Scenario Planning Peer Workshop

Sponsored by the Federal Highway Administration

Location:	Burlington, Vermont
Date:	November 9, 2007
Workshop Host Agencies:	Chittenden County Metropolitan Planning Organization Federal Highway Administration, Vermont Division

Summary

The following report summarizes a Peer Workshop on tools and effective practices for scenario planning. The Federal Highway Administration (FHWA) coordinated and led the daylong workshop in Burlington, Vermont. Presenters from the FHWA provided participants with an overview of the scenario planning process and described available resources and tools to assist with scenario planning analysis. Local planning staffs, elected officials, and consultants joined the Chittenden County Metropolitan Planning Organization (CCMPO) for a one-day scenario planning workshop. Attendees hailed from across the region and shared their views on introducing scenario planning to their planning processes.

Presenters from the Binghamton Metropolitan Transportation Study, the San Luis Obispo Council of Governments, Renaissance Planning Group, VTrans, CCMPO, and the Federal Highway Administration provided the group with information on implementing scenario planning in a variety of community contexts.

I.

Welcome
A. Karen Glitman, University of Vermont University Transportation Center
Ms. Glitman welcomed the group and gave a brief overview of the University Transportation Center. The University of Vermont, which was the location of the meeting, was designated as a National University Transportation Center in August of 2005 and has been actively involved in transportation education and research.

B. Peter Keating, CCMPO
Mr. Keating thanked local officials for attending and noted that the CCMPO is considering using scenario planning in the upcoming update of their metropolitan transportation plan. An objective of the workshop is for the CCMPO Board to learn about using scenario planning so they can consider it as a tool for the plan update. A common theme of the scenario planning experiences presented today is the use of extensive and intensive public participation. Following the meeting, CCMPO staff will review findings and determine how to move forward.

II.   Introduction
A. Overview of Scenario Planning
Jody McCullough, Community Planner, [Federal Highway Administration Office of Planning](#)

Ms. McCullough provided the group with an overview of scenario planning and how it could be used for a more effective transportation planning process. FHWA has been working to promote scenario planning for several years as a tool for integrating transportation with other activities in the community. It has been shown to be a method for creating a positive visioning and public participation process. Scenario planning is not about trying to predict the future, but rather about understanding what you want, using new technologies to understand the impacts of project decisions, and ultimately making better-informed decisions.

FHWA defines scenario planning as "*a process in which transportation professionals and citizens work together to analyze and shape the long-term future of their communities. Using a variety of tools and techniques, participants assess trends in key factors such as transportation, land use, demographics, health, etc. Participants bring the factors together in alternative future scenarios, each of these reflecting different trend assumptions and tradeoff preferences.*"

Around the country, scenario planning processes take place under different names, such as [Blueprint](#) (California), [Envision Utah](#), and others. Although the processes vary, they have common themes. Scenario planning allows the community to develop "what-ifs", which can be conservative or more creative, to understand some plausible futures and spark discussion. It is useful for getting people to the table early in the process. People are often more wiling to make tradeoffs if they understand why the decisions have been made.

Queensland, Australia was an early proponent of scenario planning for transportation and land use. The 4seeable Futures Project laid out the following process:

1. **Identify the quality of life issues facing the region**. this information provides the foundation for scenario development. These issues can be expressed as a question about the future that the scenarios might answer.
2. **Research the driving forces** - define the major sources of change that may impact the future. These forces can be either predictable or non-predictable elements. Some predictable elements may be local demographics, trends in local land use consumption for example. Less predictable macro elements are things like the future of the world economy, future availability of infrastructure funding and technological advances. There are many other driving forces, which are uncertain. Narrowing down those driving forces will be helpful in advancing a scenario planning process.
3. **Determine the patterns of interaction** - consider how the driving forces could combine to determine future conditions. On a matrix, these driving forces can be identified as either having a positive or negative outcome and their relationship to a dichotomy of potential future worlds can be further examined. For example, if we use the economy as a driving force, we can label it as having either little or no growth or fast growth. In determining the interaction of each of the future conditions, scenarios can be created.
4. **Generating scenarios** - there are implications of different strategies in different future environments. The goal here is to bring life to the scenarios in a way that community stakeholders can easily recognize and connect the various components.
5. **Analyze implications** - scenarios enable planners to explore the shape and nature of transportation within a variety of circumstances using a range of tools.
6. **Evaluate implications** - the devised scenarios are measured against each other by comparing indicators relating to land use and other criteria.
7. **Monitor scenarios** - the process is an ongoing one and as the future unfolds, reality needs to be assessed compared to the selected scenarios.

Benefits of Scenario Planning:
- Enhances ability to respond to change. Thinking about extreme futures, including possibly unpleasant results of decisions, helps prepare the community for what actually occurs.
- Helps to manage and prioritize use of limited resources
- Provides information to avoid potential consequences and to seize opportunities
- Provides tools to assess transportation's impact on communities
- Facilitates consensus building among a wide variety of stakeholders. Using new participation methods, such as keypad voting, people who may not otherwise speak out can have their voices heard.

