

**North Jersey Transportation
Planning Authority
Scenario Planning Peer Exchange Workshop**

**Newark, New Jersey
October 23 - 24, 2012**

**Sponsored by the
Federal Highway Administration and
Federal Transit Administration**



 U.S. Department of Transportation
Federal Highway Administration/Federal Transit Administration

 **Transportation Planning Capacity Building**
Planning for a Better Tomorrow

Location: Newark, New Jersey

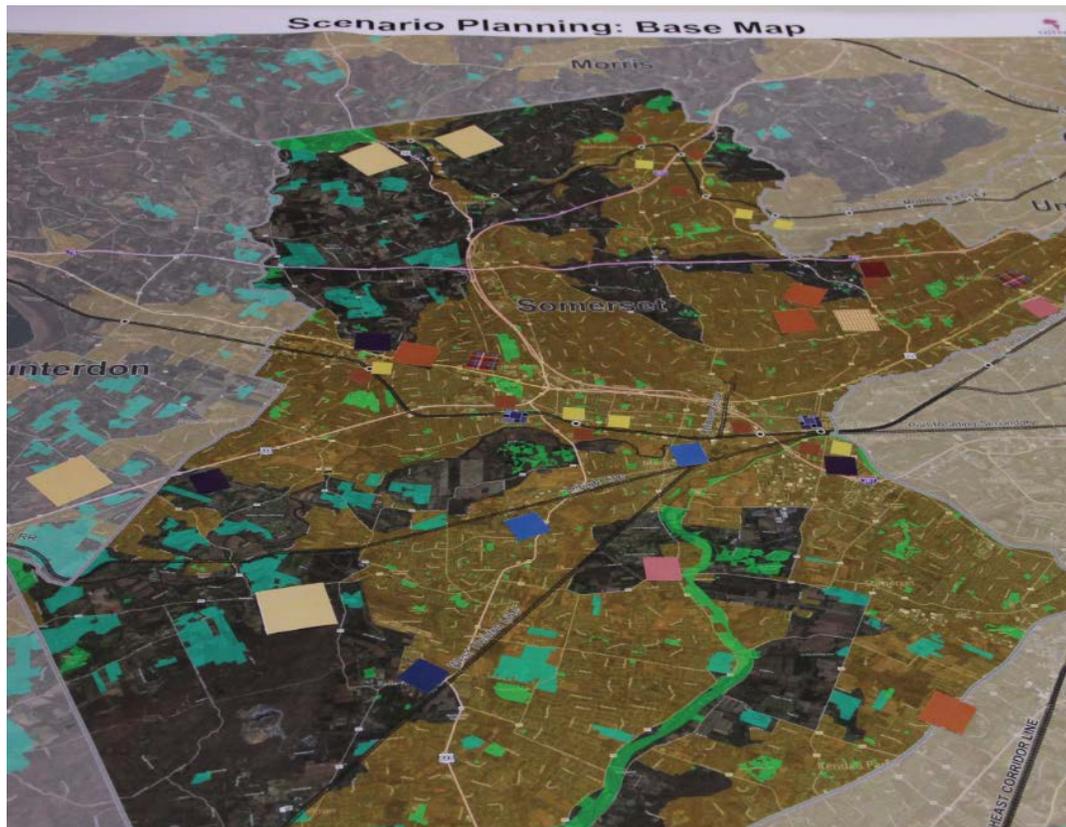
Date: October 23-24, 2012

Workshop Sponsors: Federal Highway Administration (FHWA) and Federal Transit Administration (FTA)

Host Agency: North Jersey Transportation Planning Authority (NJTPA)

Event Planning and Documentation: U.S. Department of Transportation (USDOT) Volpe National Transportation Systems Center (Volpe Center)

Workshop Attendees: See [Appendix C](#)



Scenario planning basemap used during exercises that took place during the NJTPA workshop.

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I. Executive Summary

This report shares highlights from a two-day scenario planning workshop held in Newark, New Jersey, from October 23-24, 2012. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) co-sponsored the workshop, which was hosted by the North Jersey Transportation Planning Authority (NJTPA) at its office in Newark. Approximately 85 participants attended, including representatives from NJTPA, FHWA, FTA, and other Federal, State, and local agencies. [Appendix C](#) lists the workshop attendees.

NJTPA requested the workshop to refine its approach for upcoming scenario planning efforts. The agency will engage in scenario planning public workshops to help develop the 2013 update to the Regional Transportation Plan (RTP). The workshops will also help provide information for the Together North Jersey (TNJ) initiative, which promotes sustainable development practices and strategies in northern New Jersey through a Regional Plan for Sustainable Development (RPSD). During the public workshops, which began in winter 2013 but will continue through winter 2014, NJTPA will work with stakeholders to discuss their visions for the region and evaluate trade-offs. This input will help inform the RTP and RPSD.

During the FHWA- and FTA- sponsored workshop, NJTPA staff presented pilot versions of the activities that will be part of the public workshops. The activities will include a “chip” game in which participants place chips on a map to indicate where they believe future development should occur, as well as a shared values exercise developed by TNJ that solicits feedback on what people value most about their communities. A panel of three expert peers also participated in the workshop:

- Gabe Epperson, Planning Director, Envision Utah (EU);
- Lew Villotti, Planning and Development Director, Southwestern Pennsylvania Commission (SPC); and
- Kermit Wies, Deputy Executive Director for Research and Analysis, Chicago Metropolitan Agency for Planning (CMAP).¹

Peers shared information on several topics of interest to NJTPA. EU provided an overview of its own experiences in developing a chip game and discussing trade-offs with the public (NJTPA is adapting EU’s chip game model for the northern New Jersey region). SPC provided perspectives on integrating land use, transportation, and economic development considerations into scenarios. CMAP shared information on best practices related to visualization of scenarios and how to effectively convey the results of scenario analysis to the public. Discussions held during the workshop also allowed NJTPA to obtain feedback from the peers on how to refine and tailor the chip game, shared values exercise, and overall format for NJTPA’s scenario planning public workshops.

II. Introduction

NJTPA is the metropolitan planning organization (MPO) for 13 counties and two cities in northern New Jersey,² serving 6.6 million residents in 384 municipalities. The agency is currently updating its RTP and will use scenario planning to inform this process. Through a series of scenario planning workshops and events, NJTPA will gather input about what stakeholders envision for northern New Jersey’s future. This input will help staff develop scenarios that propose a variety of options for the region; through scenario analysis and further public outreach, NJTPA will identify key themes and priorities to include in the RTP and RPSD.

¹ Information about the peer agencies can be found at: www.envisionutah.org/ (EU), www.spcregion.org/ (SPC), and www.cmap.illinois.gov/ (CMAP).

² The NJTPA region includes counties of Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, and Warren and the cities of Jersey City and Newark.

TNJ is leading development of the RPSD but is working closely with NJTPA and other agencies in this process (NJTPA is an executive and steering committee member).³ NJTPA's scenario planning workshops will help inform both the RTP and RPSD.

TNJ is a partnership comprised of representatives of multiple agencies throughout northern New Jersey and the cities of Elizabeth, New Brunswick, and Paterson.⁴ It seeks to align planning processes and activities across its members' jurisdictions to promote sustainable development in northern New Jersey. Overall, the RPSD will establish a more formal framework for sustainable development in the region.⁵

NJTPA and TNJ developed two games for use during the scenario planning workshops. The chip game was modeled after an exercise created by EU. NJTPA is working closely with EU and TNJ to tailor the game to northern New Jersey. The game will provide an interactive opportunity for the public to articulate their priorities for the region. TNJ also designed a shared values exercise, which applies handheld, electronic keypad polling technology. Using this technology, workshop participants identify their most important values. Information provided through both the chip game and shared values exercise will guide the RTP and RPSD.

