

# Scenario Planning Peer Workshop

Sponsored by the Federal Highway Administration

- Location:** Monterey, California
- Date:** June 2, 2006
- Workshop Host Agencies:** Association of Monterey Bay Area Governments  
California Department of Transportation  
Federal Highway Administration, California Division
- Workshop Participants:** Berkeley-Charleston-Dorchester Council of Governments  
Cities of Gonzales, Marina, Monterey, Salinas, Scotts Valley, and Soledad  
County of Santa Cruz  
Federal Highway Administration, California Division, Office of Planning,  
and Resource Center  
Monterey-Salinas Transit  
Puget Sound Regional Council  
Santa Barbara County Association of Governments  
Strategic Initiatives  
San Luis Obispo Council of Governments  
US DOT Volpe National Transportation Systems Center

## Summary

The following report summarizes a Peer Workshop on tools and effective practices for scenario planning. The Federal Highway Administration (FHWA) coordinated and led the daylong workshop in Monterey, California. Presenters from the FHWA provided participants with an overview of the scenario planning process and described available resources and tools to assist with scenario planning analysis. The local presenter from Association of Monterey Bay Area Governments (AMBAG) discussed population, quality of life, and development trends in the Monterey region. One of the main issues the region faces is unaffordable housing for many of the region's inhabitants.

In addition to presenting information on their region's scenario planning efforts, the peer presenter from San Luis Obispo Council of Governments, California, discussed how his region used real-time results to engage stakeholders; the presenter from the Puget Sound Regional Council discussed how his region integrated scenario planning into environmental impact statements; and the presenter from Berkeley-Charleston-Dorchester Council of Governments discussed how his region is implementing projects in line with their scenario planning effort in light of political challenges. A question and answer period at the end of the presentation focused primarily on media coverage and public involvement.



## I. Introduction

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

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

Scenario planning represents an integrated approach to decision making that is composed three main considerations. First, planners need to get people to talk about values, trends, and tradeoffs. Then, planners need to assess these values, trends, and tradeoffs to identify principal for which to move forward. Second, planners need to use GIS based visualization tools to show people what the future would look like based on today's decisions. Last, planners need to build relationships, credibility, and trust with stakeholders and the public. An effective way to build trust is to listen to the public and show them that their input is being acted upon.

Queensland, Australia, developed the following step-by-step process for scenario planning:

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

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

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

## II. Local Trends and Planning Efforts

### A. California Regional Blueprint Planning Program

Katie Benouar, California Department of Transportation,  
[Regional Blueprint Planning Program](#)

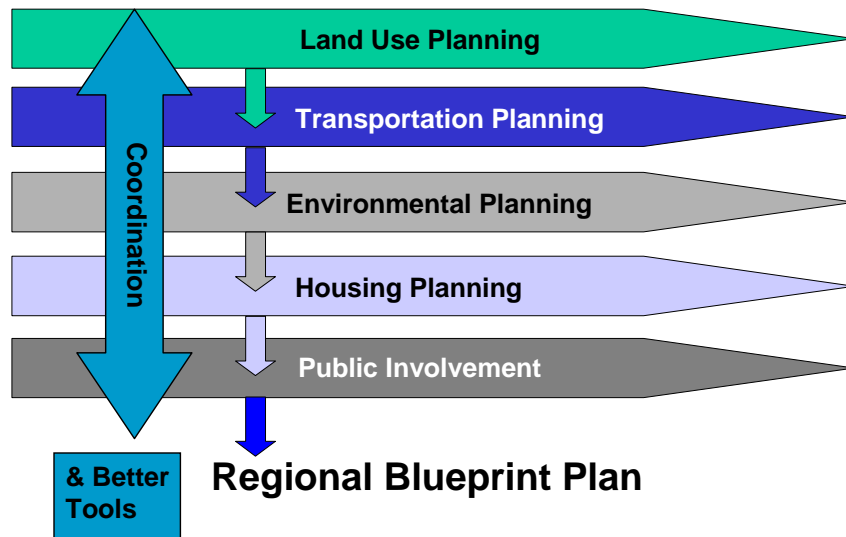


The California Regional Blueprint Planning Program is a state initiative to promote the linking of land use, transportation, housing, environment, economic development, and equity. Through the California Department of Transportation (Caltrans), the state distributed five million dollars in funding to seven regions in FY 05-06, and the state will distribute another \$5 million in FY 06-07. These funds are to be used by the region to reach consensus on a preferred growth scenario or "Blueprint."

The program focuses on regions by providing a regional framework for collaboration. Federal and state agencies provide funding and guidance, localities make land use decisions, and communities supply

public input on needs and desires. Regions are well-positioned in this framework since they already have a regional planning process, corridor and landscape vantage points, and a process for convening stakeholders.

Regional Blueprint planning consists of scenario planning; stakeholder involvement and a commitment to results so that people feel that the Blueprint is a real vision; extensive public involvement including those who are traditionally underserved; the innovative use of visioning tools; the incorporation of environmental and socio-economic data, especially early on in the process to head off any issues down the road; and performance measures. Regional Blueprint planning also involves the integration of plans, such as regional transportation plans, habitat conservation plans, integrated regional water management plans, housing plans, and local general plans. Including public involvement, the integration and coordination of these plans results in planning processes that are parallel and not conflicting (Figure 1).