Visualization tools are helpful, as people interpret data in different ways. Scenario planning can take advantage of new technologies, but some areas have used markers, maps, post-it notes, and photos to benefit from a "low-tech" and affordable process.

FHWA's role in scenario planning is to encourage agencies to investigate it and experience the community-building benefits of using a scenario planning process. The FHWA Scenario Planning website provides information on tools, technologies, and case studies from across the country. Over the next year, FHWA will be doing follow-up to understand some of the long-term benefits that communities may experience.

Discussion

Is scenario planning always led by the transportation agency?
Leadership of the process varies. In Chicago, for example, the land use agency led the process with the participation of the transportation agency.

Can using scenario planning really lead to different projects?

Yes, one example is that of the North Central Florida Regional Planning Council. In that community, there had been resistance to higher densities and village centers, but the scenario planning process convinced the stakeholders of the benefits of that approach.

Most of the cases seem to be drawn from big cities. Would scenario planning be useful at a small community level?
Scenario planning is an adaptable process and has been used successfully in smaller towns, such as Mooresville, North Carolina and St. George, Utah. Some software tools, such as CommunityVIZ, go down to the parcel level and are often used in small towns. In Mooresville, construction of the headquarters of a major company was expected to suddenly bring 10,000 new jobs to the community. Using scenario planning, the community developed strategies for quick implementation.

III. Peer Presentations

A. Presentation: Scenario Planning: Writing Your Community's Story
Hannah Twaddell, Renaissance Planning Group, Charlottesville, VA

Ms. Twaddell introduced scenario planning and some typical techniques, drawing upon case studies in Charlottesville, Virginia; McLennan County, Texas; and Warren County, New Jersey.

- Charlottesville had been debating construction of a western bypass for 30 years, while development was proceeding rapidly. New DOT projections called for an additional bypass to the east, but funding was inadequate for the current planned bypass and a new one. Meanwhile, the regional Sustainability Council had established ambitious goals to reduce environmental impacts of highways and development while advancing economic growth, Using a scenario planning process with a 50-year horizon allowed the community to move beyond the immediate controversy and think about the big picture.
- McLennan County, Texas is home to Baylor University, and a growing number of suburban businesses and homeowners who want to be located within equal distance of Austin and Dallas. Yet the central City of Waco has been declining for decades, cut off from Baylor by I-35 and losing population to the surrounding towns and rural areas. The Waco MPO has determined that highway funds are completely inadequate to meet the increasing need for suburban and rural roadway expansions. Scenario planning is being used to create a vision to revitalize the city and rein in suburban sprawl. In Texas, the only regulatory tool for development in unincorporated areas is water permitting, as counties are not allowed to adopt zoning ordinances. So, engaging the business community and the builders in the process was especially important.
- Warren County, New Jersey, a rural county with rail access to Manhattan, is facing a slow but steady increase of suburban development in rural townships, and associated decline in small towns. The New Jersey DOT funded a proactive corridor preservation plan for a 15-mile section of Route 57 to forestall the likely future need for highway expansion or a bypass. Scenario planning helped eight municipalities develop a vision for sustainable, equitable growth and strategies for accomplishing their goals with support from a variety of state and local resources.

Scenario planning offers a structured but flexible process that can be applied in a variety of contexts. It allows the community to write its own story. A typical scenario planning process can be described by asking four questions: where are we now, where are we going, where do we want to be, and how do we get there?
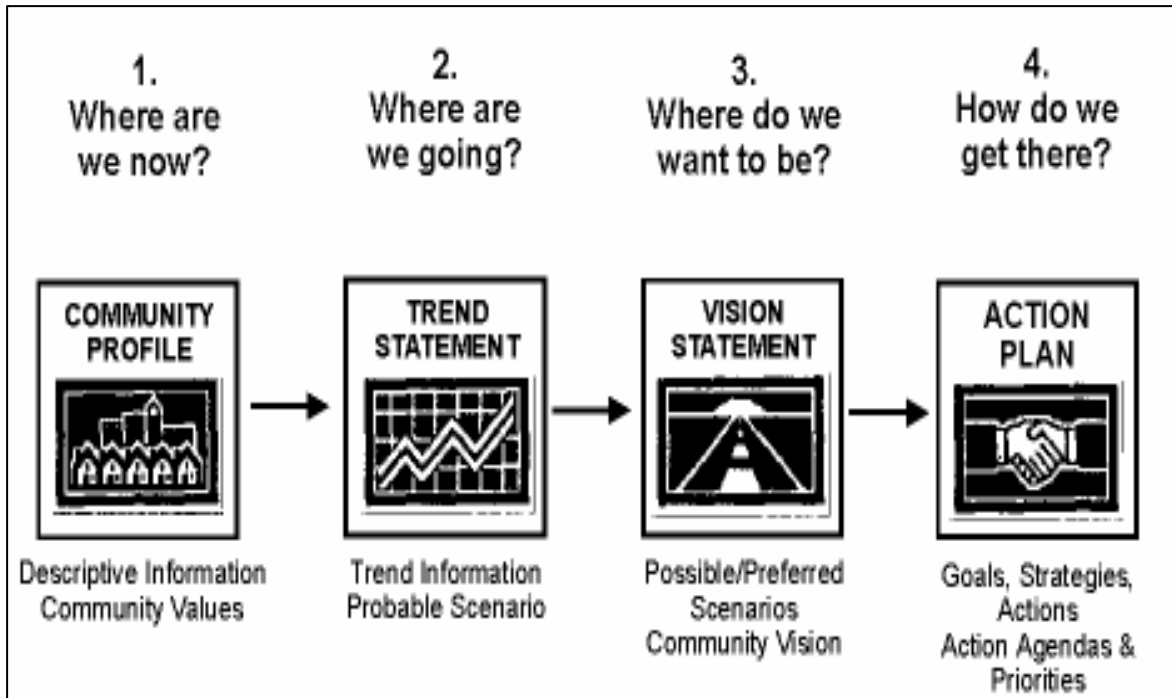
Figure 1: From "Community Visioning: Planning for the Future in Oregon's Local Communities," by Steven Ames, 1997

