Summary of the Federal Highway Administration's Scenario Planning Webinar – Scenario Planning Tools and Techniques for Effective Analysis and Assessment

November 5, 2013
1:00 - 2:30 PM (EDT)

These notes provide a summary of the webinar's presentations and the question-and-answer session that followed the presentations. Copies of the speakers' presentations are available for download in the webinar recording or from the contacts listed below.

A complete audio recording of the webinar is available at:
https://connectdot.connectsolutions.com/p92i79xrngr/

Presenters

Name	Organization	Contact Information
Rae Keasler	Federal Highway Administration (FHWA)	(202) 366-0329 Rae.Keasler@dot.gov
Ken Snyder	PlaceMatters	(303) 964-0903 Ken@placematters.org
Carl Miller	Community Planning Association of Southwest Idaho (COMPASS)	(208) 475-2239 CMiller@compassidaho.org
Erin Aleman	Chicago Metropolitan Agency for Planning (CMAP)	(312) 386-8816 EAleman@cmap.illinois.gov
Seth Scott	Fresno Council of Governments (Fresno COG)	(559) 233-4148, ext. 243 SScott@fresnocog.org

Participants

Approximately 75 participants attended the webinar.

Introduction to Webinar and the FHWA-FTA Scenario Planning Program

Rae Keasler
Transportation Specialist, FHWA Office of Planning

Ms. Keasler welcomed participants to the webinar and thanked webinar presenters for their time in attending the webinar.

The webinar is the fifth webinar in a series supported by the Scenario Planning Program offered by FHWA and the Federal Transit Administration (FTA). For information about past webinars, please visit the FHWA scenario planning website at:
www.fhwa.dot.gov/planning/scenario_and_visualization/scenario_planning/.

The webinar explored the diverse set of scenario planning tools available to practitioners, focusing on tools and techniques that facilitate interpretation, analysis, and assessment of scenarios. The webinar provided the perspectives of peer agencies to discuss how they have used scenario planning tools to support their scenario planning activities.

The webinar was not meant to endorse any particular scenario planning tool. FHWA recognizes that many tools are available and encourages agencies to use the tools that work best for them. The webinar was meant to foster a discussion about the range of tools available and allow for information-sharing.

Overview of FHWA/FTA Scenario Planning Program

Ms. Keasler provided an overview of scenario planning and how FHWA and FTA support scenario planning.

Scenario planning is an enhancement to, not a replacement of, the traditional planning process. It is a flexible technique that can be adapted for many purposes, scales, and industries, and can be used in many different types of areas.

There are many benefits to using scenario planning:

- Scenario planning can help agencies and stakeholders compare transportation choices and consequences, allowing for better, more informed decisions. Exercises conducted in conjunction with scenario planning such as charrettes or the "chip game" can be very useful.
- Scenario planning can also promote greater interest from a broader set of the population by engaging stakeholders in the process of creating and evaluating alternative futures.
- Scenario planning can encourage interest and dialogue from the community, including the public and local elected officials, to weigh in on desired actions and policies.

Ms. Keasler noted that the Moving Ahead for Progress in the 21st Century Act (MAP-21) mentions scenario planning. MAP-21 encourages and provides an option for agencies to use scenario planning.

Ms. Keasler concluded by discussing the FHWA-FTA Scenario Planning Program. Through the program, FHWA and FTA provide guidance, technical assistance, and customized workshops and webinars to agencies interested in using scenario planning. FHWA also developed a *Scenario Planning Guidebook,* which provides a generic framework for scenario planning using six key phases. The guidebook is available on the FHWA scenario planning website at:
http://www.fhwa.dot.gov/planning/scenario_and_visualization/scenario_planning/scenario_planning_guidebook/.

Frameworks for Scenario Planning Tools / Emerging Topics

Ken Snyder
CEO and President, PlaceMatters

Mr. Snyder discussed scenario planning decisionmaking frameworks and emerging trends. PlaceMatters is a non-profit organization located in Denver, Colorado, that helps communities nationwide engage stakeholders and make inclusive, equitable, and informed decisions on issues related to land use, transportation, housing, and the environment.

