## AGENDA AT A GLANCE

### Friday, August 19

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Noon–5:00 p.m.</td>
<td>Registration</td>
<td>8th Street South, Lobby</td>
</tr>
<tr>
<td>1:00 p.m.–2:00 p.m.</td>
<td>FHWA Visualization Working Group (closed)</td>
<td>Lake Ontario, 8th Floor</td>
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<tr>
<td>2:00 p.m.–5:00 p.m.</td>
<td>Visualization Committee Meeting (open)</td>
<td>Lake Michigan, 8th Floor</td>
</tr>
</tbody>
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### Saturday, August 20

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>8:00 a.m.–5:30 p.m.</td>
<td>Registration</td>
<td>Continental Foyer, Lobby Level</td>
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<tr>
<td>8:00 a.m.–9:00 a.m.</td>
<td>Continental Breakfast</td>
<td>Continental Foyer, Lobby Level</td>
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<tr>
<td>9:00 a.m.–noon</td>
<td>Opening Plenary Session</td>
<td>Continental A, Lobby Level</td>
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<tr>
<td>Noon–1:00 p.m.</td>
<td>Lunch</td>
<td>Continental B, Lobby Level</td>
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<tr>
<td>1:15 p.m.–3:15 p.m.</td>
<td>Breakout Sessions</td>
<td>Williford A, 3rd Floor</td>
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<tr>
<td>3:15 p.m.–3:45 p.m.</td>
<td>Breakout Sessions</td>
<td>Williford B, 3rd Floor</td>
</tr>
<tr>
<td>3:45 p.m.–5:30 p.m.</td>
<td>Breakout Sessions</td>
<td>Williford C, 3rd Floor</td>
</tr>
<tr>
<td>Noon–1:30 p.m.</td>
<td>Lunch with Keynote Speaker</td>
<td>Waldorf, 3rd Floor</td>
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<tr>
<td>1:30 p.m.–3:30 p.m.</td>
<td>Breakout Sessions</td>
<td>Williford A, 3rd Floor</td>
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<tr>
<td>3:30 p.m.–4:00 p.m.</td>
<td>Breakout Sessions</td>
<td>Williford B, 3rd Floor</td>
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<tr>
<td>4:00 p.m.–5:30 p.m.</td>
<td>Breakout Sessions</td>
<td>Williford C, 3rd Floor</td>
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<tr>
<td>Noon–5:00 p.m.</td>
<td>Registration</td>
<td>Waldorf, 3rd Floor</td>
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</tbody>
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### Sunday, August 21

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 a.m.–6:00 p.m.</td>
<td>Registration</td>
<td>Continental Foyer, Lobby Level</td>
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<tr>
<td>7:00 a.m.–8:00 a.m.</td>
<td>Continental Breakfast</td>
<td>Continental Foyer, Lobby Level</td>
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<tr>
<td>8:00 a.m.–10:00 a.m.</td>
<td>Breakout Sessions</td>
<td>Williford A, 3rd Floor</td>
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<tr>
<td>10:00 a.m.–10:30 a.m.</td>
<td>Breakout Sessions</td>
<td>Williford B, 3rd Floor</td>
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<tr>
<td>10:30 a.m.–noon</td>
<td>Breakout Sessions</td>
<td>Williford C, 3rd Floor</td>
</tr>
<tr>
<td>Noon–1:30 p.m.</td>
<td>Lunch with Keynote Speaker</td>
<td>Waldorf, 3rd Floor</td>
</tr>
<tr>
<td>1:30 p.m.–3:30 p.m.</td>
<td>Interactive Workshop: Tools for Public Engagement—Part I,</td>
<td>Williford A, 3rd Floor</td>
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<tr>
<td></td>
<td>Setting the Stage</td>
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<tr>
<td>3:30 p.m.–4:00 p.m.</td>
<td>Interactive Workshop: Tools for Public Engagement—Part II,</td>
<td>Williford B, 3rd Floor</td>
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<tr>
<td></td>
<td>Matching Your Participation Needs with the Right Tool</td>
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<tr>
<td>4:00 p.m.–5:30 p.m.</td>
<td>Interactive Workshop: Tools for Public Engagement—Part III,</td>
<td>Williford C, 3rd Floor</td>
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<tr>
<td></td>
<td>Project Planning—Process Design</td>
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<tr>
<td>Noon–5:00 p.m.</td>
<td>Registration</td>
<td>Continental A, Lobby Level</td>
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<tr>
<td>1:00 p.m.–2:00 p.m.</td>
<td>Workshop: Wacky, Weird, Cool—but Useful?</td>
<td>Williford B, 3rd Floor</td>
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<tr>
<td>2:00 p.m.–5:00 p.m.</td>
<td>VDC Case Studies: Part I</td>
<td>Williford C, 3rd Floor</td>
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<tr>
<td>5:30 p.m.–8:00 p.m.</td>
<td>Exhibit Hall Reception</td>
<td>Continental A, Lobby Level</td>
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6th International Symposium on Visualization in Transportation