To answer the questions, "where are we now?" and "where are we going?" the lead agency will need to develop data, such as the following. Preferably, all of these factors will be included in GIS format at some scale, but the dataset will vary by community.

- Environmental features
- Transportation & utilities
- Schools, parks, civic spaces
- City/town/regional centers
- Land use/zoning
- Place types
- Population & employment
- Historic trends, events & places
- Community goals & policies

Four key characteristics of the built environment are particularly important to collect and categorize for urban, suburban and rural areas. Research has shown that these elements, dubbed "the Four D's," have the strongest influence on travel patterns, including vehicle miles traveled, number of trips, and mode choice. They include:
- Density – the balance of built and open space;
- Diversity – the mix of activities (commercial, residential, civic, etc.);
- Design - the layout and proportion of buildings, streets, and civic spaces (block length, building height and orientation, street width and connectivity, sidewalks, parking lots, etc); and
- Destination – the location of key activity centers in relation to roadway and transit facilities

To gather data on the local community from the public, workshop and meeting participants may be asked to generate or validate commonly held values and to map their "treasured places," as a way of understanding how core values are reflected in local development patterns. These discussions

naturally lead into identifying development patterns and specific design elements that people do not like. Through this process, community members can clarify what they mean by often-controversial terms such as "sprawl," "density," "economic development," and "environmental preservation," and they can achieve consensus on a few fundamental principles that will guide the entire scenario planning process, from choosing key issues to developing scenario evaluation criteria.
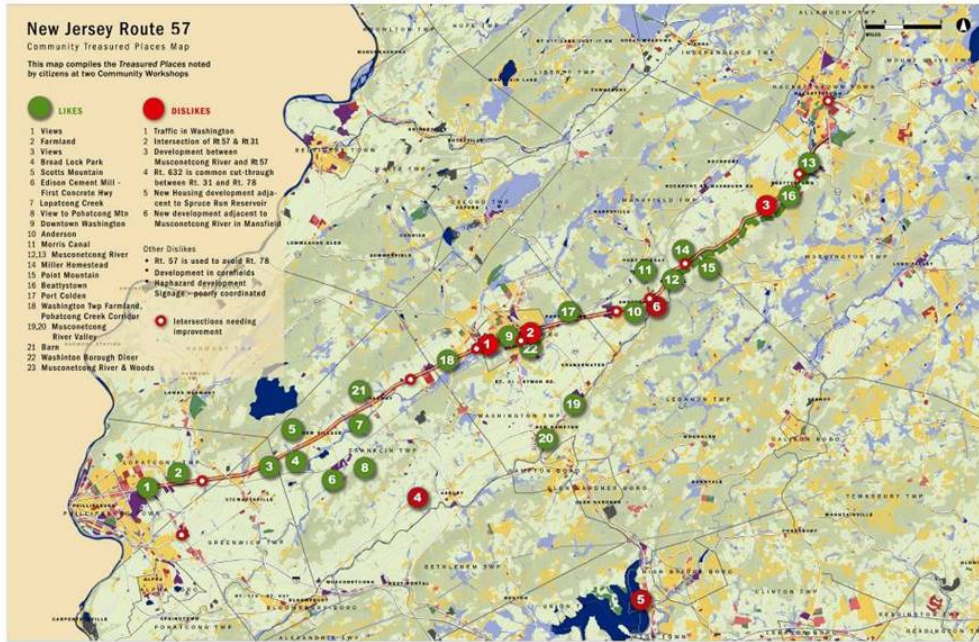

Figure 2: Treasured Places Map, Route 57 Corridor Preservation Plan

Until the group can agree on overall core values and goals, it is helpful to keep the discussion on the big picture. Often the conversation can be built upon previous initiatives, and does not have to start from scratch. In Charlottesville, for example, the regional sustainability council created an extensive list of values, goals and indicators that were validated and focused at the onset of the scenario planning process. Often, the lists of goals are very similar from community to community, but it is critical to conduct broad input and face-to-face conversations in order to create them, both to gain immediate "buy-in" and clear direction for the study, as well as to encourage commitment to implementation at the end of the process.