In the past, transportation planning tools allowed for a few, specific questions to be answered. Today's tools are more integrated and interoperable and allow for a broader set of inputs to be considered. Types of tools used today include tour-based and activity-based travel models that measure congestion and accessibility, integrated travel models that forecast development growth, and scenario planning and exploratory planning tools that help communities envision desired futures and agree on collective approaches to achieve these outcomes.

Scenario planning tools can help communities better analyze data, allow for informed decisionmaking processes, and demonstrate the interconnectedness of activities. Use of the tools also provides opportunities to engage with stakeholders, which can lead to a common knowledge and understanding of how different factors relate and potential impacts. As the scenario planning process may result in new scenarios or questions, tools offer a way to gather, synthesize, and share information among different interest groups in a timely and organized manner.

Scenario planning tools continue to evolve. Tools are increasingly faster, web-based, and interactive. For example, scenario planning tools can pose questions to stakeholders in a community meeting and synthesize the information quickly so that results are shared in real time. This interactive, real-time format allows participants to better understand others' viewpoints and the impacts of different choices and identify opportunities for collaborative brainstorming. It also provides a way for agencies to be more responsive to stakeholder concerns and integrate stakeholder input into scenarios.

Mr. Snyder shared observations and recommendations about scenario planning. Scenarios often rely on creating compact activity centers, which may not necessarily support a region's existing conditions. Mr. Snyder suggested that agencies consider conducting market sensitivity and fiscal and social impact analyses to make scenarios more robust and credible and use indicators or combinations of indicators that are transparent and easy to understand.

Mr. Snyder concluded his presentation by noting PlaceMatters' participation in the Open Source Planning Tools Collaborative, which is an initiative that promotes open source approaches to scenario planning tools. The Collaborative includes an online discussion group focused on ways to make tools more accessible, affordable, and interoperable. Group members include software developers, planning consultants, academic researchers, and staff from regional, State, and Federal governments.

COMPASS

Carl Miller
Principal Planner - Demographics, COMPASS

Mr. Miller provided an overview of COMPASS's scenario planning activities and its use of the scenario planning tool, CommunityViz.

COMPASS is the Metropolitan Planning Organization (MPO) for Idaho's Treasure Valley, serving approximately 600,000 residents in a 1600-square-mile region. In 2004, COMPASS decided to use scenario planning to develop its long-range transportation plan (LRTP), *Communities in Motion 2030*. The region was experiencing increased population growth, resulting in infrastructure needs, quality of life issues, and concerns about preserving open and green space.

To gather stakeholder input for the LRTP, COMPASS used a low-cost scenario planning approach, inviting public meeting participants to place ribbons and stickers on maps to identify areas for potential development and preservation. The approach enabled participants to share their visions for the Treasure Valley; however, it was difficult for COMPASS to collect comprehensive feedback about the scenarios developed and synthesize the information received.

In 2010, COMPASS began the process to update its LRTP. The updated plan, *Communities in Motion 2040*, which builds upon *Communities in Motion 2035,* is anticipated to be complete by September 2014. As part of the update, COMPASS wanted to engage a wide range of stakeholders to address considerations related to transportation, housing, open space, land use, and economic development. COMPASS used CommunityViz, a Geographic Information Systems (GIS)-based scenario planning tool, to collect stakeholder input and inform the development of *Communities in Motion 2040*.

COMPASS's use of CommunityViz in its scenario planning activities allowed stakeholders to "put pen to digital paper" and share their visions for the community's future while, at the same time, have real-time access to information such as existing land uses, housing, employment data, and water consumption rates to help inform their visions and the later scenarios developed. COMPASS then used keypad polling and CommunityViz's site suitability and build-out analysis capabilities to synthesize stakeholder feedback, identify priority growth areas, and anticipate future demands related to population, infrastructure, housing, and employment.