**Figure 1: California's Blueprint Planning Process: Comprehensive, Collaborative, and Integrated**

The state hopes that the program will result in regional plans for land use patterns and transportation systems that:

- Improve mobility;
- Reduce auto dependency and congestion;
- Increase transit use, walking, and bicycling;
- Encourage infill development;
- Accommodate a sufficient housing supply;
- Minimize impacts on farmland and habitat; and
- Establishes an on-going process for public engagement in planning.

### B. Monterey Bay Region Overview

Kathy Urlie, [Association of Monterey Bay Area Governments](#)



The Association of Monterey Bay Area Governments covers three counties in the central coastal area of California. These counties – Monterey, San Benito, and Santa Cruz – contain eighteen cities and approximately 742,944 people. The 5,767 square mile region has 128 miles of coastline and 4,392 miles of streets, roads, and highways. Major cities include Salinas, Santa Cruz, Watsonville, Hollister, Seaside, and Monterey.

The region differs socio-economically from the California average in several ways. The region is growing at about half the rate of the California average: about 0.7% between 2004 and 2005. Area by area,

there is projected to be small growth in Santa Cruz County, little to no growth in northern Monterey County, higher growth along the US 101 corridor, and mixed growth for northern San Benito County. Growth in the south will likely be due to more affordable housing and more abundant water, which allows for more new development.

The region is more diverse with Hispanic people composing approximately 44% of the region's population. Proportionally, the region has slightly fewer seniors compared to the state average, but like the rest of the state, the region's population is growing and is projected to continue growing older. The region is varied in its employment with agriculture composing 8% of the region's employment. However, this relatively small employer produces \$2.5 to \$3 billion a year in revenue. The region's annual average wage is just under the state average, and unemployment rates are just above the state average. The region is wide ranging in educational attainment with 35% of Monterey County's population having an associate degree or higher compared to 45% in Santa Cruz County.

In light of all of these trends, housing prices are infamous in the region for being very high. The region's median home prices, which vary between about \$575,000 in San Benito and \$700,000 in Santa Cruz, are well above the state median, and they continue to grow in most areas in the region. When considering annual incomes, affordability continues to decline.

Housing prices are high due to demand and high property values, which recently went up again. The demand for housing in the region is high for two main reasons. First, the supply of housing is limited by the water supply with new homes not permitted without having new water made available. Second, many homes are bought as investments and vacation homes, so they are not always inhabited and do not significantly contribute to housing for people who work in the area. People who work in the region are also facing competition for housing from people who commute over the hill to the San Jose area who can better afford the high housing prices. More households are becoming homes to multiple and extended families, resulting in some illegal housing conversions and expansions.

Because the land is so fertile and valuable in the region, with land yielding two to four harvests per year, the region continues to try to retain their agricultural land. Despite this on-going effort, the region has lost 6,500 acres between 1992 and 2004 to urbanization and development. Approximately one-third of the agricultural land in the area is under Williamson contracts, which guarantee that the land will be used for farming for a certain amount of time. However, some of these contracts are expiring, and agricultural landowners feel more pressure to develop their land if they are near urban areas. Other agricultural land in the area is under permanent agreement to remain in production and never be developed.

Compared to the state average, fewer people in the region drive alone to work and fewer people use public transportation, due in part to the low population densities in the region. Accordingly, more people carpool to work than the state average, though that number is decreasing regionwide as more people drive alone. The mean travel time to work has been decreasing over the past four years and is below the state average. However, the level of service on many of the roads in the region is projected to decline over the next 25 years as the population increases, as will the number of vehicles on the roads. Many of the people who will account for the growth in the region's population over the next 25 years are likely to commute to an area outside of their hometown, which will also contribute to congestion in the region. The region is hoping to extend Caltrain from San Jose to Salinas to help alleviate some of this commuter traffic. Tractor trailer traffic – particularly in agricultural areas – is anecdotally significant, and AMBAG is applying for a grant to develop a freight module for its travel demand model and to create a freight advisory committee.

### **III. Peer Practices and Observations**

Each of the three peers gave some background about their regions, described their scenario planning processes, and discussed what they have learned from their experiences. Each presenter also focused on different aspects of their scenario planning processes. The presenter from San Luis Obispo Council of

Governments, California, discussed how his region used real-time results to engage stakeholders; the presenter from the Puget Sound Regional Council discussed how his region integrated scenario planning into existing planning documents and environmental impact statements; and the presenter from Berkeley-Charleston-Dorchester Council of Governments discussed how his region is implementing projects in line with their scenario planning effort in light of political challenges.



