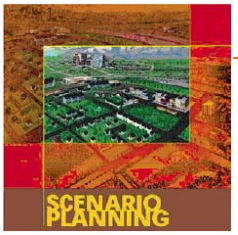

Scenario Planning Peer Workshop

Sponsored by the Federal Highway Administration

Location:	Midwest Transportation Planners Conference, Kansas City, MO
Date:	April 5, 2006
Workshop Host Agencies:	Federal Highway Administration, Kansas Division Office Mid-America Regional Council
Workshop Participants:	Binghamton Metropolitan Transportation Study Capital District Transportation Committee Federal Highway Administration, Kansas Division Federal Highway Administration, Office of Planning Federal Highway Administration, Resource Center Mid-America Regional Council US DOT Volpe National Transportation Systems Center

Summary

The following report summarizes a Peer Workshop on tools and effective practices for scenario planning. The Federal Highway Administration (FHWA) coordinated and led the half-day workshop at the Midwest Transportation Planners Seminar in Kansas City, Missouri. The Mid-America Regional Council (MARC) and the FHWA Kansas Division Office hosted the event. Presenters from the FHWA provided participants with an overview of the scenario planning process and described available resources and tools to assist with scenario planning analysis. The local presenters from MARC discussed population and development trends in the Midwest as well as MARC's visioning and scenario planning initiative "Creating Quality Places." The peer planner from Albany, New York, presented his region's scenario planning effort and how they used performance measures to guide their decision making process. The peer presenter from Binghamton, New York, discussed his region's use of scenario planning, which was unique since his region's population is declining; scenario planning has usually been used in regions where the population is increasing.

I. Introduction

Jody McCullough of the Federal Highway Administration (FHWA) Office of Planning began the workshop by presenting an overview of scenario planning and the FHWA's role in supporting its use.

FHWA's definition of 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 assess trends in key factors such as transportation, land use, demographics, health, etc. Participants bring the factors together in alternative future scenarios, each of these reflecting different trend assumptions and tradeoff preferences." Scenario planning represents an integrated approach to decision making that is composed of assessing values, trends, and tradeoffs; using GIS based visualization tools; and building relationships, credibility, and trust with stakeholders and the public.

The following may be considered when conducting a scenario planning process:[1]

- Build trust – trust leads to credibility and action, and trust is difficult to attain and easy to loose. Trust is created when all stakeholders develop the scenarios and choose the preferred scenario.
- Build consensus – consensus can be built around shared community values.
- Understand the context – scenarios are the future, and are therefore uncertain.
- Work the outcomes – outcomes from the scenario planning effort represent the stakeholders' values and their vision. The preferred outcome should be the foundation for the plan and should be considered when policies are developed.
- Experience the range of scenarios – make the range of scenarios as realistic as possible. Use maps and images to illustrate existing conditions, to demonstrate trends, and to simulate possible scenarios. Photo enhancement can be used to further simulate future conditions and show how the existing place can change over time.
- Be focused yet flexible – facilitate discussion, pose questions, and stimulate thoughts and visions.
- Ensure that the analysis informs the process instead of dictating it – consensus building should shape and drive the analysis.
- Keep the analysis resolution low – stay away from too much detail and data.

An example of the steps of a scenario planning process in Queensland, Australia, is as follows:

Step 1: Identify Quality of Life Issues
Step 2: Research Driving Forces
Step 3: Determine Patterns of Interaction
Step 4: Create Scenarios
Step 5: Analyze Implications
Step 6: Evaluate Scenarios
Step 7: Monitor Indicators

The benefits of scenario planning include being able to analyze complex issues through a strong analytical framework and process, good data, and system oriented tools. Scenario planning also facilitates consensus building by creating the capacity for communities to participate actively, improving communication and understanding among stakeholders, and enhancing and making the decision-making framework more transparent.

FHWA supports scenario planning being a part of the transportation planning process and long- and short-range plan development. As part of this support, FHWA encourages the use of PL and other transportation funds to implement scenario planning, provides feedback on efforts being planned or implemented, shares and provides information on scenario planning efforts nationwide, identifies resources and tools for use in scenario planning, and facilitates peer workshops. FHWA is constantly looking for new examples, techniques, and tools to list and reference in its workshops and on its website, www.fhwa.dot.gov/planning/scenplan/.

[1] As referenced from the presentation by Chris Sinclair, the peer at the North Carolina Scenario Planning Workshop.

II. Local Trends and Planning Efforts

A. Midwest Trends

Caitlin Cottrill, Transportation Planner, Mid-America Regional Council

Demographic, economic, environmental, and transportation trends and forecasts are key to successful scenario planning efforts. To better understand the trends that would inform and shape scenario planning in the Midwest, Caitlin Cottrill gave a brief overview of Midwestern trends. On average from 1990 to 2000, western cities witnessed the highest growth (19% population increase), followed by southern cities, Midwestern cities (3% population increase), and northeastern cities, which actually decreased in population. Generally, older, pedestrian-oriented places have decreased in size while younger, auto-oriented places are growing. From 1990 to 1998 in the western portion of the Midwest, the population of central cities grew by 1.5% while areas outside of central cities grew by 13.9%. Over the same period of time in the eastern portion of the Midwest, the population of central cities declined by 0.9% while areas outside of central cities grew by 8.9%.