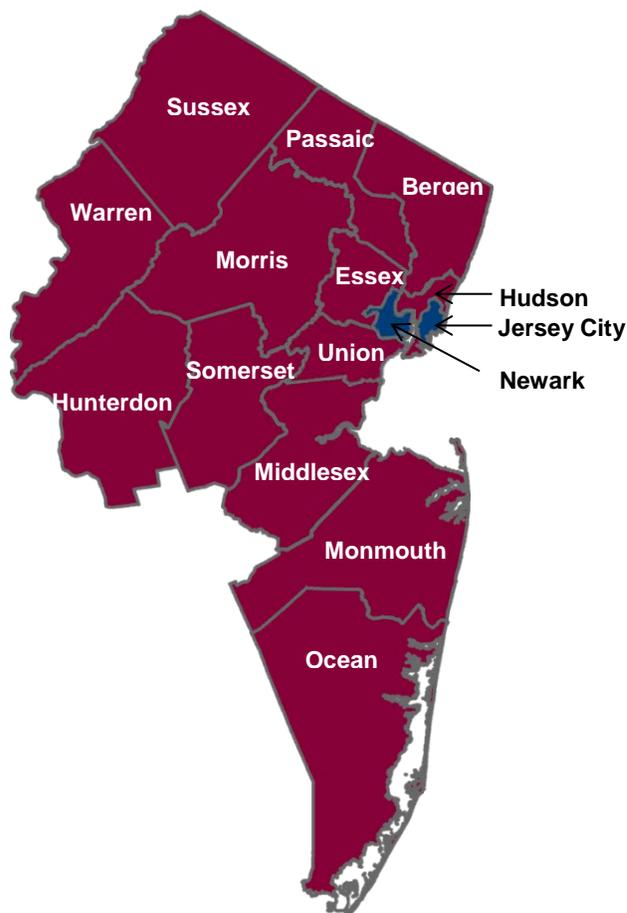


Figure 1: NJTPA's region includes 13 counties and two cities in northern New Jersey.
Source: NJTPA

III. Presentation and Discussion Highlights

Welcome and Introduction

Representatives from NJTPA, FHWA, FTA, and the U.S. Department of Housing and Urban Development (HUD) provided introductory remarks to welcome participants to the workshop.

Mary K. Murphy, Executive Director of NJTPA, opened the workshop by welcoming participants, speakers, and peers. Ms. Murphy noted that many partners are involved in NJTPA's scenario planning effort and were involved in organizing the workshop, including FHWA, FTA, HUD, the U.S. Environmental Protection Agency (EPA), and Rutgers University.

Ernie Blais, FHWA New Jersey Division Administrator, provided an overview of the FHWA New Jersey Division Office, located in Trenton, New Jersey, and introduced Division Office staff who were present at the workshop.

³ TNJ is also known as the North Jersey Sustainable Communities Consortium. For more information about TNJ, please visit: <http://togethernorthjersey.com>.

⁴ The Bloustein School of Planning and Public Policy at Rutgers, The State University of New Jersey (Rutgers University), administers the TNJ grant.

⁵ To learn more about TNJ's RPSD, please visit: <http://togethernorthjersey.com/resources-programs/regional-plan-for-sustainable-development/>.

Marilyn Shazor, Regional Administrator for FTA's Region 2 (which serves New York and New Jersey), introduced FTA staff attending the workshop. Ms. Shazor noted the importance of visioning exercises, particularly for public sector agencies. Visioning allows agencies to bring stakeholders together to discuss views of their communities' futures. Public agencies are increasingly using visioning to promote consensus around goals and strategies. Scenario planning can incorporate visioning techniques and thus help agency staff work with other stakeholders to achieve better transportation planning outcomes.

Jennifer Cribbs, Lead Sustainability Officer for HUD Region 2 (which serves New York and New Jersey) noted the importance of integration and collaboration in regional planning and scenario planning efforts. She also recognized project partners, including representatives from FHWA, FTA, and EPA, who have been involved in the Region 2 work.

Federal Overview of Scenario Planning

Rae Keasler, Transportation Specialist with FHWA, and Jeff Price, Community Planner with FTA, provided an overview of scenario planning and the resources provided by FHWA and FTA to assist agencies in using this approach.

Scenario planning involves developing a variety of scenarios, each telling a different "story" about the future, to engage stakeholders in conversation about shared values, goals, and strategies for a particular community or region. Stakeholders, particularly members of the public, are actively engaged throughout scenario planning to help create and evaluate scenarios. Ultimately, the approach helps demonstrate how transportation, land use, and other decisions made today can affect future outcomes.

There are many benefits of scenario planning. The approach can help agencies engage in a more informed and strategic transportation decision-making process. Exercises used in conjunction with scenario planning, such as charrettes or chip games, can help stakeholders better understand and visualize future transportation and land use patterns. Scenario planning software programs can also help develop and assess scenarios, visualize the differences between alternatives, and encourage stakeholder participation.⁶

FHWA and FTA's scenario planning program, part of the Transportation Planning Capacity Building (TPCB) program, provides resources and tools to assist agencies in implementing scenario planning.^{7 8} The program supports transportation decision-makers and others to resolve the increasingly complex issues they face when addressing transportation needs in their communities.

The FHWA-FTA scenario planning program offers a variety of trainings and resources for scenario planning practitioners, including workshops, webinars, and case studies highlighting scenario planning best practices. Additionally, program staff developed a guidebook that highlights six suggested phases for implementing the approach (Figure 2).⁹ These phases serve as the basis for many agencies' approaches to scenario planning, including NJTPA's. For example, NJTPA's public workshops will address the six phases by focusing sequentially on discovery, visioning, goal-setting, and implementation.

⁶ Examples include Community Viz (<http://placeways.com/communityviz/>), MetroQuest (www.metroquest.com), and INDEX (www.planningtoolexchange.org/tool/index).

⁷ For more information about FHWA and FTA's Scenario Planning Program, please visit: www.fhwa.dot.gov/planning/scenario_and_visualization/scenario_planning/index.cfm

⁸ To access TPCB Program website, please visit: www.planning.dot.gov/default.asp.

⁹ To view FHWA and FTA's Scenario Planning Guidebook, please visit: www.fhwa.dot.gov/planning/scenario_and_visualization/scenario_planning/scenario_planning_guidebook/guidebook.pdf.

