



SCENARIO PLANNING

A Framework for Developing a Shared Vision for the Future



Federal Highway Administration
Federal Transit Administration



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 in scenario planning assess trends in key factors such as transportation, land use, demographics, health, economic development, environment, and more. The participants bring the factors together in alternative future scenarios, each of these reflecting different trend assumptions and tradeoff preferences. In the end, all members of the community—the general public, business leaders, and elected officials—reach agreement on a preferred scenario. This scenario becomes the long-term policy framework for the community's evolution, and is used to guide decision-making.

Scenario planning expands upon traditional planning techniques by focusing on major forces or drivers that have the potential to impact the future. By developing scenarios to tell a story of the future, planners are better able to recognize these forces and determine what planning activities can be done today and be adapted in the future. Scenario planning is not intended to replace traditional planning practices. It is a tool that can be applied to recognize the range of outcomes in the future, beyond what traditional planning can create.

On September 25, 2003, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) brought transportation leaders and other specialists together for a one-day roundtable exchange on scenario planning. The roundtable included experts' views on trends that are the focus of scenario planning, discussion of how to do scenario planning effectively, presentations of successful experiences with scenario planning, and a description of available technical tools. Denise Bednar of the FHWA facilitated the roundtable, which concluded with the identification of next steps that can promote and support effective scenario planning.

The Need for Scenario Planning

Planning for the future is a daunting task. However, experts do have some notions about what might be in store. FHWA Associate Administrator Cindy Burbank opened the Roundtable by likening the dilemmas that transportation planners currently face to those of the commercial fishermen who encountered what has become known as the "perfect storm" on the Atlantic Ocean in October 1991. Population growth, changing demographics, a growing interest in environmental quality, and fiscal pressures at all levels of government are among the forces that may converge to create demanding conditions for the transportation industry. Regional leaders should keep an eye on transportation and land use forecasts, and engage in thoughtful planning in order to weather any "storm" that may hit.

By considering the various factors that will shape the future, scenario planning analysis can help inform decision makers who must accommodate future transportation needs, ensure a quality environment, and provide for an aging population. A number of jurisdictions have used scenario planning successfully already. To encourage others, Burbank proposes that the Federal government help identify opportunities for using scenario planning and provide technical assistance for transportation planning. Roundtable participants brainstormed a number of other specific actions to help improve the planning process, which are summarized at the end of this report.

Cynthia J. Burbank
Federal Highway Administration



Ms. Burbank has worked for the U.S. Department of Transportation for 28 years, at the Federal Aviation Administration, the Federal Transit Administration, the Office of the Secretary, and the Federal Highway Administration. She currently serves as Associate Administrator for Planning, Environment, and Realty for the FHWA. In this capacity, she supervises a staff of over 100, and oversees Federal policies, programs, research, training, and guidance for the acquisition of real property by all Federal agencies; FHWA's statewide, international, and metropolitan planning programs; and FHWA environmental programs and policies. Ms. Burbank graduated magna cum laude from Georgetown University, with a degree in Economics. She is a member of Phi Beta Kappa. She also attended Duke University and Boston University.

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I The Challenges Planners Face

Economic, demographic, health, and environmental trends are all important factors in determining future demands on the country's transportation system, and its role in people's lives. During the morning session, three experts presented some of the trends that they have observed.

Alan Pisarki



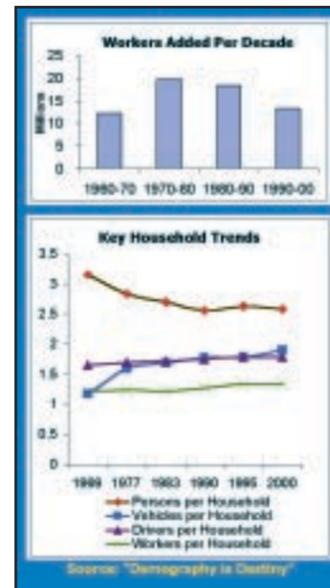
Mr. Pisarki has supported Federal decision makers with expertise on transportation policy for almost 40 years, holding positions in the Office of the Secretary of the U.S. Department of Transportation (DOT) and as a consultant. He has advised the U.S. Census, the DOT, the National Academy of Sciences, the World Bank, and the United Nations, as well as numerous state and local governments. He is best known for his demographic approach to public policy questions, particularly commuting and travel behavior, including his successful Commuting in America series.