**SAN LUIS OBISPO  
COUNCIL OF GOVERNMENTS**

*Working toward an efficient, inter-modal transportation system for the San Luis Obispo Region*

## **A. Community 2050 Update**

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

### *Overview*

The San Luis Obispo Council of Governments (SLOCOG) received a Blueprint grant from the state in fiscal year 2005-06 to undertake a continued scenario planning process. This process, called the Community 2050 Update, centers on having the community envision the region's future. SLOCOG started with its member agencies 20-year plans, and then asked how people wanted the region to develop from there over the next couple of decades. SLOCOG is currently between Phases II and IVA as shown on Figure 3. Based on the preferred 2050 vision, some changes may need to be made to the 20-year plans.

Unlike AMBAG, which covers three counties, SLOCOG covers one county – San Luis Obispo County – in central California. Though the lack of multiple county governments makes coming together around a shared vision simpler, SLOCOG still 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 (North Coast, Central Area, North County, and South County) based on distinct submarkets and characteristics within the region (such as employment, housing, and climate). Looking at the county as a whole would have made the smaller areas feel unheard.



**Figure 3: The phases of SLOCOG's scenario planning process**

To involve as many agencies as possible, 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. The Planning Departments in most cities in the region are understaffed. They are unable to be proactive in this type of larger scale process and depend on SLOCOG along with the Air Pollution Control District (APCD) and Local Agency Formation Commission (LAFCO) to guide this planning process. Cities are also apprehensive because they do not want to lose control of planning authority within their borders and there has been fear expressed that this process may lead the way to the imposition of standards that may impact their autonomy. To address this apprehension, SLOCOG ensures that they have locally elected officials on-board as early as possible to engender their feeling of ownership of the process.

### Box 1: Indicators in the iPLACE<sup>3</sup>S 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

SLOCOG held a series of workshops in each of the subareas in the county as part of their 2050 visioning process. The general public, stakeholder groups, elected officials and planning commissioners were invited. At the workshops, members of the community and stakeholders got together to review projected land use 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 can be 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.

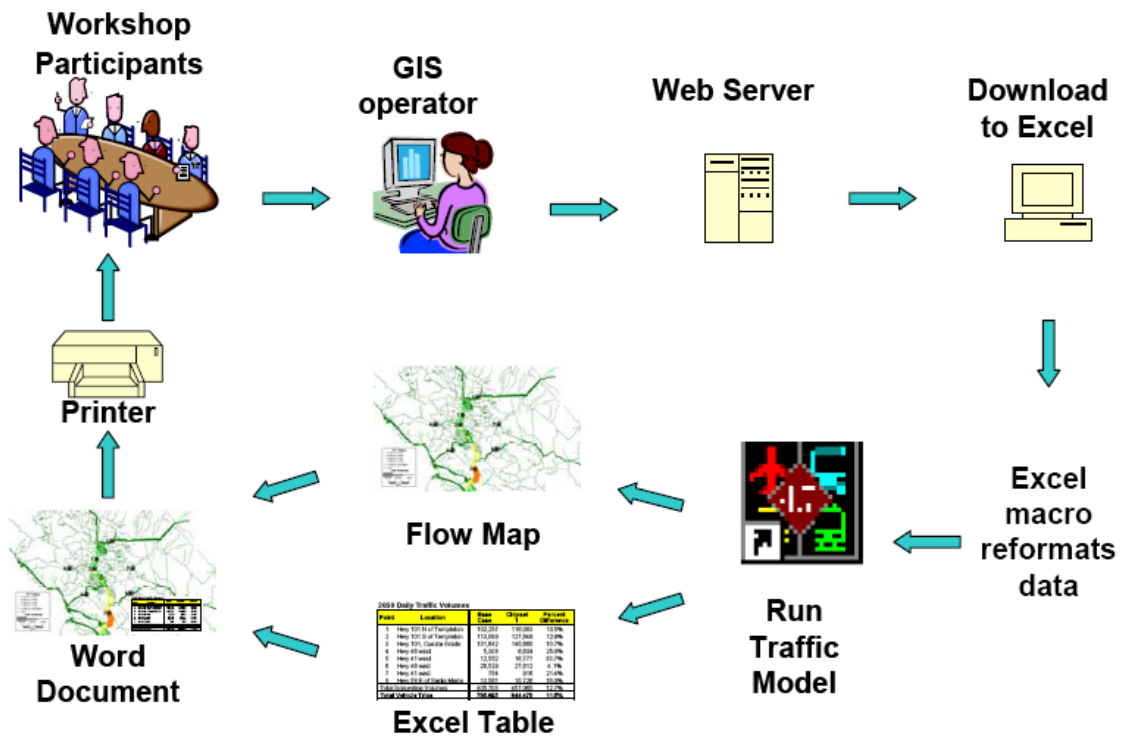


Figure 4: SLOCOG's Participant Involvement Process

In working with stakeholders and the public, SLOCOG wanted the technology to be invisible by operating in the background. SLOCOG also wanted real-time results to impress people by showing them how their decisions take shape. Having real-time results helped SLOCOG build trust and bolster public buy-in. Figure 4 shows how SLOCOG used technology to inform workshop participants. At the public workshops (aggregated into two areas: coastal and inland), participants, who were seated at tables within a meeting room, were given “chips” or stickers to place on a map of the county where they thought population and jobs should be located for the increment of growth anticipated 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 iPLACE<sup>3</sup>S, which was connected to the region's traffic model, the computer yielded almost immediate feedback to emphasize the relationship between land use choices and traffic conditions. The process shown in Figure 4 took a total of about 15 minutes to complete. When people saw the impact of continuing low-density growth on their community and the surrounding environment, many participants traded for higher density chip sets, and new information was entered into the iPLACE<sup>3</sup>S program. iPLACE<sup>3</sup>S allowed SLOCOG to create and save alternative scenarios in real time.