The population in rural areas, which compose 17% of the nation's total population, is growing in the mountain west, pacific northwest, upper great lakes, southern highlands, Florida, and eastern Texas and is declining in the great plains and many Midwestern states. In rural areas, the Hispanic population grew at a faster rate compared to other racial or ethnic groups. Less than 6.5% of the nonmetropolitan labor force is engaged in farming, and counties most heavily dependent upon farming and mining for their economic base lost the greatest amount of population. The largest population gains occurred in rural counties where retirement, services, and recreation dominated the economy. Rural areas near metropolitan areas are more likely to experience growth, and micropolitan centers had a positive effect on growth in more remote rural areas.

Nationwide, the average age of the population is rising as the baby-boomer generation ages. Many senior citizens own the homes in which they live and they often prefer to stay where they are than to move to an assisted-living facility. In the Midwest, the majority of the elderly live in the suburbs (39%) and in nonmetropolitan areas (36%). Coordination between transportation, housing, and health systems and having a variety of transportation options will continue to increase in importance as the population ages.

Though the Midwest is responsible for 40% of the nation's industrial output, farming, mining, and manufacturing are becoming less integral parts of the Midwestern economy. While the Midwest is responsible for 30% of the nation's foreign agricultural exports, farmland acreage across the Midwest has been decreasing, the average size of privately-owned parcels is decreasing, and forest cover is increasing. Job declines during the recent recession were worse in the Midwest than the national average, and the region's job growth since that time has lagged behind the rest of the nation as well. As with other areas in the nation, many of the jobs being created in the Midwest are in the retail and services sector. Traditional 9 to 5 jobs are being replaced by shift work and swing shifts, changing how travel patterns occur. The Midwest is among the weakest performing areas in terms of tax growth, and this has implications for public spending, particularly on transportation projects.

It is estimated that the Midwest will witness a 50% increase in freight over the next 15 years. In recent years, freight has been shifting more from rail to trucks. In many rural areas, both highway and rail links are operating in a state of marginal capacity. In urban areas, infrastructure is at or beyond its designed capacity. Because it is increasingly difficult to bring freight into urban areas, more growth and development (such as warehouses) are likely to occur on the fringes of metropolitan areas.

The climate of the region is changing with northern portions of the Midwest warming at a rate of almost 4°F per 100 years and southern portions showing a slight cooling trend. Also, precipitation is becoming more varied, with periods of draught interrupted by heavy precipitation events. With regard to energy, Chicago is the only Midwest city in the nation's top 10 cities that is best prepared for an oil crisis, in part because there is low public transit ridership overall in the Midwest. Changes in our energy supplies will impact our need to ensure that we do not rely solely on one form of energy to provide our travel options.

B. Creating Quality Places in the Kansas City Region

Marlene Nagel, Director of Community Development, Mid-America Regional Council

Marlene Nagel described MARC's scenario planning efforts and its Creating Quality Places initiative. In the 1990s, MARC engaged the community on metropolitan growth and development issues. They started with building an understanding about the region's core and soon realized that they needed to put policies in place today to change how the future would look. MARC created a forecast policy committee, which involved broad stakeholder groups having discussions on alternative development futures based on today's policies.

To respond to growing concerns about the quality of development in metropolitan Kansas City and how development could be more sustainable, MARC started the Creating Quality Places initiative in 1999. First, they engaged a wide range of community stakeholders and created a steering committee and focus groups. MARC then secured funding from the Environmental Protection Agency to hold a series of public forums with national experts that were brought in to discuss the issue and pique the public's interest. To come up with a regional vision that could be implemented locally, MARC encouraged communities to think about how the principles relate to their home areas. After discussions at the forums defined the principles, MARC met with local planners to discuss implementation tools and resources. The principles, grouped into four major categories, are listed in Box 1.

Box 1: MARC's Creating Quality Places Principles

Homes and Neighborhoods Choice and Diversity Linkages Reinvestment Identity Green Space	**Transportation and Public Places** Multimodal Local Streets Bicycle/Pedestrian Access Transit-Supportive Development Public Spaces
Commercial Development Mixed Use Scale Durability Walkability Parking	**Environmental Quality** Water and Air Quality Resource Efficiency Natural Elements

The principles and concepts received broad acceptance and many local officials and private development representatives took actions consistent with the principles. MARC began looking at specific principles for more focused work. One of these areas was to create more transit-supportive developments.

MARC secured a Transportation, Community, and System Preservation Grant to advocate more transit-supportive developments. The goals of this initiative were to educate local developers, planning officials, and elected leaders on the benefits of transit-supportive development patterns; identify and address existing barriers to the accommodation of transit-supportive development in metropolitan Kansas City; and to develop land development guidelines and incentives for adoption by interested local jurisdictions. MARC then solicited applications for prototype areas that could be developed or re-developed to be more transit-supportive.

MARC created a Transit-Supportive Development (TSD) Oversight Committee composed of local officials, transit providers, and development professionals to guide the selection of prototype applications; identify stakeholders for each prototype; review transit-supportive master plans and related land development regulations, incentives, and guidelines; help identify policy, market, and fiscal barriers to success; and to help promote the project to local business leaders and elected officials.