We add the equivalent of the population of Canada to the United States each decade. "Do we add Canada's transportation system?" Pisarki asked.

Demographics

Alan Pisarki pointed out that the United States adds the equivalent of the population of Canada to its population every 10 years, and that U.S. transportation infrastructure is not expanding at nearly the same rate. Current growth patterns are different than in the past because growth is more spread out across the country; in the last decade, every state in the country experienced growth. Based on year 2000 statistics, more than half of the country's population lived in the suburbs. Half also worked outside the county in which they live.

Extensive investment may be necessary to keep pace with projected growth. However, planners must anticipate and account for key demographic trends. Among the most significant trends Pisarki discussed were the following:

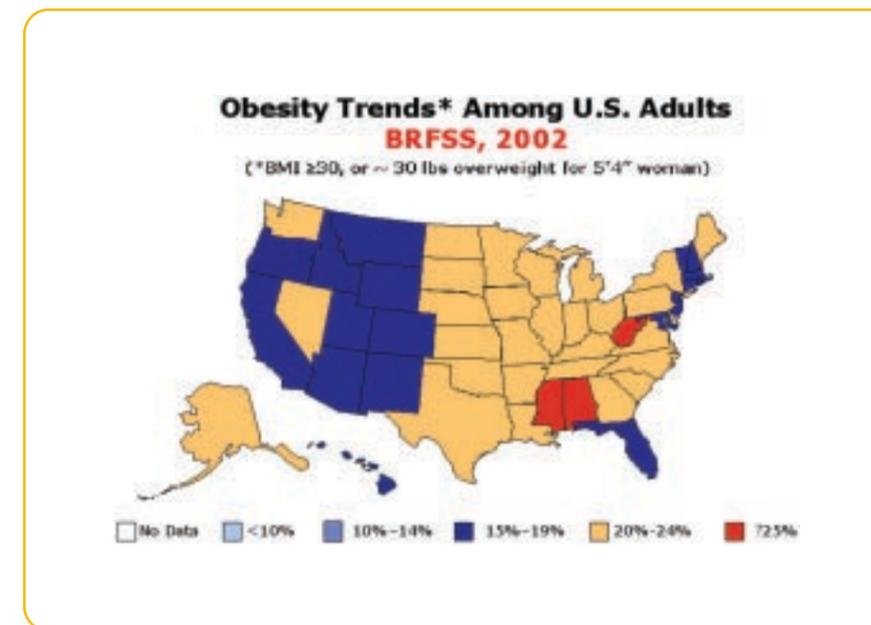


- Slowing labor force growth;
- Reduction in the rate of domestic migration;
- Continuing high rates of immigration;
- Democratization of automobile use, as the racial gap among zero-vehicle households continues to narrow;
- Increasing spread of affluence;
- Lower population density;
- More dispersed trip destinations; and
- Age distribution more oriented to automobile use.

In addition to these key trends, Pisarki noted a positive correlation between income, and transportation expenditure and annual trips per household. Pisarki's overall forecast points to increasing automobile affordability, more trip destinations, more time sensitivity, increasing freight value, and increasing democratization of mobility. The end result is likely to be significantly increased pressure on the nation's transportation systems.

