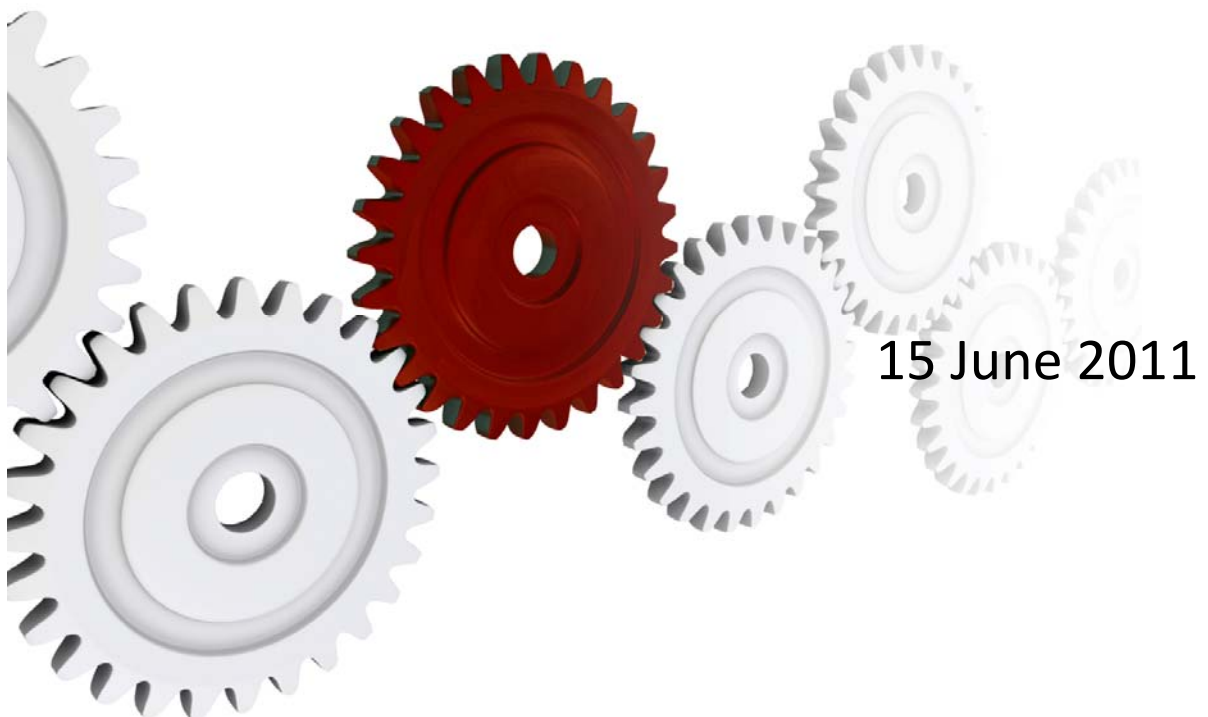


Prepared by Meetings Northwest, LLC

Prepared for the Federal Highway Administration, USDOT

**Proceedings of the
2011 International Transportation
Economic Development (ITED) Conference:
Economic Impact of Connecting People, Goods,
Markets, Employment, Services and Production**

May 1-3, 2011, Charleston, West Virginia, USA



Background

I-TED 2011 was the fourth international conference to concentrate on the linkage between transportation and economic development. Held May 1-3, 2011 in Charleston, West Virginia, USA, the conference focused on issues and challenges related to the economy, global concerns and financial constraints. The conference featured national transportation and economic leaders including US Secretary of Transportation Ray LaHood, as well as, over 50 national and international speakers presenting in 16 separate technical sessions.

Participants discussed and addressed the emerging transportation needs of business and economic development communities at local, regional, state, national and global levels. Subjects and perspectives included public and private sectors; academic, practitioner and policy issues; theory, concepts and operational tools; and, all transportation modes and their relationship to economic development.

Hosted by the Nick J. Rahall, II Appalachian Transportation Institute, the event was sponsored in part by: the Appalachian Regional Commission; Cambridge Systematics; the Delta Regional Authority; the Economic Development Research Group; the Federal Highway Administration, through the Surface Transportation Environment and Planning Cooperative Research Program (STEP); the Louis Berger Group; the National Association of Development Organizations; the Transportation and Economic Development Committee/TRB; the West Virginia Department of Transportation; and Wilbur Smith Associates.

Outcomes

One important outcome of the conference was the identification of research topic areas that attendees would like to see at future TRB and/or ITED Conferences. Responses were varied and included:

- Carbon pricing effects on smart growth [from Session B3]
 - Analyze the effects of introduction of a price for carbon via either cap/trade or carbon tax on fuel substitution effects; modal substitution effects, long-term co-location of industrial suppliers with original equipment suppliers.
 - Test implicit lower carbon burden claims of smart growth paradigm with simulation studies based on existing case studies of TOD and other smart growth development throughout the nation.
 - Assess whether there are relevant applications of the smart growth paradigm to non-metro and rural areas for transportation and economic development.
 - Would carbon pricing drive import substitution of alternative fuels and technology for oil and reduce the merchandise trade deficit? Would carbon pricing also reduce the trade and transportation volume of certain commodities groups and lead to more indigenous production?
- Communication - Methods/techniques to communicate economic development and impact concepts to the public, policy makers, and other stakeholders
- Indicators - Building economic outcome indicators into transportation agency performance measurement programs
- Integration of Economic Impact Analysis into state and regional transportation planning processes (also a topic at this conference)
 - Benefit-Cost Analysis and Economic Impact Analysis dominated most discussion. Some attendees mentioned their interest in other innovative, potentially more qualitative, approaches to evaluating transport improvements. Especially in regards to high speed rail. It was thought that such mega projects would transform a way of life - the magnitude of which transcends the limited BCA and EIA metrics.
 - With TIGER Programs becoming a part of our toolbox, we should look more closely at assessment and consistency in the benefit-costing of projects
- Intermodal/Multimodal
 - Issues in intermodal and multi-modal transportation as well as supply chain competitiveness from a NAFTA's perspective.
 - Analyze the competitive effects on industrial clusters performance of changes due inter-modal investments. [from Session A4]
 - Identification of cross-border processes that would expedite (e.g., in advance) the clearance procedures, and lead to trade increases and higher economic impacts. [from Session C2]
 - Intelligence and random (smarter and more efficient) screening versus physical inspections and their impacts. [from Session C2]

