Transportation Investment for Economic Development: Making the Case

DETAILS

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Transportation Investment for Economic Development

Making the Case

August 17–18, 2015
Detroit, Michigan

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Transportation Investment for Economic Development

Making the Case

A Peer Exchange

August 17–18, 2015
Detroit, Michigan

Frances D. Harrison
Rapporteur

Task Force on Data for Decisions and Performance Measures
Standing Committee on Transportation Asset Management
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Publisher's Note

This Transportation Research E-Circular was prepared by Frances D. Harrison, Spy Pond Partners, LLC, as a factual summary of what occurred at the peer exchange. The summary reflects the statements of peer exchange participants and does not necessarily represent the views of all peer exchange members; the planning committee; the Transportation Research Board; or the National Academies of Sciences, Engineering, and Medicine.

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Introduction

A Peer Exchange on Transportation Investment for Economic Development: Making the Case was held August 17–18, 2015, in Detroit, Michigan. Organized by the Transportation Research Board (TRB) of the National Academies of Sciences, Engineering, and Medicine, the peer exchange focused on collaboration between state departments of transportation (DOTs) and their state economic development counterparts. The TRB Standing Committee on Transportation Asset Management and the Task Force on Data for Decisions and Performance Measures supported the peer exchange. A planning committee was formed to guide development of the peer exchange. Planning committee members were Paul Trombino and John Selmer of the Iowa DOT; Professor Joseph Schofer of Northwestern University; and Kathryn Zimmerman, president of Applied Pavement Technology, Inc. Tom Palmerlee and Andrew Lemer served as the TRB liaisons and Michael Miller of TRB provided logistical support.

A total of 16 state agency representatives and five individuals from federal agencies, universities, and the private sector participated in the peer exchange. State participants included state DOT chief executive officers, state DOT communications directors, and representatives of state economic development agencies. Glen Weisbrod, president of Economic Development Research Group, an economics consulting firm, was invited to deliver a background presentation on what is known about the economic development outcomes from transportation. A full list of participants is provided in Appendix A.

This summary, organized into three sections that follow the introduction, presents key topics discussed at the peer exchange. The initial section presents an overview of the peer exchange and a synthesis of key points. This is followed by a more detailed section summarizing the formal participant presentations. The final section covers the participant discussion of key themes and suggestions for possible next steps. The number of states represented at the peer exchange was necessarily limited; the intent of this summary is not only to provide a record of the proceedings but also to make that dialog accessible to all who could not participate.

Peer Exchange Summary

The impetus for this event came from the NCHRP Project 20-24: Administration of Highway and Transportation Agencies Panel, whose members have for some time sought to illuminate and find ways to enhance the effectiveness of the relationship between transportation system performance and economic development. The event was designed to emulate and expand on an earlier peer exchange in April 2014 on the topic of "Aligning Data Systems to Communicate with Decision Makers." The discussion at this 2014 meeting highlighted the importance of strengthening the link between transportation investments and economic development, and identified the potential to shift to market-driven transportation decisions that take into account the value of what is being carried on the transportation system. Participants at the 2014 peer exchange appreciated the opportunity for CEOs to come together and discuss topics of common interest, and share experiences and best practices. Participants suggested that the additional similar peer exchanges be held on a regular basis, and that the next peer exchange focus specifically on the topic of transportation and economic development.

The 2015 peer exchange was designed to provide an opportunity for senior state department of transportation (DOT) officials to have a dialog with state economic development agency leaders on opportunities for closer collaboration in order to strengthen the productive linkages between the transportation system and economic development.

OVERVIEW OF THE PEER EXCHANGE

On the first day of the 2-day peer exchange, attendees from four of six participating states delivered presentations covering their states' approach to transportation and economic development collaboration. Presenters were asked to highlight a specific example of a project where a transportation investment was or will be used to address an economic development challenge or opportunity. They were requested to include a discussion of the issue, the options, the players, communication and collaboration, the barriers, the resolution, the outcomes, and lessons learned.

Following presentations from the four states, Joseph Schofer and Kathryn Zimmerman facilitated a discussion of reactions to the state examples and asked the other (nonpresenting) states to offer examples from their experience. This discussion explored key drivers and success factors for transportation–economic development collaboration, roles, and responsibilities, and obstacles and strategies for linking transportation and economic goals into agency organization and operations.

On the second day of the peer exchange, Glen Weisbrod from Economic Development Research Group (EDRG) delivered a summary presentation on what is currently known about the impact of transportation on economic development. Following his presentation, Schofer and Zimmerman moderated a discussion that touched on the following questions:

- How do investments in the transportation infrastructure support economic development advancements?
- What do transportation agency officials need to know to guide investments to advance economic development?

- What data and information can economic development officials provide for estimating the impacts of transportation investments on economic development?
- How can transportation and economic development officials collaborate effectively to achieve economic development goals?
- How can we communicate economic development benefits of improved transportation facilities and services to the elected officials, key private stakeholders, the public, and the press?
- How can we integrate good practices for considering economic development goals into transportation investment and asset management decisions?
- What additional data, research, and development could address unanswered questions about the links between public investment in transportation and economic development and thereby improve transportation agency decision making?

There was ample opportunity for discussion about approaches, successful strategies, and challenges. Participants observed that what works in one state won't necessarily work in another—each state must develop strategies that fit with its own unique political and business climate. Variations in size and complexity of institutional relationships were clear factors impacting the ease with which collaborative activities could be pursued. However, a number of general philosophies, strategies and approaches were common across the participating states, and several of the specific examples provided by individual agencies can be considered for adaptation and implementation in other states.

SUMMARY OBSERVATIONS

Major themes that emerged at this peer exchange as a result of different participants' comments were as follows:

- Economic development is a fundamental part of the mission statements of state DOTs;
- Investing in transportation infrastructure and service creates economic value through reducing shipping costs, connecting employers to labor pools, and increasing economic competiveness;
- Close collaboration between DOTs and their economic development partners is important to ensure coordinated and synergistic efforts to further economic development; and
- Collaboration requires active work on the part of both transportation and economic development agencies to understand each other's processes and engage on both strategic planning and project-related initiatives.

Some participants suggested that each DOT would benefit from asking: what is our state's economic development strategy and how are we supporting it?

Several participants emphasized that a better understanding of global, multimodal freight supply chains is needed in order to develop effective transportation strategies to support economic development. DOTs must understand the options that shippers have, and the ways in which transportation system connectivity, condition, or congestion impact their choices. Increasingly, DOTs are tapping into available data sources that illuminate the supply chain and show how and where different commodities are moving. These data can be helpful for

identifying where improvements would create the best return on investment. In addition, DOTs are working to broaden project evaluation and prioritization factors to expand consideration of economic benefit. A variety of approaches and tools are available and this practice is maturing.