August 20–23, 2011
<table>
<thead>
<tr>
<th>Time</th>
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<th>Location</th>
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<tr>
<td>7:00 a.m.–noon</td>
<td>Registration</td>
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<td>7:00 a.m.–8:00 a.m.</td>
<td>Continental Breakfast</td>
<td>Continental Foyer, Lobby Level</td>
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<tr>
<td>8:00 a.m.–10:00 a.m.</td>
<td>Breakout Sessions</td>
<td>Williford C, 3rd Floor</td>
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<td></td>
<td>Performance Measures: Innovative Analysis with a Focus on Communication: Part I</td>
<td>Williford B, 3rd Floor</td>
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<td></td>
<td>VDC Case Studies: Part III</td>
<td>Williford A, 3rd Floor</td>
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<tr>
<td>10:00 a.m.–10:30 a.m.</td>
<td>Break</td>
<td>Foyer, 3rd Floor</td>
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<tr>
<td>10:30 a.m.–noon</td>
<td>Breakout Sessions</td>
<td>Williford B, 3rd Floor</td>
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<td></td>
<td>Monitoring Infrastructure and Anticipating User Performance: Part II</td>
<td>Williford C, 3rd Floor</td>
</tr>
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<td></td>
<td>Interactive Workshop: Tools for Public Engagement—Part IV, Teamwork Session to Finalize Plans</td>
<td>Williford A, 3rd Floor</td>
</tr>
<tr>
<td>Noon–2:00 p.m.</td>
<td>Lunch with Exhibitors</td>
<td>Continental A, Lobby Level</td>
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<tr>
<td>2:15 p.m.–3:45 p.m.</td>
<td>Breakout Sessions</td>
<td>Williford A, 3rd Floor</td>
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<td>Workshop: Freight Data—Part I</td>
<td>Williford B, 3rd Floor</td>
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<td>VDC Roundtable: Facilitated Discussion with All VDC Presenters</td>
<td>Williford C, 3rd Floor</td>
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<td>3-D Virtual Incident Management Hands-On Experience</td>
<td>Williford B, 3rd Floor</td>
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<td>3:45 p.m.–4:15 p.m.</td>
<td>Break</td>
<td>Foyer, 3rd Floor</td>
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<tr>
<td>4:15 p.m.–5:30 p.m.</td>
<td>Breakout Sessions</td>
<td>Williford A, 3rd Floor</td>
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<td>Workshop: Freight Data—Part II</td>
<td>Williford B, 3rd Floor</td>
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<td>Real-Time and World Data Visualization: Part I</td>
<td>Williford C, 3rd Floor</td>
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<td>Improving Emergency Management and Operations Through Innovative Visual Interfaces: Part II</td>
<td>Williford B, 3rd Floor</td>
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<tr>
<td>5:30 p.m.–8:00 p.m.</td>
<td>Reception with Speakers</td>
<td>Boulevard, 2nd Floor</td>
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<tr>
<td>7:00 a.m.–noon</td>
<td>Registration</td>
<td>Continental Foyer, Lobby Level</td>
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<tr>
<td>7:00 a.m.–8:00 a.m.</td>
<td>Continental Breakfast</td>
<td>Continental Foyer, Lobby Level</td>
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<tr>
<td>8:00 a.m.–10:00 a.m.</td>
<td>Breakout Sessions</td>
<td>Lake Ontario, 8th Floor</td>
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<td></td>
<td>Performance Measures: Part II</td>
<td>Lake Huron, 8th Floor</td>
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<td></td>
<td>Real-Time and World Data Visualization: Part II</td>
<td>Lake Erie, 8th Floor</td>
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<td>Safety in Transportation</td>
<td>Lake Michigan, 8th Floor</td>
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<td>Interactive Workshop: Tools for Public Engagement—Part V, Public Participation Roundtable</td>
<td>Lake Michigan, 8th Floor</td>
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<tr>
<td>10:00 a.m.–10:30 a.m.</td>
<td>Break</td>
<td>Foyer, 3rd floor</td>
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<tr>
<td>10:30 a.m.–noon</td>
<td>Breakout Sessions</td>
<td>Lake Ontario, 8th Floor</td>
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<td>Transportation Data Roundtable: Facilitated Discussion with All Data Presenters</td>
<td>Lake Huron, 8th Floor</td>
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<td>Performance Measures Roundtable: Facilitated Discussion with Presenters</td>
<td>Lake Michigan, 8th Floor</td>
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<td>Security and Emergency Response Roundtable: Facilitated Discussion with Presenters</td>
<td>Lake Erie, 8th Floor</td>
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<td>Operations and Maintenance Roundtable: Facilitated Discussion with Presenters</td>
<td>Lake Michigan, 8th Floor</td>
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<tr>
<td>Noon–1:15 p.m.</td>
<td>Lunch with Keynote Speaker</td>
<td>Continental C, Lobby Level</td>
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<tr>
<td>1:15 p.m.–2:30 p.m.</td>
<td>Final Joint Session</td>
<td>Continental C, Lobby Level</td>
</tr>
<tr>
<td>3:00 p.m.–4:30 p.m.</td>
<td>Committee Meetings</td>
<td>Lake Michigan, 8th Floor</td>
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<td>Visualization Committee Meeting (open)</td>
<td>Lake Michigan, 8th Floor</td>
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<td></td>
<td>FHWA Visualization Working Group Debriefing Meeting (closed)</td>
<td>Lake Ontario, 8th Floor</td>
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Welcome to the 6th International Symposium on Visualization in Transportation! We find ourselves in the middle of challenges nearly unfathomable in 2006—the year of our 5th International Symposium in Denver, Colorado. Then we fed off the excitement inspired by a visualization mandate written into the 2005 SAFETEA-LU Act, and the planning community, for the first time, outnumbered engineers attending the symposium. That symposium year also marked the birth of TRB’s Visualization Committee, which quickly organized into crosscutting areas such as return-on-investment, education and training, ethics and liability, transportation data, and others, all supported by a comprehensive outreach strategy.