- Explore closer cooperation and collaboration between different modal groups (e.g., highway, rail, marine, aviation) and geographies – breaking silos up and making approaches and methodologies (more) consistent. [from Session C2]
 - Assess ways to improve cross boarder advance clearance of cargo. [from Session C3]
- International
 - International experiences in PPP in transport investment.
 - More international studies – economic analysis methods, evaluation designs for different transport sectors, etc
- Long-run implications of economically efficient transportation pricing of ALL modes for infrastructure investment and sustainable economic growth.
- Maritime economic-related economic development – Examples could include US Army Corps of Engineers dredging projects.
- Planning
 - Integration of economic impact into state and regional planning. [from Session C3]
 - Revisit T-21 borders program to assess how to improve and expedite multi-jurisdictional planning transportation investments that span borders. [from Session C3]
 - Assess transportation projects that did/did not have economic development benefits in their justification to assess how the two sets of projects performed based on a variety of measures. [from Session C3]
- ROI - Return on investment for privatization (various transportation projects).
- Social Benefits Analysis - Conduct social benefits analysis of the increased access for non-metro areas to health, educational and social services and amenities in Metro areas. Develop quantitative framework to measure these non-business benefits. [From Session A4]
- Transportation disinvestment – what happens after disinvestment?

Following the welcome letters, a brief summary of each session and/or a summary of the question/answer period is highlighted. Note that speaker presentations are included in Appendix A as well as online at www.ited2011.org.

1. Welcome Letter from Conference Host

Dear ITED Participants,

As Director and CEO of the Rahall Transportation Institute, I would like to extend a warm welcome to all of our colleagues and guests who have traveled to West Virginia for the International Transportation and Economic Development Conference 2011.

The ITED Conference is the fourth international conference to bring together a variety of professionals from government, higher education, public and private industries, to concentrate on the link between transportation and economic development.

Through technical sessions, training opportunities, presentations of research and networking functions, participants will discuss and address the emerging transportation needs of business and economic development communities from local to global levels.

Special thanks are extended to our distinguished speakers and sponsors, whose generosity has made this conference possible. We are especially honored to have United States Secretary of Transportation Ray LaHood, who adds an immense amount of expertise to the ITED conference, to serve as our keynote speaker. The knowledge that he and our other distinguished speakers provide in the opening sessions help set the tone of the conference as a positive and progressive ground for participants to exchange ideas and create solutions for the transportation and economic development challenges that affect us all.

As a native West Virginian, I also encourage conference goers to explore our beautiful capital city and the surrounding area. Charleston is home to state government offices, Chesapeake Energy, Dow Chemical, Verizon, DuPont, the University of Charleston and West Virginia State University. Dozens of dining, shopping, outdoor and sporting event experiences await the Charleston visitor.

With kindest regards, I look forward to participating in the 2011 I-TED Conference with all of you.

Sincerely,



Bob Plymale
Director and CEO, RTI

2. Welcome Letter from Planning Committee Chairs

Welcome ITED Participants,

As Co-Chairmen of the fourth International Transportation and Economic Development Conference we welcome you to this important event dedicated to examining a wide variety of effects that transportation investments have on the economic development prospects of communities, regions and nations.

In this era of globalization it is evident that access to transportation services is vital to promote local, regional and national economic performance and competitiveness. Yet in this era, many communities and nations are reckoning with significant financial constraints when assessing when, where and how to make cost effective transportation infrastructure investments that promote maximum economic returns. This conference aims to shed light on these issues and contribute to international understanding of the effects of transportation investments on economic growth and performance. Another objective of this conference is to identify and promote new research topics and information sharing about a broad range of economic and social effects of transportation infrastructure investments on regional development.

The presenters and participants in conference plenaries and panels bring a breadth of expertise and experience from all over the world and span a considerable range of topics including trade and transportation, freight transportation and national economic development, climate change and energy efficiency in transportation, among others. Furthermore the conference presenters also seek to present new methods of project assessment and impact analysis to promote better decision-making in transportation investments in both public and private sector activities.

We wish to extend our special thanks to the Nick J. Rahall II Transportation Institute as the anchor sponsor, as well as the Appalachian Regional Commission, the Delta Regional Authority, the West Virginia Department of Transportation, the American Association of State Highway Transportation Officials, the National Association of Development Organizations, and the U.S. Department of Transportation, Federal Highway Administration. In addition, we must recognize the key role of the Transportation Research Board and the Committee on Transportation and Economic Development for organizing this conference. Furthermore, key private sector sponsors have also contributed to the formation and support of the conference including: Economic Development Research Group, The Louis Berger Group, Inc., Wilbur Smith Associates, and Cambridge Systematics.

Finally we are very glad to be holding this conference in the State of West Virginia and the Appalachian Region which has pioneered many efforts to understand the role of transportation in economic development. We look forward to working with you in the next few days to make the 2011 ITED conference a successful event.

Sincerely



Greg Bischak

Greg Bischak



Christopher Mann

Co-Chairmen of the Transportation and Economic Development Committee, TRB

Program

OPENING SESSION

Distinguished representatives from the West Virginia congressional delegation including Representative Nick J. Rahall, II, Representative Shelley Moore Capito, and Senator Jay Rockefeller welcomed attendees to the conference. US Secretary of Transportation, Ray LaHood, provided the session keynote.

Representative Nick J. Rahall, II reiterated that transportation has broad bipartisan support. He mentioned the importance of Essential Air Service (EAS) assistance to smaller regional airports, as well as the completion of the Appalachian Regional Commission's Corridor H connecting eastern West Virginia with Interstate 81 in Virginia.