Mr. Miller noted several challenges and benefits for agencies to consider when using scenario planning tools:

- Agencies may wish to have multiple options for stakeholders to provide input. For example, stakeholders may prefer using paper maps and markers instead of keypad polling. Having a range of options available allows agencies to collect comprehensive feedback.
- While scenario planning tools such as CommunityViz provide a foundation for scenario development, agencies will still need to perform planning activities. The tools can be customized to address a region's issues, but they still require careful analysis by agency staff members to develop informed scenarios.
- It may be helpful to consider how and when a tool will be used. COMPASS used CommunityViz during public meetings where it could guide stakeholders in using the tool. In addition, agencies should consider the scope of their meetings to accommodate as many stakeholders as possible and identify other ways to perform outreach in the community to solicit feedback.
- Scenario planning tools such as CommunityViz can help agencies establish targets and performance metrics more easily. The tools provide a strong modeling platform, allowing for scenario analysis and forecasting. Indicators are flexible and can be adjusted to meet agencies' needs. Agencies can then use this information to promote dialogue across different disciplines.

For more information about COMPASS's scenario planning activities, please visit: www.compassidaho.org.

CMAP

Erin Aleman
Principal Planner, CMAP

Ms. Aleman discussed how CMAP used scenario planning and scenario planning tools in its GO T0 2040 planning initiative. Her presentation focused on how CMAP collected public input on potential scenarios developed as part of the GO TO 2040 effort.

CMAP is the MPO for metropolitan Chicago, the third largest metropolitan region in the United States. CMAP's planning region includes 7 counties, 284 municipalities, and over 1200 units of local government. The region's population is approximately 8.6 million today, and by 2040, the population is expected to grow to 11 million.

CMAP started the GO TO 2040 effort to develop a comprehensive regional plan that helps the region think about how it can plan for a sustainable future. Starting in 2007, CMAP conducted visioning exercises and public meetings to gather input about goals and potential strategies for the region's future, evaluated existing conditions in the region, and developed a preferred regional scenario. The GO TO 2040 comprehensive plan was adopted in 2010.

CMAP used the scenario planning tool MetroQuest for GO TO 2040. CMAP was interested in using a tool that could show trade-offs and multiple scenarios, provide immediate results in a visually compelling way, and be used both online and in-person at workshops and kiosks.

CMAP developed three different MetroQuest modules for GO TO 2040:

- *Visit 2040*, which offered a short "tour" of the GO TO 2040 scenarios;
- *Invent 2040*, which invited users to indicate preferences for the future and see the resulting scenarios; and
- *Compare 2040*, which allowed users to compare scenarios.

CMAP primarily used *Invent 2040* online and at its public workshops. The tool presented six different topic areas: development density, development location, road network, transit system, transportation policy, and resource policy. Users could then select different choices under these topic areas to see how they potentially affected the region's future. *Invent 2040* also provided a scenario summary to demonstrate how a given scenario differed from the current trend.

CMAP's goal in using MetroQuest was to educate stakeholders about how choices today can potentially impact the future. MetroQuest allowed CMAP to use technology to create scenarios collaboratively and demonstrate how scenarios developed by stakeholders compared to the current trend, or "business-as-usual," scenario. The tool helped CMAP reach consensus to move forward with plan development.

In addition to MetroQuest, CMAP created outreach materials such as posters and postcards to promote GO TO 2040. Through its scenario planning and outreach activities, CMAP engaged more than 35,000 stakeholders.

For more information about CMAP's scenario planning activities, please visit: www.cmap.illinois.gov.

Fresno COG

Seth Scott
GIS Specialist, Fresno COG

Mr. Scott shared Fresno COG's scenario planning experiences and use of scenario planning tools.

Fresno COG is one of eight MPOs in the San Joaquin Valley in central California. Of these eight MPOs, seven, including Fresno COG, operate as COGs and one serves as a regional transportation planning agency. The eight MPOs work closely together on scenario planning activities for the region.