During the next stage of the process, the lead agency addresses the questions of "where are we going? and "where do we want to be?" by generating information such as the following:
o   A succinct list of clearly defined core values;
o   Images and information to show ways in which urban, suburban, and rural development patterns could better reflect core values in the future, tying them back to "the Four D's;" and
o   A trend scenario based on existing development patterns.
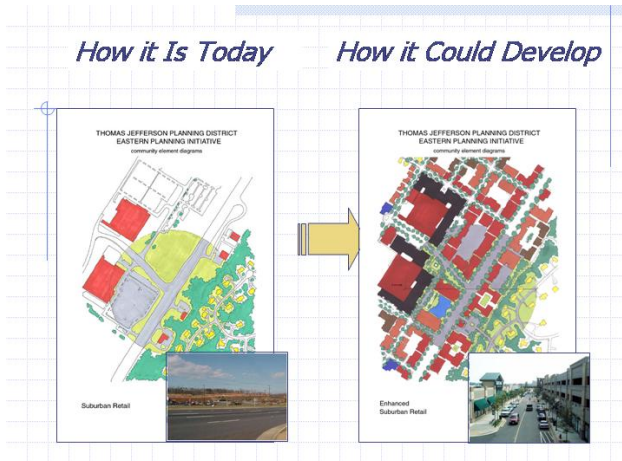
Figure 3: Existing and "enhanced" suburban community element, Jefferson Area Eastern Planning Initiative

After validating people's common understanding of these values and how they are currently reflected in existing and potential future urban, suburban, and rural settings, workshop participants can use dots or chips on maps to construct alternative future growth scenarios that seek to address their values. For example, workshop participants in the case study communities generated potential future land use and transportation patterns that sought to achieve values-based themes such as "transportation choices for everyone," "creating vital core cities," or "preserving our natural landscape."

Based on the ideas generated by the community, the lead agency can then build alternative future development scenarios and test their impacts using software tools that support scenario planning and visualization. It is important to assess impacts that relate to all the core values and goals people put forth, even though some can be challenging to quantify in a model. This is why it is helpful to make the effort early in the process to clarify values and goals in specific, definable ways focused on physical characteristics of the landscape such as "the Four D's."

Values, Priorities & Indicators: McClennan County, TX	Land Consumption	Vehicle Miles Traveled	Vehicle Hours Traveled	Travel Speed	Gallons of Gas Consumed	Congestion	Roadway Project Costs	Housing Choice	Infill and Redevelopment	Walkable Communities	Proximity to Schools	Proximity to Transit
Vibrant Economy												
High-quality manufacturing, high-tech & health care jobs								✓	✓			
Popular arts & recreational attractions								✓	✓			
Strong "Town-Gown" connections							✓			✓	✓	✓
Vital urban centers	✓							✓	✓		✓	✓
Affordable, high quality housing								✓	✓		✓	✓
Transportation For All												
Convenient public transit for commuters & visitors								✓	✓			✓
Effective transit & bike/walk options for those who can't drive								✓	✓	✓	✓	
Safe, attractive pedestrian connections								✓	✓	✓		
Efficient roadway networks		✓	✓	✓	✓	✓	✓			✓	✓	✓
Effective freight systems		✓	✓	✓	✓	✓						
Thriving Natural Environment												
Active ranches & farms	✓								✓			
Sensitive river corridor & Lake Waco development	✓								✓			
Abundant open spaces & parks	✓								✓	✓		
Clean air and water	✓				✓	✓						

Figure 4: Values and Indicators, McClennan County Future Land Use Study

The scenarios should differ from one another as much as possible, so that the community can see and discuss the difficult trade-offs that may be involved in agreeing up on a vision. In Binghamton, for example, the process helped participants understand that there was not enough projected growth to revitalize the urban core while also continuing to support new suburban development. The trend scenario showed that development was clearly migrating out of the core cities to the suburbs, and that a concerted effort would have to be made to re-direct it as well as stimulating new urban growth. The travel demand impacts of the preferred development scenarios were modeled to show changes in transportation performance and levels of investment compared to the results under the current plan. The resulting vision and transportation plan made a clear policy statement that urban transportation investments were a higher priority than suburban highway expansion, even if this meant tolerating some congestion in the suburbs.

Understanding the impacts and associated costs of transportation investments for each scenario helps the community to understand the most feasible and appropriate strategies to consider. The process helps people think all the way through the impacts of their vision and decide where they are willing to compromise in order to move forward more effectively. In Charlottesville, for example, scenario planning helped people understand that there simply was not enough density to support rail transit, which had long been argued for by rail advocates. Many now support the development of Bus Rapid Transit, which is a more sustainable and affordable form of transit for the city's size and scale.