Representative Shelley Moore Capito agreed with Congressman Rahall that transportation has broad bipartisan support.

Senator Jay Rockefeller raised a few policy points regarding the federal budget.

US Secretary of Transportation Ray LaHood announced that, "High-speed intercity rail is coming to America!" He noted that the freight rail system was built in our (great-) great-grandparents' generation; the interstate highway system was built in our (grand-) parents' generation; and high-speed rail will be built in ours. He also noted that use of the Strategic Petroleum Reserve can have a large impact on prices; on the two occasions where it was tapped, the impacts were c.9% and c.33%.

CONCURRENT SESSIONS A

The technical portion of the conference began with four sessions that explored national and international perspectives on freight and rail issues, a cross-country comparison of the impact of transport on economic activity and an examination of the need for transportation infrastructure improvements caused by cluster-based economic development as well as a session on the Appalachian Development Highway System (ADHS).

Kathy Ruffalo from Ruffalo and Associates, LLC discussed federal transportation funding policy at this critical juncture in time. Currently there is no adopted federal reauthorizing legislation in place that sets the direction for the development of our transportation system that is so important to our regional, state, and national economy.

A discussion moderated by the National Association of Development Organizations explored the issues surrounding the critical importance of the role the transportation system in supporting new economic development strategies. The Institute for Trade and Transportation Studies also participated in this moderated session.

Session A1: National, Regional and Local Studies of Freight Transportation on Economic Performance

Summary notes are not available for this session. A copy of the speaker presentations can be found in Appendix A, however.

Moderator: Jon Skolnik, Jack Faucett Associates, Inc.

Speakers:

Brian Alstadt, EDR Group, USA

Beyond the Value of Travel Time: Examining the Effects of Shipper Logistics Cost Savings on Economic Investment Decisions Involving Freight Systems

Kathy Ruffalo, Ruffalo and Associates, LLC*

Transportation Outlook in the New Congress

*Ms. Ruffalo was originally scheduled to speak during the Opening Session.

Session A2: International and Cross Country Comparisons of Transportation and Economic Development

This session featured three speakers. A summary of each of their comments can be found below. Additionally, a copy of the presentations is located in Appendix A.

Moderator: Audrey Moruza, Virginia Department of Transportation

Speakers:

Arlee Reno, Cambridge Systematics, USA

International Comparisons of the Relationships of Measures of National Transportation Systems to National Economic, Social and Environmental Indicators.

- Transportation investment has large benefit cost ratios across investments and across private and public modes
- FHWA VMT Spreadsheet Model correlates annual VMT growth to 2035 with specific estimates of real annual per capita income growth and is positively correlated
- Using user fees to manage demand for private transportation (i.e., pricing VMT) would result in very large increases in user fees, much more transportation funding generated than needed, and personal income losses. [*Unasked question: How is personal income loss defined? Do we “lose” income when we choose to spend it on something whose price is rising relative to other prices, like private vehicle transportation? Or is raising the cost of public transportation assumed here also?*]
- In summary, increasing the price of travel would cause personal income loss in the U.S.
- Income inequality is a serious problem in the U.S. but growth in highway user fees can be rebated to lower income groups to mitigate.

Muhammad Omer Chaudhry, Molde University College, Norway

Transport Infrastructure and Economic Efficiency: A Cross County Comparison using Data Envelopment Analysis

- Muhammad presented on his doctoral thesis work
- Reference to “DMU” on the slide for “Data Envelopment Analysis”: DMU = “decision making unit”.
- The index base year for the data used was 1990 (1990 = 1)
- In summary, for the upper middle income group, investment in transportation infrastructure was significant to the countries’ GDP. They appear to be in a “take-off stage” relative to the low and low middle income countries and the high income countries

Eric Cook, Louis Berger Group, USA

Can Road Construction Play a Strategic Role in Post-Conflict Recovery and Foreign Assistance Efforts?

- In Afghanistan, road expenditures are second only to security expenditures.
- The results documented by the researchers are understated because the baseline was established halfway through the project when travel was already increased, rather than before the project
- To alleviate poverty, the International Food Policy Institute recommends agricultural R&D as a first priority and building of roads a close second.
- The road studied here is the second to last link between the provincial capital and Kabul.
- The study did not measure results “with/without” the road but rather “before/after” the road was built.
- They collected data on 14 economic indicators, 7 of which were presented here.
- Results showed price convergence in 9 of 13 goods between the two endpoints of the road
- USAID left it to the government to sort out the compensation for land-taking, but the local government is reported by locals to have failed to compensate them adequately.

The following post-presentation questions were recorded:

Question: What kind of security was necessary for the road builders?

Answer: USAID road camp had amenities for the LF so travel was minimized.

Question: Why did USAID fund a flexible (asphalt) surface when the geopolitical area is so unstable and a concrete road would have lasted much longer?

Answer: Likely due to the logistics and time required for concrete materials to be brought in, used, etc. Asphalt is quicker.

Session A3: Analysis of Changes in Transportation Infrastructure on Regional and Local Geographies Due to Cluster-Based Economic Development

A copy of each presentation is located in Appendix A.

Moderator: Peggy Tadej, Northern Virginia Regional Commission

Speakers:

Bruce Lambert, Institute for Trade & Transportation Studies, New Orleans Board of Trade, USA
The Southern Automotive Corridor: Assessing the Contribution on Regional Economic Activities

Lyle Wray, Capital Region Council of Governments, USA
Innovation Transit Oriented Development

Scott Turnoy, Mid-Columbia Economic Development District (MCEDD) in The Dalles, Oregon, USA
Connecting Clusters and Communities: Transportation Options in the Columbia River Gorge

The following were recorded during the question/answer period following the presentations:

Question: Your attributed desire for location for supplier to avoid cannibalism... is there a 2nd concern for diversification? Do you want more than one plant to avoid ups and downs?

