

**Mid-Region  
Metropolitan Planning Organization  
Scenario Planning Peer Exchange Workshop**

**Albuquerque, New Mexico**

**June 27 - 28, 2013**

**Sponsored by the  
Federal Highway Administration**



**Location:** Albuquerque, New Mexico

**Date:** June 27-28, 2013

**Workshop Sponsor:** Federal Highway Administration (FHWA)

**Host Agency:** Mid-Region Metropolitan Planning Organization (MRMPO)

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

**Workshop Attendees:** See [Appendix C](#)

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## I. Executive Summary

This report documents a two-day scenario planning workshop held in Albuquerque, New Mexico, from June 27-28, 2013. The Federal Highway Administration (FHWA) sponsored the workshop, which was hosted by the Mid-Region Metropolitan Planning Organization (MRMPO). Timothy Karpoff of Karpoff & Associates facilitated the first day of the event.

The workshop introduced scenario planning to a wide range of stakeholders, including MRMPO staff and representatives of local, State, and Federal agencies; academic institutions; and private sector groups. Participants came from backgrounds such as transportation, land use, environmental protection, housing, and economic and community development. Approximately 75 participants attended the event. [Appendix C](#) lists the workshop attendees.

MRMPO, the metropolitan planning organization (MPO) for New Mexico's Albuquerque Metropolitan Planning Area (AMPA), serves approximately 900,000 people in three counties in central New Mexico. MRMPO is updating the region's long-range transportation plan, the Metropolitan Transportation Plan (MTP), and plans to use scenario planning to inform the update. MRMPO requested the FHWA-sponsored workshop to learn how peer agencies have used scenario planning successfully and to learn about effective ways to implement the scenarios created.

During the workshop, MRMPO staff presented information about the region's past and anticipated development patterns, and used group activities to engage workshop participants in discussions that will help guide MRMPO's scenario planning efforts. Participants engaged in group discussions, keypad polling, and mapping exercises to provide input into potential challenges and opportunities they envisioned for the region's future. A panel of two expert peers also participated in the workshop:

- Michael Skipper, Executive Director, Nashville Area MPO; and
- Rob Terry, Senior Regional Planner, Fresno Council of Governments (Fresno COG).<sup>1</sup>

The peers presented on their experiences with scenario planning. Nashville Area MPO and Fresno COG shared how the use of scenario planning evolved in their regions and discussed techniques and strategies to coordinate with stakeholders and implement scenarios. Key themes from the peers' presentations that echoed throughout the workshop included:

- Importance of regional collaboration and stakeholder engagement;
- Role of the MPO in leading scenario planning activities;
- Performance measures and visualization techniques; and
- Multi-disciplinary nature of scenario planning.

During the second day of the workshop, the expert peers further discussed their scenario planning activities and insights with MRMPO, FHWA, and local agency staff; the technical sessions during this day focused on scenario planning tools and implementation.

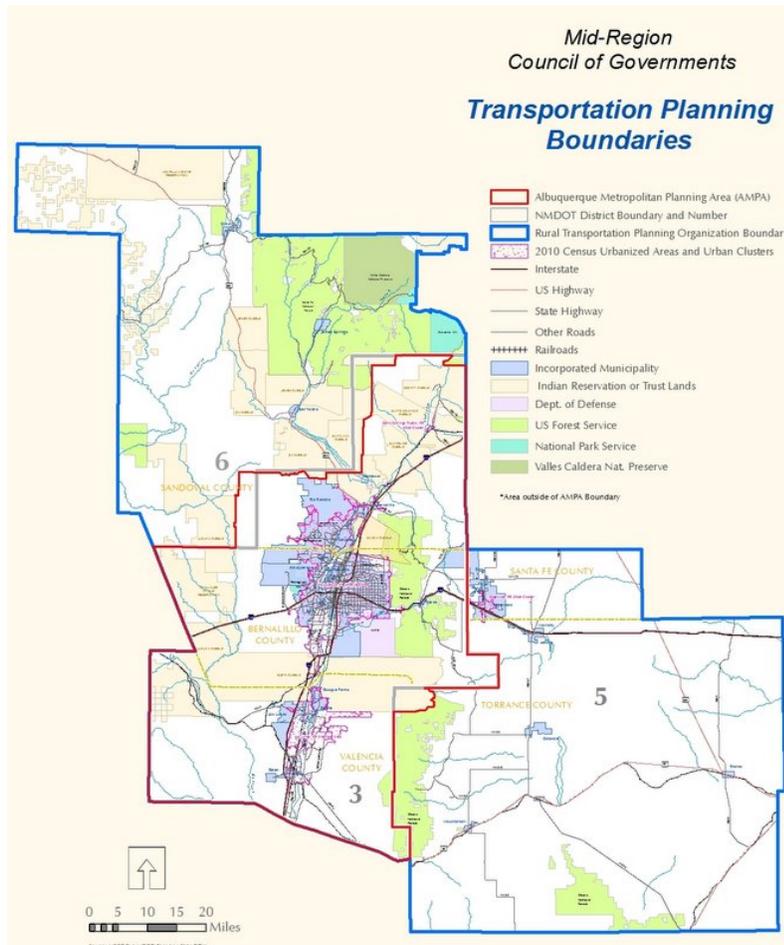
MRMPO intends to use input from the peers and workshop participants to inform its scenario planning activities in updating the MTP. Post-workshop evaluations received from participants indicated the event increased their knowledge of scenario planning and provided a forum for discussions about integrating land use and transportation decisions.

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<sup>1</sup> Information about the peer agencies can be found at: [www.nashvillempo.org/](http://www.nashvillempo.org/) (Nashville Area MPO) and [www.fresnocog.org/](http://www.fresnocog.org/) (Fresno COG).

## II. Introduction

MRMPO is the MPO for the AMPA, which covers Bernalillo County, Valencia County, and most of Sandoval County. MRMPO is a division of the Mid-Region Council of Governments (MRCOG), the multi-county governmental agency for the central New Mexico region. MRCOG provides a range of planning services to the area, including transportation, agriculture, workforce development, employment growth, land use, water, and economic development. MRMPO is responsible for the metropolitan transportation planning services offered.



**Figure 1: The map shown here depicts the transportation planning boundaries of the MRMPO region.**  
Source: MRMPO

MRMPO is updating its MTP, *Futures 2040*, for the year 2040, and intends to use scenario planning to help inform the process.<sup>2</sup> The MRMPO planning region lies within the Albuquerque Metropolitan Statistical Area (MSA), the main economic center for the region that includes the City of Albuquerque (Figure 1). The Albuquerque MSA contains 43 percent of the State's population and is expected to grow in the future. The 2040 MTP anticipates a population of 1.3 million in 2040.<sup>3</sup> By using scenario planning, MRMPO aims to integrate transportation and land use decisionmaking and gain input from the community about visions for the region's future.

MRMPO is also the recipient of FHWA's next inter-agency transportation, land use, and climate change pilot project, which will involve multiple Federal agency partners.<sup>4</sup> Participation in the pilot, and the use of scenario planning during the effort, will support MRMPO in addressing regional issues, such as the impact of climate change on air quality and water resource availability.

<sup>2</sup> For more information on *Futures 2040*, please visit: [www.mrcog-nm.gov/transportation/metro-planning/long-range-mtp/46-transportation/942-2040-mtp-and-scenario-planning-efforts](http://www.mrcog-nm.gov/transportation/metro-planning/long-range-mtp/46-transportation/942-2040-mtp-and-scenario-planning-efforts)

<sup>3</sup> The 2035 MTP estimated a population of 1.5 million in 2035; this number is reduced in the new population estimates in the 2040 MTP.