Different participants pointed out that despite shared objectives, DOT and state economic development functions can be disconnected. While agency executives collaborate on large, high visibility opportunities, closer relationships at both statewide and local levels between transportation and economic development agencies may be lacking. Establishment of strong working relationships at multiple levels are an essential first step for aligning long term visions and strategies, and providing the agility needed to respond to growth opportunities as they arise. They also open the door to increased sharing of information that can enable transportation and economic development staff to better coordinate future development locations with planned and programmed transportation improvements.

Some of the speakers emphasized the need for DOTs to look internally and foster more collaborative ways of working in order to ensure successful working relationships with their economic development partners. Staff training and culture change will be required to make this happen. Given resource limitations and limited flexibility to respond to transportation needs that arise in conjunction with growth opportunities, creativity and strong communication are necessary for constructive action. Current DOT initiatives related to practical design and context-sensitive solutions can provide models for the transition from a traditional emphasis on building to a high standard to one in which lower-cost solutions are sought to meet desired outcomes.

With ever-increasing competition for limited public funds, it has become more important to make a persuasive case for increased investment in transportation. There is a large and growing body of evidence that transportation investments have a clear economic return. Transportation agencies can improve how they "tell their story"—by working with their economic development partners to understand and document what has been achieved, publicize successes, and tailor messages to address interests of different audiences.

Peer Exchange Presentations

Presenters from Utah, Michigan, Kentucky, and Iowa shared their approaches to transportation–economic development collaboration. Key points from each presentation are summarized below.

UTAH

Carlos Braceras and Van Hale, *Presenters*

Carlos Braceras, Utah DOT Director, and Van Hale, Director of the Utah Governor's Office of Economic Development (GOED), provided an overview of how the two agencies have aligned their efforts and established close working relationships. They described several specific initiatives including long-range planning to establish a unified vision and collaboration on a website that allows businesses to find information about transportation options for a specified address. They highlighted collaborative efforts to encourage and support growth in the I-15 Thanksgiving Point Tech Corridor. Key strategies emphasized in their presentation are summarized below.

- **Align the DOT mission with economic development.** In Utah, strong leadership from the governor on economic development has resulted in clear alignment between Utah DOT and the GOED, and a close working relationship between the two agencies. Utah DOT's mission statement is "Innovating transportation solutions that strengthen Utah's economy and enhance quality of life." Utah DOT's director pointed out that a DOT's mission goes beyond mobility, safety, and infrastructure preservation. The DOTs exist to foster economic development and quality of life. This broad mission statement widens the circle of influence of a DOT. It can empower employees to think more expansively about different solutions, and appreciate the importance of partnerships with economic development agencies and others.
- **Establish a unified vision.** Envision Utah was launched in 1997 as a public–private

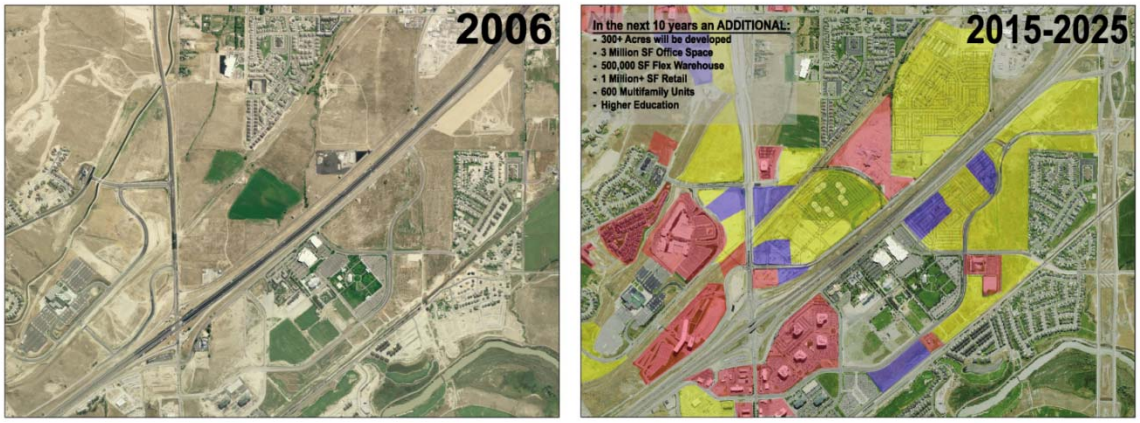

FIGURE 1 Growth in the Utah Lehi Tech corridor.

collaborative approach to establishing a shared long-range vision based on an extensive public input process. The vision integrates consideration of transportation, jobs and economy, housing, water, energy, education, disaster recovery, and agriculture. The Envision Utah Board of Directors includes the chairman of the Utah Transportation Commission and the general manager of the Utah Transit Authority. The Envision Utah effort set the stage for collaboration across public- and private-sector organizations in Utah on a unified strategy for future growth and development in the state.

- **Communicate to build understanding of relationships between transportation, economic growth and quality of life.** In Utah there is recognition that transportation, economic development, and quality of life go hand in hand, and that without advanced planning, congestion will worsen and begin to impact the attractiveness of the state. Projections of a doubling of the population over the next 35 years provided the impetus for advance planning to avoid development of congestion that could be detrimental to quality of life and attractiveness of the state as a place for businesses to locate.
- **Build and leverage business community support.** The Utah Chamber of Commerce is a strong supporter of transportation improvements. This support has been helpful for building Utah's relatively strong base of state revenue sources for transportation.
- **Define transportation solutions to support economic development.** Rapid development between 2006 and 2015 in the Thanksgiving Point Tech Corridor in Utah County has caused growing congestion along the I-15 corridor. Future development plans call for more than an additional 4 million square feet of office and retail construction. Utah DOT worked with the Utah Legislature to program improvements to support continued growth in the corridor beyond the typical 4-year state transportation improvement program time horizon. Once the solutions were defined, a bonding strategy was approved so that opportunities for growth would not be lost.
- **Pursue a multimodal transportation strategy.** Utah has enjoyed strong growth in the technology sector—with rapid expansion of its "Silicon Slopes" area (so named for its resemblance to Silicon Valley "with better skiing"). High-tech firms have sought strong rail transit access in addition to proximity to a well-educated and highly skilled workforce. Continued investment in rail transit (the FrontRunner commuter rail system and the TRAX light rail system) is a key part of the solution for supporting continued economic growth. In addition, transit improvements are viewed as important strategies to address air quality issues, which threaten to detract from Utah's quality of life.
- **Move data as well as people and goods.** Utah DOT views "moving data" as part of its charge to "Keep Utah Moving." Since the late 1990s, Utah DOT has pursued public–private partnerships to expand fiber backbones, enabling improved broadband connections in rural parts of the state. This has yielded benefits in terms of increased ability of businesses to attract employees, as well as improved traffic operations capabilities—83% of all traffic signals in the state (state-, city-, and county-owned) are linked together. This level of connectivity puts Utah in a strong position to take advantage of emerging connected vehicle technologies.
- **Build an integrated information access tool for business.** GOED has developed an economic development tool (available at locate.utah.gov) that provides access to information about transportation, utilities, and broadband for a particular address. This was made possible by a consolidated approach to planning in the state and well-established partnerships.