Five years later, one glance at the symposium website shows that visualization has expanded well beyond our mainstays of planning, design, and public involvement. The old questions still remain: What are the tools? How do we get started? What is the needed training? What do we gain or risk from the investment? However, the context in which we ask them is more provocative:

- Previous context—What is visualization’s role in some topic (i.e., freight)?
- Today’s context—What role would visualization play in helping freight address significant challenges, redefine problems, discover new ways to address them, and foster the thinking needed to drive more fitting results?

Difficult economic times force us to rethink methods, mindsets, and core belief systems, with comfort zones of the past diminishing or nonexistent. Expansion and outreach as a committee over the past 5 years has made it very clear that to put visualization to work in transportation will also require a change in methods, mindsets, and belief systems. Diminishing comfort zones create the opportunity to do so.

Your 2011 symposium, therefore, not only reflects our growing diversity, but also is structured to get you more actively engaged. Not only have we increased workshops and formats of presentations, but encourage “tweeting” throughout the symposium as well. Also, the shared knowledge will be recorded on audio and video for use in the online proceedings, which will encourage discussions, new ideas, and inspired activity long after the symposium has adjourned.

On behalf of the Visualization in Transportation Committee, thank you for participating—and have a most rewarding event.

—Michael Manore
Chair, Visualization in Transportation Committee
President and Founder, Vispective Management Consulting
CONFERENCE AGENDA

Friday, August 19

Noon–5:00 p.m.  
Registration, 8th Street South, Lobby

1:00 p.m.–5:00 p.m.  
Committee Meetings

  FHWA Visualization Working Group (Closed), Lake Ontario, 8th Floor  
  Visualization Committee Meeting (Open), Lake Michigan, 8th Floor

Saturday, August 20

8:00 a.m.–5:30 p.m., Continental Foyer, Lobby Level  
Registration

8:00 a.m.–9:00 a.m., Continental Foyer, Lobby Level  
Continental Breakfast

9:00 a.m.–noon, Continental A, Lobby Level  
Opening Plenary Session

  Welcome and Opening Remarks  
  Richard Pain, TRB staff; Michael Manore, Visualization in Transportation Committee Chair

  History of Visualization in Transportation  
  Kevin Gilson, Parsons Brinckerhoff

  1st Keynote: Show Me the Money—Lessons from Visualization in Business  
  David Steier, Deloitte

  2nd Keynote: FHWA’s New Visualization Working Group Overview  
  Michael Trentacoste, FHWA

  3rd Keynote: Visualization for Critical Decision Making  
  Peter Appel, RITA

  Gearing Our Heads for the Symposium: What to Expect—Preparing Our Mind-Set  
  Kevin Gilson, Parsons Brinckerhoff

Noon–1:00 p.m., Continental B, Lobby Level  
Lunch

1:15 p.m.–3:15 p.m.  
Breakout Sessions
Why “Nobody Cares”: How Investment in Data Visualization Can Reinvigorate Dying or Struggling Programs, Williford A, 3rd Floor
(Data)
Michael L. Pack, University of Maryland Center for Advanced Transportation Technology (CATT) Laboratory

Impacts of Virtual Design and Construction: Today and Tomorrow, Williford B, 3rd Floor
(VDC)
For more than 20 years, planning, design, and construction methodologies have been continually refined through the use of two dimensional (2-D) computer utilities such as computer aided design (CAD). These tools have revolutionized the planning and design processes by increasing the knowledge base, productivity, and accuracy of projects. These technologies are now evolving to become three-dimensional (3-D) database-driven processes, commonly referred to as virtual design and construction (VDC). This panel discussion will set the stage for all VDC sessions during the symposium by defining VDC, describing its benefits, exploring real and perceived barriers and costs, and sharing real-world implementation examples.