<sup>4</sup> Federal agency partners include FHWA, the USDOT Volpe Center, U.S. Army Corps of Engineers, Bureau of Land Management, U.S. Fish and Wildlife Service, National Park Service, U.S. Forest Service, Federal Transit Administration, Federal Emergency Management Agency, National Oceanic and Atmospheric Administration, and the U.S. Environmental Protection Agency. For more information, please visit:

[www.fhwa.dot.gov/environment/climate\\_change/adaptation/ongoing\\_and\\_current\\_research/](http://www.fhwa.dot.gov/environment/climate_change/adaptation/ongoing_and_current_research/)

MRMPO gained insight into ways to increase stakeholder collaboration and implement scenarios during the FHWA scenario planning workshop, which also provided attendees with a broader understanding of scenario planning. Two peer agencies—Nashville Area MPO and Fresno COG—gave presentations about their experiences in developing and implementing scenario planning. MRMPO also introduced three exercises during the workshop: a discussion of key challenges, in which groups shared the issues they felt were most pressing for the region; a keypad polling session in which participants provided feedback about the regional challenges; and a mapping exercise that allowed participants to identify areas for future development based on expected growth. During the second day of the workshop, MRMPO held roundtable discussions with the peer experts and staff from local agencies and FHWA to discuss important themes from the previous day and identify potential next steps for MRMPO's scenario planning activities.

### **III. Presentation and Discussion Highlights**

#### ***Welcome and Introduction***

Representatives of MRMPO and FHWA provided opening remarks and a short welcome to workshop participants. Thaddeus Lucero, Director of Planning Services for MRMPO, introduced the workshop by emphasizing the importance of regional collaboration. MRMPO recently established the Land Use Transportation Integration (LUTI) Committee, a group of local agency partners interested in exploring ways to bring together land use and transportation decisionmaking. MRMPO's participation in FHWA's multi-agency transportation, land use, and climate change pilot will also involve a range of stakeholders and partner agencies. By focusing on regional collaboration, MRMPO and its partners will be better able to demonstrate how transportation, land use, and environmental outcomes relate and how activities and issues in one region can affect another; this information will be useful as MRMPO begins the process of updating its 2040 MTP.

Don Martinez, FHWA New Mexico Division Administrator, echoed the call for regional collaboration and discussed the importance of shared responsibility, particularly as the region faces new challenges (e.g., limited water resources).

#### ***Federal Overview of Scenario Planning***

Rae Keasler, Transportation Specialist with FHWA, and Brian Betlyon, Metropolitan Planner with the FHWA Resource Center, provided an overview of scenario planning, including key concepts, origin, benefits, and current support offered by FHWA and the Federal Transit Administration (FTA) for the FHWA-FTA scenario planning program. The scenario planning program is part of a larger effort by FHWA and FTA called the Transportation Planning Capacity Building (TPCB) program, which provides resources and tools to assist agencies in implementing effective transportation planning.<sup>5</sup>

Scenario planning creates plausible stories about what the future could hold based on a wide range of variables. The exercise of creating different scenarios helps foster an understanding of the driving forces in transportation, and helps stakeholders and planners assess and prepare for possible outcomes. It is also useful in demonstrating a range of possible development patterns and policies because, by creating scenarios, one can show how development decisions impact a community or region.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) supports scenario planning efforts to improve the quality of MTPs.<sup>6</sup> FHWA and FTA established the scenario planning program to offer a range of training and resources for scenario planning practitioners, including workshops, webinars,

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<sup>5</sup> To access the TPCB Program website, please visit: [www.planning.dot.gov/](http://www.planning.dot.gov/)

<sup>6</sup> Information about MAP-21 is available at: [www.fhwa.dot.gov/map21/](http://www.fhwa.dot.gov/map21/)

and case studies of best practices. Since 2004, the program has supported 20 scenario planning workshops in 16 States. FHWA and FTA also maintain a scenario planning website with information about workshops and webinars, as well as a guidebook that explains the key steps of scenario planning with detailed examples for each step (Figure 2).<sup>7</sup> Of the six stages discussed in the guidebook, Ms. Keasler explained that the MRMPO scenario planning workshop would focus on stages one through four during the first day, with stage 5 and its emphasis on analysis tools to follow during the workshop's second day.

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

Mr. Betlyon presented several noteworthy examples of scenario planning relevant to MRMPO that demonstrate three aspects of the approach—the process of doing scenario planning, outcomes supported by scenario planning, and indicators used in scenario planning:

- *Process* – San Luis Obispo COG in San Luis Obispo, California, invited stakeholder input through the use of keypad polling and an interactive mapping exercise to update its 2050 long-range transportation plan. The exercises allowed the COG to start a conversation about land use and where growth should be directed in the region.

<sup>7</sup> For more information and FHWA and FTA's Scenario Planning Program, please visit: [www.fhwa.dot.gov/planning/scenario\\_and\\_visualization/scenario\\_planning/](http://www.fhwa.dot.gov/planning/scenario_and_visualization/scenario_planning/)

- *Outcomes* – Binghamton Metropolitan Transportation Study in Binghamton, New York, developed an economic development plan using scenario planning inputs. The agency engaged the local community by organizing a visioning exercise to help identify transportation projects and investments that supported community goals.
- *Indicators* – Southwestern Pennsylvania Commission, serving the greater Pittsburgh 10-county area, used scenario planning in its most recent long-range transportation plan update. The agency developed four density-related scenarios, and identified a preferred scenario, which was a hybrid of the original four. The preferred hybrid scenario included indicators related to land development, density, reinvestment in existing business districts, preservation of open space, and support for agriculture.

### ***MRMPO Trends in the Region and Approach to Scenario Planning***

Kendra Watkins and Aaron Sussman, both from MRMPO, presented an overview of key changes in the Albuquerque metropolitan area that will guide the agency’s approach in updating the MTP and discussed how MRMPO intends to use scenario planning to inform the update.

Ms. Watkins, MRMPO Socioeconomic Program Manager, discussed the region’s trends. MRMPO is developing new population forecasts for the 2040 MTP to reflect a slowed pace of growth in the region. The 2040 forecast expects the addition of approximately 470,000 residents by 2040, bringing the region’s total population to 1.3 million.<sup>8</sup> MRMPO also anticipates that the demographics of the region’s population will shift as the senior population increases. Changing demographics and shifting consumer preferences will present new challenges, particularly in offering a mix of housing options to serve the needs of retiring residents and younger generations who prefer residential locations closer to jobs and services. Ms. Watkins noted the “3-P” approach, which focuses on product, place, and prioritization; the approach considers the type of product (e.g., housing) available, the choices and settings (i.e., place) offered to residents (e.g., walkable communities), and the way investments are prioritized (e.g., how investments in transportation and public infrastructure are made).

Mr. Sussman, MRMPO Transportation Planner, provided an overview of MRMPO’s current MTP and further explained how MRPMO plans to address regional trends in the MTP update (Figure 3). The 2040 MTP will reflect the new population estimates and incorporate key considerations for the region previously identified in the 2035 MTP. Considerations from the 2035 MTP include: easing congestion at the region’s river crossings along the Rio Grande; using multimodal and operations/system management investments to improve mobility; and connecting transportation and land use.