For each prototype, the committee developed scenarios for how the site could be developed differently. Peter Schwartz, in *The Art of the Long View*, described scenarios as follows: "Scenarios should be 'a

vehicle for an imaginative leap into the future'... designed to bring forward surprises and unexpected leaps of understanding. Together, scenarios comprise a tool for ordering one's perceptions." The committee created the following criteria for selecting prototypes.

- Interest by property/business owner(s),
- Detailed plan information is helpful to support the planning process and encourage action,
- A (re)development opportunity exists in the near future (1 to 3 years),
- The transit-supportive master plan concepts are applicable to similar sites in the metropolitan area, and
- There is an opportunity to accommodate higher densities of residential and non-residential activity.

Plans for the prototype sites were developed by holding six "hands-on" planning sessions, one for each site. These sessions yielded guidance from property owners and developers, local officials, neighborhood leaders, state department of transportation (DOT) officials, transit agency planners, and economic development officials.

Ultimately, six prototypes were selected: three in the urban core and three in the suburbs. For each prototype, MARC selected a group of stakeholders and looked at the history of the site and area, adjacent sites and land uses, and existing plans. MARC and the stakeholders then identified development issues and transit supportive design goals for the site. MARC brainstormed with the stakeholders and worked with designers to sketch on maps the ideas that people were discussing. Ultimately, the group created a phased development plan for the site to reach the preferred scenario that was then presented using a visualization computer program.

MARC produced the "Principles of Transit-Supportive Development Guidebook," which is a compilation of the results for all of the scenarios for the six sites. Figure 1 shows how MARC would like the guidebook to be used in the decision making process for future development opportunities.

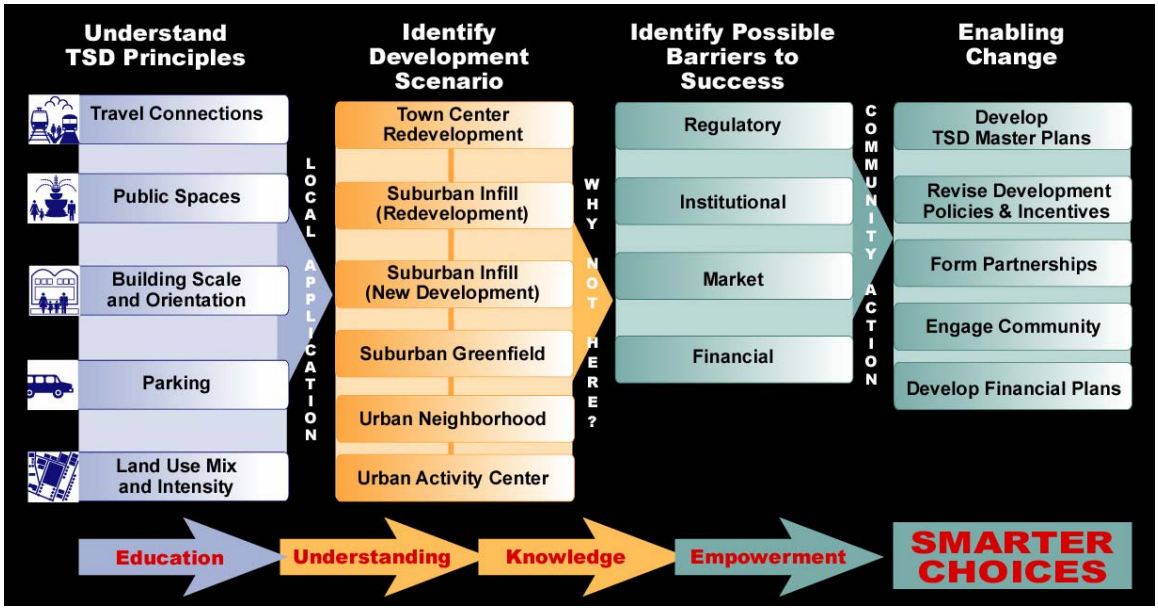

Figure 1: How the use of MARC's "Principles of Transit-Supportive Development Guidebook" can inform the decision making process in the Kansas City region

The results that MARC have seen so far are a broader and deeper understanding of TSD, several of the prototype scenario sites have experienced development consistent with the project's work, and principles and concepts are being used to support further work on Smart Moves, the region's public transit plan.

In line with its involvement with TSD and redeveloping urban areas, MARC's next steps include

- Continuing its role in the First Suburbs Coalition, which focuses on redesigning and reinvesting in neighborhoods and housing in suburbs that were developed between the 1950s and 1970s;
- Implementing MetroGreen, which is a proposed 1,144-mile interconnected system of public and private open spaces, greenways, and trails designed to link seven counties in the Kansas City metropolitan area;
- Providing assistance for "On the Map: Conservation Planning for the Kansas City Region;"
- Updating Metro Outlook, which provides regional indicators of progress;
- Being involved in OneKCVoice, which is a citizen engagement effort to foster public dialogue about regional issues in the Kansas City metropolitan area; and
- Using Paint the Town to develop long-range forecast alternatives.
- Initiating a visioning process designed to involve area residents in dialogue to gain a better understanding of the relationship between regional plans and local plans and in efforts to better integrate transportation, land use, housing and environmental policies.