Health and Activity

According to Casey Hannan, obesity is on the rise. The number of states in the country in which more than 15 percent of the adult population is obese has grown from four in 1991, to every state nationwide in 2002. Furthermore, in three states over a quarter of the population was obese in 2002. Nationwide, at least two-thirds of adults are overweight, as well as 15 percent of children and adolescents. Obesity is a major risk factor for many serious health problems, such as diabetes, hypertension, and psychosocial problems. Hannan pointed to altered dietary intake and decreased physical activity as key factors that influence obesity. Obesity trends matter to transportation planning because infrastructure investments may have an impact on people's lifestyles. Hannan suggested that built environment changes, such as providing sidewalks, bike trails, parks and recreational facilities, neighborhood safety, and thoughtful design, can help encourage active lifestyles.



Casey Hannan



Mr. Hannan serves as the Team Leader for the Office of Policy, Evaluation, and Legislation, Division of Nutrition and Physical Activity, at the Centers for Disease Control and Prevention (CDC). Hannan is a 16-year veteran of the public health workforce, and has experience working with community-based, university, healthcare, and government organizations.

Two-thirds of the U.S adult population is overweight, incurring a huge cost to society, Hannan pointed out.

Michael Meyer



Dr. Meyer is a professor of Civil and Environmental Engineering at Georgia Institute of Technology and has authored hundreds of technical articles and numerous texts on transportation policy and planning, including *Urban Transportation Planning: A Decision-Oriented Approach*, with Eric Miller. He has also served as Director of Transportation Planning and Development for the state of Massachusetts and as a professor at the Massachusetts Institute of Technology.

Land Use, Freight and Financial Capacity

Michael Meyer forecasted that many of the land use trends we observe today will continue in the future. According to Meyer, we can expect to see continuation of the “donut” effect, that is, growth in far suburbs and central city areas with little to no growth in inner suburbs. Fiscal limitations will likely induce newer development to congregate around current infrastructure.

As a tool for shaping land use, monetary incentives, such as location-efficient mortgages, may become favored over regulation. He also predicted that the focus of smart growth efforts may shift from density goals to urban design goals. Meyer also pointed to ethnicity and environmental considerations as important factors in future land use patterns. In particular, environmental analysis will continue to recognize the complex network that comprises an ecological system. Even as advances in technology greatly reduce the effects of transportation on the natural environment, water quality/quantity may become a crisis issue.

According to Meyer, economic growth will continue to place great pressure on transportation system performance. Urban goods movement will continue to increase at high rates. He predicted that trucking would continue to be the mode of choice, although rail-truck intermodal service will continue to have an important place in long-distance markets. Given the increasing numbers of truck trips, metropolitan-area planners will likely pay more attention to freight-only road infrastructure. In addition, increased global trade will place greater emphasis on port access and efficiency.

Meyer suggested that transportation needs likely will continue to outpace financial capacity. In particular, long-term substitutes for petroleum-based fuel will create a crisis in transportation finance. Local, state, and Federal governments will be hard pressed to provide significant increases in transportation funding. User-based revenue sources will continue to be the foundation of transportation financing. Nontraditional sources of funding will become more important, and metropolitan-based dedicated transportation funding sources will become more common, Meyer suggested.

Discussion Topic: Trends

In response to the issues raised by Hannan, Pisarski, and Meyer, participants engaged in a discussion of the importance of various factors affecting the future of our transportation systems. In particular, participants further discussed several trends that might be relevant to transportation planning:

- There has been a large increase in home ownership, which could affect development patterns and demand for transportation services. One participant pointed out that public policies can effectively influence home ownership choices. Right now, our policies make it hard to do the “right” thing and easy to do the “wrong” thing.
- Water quality is a growing concern. Transportation investment decisions affect the expanse of impervious surfaces and runoff. One participant’s experience with transportation modeling in the Chesapeake Bay area showed that newer, more sprawling developments scored better on some water-quality performance measures than older, denser developments. Therefore, runoff challenges may prove difficult to reconcile with smart growth.
- Shifts in public attitudes toward an emphasis on the environment may have large impact on future legislation. For example, currently there is great interest in land use, but concerns about congestion or water quality may become more important issues in the future.
- Security and terrorism have become important priorities. Analyses may need to consider how these concerns may affect the way we live and the way we build communities.