As community members participate in evaluating the scenarios, the focus is on the final two questions of the scenario planning process: "where do we want to be?" and "how will we get there?" Workshop participants discuss and tweak the scenarios in order to craft a single "preferred" scenario upon which a vision can be constructed.

It is important at this point to ensure the community understands the difference between a vision and a plan. The vision provides a clear picture of the community's desired future, both in words such as guiding principles and in pictures such as a map of the preferred scenario and graphics that show desired development patterns for urban, suburban and rural settings. It provides clear direction on what should happen, but it does not dictate how the job should be done. The process of deciding how to go about achieving the vision is done after the scenario planning process is complete, by updating local, regional, and state plans, policies and programs relevant to land use, transportation, economic development, environmental preservation, and other key elements that affect development patterns. Scenario planning tools can be used for any and all of these followup planning activities, and are particularly useful in testing alternative strategies for consistency with the vision.

Many other planning and policy tools can be developed based on the ideas and information generated through the visioning process, such as --
o Site development planning charrettes (real or hypothetical) that apply the vision and principles to actual places in the community;
o Design guidelines based on "the four D's" that local governments can use in plans, policies, and development review processes;
o Context-sensitive roadway design standards that can be used by DOTs, public works departments and MPOs to guide decisions about new transportation projects; and
o Travel demand modeling enhancements that can test the influence of changes in land use patterns on vehicle, bicycle, pedestrian, and transit use.

Discussion
How long a process is required?
Regional scenario planning projects typically take one to two years, sometimes longer if the region is very large or complex. In the case of Binghamton, the process of building the vision took only six months. The long-range transportation plan update was adopted a few months afterward. The two-year Charlottesville process was prefaced by the regional sustainability council work and followed by the long-range transportation plan update, corridor studies, and local land use plans. The Warren County project took about 18 months.

Moving quickly can build momentum among a core group of dedicated people, but may require simplifying the analysis and reducing the breadth of public engagement. Longer processes allow for richer technical analysis and more extensive outreach. In any case, it is important not to let too much time go by without some form of community outreach such as workshops, committee meetings, focus groups, interviews, and media updates (two to four weeks for shorter processes, one to three months for longer ones).

How do local and regional visions work together successfully?
Both are important and there are areas of overlap. At a local level, the visioning process can and should consider the context of regional development patterns and travel demand on the desired future, since local outcomes and issues are highly influenced by – and influence - these outside factors. At the regional level, the scenario planning process provides a useful way build a vision based on a regional pattern that reflects "the four D's" of desired land use and transportation conditions at a site-specific, local level. It also provides an opportunity for communities whose plans and visions may be in conflict to craft a shared future in which they all can "win."

B. Presentation: Transportation Tomorrow 2030: Placemaking for Prosperity

Steven Gayle, [Binghamton Metropolitan Transportation Study (BMTS)](), Binghamton, NY

BMTS serves as the metropolitan planning organization (MPO) for the Binghamton, New York region. The Binghamton area has been experiencing a slow economic decline and population loss along with a "hollowing of the core": a declining downtown and only slow suburban growth. In 2004, BMTS hosted a scenario planning workshop, which kicked off a scenario planning and visioning process for the Binghamton area. The subsequent plan, *Placemaking for Prosperity*, grew out of the process and was well-received, earning awards from the Association of Metropolitan Planning Organizations and the United States Department of Transportation.

Before the BMTS study, scenario planning had mostly been used in high-growth areas. Introducing scenario planning to Binghamton allowed participants to consider the question, "what is success if it is not growth?" It also allowed BMTS to talk about core livability issues, not just technical topics, such as levels of service or hours of delay. Participants were able to agree on a preferred scenario. That scenario, "Moving In", was summarized as "revitalize and redevelop the urban core communities. A region with a hollow core cannot ultimately be successful." The public outreach and visioning portion of the process was completed relatively quickly, within six months, in order to meet Federal deadlines.

Implementing the preferred scenario is not entirely within the control of BMTS and participants were made aware of this. However, the transportation plan was written to reflect the outcome of the scenario planning process. While BMTS does not have the power to shift development away from the suburbs, it can focus transportation projects in the areas where development is desired. The Transportation Improvement Program (TIP) is soon due to be updated and will serve as a test of the communities' commitment to the preferred scenario. Some impacts can already be felt. For example, the scenario planning process led to a new focus on the needs of elderly pedestrians in the urban core, and signal timing decisions have been made to reflect those needs. Also, some progress has made towards integrating the university and the county transit systems. In conclusion, Mr. Gayle noted that a challenge of scenario planning can be reminding the participants that the vision is for a 25-year process and cannot be implemented immediately.

Discussion
Who controls the implementation funding?
BMTS has a good relationship with NYSDOT, but the two agencies may have different visions on how best to allocate funding. Statewide, the transportation funding shortfall has been estimated at $100 billion over the next 20 years (www.nysdot.gov/portal/page/portal/index). A necessary focus on system preservation makes it harder to implement recommendations from the Plan that focus on placemaking and context sensitive solutions.