#### *Lessons Learned and Next Steps*

The program SLOCOG used to translate the participants choices into regional impacts – iPLACE<sup>3</sup>S – is a parcel-level web-based scenario planning tool that is the successor of PLACE<sup>3</sup>S. PLACE<sup>3</sup>S is a desktop scenario planning tool that has been used by the Sacramento, San Francisco, and San Diego regions. While better than the desktop version, iPLACE<sup>3</sup>S was still time-consuming to use. However, a user guide for the program will be developed shortly.

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. Following the initial visioning workshops SLOCOG along with the APCD, County Ag Commissioner, County Planning Department and LAFCO sponsored a series of workshops to discuss regional issues in key areas of concern. Topics in these discussions included: growth trends, fiscal resources, economic vitality, housing, agriculture, transportation, and natural resources and open space.

Challenges SLOCOG faced include performing complex tasks in a hurry 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 you want them to learn. 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. SLOCOG will be working with its member jurisdictions to integrate the lessons learned into general plans, zoning ordinances, and development decisions.

## **B. Scenario Planning and the VISION 2020 Update**

Yorik Stevens-Wajda, [Puget Sound Regional Council](#), Seattle, Washington



The Puget Sound region is composed of four counties, five central cities and 77 other smaller cities, and over 6,300 square miles. The region's population is 3.5 million people, which is up from 1.2 million in 1950. By 2040, it is projected that another 1.6 million people will live in the region. In the context of this growth, the Puget Sound Regional Council (PSRC) used a scenario planning process to update the region's growth management strategy.

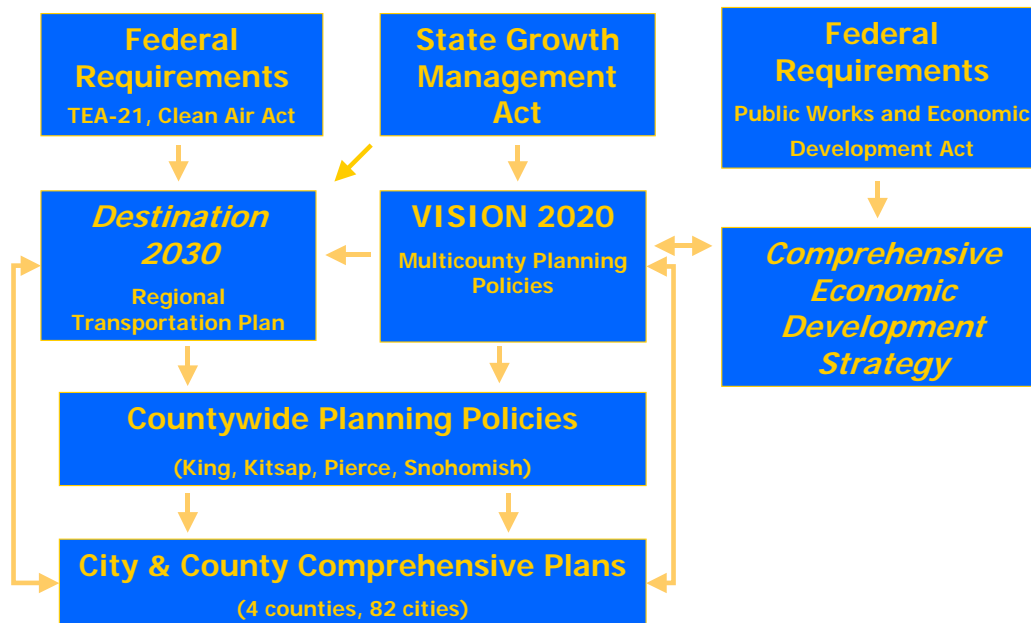


PSRC is the federally-designated metropolitan planning organization (MPO) for the Puget Sound region. Its membership is composed of 70 cities, three ports, two tribal nations, two state agencies, seven transit agencies, and several other associate members. An annual general assembly meeting of its members provides direction for PSRC's yearly work program. PSRC's major responsibilities include managing long range growth, economic and transportation planning, transportation funding, economic development coordination, and regional data collection.

*A History of Regional Planning*

PSRC operates within an integrated network of planning requirements (Figure 5). Their regional planning effort started in 1990 with VISION 2020. The VISION 2020 was built on a foundation of extensive public participation, which involved surveys and polls, public workshops, press coverage, and the involvement of local jurisdictions. VISION 2020 was based on the concept of containing growth within defined urban growth areas, protecting natural resource areas and green spaces, and creating a system of urban centers within the urban area that could be more efficiently linked with a multimodal transportation system.