Answer: Yes, of course. They are concerned about logistics and they can't and don't want to compete with the auto manufactures, they can't compete money wise for salary and benefits.

Question: How do you safeguard projects with leadership changes?

Answer: For auto much different thing, totally related to job base, everyone wants credit for creation. Get as much done so it becomes irreversible.

Question: Do you think you have the information to differentiate s between the different methods and tie economics?

Answer: No

Session A4: The Appalachian Development Highway System (ADHS) - Access to Opportunities

A copy of each presentation is located in Appendix A.

Moderator: Ken Wester, Appalachian Regional Commission

Speakers

Greg Bischak, Co-Chair, Transportation and Economic Development Committee, TRB
Dan Hodge, HDR Decision Economics, USA

Economic Benefits of the Appalachian Development Highway System: A Look Back and a Look Forward

Beth Jones, Southeast Tennessee Development District, USA

Assessing Economic Development Need for an Appalachian Development Highway System Corridor

Lloyd Thompson, Moffatt & Nichol, Inc., USA

Network Appalachia: Developing an International Reach to Compete in a Global Economy

Suggested research topics for future conferences that resulted from this session:

- Conduct social benefits analysis of the increased access for non-metro areas to health, educational and social services and amenities in Metro areas. Develop quantitative framework to measure these non-business benefits.
- Analyze the competitive effects on industrial clusters performance of changes due inter-modal investments.

CONCURRENT SESSIONS B

As in any industry, advances in technology need to be explored to improve efficiencies. These sessions explored such advances on three levels; improved modeling techniques, integration of fiber optic system transportation infrastructure and the development of entirely new transportation systems, such as high speed rail, that can provide options to support economic growth. A concurrent session focused on the interaction of changes in our climate and transportation and economic development dynamics. These dynamics must be better understood by policy makers. The last session in this grouping focused on methods to estimate green house gas emissions and the development of the biofuels industry.

Session B1: National, Regional and Local Economic Effects of Various Modes of Transportation Infrastructure on Economic Performance

In addition to a copy of each presentation located in Appendix A, a brief synopsis of main points can be found below.

Moderator: Jon Skolnik, Jack Faucett Associates, Inc.

Speakers:

Karen White, Federal Highway Administration, USA

Scan of Models to Measure Economic Impacts of Transportation

- (1) Input/Output (I/O) models;
- (2) Computable General Equilibrium (CGE) models;
- (3) agglomeration impacts;
- (4) Benefit/Cost Analysis (BCA);
- (5) time series.

Martin Weiss, Consultant, USA

Undiscovered Components in Transportation and Economic Analysis

- (1) work zone user costs;
- (2) reduced M&O on parallel route;
- (3) reaching child care on time (i.e., value of travel time is stochastic or non-linear);
- (4) travel time to parks and rec (i.e., value of leisure time);
- (5) transit improves freight transport (by getting passengers off the road);

- (6) expanded labor force access;
- (7) rail investment improves passenger transport (by getting freight off the road);
- (8) adding safety when resurfacing rural road.

Question: Why are they [components] ignored?

Answer: 1. We assume that the things we ignored “balance out”. 2. We suspect that capturing these components will have an unwelcome impact on our findings. 3. To capture them is costly.

Question: How big a difference?

Answer: At a guess, $\pm 15\%$.

Junwook Chi, Nick J. Rahall Appalachian Transportation Institute and Center for Business and Economic Research, USA

Regional Impacts of a US-35 Toll Road in West Virginia

- (1) Reviewed literature on pricing models and methods.
- (2) Forecasted traffic and revenue.
- (3) Modeled other impacts of the toll road.

Question: One listener raised a question about the path of employment over time that Dr. Chi’s model forecasted. A discussion ensued between Dr. Chi and members of the audience. The other speakers joined the discussion as well.

Answer: There seemed to be agreement that (1) assumptions about the fraction of out-of-state (through) traffic and (2) assumptions about the government’s use of the toll revenue had an important influence on the predicted impact of the toll road.

Session B2: Impacts of Technological Change on Transportation and Economic Development

A copy of each presentation is located in Appendix A.

Moderator: Arno Hart, RNO Group

Speakers:

Stephen Fitzroy, EDR Group, USA

Economic Development and High-Speed Rail: How Market Access and City Size Influence Development Opportunities

Melissa Paciulli, University of Massachusetts, USA

Evaluating Policies for the Expansion of Fiber Optic Infrastructure, Implications for Planning Economic Growth and Integration in Western Massachusetts

Julie Lorenz, Burns & McDonnell Engineering, USA

The New Imperative: Collaboration Tools Link Transportation and Economic Development Planning

The following were recorded during the question/answer period following the presentations:

Question: Funding sources for Eco development – How to get legislature to fund?

Answer: Had two key people that were very pro-funding and were able to get people to support and tied it to transportation.

Question: What are the definitions of HSR in America?

Answer: There are 3 definitions in the Federal Government

Question: Is proposed development of HSR to decrease green house gas or another reason?

Answer: A concern, but major issue is global competitiveness on road and in air

Session B3: Energy/Climate Change Policy-Induced Effects on Transportation Investments and Economic Development

A copy of each presentation is located in Appendix A.

Moderator: Greg Bischak, US Department of Treasury

Speakers:

Judith Mwakalonge, Prairie View A&M University, USA

A Comparison Analysis of Methods Used to Estimate GHG Emissions to Better Understand the Effects of Transportation Investments

Bruce Lambert, Institute for Trade & Transportation Studies, New Orleans Board of Trade, USA

The Biofuel Industry in the Southeast - The Implications on Transportation Systems

Charles Kooshian, Center for Clean Air Policy, USA

Growing Wealthier: Smart Growth, Climate Change and Prosperity

The following were recorded during the question/answer period following the presentations:

Question: Are technologies currently subsidized in the ethanol industry?

Answer: Yes, heavily subsidized.

Question: Is E85 compatible with hybrid electric vehicles?

