



# Scenario Planning Peer Workshop

Sponsored by the Federal Highway Administration

**Location:** Binghamton, New York

**Date:** June 3, 2004

**Exchange Host Agency:** Binghamton Metropolitan Transportation Study, Broome County

**Exchange Participants:** Broome County  
Berkeley-Charleston-Dorchester Council of Governments  
City of Binghamton  
Elmira-Chemung Transportation Council  
Federal Highway Administration, New York Division Office  
Federal Highway Administration, Office of Planning  
Federal Highway Administration Resource Center  
Greater Buffalo Niagara Regional Transportation Council  
Herkimer Oneida Counties Transportation Study  
New York State Department of Transportation, Region 9  
Town of Owego  
Town of Vestal  
US DOT Volpe National Transportation Systems Center  
Village of Johnson City

## Summary

The following report summarizes a Peer Workshop on tools and effective practices for scenario planning. The Exchange was coordinated and supported by FHWA. The Binghamton Metropolitan Transportation Study (BMTS) hosted this one-day forum in Binghamton, New York. The objective of the forum was to provide participants with an overview of the scenario planning process, share examples of scenario planning efforts from elsewhere in the country, describe available resources and tools to assist with scenario planning analysis, and to brainstorm ideas for the Binghamton region.



## I. Introduction

### A. Scenario Planning Defined

Scenario planning is a process in which transportation professionals and citizens work together to analyze and shape the long-term future of their communities. Using a variety of tools and techniques, participants in scenario planning assess trends in key factors such as transportation, land use, demographics, health, economic development, environment, and more. The participants bring the factors together in alternative future scenarios, each of these reflecting different trend assumptions and tradeoff preferences. In the end, all members of the community—the general public, business leaders, and elected officials—reached agreement on a preferred scenario. This scenario becomes the long-term policy framework for the community's evolution, and is used to guide decision-making.

### B. Overview of Scenario Planning

Sherry Ways of the FHWA Office of Planning opened the Peer Workshop by presenting an overview of scenario planning and the FHWA's role in supporting its use. Discussing the benefits of effective scenario planning, Ms. Ways noted that it:

- provides an analytical framework and process for analyzing complex issues and responding to change,
- facilitates consensus building by giving communities the capacity participate actively in planning,
- includes tools to assess transportation's impact on communities,
- improves communication and understanding in a community,
- yields an enhanced decision making framework for a community, and ensures better management of increasingly limited resources.

FHWA is offering technical support, information, and research to state and local partners as they undertake scenario planning. Recent efforts include:

- FHWA funded scenario planning initiatives in Utah, Virginia, Michigan, Missouri, Wisconsin, Illinois and California.
- A National Peer Roundtable gathering for policymakers, community leaders, and technical experts, that discussed the keys to effective scenario planning support recommendations (Washington, D.C. September 25, 2003).
- University of Utah Scenario Planning Research (November 2003).
- Scenario Planning Video Conference with three key FHWA Divisions (January 2004).
- APA Federal Planning Division Workshop (April 2004).
- APA National Conference Workshop (April 2004).
- FHWA coordination and support of FHWA/FTA Peer Workshops on scenario planning in 2004 (hosted by Binghamton, NY and Honolulu, HI), and four more in 2005.

## II. Local Planning Efforts

### A. Binghamton Metropolitan Transportation Study

Steven Gayle, Executive Director, Binghamton Metropolitan Transportation Study.

Mr. Gayle provided background information on the region and the MPO's current planning efforts.

With approximately 160,000 people in the urbanized area, the Greater Binghamton, New York region, is situated at the confluence of two rivers, with most development concentrated in valleys between its picturesque hills. While Main Street forms the spine of the region, the area is unique because it has three distinct centers in Johnson City, Binghamton, and Endicott. The declining role of IBM and the defense and aerospace industry in Broome County



has resulted in economic adjustments. A slowly declining and aging population also poses challenges. The important issues to area planners include sustainable economic development, downtown revitalization, context-sensitive design, providing for residents' mobility needs, and the maintenance of transportation infrastructure.