III. Peer Practices and Observations

Scenario planning is a technique that can be used in many different situations to build scenarios about the future. The Midwest and the Northeast United States have experienced similar trends resulting from a change in their traditional industries. Many regions in the Midwest have experienced a shift or decline in heavy industry, employment, and population similar to the experiences of the regions represented by the peers from New York. Albany, New York, is a medium-sized city that is experiencing modest growth and Binghamton, New York, is a small-sized city that is experiencing declining growth. The peers gave some background about their regions, described their scenario planning processes, and discussed what they have learned from their experiences. At the end of their presentations, the peers fielded questions from workshop participants.

A. Peer Presentation – Capital District Transportation Committee, Albany, NY

Chris O'Neill, Senior Transportation Planner, Capital District Transportation Committee

The Capital District Transportation Committee (CDTC) is the metropolitan planning organization for the Albany-Troy-Schenectady-Saratoga Springs region of New York. The region's population is about 800,000 and is growing steadily, particularly in suburban areas between the region's cities.

CDTC started the New Visions 2030 Regional Transportation Plan in April 2003. To develop the plan, CDTC built upon an extensive public participation program. For the original plan, CDTC created nine working task forces composed of the public and stakeholders, held three structured conferences, and made over 30 public presentations.

To implement the plan, CDTC encourages and coordinates with town and city land use planning. Because transportation investment will follow land use plans and corridor studies, CDTC has to date been involved in over 50 "linkage studies" in 28 communities. CDTC funds these linkage studies using PL funding on a competitive basis. Public involvement is essential in these linkage studies, which also confirms the regional vision for land use.

Background

The goal of New Visions 2030 is to provide "New Visions for a Quality Region," which is in-line with the Governor's "Quality Communities" initiative. The Governor's "Quality Communities" initiative involves integrating land use and transportation at the regional level. CDTC and the Capital District Regional Planning Commission created a Quality Region Task Force, composed of staff from both organizations as well as stakeholders from around the region, to address issues related to regional settlement patterns and their relationship to quality of life and "visionary" transportation investments.

This Task Force assists in direction setting for the New Visions 2030 planning process by making recommendations to the CDTC Policy Board. The Quality Region Task Force established five working groups, composed of regional planning and transportation agency staff and members of the business community, and charged them with analyzing and evaluating the following issues:

Working Group A: "Alternative Growth and Development Scenarios"
Working Group B: "Expressway System Options"
Working Group C: "Big Ticket and Big Idea Concepts"
Working Group D: "Larger than Regional Policy Concepts"
Working Group E: "Assisting Local Decision Making in a Regional Context"

These working groups discussed how the region can maintain or improve its quality of life and avoid the hazards of growth, such as continued suburban sprawl, if the region experiences the growth that regional leaders are urging. CDTC decided to begin a scenario planning process to visualize and address this issue. The CDTC created additional task forces to focus on specific issues such as finance, bicycle and pedestrian issues, goods movement, and travel through this process.

The working groups and the Quality Region Task Force identified and evaluated four scenarios:

1. Trend Growth: high tech takes off as hoped, trend forecasts, 11% population growth;
2. Low Growth: high tech sputters and economy stumbles;
- High Growth: the region booms, 40% growth in population – these are "what if" scenarios;
    3. Growth disperses through region with low-density patterns; and
    4. Growth is more focused; some of the growth is concentrated in urban areas at higher densities.

CDTC's scenario planning process is a work in progress; CDTC is currently developing forecasts for each future scenario. These forecasts incorporate the expectation that New Visions will achieve success in land use, transit, and demand management. So far, CDTC reached consensus in the urban and suburban areas and developed a set of recommendations for accommodating growth.

Performance Measures

In the context of CDTC's scenario planning process, the public supports and recognizes the importance of multiple performance measures to ensure that the preferred scenario is attained. Congestion is an important measure, but must be balanced against other measures. Reliability and predictability are more important than hours of delay. CDTC developed performance measures to gauge

- Quality of the whole trip,
- Transit access,
- Walkability, and
- Community quality of life.

While the community quality of life performance measure is subjective, it is also real and important. Trade-offs with congestion, design standards, design year level of service, transit access, and community context are not easy, but must be considered. CDTC turned to the public for input on these trade-offs. CDTC sent a survey to a total of 7,000 residents and business owners in several different areas across the region. One question, for example, asked, "Would you be willing to accept traffic levels and congestion roughly as they are on Route 5 now if we could improve transit, walking, biking, landscaping, attractiveness and safety?" Nearly 80% of the respondents to this question answered that they would.

To show the public what these improvements could look like, CDTC used visualization techniques, which also facilitated public input into alternative futures.

Box 2: Expressway Performance Measure – Planning Time Index (PTI)

Assumption: predictable congestion is tolerable; incident delays are frustrating and disruptive.

- The PTI is a measure of predictability and reliability (developed by Texas Transportation Institute)
- Ratio of driving time on a "worse than average delay day" (95th percentile) to a "free flow day"
  - PTI > 1.0 ~ trip would take longer time
  - PTI = 1.0 ~ trip would take no extra time
  - PTI < 1.0 ~ speed would be > 55 mph even on the "worst" day

Example: For a 30-minute trip, if the planning time index were 1.5, then on a "worst" day, the trip would take 45 minutes (1.5 x 30 minutes). In other words, you would have to leave 15 minutes earlier than normal to have a 95% confidence of being on time.