Is BMTS working with the university?
Binghamton University is located on a suburban arterial and there has historically been relatively little interaction with the urban core. However, a new facility has recently been built downtown, which has strengthened the relationship.

Was there direct involvement by the disabled community in the process?
One local agency, the Southern Tier Independence Center, has long been involved with transit issues and participated in the process.

How were economic development agencies involved?
They are represented on the BMTS Planning and Policy committees, and in the Community Vision Team.

What was the cost of the project?
The consultant fee for the outreach and visioning portion of the project was approximately $65,000. The consultant scope was limited to assistance with community visioning and scenario development and refinement. The remainder of the Plan was done in-house.

C. Presentation: Community 2050 Update

Steve Devencenzi, [San Luis Obispo Council of Governments](), San Luis Obispo, California

Overview

The San Luis Obispo Council of Governments serves San Luis Obispo County in central California. California's transportation agency, Caltrans, has been promoting a form of scenario planning known there as [Blueprint](). Many agencies across California have participated in Blueprint projects, which have generally been lead by MPOs. Caltrans also sponsors the [Blueprint Learning Network]() to advance the Blueprint process statewide. Members meet three times each year to share information and experiences.

SLOCOG received a Blueprint grant from the state in fiscal year 2005-06 to undertake a scenario planning process. This process, called the Community 2050 Update, centered on having the community envision the region's future. SLOCOG started with its municipalities' 20-year plans, and then asked how people wanted the region to develop from there over the next couple of decades.

SLOCOG endeavors to align each agency in the region with a shared, public vision through the scenario planning process. To succeed in this process, SLOCOG divided the county into four parts based on each part's own distinct markets (for example, jobs and housing) and characteristics; this allowed smaller areas within the county to be heard. The four parts were the North Coast, Central Area, North County, and South County.

SLOCOG set up stakeholder involvement committees with locally elected officials and other interested parties in each of the four parts of the county to solicit their input and to get their buy-in early on. SLOCOG ensures that they have locally elected officials on board as early as possible to engender a feeling of ownership of the process. They also stress that a regional vision is being created that the communities can choose to implement in their plans, or not.

SLOCOG held a series of workshops in each of the areas in the county as part of their 2050 visioning process. The general public was invited, and elected officials and planning commissioners also attended. At the workshops, members of the community and stakeholders got together to review existing maps and brainstorm ideas for new development. The main purpose of the workshops was to build awareness and consensus. SLOCOG created "Development Type" menus in their model, described more below, that enabled participants to create alternative scenarios (Development Type indicators are listed in Box 1). The scenarios are compared on the fly to assist in developing new

ideas. Interactive polling was used to ask participants what summary concepts and scenarios they most preferred. Existing land use served as a baseline scenario to compare proposed land use changes and to evaluate development impacts.

Box 1: Indicators in the iPLACES Model

- Jobs per Capita
- Total Acres with Employment
- Dwelling Units and Jobs by Sector
- Employment Totals
- Employees per Acre
- Employees per Dwelling Unit
- Dwelling Units per Employees
- Floor Area Ratio Density
- Dwelling Unit Totals
- Dwelling Units per Acre
- Total Acres with Dwelling Units
- Residents per Acre

- Physical Displacement
- Potential Jobs & Housing Units Through Redevelopment
- Jobs Housing Match
- Tenure of Housing Stock
- Total VMT per Household and percent Change in VMT from Base
- Annual Health Related Costs and Percent Change in Annual Vehicle Emissions
- Overall Pedestrian Friendliness
- Pedestrian Environmental Quality

- Annual BTUs and Percent Change in Annual BTUs
- Miles of Bikeways per Capita
- Transit Stop/Line Dwelling Unit Densities
- Transit Stop/Line Employment Densities
- Overall Transit Friendliness
- Transit Friendliness by Stops
- Rail Boardings
- Percent Change in Rail Boardings
- Parks/Open Space per 1,000 People
- Water Consumption

In working with stakeholders and the public, SLOCOG found real-time analysis of the scenarios to be an important tool in demonstrating how infrastructure decisions shape the community. Having real-time results also helped SLOCOG build trust and bolster public buy-in, as the process was open and transparent to the participants. At the public workshops, participants were first seated at tables within a meeting room, then given chips to place on a map of the county in areas where they thought population and jobs should be located between the years 2030-2050. Participants were given the choice of several chip sets, from low-density (business as usual) growth up to high-density growth. As participants sketched out future land use scenarios, forecasters at each table entered information into a computer. Through a program called iPLACES, which was connected to the region's traffic model, the computer yielded immediate feedback to emphasize the relationship between land use choices and traffic conditions. Figure 4 shows how SLOCOG used technology to inform workshop participants of the transportation impacts of their development choices. Generating feedback took only 15 minutes. When people saw the impact of continuing low-density growth on their community and the surrounding environment, many participants traded their lower-density chips in for higher density chip sets, and new information was entered into iPLACES.