The BMTS MPO is preparing to draft a new long-range transportation plan for the region. In its prior plan, *TRANSPORTATION TOMORROW:2025*, BMTS worked to strike a balance between accommodating demand models for various modes, and using transportation investments to achieve community goals. However, they noted that regional goals have not been well articulated. Participants indicated that one of their biggest challenges is getting different agencies across jurisdictions to engage in cooperative dialogue concerning regional goals and strategies. BMTS staff and other regional decisionmakers are receptive to scenario planning methods to analyze choices and envision future growth for Broome County and the upstate region.

### III. Panelist Planning Practices and Observations

**A. Peer Presentation –  
Transportation and Community and  
System Preservation Pilot Program**  
Dan Hatley, Planning Director, Berkeley-  
Charleston-Dorchester Council of  
Governments (BCDCOG)



Mr. Hatley described recent planning activities in the three-county Charleston area, where the MPO has embarked on a major visioning and scenario planning effort to develop a long-term growth strategy for the region.

#### *Background*

BCDCOG is a regional planning agency that serves Berkeley, Charleston, and Dorchester Counties, which includes both rural and urban areas on the coast of South Carolina. They oversee a range of planning efforts, such as water quality planning, economic development, and transportation planning. Hatley reported that most of the transportation projects implemented in the 1990s rewarded communities for poor land-use planning, with single-entrance neighborhoods, siloed land use, and sprawl. The BCDCOG obtained one of 35 grants in the first year of the Transportation and Community and System Preservation Program (TCSP). This type of planning changed under the Transportation Equity Act for the 21<sup>st</sup> century (TEA-21). They used these funds to conduct analysis of regional growth patterns, calculate the fiscal and environmental costs for different scenarios, consult stakeholders preferences regarding regional growth, and research strategies for achieving these goals.

#### *Planning Process*

BCDCOG assembled many types of data for assessment and analysis. They viewed satellite imagery provided by National Aeronautics and Space Administration quantifying impervious surface in the area. This analysis showed a 318-percent increase in urbanized area, with only a 52-percent increase in population. BDCOG explored the Smart Growth Index tool (developed by the Environmental Protection Agency), and used its housing point data to map development patterns. BCDCOG developed different growth scenarios based on land use patterns, as well as infrastructure costs such as transportation, water, sewer, police, and fire services. The MPO hired a consultant to quantify costs and benefits associated with different scenarios. Although difficult to quantify, broad measurements were considered such as the economic value of connectivity, and sustainable hunting industries. The BCDCOG also took into account medical statistics, such

as the high stroke rate in the region, and began working with the University of South Carolina on designing healthier communities.

BCDCOG met interested agencies and individuals, elected officials, and the general public about the options, then worked to develop consensus regarding community goals. They organized events, such as a charrette and three-day planning workshop, in conjunction with the South Carolina DOT and the city of Charleston. BCDCOG used Photoshop and imagery to survey people on their aesthetic preferences. A partnering committee brought together relevant stakeholders, which included developers, environmental advocacy/conservation groups, the State Department of Health and Environmental Control, the Medical University of South Carolina, bicycle and pedestrian advocacy groups, and area businesses.

### *Results*

The region realized that recent transportation investments did not support the desired multimodalism. While density is unattractive to many in the region, some long-time residents are dismayed to see the disappearing sense of place due to uncontrolled growth in an area with such a rich history. Quantifying the analysis was particularly useful for policymakers facing tough choices.

To achieve long-term goals, BCDCOG is now promoting the benefits of compact mixed-use development patterns, which are walkable and bikeable, and are transit friendly. The rich data BCDCOG has assembled facilitated the development of its long-range plan, and its cost estimates have become more accurate. Important issues for BCDCOG include accommodating transit, traffic calming, context-sensitive design, connectivity, managing growth, and improving existing corridors. BCDCOG's current research to improve existing corridors includes hosting additional local community charrettes.