Stakeholder Involvement Identify, Prepare, and Refine Analysis Tools	Data Collection	1	How should we get started?	Scope the effort and engage partners. Considerations: Process goals, objectives, budget, and stakeholder roles and responsibilities.	Output: Work plan.
		2	Where are we now?	Establish baseline analysis; identify factors and trends that affect the state, region, community, or study area. Considerations: Transportation and land supply, suitability, and demand; state, regional, community, or study area trends.	Outputs: Transportation systems inventory; land suitability analysis; evaluation of historic trends.
		3	Who are we and where do we want to go?	Establish future goals and aspirations based on values of the state, region, community, or study area. Considerations: Key values and priorities for the state, community, region, or study area.	Outputs: Set of working principles that document broad state, community, region, or study area goals and preferences.
		4	What could the future look like?	Create baseline and alternative scenarios. Considerations: Scenario types, analysis tools, travel demand model.	Outputs: Identification of appropriate scenario analysis tool or refinement of travel demand model; baseline and alternative scenarios.
		5	What impacts will scenarios have?	Assess scenario impacts, influences, and effects. Considerations: Indicators to help evaluate scenario performance.	Outputs: Refined or calibrated analysis tool(s) or model(s) if necessary. List of indicators to compare scenario outcomes. Qualitative or quantitative assessment of scenario impacts.
		6	How will we reach our desired future?	Craft the comprehensive vision; identify strategic actions and performance measures. Considerations: Stakeholder feedback on scenarios and the future blueprint; potential actions, investments, or policies to lead the state, community, region, or study area toward the comprehensive vision.	Outputs: Comprehensive vision; action steps; performance measures to assess progress; plan for monitoring progress.

Figure 2: The FHWA-FTA scenario planning guidebook presents six suggested phases for implementing scenario planning.

Source: FHWA, FTA

NJTPA Overview and Approach to Scenario Planning

Mary Ameen and Zenobia Fields, both of NJTPA, provided an introduction to NJTPA and its scenario planning activities.¹⁰

In 2009, NJTPA adopted its most recent long-range RTP: Plan 2035: Regional Transportation Plan for Northern New Jersey.¹¹ NJTPA is adopting a scenario planning approach to update the RTP. This approach will include visioning activities, outreach to engage partners and the public, and identification of action steps to address diverse regional needs. NJTPA will conduct three different types of public workshops as part of its scenario planning efforts:

- Discovery Workshops (Winter 2013)**
 Beginning in winter 2013, NJTPA and TNJ will conduct 18 discovery workshops—one in each of the 13 counties and five cities across northern New Jersey that comprise TNJ’s planning region. These workshops will focus on the questions of “where are we now?” and “where are we headed?” Workshop attendees will participate in the chip game and shared values exercise to provide input about their visions for future regional development. Feedback from the workshops will help develop scenarios used in later workshops.

¹⁰ To learn more about NJTPA and its efforts, please visit: <http://www.njtpa.org>.

¹¹ To view NJTPA’s most recent long-range RTP, please visit: www.njtpa.org/plan/LRP2035/default.aspx.

- **Visioning and Goal Setting Workshops (Summer 2013)**

The visioning and goal setting workshops will focus on the question of “where do we want to be?” Workshops will take place in six locations to promote a more regional perspective. During these workshops, participants will discuss trade-offs between up to five different scenarios. NJTPA will also facilitate discussions to highlight what the trade-offs may mean for communities, current fiscal resources, open space preservation, and access and mobility, among other factors.

- **Implementation Workshops (Fall 2013)**

The implementation workshops will explore the question of “how do we get there?” NJTPA and TNJ will return to the same 18 locations where the earlier discovery workshops took place. The implementation workshops will focus on identifying the strategies and partnerships needed to promote implementation of scenarios.

These workshops will help inform development of the RTP. They will also help NJTPA coordinate the RTP with the RPSD to establish a regional framework that promotes sustainability and community development through housing, employment, and transportation strategies.

Together North Jersey Overview

Jon Carnegie, Project Director for TNJ and Executive Director of the Alan M. Voorhees Transportation Center at Rutgers University, provided an overview of TNJ. TNJ is comprised of a steering committee¹² and standing committees on economic competitiveness and workforce development, livability and environment, and society and community. TNJ also includes affiliated partnership groups.

In 2011, TNJ received a \$5 million HUD Sustainable Communities Regional Planning Grant. TNJ will use this funding to support several initiatives, including the RPSD and capacity-building technical assistance to assist communities in implementing sustainable strategies. TNJ will also fund 15 local demonstration projects through its Local Demonstration Project Program (LDP).¹³ The LDP provides sustainability-focused technical assistance for areas or corridors with existing or future transit systems.

Shared Values Exercise

An important focus of this workshop was testing a pilot version of the shared values exercise, which will be used during NJTPA’s discovery workshops. The exercise allows stakeholders to articulate values they hold for their communities and share feedback in real-time using electronic keypad polling technology. In presenting the pilot exercise, TNJ and NJTPA sought to solicit feedback from the peers and others to better tailor and refine the exercise for the discovery workshops.

During the shared values exercise, workshop participants used handheld keypads to log responses to a variety of questions related to topic areas such as personal growth and well-being, education, community, and nature. For example, participants were asked about the importance of neighborhood school quality, access to higher education, and opportunities for lifelong learning. A video screen displayed responses for all workshop attendees to view.

¹² In addition to NJTPA, steering committee members include: Bergen, Essex, Hudson, Hunterdon, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, and Union counties; the cities of Elizabeth, Newark, Jersey City, New Brunswick, and Paterson; the Edward J. Bloustein School of Planning and Public Policy at Rutgers University; Building One New Jersey / New Jersey Regional Coalition; Housing and Community Development Network of New Jersey; Institute for Sustainability at the College of New Jersey; New Jersey Future; New Jersey Office for Planning Advocacy/Department of State; NJ Transit; Plan Smart New Jersey; and the Regional Plan Association.

¹³ To learn more about the LDP, please visit: <http://togethernorthjersey.com/resources-programs/local-demonstration-projects/>.

The second part of the shared values exercise focused on community planning goals. Participants used the keypads to submit feedback on the visions they have for their communities, responding to questions related to preservation of open space, environmental protection, and other issues. For example, participants were asked if they believed it was important to promote farmland preservation. Responses were compiled in real-time using the polling technology and displayed for all attendees to view.

Peer Presentations

Another important focus of the workshop was providing opportunities for the three peers to share examples of their agencies' involvement in scenario planning, best practices, and feedback for NJTPA to consider in its upcoming scenario planning efforts. Highlights from the peer presentations are provided below.

Lew Villotti

SPC is the southwestern Pennsylvania regional planning agency serving 2.66 million residents in 10 counties and 548 municipalities. SPC recently completed the 2040 Transportation and Development Plan for Southwestern Pennsylvania, an update to the SPC 2035 long-range transportation plan.¹⁴ Adopted in June 2011, SPC's 2040 Plan integrated transportation, land use, and economic development and was developed using a scenario planning approach. As part of this approach, SPC conducted workshops with approximately 400 participants representing municipal, county, State, and Federal agencies, as well as school districts, community groups, economic development agencies, and transportation providers. By using a scenario planning approach, SPC sought to:

- **Empower the region.** For its 2035 plan, SPC used a community engagement process called "Project Region." This involved soliciting input from the local community through a series of workshops and meetings held with representatives from public agencies, private entities, non-profit organizations, the public, and others. SPC again used the Project Region approach in its efforts to create the 2040 Plan. Project Region helped inform 2040 Plan outreach to develop products that reflected the visions of local stakeholders.
- **Offer an inclusive and transparent process that values the region as a whole.** SPC aimed to mirror regional demographics in its scenario planning workshops. The agency worked toward this goal by involving as many stakeholders and groups as possible in its workshops.
- **Acknowledge prior work.** SPC reviewed past State, regional, and local plans to identify recurring themes and perspectives. SPC then prepared 40 different draft policy statements, each of which had direct input from public input or from previous plans developed by other agencies. The policy statements were one-sentence objectives focused on a specific theme, such as addressing brownfield sites. By relying on information provided in past plans, SPC demonstrated that its policy statements had a direct lineage to past public feedback. This helped to encourage support since stakeholders understood that policies had not been developed in an arbitrary manner.