II How Scenario Planning Can Make a Difference

Effective scenario planning begins with the recognition that transportation professionals cannot precisely predict the long-term future. The best they can do is to imagine a variety of possible, loosely-defined scenarios that represent a range of conditions, and then consider how well plans perform under the different conditions. However, the process of vividly imagining alternative stories encourages people—whether citizens, transportation professionals, or elected officials—to proactively shape their futures rather than simply responding to what comes. In this way, scenario planning can help influence land use, economic development, and infrastructure investments, both at the state level and in individual communities. Roundtable participants offered and engaged in a series of questions on the foundations and value of scenario planning. Contributing to the process were keynote remarks from Frank Beal and Robert Grow, who shared quite different though equally successful experiences with scenario planning.

Frank Beal



Mr. Beal is Executive Director of Chicago Metropolis 2020, a nonprofit organization born of an extra-governmental regional planning effort that promotes civic entrepreneurship and coordinated planning. As a former executive with Ryerson International Inc. and Inland Steel, Mr. Beal brings extensive private sector experience to his service in the public sector.

Scenarios are not plans. They are possible futures, Beal explained.

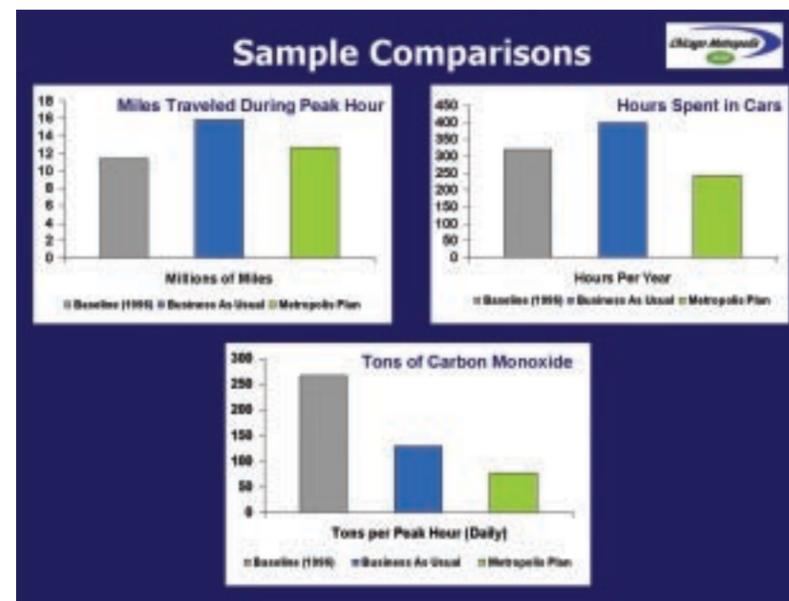
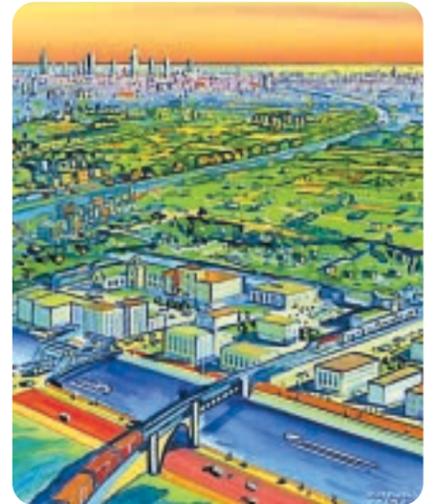
Chicago Metropolis 2020

It was private sector decision makers who first explored the idea of using scenario planning as a framework for making choices about the future. Frank Beal related his experience with a Fortune 100 steel company that, like many public-sector agencies, faced important investment decisions.