## **B. Scenario Planning Process**

Brian Betlyon, Metropolitan Planning Specialist, FHWA Resource Center

Mr. Betlyon presented a more in depth overview of what it means to conduct scenario planning. Overall, the premise of scenario planning is that it is better to "get the future imprecisely right" than to "get the future precisely wrong" when developing transportation plans. This philosophy suggests that without weighing possible scenarios, communities will be more likely to have unanticipated and possibly deleterious consequences. Drawing on a process used in Queensland, Australia, Betlyon described scenario planning as a systematic sequence of steps:

- *Establish a focus:* The first step is to identify the primary issues or decisions facing the region, which provide the foundation for scenario research and development. These issues can be expressed as a question about the future that the scenarios might answer. It is important to build consensus and shared understanding at this stage.
- *Research the "driving forces."* Define the major sources of change that impact the future. These might include social, political, economic, and technological trends, among others.
- *Determine patterns of interaction.* Consider how the driving forces could combine to determine future conditions. These future conditions are likely a mix of "pre-determined elements," such as demographic factors, and "critical uncertainties," (i.e. elements that are unpredictable or matters of choice).
- *Create scenarios.* Scenarios are stories about future conditions that convey a range of possible outcomes. In generating scenarios, planners should think through the implications of different strategies in different future environments. Scenarios might challenge existing modes of thought. Based on comprehensive research, scenarios describe the conditions that decisionmakers may have to face; then planners can develop strategies that might influence an outcome.

- *Analyze their implications.* Ultimately, scenario planning is a tool for better decisionmaking. The scenarios enable planners to explore the shape and nature of transportation within a variety of circumstances, using a range of tools. The scenarios provide decisionmakers with information on consequences so that they can formulate reasoned responses should these scenarios become reality. In this way, scenario planning analysis enhances the ability to respond to change.
- *Monitor indicators.* The devised scenarios can be measured against each other by comparing indicators relating to land use, transportation demographics, environment, economics, technology, and others.

A variety of technology tools can help communities consider scenarios and make better decisions. Betlyon provided examples of several different kinds:

- *Information resources*, including websites such as [www.placematters.com](http://www.placematters.com), [www.smartgrowthamerica.com](http://www.smartgrowthamerica.com), [www.sustainable.doe.gov](http://www.sustainable.doe.gov), [www.fgdc.gov](http://www.fgdc.gov), and [www.hud.gov/offices/cio/emaps](http://www.hud.gov/offices/cio/emaps)
- *Visualization tools and techniques*, such as photo montage, architectural drawings, visual preference surveys, kiosks, and Box City
- *Impact analysis and GIS modeling* using software such as INDEX, Paint the Town, What If?, UrbanSim, and CommunityViz
- *Process tools and techniques* such as civic participation, the PLACE<sup>3</sup>S process developed in California, and methods for finding common ground. For example, establish a neutral community meeting place, conduct large-scale town meetings, or establish a civic learning center

Mr. Betlyon presented several examples of how scenario planning has been used. The Delaware Valley Regional Planning Commission is using scenario planning to assist in development of a new long-range plan for the Philadelphia area. In Charlottesville, Virginia the Jefferson Area Eastern Planning Initiative created a modeling tool capable of concurrently evaluating transportation and land use options, known as CorPlan. Using CorPlan Scenarios, they developed a 50-year transportation and land use vision for the five-county region surrounding Charlottesville. Envision Utah, a public-private partnership “working to keep Utah beautiful, prosperous and neighborly for future generations,” involved over 100 partners and the general public in a statewide scenario planning effort.

## **IV. Opportunities for Action**

Participants discussed several issues they will face when planning for transportation in the coming months and years.