As a state, Washington is unique in having a Growth Management Act, which was enacted in 1990. This act requires local jurisdictions to protect resource lands and environmentally critical areas, establishes urban growth areas to curb sprawl, and requires coordinated planning between local and regional jurisdictions. In essence, this legislation strengthens the role of the MPOs in regional planning and ensures consistency within and among regions by providing a bottom-up style of regional planning with standard requirements for local comprehensive plans and development regulations.



**Figure 5: How the Plans and Policies in the Puget Sound Region Interrelate**

After the passage of the growth management act, PSRC updated the regional vision in 1995 to more formally serve as King, Kitsap, Pierce and Snohomish counties' integrated long-range growth management, economic, and transportation strategy under the act. This version supported growth in the centers, economic development, efficient transportation, environmental responsibility, and the preservation of rural and resource lands.

In May 2001, the region adopted Destination 2030, which is the updated transportation element of VISION 2020. Destination 2030 contains a regional transportation investment strategy along with detailed implementation actions and guidance for a variety of transportation modes. Destination 2030 was designed to guide actions and transportation investments in the region over the next 30 years.

In September 2005, the region's Economic Development District, which merged with PSRC in 2002, adopted a Regional Economic Strategy for the region. The strategy focuses on the export-oriented industry on which the regional economy relies, and on the true foundations of the economy: human resources, technology, access to capital, business climate, physical infrastructure, and quality of life and social capital.

These three programs – the Vision, Destination 2030, and the Regional Economic Strategy – work in sync and are coordinated to ensure that they are mutually supportive (Figure 5). Since these efforts were first undertaken in the late 1980s, the region has designated regional Urban Growth Areas; developed 198 HOV freeway miles along with new regional commuter rail, express bus, and light rail service; increased transit vehicles by 1,000 with double the local bus routes; created 1,486 vanpools, which is the largest per capita in nation; and has devoted \$100 million for nonmotorized transportation improvements and \$470 million for 15 intermodal freight mobility projects.

#### *The Region's Current Scenario Planning Effort*

The region decided to update the VISION 2020 for several reasons:

- The region has changed significantly since the plan was last adopted;
- Local elected officials showed a strong interest to remain visionary and build on the lessons learned from local planning efforts;
- By having a common VISION, the region has a cohesive framework for various decision-making efforts;
- The update will provide a foundation for addressing complex issues that cannot be adequately addressed by each local government acting alone;
- The update offers the public, business community, and interest groups an opportunity to contribute to developing an agreed upon regional vision; and
- The updating requirements of the Growth Management Act created a situation where local comprehensive plans have begun to look beyond the VISION 2020 Planning Horizon, as have other local efforts, such as the Cascade Agenda project led by the Cascade Land Conservancy, which has sought to identify regional conservation priorities for the next 100 years.

PSRC began the update with an extensive project scoping process in late 2003 that involved a regional public opinion survey, public scoping workshops, the screening and distribution of an outreach video, and with an event at PSRC's annual general assembly. In the summer of 2004, PSRC drafted a scoping report that was based on what they heard from over 1,200 comments and contact with over 2,000 people. This report called for conducting an aggressive and thorough update, building on the current vision of containing urban growth, thinking and providing leadership for the long range, and broadening the vision to cover other important regional issues.

After this scoping process, PSRC moved into the more formal Environmental Impact Statement (EIS) process, which is required under Washington's State Environmental Policy Act. The EIS process primarily addresses the disclosure of impacts from a project or plan, and enables government agencies and interested citizens to review and comment on proposed action. The EIS requirement applies to government approval of private projects and their environmental effects, as well as non-project proposals such as the adoption of local comprehensive plans or regional policies. This process is intended to improve plans and decisions, and to encourage the resolution of potential concerns or problems prior to making a final decision. EISs on non-project proposals are different than project level EISs and are supposed to emphasize alternative means of accomplishing a stated objective, such as accommodating regional growth. A non-project EIS should present a range of options wide enough to provide flexibility for decision makers when they develop a preferred alternative.

The scoping report provided a general three-step approach for developing alternatives for analysis:

1. Create a range of scenarios that range from having more concentrated growth than current comprehensive plans and trends to less concentrated growth than current plans and trends.

2. Narrow the scenarios down to formal alternatives for analysis in an Environmental Impact Statement.
3. Develop a hybrid final alternative, the region's Preferred Alternative.

During the scoping process, PSRC determined that they should take two approaches to developing their scenarios and alternatives. One was to use the region's cities as the basic units of analysis, and second was to consider significant regional geographies actually shifting around population and employment. The resulting units of analysis for these regional geographies included forest and agriculture (approximately 3,700 square miles), rural areas (1,400 square miles), metropolitan cities (225 square miles), core suburban cities (200 square miles), larger suburban cities (130 square miles), smaller suburban cities (150 square miles), and unincorporated areas within the UGA (330 square miles).