Panelists:
Kevin Gilson, Parsons Brinckerhoff
Chuck Hixon, Bergmann Associates
Michael Manore, Visualization in Transportation Committee Chair

Involving the Public in Planning and Design: Part I, Williford C, 3rd Floor
(Public Participation)

Bridge Design Visualization and Public Participation: Cleveland Inner Belt, Lake Champlain, and the Willamette River Transit Bridges
Jesse Miguel, HNTB

How Computer Visualization Is Guiding the Interstate 70–71 Rebuild Project in Central Ohio
Charles Campbell, MS Consultants

DFW Connector in North Texas, Texas Department of Transportation, and 3-D Visualization for Public Hearings and Involvement
Jeff Christiansen, Halff Associates, Inc.

Conceptual Design in Transportation: Visualizing “What Could Be” in Context of What’s Already There
Lynda Sharkey, Autodesk

3:15 p.m.–3:45 p.m., Foyer, 3rd Floor
Break

3:45 p.m.–5:30 p.m., Williford A, 3rd Floor
Breakout Sessions

Explaining Difficult Concepts: Tools for Educating the Masses
(Communicating)

Engaging the Public in Access Management Decisions
Frank Broen, Teach America
3-D Visualization and Right of Way Acquisition  
Jeff Christiansen, Halff Associates, Inc.

Keep it Simple  
Zoe Nederland, Delaware Valley Regional Planning Commission

Using Video Visualizations in Surveys to Improve Survey Respondent Understanding of Complex Offerings  
Greg Spitz, Resource Systems Group

Sponsored Vendor Showcase: 30-Minute Presentations by Technology Patrons,  
Williford B, 3rd Floor

  Autodesk, Inc.  
  Bentley Systems, Inc.  
  ESRI

Workshop: Artificial Intelligence, Williford C, 3rd Floor  
(Artificial Intelligence)

This workshop introduces the audience to artificial intelligence (AI) in the context of transportation and describes its relevance through examples such as genetic algorithms, GIS-based highway alignment optimization techniques, agent-based simulation, and AI techniques to model safety-critical driver behavior. The workshop also focuses on visualization’s role, the opportunities in AI, and helping the industry to understand and embrace AI techniques. The Panelists will engage the audience in discussing how AI and Visualization combined might address their day-to-day challenges.

Panelists:
Avijit Maji, Maryland State Highway Administration  
Montasir (Monty) Abbas, Virginia Polytechnic Institute and State University
Sunday, August 21

7:00 a.m.–6:00 p.m., Continental Foyer, Lobby Level

Registration

7:00 a.m.–8:00 a.m., Continental Foyer, Lobby Level

Continental Breakfast

8:00 a.m.–10:00 a.m.

Breakout Sessions

Involving the Public in Planning and Design: Part II, Williford A, 3rd Floor
(Public Participation)

Design Visualization for Roundabouts: Beyond Still Images
Ting Wei, Structurepoint

Adobe Flex Rich Internet Application for Multi-Season Temporal 4-D Construction: Sequencing Knik Arm Bridge Crossing, Knik Arm Bridge and Toll Authority, Anchorage, Alaska
Rick Lovel, HDR Engineering

Buffalo Harbor Interactive Simulation Model: Buffalo Harbor Bridge Enhancing the Economic Development of Buffalo’s Inner Harbor Through Use of Interactive 3-D Technologies
Martins Innus, State University of New York–Buffalo (on behalf of Tom Furlani)

VDC Case Studies: Part I, Williford C, 3rd Floor
(VDC)

3-D Scanning and Modeling for Freeway Interchange Design
Shane Zodrow, Kapur and Associates

Build It Virtually First: Constructibility of the Little Bay Bridge
Christopher Dubois, Vanasse Hangen Brustlin

Augmented Reality Visualization for VDC: Applications, Opportunities, and Challenges
Vineet Kamat, University of Michigan

Virtual Design and Construction for Horizontal Construction
Roberta Oldenburg, Mortenson Construction

Workshop: Basics of Information Visualization—Common Mistakes, Easy Solutions, Williford B, 3rd Floor
(Performance Measures)

This workshop covers the basics of creating effective information visualizations. It addresses the strengths and weaknesses of the most common visualization techniques, how to go about design-
ing custom visualizations, and how to avoid common mistakes in representing information to engineers, decision makers, and the public. Discussion will explore how the brain naturally organizes information and uses it to create strong mappings between raw data and its presentation. It will also touch on some of the most popular tools of the trade. No previous data visualization experience is necessary.