### **A. Common Ground**

Attendees from various parts of the State of New York and Binghamton region identified some common ground they share. These included:

- An aging population, which implies additional transit needs, changing housing needs, the need for heightened safety standards, and residents with inflexible financial situations.
- Stagnant population growth, or population decline, with out-migration, especially of young and educated residents.
- A changing employment base, with a declining manufacturing sector and a growing service sector. Service jobs are more dispersed, mobile, and difficult to predict than manufacturing.

- Increased trip-making. For example, in Utica, New York vehicle-miles-traveled has grown 23 percent while the population has decreased 20 percent. A contributing factor may be an increased number of jobs per household or individual.
- Diminishing household size.
- Aging infrastructure, especially bridges at river-crossings, which are in need of maintenance. The majority of current transportation spending goes to maintaining existing facilities.
- Growth in external through truck traffic, which creates air quality and safety challenges as well as dilemmas about where to site truck stops and truck parking.
- Impact of global trends such as energy costs, the state of the global economy, the cost of healthcare, e-commerce, and telecommuting.
- Challenging tax structures for local governments that rely heavily on property tax; inadequate funding for transportation improvements.
- Availability of new transportation technologies such as intelligent transportation systems.
- The need for balanced development that accommodates bicyclist and pedestrian needs; accommodating for increased interest in health/active living by design.
- Diminishing quantity of farmland, as agriculture is replaced with other land uses.
- Diverse political structures and political interests.
- Interest in cultivating greenways and environmentally sensitive design.
- Interconnectedness of the systems in the region.

## **B. Opportunities**

The participants presented the following list of opportunities that exist in the region, which may guide the development of scenarios and the way that a planning effort might be conducted for the region.

- Develop tourism industries by enhancing streetscapes, installing way-finding signs, and identifying tourist corridors to connect area attractions. Golf, cultural attractions, rural ecotourism, and a period train ride to the Baseball Hall of Fame could attract visitors.
- Expanding regional healthcare industry.
- Recognize the potential benefits that Binghamton University brings to the region. Tap into their expertise for research relating to transportation planning. Try to integrate campus life with downtown revitalization. Establish incentives for university graduates to stay in-region.
- Involve youth in planning to create the kind of communities they want to live in.
- Celebrate existing agricultural areas, by encouraging ecotourism and specialty markets, such as organic foods, etc.
- Advertise the region's strong points, such as affordable housing, natural resources, lack of congestion, capacity for growth, and general quality of life to potential residents and employers. Enhance the urban lifestyle with revitalized downtown areas and lower crime rates.
- Increase partnering. Work on having local jurisdictions, and regional and state agencies cooperate rather than vie for resources.

## **C. Challenges**

Participants identified the following challenges planning for the future in their region:

- Statewide transportation funding issues, resulting in resource uncertainty.

- A large number of local governments, each with their own land use control, which tends toward parochialism and works against achieving a regional vision.
- The need to educate the public, local, state, and federally elected officials on the important role of transportation
- Uncertainty due to the pending reauthorization of the federal transportation program.
- Air quality issues.
- Dearth of good jobs.
- Academic institutions choosing not to be integrated into the communities or the regional planning process.
- Lack of constructive public involvement. Participants are often looking backwards, wishing the region could return to what they envision as a more prosperous past. Their focus can be narrowly on their own street or neighborhood problems.
- Conversely, successful outreach may promulgate public expectations that can exceed realistically achievable goals.

**D. Incorporating Scenario Planning**

Participants agreed that scenario planning is a good idea because it adds creativity to the planning process and offers opportunities for partnering—with stakeholders, the state DOT, and planning efforts beyond transportation. Another identified advantage was scenario planning’s consideration of system performance in the context of other relationships in the community, and utilization of software tools to bring projects to life. Participants expressed hope that scenario planning in Binghamton will help build consensus and provide a model that other areas could use as a planning guide for the future.

Challenges lie in the community’s expectation that some things stay the same, and local decisionmakers’ tendency toward parochialism rather than regionalism. However, participants suggested continual education of area council members by involving them productively in the planning process. Quantifying alternatives through scenario planning may be an additional valuable step.