Technical assistance for the project was provided by nearby California Polytechnic University. Working with the local university enables SLOCOG and local units of government to take advantage of a broad knowledge base and a pool of student labor. California Polytechnic University houses GIS data and makes it available for use by all. A master agreement governs the university's work with SLOCOG and acts as a simple mechanism to facilitate a wide range of technical assistance.
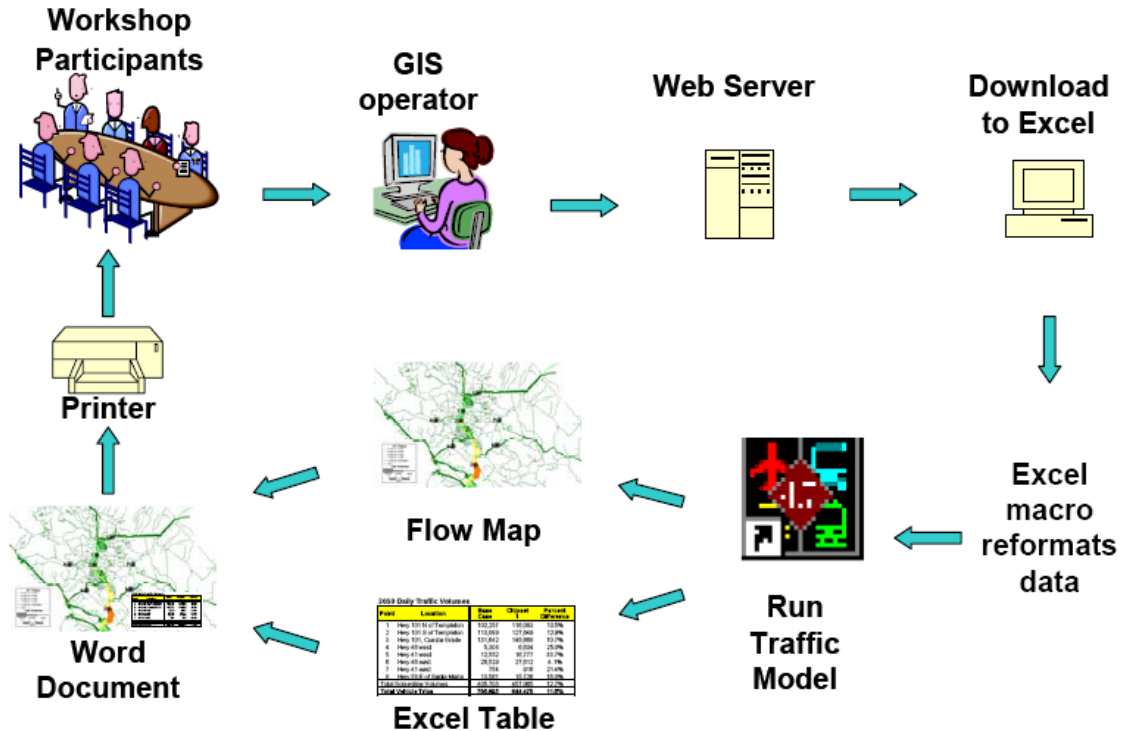
Figure 5: Real-Time Modeling of Transportation Impacts

The program SLOCOG used to translate the participants choices into regional impacts – iPLACES – is a parcel-level web-based scenario planning tool that is the successor of PLACE^{3}S. PLACE^{3}S is a desktop scenario planning tool that has been used by the Sacramento, San Francisco, and San Diego regions. SLOCOG is now using UPlan, a tool developed by the University of California at Davis in partnership with CalTrans. UPlan models where land use changes will occur in response to the transportation infrastructure.

Lessons Learned

Mr. Devencenzi noted that the biggest problem facing city planners is a lack of consensus. Scenario planning helps groups reach consensus quickly. SLOCOG believes their workshops were particularly successful since the community was continuously engaged with real-time results. Fast, high-tech results made the workshops more enjoyable and impressive. During the process, many participants were surprised to learn that location matters: forecast traffic conditions varied from table to table even though the same number of households and jobs were added at each. Overall, the process served to strengthen SLOCOG's credentials in future public dialogue on land use issues.

Challenges SLOCOG faced include performing complex tasks quickly in front of a large audience. Doing this is necessary for real-time results, but is inherently risky. SLOCOG found that it was a good idea to have backups ready for everything. Another lesson learned was that when the public uses the same tools that planners use, they understand planning much better. Participants learned a lot from the results of their first scenario. Giving them time to develop a second scenario reinforces the lessons they learned. SLOCOG found that it was important to agree on goals, to develop principles of agreement, and to measure development based on these principles throughout the process.

Next Steps

Recently, SLOCOG's Board of Directors has adopted an approach which would focus on a continuing process to revisit issues on a regular basis, structured around core values. Although the details have

not yet been defined, this approach should help to ensure that planning efforts are focused and implementable, instead of producing a document that "sits on the shelf".

Other next steps include doing a smart growth inventory of local communities' existing regulations and ordinances. The work will be performed by the California Polytechnic University, as part of its ongoing relationship with SLOCOG.