SPC discussed its initial policy statements with partners to ensure they reflected stakeholders' views. The agency also conducted a series of meetings that included keypad polling and break-out groups to encourage consensus-building and discussions. During the meetings, SPC presented the

¹⁴ To learn more about the "2040 Transportation and Development Plan for Southwestern Pennsylvania," please visit: www.spcregion.org/trans_lrp.shtml.

draft statements and asked participants to rank the policies. Simple charts, including value ladders that tallied participants' preferences, were used to visually depict participants' choices (Figure 3).

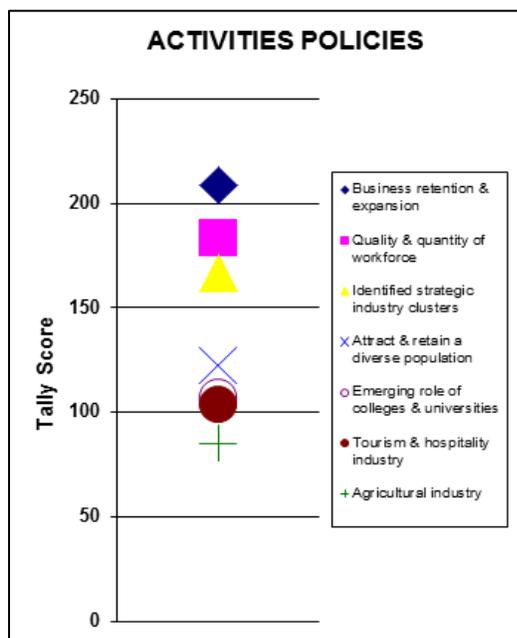


Figure 3: SPC used simple charts, like the value ladder shown here, to gauge stakeholder feedback in the initial stages of its scenario planning process.

Source: SPC

accompanying scores to highlight what the maps represented. SPC released these maps during a one-night, web-based public meeting during which participants at 11 different locations voted on their preferred scenarios. The final scenario was a hybrid that combined the initially created compact and corridor scenarios.

The results of these meetings helped SPC frame scenarios (SPC referenced prior research to determine the most appropriate number of scenarios to develop and how to keep scenarios focused on key topics).¹⁵

SPC initially developed several “sketch” scenarios focused on different development options including dispersed/fringe, infill and redevelopment, compact, transit-oriented, center, cluster, satellite, and corridor. For each scenario, SPC identified development density, mix, and primary transportation elements. For example, the corridor sketch scenario was characterized by a medium- to high-development density, low to moderate separation of buildings, and transportation elements that included automobiles, mass transit, trucks, and air and water travel. SPC then held a second round of meetings with partners to evaluate whether any of the sketch scenarios should be combined. From stakeholder feedback, SPC developed four blended scenarios (trend, dispersed/fringe, compact, and corridor).

SPC then used INDEX, a scenario planning software tool,¹⁶ to evaluate the scenarios. With INDEX, SPC created scenario maps to show what policy decisions would look like if they were implemented and included

accompanying scores to highlight what the maps represented. SPC released these maps during a one-night, web-based public meeting during which participants at 11 different locations voted on their preferred scenarios. The final scenario was a hybrid that combined the initially created compact and corridor scenarios.

To support implementation of the preferred scenario, SPC developed the Livability through Smart Transportation Program, which links transportation improvements to land use development strategies. SPC’s 2035 and 2040 plans also aim to sustainably integrate transportation, land use, and economic development, serving as guidance for future regional investments.

Kermit Wies

CMAQ is the MPO for seven counties in northeastern Illinois.¹⁷ The region is about 4,000 square miles and includes approximately 9 million residents and more than 280 municipalities and 1,200 units of government. Mr. Wies presented on CMAQ’s scenario planning efforts and use of visualization techniques to develop and promote GO TO 2040, the agency’s regional comprehensive plan published in 2010 and the region’s first comprehensive plan since 1909.¹⁸ To develop the GO TO 2040 plan, CMAQ:

¹⁵ For example, SPC looked closely at the report titled “Integrating Land Use Issues into Transportation Planning: Scenario Planning,” by Keith Bartholomew, Assistant Professor, College of Architecture and Planning, University of Utah. FHWA sponsored this research. To read the report, please visit: http://faculty.arch.utah.edu/bartholomew/SP_SummaryRpt_Web.pdf.

¹⁶ To learn more about INDEX, please visit: www.planningtoolexchange.org/tool/index.

¹⁷ CMAQ’s region covers the counties of Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will in northeastern Illinois.

¹⁸ To learn more about the “GO TO 2040” plan, please visit: www.cmaq.illinois.gov/.

- **Developed a vision.** CMAP met with stakeholders to identify their visions for the region's future and the values that were important to them. From this feedback, CMAP developed a vision to "Preserve, Reinvest, and Innovate," which informed CMAP's subsequent steps and the overall approach of GO TO 2040. It also helped to shape the plan's four key themes: Livable Communities, Human Capital, Efficient Governance, and Regional Mobility.
- **Created scenarios.** After establishing the vision, CMAP developed scenarios based on stakeholder input. CMAP developed scenarios by considering different public policy "inputs," or considerations that could affect land uses; these included policies related to zoning, incentives, regulations, and investments. This allowed CMAP to evaluate "outputs," or considerations that resulted from the policies in place (e.g., land use mix, environmental quality, transportation performance, economic productivity, social equity). The outputs served as the basis for the agency's visualization outreach effort.

CMAP emphasized the importance of treating uncertainty as a constant in scenarios to allow for a margin of error and highlight the limits of influence and control. By doing so, agency staff can demonstrate that they recognize the uncertainty that the future holds and that the plans developed may not necessarily occur as expected. In general, scenarios should hold constant as few assumptions as possible.

- **Used visualization tools and techniques.** It can be challenging to present scenarios to the public since they often contain detailed or technical information. It is important to visualize the scenarios and present them in an accessible way to help participants understand the "stories" that the scenarios represent as well as their core messages. CMAP made extensive use of maps, tables, charts, and videos to help stakeholders understand what scenarios would look like, striving to make these graphics inspiring, interactive, and easily recognizable. For example, CMAP used simple bubble diagrams to effectively convey information (Figure 4).

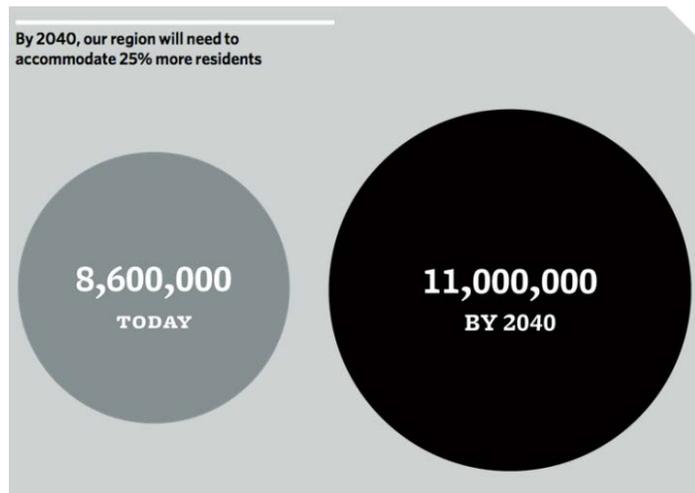


Figure 4: CMAP used simple bubble diagrams to convey information about its scenarios. The size of the circles helps to convey growth expected for the region.