Result: I-90 is more "predictable" than the Northway, even though it has a similar number of delays. This finding is consistent with the public perception that the Northway is worse and it confirms the principle that preventing and managing incidents is a sound strategic approach.

Box 2 discusses how one performance measure – the expressway performance measure – influences the quality of the whole trip. Based on this analysis, CDTC modeled the future demand for Northway/I-87 under a high growth scenario and found that seven lanes in each direction would still be inadequate. CDTC determined that building the region's way out of congestion on the Northway and I-90 is not physically feasible, especially for the strong regional growth scenarios.

Analysis

Based on its analysis of the scenarios, CDTC concluded that flexible plans and policies work well across different scenarios. In particular, high-occupancy toll lanes are flexible since they enable tolls to vary with demand to protect traffic flow, drivers can use these lanes when special events require quicker travel time, and carpoolers can receive a discounted rate when the roadway is congested. Additionally, transit becomes more competitive when tolls are implemented. CDTC found that managed lanes provide flexibility for dealing with any level of regional growth and economic development, guarantee high quality transit service, maximize the people carrying capacity of the expressway, reduce future congestion on parallel roads, and enhance and support ITS and operational strategies. Because managed lanes support transit objectives, quality of life objectives, and economic development objectives in ways CDTC can assess with performance measures, CDTC's draft plan will recommend the managed lane concept as regional policy.

Under the high growth scenario, larger scale initiatives can be considered. These initiatives (outlined in Box 3) will be presented to the public. These concepts are contingent upon higher growth and/or higher funding levels. The "big" initiatives that are not consistent with the region's community values will be screened out.

Box 3: Hypothetical "Big" Initiatives

Screened against community values

More likely to match regional "community values":

- Regional greenway program $
- Riverfront access and urban redevelopment program $$$
- Street reconstruction and reconfiguration program $$$
- Roadway widening and connections program $$
- Suburban town center development $$
- Bus service expansion, BRT program with transit oriented development $
- Managed lane program (if expressways widened) $$$
- Demand management program $
- Intelligent traffic management program $

Less likely to match regional "community values":

- Major highway system construction $$$
- Guideway transit system $$$
- Take-a-lane program $

Conclusions

Through their exposure to scenario planning, the working groups determined that the best New Visions 2030 plan would be a plan that works under different growth scenarios. This plan should account for varying levels of transit investment, expressway management and operations, managed lanes, community land use plans, and urban reinvestment. The region agrees that walkable communities and smart growth needs to be maintained even under the high growth scenario. In particular, there has been broad support for urban reinvestment, including support from suburban communities. CDTC's recommendations include a strong urban reinvestment policy, economic initiatives, and suburban community planning so that there is a gain in quality of life with growth. CDTC identified "big" initiatives to be prepared for the region's growth potential.

CDTC's experience with scenario planning yielded several lessons learned. Planners need to recognize that forecasting is not a crystal ball; too often forecasts are treated as deterministic. MPOs are in a unique position to take the lead in providing visionary leadership, and scenario planning includes visions of future quality of life, land use, and economic development. Congestion is one of many performance measures, but trade-offs are necessary with other measures such as transit access, flexibility, regional development, land use patterns, and quality of life. CDTC identified congestion management, ITS, incident management, and transit investment as preferable to adding capacity on Capital District expressways. Urban decline with suburban growth is not tolerable; the public process at CDTC confirmed the importance of urban reinvestment.

B. Peer Presentation – Binghamton Metropolitan Transportation Study, Binghamton, NY

Steve Gayle, Executive Director, Binghamton Metropolitan Transportation Study

Background

Scenario planning has been championed as an alternative to the traditional development process of the long range transportation plan. A handful of MPOs have used scenario planning to look at the impact of growth patterns, but they have been medium to large high-growth regions. Binghamton is a small region that is experiencing population decline (Table 1). This decline has been accompanied by slow suburban growth of both residential and retail uses, resulting in a "hollowing of the core." The decline is in part attributable to IBM cutting its workforce from 20,000 to 1,200 people over the past 15 years.

Table 1: Population Decline in the Binghamton Region

POPULATION	TOTAL	BROOME COUNTY	CITY OF BINGHAMTON
1990	233,439	212,160	53,008
2000	220,901(-5.4%)	200,536 (-5.5%)	47,380 (-10.6%)
2004 (estimated)	217,876 (-6.7%)	197,696 (-6.8%)	45,864 (-13.5%)

Scenario Planning Process

In 2003, the Binghamton Metropolitan Transportation Study (BMTS), the region's MPO, began to consider scenario planning as an option for their next plan update, which was due in March 2005. BMTS decided to look only at scenarios related to their metropolitan area. The region had a lot in place to make scenario planning feasible: the county had recently completed its economic development plan, there was a growing arts community, there was good architecture downtown, there were the beginnings of revitalization energy downtown, and projects had been implemented, such as the planned construction of a new intermodal station, that helped people understand the reality of BMTS' guiding principle: "Investment in the regional transportation system must be used to help achieve regional and community development goals."