Fresno COG first used scenario planning during the San Joaquin Valley Blueprint planning process in 2006, with funding support from the California Department of Transportation. The Blueprint planning process aimed to explore alternative growth patterns and educate the public about land use policies and planning. Fresno COG used UPlan, a web-based forecasting and mapping tool, to analyze the impacts of smart growth policies in Fresno County.

In 2008, the California legislature passed Senate Bill 375, which requires MPOs to develop Sustainable Communities Strategies (SCSs) as part of their regional transportation plans (RTPs). The goal of an SCS is to reduce greenhouse gas (GHG) emissions through integrating land use and transportation planning and decisionmaking. In 2010, the California Air Resources Board passed GHG reduction targets, aiming for a five percent reduction in per-capita GHG emissions by 2020 and a ten percent reduction by 2035.

In 2011, Fresno COG began the update of its 2014 RTP and accompanying development of its SCS, using scenario planning and the scenario planning tool Envision Tomorrow to inform these activities. Envision Tomorrow is a spreadsheet-based tool and toolbar in ArcGIS. Envision Tomorrow allowed Fresno COG to analyze its large data set; model building and development types; create, compare, and evaluate scenarios; and monitor performance indicators in real-time.

By using Envision Tomorrow, Fresno COG was able to conduct effective outreach efforts and bring information provided by stakeholders into the scenarios produced. Working with Fregonese Associates, the developer of Envision Tomorrow, Fresno COG organized a public workshop of more than 100 participants. During the workshop, participants took part in a "chip" game, where they placed development "chips" on maps to indicate their visions for the future of Fresno County. Fresno COG incorporated the feedback collected into the Envision Tomorrow tool to construct a scenario. In addition, Fresno COG provided grant funding to local community groups to conduct educational workshops about the SCS process and scenarios. Fresno COG produced maps and information about performance indicators for the workshops based on its Envision Tomorrow analyses.

Mr. Scott noted that Fresno COG found Envision Tomorrow to be useful in its scenario planning activities. Mr. Scott also offered recommendations for agencies regarding scenario planning:

- Consider your organization's resources and staff capabilities. User-driven tools such as Envision Tomorrow work best when agency staff has the appropriate resources and GIS and modeling expertise to make an effort successful.

- Consider your organization's approach to planning. Agencies interested in more detailed or broader-focused planning exercises may prefer to use different scenario planning tools. It is helpful for agencies to determine the level of detail in which they are interested first and then identify the most appropriate tool to use.

For more information about Fresno COG's scenario planning activities, please visit: www.fresnocog.org.

Summary of Questions and Discussion

Following Mr. Scott's presentation, Ms. Keasler moderated a question and answer period to address questions received during the presentations. Key questions and insights from the presenters are outlined below. To facilitate readability, the answers presented here are summaries and are not direct transcriptions of what occurred during the actual webinar proceedings.

- **What is meant by "market sensitivity" of scenario planning?**

Ken Snyder: Market sensitivity in broad terms means taking into consideration what is feasible given the existing demand and supply of housing, retail, transit-oriented development, etc. Without market sensitivity, a "where do we grow" exercise may yield unrealistic scenarios.

- **What is rule-based allocation?**

Ken Snyder: Rule-based allocation develops future growth scenarios based on current and planned land use, current and planned infrastructure, growth restrictions (e.g., protected open space), and other policies and assumptions that affect where growth might happen. Generating potential scenarios with rule-based allocation applications gives participants a better sense of the type of growth that may come with different strategies. The participants can then experiment with different strategies and policies to see how that might affect growth. For example, CommunityViz has an allocation application in which features receive a development desirability score based on weighted overlays and factors such as distance to roads, destinations, other development, etc. The features also receive a capacity score that considers factors such as zoning, efficiency, development constraints, existing development, etc. Users then provide a value for the demand for new growth, and the tool assigns the expected growth.