MICHIGAN

Laura Mester and Douglas Smith, *Presenters*

Laura Mester, Michigan DOT Chief Administrative Officer, and Douglas Smith, Senior Advisor at the Michigan Economic Development Corporation (MEDC), discussed Michigan's approach to transportation–economic development at both statewide and regional levels. They highlighted an example involving collaboration to address poor road conditions that were inhibiting expansion of two different automobile parts suppliers the same location.

Key points from the Michigan presentation include the following:

- **Pursue a coordinated regional approach to economic development.** The current governor created 10 prosperity regions in the state that realigned economic development services on a regional basis. A Prosperity Initiative Grant Program was established to support coordinated planning considering economic development, transportation, workforce development, and education. The purpose of this regional approach was twofold. First, it consolidated and realigned state service providers within each area, reducing fragmentation and associated gaps and overlaps. Second, it encouraged communities to work together to identify their asset base and build a coherent and unified regional vision for economic development based on the asset base. This collaborative approach has helped to clarify and focus both regional and statewide priorities and strategies.
- **Develop a statewide economic development strategy.** Michigan recently completed a Statewide Logistics and Supply Chain Strategic Plan. This plan identifies the state's competitive advantages for growth, which include direct access to the Great Lakes (which provide one third of the global fresh water supply), access to global markets via Canada as well as an international airport with direct service to China, design innovation skills, and strength in transportation logistics.
- **Pool resources across transportation and economic development agencies.** Both the development of the statewide strategy and the establishment of prosperity regions have been instrumental in enhancing collaboration between Michigan DOT and MEDC staff. Established channels of communications enabled staff to work together to solve a transportation problem

Infrastructure Projects: Demand at the Local Level

Problem:

- Across Michigan, surface roads and bridges are in need of repair.
- Significant impact on business connections: increased costs and delays in moving goods and commodities across our state.

Solution:

- MEDC and Michigan DOT partner to combine resources to promote projects that result in needed infrastructure improvements:
  - The MEDC administers the Community Development Block Grant and
  - The Michigan DOT administers the Transportation Economic Development Fund.

FIGURE 2 Transportation–economic development partnership for infrastructure repairs.

faced by two different automobile parts suppliers in the same location. One of these companies approached the MEDC; the other approached Michigan DOT looking for funding to address poor road conditions that were, in both cases, viewed as a barrier to expansion plans. MEDC and Michigan DOT staff took advantage of opportunities to combine federal Community Development Block Grant and Michigan DOT Economic Development funds for a road improvement project. Without established relationships across the two agencies, it would not have been possible to pool resources in this manner. The projected impact of the project was the addition of 125 permanent jobs—estimated to have a net positive return for the state.

- **Use quantitative criteria for project ranking.** Michigan DOT uses quantitative scoring methods to prioritize across competing proposed projects for available transportation–economic development funds. The formulas are based on factors including the number of permanent jobs created, the amount of traffic that will benefit from the investment, the level of private investment, and the amount of local funding or in-kind contributions (to demonstrate local support). Michigan DOT's program is reimbursement based; funds are provided following documentation of added jobs.

KENTUCKY

Mike Hancock and John Bevington, *Presenters*

Mike Hancock, Secretary, Kentucky Transportation Cabinet (KYTC), and John Bevington, Deputy Commissioner of the Kentucky Cabinet for Economic Development (KCED), talked about how strong relationships between KYTC and KCED have been used to incentivize economic development in the state. The example they presented was a successful fast-track effort to construct a new access road and interchange in order to attract a new automobile manufacturing plant, adding an estimated 750 new jobs. Highlights of Kentucky's approach to transportation–economic development collaboration are summarized below.

- **Statewide economic development leadership.** The current governor has made economic development a priority and has set expectations for different cabinet members to work together to capture economic development opportunities. This leadership was a factor in Kentucky's receiving the Governor's Cup award from *Site Selection* magazine in 2014 for the highest number of economic development projects per capita.
- **Economic incentives.** Kentucky offers a varied set of incentives to attract and retain businesses. Transportation and education are recognized as key driving factors in economic development projects.
- **Strong relationships.** Close working relationships between the staff of KYTC and KCED have been established and are viewed as critical to creating effective solutions. Staff from both agencies recognize that each business seeking to expand or relocate has unique needs and challenges to be addressed, and they work together to provide tailored packages of incentives.
- **Availability of industrial access road funds** has provided a flexible mechanism to fund road improvements for business attraction and retention, and has enabled KYTC and KCED to work collaboratively together on multiple projects over the past 8 years.

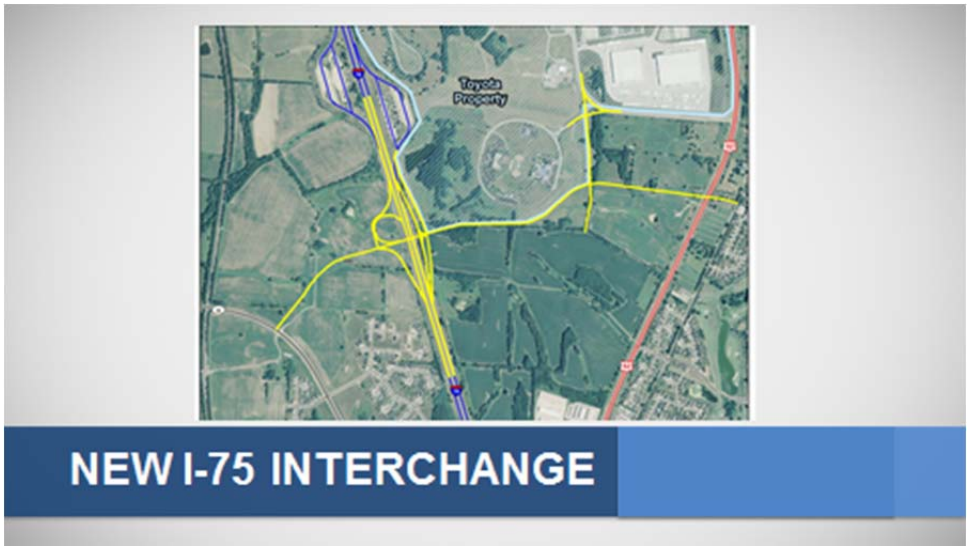

FIGURE 3 Transportation investment to support new manufacturing plant.