Answer: No

Question: Discussion on pricing schemes vs. regulatory schemes

Answer: Low elasticity's with fuel prices, not always available travel options, political will not be there, new ideas on carbon pricing.

Question: 10% cap on ethanol technical or legal?

Answer: Both

Question: Smart growth strategies applicable to rural areas?

Answer: Likely not, most applicable to urbanized areas, longest reduction in VMT. However, there are options for smaller towns in rural areas eco services.

Question: A discussion on international competitiveness, global energy, etc. was held.

Answer: Suburban sprawl lifestyle – other countries do not emulate that (China might be an exception), regulation on emissions, carbon pricing, Trade Deficit 60+% oil, change trade currency from money.

Suggested research topics for future conferences that resulted from this session:

- Analyze the effects of introduction of a price for carbon via either cap/trade or carbon tax on fuel substitution effects; modal substitution effects, long-term co-location of industrial suppliers with original equipment suppliers;
- Test implicit lower carbon burden claims of smart growth paradigm with simulation studies based on existing case studies of TOD and other smart growth development throughout the nation.
- Assess whether there are relevant applications of the smart growth paradigm to non-metro and rural areas for transportation and economic development.
- Would carbon pricing drive import substitution of alternative fuels and technology for oil and reduce the merchandise trade deficit? Would carbon pricing also reduce the trade and transportation volume of certain commodities groups and lead to more indigenous production?

CONCURRENT SESSIONS C

It is generally agreed that public transport contributes to economic growth. These may be found in the various economic dynamics in public transport, both internal to the provision of service and external to the change in economic values of adjacent land uses being served by the service. The first of the three sessions in this grouping explored these issues. Many also agree that this dynamic should be examined as part of the process of planning transport systems. This would mean including economic development considerations as part of the formal planning process carried out by regional and state planning and transportation agencies. This was covered in the second concurrent session. Lastly, spatial impacts of transport investments are a critical consideration when assessing the need for improvements and were covered in the third concurrent session.

Session C1: Economic Growth Impacts of Public Transport Investments

A copy of each presentation is located in Appendix A.

Moderator: Chris Mann, Co-Chair, Transportation and Economic Development Committee, TRB, USA

Speakers:

Talha Muhammad , HDR, USA

Measuring the Impact of Accessibility Change on Commercial Property Values: The Case of the New Jersey Transit's Midtown District

Robena Reid, Federal Transit Administration, USA

Transit Planning in Regional Economic Development Analysis

Question: Is there a “best” funding method for expanding rural bus service?

Answer: Have to ask what the eligible costs are. TIFIA is currently oversubscribed. Find out if your state has a state infrastructure bank—they’re useful. Not all states do.

Jean-Claude Ziv, Conservatoire National des Arts et Metiers, France

The “Versement Transport” as a Successful Way to Fund and Develop Public Transport

Question: Were there any social development impacts of Versement Transport (VT)?

Answer: Yes—light rail was possible because of VT happening at that moment in time. Light rail is highly desired today but its cost puts it out of the reach of most communities and even nations.

Session C2: Integration of Economic Impact Analysis into State and Regional Transportation Planning Processes

A copy of each presentation is located in Appendix A.

Moderator: Peter Ogonowski, Wilbur Smith Associates, USA

Speakers:

Glen Weisbrod and Lisa Petraglia, EDR Group, USA

Long-term Economic Requirements in Transportation Planning

Judy Perkins, Prairie View A&M University, USA

presented by Judith Mwakalonge, Prairie View A&M University, USA

Review of State and Regional Practices in Integrating Economic Impact Analysis into the Transportation Planning Process

Miguel Gaston Cedillo-Campos, COMIMSA, Mexico

Uncertainty on Crossing Times at US/Mexican Border: Impacts on Safety Stocks of NAFTA Supply Chains

The following were recorded during the question/answer period following the presentations:

Question: Are there any rail project that have issues similar to the highway crossings?

Answer: Not exactly, but to a large degree many of the issues apply to rail too

Question: Are there European examples of how the border issues are handled there?

Answer: There is some applicability from Europe that can be learned on this side of the Atlantic.

Question: How about river analysis?

Answer: In Illinois, for example, the river system is very important.

Question: Will the analysis of the mega-regions require innovation?

Answer: Yes, there have been interesting examples of mega-regional/trans-border studies, e.g., Northeast Can-Am, Detroit/MI-Ontario. It appears that some regions/states have been forming coalitions on their own without waiting for directions from the feds.

Question: Is there any indication for economic development-related requirements to be included in the upcoming reauthorization?

Answer: It is going to be interesting to allow for more initiatives of local/regional (as opposed to just national) significance

Suggested research topics for future conferences that resulted from this session:

- Identification of cross-border processes that would expedite (e.g., in advance) the clearance procedures, and lead to trade increases and higher economic impacts.
- Intelligence and random (smarter and more efficient) screening versus physical inspections and their impacts.
- Explore closer cooperation and collaboration between different modal groups (e.g., highway, rail, marine, aviation) and geographies – breaking silos up and making approaches and methodologies (more) consistent.

Session C3: Methodological Innovations in Measuring the Spatial Impact and Distributional Costs and Benefits of Transportation Infrastructure Investments

In addition to a copy of each presentation located in Appendix A, a brief synopsis of main points can be found below.

Moderator: Diana Long, Nick J. Rahall Appalachian Transportation Institute

Speakers:

Brian Gardner Mogensen, Grontmig | Carl Bro, Denmark

Calculation of Dynamic Effects in the Socio-Economic Method of Construction Projects in Transport Sector in Denmark

- Denmark is small (~5m pop), and all investment decisions are made at the national level.
- The country is planning new fixed links (bridges), new rail, and new highways. T
- ERESA, the Danish benefit/cost model, is currently a work in progress.
- Dynamic effect on the labor market, land use, etc., currently are not included.

Question: What do you have statistics on percentage of passenger or freight traffic – what is internal and what is thru traffic?