MRMPO is using scenario planning to take a proactive approach by identifying issues and challenges for the region based on stakeholder input and considering the outcomes of various “futures” or “what-if” scenarios that will be helpful in updating the MTP. An alternative scenario developed by MRMPO staff



**Figure 3: Aaron Sussman, MRMPO, discusses MRMPO’s efforts to develop the 2040 MTP and use scenario planning for this update.**  
 Source: USDOT Volpe Center

<sup>8</sup> The 2035 MTP previously forecasted a population estimate of 1.5 million for 2035.

as part of the 2035 MTP indicated that compact development in existing and future high transit ridership corridors will positively impact traffic patterns by reducing trips in critically congested areas. These findings suggest to MRMPO that land use decisions have a noticeable impact on transportation patterns, and that transit-supportive land uses are one way in which congestion can be reduced. The next step for MRMPO in the scenario planning process is to conduct stakeholder outreach activities with the public, private developers, and LUTI members that build off of the 2035 MTP analyses to develop and evaluate new scenarios.

### **Peer Approaches to Scenario Planning**

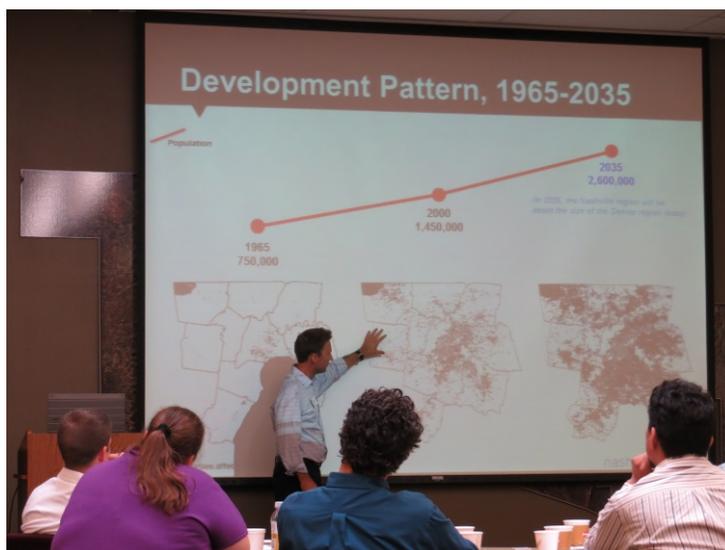
Two peer agencies—Nashville Area MPO and Fresno COG—provided insight into their past and current efforts in scenario planning, discussed best practices, and shared feedback for MRMPO to consider in its use of scenario planning. Information shared by the peers focused on the topics of stakeholder involvement and scenario analysis and implementation.

#### *Scenario Planning and Stakeholders*

#### **Michael Skipper, Nashville Area MPO**

Nashville Area MPO is the regional transportation planning agency for Middle Tennessee, covering over 2,800 miles and supporting more than 1.5 million people throughout seven counties.<sup>9</sup> In recent years, the Nashville area has experienced a considerable amount of growth (Figure 4). Several large industries such as health care, automotive, and publishing have contributed to the region's growth.

With this growth, the region faces a range of challenges, including sprawl and development; cross-county commuting patterns; congestion; high household transportation costs; limited safe transportation options for seniors, bicyclists, and pedestrians; unemployment in rural communities; and health concerns related to inactivity/obesity. Nashville Area MPO recognizes that addressing these challenges requires continuous discussions with stakeholders.



**Figure 4: Michael Skipper of Nashville Area MPO presents a slide showing Nashville's development patterns from 1965 to what is projected for 2035.**

*Source: USDOT Volpe Center*

The Nashville Area MPO used scenario planning to provide a forum for stakeholders to share their perspectives on the region's challenges and visions for the future. Mr. Skipper identified several important themes that have resulted from the MPO's experiences with scenario planning:

- **Interagency collaboration, combined with leveraging existing efforts, can be helpful in starting scenario planning.** In 2000, Cumberland Region Tomorrow (CRT), a regional non-profit organization, formed in response to the release of the Peirce Reports of 1999. The

<sup>9</sup> The Nashville Area MPO region includes the counties of Davidson, Rutherford, Sumner, Williamson, Wilson, and parts of Maury and Robertson.

reports, led by Vanderbilt University and the Greater Nashville Regional Council, emphasized the need for regional collaboration in Middle Tennessee and served as a call to action.<sup>10</sup> CRT emerged as the convening group to address regional challenges and opportunities in a 10-county region across Middle Tennessee. Starting in 2003, CRT led a two-year community engagement and regional visioning process that resulted in an alternative growth scenario addressing public desire for managed growth; this effort represented the first use of scenario planning in the region. CRT also developed performance measures and indicators by collaborating with stakeholders when creating scenario inputs. In 2006, CRT developed the Quality Growth Toolbox, which contains best practices and other training resources for agencies interested in guiding their regions' growth.<sup>11</sup> Nashville Area MPO started incorporating CRT's work into its activities and has since used the toolbox to enhance its planning processes.

- **Understand your geography.** The CRT planning area is smaller than the MSA, which includes 14 counties in the region. Rather, the CRT focused its efforts on a smaller, 10-county area that serves as a major population and economic hub for Middle Tennessee. When identifying its coverage area, CRT recognized the importance of having geographical boundaries that make sense to stakeholders. Placing its activities within the context of the 10-county area helped CRT target its efforts more effectively.
- **MPOs can play a supportive role for local jurisdictions conducting scenario planning activities.** In 2008, Nashville Area MPO used scenario planning in multijurisdictional sub-areas to create the regional transportation plan (RTP) for 2035. As part of the RTP's development, Nashville Area MPO offered technical support and funding to local jurisdictions. More recently, in 2013, Nashville Area MPO coordinated local comprehensive planning efforts to conduct the Southeast Area Transportation and Land Use Study, which resulted in a preferred vision for growth and development in the study area.<sup>12</sup> The study supported the integration of fiscal impact analysis and public input into local and regional plans so that quality transportation projects are prioritized and supported for implementation. Several local communities have fully integrated scenario planning into their comprehensive planning processes, using the tools developed by Nashville Area MPO.

## Rob Terry, Fresno COG

The San Joaquin Valley, located in central California, comprises eight counties, 62 cities, and eight MPOs (seven of which operate as COGs and one that operates as a regional transportation planning agency).<sup>13</sup> In 2010, the Valley's population was approximately 4 million, accounting for roughly 10.7 percent of the State's population. As housing costs rise in California, the Valley is anticipated to absorb roughly 25 percent of new statewide growth through 2050.

Fresno COG's scenario planning efforts began in 2005 when the agency and its neighboring COGs in the San Joaquin Valley came together to develop the Blueprint planning process.<sup>14</sup> The Blueprint planning process stemmed from a larger effort started by the California Department of

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<sup>10</sup> For more information about CRT, please visit: [www.cumberlandregiontomorrow.org/](http://www.cumberlandregiontomorrow.org/). The Peirce Reports can be located at: [www.cumberlandregiontomorrow.org/resource/the-pierce-reports-article-i/](http://www.cumberlandregiontomorrow.org/resource/the-pierce-reports-article-i/)

<sup>11</sup> Information about CRT's Quality Growth Toolbox can be located at: [www.cumberlandregiontomorrow.org/resources/quality-growth-resources/quality-growth-toolbox/](http://www.cumberlandregiontomorrow.org/resources/quality-growth-resources/quality-growth-toolbox/)

<sup>12</sup> To review the Southeast Area Transportation and Land Use Study, please visit: [www.nashvillempo.org/regional\\_plan/land\\_use/study\\_southeast.aspx](http://www.nashvillempo.org/regional_plan/land_use/study_southeast.aspx). The study focused on the area in Davidson, Rutherford, Williamson, and Wilson counties, parallel to Interstate 24 between interstates 40 and 65.