- **Fast-track response to opportunity.** The relationships that were built over time allowed KYTC and KCED to take quick action on an opportunity to attract a new automobile manufacturing plant to the state. An estimated 750 new jobs would be added by the plant. The site was attractive given the strong presence of automobile suppliers in the vicinity. However, access to the site needed improvement to accommodate anticipated new traffic. A $37.5-million transportation project involving construction of a new access road and a new Interstate interchange was required to make the deal go forward. Through teamwork and cooperation from agency staff, the Kentucky General Assembly, FHWA, and multiple other stakeholders, the project was delivered in 15 months—from concept to completion.

IOWA

Paul Trombino, *Presenter*

Paul Trombino, director of Iowa DOT, described his agency's efforts to build an in-depth understanding of the freight supply chain and use this information to lower transportation costs and enhance economic competitiveness.

- **Transportation is a critical factor in global trade**. Truck, rail, water, and air freight product production and transportation need to be viewed from a global market perspective. When we think about economic competitiveness, we need to focus more on competition between the United States and our neighbors (Canada and Mexico), rather than on competition between the states. In addition, we need to recognize that current inconsistencies across states in truck regulation cause problems and impact U.S. competiveness.
- **Understand transportation's role in the state's economy.** Iowa DOT has analyzed the state's economy to better understand the role of transportation in improving economic competitiveness. Principal observations are that (1) manufacturing is a predominant and growing

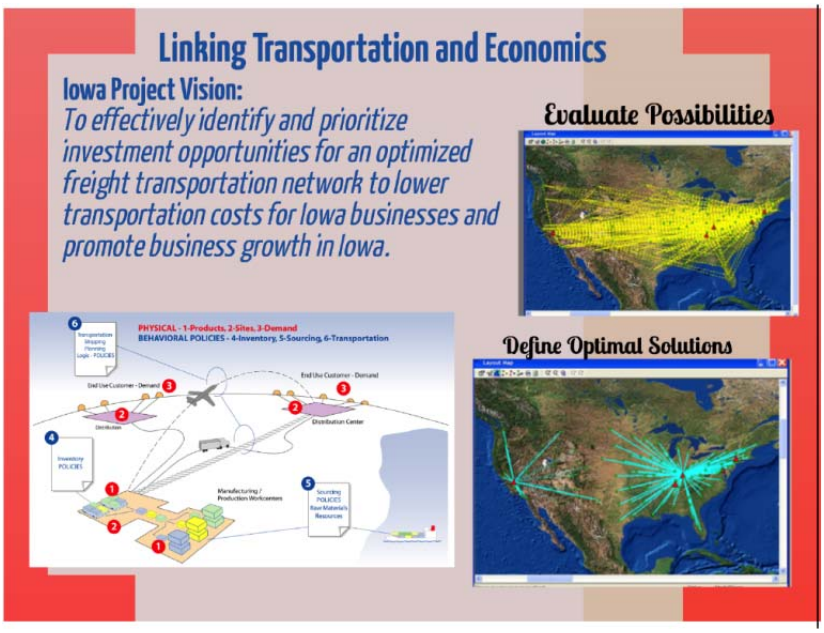

FIGURE 4 Iowa's Approach to linking transportation and economics.

sector of the state's economy; (2) Iowa is a producer state, responsible for $18 billion in exports—with 95% of customers for Iowa products outside of the United States; (3) 84% of Iowa exporters are small or medium-sized businesses; (4) much of the growth in the state is related to expansion of existing businesses rather than new businesses moving in; and (5) businesses are spending close to $2 billion moving their commodities.

- **Understand the supply chain**. Manufacturing has shifted from an industry in which large inventories are held and materials are sourced internally to one which is more highly specialized, where limited inventory is held, and inputs are outsourced to large numbers of suppliers. National data indicates that manufacturers spend over half of total final product costs on purchasing inputs (http://esa.doc.gov/economic-briefings/supply-chains-take-larger-role-manufacturing). Healthy supply chains are increasingly important for economic competitiveness. Transportation is viewed as a supply chain inefficiency. The question is how to remove the points of constraint.
- **Understand the value, not just the volume.** DOTs tend to chase capacity on the highway system and make decisions based on traffic volume and the percent of trucks. These indicators are helpful but do not provide an understanding of how transportation improvements impact freight costs on the multimodal network. DOTs need to look "inside the vehicle" and focus more on what is moving (commodity flows) to understand how to reduce overall costs. All vehicles are not created equal. A better understanding of value added from transportation investments will cause DOTs to make different decisions, both for capital investments and operational strategies. Data on what is being moved—not just tonnages—helps us to make better decisions. For example, improvements impacting shipment of pharmaceuticals are of interest given the importance of attracting long-term, high-paying jobs to the state.
- **Use freight cost reduction to drive decisions.** Iowa DOT estimates that the ratio of freight transportation costs to the state's gross domestic product is 21%. This is high relative to other states, and Iowa DOT estimates that there is an opportunity to lower this by seven points.

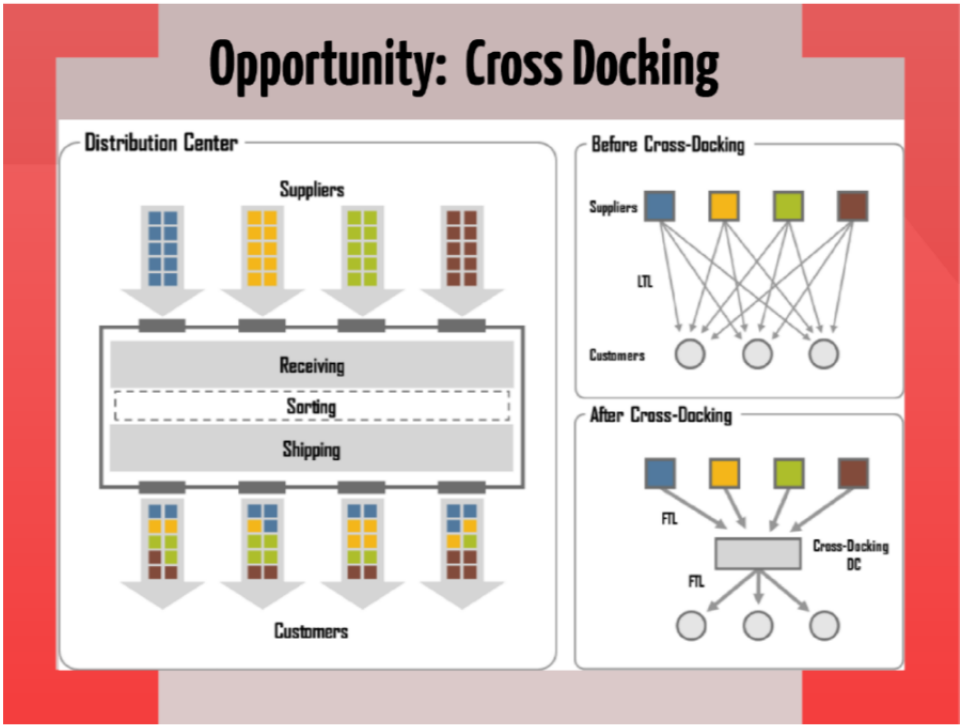

FIGURE 5 Iowa DOT illustration of cross-docking strategy.