Since forecasting can be unreliable, rather than focusing on a specific prediction, company executives considered all that might happen in the steel industry, and then tried to position the company to be prepared for multiple eventualities. Company executives had to identify what forces were important in shaping the future of the steel industry, and then address uncertainties. One possibility they considered was a total collapse of the industry. To company executives, this was a disastrous prospect that was hard to imagine, but it was a possible outcome. In the end, company executives chose not to invest, because it was not the most robust response to multiple alternatives.

Scenario planning has proven to be an enormously successful way for the private sector to think about the future, but public-sector planners can also apply this strategy. For example, Beal guided scenario analyses conducted for the Chicago area in developing the Chicago Metropolis 2020 plan. The plan used economic, land use, and transportation models to help the project participants evaluate future conditions. Participants then considered how they might choose to respond to those future conditions, taking into account the existing situation, public preferences, expert opinions, experiences elsewhere, the results of computer modeling, and their own innovative ideas. They developed a plan that performed well against indicators such as total miles traveled during peak hours, tons of carbon monoxide, and transit use.

According to Beal, one of the most useful aspects of scenario planning is that stories resonate with people, helping to fully engage the decision makers. Beal imparted several lessons about the process. He observed that most of the current planning processes focus on whether or not to build, and not on how to use existing resources more efficiently. On the importance of data to scenario planning, he noted that transportation models tend to penalize transit, and that missing data can make asset management difficult to model. Finally, Beal concluded with the warning that enormous structural impediments to making good decisions still remain.



Robert Grow



Envision Utah

Like many regions, Utah faces serious challenges with rapid growth and infrastructure deficits. According to Robert Grow, the premise of the Envision Utah project was that the public has the right to choose its future, and that officials should serve that vision. However, growth issues have natural boundaries that are not aligned with existing political boundaries, Grow said. Since the Envision Utah group believed that the public would make good choices if presented with real options, they introduced a format to involve the public and to bridge the disconnect between those that control land use—local governments and the private sector—and those that control transportation planning—state and Federal governments and metropolitan planning organizations (MPOs). According to Grow, it was important that no public or private stakeholder group control the partnership, whether in appearance or reality. At the same time, the project had to include all stakeholders that could affect, or would be affected by the outcome. The partnership had to be trustworthy, transparent, and inclusive, representing a broad scope of community interests, Grow explained. It was also important that funding come from multiple sources, including a balance of public and private funds.