With these seven basic geographies, PSRC created eight scenarios of growth ranging generally from more to less concentrated. To analyze the differences in these scenarios, PSRC used a GIS based analysis tool called INDEX Paint the Region. Working with their consultants, PSRC selected 26 indicators that spanned land use, the environment, housing, travel, and employment. INDEX then evaluated how sensitive these indicators were to population and employment distribution.

While many indicators moved only slightly at the regional scale, benefits and impacts varied within the region for each scenario. This observation heightened the importance that PSRC analyze growth and impacts subregionally in their EIS. In general, scenarios with greater concentrations of growth show benefits such as reduced vehicle miles traveled, more transportation choices within easy access of residents, and reduced air pollutants.

In the summer of 2005, PSRC worked with their boards and staff to narrow the eight scenarios down to a more manageable group of four scenarios: growth if current plans are extended, growth primarily in metro cities, growth primarily in larger cities, and growth primarily in smaller cities. Political realities also helped to define these alternatives. These regional growth alternatives were then analyzed in PSRC's EIS and are compared using PSRC-developed indicators in Table 1.

**Table 1: Quantitative Impacts of the Four Scenarios**

<b>Scenarios (1 = best, 4 = worst)</b>	<b>Resource Lands</b>	<b>Urban Growth Area</b>	<b>Transit Accessibility</b>	<b>Mode Share – Work</b>	<b>Mode Share – Non-Work</b>	<b>Vehicle Miles Traveled</b>	<b>Vehicle Hours Traveled</b>	<b>Hours of Delay</b>	<b>Fine Particulates</b>	<b>CO2 Greenhouse Gas</b>	<b>Impervious Surface</b>
Growth Targets Extended	3	3	3	2	3	4	4	4	4	4	4
Metropolitan Cities	1	1	1	1	1	1	1	1	1	1	1
Larger Cities	1	1	2	2	2	1	1	1	1	1	1
Smaller Cities	4	4	4	4	4	3	3	3	3	3	3

*Next Steps and Lessons Learned*

As next steps, PSRC plans on releasing the draft EIS in May 2006, undertaking public outreach and public comment from June-July 2006, and then during the rest of the summer and fall of 2006, developing the preferred hybrid alternative and draft supplemental EIS, releasing the DSEIS and draft document, undertaking more public outreach and public comment, developing the final draft document and final EIS, releasing the final draft document and FEIS, having the board review it and take action, and finally having the general assembly take action. Compared to the VISION 2020, the final product, currently called the VISION 2020+20, will be more complete, more measurable, and will have clearer implementation actions for each of the region's agencies.

PSRC has noted several common impacts so far. Each alternative has both adverse and positive impacts that vary topically and geographically. There is no magic bullet and mitigation will be important. The

alternatives present complex tradeoffs. For example, some alternatives may expose more people to higher levels of noise and polluted sites, but keep growth away from pristine areas. Key issues for minority and low-income communities include housing affordability and transportation access.

### C. Introducing the Berkeley-Charleston-Dorchester Growth Options Initiative



Alec Brebner, [Berkeley-Charleston-Dorchester Council of Governments](#), Charleston, South Carolina

The Berkeley-Charleston-Dorchester (BCD) region is composed of three counties and 26 municipalities along the southeastern coast of South Carolina. The 2,500 square mile region contains about 600,000 people and the nation's fourth busiest seaport. The region is composed of historic downtowns and surrounding communities, rural areas, and new development, a lot of which has new urbanist themes since that architecture fits in well with historic areas. People value the history of the area, which was founded in 1670 by European settlers. The region can be characterized as a metropolitan area with a rural and natural fringe that includes Cape Romain National Wildlife Refuge, Francis Marion National Forest, ACE (named after the Ashepoo, Combahee, and Edisto Rivers) Basin National Wildlife Refuge, and healthy agriculture.

The BCD Council of Governments (BCDCOG) has several roles in planning the region's growth. BCDCOG staffs the rural and metropolitan transportation planning organizations (the COG and the Charleston Area Transportation Study, or CHATS). BCDCOG also administers the regional water quality plan, documents and disseminates growth-related information and maps upon request, develops and administers community development grant projects, administers economic development programs, and provides planning services to member local governments. As the region's federally-designated MPO, CHATS competitively distributes transportation enhancement money, required the expansion of bike/ped facilities in the region in 1994, and adopted the region's first multi-modal long range transportation plan in 1998. The biggest challenge BCDCOG and CHATS has faced in the state is the implementation of some of the planned projects.