- **When holding stakeholder group meetings, how did COMPASS gauge success (e.g., number of participants, number of meetings, consistency in feedback, etc.)?**

Carl Miller: COMPASS did not have specific measures for measuring stakeholder engagement. COMPASS was pleased with the attendance at the scenario planning workshops and the level of engagement shown by participants. Participants had lively discussions at their workshop tables, participated throughout the event, and provided high marks on evaluation forms after the workshops. COMPASS was pleased with the participation levels from elected officials and local business leaders targeted by the workshops, but it was often difficult to have extensive participation from the public on a regional scale.

- **Beyond cost, what other negatives are there against using CommunityViz over other scenario planning tools? What is the learning curve on CommunityViz?**

Carl Miller: The learning curve is not difficult with CommunityViz. COMPASS held staff trainings and worked closely with Placeways staff. There are also tutorials and "wizards" for using the software that expedited the efficiency of learning the software.

- **When are you using CommunityViz as a substitute for a land use model?**

Carl Miller: COMPASS used CommunityViz more as a visioning exercise than as a substitute for a land use model. CommunityViz has a rule-based land allocation model that may have been useful so that the resulting scenarios demonstrate both stakeholder input and how development may occur over time based on current trends.

- **What kind of budget did COMPASS have for CommunityViz / scenario planning? Did COMPASS have a consultant (or several)? What kind of staff time supplemented consultant time?**

Carl Miller: COMPASS's total scenario planning budget was around $175,000, which included several public outreach events. Approximately $125,000 was spent on scenario planning work, including the data gathering, workshops, and developing final preferred scenarios. Another $50,000 was spent on public and stakeholder outreach. COMPASS worked with Placeways, the developer of CommunityViz. COMPASS staff also contributed time equal to approximately one-half of a full-time employee for one and a half years to support scenario planning activities and public workshops.

- **Did CMAP have a target in mind for engaging the public (e.g., 35,000 stakeholders)?**

Erin Aleman: CMAP spent a lot of time looking at how other regions had approached this sort of metric. We did not have a specific number in mind but knew our process needed to represent the entire region and reflect our demography. We ended up holding 50 face-to-face meetings with a target of 50 people per meeting. The use of social media and kiosks also increased our public reach. Most of our public meetings had somewhere between 30 to 50 people in attendance. We did have some large meetings with 100 to 150 people. Most importantly, we tried to partner with community-based organizations to increase our reach.

- **For Envision Tomorrow, if the building type information is not available, how do you calibrate the spreadsheet for your region?**

Seth Scott: In our experience, Fregonese Associates was able to consult us on creating a suite of region-specific building types. This can be a technical process. However, I understand that Fregonese's main method for determining buildings and designing development types was the use of aerial imagery (e.g. Google maps) to see what we have on the ground. They were then able to provide us with some options from their existing data that could represent some "next step" options for more aggressive smart-growth strategies.

- **Could each of the speakers give a ballpark dollar figure for the cost of scenario planning?**

Seth Scott: Fresno COG's budget for scenario development was between $100,000 and $150,000, not including staff time.

- **My region's population is aging. Does anyone have examples of scenario planning to forecast challenges and opportunities associated with an aging population?**

Seth Scott: I'm not sure of any tools out there that specifically look at aging populations, but for Fresno COG, many of the strategies we employed were designed to accommodate a similar demographic forecast for our region. Having a larger percentage of smaller housing units and a more robust public transportation system may be some of the first factors to try when developing scenarios to accommodate an aging population.

- **How has your agency's scenario planning activities influenced the types of tools used? Conversely, has your agency's use of scenario planning tools helped to inform new scenario planning activities?**

Seth Scott: Fresno COG updates its RTP every four years and is considering tools it may use for future updates. The San Joaquin Valley Blueprint planning process sparked Fresno COG's interest in scenario planning and use of Envision Tomorrow, which allowed it to incorporate stakeholder feedback into its scenarios. There is no one-size-fits-all tool. Different planning processes require different types of tools. It is important to be flexible and open and consider a variety of tools.

