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INTRODUCTION
Visualization in Transportation 101
Michael A. Manore
Visualization has become a catch-all for many visually enhanced applications that have found their way into the transportation industry—such as modeling, animation, simulation, and virtual reality—to improve the ability to fund, develop, and deliver timely, cost-effective, and safe transportation systems in sync with society’s needs.

A Vision of Visualization: Communicating Problem-Solving Concepts to the Public
Alan E. Pisarski
Although most of the applications of visualization techniques have been at the project level, the technology offers value in other areas—such as the formation of programs; the demonstration of the benefits of projects and programs; and the education of the public and public officials on the need for and value of transportation investment.

Visualization as a Common Language for Planning: Good Practices, Caveats, and Areas for Research
Doug Walker
A well-rendered visual model can communicate complex, multidimensional information and can engage broad audiences, providing a common point of reference; facilitating collaboration between transportation planners, land use planners, and all other stakeholders in a project; and supporting a process that results in more informed decisions, fewer delays, less resistance, and more buy-in at each step. But along with the opportunities come pitfalls to avoid and risks to assess.

Visualization Issues for Transportation Agencies: Approaches and Challenges
Charles L. Hixon III
Visualization technologies have evolved from a niche service to become part of the planning and design process in most transportation agencies, and the uses will expand. The major challenge for most agencies is how to implement the technology effectively into their processes. Agencies also need to determine what investments to make—not only in the hardware and software, but in the training.

Visualization to Solve Problems in Freight Transportation
Rolf R. Schmitt, Rainer Dronzek, and Laurence Rohrer
New ways of visualizing freight movement and its consequences are needed to develop new solutions to meet the demand for freight in the crowded world of transportation. The authors review techniques to visualize and analyze the flow of freight, such as simulation modeling, which depicts freight systems or processes, allows the testing of alternatives, and quantifies the results.

Visualization and the Larger World of Computer Graphics: What’s Happening Out There?
Theresa-Marie Rhyne
The established and emerging subfields of visualization are providing insights and methods applicable to transportation planning, implementation, and evaluation. Other influences include geovisualization—the merger of geographic information systems and visualization technologies; online resources and communities that offer new tools for the visual examination of data; and serious games, which are repurposing computer games to educate and train professionals. The author also reviews the top 10 problems in visualization.
features articles on innovative and timely research and development activities in all modes of transportation. Brief news items of interest to the transportation community are also included, along with profiles of transportation professionals, meeting announcements, summaries of new publications, and news of Transportation Research Board activities.

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