<sup>13</sup> For the purposes of this report, these eight organizations are referred to collectively as COGs.

<sup>14</sup> To learn more about the San Joaquin Valley Blueprint planning process, please visit: [www.valleyblueprint.org/](http://www.valleyblueprint.org/)

Transportation called the California Regional Blueprint Planning Program (Blueprint Program).<sup>15</sup> The Blueprint Program provided funding to COGs and MPOs in California to conduct regional planning efforts that would result in “blueprints” for a 20-year planning horizon (through 2025).

With support and funding from the Blueprint Program, the eight Valley COGs developed individual countywide blueprints and then integrated these documents into a comprehensive Blueprint for the entire San Joaquin Valley. The Blueprint planning process had three stages:

- Stage 1: Values and Vision (2006-2007);
- Stage 2: Goals, Objectives, and Performance Measures (2007); and
- Stage 3: Evaluation of Alternative Growth Scenarios (2007-2008).



**Figure 5: Rob Terry of Fresno COG presents a diagram of inputs and outputs of scenario planning.**  
Source: USDOT Volpe Center



**Figure 6: The diagram shown here presents the range of scenario planning inputs and outputs.**

Source: Fresno COG

In the first stage, Fresno COG and its partner COGs invited input on values and visions from the public, regional leaders, and local governments; each COG did this activity individually and then came together to compile the information collected. From this collective effort, five indicators resulted: community culture and identity; complete transportation systems; economic vitality; environmental resource management; and sustainable development.

In Stage 2, the eight COGs used the major indicators from Stage 1 and worked with stakeholders to identify goals, objectives, and performance measures related to each indicator. The COGs later applied these benchmarks to the alternative growth scenarios in Stage 3.

Stage 3 involved the development and evaluation of three scenarios (A, B, and C) based on the input received in the first two stages. The COGs presented the scenarios to the San Joaquin Valley Regional Policy Council, a 16-member

group comprised of elected officials throughout the eight-county area designed to foster collaboration and consensus in the region.<sup>16</sup> In 2009, the Council adopted a hybrid, preferred growth scenario (“Scenario B+”) and a list of 12 smart growth principles based on standard growth practices and the values and vision of the public.<sup>17</sup>

<sup>15</sup> For information about the California Regional Blueprint Planning Program, please visit: <http://calblueprint.dot.ca.gov/>

<sup>16</sup> Information about the San Joaquin Valley Regional Policy Council can be found at: <http://sjvcogs.org/PCabout.html>

<sup>17</sup> The 12 Smart Growth Principles developed through the San Joaquin Valley Blueprint planning process are: 1) housing opportunities; 2) walkable/bikeable communities; 3) community and stakeholder collaboration; 4) distinctive, attractive communities; 5) development decisions; 6) mixed land uses; 7) preserve open space; 8) transportation choices; 9) development of existing communities; 10) compact building design; 11) economic vitality; and 12) environmental resource management. For more information, please visit: <http://sjvblueprinttoolkit.weebly.com/index.html>

Major takeaways from Fresno COG's experience include:

- **There are many inputs and outputs to consider in scenario planning.** Scenario planning is a collaborative planning exercise. An effective and comprehensive scenario planning process involves many different factors and sources of information, including community needs, priorities, and feedback; known factors; and existing infrastructure (Figures 5 and 6).
- **Engage stakeholders at all levels and build from the bottom-up to encourage development of a regional vision.** Throughout the Blueprint planning process, Fresno COG and its partner COGs emphasized collaboration with stakeholders at all levels. The compilation of the COGs' individual blueprints into a larger regional blueprint helped inform growth scenarios for the region that still captured county-level inputs.
- **Document experiences that can provide future guidance and consistency in implementation.** The Blueprint process spurred the creation of several supporting documents. Fresno COG developed the *Institutional Arrangements White Paper*, which identifies the roles and responsibilities of the various stakeholders and member agencies and presents three institutional arrangement options that the San Joaquin Valley considered in its implementation of the Blueprint planning process.<sup>18</sup> Other resources include the Blueprint Roadmap, the Blueprint Planners' Toolkit, the San Joaquin Valley Guidance Framework, and the Blueprint Planning Process Summary Report.<sup>19</sup> These resources explain the Blueprint planning process used and offer online tools and techniques for communities looking to implement the 12 Blueprint smart growth principles.

### *Scenario Analysis and Implementation*

Each peer expert also provided a presentation on implementation strategies for scenario planning.

#### **Michael Skipper, Nashville Area MPO**

Mr. Skipper discussed how Nashville Area MPO has implemented scenario planning and shared important success factors for implementation. When conducting scenario planning activities, Mr. Skipper recommended three key elements for effective implementation:

- Emphasize stakeholder involvement;
- Diversify performance measures; and
- Invest in technical tools.

Mr. Skipper identified how these three elements have been helpful in Nashville Area MPO's scenario planning implementation. Nashville Area MPO has used CommunityViz, a visualization tool that supports a variety of inputs.<sup>20</sup> These inputs may be related to factors such as environmental constraints, future land use and growth policies, and suitability analyses. Using CommunityViz, Nashville Area MPO developed performance measures that capture the inter-related effects that transportation, land use, and other factors have on each other.

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<sup>18</sup> To learn more about the *Institutional Arrangements White Paper*, please visit: [www.fresnocog.org/files/Blueprint/SJVBR\\_InstArrgWhitepaper\\_Draft\\_2010-11-10.pdf](http://www.fresnocog.org/files/Blueprint/SJVBR_InstArrgWhitepaper_Draft_2010-11-10.pdf)

<sup>19</sup> Information about the San Joaquin Valley Blueprint Roadmap and Blueprint Planners' Toolkit can be found at: <http://sjvcogs.org/pdfs/2012/RoadMap012512.pdf> and <http://toolkit.valleyblueprint.org/> respectively. For information about the San Joaquin Valley Guidance Framework, please visit: [www.valleyblueprint.org/files/Framework080411.pdf](http://www.valleyblueprint.org/files/Framework080411.pdf). Information about the Blueprint Planning Process Summary Report is available at: [www.valleyblueprint.org/news/2010/10/13/blueprint-roadmap-summary-final-report.html](http://www.valleyblueprint.org/news/2010/10/13/blueprint-roadmap-summary-final-report.html).

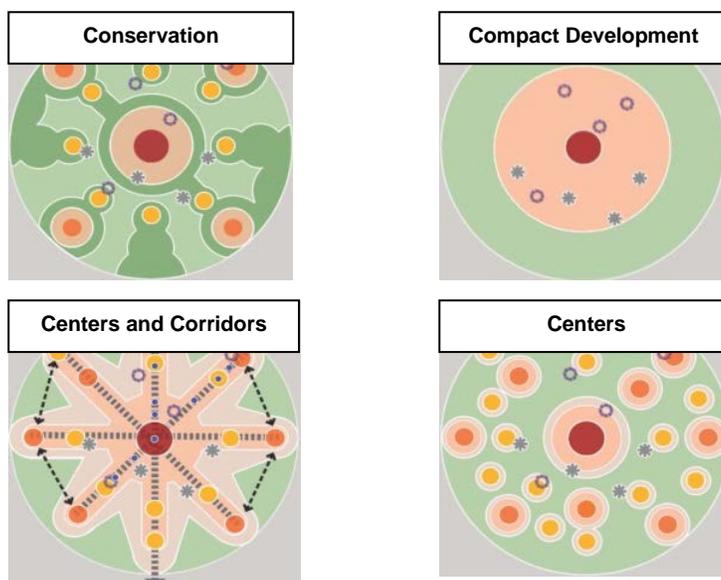
<sup>20</sup> For more information on CommunityViz, please visit: <http://placeways.com/communityviz/index.php>

Mr. Skipper presented two specific examples of Nashville Area MPO's scenario planning implementation: the Tri-County Transportation and Land Use Study and the Nashville Northeast Corridor Mobility Study.