In Binghamton, BMTS staff plans to propose a visioning/ scenario planning effort with the use of an outside consultant at a future MPO policy committee meeting.

**V. For More Information**

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**VI. Attachments**

**A. Agenda**

**Binghamton Metropolitan Transportation Study  
Scenario Planning Peer Workshop**

**June 3, 2004**

**AGENDA**

**Welcome**  
(9:00 am- 9:15 am)

**Felicia Young**  
FHWA Office of Planning, Washington DC

**Robert Griffith, Chief, Planning & Program Development**  
FHWA NY Division, Albany NY

**Steven Gayle, Executive Director**  
Binghamton Metropolitan Transportation Study

**Introductions**  
(9:15 am – 9:45 am)

**Self-Introductions**

**Overview of Scenario Planning**  
(9:45 am – 10:00 am)

**Sherry Ways**  
FHWA Office of Planning

- History and overview of Scenario Planning
- Why it is important to FHWA and for good planning

**Overview of New York & Transportation Planning Initiatives**  
(10:00 am – 10:45 am)

**Representatives of BMTS, NYSDOT, and other NYS MPOs**  
Representatives from BMTS will provide an overview of long range and corridor planning efforts currently taking place. There will be an open discussion of obstacles and issues facing NYS MPOs: current population, economic, and demographic trends in Upstate cities; and the impact of NYSDOT's transformation and new approach to intermodal corridors.

(9:45 am – 10:00 am)

***Break (10:45 – 11:00 am)***

**FHWA Office of Planning**

- History and overview of Scenario Planning
- Why it is important to FHWA and for good planning

**Overview of New York & Transportation Planning Initiatives**  
(10:00 am – 10:45 am)

**Representatives of BMTS, NYSDOT, and other NYS MPOs**  
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**Peer Presentation**  
(11:00 am - 12:00 noon)

**Dan Hatley, Planning Director**  
Berkeley-Charleston-Dorchester COG  
North Charleston, South Carolina

Presentation on Berkeley-Charleston-Dorchester Growth Options Project

***Lunch (to be provided) 12:00 noon – 12:45 pm***

**The Scenario Planning Process**  
(12:45 pm – 1:45 pm)

**Brian Betlyon, Metropolitan Planning Specialist**  
**FHWA Resource Center**  
Baltimore, Maryland

- Discussion of the process, component steps, issues that may need to be addressed
- Available resources
- Software ~ demonstration
- Best Practices

**Brainstorming on Scenario Planning at BMTS**  
(1:45 pm – 3:15 pm)

**Facilitated Discussion**

This section is intended to brainstorm scenario planning for BMTS. The group assembled will explore what it would take to implement scenario planning for the upcoming long-range plan update or corridor study. Some topics to guide the group in this exercise may include:

- How can we integrate scenario planning in our region/state?
- Is there a particular corridor project, long-range plan update etc. could be used as a starting point for scenario planning? If we have already started, how can we integrate scenario-planning techniques?
- What are the specific factors that could influence different scenarios?
- What tools or resources are necessary for us to accomplish this?
- Who should be involved? How do we involve them?
- Are there any real or perceived obstacles?
- What are our next steps?
- What technical assistance can FHWA help us with?

***Break (3:15 pm – 3:30 pm)***

**Discussion of Next Steps and Conclusions**  
(3:30 pm – 4:00 pm)

**FHWA/Participants**

The concluding session will be devoted to thoughts regarding how BMTS will move forward. This process will stimulate thinking and discussion on next steps. The meeting will end with concluding remarks and commitment to future activities.

**Adjournment**

**B. List of Participants**

## Presenters

Berkeley-Charleston-Dorchester Council of Governments	Dan Hatley	<a href="mailto:danh@bcdcog.com">danh@bcdcog.com</a>
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FHWA Resource Center	Brian Betlyon	<a href="mailto:brian.betlyon@fhwa.dot.gov">brian.betlyon@fhwa.dot.gov</a>

## Exchange Attendees

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