Answer: Yes, I have this data because there is an agreement between Denmark, Sweden and Germany to supply data back and forth.

Question: How closely tied in are private industries?

Answer: They do a lot of lobbying.

Sharada Vadali, TTI, USA

Spatial Representation in Economic Impact Models

- Increased interest in spatial aspects of economic impacts: see OECD Conference Series – International Transportation Research Forum (2007).
- History up to now features three threads:

- (1) the productivity (macroeconomic) approach, exemplified by David Aschauer's work [and Alicia Munnell's, and Ishaq Nadiri's], mostly not spatial;
- (2) the ex post (microeconomic) analysis of changes in land use/demographics/labor market;
- (3) the zonal (mesoeconomic) approach, exemplified by Paul Krugman's "New Economic Geography", with a strong emphasis on the spatial variety of resource allocations and price equilibria. This third thread parallels in some ways the explicit consideration of regions in the international trade literature.

Dean Hatfield, The Louis Berger Group, USA

The Designer's Perspective on Economic Development and Transportation: A Comparison of Project's with Different Demographics and Opportunities

- Lessons from the Wendell Fall Parkway in North Carolina and from the Bamiyan-Dushi Road in Afghanistan.
- Wendell Falls Parkway is a bike/pedestrian multi-use parkway. The project had environmental issues and the 2008 recession hurt funding.
- The Bamiyan-Dushi Road travels through difficult geography included overhanging cliffs and irrigation channels. It's presence was noted on maps and aerial photos but its economic importance was not noted. This proved to be a key constraint on design – designers tried to stay within the existing footprint although the existing road was one-lane!

Suggested research topics for future conferences that resulted from this session:

- Integration of economic impact into state and regional planning
- Assess ways to improve cross boarder advance clearance of cargo.
- Revisit T-21 borders program to assess how to improve and expedite multi-jurisdictional planning transportation investments that span borders.
- Assess transportation projects that did/did not have economic development benefits in their justification to assess how the two sets of projects performed based on a variety of measures.

Challenges Facing the Use of Economic Impact Models by Transportation Agencies - An Open Discussion

A practical challenge for transportation agency staff and consultants is communicating economic impact concepts to the public and to decision-makers. Use of sophisticated economic models can help inform discussions and decisions, but only if there is effective translation of key model concepts and analysis results into the language and perspectives of the interested parties to address their needs. This session continued a discussion of the topic that was started at the TREDIS Users meeting at TRB in January. It was, however, open to all, as the topic was of relevance to all researchers and practitioners and is not unique to any single model.

MORNING “ALL STAR” PLENARY SESSION

The second day of the conference began with a thought provoking discussion by three key leaders in transportation-economic development policy formulation.

Moderator: Matt Chase, National Association of Development Organizations

Speakers:

Chris Masingill, Delta Regional Authority, USA

Earl Gohl, Appalachian Regional Commission, USA

Clifford Winston, Brookings Institution, USA

Summary points were not recorded for Chris Masingill or Earl Gohl. Their presentations can, however, be found in Appendix A. The following points were recorded from Clifford Winston’s presentation:

- “This is the nature of government: it redistributes money.” Argued for more use of pricing mechanisms in the financing and provision of transportation.

Question: Moderator Matt Chase asked Earl Gohl to recount a little of the background history of the exploitation of the natural gas reserves in the Marcellus Shale Formation.

Answer: Mr. Gohl did so, with specific reference to his experience in Pennsylvania.

Question: What do you mean when you say “sustainability”?

Answer: [Gohl] Fiscally sustainable – reaching the point where a program or system can continue without subsidies. [Chase] Communications and coordination. [Winston]: Make the bottom line reflect the true opportunity cost.

CONCURRENT SESSIONS D

Transportation infrastructure investments have many elements that are critical to their success, some of which involve non-traditional partnerships in their development and delivery. Three presentations examined three very different elements of transport system development that involved public-private partnerships in project financing, use of public rights-of-way for economic development, and use of public rights-of-way for port development. As an option to complex economic analysis, the case study approach to economic impact measurement has been beneficial to policy makers and analysts in conducting analyses of proposed investments. Results from the SHRP2-CO3 program were presented with an eye towards providing an additional tool for analysts. Benefit cost analysis and economic impact analysis have been traditional methods for appraising economic impacts. However, they are not uniformly applied across organizations. Presentations examined various issues in their application with future directions suggested.

Session D1: Public-Private Sector Roles and Relationships in Promoting Transportation Infrastructure Investments for Economic Development Objectives

This session featured three speakers. A summary of each of their comments can be found below. Additionally, a copy of the presentations is located in Appendix A.

Moderator: Marwan Madi, Booz Allen Hamilton, USA

Speakers:

Billy Leung, Regional Economic Models, Inc., USA

Ingredients for Transportation Investment in Public/Private Sustainable Development

- Much emphasis on the virtues of the REMI model, plus lessons learned from projects in different parts of the world. Example: the unusually low interregional immigration responses in Italy required ad hoc tweaking of the REMI model when applied to an Italian project.

Liat Bonneville, Wisconsin Department of Transportation, USA

Economic Impacts of Wisconsin's Commercial Ports, Helping to Keep the State's Economy Afloat

- Reviewed descriptive statistics of the eight highest-volume ports in Wisconsin: Milwaukee, Manitowoc, Marinette, La Crosse, Duluth (part of which is built across the border in Wisconsin), Sturgeon Bay, Prairie du Chien, and Green Bay. The IMPLAN I/O package was used to study the economic importance of the ports.

Question: Duluth is a major port for Minnesota and points west, but how important is it for Wisconsin?

Answer: Ms. Bonneville promised to research the answer and to respond later.

Question: Did the Wisconsin study attempt to differentiate the Mississippi ports (La Crosse and Prairie du Chien) from the Great Lakes ports.

Answer: Short answer: yes. Longer answer: the Mississippi ports proved more difficult to study.