Discussion

Can scenario planning be used to address climate change?
Yes. Although the transportation models are not sensitive enough to address walkability, different scenarios resulted in higher or lower estimates of emissions.

D. Presentation: Scenario Planning Tools
Brian Betlyon, Metropolitan Planning Specialist, [FHWA Resource Center](); Baltimore, MD

Brian Betlyon discussed the role of tools and techniques in scenario planning and provided information on additional resources. According to Betlyon, the premise of scenario planning is that it is better to "get the future imprecisely right" than to "get the future precisely wrong" when developing transportation plans. Tools can help people involved in scenario planning get the future as "imprecisely right" as possible. These scenario planning tools can provide decision-makers and the public with the information they need to make educated decisions. Scenario planning tools can help communities plan by design instead of by default, meaning that they can make informed decisions on how the actions (or inaction) that they take today will affect the future.

A variety of technology tools can help communities consider scenarios and make better decisions. These tools can be divided into the following categories:

- *information resources*, including websites such as http://www.placematters.com, http://www.smartgrowthamerica.org, http://www.sustainable.doe.gov, http://www.fgdc.gov, http://www.fhwa.dot.gov/planning/landuse/, http://www.natureserve.org/, and http://hud.esri.com/egis/;

- *visualization tools and techniques*, such as photo montage, architectural drawings, visual preference surveys, visual kiosks, Google Earth, and Box City;

- *impact analysis and GIS models* using software such as INDEX and Paint the Town, What If?, MetroQUEST, UrbanSim, and CommunityViz; and

- *process tools and techniques* such as civic participation, the PLACE[3]S process, and methods for finding common ground. For example, establish a neutral community meeting place, conduct large-scale town meetings, or establish a civic learning center.

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

IV: Local Perspective

A: Secretary Neale Lunderville, VTrans; Mel Adams, Director of Policy and Planning, VTrans

VTrans has entered into a scenario planning process at the state level to update the long-range transportation business plan. Four scenarios were developed by a consultant team based on the results of phone interviews with 1,200 residents, data review and findings, interviews with national and local experts and twelve focus groups:

- Business as usual: slow to moderate growth, transportation funding shortfall, and decentralized land use planning;
- Environmental change: deteriorating air quality and climate change;
- Energy crunch: fuel costs rise sharply; and
- Growth scenario: new businesses lead to immigration and faster population growth.

A workshop for 75 participants was then held to discuss responses to and implications of the scenarios. A considerable amount of information has been received through the development of the scenarios and VTrans is now working to process the information.

B: Presentation: Scott Johnstone, CCMPO Executive Director

Mr. Johnstone noted that CCMPO is fortunate in having in-house modeling and GIS capabilities. Scenario planning is one way to use these tools productively. For the plan update, Mr. Johnstone suggested using a 50-year time horizon with a "check-in" at the 20-year point. Land use cannot be reshaped within 20 years, due to building life spans. Consequently, using a 20-year process alone will reinforce the status quo, as the only thing that amortizes over 20 years is pavement. If, instead, the process uses a long enough view, sustainable choices will always win.

Using scenario planning will allow the community to consider different futures, including those that may be uncomfortable. Possible futures might include becoming an air quality non-attainment area, peak oil, climate change, population change, and Federal funding changes. The process to use could develop several scenarios, a bandwidth approach, or "best guess" hybrid approach – integrated resource planning (IRP).

V. Discussion

A: Breakout Session 1: Pair Discussions

Working in teams of two, participants took turns completing the sentence, "in 50 years, the CCMPO region will be a place where _____..."

Responses ranged from "West Palm Beach, due to global warming" to "where people feel safe". Common themes were the desire to increase affordable housing; dense, mixed-use development; the availability of transit; and sustainability of local industry, local agriculture, and development.

Figure 6: Workshop attendees participating in the pair discussions

B: Breakout Session 2: Small Group Discussions

Participants met in small groups to discuss the

questions, "where are we now, where are we going, where do we want to be, and how will we get there?" Following the discussions, each group reported out.

In general, participants spoke positively about Chittenden County and its natural and cultural resources. However, concerns about housing costs, decentralized development, and a lack of transportation choices were common. In order to implement change, more regional thinking and diverse public involvement were desired.

C: Peer Panel
To conclude the workshop, each of the peers answered questions from the group and provided final thoughts.

- Taking a very long term horizon, such as 50 years, helps to turn around negative thinking.
- The 50-year plan should not be created only by the 50 year-old residents. It is important to engage younger people with different perspectives, as it is their future being planned.
- Scenario planning is some of the most important work that you can do. You are working to build a better future for your children and grandchildren.
- Vermont already has a lot of good tools and has had a lot of good process already. Follow-up might be more about facilitation than about visioning. Use visualization tools to move forward.
- There are lots of publics. Decisions are the composite of thousands of individual personal behavior decisions.
- When decision makers are concerned about raising public expectations that cannot be met, scenario planning is a useful tool. Instead of creating a plan of projects that cannot be delivered, scenario planning is about "painting pictures and getting input" to determine the direction where the community wants to go.

VI. For More Information

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