Panelist:
Michael VanDaniker, University of Maryland CATT Laboratory

10:00 a.m.–10:30 a.m., Foyer, 3rd Floor
Break

10:30 a.m.–noon
Breakout Sessions

Interactive Workshop: Tools for Public Engagement—Part I, Setting the Stage
Williford A, 3rd Floor
(Public Participation)

This first session of a five-part workshop begins with a short discussion about the goals and scope of public involvement in transportation decision making. The participants will be introduced to the use of Audience Response Systems (keypads) to become acquainted with the backgrounds and interests of other participants. Participants will also learn how to define and measure successful outcomes in these decision processes. The interactive workshop will help participants learn how to incorporate a variety of visualization tools into a public involvement strategy. Experts in managing public involvement processes that integrate different tool sets will offer assistance in crafting customized public involvement strategies to meet individual needs. Participants will learn from peers and tool developers as they work in small teams to develop a participatory process that integrates different visualization tools to address specific transportation–land use planning problems.

Panelists:
Laxmi Ramasubramanian, Hunter College
Ted Grossardt, University of Kentucky
Keiron Bailey, University of Arizona
John Ripy, University of Kentucky

Fusing Local and Regional Data Sets for Enhanced Collaboration, Williford B, 3rd Floor
(Data)

Oblique Imagery and 3-D Models for Visualization
Art Kalinski, Pictometry

3-D Digital City
Keith Warren, VTN Consulting

Monitoring Infrastructure and Anticipating User Performance: Part I, Williford C, 3rd Floor
(Operations and Maintenance)

Load Rating Visualization for Reinforced Concrete Bridge Girders
Michael Scott, Oregon State University
**AVID: Traffic Data Portal**  
Anita Vandervalk, Cambridge Systematics  

**A Method to Evaluate Roadway Lighting System and Its Safety Effects**  
Jiguang Zhao, Southern Illinois University  

Noon–1:30 p.m., *Waldorf, 3rd Floor*  
Lunch with Keynote Speaker  

1:30 p.m.–3:30 p.m., *Williford A, 3rd Floor*  

**Breakout Sessions**  

**Interactive Workshop: Tools for Public Engagement—Part II, Matching Your Participation Needs with the Right Tool**  
/Public Participation)  
This session will have two presentations.  

**Choosing the Right Tools**  
Laxmi Ramasubramanian, Hunter College, City University of New York  

Participants will use an interactive activity to choose the right tools to support specific public participation goals and will have the option to focus on their own agency–organizational needs or use hypothetical situations to complete the activity.  

**Moving MTA Toward Visual Presentation of Its Performance Data to Improve Public Participation**  
Ellyn Shannon and Jan Wells, Permanent Citizens Advisory Committee to the MTA  

The MTA’s Permanent Citizens Advisory Committee, a rider advocacy group, will describe the process it is engaged in to convince the MTA and its agencies, Long Island Rail Road, Metro-North Railroad, and New York City Transit to use a more visual presentation of the substantial performance data that they release each month. This is an effort to improve public understanding of performance metrics but also to highlight the need to continue to invest in capital improvements. After the two presentations, a facilitated discussion will identify two or three transportation—land use planning problems—case situations that can be worked on as team projects in Sessions III and IV.  

**Traffic and Pedestrian Simulations: Case Studies and Implementation**, *Williford B, 3rd Floor*  
(Traffic and Pedestrian Visualization)  

**A Further Exploration in the Interoperability Between VISSIM and 3DS Max**  
Ting Wei, Structurepoint  

**Visualization Concepts for Regional Transportation Systems**  
Michael Hope, Argonne National Laboratory  

**Visualization’s Role in Travel Data Capture, Analysis, and Decision Support**, *Williford C, 3rd Floor*  
(Data)
Advanced Truck Survey Technology for In-Field Capture of Geocodes and Routes for High-Quality Service Shed Visualization  
Chris Simek, NuStats, and Michelle Lee, GeoStats

Web-Based Personal Travel Survey: Interface and Visualization Tools  
Catherine Morency, École Polytechnique de Montréal

Visualization of GPS Travel Behavior Data for Disadvantaged Populations in the Greater Cincinnati, Ohio, Region  
Timothy Michalowski, Abt SRBI

3:30 p.m.–4:00 p.m., Foyer, 3rd Floor  
Break

4:00 p.m.–5:30 p.m.  
Breakout Sessions

(Public Participation)

In this first of two breakout work sessions, participants will work in small project teams on problems identified in the previous session, supported by session managers, to frame up the approach to their particular project challenges and identify the pros and cons of different digital tools. Participants will also be encouraged to visit the Exhibit Hall Reception (5:30 p.m.–8:00 p.m.) to gather information about tool capabilities directly from the vendors.