Source: CMAP

In addition, CMAP developed an online, interactive scenario planning tool based on customized MetroQuest software.¹⁹ Using the tool, people could develop their own scenarios based on various policy choices and trade-offs (Figure 5). Urban designers and architects throughout the area also volunteered their time and expertise to create renderings of local landmarks so that stakeholders would recognize how new development could potentially fit in to the existing landscape.

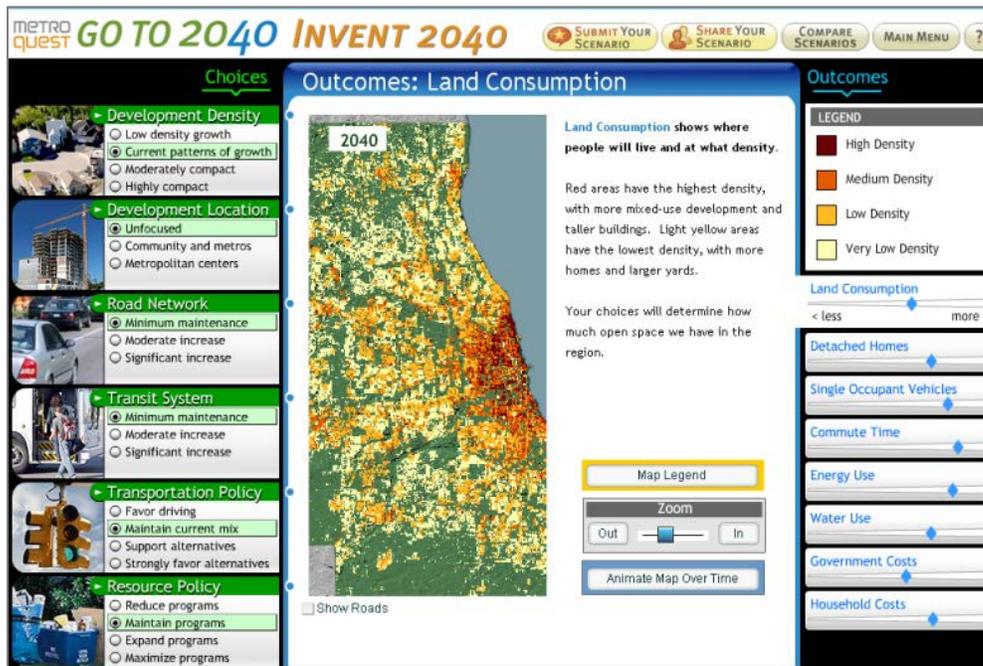


Figure 5: CMAP's interactive, online scenario planning tool allowed stakeholders to test and compare scenarios.

Source: CMAP

- **Engaged in stakeholder outreach.** Education and engagement were critical components of CMAP's effort. The agency recognized that workshop participants and other stakeholders might not have the same levels of understanding about scenario planning. To increase awareness, CMAP developed a variety of tools, including short videos featuring local residents who spoke about how their lives would be changed by the vision of GO TO 2040 as well as printed materials customized to specific audiences. CMAP also targeted outreach to youth to help involve them in the planning process.

CMAP recognized that, when dealing with potentially unreceptive audiences or environments, it is important to focus on one or two key themes to draw out the core message of scenarios and bring a level of optimism and simplicity to the effort. CMAP also suggested that it is important to encourage partnerships to build and sustain collaboration.

- **Encouraged implementation.** CMAP published its preferred scenario 10 months before adoption of the GO TO 2040 plan. The GO TO 2040 website included the preferred scenario but also described other scenarios considered during the planning process and their related components and costs.

¹⁹ MetroQuest is a web-based tool often used in support of scenario planning efforts. Agencies can MetroQuest to solicit feedback on participants' visions for their communities. To learn more about MetroQuest, visit www.metroquest.com/.

To encourage implementation of the preferred scenario and the plan at the community level, CMAP offers planning support to municipalities interested in developing local land use plans consistent with the goals of GO TO 2040. Also, as an example of championing the plan's regional policies, CMAP established the Regional Tax Policy Task Force to make recommendations about State and local tax policy matters discussed in GO TO 2040. In addition, CMAP encouraged investments in major capital projects that aligned with the plan. Following plan adoption, CMAP reorganized its agency structure to better fit the tasks connected to implementing the plan. To measure progress going forward, CMAP produces an annual implementation report to note activities that occurred over the past year and benchmarks progress toward achieving quantitative targets.

Gabe Epperson

EU is a public-private partnership that promotes quality growth while supporting transportation, open space preservation, housing, infrastructure, and air quality considerations. Since 1997, EU has brought together local stakeholders to learn about what they envision for Utah's future and developed plans and strategies that reflect these perspectives. EU has used scenario planning throughout its efforts to create scenarios that stem from stakeholders' visions and consider factors such as land use, transportation, and economic development.

Mr. Epperson described EU's scenario planning efforts using the example of Cache Valley, an area in Utah that is growing rapidly. Cache Valley worked with EU to apply its scenario planning process. Given the very high level of expected growth, it was important for Cache Valley residents to think about what they envision for their community, particularly how they would like the region to grow, where and how residents will live, and what will be conserved.

As part of the Cache Valley effort, EU developed a baseline scenario for 2040 to show stakeholders what would happen if the same trends continued without change. EU also developed maps and charts to demonstrate information and conditions so that stakeholders could better understand what future development might look like. EU used current zoning and building and parcel data to build the baseline scenario and to project these trends to evaluate future housing and employment opportunities.

Using this baseline scenario, EU facilitated a series of public events and workshops to obtain feedback. EU emphasized its desire to have broad input from stakeholders to build a vision. Having maps and other visual products also helped EU to demonstrate how the feedback would be used to develop the scenarios. To encourage public participation at these events, EU developed a chip game (NJTPA is now working to adapt this exercise to the northern New Jersey region).

Mr. Epperson suggested the following considerations for NJTPA as it continues with its scenario planning effort:

- **Support brainstorming.** During its workshops, EU asked participants to focus on problem-solving. EU recognized that participants may have different goals so workshop participants were encouraged to sit with others from different backgrounds and who had different experiences. Having a mixed group of stakeholders at each table required each group to reconcile their differences to identify a common goal. A long-term time horizon (e.g., 2040, 2050) also helped participants establish consensus since it meant that people were less likely to focus on small differences.
- **Involve facilitators from a range of agencies.** Representatives from partner agencies acted as facilitators during the Cache Valley workshops. This encouraged involvement and buy-in from a broader range of stakeholders.

- **Conduct mapping activities.** As part of the chip game, EU asked workshop participants to create a picture of their ideal future. Participants were provided a target (e.g., number of households, number of jobs) for which to aim and then identified preferred locations for development to fit these targets. Smaller groups then shared their results with a larger workshop audience and worked together to reach consensus about the region's future.
- **Include a basemap and scaled chips.** EU created a basemap to facilitate the chip game (Figure 6). EU found it helpful to include aerial and topographic data on the map as well as roads, cities, and other landmarks to help workshop participants orient themselves. Also, EU found it helpful to use chips that were appropriately scaled to indicate how much land would be developed (each chip represented a different type of land use such as residential or industrial).



Figure 6: EU used participant feedback provided on maps supplied during its public workshop to inform scenarios.