BMTS went into scenario planning with "its eyes wide open." The MPO is well regarded, and BMTS wanted to build on this reputation by asking the public what they wanted to see as future scenarios. However, BMTS knew that the public might choose a future with which the MPO may not completely agree. BMTS' approach to scenario planning was to ask four sequential questions:

1. Community vision: "What do we want to be when we grow up?"
2. Community design: "What will the region and its elements look like?"
3. Create scenarios: "Where shall we grow or change over time?"
4. Long Range Plan: "How do we achieve the scenario by implementing transportation strategies, programs, and projects?"

BMTS had not done visioning before, so was assisted in the visioning process by a consultant (Renaissance Planning Group). At the visioning workshops, BMTS took a low-tech route by having people drawing and narrating what they wanted to see on maps. The resulting elements of the vision were as follows:

- Revitalize central business districts,
- Carefully shape suburban growth,
- Develop new economic engines,
- Leverage educational resources,
- Attract young professionals,
- Retain mid-career families,
- Support senior population,
- Protect natural resources, and
- Build strong partnerships.

At the next workshop, BMTS looked at the community design of various parts of the region. There was the framework – "the bones" – which included the layout and scale of streets, buildings, and natural landscape; the fabric – "the body" – which included the balance of built and green space and the mix of activities; and the fingerprint – "the personality" – which included the area's unique culture and history. When asked about downtown, the public said that they wanted to see an addition of uses and activities, infill buildings, an established block structure, redeveloped surface parking lots, and a public space and esplanade along the waterfront, which is now under construction (Figure 2). BMTS also asked the public what they wanted to see in an urban village area, which included IBM's old headquarters buildings. The public responded by saying that they wanted to see an addition of uses and activities; connections through industrial complex, joining neighborhoods to north and south; connections to the river; the redevelopment of surface parking lots to form a Main Street; and the creation of a public green to anchor the new street (Figure 2). BMTS was heartened to see that the public had good ideas for the future of the metropolitan area. A concurrent exercise involved asking members of the public as they arrived for the visioning workshop to identify something they considered a "treasured place" that they would want to see preserved as the community evolves. These were often specific buildings or recreational facilities, but sometimes community elements.