Panelists:  
Laxmi Ramasubramanian, Hunter College  
Ted Grossardt, University of Kentucky

Workshop: Wacky, Weird, Cool—but Useful? Williford B, 3rd Floor  
(Data)

This session offers a first look at some of the most innovative data visualizations being created today. Most will be wild and crazy. All will be thought provoking. But is new and innovative always better? How many pixels and colors can our brains really handle? We'll discuss the pros and cons of some of these more exciting visual tools and discuss what makes some of them work, and what causes others to fail.

Panelists:  
Michael L. Pack, University of Maryland CATT Laboratory  
Michael VanDaniker, University of Maryland CATT Laboratory  
John Alexis Guerra Gomez, University of Maryland, Computer Science

VDC Case Studies: Part II, Williford C, 3rd Floor  
(VDC)

Methodology for Using Virtual Reality and Augmented Reality Systems to Plan and Design Traffic Infrastructure  
Wolfgang Kuehn, Westsächsische Hochschule Zwickau
Rapid Building Information Modeling of Temporary Structures for Constructibility Analysis
Julian Kang, Texas A&M University

Managing the Quality of Virtual Design Information
Danny Kahler, Kahler Engineering

Visualization’s Growing Role in Research and Its Impacts on Peer Reviews and Publication, Waldorf, 3rd Floor
(Knowledge Transfer)

Panelists:
Jonathan Porter, FHWA–Turner Fairbank
Richard Pain, Transportation Research Board
Michael Jensen, National Academies Press

5:30 p.m.–8:00 p.m., Continental A, Lobby Level
Exhibit Hall Reception
Monday, August 22

7:00 a.m.–5:00 p.m., Continental Foyer, Lobby Level

Registration

7:00 a.m.–8:00 a.m., Continental Foyer, Lobby Level

Continental Breakfast

8:00 a.m.–10:00 a.m.

Breakout Sessions

Performance Measures: Innovative Analysis with a Focus on Communication, Part I
Williford C, 3rd Floor
(Performance Measures)

Visualization in the Congestion Management Process: Tool for Performance-Based Planning
Robert Winick, Motion Maps, LLC

National, State, and Local Transportation Performance Visualization
(INRIX VPP Suite)
Michael VanDaniker, University of Maryland CATT Laboratory

Bridging the Gap Between Complex Data and Decision Makers: Example of an Innovative Interactive Tool
Catherine Morency, École Polytechnique de Montréal

VDC Case Studies: Part III, Williford B, 3rd Floor
(VDC)

3-d Modeling for Freeway Interchange Construction Management
Daniel Kucza, Kapur and Associates

ARC Tunnel Project
Alex Gilman, Parsons Corporation

Comprehensive Visualization Programs for Transportation Megaprojects
Kevin Gilson, Parsons Brinckerhoff

FHWA Feedback Session on Their Visualization Working Group, Williford A, 3rd Floor
(Multiple Themes)

Panelists:
Rich McDaniel, FHWA–Eastern Federal Lands
Jonathan Porter, FHWA–Turner Fairbank
Joe Moyer, FHWA–Turner Fairbank
Mark Taylor, FHWA Resource Center

10:00 a.m.–10:30 a.m., Foyer, 3rd Floor
Break
10:30 a.m.–noon

**Breakout Sessions**


(Security and Emergency Response)

- **A GIS-Based Schedule and Routing Tool for Emergency Response and Emergency Supply Convoys**
  Ho-Ling HWang, Oak Ridge National Laboratory

- **Passenger-Centric Transit Visualization**
  Eric Mai, Berkeley Transportation Systems

- **The Application of 3-D Visual Interactive Simulation Technology to Highway and Tunnel Emergency Training and Management**
  Philippe Marsaud, BMIA

- **A Geo-Spatial Risk Assessment Tool**
  Shih-Mao Chin, Oak Ridge National Laboratory

**Monitoring Infrastructure and Anticipating User Performance: Part II, Williford C, 3rd Floor**

(Operations and Maintenance)

- **Using Visualization for Sign Testing and Comprehension in Human Factors Research**
  Joseph Moyer, FHWA

- **Visualizing Progress on Highway Reconstruction Projects: Value in Management of Assets**
  Tim Stroth, Greenman-Pedersen, Inc.

**Interactive Workshop: Tools for Public Engagement—Part IV, Teamwork Session to Finalize Plans, Williford A, 3rd Floor**

(Public Participation)

Teams will reconvene in this second breakout group work session to prepare their final project plan, using a template provided by (and with the support of) the session facilitators.