- **Tri-County Transportation and Land Use Study**

In 2008, Nashville Area MPO and the counties of Robertson, Sumner, and Wilson began the Tri-County Transportation and Land Use Study, an effort to develop growth plans that coordinated planning for regional mobility and prosperity.<sup>21</sup> The effort included several rounds of public workshops to capture community input about significant growth issues. The input received also sparked new ideas for Nashville Area MPO's RTP.

The Study generated four scenarios—conservation, compact development, centers and corridors, and centers—based on land uses (Figure 7). To isolate the impacts of various land use policies on infrastructure, Nashville Area MPO set up the scenarios as extreme benchmarks; this approach helped to demonstrate the differences among the scenarios. Using stakeholder input, the MPO generated a preferred growth scenario, which was then compared with the “business-as-usual” scenario to evaluate impacts on infrastructure, water supplies, and other resources. Nashville Area MPO completed the effort in 2012.



**Figure 7: Nashville Area MPO developed four scenarios as part of the Tri-County Transportation and Land Use Study.**  
*Source: Nashville Area MPO*

- **Northeast Corridor Mobility Study**

In 2011, Nashville Area MPO completed the Northeast Corridor Mobility Study, which established a regional transportation investment vision and strategy for a 30-mile corridor between Nashville and Gallatin, Tennessee.<sup>22</sup> The study evaluated existing land use policies and development potential to determine possible transportation projects for the corridor (e.g., passenger rail, light-rail, bus-rapid transit). The effort complemented the MPO's previous development of an alternatives analysis for FTA New Starts funding that evaluated the cost effectiveness of various transportation projects in the same study area.

Stakeholder input indicated a preference for investment in light-rail. To determine the feasibility for light-rail, Nashville Area MPO calculated the level of ridership and land use changes needed to support this investment. The MPO developed three transportation alternatives (no-build, light-rail, and modified light rail) and two land use scenarios (trend and low-end ridership threshold). Nashville Area MPO also conducted a gap analysis to identify regulatory barriers to more compact land development patterns. The effort produced a preferred growth scenario, which has helped inform future land use plans for local

<sup>21</sup> Information about the Tri-County Transportation and Land Use Study is available at: [http://nashvillempo.org/regional\\_plan/land\\_use/study\\_tri\\_county.aspx](http://nashvillempo.org/regional_plan/land_use/study_tri_county.aspx)

<sup>22</sup> For more information about the Northeast Corridor Mobility Study, visit: [www.nashvillempo.org/northeast.html](http://www.nashvillempo.org/northeast.html)

governments. Nashville Area MPO has also worked to align the regional transportation vision with larger public sector investment strategies to encourage goal-oriented transportation investments.

## **Rob Terry, Fresno COG**

Mr. Terry discussed how Fresno COG's work related to the Blueprint planning process helped the agency move from planning into implementation. Mr. Terry discussed two major integration efforts occurring in the San Joaquin Valley and strategies to support the diverse needs of the region's 62 cities. The examples shared by Mr. Terry demonstrate the importance of collaboration and MPO support in implementation and how a regional focus can come from a common goal.

- **Smart Valley Places / Blueprint Integration Project**

Smart Valley Places was the first implementation effort to organize Blueprint planning activities in the San Joaquin Valley.<sup>23</sup> Fourteen of the Valley's larger cities (populations over 50,000) established an agreement in 2010 to develop strategies for smart growth in the region. The cities identified important regional projects and then created templates and other planning materials to leverage information-sharing and coordinate implementation. The Blueprint Planners' Toolkit also offers resources to cities interested in the work of other municipalities in the region.

To support smaller cities in the Valley (populations under 50,000), Fresno COG and its partner COGs established the San Joaquin Valley Blueprint Integration Project, a technical assistance program.<sup>24</sup> Fresno COG divided the region into three areas (North, Central, South), with each receiving with technical assistance from a local planner. The program helps cities integrate the Blueprint's smart growth principles into local plans, zoning code updates, and other plans and policies.

- **Sustainable Communities Strategy**

The next significant implementation challenge for the eight counties in the San Joaquin Valley is the development of a Sustainable Communities Strategy (SCS), as required by California Senate Bill (SB) 375.<sup>25</sup> SB 375 focuses on reducing greenhouse gas (GHG) emissions from automobiles and light trucks through integrated transportation and land use planning. As part of SB 375, each MPO in California must prepare an SCS. The challenge for the San Joaquin Valley is that the Valley has eight MPOs and will therefore require eight separate SCSs.

The Valley counties are working together to coordinate the region's SCS activities. The counties call this collaborative initiative, "Valley Visions."<sup>26</sup> The Blueprint smart growth principles developed during the Blueprint planning process are helping to set the stage for work related to the SCS, as they focus on similar activities (e.g., addressing land use and growth issues sustainably). Fresno COG is leading the Valley Visions effort. Fresno COG organized regional roundtable discussions and stakeholder focus groups to get input about performance indicators. Using this feedback, Fresno COG developed three SCS scenarios, which include both transportation and land use components. Fresno COG is currently conducting community workshops to present the scenarios and obtain feedback, with a goal to have the SCS adopted by spring 2014.

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<sup>23</sup> For more information about Smart Valley Places, please visit: [www.smartvalleyplaces.org/](http://www.smartvalleyplaces.org/)

<sup>24</sup> To learn more about the San Joaquin Valley Blueprint Integration Project, please visit: [www.valleyblueprint.org/san-joaquin-valley-blueprint-integration-project.html](http://www.valleyblueprint.org/san-joaquin-valley-blueprint-integration-project.html)

<sup>25</sup> Information about SB 375 can be found at: [www.leginfo.ca.gov/pub/07-08/bill/sen/sb\\_0351-0400/sb\\_375\\_bill\\_20080930\\_chaptered.pdf](http://www.leginfo.ca.gov/pub/07-08/bill/sen/sb_0351-0400/sb_375_bill_20080930_chaptered.pdf)

<sup>26</sup> Information about Valley Visions is available at: [www.fresnocog.org/sustainable-communities-strategy-development-and-outreach](http://www.fresnocog.org/sustainable-communities-strategy-development-and-outreach)

## **Visualizing Scenarios: Demonstration of UrbanCanvas**

During the lunch hour Rob Matthews, Synthicity CEO and Urban Planner, provided a demonstration of Synthicity's visualization tool, UrbanCanvas.<sup>27</sup> Synthicity is currently working with MRMPO to help develop the agency's land use model.

### **Break-Out Group Exercises**

The first group exercise was a group discussion, or values exercise, in which participants were asked to discuss among those sitting at their table the most important transportation, land use, natural resource, or other planning challenges that the MRMPO region faces today and in the future. Once individual members had shared their ideas, the tables were asked to come to consensus about the most pressing challenges. Each table collectively identified issues on sticky notes and posted them on the wall at the front of the workshop space so that all participants could view each other's responses. Mr. Karpoff, the workshop facilitator, then grouped together similar issues, as directed by participants, to identify and organize the most cited issues (Figure 8). Examples included water, economic development, place-making, land use patterns, mobility, public education, and regional identity. These themes became the basis of the next group task, the keypad polling exercise.