M. Kishore Kumar, Border Roads Organisation, India

Sound Financial Management & Reliable Sources of Funding - Key Attributes for Timely Completion of Highway Projects

- Tables of statistics from the NHAI [National Highway Agency of India]. As NHAI acquired more experience in building a national highway system, and as the world's financial weather changed, NHAI resorted to three financing methods in succession. Each depended on foreign direct investment (FDI): (1) BOT (build-operate-transfer) toll roads; (2) annuity compensation; (3) "EPC". Real estate prices in the neighborhood of newly-constructed facilities rose by a factor of 10 to 15, a sign of anticipated benefits.

Question: Will the financing mechanisms in place in India continue to work as the system matures and a larger share of funds become needed for maintenance rather than construction?

Answer: No, the institutional framework will probably have to be retooled.

Question: FDI and private participation in PPPs come with strings attached; was the Indian government, and the public, comfortable with the strings?

Answer: There was some resistance, but not to the extent expected.

One listener, citing Canada's strong "Buy Canadian" emphasis in public works, asked how the Indian government came to accept FDI up to 100% of project cost. Mr. Kumar responded that the domestic construction industry lacked the capacity to build the national system on the desired timetable. Another listener, citing Portugal as an example, predicted that the domestic industry's capacity to handle highway construction would grow. Mr. Kumar agreed.

Lastly, a listener remarked that policy-makers often ask for short, logically incomplete answers, and that feeding the policymakers more than they ask is an art. Mr. Leung agreed. Mr. Kumar opined that proper monitoring and interim reporting are examples of information on which engineers must insist in spite of the fact that policy-makers do not demand it.

Session D2: Highway Impacts on Economic Development: The SHRP2 - CO3 Program

A copy of each presentation is located in Appendix A.

Moderator: David Plazak, SHRP2 Staff, TRB

Speakers:

David Plazak, SHRP2, TRB, USA

The SHRP2 Research Program on Transportation, Economic Development and Land Use

Stephen Fitzroy, EDR Group, USA

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

Steven Landau, EDR Group, USA and Rimon Rafiah, Consultant, Israel

Meta Analysis of Economic Impact Studies: Implications for Highway Investment Planning

Susan Jones Moses, Susan Jones Moses and Associates, USA

Conducting Local Case Studies of Highways and their Economic Development Impact

Paula Dowell, Cambridge Systematics, USA

Discussion of Measurement Issues

The following were recorded during the question/answer period following the presentations:

Question: What geographic scope was used to define the economic impact of the project case studies?

Answer: This varied by project type. The network-type projects (e.g. a beltway) had larger impact regions assigned. The "spot" type projects (e.g. an interchange) had smaller regions assigned. But the emphasis for the entire database was to consider the local or regional impacts rather than the national impacts.

Question: What time scale was used to assess the impacts of the project case studies.

Answer: A similar answer as that given above. Some project types, e.g. beltways take longer for the economic impacts to be evident than other project types, e.g. an access road. So the time scales vary by project type.

Question: This system seems to have been designed so that more case studies (beyond the original 60 and the 40 that have already been added) could be assembled and included. If TRB or another agency had more resources to do this, would your preference be to add more project types or to add depth to the project types that already exist?

Answer: Very much the latter. We'd very much prefer to get all the project type/geographic "buckets" or "cells in the matrix" full enough so robust analyses can be done and valid conclusions can be drawn. Then more project types could be considered. This is in fact what was done when the 40 additional case studies were added midway through the SHRP 2 Research project. More emphasis was placed on filling up the cells in the matrix although two new project types (passenger intermodal and freight intermodal) were also added.

Session D3: Innovations in Transportation Project Economic Development Appraisal

A copy of each presentation can be found in Appendix A.

Moderator: Stefan Natzke, National Systems and Economic Development, FHWA

Speakers:

Brian Alstadt, EDR Group, USA

Emerging Perspectives in Transportation Economic Development and Project Appraisal

Dan Hodge, HDR Decision Economics, USA

A Tale of Two Closures: Economic Impacts of Highway Closures in St. Louis and Appalachia

Eric McClellan, Wilbur Smith Associates, USA

Benefit-Cost Analysis of Strategic Provincial Roads in Southern and Eastern Afghanistan

During post-presentation discussion, the following comments were recorded:

- Benefit/cost ratios and net present values are susceptible to variation and affected by interest rates. There are issues about which interest rates to use, which are guided by OMB.
- Using benefit/cost analysis for efficiency may not be a fair decision, because of how benefits can be spread geographically within a region. One example of this is the use of safety funds within the Southeast Michigan Council of Governments (SEMCOG, the MPO for Detroit).
- One task of this conference is to make research recommendations to TRB. We should consider negative interest rates to evaluate some projects.

Toyota Plant Tour

Toyota Motor Manufacturing West Virginia (TMMWV) manufactures 4-cylinder and V6 engines for their operations in Indiana and Canada. The West Virginia plant also produces automatic

transmissions and gears for plants in Kentucky, Indiana, and Canada. TMMWV was established in 1996 and currently employs 1,006 people.

Twenty participants took a trolley tour through the transmission plant, and listened to a presentation on the start-up of the plant and the product line. The group participated in a trolley tour of the Automatic Transmission Plant; learned about automation/robots from Toyota representative Sudhakar Pillarisetti and spent time with Andy Wendel and Brian Edwards from Production Control asking questions about Toyota's logistics programs.

LUNCHEON SPEAKER

The luncheon speaker was Jose Viegas of the Civil Engineering and Architecture Department of the Instituto Superior Tecnico, Technical University of Lisbon. While his presentation can be found in Appendix A, the main thrust of his comments described a fairly elaborate four-step framework for analyzing risk in transportation projects.

CONCURRENT SESSIONS E

The final concurrent session focused on a wide range of topics ranging from equity impacts to the economic impacts of airport investments. Presenters covered macro-level topics including impacts of transport investments on productivity while other sessions described progress on a current NCHRP research project dealing with factors that can influence the siting of freight facilities. Finally, the contribution of investments in aviation facilities on economic performance was presented.