**Panelists:**
Laxmi Ramasubramanian, Hunter College
Ted Grossardt, University of Kentucky

**Visualization of Quality in Design and Construction, Waldorf, 3rd Floor**

(VDC)

This session will communicate the various practice methods and technologies that can be used to communicate quality assurance data in visual form instead of the traditional written report form. These methods may include overlay of the data on 2-D and 3-D design files, 2-D GIS, time-dependent across space, and other graphical means of communicating both quantitative and
qualitative data. The panel currently includes two practicing civil engineers; and two from a major contractor (Kiewit) and a visualization vendor (ESRI) have been invited. At the end of the workshop, participants should understand that there are improved alternatives to the traditional practice of filling out forms that only disappear into file cabinets.

**Panelists:**
Danny Kahler, Kahler Engineering  
David Brown, Delcan  
Eric Floss, ESRI

Noon–2:00 p.m., Continental A, Lobby Level  
**Lunch with Exhibitors**

2:15 p.m.–3:45 p.m.  
**Breakout Sessions**

**Workshop: Freight Data—Part I, Williford A, 3rd Floor**  
(DATA)

This workshop will focus on the complexities of multilevel freight systems, associated data analysis, and decision making. The pressing need to make intelligent investments in the country’s infrastructure, improved public access to federal freight data (e.g., FAF3), and growing interest for visualization in the transportation community are driving factors for this workshop. Current data visualization methods will be reviewed to facilitate discussions on developing new ideas for use of visualization in data mining, strategic analysis, and communicating results. The goals are to highlight existing capabilities in interactive data visualization and to explore with practitioners how to accelerate application in the domain of freight data and freight planning.

**Panelists:**
Interactive Visualization Application for Working with FAF3 Freight Data  
Sowmya Karthikeyan, ALK Technologies, Inc.

SHRP2 C20: Freight Demand Modeling and Data Improvement Strategic Plan  
Patrick Anater, Gannett Fleming, Inc.

ITRE  
Ronald G. Hughes, University of North Carolina

Avant IMC  
Jim Brock

**VDC Roundtable: Facilitated Discussion with All VDC Presenters, Williford B, 3rd Floor**  
(VDC)

**Facilitators:**
Chuck Hixon, Bergmann Associates  
Kevin Gilson, Parsons Brinckerhoff

**3-D Virtual Incident Management Hands-On Experience, Williford C, 3rd Floor**  
(Enhanced Interactivity and Gaming Technologies)

**Facilitator:**  
Michael L. Pack, University of Maryland CATT Laboratory
3:45 p.m.–4:15 p.m., Foyer, 3rd Floor
Break

4:15 p.m.–5:30 p.m.
Breakout Sessions

**Workshop: Freight Data—Part II, Williford A, 3rd Floor**
(Data)

This workshop is a continuation of Part I and focuses on the complexities of multilevel freight systems, associated data analysis, and decision making. The pressing need to make intelligent investments in the country’s infrastructure, improved public access to federal freight data (e.g., FAF3), and growing interest for visualization in the transportation community are driving factors for the workshop. Current data visualization methods will be reviewed to facilitate discussions on developing new ideas for use of visualization in data mining, strategic analysis, and communicating results. The goals are to highlight existing capabilities in interactive data visualization and to explore with practitioners how to accelerate application in the domain of freight data and freight planning.

**Panelists:**
Ronald G. Hughes, University of North Carolina–ITRE
Jim Brock, Avant IMC
Patrick Anater, Gannett Fleming, Inc.
Sowmya Karthikeyan, ALK Technologies, Inc.

**Real-Time and World Data Visualization: Part I, Williford C, 3rd Floor**
(Enhanced Interactivity and Gaming Technologies)

- **4-D, Real-time, Massive Transportation Data Visualization**
  Michael L. Pack, University of Maryland CATT Laboratory

- **Visualization of Real-World Transportation System in Driving Simulators**
  Kelvin Santiago, University Wisconsin–Madison

(Security and Emergency Response)

- **Seeing Through the Chaos During an Emergency: Case Study from the D.C. Homeland Security and Emergency Management Agency**
  Michael VanDaniker, University of Maryland CATT Laboratory

- **Visualize Consequence of Industrial Losses and Economic Ripple Effects**
  Shih-Mao Chin, Oak Ridge National Laboratory

- **Timelines for Real-Time Management and After-Action Reviews of Incidents**
  Michael VanDanicker, University of Maryland CATT Laboratory

5:30 p.m.–8:00 p.m., Boulevard, 2nd Floor
Reception with Speakers
Cash Bar
Tuesday, August 23

7:00 a.m.–noon, Continental Foyer, Lobby Level
Registration

7:00 a.m.–8:00 a.m., Continental Foyer, Lobby Level
Continental Breakfast

8:00 a.m.–10:00 a.m.
Breakout Sessions

Performance Measures: Part II, Lake Ontario, 8th Floor
(Performance Measures)