During the second group exercise—a keypad polling exercise—participants selected the top three pressing issues that they think the region faces, in

order of importance. The exercise was meant to serve as a helpful brainstorming tool for

participants to think about transportation issues in regional terms. MRMPO intends to use the results of the keypad polling and similar exercises at public meetings to develop preliminary inputs for scenarios.



**Figure 8: Workshop participants place sticky notes on the front wall of the workshop space during the values group discussion.**

*Source: USDOT Volpe Center*

The third break-out group exercise required participants to use colored, stick-on dots to indicate on a large map where they thought future growth may potentially occur in the region (Figure 9). MRMPO staff introduced the exercise by providing background information about the region's growth patterns. For example, the region has issued 100,000 residential permits and 5,700 commercial permits since 1990, and the amount of land consumption has been substantial. Most recently, trends within the past five years exhibit a rise in new construction in Albuquerque's urban core as a share of total permits issued, both for residential and commercial uses.

MRMPO provided participants with a quantity of 70 dots designed to represent the expected development in the region by 2040. One dot was equivalent to 5,000 housing units or jobs. Dots were color-coded to differentiate between housing and jobs. The groups were instructed to use the

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<sup>27</sup> For more information about UrbanCanvas, please visit: [www.synthicity.com/](http://www.synthicity.com/)

themes and challenges discussed during the workshop to inform their placement of the dots. Markers were also available to draw ideas on the maps for new roadway and transit investments.

After the exercise, participants presented their maps and discussed the themes and trends they identified, which included:

- Development around transportation corridors and known major activity or residential centers;
- Consideration of transit-oriented development, infill development, water availability, amenities near known future developments, jobs-housing balance, long- and short-term development, transit nodes, revitalization, and densification;
- Placement of dots based on known development plans;
- Focus on minimizing trips that require river crossings; and
- Sentiment that growth cannot be controlled but rather guided.



**Figure 9: Workshop participants engage in a mapping exercise to think about potential future development patterns for the region.**

*Source: USDOT Volpe Center*

Several notable observations emerged from the discussion at the end of the exercises. These observations point to useful considerations for MRMPO and other agencies when organizing similar group activities. Highlights of the observations discussed are noted below:

- **Recognize that groups may have varied experiences and background knowledge of scenario planning.** It is likely that groups in a workshop setting will be organized in such a way that members are from different professions or industries, and therefore may possess different knowledge and experiences related to scenario planning. As a result, participants may approach an activity such as the keypad polling or mapping exercise differently or have different values that influence their preferences. This reality emphasizes the need for quality data and communication when conducting stakeholder exercises; presenting background information and an overview of the exercise can help ensure that all participants are provided with the same information and allow for a more similar starting point.

- **Allow for a “hybrid” approach that draws upon multiple methods.** Workshop participants may engage in group exercises, particularly activities like the mapping exercise, in different ways. For example, participants may wish to place development according to a value-based vision, or what the group hopes development patterns will look like. Another approach is to place development according to the current trend, or how the group thinks development will occur given current policies. A group could also use a combination of the two approaches. The variety of these different approaches highlights the importance of testing and combining scenarios to analyze expected outcomes. This “hybrid” approach can also help illustrate the potential impacts of policy decisions and how their outcomes differ from the current trend.

After the conclusion of the break-out group activities, workshop participants reconvened to review the day and discuss next steps. Several local agencies also provided updates on land use activities. The Village of Los Lunas is currently working on a comprehensive plan update and is using scenario planning to get public input and identify important community values. The City of Albuquerque and Bernalillo County are also starting amendments to their comprehensive and corridor plans. MRMPO staff noted that they will develop land use and transportation scenarios and indicators as part of the 2040 MTP and will continue to work with LUTI members and local partners and stakeholders.

### **Roundtable Discussions**

During the second day of the workshop, MRMPO met with the peers, FHWA, and other key participants to discuss important themes from the workshop and potential next steps. Major themes identified by the roundtable group included collaboration, performance measures, and implementation. These themes are tied to MRMPO’s scenario planning efforts in the following ways:

- **Collaboration** – Cross-jurisdictional collaboration will help MRMPO guide the region to think as one collective entity. This type of thinking is important during the visioning and goal-setting phase of scenario planning, particularly in encouraging the formation of stakeholder relationships and cooperative practices.
- **Performance Measures** – A strong set of meaningful performance measures is critical to creating scenarios that effectively communicate the impact of policy decisions and allow for informed decisionmaking.
- **Implementation** – Scenario planning can demonstrate the benefits of policy choices to help ensure that strategies identified through the comprehensive regional planning process are implemented.

These themes of collaboration, performance measures, and implementation are addressed in more detail below, followed by potential next steps for MRMPO to consider as it begins updating the MTP, based on workshop discussions.

- **Collaboration**
  - **There are several approaches for inviting stakeholders to participate in scenario planning.** Scenario planning helps inform projects and activities based on values and visions while considering the reality of other inputs (e.g., population, land use, transportation). The purpose of scenario planning is not to create an ideal world but rather a series of potential visions that consider the reality of competing interests. Successful scenario planning involves effective communication with stakeholders. MRMPO may wish to consider reaching out to existing community groups and developing a variety of scenario planning exercises to help broaden its outreach efforts.

- **Champions and conveners are critical to broad participation.** Identification of champions at various levels (e.g., elected officials, business leaders, advocacy groups, local supporters) is important for gaining public trust. Conveners are necessary to organize champions and groups of stakeholders. Examples of effective conveners include MPOs, public-private partnerships, and other large coalitions.
- **Fresno COG's institutional arrangements white paper is a good example of the importance of having a procedural framework for collaboration among stakeholder agencies.** Fresno COG's institutional arrangements white paper allowed it to identify the roles and responsibilities of the agencies involved. The document helped bring jurisdictions together. A similar approach may be helpful in MRMPO's scenario planning efforts.
- **Performance Measures**
  - **When presenting performance measures to stakeholders, the measures should have easy-to-understand definitions.** Tailor definitions to the groups based on interests and existing knowledge. Visualization and interactivity are important when communicating performance measures. Strong stakeholder involvement can lead to more accurate data and performance measures that represent community values.
  - **Leverage existing resources, including those available from specialized agencies.** Other agencies with a specialized focus (e.g., water districts) in a region may have tools and data that support the development of more robust scenarios and performance measures.
- **Implementation**
  - **Identifying "low-hanging fruit" is critical once a preferred scenario is developed.** Implementation activities that are inconsistent with a scenario planning effort may hinder the credibility of the effort as a whole. Incremental, organized implementation efforts, starting with activities that are low-cost or easiest to achieve, can help demonstrate a well-developed, coordinated process.
  - **The success of a scenario planning process can be measured in several ways.** Some examples include: 1) Policy and procedural changes that result from the process; 2) Stakeholders discussing the process at meetings and indicating positive results; 3) Projects delivered because of policy changes; and 4) Recommended strategies adopted by local jurisdictions and MPOs.
- **Next Steps**
  - **Develop a road map of what is reasonable in the short-term.** Peers suggested developing a plan for MRMPO's upcoming activities. The plan could include strategies for coordination with LUTI members, local agencies, private sector entities, and other stakeholders. Identification of these strategic partnerships, along with a focus on developing foundational activities, defining roles, and promoting early buy-in can foster effective scenario planning practices and support implementation.
  - **Articulate vision/values that will inform development of scenarios.** Nashville Area MPO and Fresno COG discussed the importance of conducting a gap analysis that asks: Where is the region now? Where does it want to be? What will it take to get there? These questions also relate to the six phases of scenario planning suggested by FHWA and FTA. Presenting these three questions to stakeholders may also lead to a call for action and discussions about what the community envisions for its future.