Iowa DOT has identified several potentially high-value investments that could significantly reduce overall freight transportation costs—including new intermodal facilities (for rail–truck transfer), and new cross-docking facilities to consolidate less-than-truckload shipments and reduce transportation costs. They have developed the capability to evaluate potential projects based on economic rate of return.

- **Provide supply chain optimization services.** Iowa DOT has built a highly detailed data set of freight movements by mode and zip code (including foreign destinations) and is using this data set to offer value added supply chain design services to Iowa businesses seeking to expand or relocate. Using the data, Iowa DOT can show businesses what their baseline transportation costs will be for a given location, and help them understand how costs vary for different shipment routes and modal options.

What We Know About the Economic Development Outcomes of Transportation

GLEN WEISBROD
EDRG

Glen Weisbrod, president of EDRG, a consulting firm specializing in transportation–economic development linkages, was asked to summarize the current state of the practice in understanding economic outcomes from transportation projects and how to apply this understanding within transportation investment decision-making processes. His presentation covered current bodies of evidence for economic benefits of transportation and ways in which transportation agencies are considering economic impacts in decision-making processes, as well as strategies for communicating about economic benefits to different audiences.

- **Several indicators of economic impact are available.** Economic development impacts of transportation projects can be assessed based on changes in employment (jobs), income, business output, gross domestic product (GDP), building development floor area, direct private investment, property values, and property tax revenue.
- **There is a growing body of evidence about impacts.** There is considerable interest in understanding these impacts – which requires both quantitative and qualitative analysis.

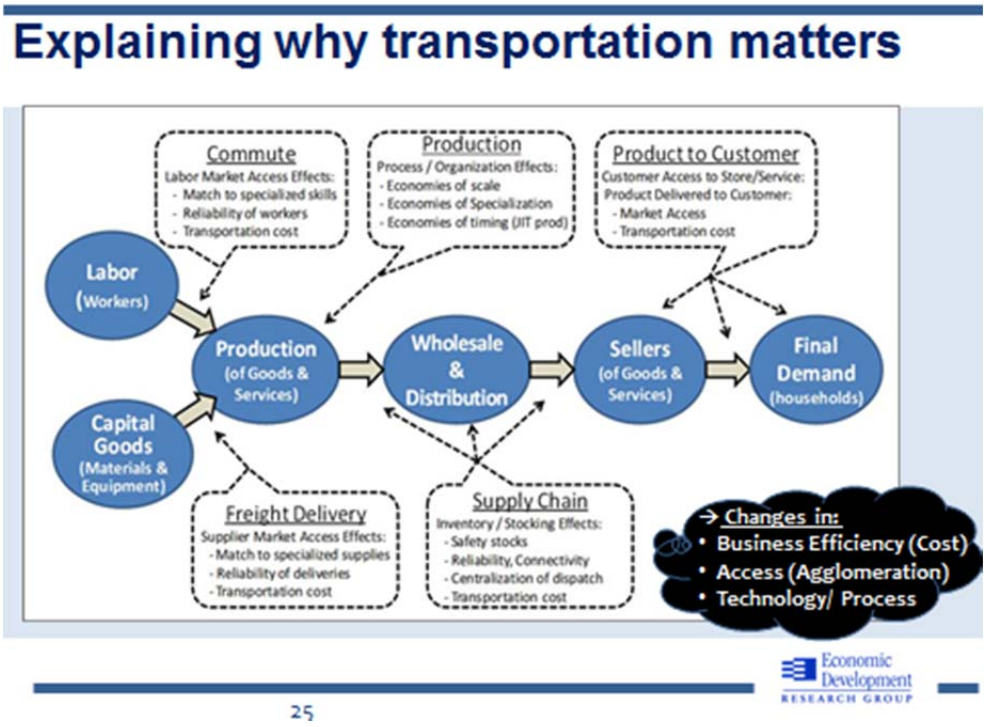

FIGURE 6 Tracing the economic benefits of transportation.

- **Several studies and efforts have compiled results**:
  - FHWA and Atlanta Regional Commission: case studies and program evaluations;
  - TIGER Grant Post Evaluation;
  - SHRP 2: Transportation Project Impact Case Studies being transitioned to AASHTO EconWorks; and
  - Organisation for Economic Co-Operation and Development initiatives (United States, U.K., France): formalizing ex post analysis.
- **Each transportation project has different motivations and impacts.** Economic impacts vary substantially from project to project, and take time to be fully realized
- **Nontransportation incentives have a major impact**. Zoning and land use, water and broadband proximity, regulation, financial incentives, and business climate are all part of the equation when it comes to estimating economic impacts for a project. This fact underscores the importance of transportation and economic development collaboration to produce the kind of synergies that are needed to maximize effectiveness.
- **Some industries have disproportionate economic value**. Basic industries such as manufacturing and agriculture are key economic drivers because they bring new revenues in to the state. Investments to grow these industries will yield disproportionate value as compared with investments to grow service industries.
- **State DOTs are considering economic impacts in decision making but approaches vary.** Economic development impacts are considered by several DOTs for project prioritization, but approaches vary and include:
  - Use of quantitative measures of traveler benefit and environmental impact (changes in travel time, cost, level of service, accident rate, and emissions–greenhouse gas);
  - Consideration of strategic benefits (intermodal access, bottleneck reduction, connectivity to corridors and gateways, travel time reliability, impact on truck freight routes, and supply chains); and
  - Modeling of macroeconomic outcomes from collections of projects (economic productivity, job growth, gross regional product).
- **Commodity flow data can be used to inform strategy development and prioritization.** Waybill and manifest information is available from a variety of vendors. A study in Wisconsin used this data to compare two corridors and identify which was more important to the state's economy. North Carolina reviewed origin–destination data by commodity and identified the need for improved airport and seaport connections. Information on the percent of local versus through traffic can be used to sort out what corridor improvements are of national significance versus state or local significance.
- DOTs can provide useful information for economic development strategy development. Economic development agencies are interested in
  - Where are industry inputs coming from?
  - Where are industry outputs going?
  - How are impacts on industry activity realized?
  - What industries are supported by this corridor?
- **There are good examples of communicating the economic benefits of transportation.** For example, the ASCE has estimated that "for an additional investment of $948 per year we can create millions of jobs, protect another 1.1 million jobs, save nearly 2 billion hours of travel time, save each family $1,060 per year, and add $2,600 in GDP for every person

in the U.S." (See https://www.asce.org/uploaded Files/About_ASCE/Content_Pieces/asce-annual-report-2012.pdf.)