Regional Transportation Operations Performance
Michael L. Pack, University of Maryland CATT Laboratory

Filtering Private-Sector Speed and Travel Time Data to Depict Regionwide Bottlenecks on Internet Maps, and the Creation of Matrices of Time-Lapse Photographs to Compliment the Graphics
Gregory Jordan, Skycomp

Data 2.0: How the Private Sector Can Help Government Think Better, Faster, and Cheaper in an Era of Attention Deficit
Ian White, Urban Mapping

Real-Time and World Data Visualization: PART II, Lake Huron, 8th Floor
(Enhanced Interactivity and Gaming Technologies)

Urban Visualization Through a Web Browser: Developing Interactive Urban Simulations on the Unity Platform
Adrian Levesque, SUNY-Buffalo

Approach for Driving Simulations Developed and Displayed Using Gaming Technology
Kevin Gilson, Parsons Brinckerhoff

Using Driving Simulation as a Visualization Tool at the FHWA Highway Driving Simulator
Jason Williams, FHWA–Turner Fairbank

Safety in Transportation, Lake Erie, 8th Floor
(Safety)

Influence of Pedestrian Signal on Traffic Crashes at Signalized Intersection
Doreen Kobelo, Florida A&M University
Road Safety Analysis Through 3-D Virtual Route Accordance with the Vehicle’s Path: Integration of Emulation in Geometrics Models
Régis Glaude, Tool, S.A.

Statewide, Web-Based Visual Analytics for Exploring Police Accident Records
Michael VanDaniker, University of Maryland CATT Laboratory

Interactive Workshop: Tools for Public Engagement—Part V, Public Participation

Roundtable, Lake Michigan, 8th Floor
(Public Participation)

In this roundtable format, participants will present their project plan to the rest of the group for review and feedback. Lessons learned and future needs will be compiled from the group.

Panelists:
Keiron Bailey, University of Arizona
Laxmi Ramasubramanian, Hunter College
Ted Grossardt, University of Kentucky
John Ripy, University of Kentucky

10:00 a.m.–10:30 a.m.
Break

10:30 a.m.–noon
Breakout Sessions

Transportation Data Roundtable: Facilitated Discussion with All Data Presenters, Lake Ontario, 8th Floor
(Data)

Performance Measures Roundtable: Facilitated Discussion with Presenters
Lake Huron, 8th Floor
(Performance Measures)

Security and Emergency Response Roundtable: Facilitated Discussion with Presenters
Lake Michigan, 8th Floor
(Security and Emergency Response)

Operations and Maintenance Roundtable: Facilitated Discussion with Presenters
Lake Erie, 8th Floor
(Operations and Maintenance)

Noon–1:15 p.m., Continental C, Lobby Level
Lunch with Keynote Speaker
Doug Eberhard, Autodesk

1:15 p.m.–2:30 p.m., Continental C, Lobby Level
Final Joint Session
Compilation of roundtables and closing remarks
Meetings

**Visualization Committee Meeting (Open), Lake Michigan, 8th Floor**

**FHWA Visualization Working Group Debriefing Meeting (Closed), Lake Erie, 8th Floor**

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**Symposium Steering Committee**

- Michael Pack, CATT Laboratory, University of Maryland, Chair
- Ahmed Al-Kaisy, Montana State University
- Shawn Allen, National Advanced Driving Simulator, University of Iowa
- Wade Allen, Systems Technology, Inc.
- Jeanie Beckett, Beckett Group
- Frank Broen, Teach America Corporation
- Stephanie Camay, URS Corporation
- Robin Christians, Parsons Brinckerhoff
- Rob Hranc, Berkeley Transportation Systems
- Pat Hu, Research and Innovative Technology Administration
- Manoj Jha, Morgan State University
- Art Kalinski, Pictometry
- Sowmya Karthikeyan, ALK Technologies, Inc.
- Michael Manore, Vispective Management Consulting
- Leni Oman, Office of Research and Library Services, Washington State Department of Transportation
- Lance Parve, Wisconsin Department of Transportation
- Christopher Pringle, Executive Publisher, Elsevier Science, Ltd.
- Laxmi Ramasubramanian, Hunter College
- Theresa-Marie Rhyne, Computer Graphics & E-Learning
- Carl Springer, DKS Associates, Inc.
- Jason Williams, AAI Services
- Ken Winter, Virginia Center for Transportation Innovation and Research
- Daniel Yeh, Wisconsin Department of Transportation
- Dr. Lidia Zakowska, Cracow University of Technology
- Dave Zilkoski, Geospatial Solutions by DBZ

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- Mary Kissi, Senior Program Assistant
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