#### *The BCD Growth Options Initiative*

BCDCOG initiated the Growth Options program for several reasons:

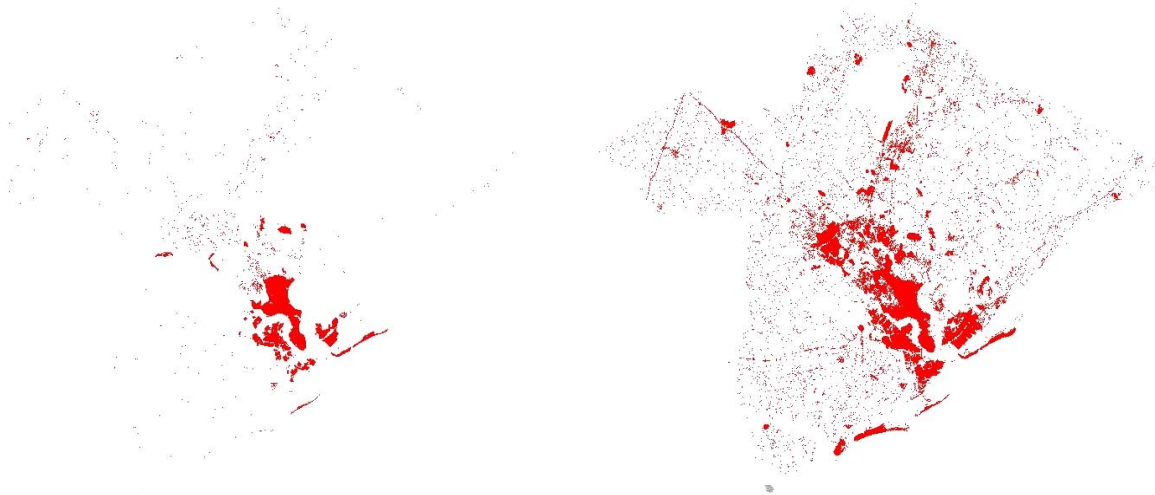
- To create a forum for regional planning;
- To facilitate inter-jurisdictional efforts to solve complex regional issues;
- To coordinate land-use and infrastructure planning;
- To disseminate information about trends and patterns of tri-county growth;
- To encourage high-quality land development; and
- To help local governments become proactive in managing growth.

The vision of the BCD Growth Options Initiative is a metropolitan region that encourages sustainable growth patterns and is proactive and not reactive to growth trends. BCDCOG outlined four steps to make this vision a reality: 1) develop a broad group of project partners; 2) analyze regional growth patterns; 3) calculate environmental and infrastructure benefits and costs; and 4) investigate and provide information concerning strategies and techniques.

BCDCOG built upon a group of existing partners to create a broad group of project partners. Existing partners included elected officials and policy makers; local planners, administrators, and economic development officers; state agencies impacting growth; and sanitary sewer service providers. New partners include other public utility and service providers, such as schools; real estate development industry; large landowners; and interest and advocacy groups for such issues as the environment, property rights, and taxpaying.

To analyze regional growth patterns, BCDCOG looked at the spread of impervious surfaces from 1973 to 2000 using satellite imagery (Figure 6). BCDCOG found that over that time period, impervious surfaces

increased 318% while the population grew by 52%. Using impervious surfaces as an indicator for urbanization, this means that urbanization is outpacing population growth by a ratio of six to one.



**Figure 6: Impervious Surfaces in the BCD region: 1973 (left) and 2000 (right)**

To calculate the environmental and infrastructure costs of growth, BCDCOG used a model to estimate the value of environmental resources affected by development and the cost of infrastructure required to serve development throughout the BCD region for three different growth scenarios. The baseline scenario extrapolated incremental 1980-2000 costs to 2020. The first alternate scenario was based on current trends by assuming that growth trends of the last five years would continue to 2020. The second alternate scenario represented more efficient growth that a team of planners and developers created by adjusting variables for better growth management.

Given that the annual costs of development in the baseline scenario totaled \$131.5 million, BCDCOG found that growth costs would increase 2.2% if the region continues the growth pattern of the past five years. If the growth is better managed, the BCD region can save 11.8% – almost \$18 million – each year over the same period of time in the second alternate scenario. BCDCOG also found that zoning requirements are constraining residential density and that though infill development is increasing, it could increase further with fewer zoning restrictions and in turn help offset increases in VMT per household. BCDCOG determined that most greenfield development will occur on forested lands, but that the loss of wetlands to land development has decreased. Finally, BCDCOG found that impervious surfaces in housing developments are increasing primarily due to increasing unit size and wider driveways as well as wider local streets and intersections.

To demonstrate how its findings could be applied, BCDCOG worked with consultants to create two hypothetical master plans for a 900-acre neighborhood development in the City of Charleston. One was for a more conventional golf course community and the other was for a conservation subdivision. While the conservation subdivision was in line with the more efficient growth scenario, the consultants deemed the two plans economically competitive since developers thought that being located on a golf course is a significant attraction for new homebuyers despite the higher costs to build it.

#### *Next Steps and Lessons Learned*

The Growth Options initiative highlighted the need to study several topics further. For land use planning, the region needs to study the affect of low-density requirements expediting the urbanization of rural areas and the region also needs to study coordination between future-land-use planning and new school siting. For roads and rights-of-way, the region needs to study the balance of narrower streets and rights-

of-way with increased frequency of streets to keep costs down while demonstrating functionality and safety. Finally, for stormwater management, the region needs to identify and encourage strategies integral to site design that promote biofiltration and reduce detention load to decrease costs.