- Many of economic development projects are designed with a particular strategic goal in mind; it is important to clearly communicate these goals in presenting project impacts. For example:
  - Expand job and labor market access;
  - Maintain existing industry (who may be motivated to relocate due to poor infrastructure condition or unreliable access);
  - Serve key growth clusters (at neighborhood, downtown, submetropolitan area, and multistate levels); and
  - Expand access to gateways to support international trade and freight connectivity—outdated facilities are costing billions of dollars.
- **Infrastructure maintenance and preservation can be a strategic issue.** Infrastructure condition can impact speed of travel and contributes to operating costs.
- **It is important to tailor messages about economic benefits from transportation to the audience**. For example:
  - General public talks about jobs and income;
  - Government and financiers talk about tax and revenue impacts; and
  - Operators talk about financial impacts.
- **Show who benefits.** It is useful to visualize distribution of benefits from a transportation project.
  - For example, a map can be used to show the impacts of the Appalachian Development Highway System on intermodal rail access, marine port access, and same-day delivery access.
- **Tell the story about how transportation benefits the economy.** For example:
  - Commuting: improve access to specialized skills by making travel to work faster, more reliable and less costly.
  - Freight delivery: improve access to specialized supplies, improve reliability, and lower costs.
  - Production: improve efficiencies through enabling economies of scale, economies of specialization, and economies of timing (just-in-time production).
  - Supply chain: improve reliability and connectivity and lower transportation costs.
  - Product to customer: improve customer access to stores and services, improve product delivery access, and reduce product delivery cost.
- **There are successful strategies for improving collaboration and communication related to transportation and economic development that can be replicated.** For example:
  - Listening sessions that involve key business leaders (e.g., Ohio DOT);
  - Collaborative efforts with state and regional business organizations. (e.g., Oregon Business Council);
  - Synchronization of DOT and commerce departments (e.g., North Carolina State University Primer); and
  - Communications that make for a more compelling, urgent and understandable story (ASCE).

Strategies, Challenges, and Future Actions Discussion

Strategies and Challenges

The formal presentations summarized in the prior section provided a point of departure for a wide-ranging discussion about strategies for using transportation as a lever for economic development and some of the inherent challenges associated with developing and applying these strategies. Key points from the discussion are organized into five major themes:

- Predicting and measuring economic development Impacts from transportation investments.
- Guiding transportation investments to better incorporate economic development considerations.
- Effective collaboration between transportation and economic development agencies.
- Improving communication about economic development benefits of improved transportation facilities and services.

PREDICTING AND MEASURING ECONOMIC DEVELOPMENT IMPACTS FROM TRANSPORTATION

- **Uncertainty**. We acknowledge that it is difficult to predict what the economy will look like in 5 years, let alone 30 years. A scenario approach can be helpful to explore implications of alternative futures. The Envision Utah process is an example of how to involve diverse stakeholders and look at different future paths. This type of exercise improves the flexibility of a community to react and leverage opportunities as conditions unfold.
- **Impact prediction and evaluation**. Currently, even though we don't have the capability to accurately predict what will happen, we do know enough to tell the story about what kinds of improvements work and why. There is strong confidence in the story, but less confidence about the exact numbers. By collecting more information on what actually happened, predictive models can be improved. But keep in mind that we have to look over a 5-year period to get the full picture of impacts. It could be valuable to gather feedback from people in a corridor that has been improved to find out how it has affected them and get an informal assessment of whether it made their everyday experience better.
- **Economic analysis tools**. Colorado DOT has developed a practical tool for estimating economic impacts and benefits of transportation programs, projects, and investments. They have used the tool to evaluate impacts of completed projects, and intend to use the tool to assist in the prioritization process. The tool calculates total transportation performance benefit (including travel time, reliability, and logistics savings, safety savings, emissions savings, and user operating cost savings); total business output (including production outlays on services and materials, and total value added from income, dividends, and profits, etc.); permanent jobs; and temporary construction jobs.

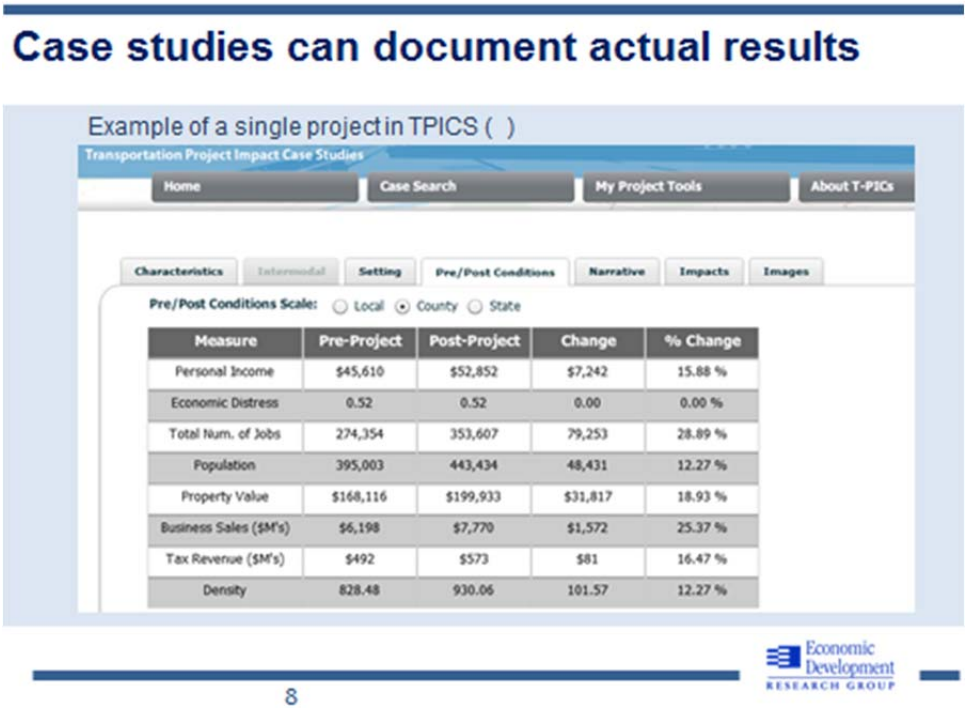

FIGURE 7 Case studies can tell the story about what kinds of improvements work and why.