- **Consider developing branding for the region that encompasses important values (e.g., quality of life, health, economic vitality).** Fresno COG and Nashville Area MPO recommended having a common branding theme for MRMPO's scenario planning efforts. A common theme can create an identity for the activity and make it more visible. Key priorities identified by stakeholders during public workshops can be helpful resources in identifying themes. The "brand" should be framed in a way that inspires and unites a wide range of people.

#### **IV. Conclusion**

The FHWA scenario planning workshop, hosted by MRMPO, provided an opportunity for participants to learn more about scenario planning, engage with peer experts, identify useful practices, and test scenario planning exercises.

The workshop allowed for peer-to-peer exchange of ideas and practices related to scenario planning. Participants were able to discuss how scenario planning could be applied to the region. The workshop discussions, input from the peer experts, and outcomes of the values, keypad polling, and mapping exercises will support MRMPO as it continues its scenario planning activities and update of the MTP.

Feedback provided by participants' evaluation forms about the event and from the roundtable discussions with the peers offered insights and new ideas for MRMPO to consider as it begins its scenario planning effort. The peers' sharing of experiences highlighted effective techniques and approaches to scenario planning and implementation. Participant feedback will help MRMPO develop its stakeholder outreach activities. Together, the information gathered at this workshop will support MRMPO in developing effective scenario planning strategies that will ultimately lead to a more robust and participatory process that will define the 2040 MTP. The evaluation forms collected at the end of the workshop indicated that participants felt that their knowledge of scenario planning had improved as a result of the workshop.

## V. Appendices

### Appendix A: Workshop Agenda

Day One		
Time	Topic	Speaker
8:30 am - 8:45 am	<b>Registration and Check-in</b>	N/A
8:45 - 9:00	<b>Welcome and Introduction to the Workshop</b>	Thaddeus Lucero, Director of Planning Services, MRMPO  Don Martinez, Division Administrator, FHWA New Mexico Division Office  Timothy Karpoff, Workshop Facilitator
9:00 - 9:30	<b>Federal Overview of Scenario Planning</b>	Rae Keasler, Transportation Specialist, FHWA  Brian Betlyon, Metropolitan Planner, FHWA RC
9:30 - 10:00	<b>MRMPO Trends in the Region</b>	Kendra Watkins, Socioeconomic Program Manager, MRMPO  Aaron Sussman, Transportation Planner, MRMPO
10:00 - 10:15	Break	
10:15 - 11:30	<b>Peers Panel 1: Scenario Planning and Stakeholders</b>	Michael Skipper, Executive Director, Nashville Area MPO  Max Baker, Senior Planner, Nashville Area MPO  Rob Terry, Senior Regional Planner, Fresno COG
11:30 am - 12:00 pm	<b>Group Discussion:</b> <i>Potential Themes and Challenges for the Region</i>	MRMPO Staff, FHWA and FHWA RC Staff, and Workshop Facilitator
12:00 - 1:15	<b>Working Lunch</b> <i>Visualizing Scenarios: Demonstration of UrbanCanvas</i>	Rob Matthews, CEO + Urban Planner, Synthicity <sup>28</sup>

<sup>28</sup> Synthicity is a consulting firm working for MRMPO, and during the upcoming FHWA-sponsored Scenario Planning workshop, Synthicity will provide a demonstration of UrbanCanvas, a scenario planning visualization tool. Synthicity's demonstration is not an endorsement by FHWA. FHWA recognizes that there are many consulting firms and agencies that have different visualization tools that could be employed for MPOs' processes.

1:15 - 2:00	<b>Peers Panel 2: Scenario Analysis and Implementation</b>	Michael Skipper, Executive Director, Nashville Area MPO  Max Baker, Senior Planner, Nashville Area MPO  Rob Terry, Senior Regional Planner, Fresno COG
2:00 - 4:00	<b>Translating Themes and Challenges into Scenarios: Keypad Polling and Map-Making Exercises</b>	MRMPO Staff, FHWA and FHWA RC Staff, and Workshop Facilitator
4:00 pm - 4:45 pm	<b>Next Steps</b>  <i>Land Use Plan Updates</i>	MRMPO Staff and Workshop Facilitator  Land Use-Transportation Integration Members

<b>Day Two</b>		
<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
8:15 am - 8:30 am	<b>Registration and Check-in</b>	N/A
8:30 - 9:00	<b>Review of Day One</b>	Facilitator: Brian Betlyon, Metropolitan Planner, FHWA RC
9:00 - 10:30	<b>Round Table Discussion #1: Technology and Performance Measures</b> 1. Peer Discussion 2. MRCOG Data and Tools	Facilitator: Brian Betlyon, Metropolitan Planner, FHWA RC  Kendra Watkins, Socioeconomic Program Manager, MRMPO
10:30 - 10:45	Break	
10:45 - 11:45	<b>Round Table Discussion #2: Implementation Plans and Best Practices</b>	Facilitator: Brian Betlyon, Metropolitan Planner, FHWA RC
11:45 am - 12:00 pm	<b>Wrap-up and Conclusions</b>	MRMPO Staff

## Appendix B: Questions and Responses

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

### Federal Overview of Scenario Planning

1. *How much was Southwestern Pennsylvania Commission's scenario planning effort?*

(FHWA) The Southwestern Pennsylvania Commission's scenario planning effort likely cost around \$200,000 - \$500,000. A scenario planning approach is typically done every four to five years to help update a long-range transportation plan. Agencies often use planning monies for this technique. Scenario planning allows for agencies to involve the public in non-traditional ways (e.g., charrettes, keypad polling, videoconferencing) and present information in more visual and interactive ways.

### MRMPO Trends in the Region and Approach to Scenario Planning

1. *A lot of information and discussion has focused on baby boomers and Generation Y. What about Generation X?*

(MRMPO) Generation X is not forgotten. The attention paid to the baby boomer and Generation Y populations is primarily because of their sheer magnitude. Part of the takeaway is not necessarily creating more multi-family housing but creating more choices.

### Peer Approaches to Scenario Planning: Scenario Planning and Stakeholders

1. *Were there different scenarios developed to create the alternative scenario?*

(Nashville Area MPO) Yes, they were loosely defined scenarios based on various themes (dispersed development, complete communities, and existing cities).

2. *Why was there a decision to form a 10-county region for CRT?*

(Nashville Area MPO) The CRT planning area is about 6,000 square miles and covers 10 counties in Middle Tennessee. This area is organically defined and smaller than the MSA. It is important that a planning area's geographical boundaries make sense to people.

3. *[Fresno COG's scenario planning] was a multi-year process. How did you handle the economic downturn? How did this shape your scenario planning process?*

(Fresno COG) The economic downturn may have explained why the scenario planning process took longer than expected. It took almost three years. Fresno COG's scenario planning activities took into account the changes people had related to housing choices and economic vitality.

4. *I'm intrigued by [Fresno COG's] institutional arrangements white paper. This is a key point for what we are doing. We have been doing planning for a while but want to extend outreach to the public.*

(Fresno COG) The white paper serves two functions. First, Fresno COG needed to make sure that all stakeholders understood their roles and the roles of others. The second function was an unintended consequence. Once Fresno COG assigned a responsibility, people

wanted to “take it and run.” Fresno COG ended up identifying multiple “champions” through this process, which helped with implementation.