Session E1: Equity and Distributional Considerations for Users and Non-Users of Economic-Induced Transportation Investments

A copy of each presentation can be found in Appendix A.

Moderator: Martin Weiss, Consultant, USA

Speakers:

Saksith Chalermpong, Chulalongkorn University, Thailand

Differences in High-Density Residential Development Rate Along Bangkok's Rail Transit Corridors

Question: Bangkok Study – Shape of subway line interfered with other lines and that's why development didn't occur. Wonder whether that is because of how early those lines were planned. Easier to anticipate rail vs. subway line?

Answer: BTS open in 1999, 2 years after it had a financial crisis. MRT subway is different in that it goes through medium/ lower medium in some neighborhoods. It was already mostly developed and there couldn't be much speculation there.

Eirini Kastrouni, Iowa State University, USA

Causal Linkages Between Public Capital, Private Capital and Economic Growth

Question: How were toll roads factored into comparative analysis.

Answer: They don't coincide with/serve the same area. Have to look into that factor.

Session E2: Issues in Intermodal and Multi-Modal Transportation Investment Strategies

Summary notes were not collected for this session.

Moderator: Marwan Madi, Booz Allen Hamilton, USA

Speakers:

Dan Hodge, HDR Decision Economics, USA and Chris Steele, CWS Group, USA

Economic and Transportation Drivers for Siting Freight Intermodal and Warehouse Distribution Facilities

Glen Weisbrod, EDR Group, USA

Advances in Modeling Economic Development Impacts of Multi-Modal Investments

Jason Bittner, National Center for Freight & Infrastructure Research and Education, USA

Improving Container Availability and Intermodal Activity in the Heartland

Session E3: National, Regional and Local Studies of Air Transport on Economic Performance

This session featured three speakers. A summary of each of their comments can be found below. Additionally, a copy of the presentations is located in Appendix A.

Moderator: Jim Gillespie, Virginia Center for Transportation Innovation and Research

Speakers:

Richard Klophaus, Worms University of Applied Sciences, Germany

Economic Benefits of Night Flights: The Case of Germany

- Study commissioned by the international carrier Lufthansa and the domestic carrier Avanti estimated the economic impact of night flights. Regulation limits the volume of night flights. The findings of the study have been suppressed for political reasons. [Night flights constitute 8.9% of total air traffic at German airports; 63.2% of night flights are passenger flights; 66.1% of cargo flights are night flights. An off-hand description of the sequential manner in which the two airlines introduce changes in their offerings to German customers illustrated, implicitly, their duopolistic behavior.]

Question: Is the regulation of night flights in Germany motivated primarily by the concern over noise?

Answer: In a few German states the newly-elected Green governments are hostile to air flights in general, but, yes, the restriction on night flights in particular reflects the impact of noise in neighboring residential areas.

Question: The night flight study implied that relaxing restrictions on night flights would confer additional net benefits?

Answer: Yes.

Steven Landau, EDR Group, USA

Economic Impacts of Complimentary Roadway and Airport Expansions

- Two examples of synergies of planning road expansion and airport expansion jointly, one from Huntsville, Alabama, and one from Denver, Colorado. “Airports are [inherently] intermodal because all trips begin and end on the ground.” A notable feature of the Huntsville case was the timing of development: the construction of facilities began in 1967 and continued to 1991; the first positive business location decision occurred in 1993. In other words, the lag time between transport investment and recognizable economic impact was long. A notable feature of the Denver case was that dialogue between planners and stakeholders caused the relocation of the intermodal freight facility from an originally planned spot on the north side of the airport to an alternative spot on the south side.

Question: Assume that the originally-proposed intermodal location on the north side of Denver airport would not have been accessible to trucks without construction and/or retrofitting?

Answer: Right. This was a case where good communication created a “happy ending”.

Apiwat Ratanawarah, Chulalongkom University, Thailand

Infrastructure-Induced Rent and Rent Seeking: A Case Study of Bangkok’s Airport

- Planning of a new airport for Bangkok led to a change in the timing and volume of land transactions as speculators with advance knowledge of the plans attempted, with the assistance of influential local agents, to profit from their inside information. The planning started in the 1960s; the airport opened in 2006. Long before any of the 153G baht (\$5G) investment began, land transactions resulted in a concentration of land ownership in the vicinity of the planned airport. A significant fact is that in Thailand, unlike in many other countries, the Land Department’s records on land ownership and sales are not publicly available information.

Question: It’s common in the USA that speculators will buy land from farmers and then lease it back to them for a period. Did this happen in Thailand?

Answer: Yes.

CLOSING PLENARY SESSION

Speakers closed the conference with presentations on their views of the accomplishments of the conference with suggestions for the future direction of research in transportation and economic development.

Moderator: Chris Mann, Co-Chair, Transportation and Economic Development Committee, TRB, USA

Speakers:

Glen Weisbrod, EDR Group, USA

- Comparison of four TED conferences. Williamsburg 1989: *no freight; no finance*; emphasis on ISTEA and on multimodal options. Portland 2002: emphasis on business location, international competitiveness, and NAFTA. Little Rock 2006: emphasis on land use and smart growth [and a couple of other things that I failed to record]. Charleston 2011: includes freight, finance, multimodal options, etc.

Jean-Claude Ziv, Conservatoire National des Arts et Metiers, France

- In order to compete with the automobile, public transportation needs to approximate the quality of service that the automobile provides: “door to door, just in time”.

Greg Bischak, Co-Chair, Transportation and Economic Development Committee, TRB, USA

- Finance and revenue issues.
- B/C analysis vs. economic impact analysis.
- Institutions for (1) sharing risk and (2) avoiding/discouraging ‘rent-seeking’.
- Recalled economist Jan Tinbergen’s prediction, decades ago, that the U.S. would someday devalue its currency and that the dollar would lose its primacy in foreign exchange.

APPENDIX A

Speaker Presentations by Session