international competitiveness, help identify transportation options that meet community goals.

This suite of tools helps planners make broader-based, more realistic assessments of the economic impacts of highway capacity projects. This leads to better decisions, more prudent investments, and—ultimately—a more robust economy at the local, regional, and national levels.

## Who is using these tools?

Pilot tests to validate the results and refine the usability of these tools will be completed late in 2013.

## How can you learn more?

The final report, *Interactions Between Transportation Capacity, Economic Systems, and Land Use*, is available online at <http://www.trb.org/Main/Blurbs/166934.aspx> and from the TRB bookstore ([www.trb.org/shrp2](http://www.trb.org/shrp2)). The case study projects embedded in the T-PICS tool can be viewed through Google Earth; the T-PICS tool is available at <http://transportationforcommunities.com/t-pics>. The analysis tools are in development and will be available for download from the T-PICS website in 2013. The tools are scheduled for implementation in 2014. For more information, contact Stefan Natzke at FHWA, [stefan.natzke@dot.gov](mailto:stefan.natzke@dot.gov); Matt Hardy at AASHTO, [mhardy@aaashto.org](mailto:mhardy@aaashto.org); or Steve Andrie at TRB, [sandrie@nas.edu](mailto:sandrie@nas.edu).



### About SHRP2 Implementation

The second Strategic Highway Research Program is a national partnership of key transportation organizations: the Federal Highway Administration, the American Association of State Highway and Transportation Officials, and the Transportation Research Board. Together, these partners conduct research and deploy products that will help the transportation community enhance the productivity, boost the efficiency, increase the safety, and improve the reliability of the Nation's highway system.

### Strategic Highway Research Program

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