5. *How did you get people to come to the table?*

(Fresno COG) It needs to start with local leaders. You first need to ask what people want their community to look like. Once you have this, you can see how communities relate to each other.

(Nashville Area MPO) People need to know their role during and after the process.

6. *Both [Nashville Area MPO and Fresno COG] emphasized community engagement and public input. Could you talk about the processes that work best at the grassroots level? Do you have staff that manage community engagement specifically?*

(Nashville Area MPO) The key strategy is to build a collaborative network. You could have group-centered workshops organized topically or geographically. Nashville Area MPO has a community engagement director. If an effort is not collaborative or network-based, it can be challenging.

(Fresno COG) Fresno COG took the same approach. With the Blueprint planning process, the COG learned to bring in community-based organizations to get the message out so that it is conveyed by organizations with which the public is already engaged. Fresno COG’s current scenario planning process takes this to a whole new level. Fresno COG offers funding to groups at the grassroots level to promote public participation. The COG also has a communications director.

7. *In developing your scenarios, you took many givens and built them into the scenarios. We have several challenges (e.g., water, loss of military bases). To what extent do your scenarios take into account risk assessment of future issues?*

(Fresno COG) This is one of the benefits of scenario planning. Scenario planning allows you to develop various scenarios based on these types of questions. Fresno COG developed about 25 scenarios at first and tried to envision everything that could possibly happen (e.g., increase of funds, decrease of funds). This is the essence of scenario planning; it is the ability to look at many different factors.

8. *In terms of budget, how do you handle this uncertainty?*

(Fresno COG) Fresno COG had a project manager who was good at identifying projects of high priority and of low priority; this allowed the COG to prioritize and focus time and resources.

(Nashville Area MPO) This gets to defining scenarios on the front end. Most scenario planning exercises keep the population current. It is also important to ask additional “what-if” questions that go beyond the first level of scenario planning.

9. *How did you get political buy-in?*

(Fresno COG) There was not complete buy-in. However, despite the fact that some stakeholders may not be 100 percent supportive, there are still some parts of Fresno COG’s scenario planning effort that are supportive for them. There are various positives that resulted from the process.

10. *Can you further discuss your role with CRT? When we talk about public buy-in, how important was this group to encourage this buy-in?*

(Nashville Area MPO) Nashville Area MPO proceeded with scenario planning once it had political buy-in. The MPO needed CRT and other leadership groups to help get this buy-in. Nashville Area MPO's relationship with CRT is strong. Both Nashville Area MPO and CRT help facilitate discussions with stakeholders.

11. *The component pieces of scenario planning can be looked at as an organizational change. Is this change happening? How much of the scenario planning process actually gets integrated into the behavior and culture of the institution? How much of an ethic of scenario planning is there?*

(Nashville Area MPO) Nashville Area MPO has integrated scenario planning into its agency structure. Nashville Area MPO is conducting sub-regional scenario planning efforts that provide the foundation for regional plan updates. Other local areas have also adopted the tools to do scenario planning on a local level.

(Fresno COG) Fresno COG has observed similar activities. While there have not been explicit changes in stakeholders' processes, there have been upgrades in implementation efforts.

#### **Visualizing Scenarios: Demonstration of UrbanCanvas**

1. *How much software do you need to run UrbanCanvas?*

(Syntheticity) UrbanCanvas is stand-alone. It is compatible with ArcGIS. It can be run with any type of database.

2. *Often, we want to see how our developments correlate with public health or different demographic groups. How does this work?*

(Syntheticity) UrbanCanvas does not have this information loaded, but census and demographic data can be integrated into the tool. Any type of standard geographic information systems data can be correlated into the tool visually.

## Appendix C: Workshop Attendees

Last Name	First Name	Agency
Ainsworth	Christina	Village of Los Lunas Community Development
Andersen	Commissioner Mary	Valencia County
Argumedo	Saray	University of New Mexico
Aune	Erick	Santa Fe County Planning
Baker	Max	Nashville Area MPO
Barkhurst	Carrie	City of Albuquerque Planning
Betlyon	Brian	FHWA Resource Center
Bootes	George	City of Rio Rancho
Bouska	Kelly	Valencia County Public Works
Brito	Russell	City of Albuquerque Planning
Brodehl	Grant	Bernalillo County Parks and Recreation
Campbell	Clay	Bernalillo County Infrastructure Planning
Clayton	Councilor Lonnie	City of Rio Rancho
Coffey	Jason	New Mexico Department of Transportation (NMDOT)
Cok	Tara	MRMPO
Davis	Kay	Town of Edgewood
Day	Shohreh	MRMPO
Doyle	Terry	Rio Metro Regional Transit District
Duarte	Leroy	University of New Mexico
Fishman	Jackie	Consensus Planning, Inc.
Foty	James	Creative Albuquerque
Gasier	Sandra	MRCOG – Local Government Assistance (LGA)
Gingerich	Andrew	MRMPO
Gottlieb	BJ	City of Rio Rancho
Guerin	Thea	City of Albuquerque Family and Community Services
Hatch	Alan	Pueblo of Santa Ana
Hoogasian	Alan	NMDOT
Ingles	Amy	USDOT Volpe Center
Jimenez	Daniel	MRMPO
Karpoff	Tim	Karpoff & Associates
Kean	Stephanie	University of New Mexico
Keasler	Rae	FHWA
Kline	Lawrence	City of Albuquerque ABQ Ride
Lohmann	Maria	University of New Mexico
Lucero	Thaddeus	MRMPO
Luna	Julie	MRMPO
Marquez	Fred	Sandoval County Public Works
Marquez	Jacobo	Valencia County Community Development

Martinez	Don	FHWA New Mexico Division
Masek	Nathan	MRMPO
Matthews	Rob	Syntheticity
Meadows	Richard	Bernalillo County Public Works
Metro	Kristal	City of Albuquerque Planning
Miller	Steve	Bernalillo County Public Works
Monge-Oviedo	Rodolfo	FHWA New Mexico Division
Montiel	Steven	MRCOG – MPO
Morelli	Claude	NMDOT
Muno	Travis	Amarillo MPO
Nieto	Margaret	City of Albuquerque Environmental Health
Pennella	Dave	MRMPO
Rasmussen	Ben	USDOT Volpe Center
Reed	Danielle	Bernalillo County Health and Social Services
Renz-Whitmore	Mikaela	City of Albuquerque Planning
Rincon	Amy	University of New Mexico
Rivera	Leonard	City of Rio Rancho
Roth	Frank	Albuquerque Bernalillo County Water Authority
Sandoval	Christina	City of Albuquerque Parks and Recreation
Savoca	Ben	University of New Mexico Planning and Campus Development
Schroeder	George	Bernalillo County Environmental Health
Shair-Rosenfield	Kara	City of Albuquerque Council Services
Sittig	Paul	NMDOT
Skipper	Michael	Nashville Area MPO
Strauss	Rachel	USDOT Volpe Center
Sussman	Aaron	MRMPO
Sylvester	Tony	Rio Metro Regional Transit District
Terry	Rob	Fresno COG
Thomas	Caerllion	MRMPO
Tomita	Steven	City of Belen
Valdez	Betty	Bernalillo County Housing
VerEecke	Catherine	Bernalillo County Planning
Watkins	Kendra	MRMPO
Webb	Andrew	City of Albuquerque Council Services
Webb	Derrick	MRCOG – LGA
Wrage	Eric	Bohannon Huston, Inc.
Yugas	Katherine	Albuquerque Bernalillo County Water Authority