Source: EU

Using information obtained from the workshops, EU developed a series of digitized maps and then analyzed different trends (e.g., housing, employment, land use) to better understand stakeholders' preferences. From the maps and trends analysis, EU created two scenarios: Town Centers/Clustering and Urban Centers/Rural Edge. To further its analyses, EU also established performance measures. For example, to evaluate the impacts of new housing created in the scenarios, EU considered the average cost of new housing, housing density and mix, and residential energy consumption. Prior to finalizing the scenarios, EU provided them back to stakeholders for additional feedback and review. Overall, EU's focus on integrating



Participants at the FHWA-FTA scenario planning workshop discuss NJTPA's chip game.

Source: NJTPA

public input as part of the scenario planning process helped to encourage stakeholder support and resulted in an effective scenario planning effort.

Chip Game

Following the peer presentations, NJTPA presented a condensed version of the chip game. The game consists of an aerial basemap, which serves as the game board, as well as a variety of chips, which represent different types of development, including single-use residential, single-use commercial, single-use industrial, and mixed use. During the game, participants identify what they envision for the area's future by placing their chips in places where they believe a particular kind of development would be most appropriate. Each chip is sized to scale so that participants have a better understanding of the development involved. Chips represent the total projected growth for development over the next 25 years.



Participants test the chip game.

Source: NJTPA

the possibility of development in the next 25 years. NJTPA staff served as facilitators for the teams and also documented the teams' final outcomes.

For the discovery workshops, NJTPA plans to tailor each chip game to be specific to the particular community hosting the workshop. Also, NJTPA staff intend to provide an overview of the community's population, density, housing and employment statistics, as well as areas of open space and preserved land prior to having participants start the game. This will allow participants to better understand the context of the area involved. NJTPA will also review what the chips represent. Participants will be allowed to "trade in" chips; for example, in exchange for a large-lot residential development chips, participants could receive several smaller-lot density development chips.

After playing the game, workshop participants reconvened to discuss their perspectives and suggest potential ways to improve the exercise. Highlights from the discussion are presented below:

- **Clearly identify the purpose of the chip game.** When introducing the game to public workshop participants, it is critical to emphasize that it is not a land use planning activity but rather an exercise that encourages public feedback. In other words, chip placement does not necessarily indicate where future development will occur; rather, chip placement provides general information about preferences that will help NJTPA staff create scenarios. These scenarios will be shared with participants at later stages of the scenario planning process for further input.

The pilot version of the game focused on Somerset County, New Jersey. In the next 25 years, Somerset County is projected to have an increase of 19,000 housing units and 75,000 jobs. When these projections are combined with those for surrounding counties, the number of expected housing units increases to 49,000 and the number of employment opportunities increases to 130,000. NJTPA asked workshop participants to consider these projections when identifying opportunities and locations for future new and infill development.

During the pilot, participants worked together in teams of approximately ten to allocate their chips and discuss the areas where they saw

- **Differentiate between facilitating and leading.** It is important to include both facilitators and leaders in the discovery workshops as well as other workshops that seek public feedback. Facilitators offer questions to help refine feedback, but a discussion leader provides suggestions and helps identify next steps. It might be helpful to encourage a greater role for facilitators so that participants feel more comfortable expressing their views and feel a sense of involvement and ownership in the process.
- **Provide guidance on the basemap.** Not everyone in a public meeting may have the same level of knowledge about a particular area. Providing a clear summary of the game and an overview of the community before starting, including identifying major landmarks and areas unsuited for development, will help participants better understand the game and how to make development decisions.
- **Offer supplemental information.** In addition to information provided on maps, NJTPA should consider providing supplemental details to game participants such as impacts of future development on housing, transportation trips, vehicle miles traveled, and other considerations.
- **Document assumptions.** It is important to clearly identify and articulate the assumptions used in developing the chip game. By understanding these assumptions, participants can focus more closely on providing input about their visions for the future and discussing scenario trade-offs.
- **Encourage participation.** All game participants should be encouraged to share their visions for their community. However, at the end of the game, one participant should present the group's map and tell the story about the group's decisions and how the group arrived at these decisions.

Roundtable Discussions

During the second day of the workshop, NJTPA staff and TNJ representatives convened with the peers to engage in roundtable discussions focused on several topics of interest to NJTPA and TNJ. Through these discussions, NJTPA and TNJ obtained insight about how to best structure upcoming scenario planning workshops and identify next steps. Important lessons learned that emerged from these conversations included: acknowledge past work, tell a compelling story through the scenarios, and link stakeholder input to scenarios and implementation steps. Details from the roundtable discussions are presented below.

Roundtable #1: Building and Assessing Scenarios

The first roundtable provided an open forum to discuss insights about developing scenarios and share feedback about the chip game and shared values exercise. Participants also focused on the important factors to consider when building scenarios.

- **Public Outreach**
 - *Allow for multiple rounds of public involvement and workshops.* The peers suggested that NJTPA and TNJ consider focusing the discovery workshops on brainstorming and visioning. In later stages, participants could consider different scenarios and their trade-offs.
 - *Encourage people of diverse backgrounds to sit at different tables during all public workshops.* Varied seating could facilitate discussion of diverse opinions and support people collaborating to reach consensus on decisions.

- *Use a variety of outlets to promote activities and involvement at all public workshops.* NJTPA should work with existing partners and identify new community organizations that might be interested in participating in the workshops. Through these partnerships, NJTPA can increase awareness about the workshops and the scenario planning effort as a whole. For example, NJTPA could consider placing notifications about the events in other organizations' newsletters or websites.
- **Chip Game**
 - *Explain existing conditions of the area represented in the basemap.* By introducing and explaining the conditions before starting the game, everyone will receive the same background information and story.
 - *Emphasize what the game means and how the maps will be used.* Emphasize that maps created as a result of the game will not directly translate to zoning maps; instead, the maps will help identify common themes in preferences and potential locations for preferred development. Also, clarifying the purpose of the game will help stakeholders understand how the game will be used to inform scenarios and the scenario planning process as a whole.
 - *Clarify how projections and assumptions were made in developing the game.* Peers suggested that NJTPA should consider providing information about the baseline conditions presented in the basemaps as well as the game's assumptions to ensure that the exercise is transparent and participants have a clear understanding of its goals, process, and outcomes.
 - *Tell a story of the entire region.* While the basemap might focus on one particular county or community, the peers suggested that NJTPA emphasize how activities in surrounding counties might influence development within adjacent or nearby regions. During the chip game, NJTPA should consider having basemaps that show multiple counties (as opposed to just one) so that game participants have a better regional understanding.
 - *Balance between presenting information in too simple or too complex a manner.* It is important to present information so that it is understandable to workshop participants and others. Peers suggested that using visual tools such as maps, graphics, and charts can help convey detailed information in a way that is not too overwhelming.
- **Shared Values Exercise**
 - *Reaffirm goals and values.* As part of the scenario planning approach, NJTPA and TNJ plan to reach out to stakeholders to reaffirm goals and values previously identified in the prior RTP developed by NJTPA. Peers believed that NJTPA and TNJ were taking the right approach in this effort but suggested that NJTPA make updates as necessary if it finds that goals and values have changed.
 - *Consider SPC's value ladder as an effective tool to convey information.* SPC developed value ladders to share at its public meetings, which helped participants understand the transportation and land use implications of adopting different policies. NJTPA and TNJ could consider developing a similar type of tool to present information in a more visual and accessible way to public workshop participants.