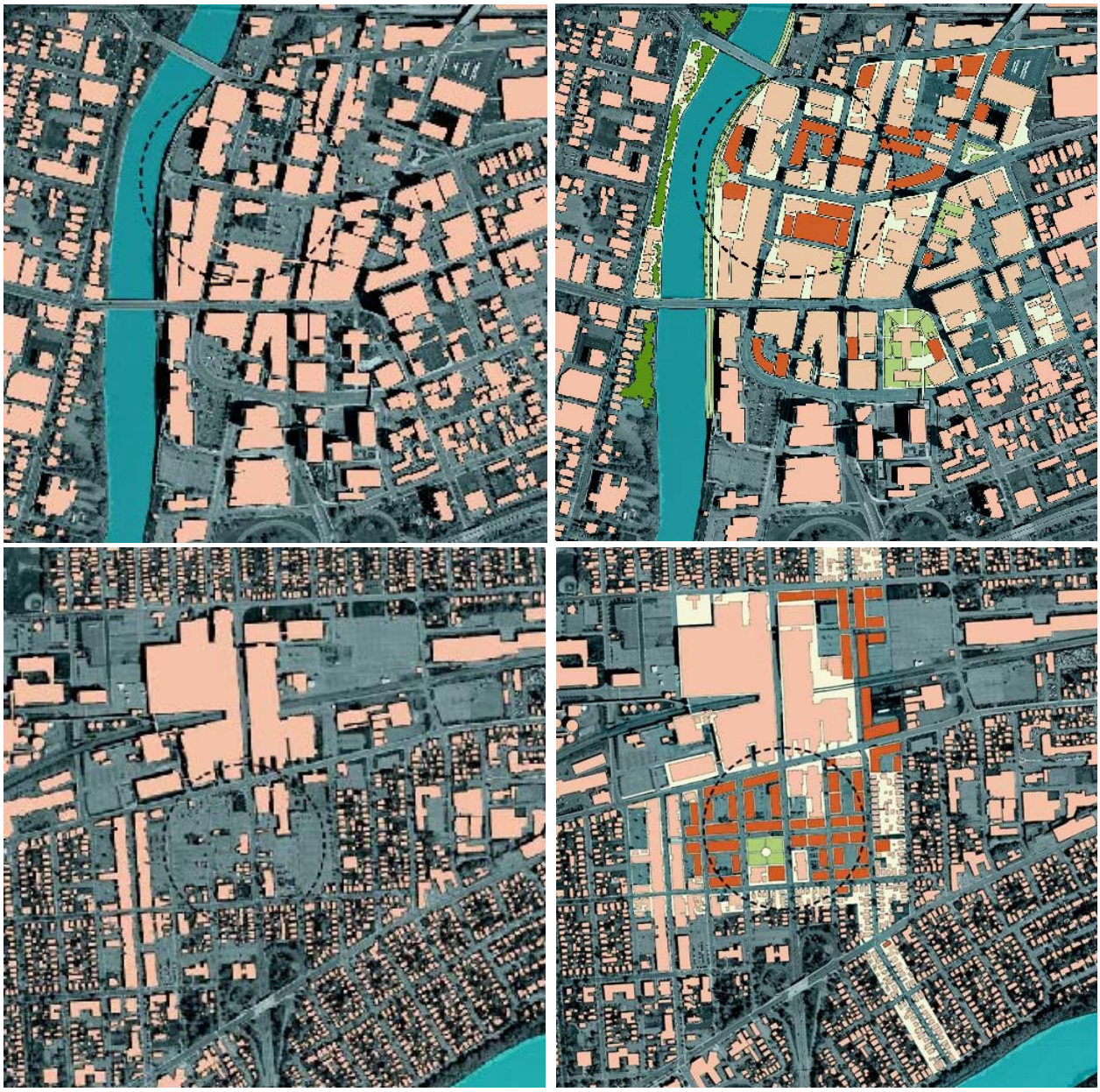

Figure 2: Clockwise from top left, current building footprints in downtown Binghamton, envisioned development in downtown Binghamton, current building footprints near old IBM headquarters, and envisioned development near old IBM headquarters.

To decide how the region should grow, the public was asked to located desired land uses on maps, for example, good locations for new housing for active seniors. Using a land use modeling program called CORPLAN, BMTS ran four scenarios: outward trend (based on current trends), outward growth, inward trend, and inward growth. Based on the goals of the process, BMTS developed scenario evaluation criteria and measures to evaluate how the scenarios compared (Table 2).

The public, Community Vision Team (described below), and the BMTS Planning Committee all coalesced around one scenario: revitalize and redevelop the urban core communities; a region with a hollow core cannot ultimately be successful. Supporting this scenario does not mean there will not be suburban development in the coming years, but it does mean that public investment from the MPO will be focused on the redevelopment of the urban core.

Table 2: Comparison of Binghamton Scenarios

SCENARIO EVALUATION CRITERIA	OUTWARD		INWARD	
	Trend	Growth	Trend	Growth
Percent of regional employment in CBDs	63	53	72	78
Percent of population in enhanced elements	0	6	1	49
Percent of employment in enhanced elements	0	21	11	68
Percent of Regional Dwelling Units in Quality Communities	53	52	65	69
Diversity of Housing Mix – SF / MF	61 / 39	57 / 43	38 / 62	50 / 50
Percent of population within five minutes of existing schools	27	25	32	31
Acreage of Greenfield Lost (Approximate)	500	3,000	125	175
Acreage of Brownfield Redevelopment (Approximate)	0	85	0	130

To encourage this growth in the region, BMTS and the public looked beyond traditional planning to economic and social development. The region should concentrate on inviting opportunities, such as arts and tourism, manufacturing, health care, and research and development as well as inviting people, which include students, young adults, families, and retirees, to come and stay in the region. Ideas to attain these goals include creating a regional tourism guide, providing neighborhood health care, encouraging downtown artisans, and having public art in office parks.

Outcomes from BMTS' scenario planning process include the following initiatives:

- Rebuild key urban arterials using the principles of placemaking and context sensitive solutions;
- Support Broome County's economic development plan, but commit to improving access to identified development sites only in the core;
- Focus on the rivers by completing the Binghamton Metropolitan Greenway System and other riverside projects;
- Safety: reduce crashes through arterial safety audits; emphasize walkability and the special needs of elderly drivers and pedestrians;
- Transit: rationalize and enhance transit operations;
- System preservation: preservation still consumes at least 70% of the budget, but urban core arterial streets will become a priority;
- Maintenance and Operations/Intelligent Transportation Systems: initial freeway deployment included in New York State Department of Transportation project already in design; then focus on signalized arterial streets; and
- Environment and energy: already in air quality attainment; meet the goals of the New York State Energy Plan, which is very aggressive.

Lessons Learned

Several lessons learned emerged from BMTS' scenario planning process. First, BMTS found that the scope of scenario planning could be as big or as small as necessary. Scenario planning could be tailored to cover whatever area necessary. Second, BMTS had wondered if the people who showed up at the workshops really represented the public. In part to test this possibility, BMTS created a Community Vision Team, which was handpicked to include all stakeholders, and they came to the same conclusions as the public. Third, time will tell if BMTS' approach is successful. If successful, the transportation improvement program (TIP) that is drawn over the next ten years from BMTS' plan will reflect the process' outcomes outlined above.

Final challenges include convincing the region's elected officials that the plan, and their support of it, is meaningful and aligned with the public's vision. BMTS also needs to remind people that this is a twenty-five year plan since they may expect everything in it to be accomplished in five.

BMTS chose the name of the plan – "Placemaking for Prosperity" – once the public's vision was clear. And the title captures what the plan is all about. Instead of traffic or congestion, it is about investing transportation funds to achieve a better place.

C. Scenario Planning Tools

Jim Thorne, Metropolitan Planning Specialist, FHWA Resource Center; Olympia Fields, IL

Jim Thorne described the tools and approaches that could be used by planning organizations that are interested in scenario planning. According to Thorne, 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. Tools can help people involved in scenario planning get the future as "imprecisely right" as possible.

Scenario planning tools engage communities through visualizing what the future can look like and can provide decision-makers and the public with the information they need to make educated decisions. Scenario planning tools can help communities plan by design instead of by default, meaning that they can make informed decisions on how the actions (or inaction) that they take today will affect the future.