GUIDING TRANSPORTATION INVESTMENTS TO ADVANCE ECONOMIC DEVELOPMENT

- **Broadening prioritization factors**. Thinking about transportation investments in economic terms means considering the value of the trips being made and moving on from a focus on "chasing cracks, cars, and snowflakes." In order to do this, a market segmentation approach can be used to understand what is being moved and how transportation can be used as a lever to achieve economic goals. The result of this type of analysis will be a greater return on transportation investments.
- **Focus on outcomes and practical solutions**. Rather than designing the perfect project, focus on scoping the 75% solution that is feasible to deliver with available funding. This forces a different conversation about desired outcomes, which will be very different depending on the location and the company. It is important to start with performance measures that go beyond volume-to-capacity ratios.
- **Increasing flexibility**. Some degree of flexibility in programming of transportation projects is needed in order for DOTs to be responsive to emerging economic development opportunities. However, this flexibility is often limited. For example, in Washington State, funds have been committed for 15+ years for projects already on the books. This is a challenge for many states: how do you insert flexibility in the process?
- **Changing the culture**. Engineering culture can be a barrier to the kind of flexibility and collaboration needed to support development. There is a need to shift from "we know best" to "let's work together towards a common purpose." Training and leadership can help to effect change.

FIGURE 8 Colorado DOT Transportation Investment Analysis flyer.

EFFECTIVE COLLABORATION BETWEEN TRANSPORTATION AND ECONOMIC DEVELOPMENT OFFICIALS

- **Acknowledge differences**. There are many opportunities for collaboration but it should be approached with realistic expectations and an understanding of how each agency operates. Economic development is very much of a sales operation (marketing the state) whereas transportation is a planning and engineering function. Timelines and processes for transportation and economic development agencies don't line up. Transportation agencies create 30-year plans and make 50- to 100-year investments in the system; economic development agencies are only looking 3 years out. Major transportation projects have 10+ year development cycles and take on a momentum of their own. It is difficult for transportation agencies to be nimble in response to changes in economic priorities and opportunities.
- **Proactive coordination finds opportunities to align plans.** Participants posed the question of how agencies can work together to be more proactive about development opportunities and shaping the future rather than competing and reacting. Through increased collaboration, potential future development sites can be identified as part of transportation planning and programming activities in order to maximize opportunities for alignment between development and transportation plans. For example, in the early 2000s (under Governor Vilsack), the state of Iowa developed a comprehensive long-range plan that looked at three industry clusters and helped to tie transportation and economic development functions together. A second example from Iowa is the state's site certification program that provides advanced identification

of "shovel ready" industrial sites. There are less formal options as well: the Utah DOT director noted that his agency is planning to get together with economic development staff and discuss future projects—a simple practice that hasn't been pursued on a regular basis in the past.

- **Influence development decisions**. In some cases there may be opportunities to use transportation–economic development partnerships as a way to steer new development to locations that already have good transportation connections. Some of this is occurring through local and state efforts to clean up and market brownfield opportunities. However, it is important to recognize that for many states, growth is primarily accomplished through expansion of existing businesses rather than attraction of new businesses in new locations. Where new businesses are being attracted, there are often equity considerations at play, i.e., the desire to create jobs in areas where there aren't any. Sometimes it isn't possible to influence location decisions, but transportation and economic development officials can negotiate a ramp-up period, in which transportation capacity is expanded as demand builds up.
- **Recognize importance of workforce**. Access to suitable labor pools is often the most significant factor in company location decisions. It is important for transportation agencies to understand workforce dynamics and how they drive company location decisions and transportation needs. In some cases (e.g., high-tech development in Utah) it means that public transit access is valued. In other cases it means that companies want to locate in proximity to certain schools that provide specialized training (e.g., welding). There are also situations where economic disruptions cause changes to commute patterns. For example, one participant described how the decline of the coal industry in Kentucky resulted in an increase in long-distance commuting by displaced workers to alternative employment opportunities.
- **Build working relationships**. Participants acknowledged that cabinet agency executives work well together when major opportunities arise that require collaboration and, that to a large extent, executive staff collaboration is driven by gubernatorial leadership. However, in order to ensure sustained coordination that survives across changes in leadership, there is a need to build working relationships at multiple levels of the organizations. One strategy is to have economic development staff "embedded" in transportation agencies. Given staffing limitations, this may not be feasible for many agencies but it is not necessary to use an embedded approach as long as there is regular communication. Staff need to invite each other to meetings and create comfortable working relationships.
- **Be constructive**. Sometimes the default reaction to a request is to list the reasons why it can't happen. Instead, DOT staff should be encouraged to take a constructive approach and explore alternative feasible solutions to meet the need.
- **Share data and information**. It is likely that transportation agencies have data that is of value to economic development agencies, and vice-versa.
  - **Data from economic development to transportation**. There may be opportunities for greater sharing of economic development data (e.g., about targeted sites or pipeline of potential development opportunities). For example, in Kentucky, economic development organizations use a customer relationship management tool that track findings of various conversations. While some of this information is proprietary, DOTs could potentially obtain controlled access in order to better understand potential future demands.
  - **Data from transportation to economic development**. Transportation agencies can keep their economic development partners aware of plans and programs, and provide background on the programming and project development process.

One simple information sharing approach suggested was for transportation agency staff to hold regular meetings with economic development staff and business representatives. These meetings could be used to gather information on economic development issues where transportation might play a useful role. They would focus on particular economic sectors, and regions of the state. Findings from the meetings could be reported up to the regional and statewide levels to inform strategy.

In addition, broader opportunities can be explored to implement data sharing platforms. Geographic information system tools can be used to put data from each agency on a common platform, and use to identify synergies between projects on the DOT's program and targeted potential economic development sites. Identify simple ways to enhance attractiveness. Where data are sensitive, access can be restricted as needed.