- **What key takeaways would you offer to agencies interested in applying scenario planning tools and techniques to an upcoming effort? More specifically, in terms of: increased demand on staff resources, modifications to public involvement efforts, increased involvement from stakeholders and importance on having local "champions," changes to associated staffing or capital costs, etc.?**

Erin Aleman: CMAP received stakeholder input via social media throughout its scenario planning process. MetroQuest allowed CMAP to ask the same questions of participants in public workshops and online via its website. After workshops, CMAP would request that participants review online the scenarios developed during the workshops and provide additional feedback.

Carl Miller: It is important for agencies to think about what they want to get out of the scenario planning process before they begin. When holding public workshops, agencies should discuss the key goals and objectives of the scenario planning process with participants. This discussion can help participants better understand the effort so that the resulting scenarios accomplish these goals and objectives.

Seth Scott: Stakeholders should be involved from the very beginning of a scenario planning process and understand the goals of the activities. Agencies may wish to emphasize that public workshop exercises are planning and visioning exercises and not final decisions.

Closing Information

Rae Keasler

In closing, Ms. Keasler thanked webinar participants, presenters, and hosts for joining the webinar and provided resources and contact information for the FHWA-FTA Scenario Planning Program:

- FHWA scenario planning website:
  http://www.fhwa.dot.gov/planning/scenario_and_visualization/scenario_planning/
- Program contacts:
  - *FHWA Headquarters*
    - Rae Keasler: 202-366-0329 or Rae.Keasler@dot.gov
    - Dave Harris: 334-274-6345 or Dave.Harris@dot.gov
  - *FTA Headquarters*
    - Jeff Price: 202-366-0843 or Jeff.Price@dot.gov
    - Tomika Monterville: 202-366-5038 or Tomika.Monterville@dot.gov
  - *FHWA Resource Center*
    - Brian Betlyon: 410-962-0086 or Brian.Betlyon@dot.gov
    - Jim Thorne: 708-283-3538 or Jim.Thorne@dot.gov
  - *USDOT Volpe Center*
    - Rachel Strauss: 617-494-2207 or Rachel.Strauss@dot.gov

Participant Polling

Pre-Presentation Poll Questions

Question 1: What is your affiliation?

	Number Responding	Percent Responding
FHWA	12	24%
FTA	1	2%
Other Federal Agency	1	2%
State DOT	5	10%
Metropolitan/Regional Planning Organization	26	52%
Council of Governments	0	0%
Transit Agency	0	0%
Other	5	10%

Question 2: How many people are participating in this webinar with you?

	Number Responding	Percent Responding
0 (just me)	28	56%
1	6	12%
2	3	6%
3-5	12	24%
6+	1	2%

Question 3: What is your familiarity with scenario planning tools and techniques?

	Number Responding	Percent Responding
Not familiar	4	8%
Somewhat familiar	32	64%
Very familiar	14	28%

Question 4: Is your agency currently engaged in scenario planning?

	Number Responding	Percent Responding
Yes (implementing or in advanced stages)	10	26%
Yes (just beginning or considering scenario planning)	20	53%
No	8	21%

Post-Presentation Poll Questions

Question 1: After participating in this webinar, how would you now rate your familiarity with scenario planning tools and techniques?

	Number Responding	Percent Responding
Not familiar	0	0%
Somewhat familiar	14	58%
Very familiar	10	42%

Question 2: What additional information on tools and techniques would you like to know more about?*

	Number Responding	Percent Responding
How are traditional public involvement efforts most changed?	7	32%
How does one gauge the amount and type of data needed which are "above and beyond" what is normally required?	13	59%
What phases of the traditional planning process are most affected?	7	32%
How does the establishment of performance measures impact the scenario planning process?	17	77%

Question 3: What other types of information about scenario planning would be useful to you? (Please select all that apply.)

	Number Responding	Percent Responding
Webinars	6	24%
Workshops / peer exchanges	16	64%
Case studies	12	48%
Other	0	0%

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* Multiple answers allowed.