In the meantime, BCDCOG will continue to implement and support projects and programs that are in-line with the principles of growing more efficiently. These projects and programs include transportation facility design improvements, such as the top desire of the public – bicycle and pedestrian improvements.

Lowcountry Connections, an Active Living by Design program funded by the Robert Wood Johnson Foundation, is the implementation plan for the BCD Region's bike/pedestrian plan. Its three components are Safe Routes to School, which includes locating schools in the middle of developments; Complete Streets, which is a planning service BCDCOG's office provides to local communities; and community intervention to attract more people to taking non-motorized modes of transportation.

### C. Scenario Planning Tools

Brian Betlyon, Metropolitan Planning Specialist, [FHWA Resource Center](#); Baltimore, MD

Brian Betlyon discussed the role of tools in scenario planning and described the various tools and approaches that could be used by AMBAG and other planning organizations that are interested in scenario planning. 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.com>, <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, 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<sup>3</sup>S](#) process developed in California, 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 of a way as possible.

Several regions have used scenario planning as part of their land use and transportation planning efforts. The [Delaware Valley Regional Planning Commission](#) is using scenario planning to assist in the development of a new long-range plan for the Philadelphia area. In Charlottesville, Virginia the [Jefferson Area Eastern Planning Initiative](#) created a modeling tool capable of concurrently evaluating transportation and land use options, known as CorPlan. Using CorPlan-generated scenarios, they developed a 50-year transportation and land use vision for the five-county region surrounding Charlottesville. Finally, [Envision](#)

[Utah](#), a public–private partnership “working to keep Utah beautiful, prosperous and neighborly for future generations,” involved over 100 partners and the general public in a statewide scenario planning effort.

#### IV. Question and Answer Period

Issues discussed during the question and answer period mainly revolved around media coverage and public involvement. While SLOCOG believes that it is important to partner with the media as much as possible, they have had a difficult time gaining media attention because what SLOCOG does is not news to the media. Sacramento Area Council of Governments (SACOG) partnered with a community organization that was media savvy to get coverage and to bolster public involvement. Because BCDCOG has a small staff, no public involvement staff person, and poor television and newspaper coverage, their public involvement consisted of meeting with community representatives. One workshop participant thought that organizations involved in scenario planning should contact the local public access television station. This station could televise the proceedings that, because community meetings usually play repeated times, reach a surprising number of people.

SLOCOG found that the best time to have meetings with the public was on Saturday mornings. This time seems to be the most likely time period for which the average homeowner would be likely to show up. Locally elected officials showed up at these meetings, especially when a personal call or invitation was made to them. SLOCOG noticed that high school students filled a table at a SACOG scenario planning workshop, probably because a class required them to be involved. This kind of outreach to schools may be the best way to get high school students involved in the process. SLOCOG also did not have many Spanish speaking people attend their workshops: their translator was not utilized. SLOCOG is considering going to Spanish speaking people, perhaps following church services.

Participants also had a short discussion of other models and tools that may be useful for scenario planning. These models and tools include UPlan (from the University of California, Davis), Quantum, LEAM (from the University of Illinois), and ULAM (from Florida).

#### V. For More Information

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#### VI. Attachments

##### A. Agenda

### Scenario Planning Peer Workshop June 2, 2006

9:00 am – 9:10 am	<b>Welcome</b> Wade Hobbs, FHWA – California Division, Sacramento, CA
9:10 am – 9:35 am	<b>Welcome and Presentation: Overview of Scenario Planning</b> Jody McCullough, FHWA – Office of Planning, Washington, DC
9:35 am – 10:00 am	<b>California Regional Blueprint Planning Program</b> Katie Benouar, California Department of Transportation – Sacramento, CA

- 10:00 am – 10:30 am **Presentation: Monterey Bay Region Overview**  
Kathy Urlie – Association of Monterey Bay Area Governments, Monterey, CA
- 10:30 am – 10:45 am **Break**
- 10:45 am – 11:30 am **Presentation: Community 2050 Update**  
Steve Devencenzi – San Luis Obispo Council of Governments, San Luis Obispo
- 11:30 am – 12:15 pm **Presentation: Scenario Planning and the VISION 2020 Update**  
Yorik Stevens-Wajda – Puget Sound Regional Council, Seattle, WA
- 12:15 pm – 1:00 pm **Lunch**
- 1:00 pm – 1:45 pm **Presentation: Introducing the Berkeley-Charleston-Dorchester Growth Options Initiative**  
Alec Brebner – Berkeley-Charleston-Dorchester Council of Governments, Charleston, SC
- 1:45 pm – 2:30 pm **Scenario Planning Tools Presentation**  
Brian Betlyon, FHWA – Resource Center, Baltimore, MD
- 2:30 pm – 3:00 pm **Questions and Discussion**
- 3:00 pm **Adjourn**

#### B. List of Presenters

<b>Agency</b>	<b>Name</b>	<b>Email</b>
FHWA – Office of Planning	Jody McCullough	jody.mccullough@dot.gov
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