- **Building Scenarios**

- *Develop multiple scenarios for consideration.* Peers suggested that NJTPA develop a total of three to four scenarios; this will present a sufficient number of choices without being too complex. The purpose of scenarios is not to suggest that a future will occur but rather to help people see the differences or “daylight” between different policy options.
- *Address information that is important to the public.* SPC presented slides that described scenario indicators using easily understood terms; the agency also provided a list of development assumptions based on policy statements, goals, and the value ladders. Peers suggested that NJTPA and TNJ adopt a similar approach when presenting information during their public workshops.
- *Keep it simple.* Game materials should convey information clearly and in an accessible manner.

Roundtable #2: Next Steps

The second roundtable focused on the steps needed after scenario evaluation as well as strategies that could foster scenario implementation and support translating outcomes to achieve results.

- *Introduce reality slowly.* Initially, the discovery workshops should allow for as much creativity and brainstorming as possible. As the workshops continue, however, NJTPA should introduce more reality into scenario development so that stakeholders understand fiscal and other constraints. This process will help to manage expectations as stakeholders will understand what is feasible given funding constraints, available resources, and other considerations. Throughout the process, stakeholders should be encouraged to see scenarios as possible options rather than final outcomes.
- *Educate local jurisdictions.* Providing information to local jurisdictions regarding potential or suggested implementation steps can help to encourage buy-in. For example, EU is developing a form-based code resource guide for local organizations as guidance for pursuing implementation of land use and zoning policies that reflect a community’s preferred scenario. SPC’s focus on integrating transportation improvements with land use development strategies also helped to inform local jurisdictions about how to translate outcomes of the scenario planning process into the fiscally constrained long-range transportation plan.
- *Engage stakeholders to support implementation efforts.* CMAP believed that extensive stakeholder engagement helps support effective implementation and suggested that NJTPA and TNJ consider this as part of their scenario planning efforts. For example, in the early stages of GO TO 2040, CMAP met with its six working committees to review their roles and responsibilities. Throughout its GO TO 2040 effort, CMAP led meetings to ensure that the committees continued to participate and that implementation remained a topic of discussion. By identifying and defining roles for the committees upfront and committing to a process, CMAP was able to identify implementation steps more easily.
- *Adjust facilitation strategies to optimize productivity.* SPC suggested that NJTPA and TNJ encourage workshop facilitators to be flexible so that they can easily adapt to different meeting settings and outcomes. During its scenario planning efforts, SPC made sure that facilitators identified ground rules for each meeting, had a good understanding of the outcomes they hoped to achieve, and clearly set the tone and context for each meeting

- *Offer multiple opportunities for involvement.* Peers suggested using as many different types of outreach tools as possible to increase awareness, including social media, online surveys, and community meetings. These tools can also help gather input from a broad range of stakeholders. EU's experiences with youth outreach may also be a helpful model for NJTPA and TNJ to follow as a way to encourage involvement of groups that have not traditionally participated in past planning activities.

IV. Conclusion

The NJTPA scenario planning workshop allowed workshop participants to better understand the scenario planning process, learn from peer experts, identify noteworthy scenario planning practices, and test NJTPA and TNJ's proposed outreach tools, including the shared values exercise and chip game.

The feedback provided during the workshop will assist NJTPA and TNJ in refining their scenario planning approach and outreach to stakeholders so that they can effectively engage stakeholders and encourage input about the future of northern New Jersey. As a result of the workshop, participants had the opportunity to learn more about NJTPA's upcoming scenario planning activities. Information collected at the end of the workshop indicated that participants believed that their knowledge of scenario planning had increased as a result of the workshop and that the discussions and presentations during the event were effective in expanding their awareness of scenario planning best practices.

In addition to the benefits provided to workshop participants, the NJTPA scenario planning workshop offered a forum for peer-to-peer discussions, which focused on effective techniques and approaches for scenario planning. The presentations by the peer experts further demonstrated scenario planning best practices. Peer experts shared their experiences and lessons learned directly with participants and NJTPA staff to showcase helpful strategies for the scenario planning process, including visioning, evaluating trade-offs, and involving the public.

The workshop encouraged participation from many stakeholders. Representatives from several Federal agencies, including FHWA, FTA, HUD, and EPA, attended the event and were involved in its planning. Many of TNJ's partners and steering committee members also participated. Federal involvement in the workshop allowed for connections to be made between HUD regional planning grant activities and the scenario planning technical assistance offered by FHWA and FTA for agencies involved in the transportation planning process. The NJTPA scenario planning workshop convened stakeholders, tied together regional activities across agencies, and provided a strong framework for NJTPA and TNJ as they continue with their scenario planning activities.

V. Appendices

Appendix A: Workshop Agenda

Day One		
Time	Topic	Speaker
9:30-9:45 am	Welcome and Introduction to the Workshop	Mary K. Murphy, Executive Director, NJTPA Ernie Blais, Division Administrator, FHWA New Jersey Division Office Marilyn Shazor, Regional Administrator, FTA Region 2 Office Jennifer Cribbs, Region 2 Lead Sustainability Officer, Department of Housing and Urban Development (HUD)
9:45-10:00	Federal Overview of Scenario Planning	Rae Keasler, Transportation Specialist, FHWA Jeff Price, Community Planner, FTA
10:00-10:45	Background	NJTPA staff and New Jersey Sustainable Communities Consortium (NJSCC) HUD Project Team
10:45-11:00	Break	
11:00-11:30	Approach and Logistics for Outreach	NJTPA staff and NJSCC HUD Project Team
11:30-12:30 pm	Lunch	
12:30-12:45	Audience Q & A	Moderator: Brian Betlyon, Metropolitan Planner, FHWA Resource Center (RC)
12:45-2:00	Peer Presentations on Scenario Planning Efforts	Lew Villotti, Planning and Development Director, Southwestern Pennsylvania Commission (SPC) Kermit Wies, Deputy Executive Director for Research and Analysis, Chicago Metropolitan Agency for Planning (CMAP) Gabe Epperson, Planning Director, Envision Utah (EU)
2:00-3:20	Public Workshop Run-Through	Facilitators: Standing Committee and peers
3:20-3:35	Break	
3:35-4:30	Report-Out and Peer Panel: Key Themes and Considerations	Moderator: Brian Betlyon, FHWA RC
4:30-4:45	Summary and Next Steps	Mary K. Murphy, Executive Director, NJTPA Jon Carnegie, Program Director, NJSCC

Day Two		
Time	Topic	Speaker
8:30-8:45 am	Recap of Highlights from Day One & Introduction to Day Two	NJTPA staff and NJSCC HUD Project Team
8:45-10:15	Roundtable #1: Building and Assessing Scenarios	Facilitator: Brian Betlyon, FHWA RC
10:15-10:30	Break	
10:30-11:45	Roundtable #2: Next Steps	Facilitator: Brian Betlyon, FHWA RC
11:45-12:00 pm	Wrap-up and Conclusions	NJTPA staff and NJSCC HUD Project Team

Questions for Roundtable #1: Building and Assessing Scenarios

- What do the peers see as being the most important parts of the values dialogue and chip game?
- What would peers change about the values dialogue and chip game?
 - Is anything missing?
 - What needs to be improved?
 - What would make the tools easier to use?
- How should inputs and outputs be processed during analysis?
- Based on the peer experience, what are the top 2-3 critical issues that could provide a starting point/framework for building scenarios?
 - Which issues or topics seemed to be most contentious?
 - What issues or factors (both controllable and non-controllable) should the region explore?
- What are the assumptions that should underlie any scenario analysis that NJTPA/NJSCC undertakes?
- How should scenario outcomes be measured and represented?
 - What could be considered a manageable number of indicators?
- What is the proper balance between “realistic” scenarios versus more extreme scenarios that may be unlikely due to political or other factors but more clearly illustrate the alternatives?