EFFECTIVE COMMUNICATION ABOUT ECONOMIC DEVELOPMENT BENEFITS OF TRANSPORTATION

- **Opportunities to market transportation.** DOTs may be missing opportunities to talk about the investments they've made in infrastructure and the impacts they have had. Utah DOT is currently working to develop a marketing plan for transportation. Just as economic development agencies market to prospective industries, Utah DOT would like to have a presentation that communicates about the transportation system—who it serves, how it is performing, and plans for the future. Such a presentation would tell the story about how the collection of projects represents a responsible expenditure of tax dollars.
- **Get the right skills.** People with private-sector marketing skills and experience can be very effective at getting the desired message across.
- **Selling asset management.** Projects that add capacity or provide new access tend to generate more excitement than projects for upkeep of existing assets. However, asset condition is just part of the equation in development decisions. Michigan representatives reported that deals have been lost due to lack of infrastructure investment. In Washington state, pavement overlays are valued projects—people who ship apples care about road conditions. However, business location decisions are often made based more on visual information rather than numerical data on asset condition. While investment in infrastructure communicates that the state is exercising responsible stewardship of assets, participants agreed that more could be done to communicate the impacts of underinvestment in asset maintenance. Specific concepts to be explored include the impacts of underinvestment on total cost of asset ownership and long-term financial health of the state.
- **Build communication channels with business community.** Looking at transportation as an economic development strategy allows a different type of conversation about transportation that resonates with the business community. Local economic developers are strong transportation supporters , but typically there isn't a regular way for them to interface with transportation officials. There is a need for greater engagement at the local level—e.g., through presentations at economic development association meetings, and monthly staff meetings. Another strategy is to have market-driven conversations involving industries with the same issues (rather than dealing with individual companies). Economic development staff can facilitate communication with the business community in a state, given that a majority of development opportunities are with existing companies.

- **Emphasize return on investment.** Messaging needs to communicate that it isn't about spending, it's about investing that will yield returns in the form of jobs, revenue, etc.
- **Collect and tell stories about results.** DOTs conduct groundbreakings ceremonies but don't go back and measure what has been achieved. Additional collection and communication of information about project impacts (both quantitative and qualitative) is needed. This would improve DOTs' capabilities to tell a compelling story about investing to help people and goods move.
- **Make the connection.** The transportation message is an economic development message. The connection should be explicit and simple, e.g., "the State seeks to expand exports and transportation is an important part of how to do that."
- **Present both statewide and regional perspectives**. In order to avoid sensitivities about equity, it is important to present a statewide strategic perspective in communication about transportation investments. At the regional level, it is helpful to define and describe the regional context so that businesses in a region can better understand how they collectively benefit from transportation investments.
- **Ensure a consistent message.** DOTs need to make sure their employees are in sync with the "brand" of the organization and "singing from the same sheet of music"; otherwise mixed messages can occur. This means that DOTs need to work internally as well as externally on communication.

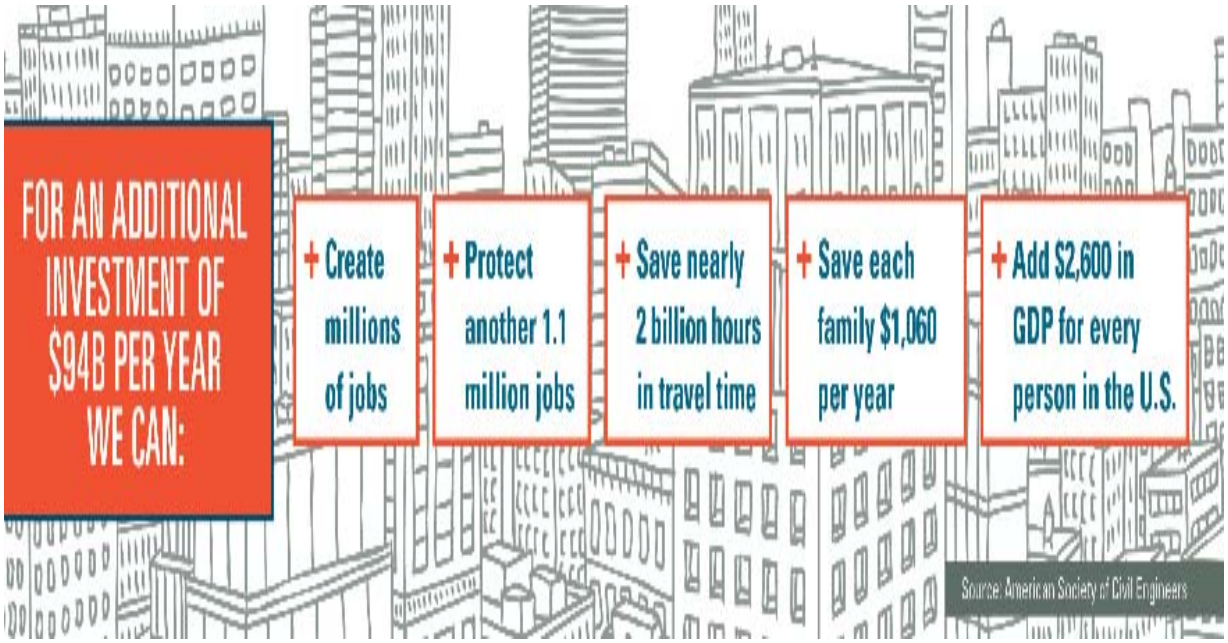

FIGURE 9 Communicating benefits of transportation investments (ASCE).

Potential Future Actions

Peer exchange participants appreciated the value of the discussion and suggested that in addition to dissemination of the results of this peer exchange, several potential actions be considered to continue the conversation about transportation and economic development. Actions fall into two categories: those aimed at increasing collaboration and communication between transportation and economic development agencies, and those aimed at internal work within transportation agencies to foster a culture of collaboration.

ACTIONS TO INCREASE TRANSPORTATION–ECONOMIC DEVELOPMENT AGENCY COLLABORATION AND COMMUNICATION

- AASHTO: formalize partnerships between AASHTO and associations of economic development officials, potentially including the National Association of Development Organizations and the International Economic Development Council.
- TRB: host future peer exchanges and conference sessions to explore this topic further.
- State DOTs: invite economic development partners to annual transportation conferences.
- Economic development agencies: invite DOT partners to annual economic development conferences.
- State DOTs and economic development agencies should:
  - Build improved understanding of respective agency goals, drivers, and rewards systems and processes through increasing staff interaction at multiple levels;
  - Conduct debriefs on specific project experience to understand what went well and what could be improved;
  - Establish a regular mechanism for sharing information and coordination; this might cover emerging economic development trends, development–expansion opportunities in the pipeline, longer-term potential development sites, and transportation plans and upcoming projects; and
  - Explore opportunities for data sharing.

ACTIONS TO FOSTER A CULTURE OF COLLABORATION AT DOTS

- Through leadership, hiring, and training, work on culture change to remove barriers to productive collaboration. Increase capacity for communication, empathy, customer service, and listening to (and acting on) feedback. Foster a style of working with partners that emphasizes "the art of the possible" rather than a more rigid style that presumes a single "right solution."
- In staff communications, emphasize the DOT's shared goals and responsibilities with partner agencies.
- Build practices for project evaluation based on a broader set of outcomes beyond traditional factors such as volume to capacity ratios.

APPENDIX

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