A variety of technology tools can help communities consider scenarios, make better decisions, and build communities and not projects. These tools can be divided into the following categories:

- *information resources*, including websites such as general smart growth websites (http://www.placematters.com and http://www.smartgrowthamerica.com), green development websites (http://www.smartcommunities.ncat.org/ and http://www.natureserve.org/), geospatial information websites (http://www.fgdc.gov, a state's site such as http://www.isgs.uiuc.edu/nsdihome/, and http://egis.hud.gov/egis/), and FHWA websites (http://www.fhwa.dot.gov/planning/landuse/ and http://www.fhwa.dot.gov/planning/scenplan/) and;
- *visualization tools and techniques* to convey how changes would look, such as photo montage, architectural drawings, visual preference surveys, visual kiosks, and Box City;
- *impact analysis and GIS models* using software such as INDEX and Paint the Town, What If?, MetroQUEST, UrbanSim, and CommunityViz; and
- *process tools and techniques* such as civic participation, the PLACE^{3}S process developed in California, and methods for finding common ground, such as establishing a neutral community meeting place, conducting large-scale town meetings, or creating a civic learning center.

Instead of concentrating on one aspect of planning for the future, many impact analysis and GIS models used in scenario planning estimate the impacts of people's decisions today on the land use, transportation system, and environment of tomorrow. Additionally, these tools take into account the interconnections between these three aspects of planning. For example, if a change to the transportation system is proposed for an area, the model will estimate the change's impact on the land use and environment. Additional changes in these areas may then need to be made to accommodate the initial change. Through this process, these tools help people plan for the future in as real of a way as possible.

Several regions have used scenario planning as part of their land use and transportation planning efforts. Two examples are the Northeastern Illinois Planning Commission, which used Paint the Town to assist in the development of a new long-range plan for the Chicago area, and the Puget Sound Regional Council, which used INDEX and UrbanSim together to compare scenarios to be used in their long-range plan for the Seattle region.

IV. Peer Panel – Question and Answer Period

Figure 3: The peer panel

During the peer panel (Figure 3) period, the two peers and Jim Thorne fielded questions from the workshop participants. In response to a question about whether scenario planning was worth it, the peers said that it is a great way to link different aspects of planning. Though it is a significant investment (it took BMTS about nine months to complete their effort), it is a good way to get the public involved. Scenario planning is not about technicians presenting what they came up with on their own; instead, scenario planning is about what the public wants to see in the future. Throughout the process, planners should make the models transparent and let the public know that the model is not a crystal ball. The jury is still out on whether the outcomes and intentions from the process that are in the plan will move into the TIP.

A number of steps can be taken to try to ensure that the outcomes of the scenario planning process are implemented. It is important to get as many stakeholders on board as early as possible. These stakeholders include cities and the state DOT. The public's support can be used as leverage to get some of these stakeholders on board. Consistent state DOT support can be challenging since the person from the DOT who may have been involved in the scenario planning process may not be the same person who works on project selection later on. Consistent DOT support is particularly important since some private development proposals circumvent the MPO's purview and instead need DOT approval. If the DOT is on board, their decisions will be in-line with the region's vision.

Collaboration, coordination, and outreach are vital to insuring that scenario planning efforts are supported and implemented when developing future programs.

V. For More Information

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VI. Attachments

A. Agenda

Scenario Planning Peer Workshop
April 5, 2006

1:00 pm – 1:30 pm	**Welcome and Presentation: Overview of Scenario Planning** Jody McCullough, FHWA – Office of Planning, Washington, DC
1:30 pm – 1:45 pm	**Presentation: Overview of Trends in the Midwest** Caitlin Cottrill – Mid-America Regional Council, Kansas City, MO
1:45 pm – 2:15 pm	**Presentation: Local Perspective – Creating Quality Places** Marlene Nagel – Mid-America Regional Council, Kansas City, MO
2:15 pm – 2:25 pm	**Questions and Discussion**
2:25 pm – 2:45 pm	**Presentation: Scenario Planning in the New Visions Plan** Chris O'Neill – Capital District Transportation Committee, Albany, NY
2:45 pm – 3:00 pm	**Questions and Discussion**
3:00 pm – 3:20 pm	**Break**
3:20 pm – 3:40 pm	**Presentation: Transportation Tomorrow: 2030, Placemaking for Prosperity** Steve Gayle – Binghamton Metropolitan Transportation Study, Binghamton, NY
3:40 pm – 4:05 pm	**Questions and Discussion**
4:05 pm – 4:25 pm	**Scenario Planning Tools Presentation** Jim Thorne, FHWA – Resource Center, Olympia Fields, IL
4:25 pm – 5:00 pm	**Panel Discussion** Caitlin Cottrill – Mid-America Regional Council, Kansas City, MO Chris O'Neill – Capital District Transportation Committee, Albany, NY Steve Gayle – Binghamton Metropolitan Transportation Study, Binghamton, NY Jim Thorne, FHWA – Resource Center, Olympia Fields, IL

B. List of Presenters

Agency	Name	Email
FHWA – Office of Planning	Jody McCullough	jody.mccullough@fhwa.dot.gov
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Capital District Transportation Committee	Chris O'Neill	co'neill@cdtcmpo.org
Binghamton Metropolitan Transportation Study	Steve Gayle	SGayle@co.broome.ny.us
FHWA Resource Center	Jim Thorne	jim.thorne@fhwa.dot.gov