Questions for Roundtable #2: Next Steps

- What happens after scenario analysis? How can the outcomes be best translated to the public/community to help explain trade-offs?
- How should NJTPA/NJSCC adjust workshop facilitation strategies to optimize productivity of meetings?
- What does NJTPA/NJSCC need to get started? (e.g., data, staff, funding)
- Do the peers feel confident that NJTPA/NJSCC is well situated to proceed with establishing scenarios for evaluation?
- Are there other resources that the peers can recommend?
- Are there any other stakeholders that should be contacted for their input?

Appendix B: Questions and Responses

Participants offered the following questions and responses during the workshop's sessions. Content shared in these responses may not reflect the opinions or policies of FHWA or FTA.

Together North Jersey / North Jersey Sustainable Communities Consortium Overview

1. *What would be the basic elements of the RPSD?*
Topics will include land use, transportation planning, and asset-based economic development.
2. *Will there be a collection of summaries of existing capital plans for entities that are involved in the TNJ? Many agencies, including State agencies, have existing capital plans that provide financial context for how this process can take place. Money may be committed.*
TNJ is collecting and compiling existing planning documents, including comprehensive, regional, and economic development plans. TNJ is organizing a series of telephone calls to agencies that developed previous plans to interview them about the plans and their work. TNJ has developed a master list of goals and a working draft of strategies presented in previous plans, which will serve as the foundation of the RPSD. TNJ is also updating its RTP, which includes a financial update.

NJTPA's Approach to Scenario Planning

1. *What is the timing for the workshops to be scheduled?*
NJTPA is aiming for the first round of workshops to occur at the end of November/early December 2012.

Peer Presentations

1. *To what extent is the private sector engaged in outreach events?*
(Villotti) SPC's scenario planning effort was extensive. SPC worked with private sector partners as well as the Allegheny Conference on Community Development, which works to foster economic growth in southwestern Pennsylvania.

(Wies) It can be difficult to involve private sector representatives who are not already engaged in the agency's efforts. For CMAP, railroad entities were easier to engage because they are often run like government agencies and understood what would be involved in the scenario planning process.
2. *Politics plays a huge role in New Jersey in attracting/retaining business. Where does the political process factor in? Scenario planning may be a local, home-rule process but State public policy makers have a large role in what is funded and what policies get adopted. What are the political factors needed to move scenario planning forward?*

(Villotti). It is impossible to take politics out of the equation. During its scenario planning effort, SPC noted what it needed to make decisions in the political realm. SPC reviewed State plans, incentives, and rules to get an idea of what had been done previously and how to best suggest an implementation plan. If an agency takes politics out of the process, the resulting plan will not be implementable. It is important to work with elected officials

throughout the scenario planning process to ensure that a plan can be implemented. Larger scenario planning workshops can send a message to elected officials that people are interested and engaged. Officials should consider the public's input and use this to inform their decisions.

3. (Audience Comment) CMAP is spot-on in terms of its outreach to youth in its scenario planning efforts. Youth often have amazing visions and insightful thoughts about what they want to see for their future. Including youth in scenario planning efforts can also help them learn about career paths. In a perfect world, youth would share the information that they learned with their families, which would help to spread awareness and education.
4. *What issues does EU see to adjust its model to New Jersey's landscape?*
(Epperson) EU would need to know more about New Jersey's region. Growth is a major issue to consider. If the region is growing quickly, then EU's chip game model can be used easily. If the region is not growing quickly, there are ways to adapt EU's process/model.

Appendix C: Workshop Attendees

Last Name	First Name	Agency
Aimen	David	Rutger-Bloustein
Alcalde	Matt	BioNJ
Aloia	Angela	HUD
Ameen	Mary	NJTPA
Baker	Vivian	NJ TRANSIT
Beherend	David	NJTPA
Betlyon	Brian	FHWA
Bhattacharjee	Sutapa	NJTPA
Bickel	Rich	DVRPC
Bidolli	Brian	Greater Bridgeport Regional Council
Blais	Ernie	FHWA
Black	Leslie	Fitzgerald & Halliday, Inc.
Bogen	Ken	Hunterdon
Boyer	Michael	DVRPC
Brady	Ann	PlanSmartNJ
Bressler	Stuart	Elizabeth Development Company
Briant, Jr	Robert	Utility and Contractor's Association
Brillhart	Sandy	FHWA
Budsock-Pineada	Melissa	Howard/Stein-Hudson Associates, Inc.
Bzik	Bob	Somerset
Carnegie	Jon	Rutger-Bloustein
Caviness	Solomon	NJTPA
Chernetz	Janna	Tri-State Transportation Campaign
Clisham	Elaine	NJ Future
Cohen	Arnold	Husing and Community Development Network of New Jersey
Cribbs	Jennifer	HUD
Danis	Chris	NJ Highlands Council
DeRuchie	Liz	NJTPA
Diogo	Bob	NJTPA
Dziamara	Sue	Hunterdon
Eck	Barry	New Jersey Emergency Management Association
Edwards	Gregg	NJ Higher Education
Ehrlich	Caroline	Township of Woodbridge
Englehardt	Inkyung	Monmouth
Epperson	Gabe	Envision Utah
Etz	Monica	NJDOT
Evans	Tim	NJ Future
Fausel	Gabrielle	NJTPA

Last Name	First Name	Agency
Feinberg	Chuck	Clean Cities Coalition
Ferrara	Massiel	Hudson
Feyl	Gene	Highlands Council
Fields	Zenobia	NJTPA
Fine	Alisa	Volpe Center
Fineman	Brian	NJTPA
Goldman	Lois	NJTPA
Goren	Alisa	PlanSmartNJ
Garcia	Maria	NYMTC
Gross	Michael	NJRC
Gulati	Swena	NJTPA
Hall	Faith	FHWA
Hamas	Keith	NJTPA
Kasabach	Peter	NJ Future
Keasler	Rae	FHWA
Khan	Jan	NYMTC
Kratina	Laurette	Somerset
Lane	John	Hudson
Lysicatos	Michael	Passaic
Magnuson	Amy	NJTPA
Matthews	Ted	NJTPA
Meade	Katherine	OPA
Miller	Keith	NJTPA
Murphy	Mary K	NJTPA
Musemeci	Grace	EPA
Nickel	Denise	Middlesex County Improvement Authority
O'Donnell	Susan	Vanasse Hangen Brustlin
Orbach, AICP, P.P.	Donna	Bergen
Perlman	Jeff	NJTPA
Price	Jeff	FTA
Redpath	Mike	Downtown New Jersey
Reich	Phyllis	Elizabeth
Ritter	Ted	NJTPA
Rosenberger	Karen	FHWA
Rowe	Scott	NJTPA
Rubin	Helen	NJDOT
Scalera	Ciro	NJ Laborer's Union
Salerno	Miriam	Rutger-Bloustein
Shazor	Marilyn	FTA
Silverman	Paul	Silverman - Building Neighborhoods

Last Name	First Name	Agency
Sorin	Igor	NJTPA
Strauss	Rachel	Volpe Center
Sturm	Chris	NJ Future
Thompson	Elizabeth	NJTPA
Waldron	Victor	FTA
Ward	Cyrenthia	NJ TRANSIT