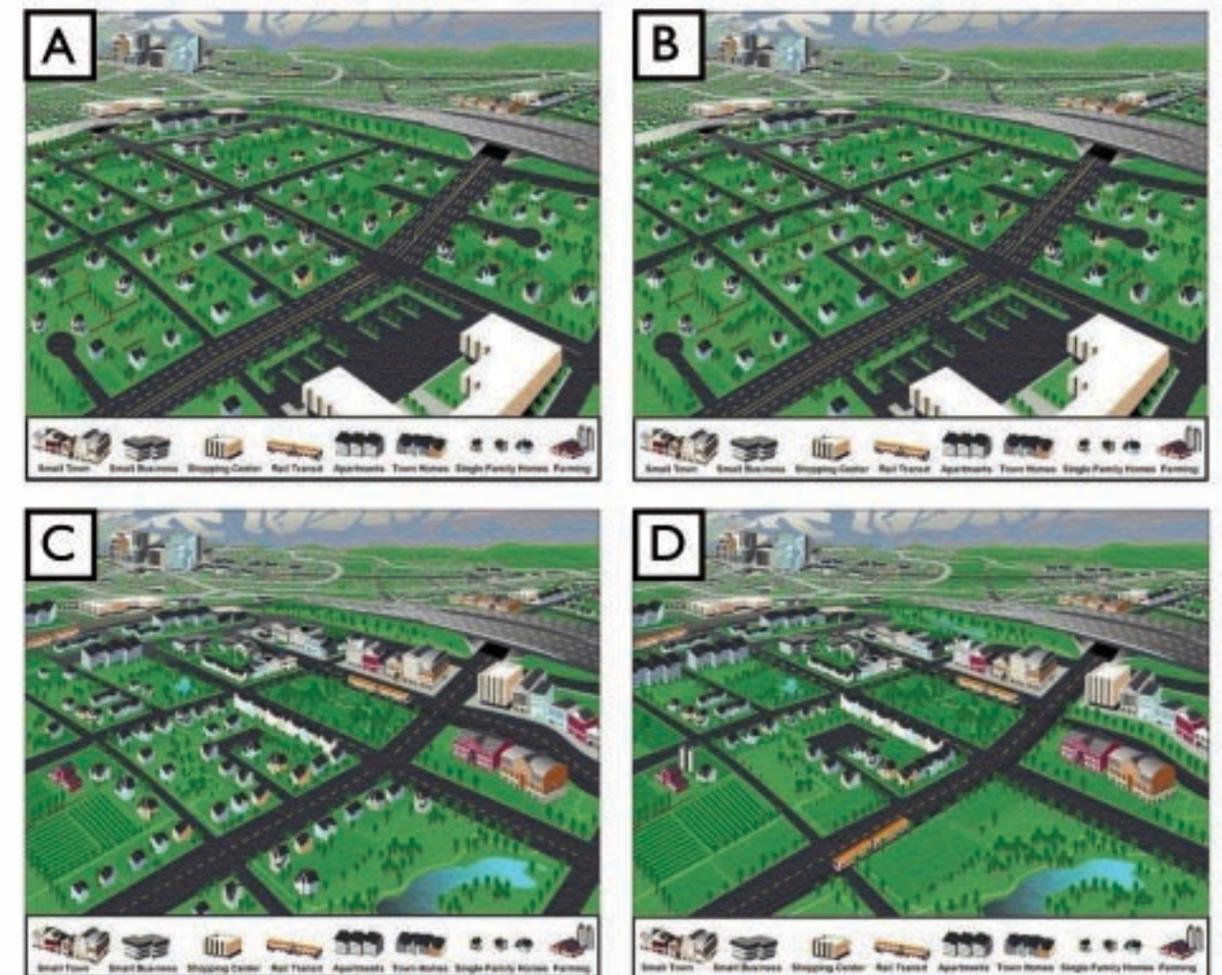
Whereas a typical approach to planning involves one forecast and one solution, Grow said, it was better to develop a range of scenarios. Envision Utah organized initial hands-on public workshops that allowed people to explore the options. Informed by the workshop results, participants developed four scenarios for future growth in Utah, and offered evaluation criteria with which to assess each scenario (such as total land consumption and average daily vehicle miles traveled). A major public outreach survey then had Utahans vote for a scenario. Including the media early in the process helped the public outreach effort, Grow noted. Another helpful strategy was to stick to a lexicon of words that the public had already selected to describe their values—Envision Utah used the same vocabulary to describe the attributes of the different options under consideration. Based on the scenario chosen, Envision Utah then generated a vision document, supported with 42 specific strategies.

Mr. Grow is an attorney at O'Melveny and Meyers, LLP and a founding chair of Envision Utah, a public-private partnership seeking to develop long-term, quality growth in the greater Wasatch area. In prior years, Grow was appointed by two governors to serve on the Utah State Economic Development Board, and was named Utah's Entrepreneur of the Year in 1994. As former Chief Executive Officer of Geneva Steel, Grow served as elected Chair of the American Iron and Steel Institute, and as a director of the National Association of Manufacturers. He is currently chairing Envision Utah's Assessment and Renewal Subcommittee, which is planning the partnership's strategy for the future.

Land use factors are issues that individuals care about for their quality of life. Land use planning isn't bucking the market, Grow argued, but getting government out of the way to reflect true market forces, that is, what people really want.

As a result of the Envision Utah project, there has been a sea change in attitudes toward transit, including support for sales tax increases for transit and more long-range plans, according to Grow. Sixty percent of communities have used Envision Utah tools in their plans and ordinances. Statewide, Utahans now aim to reduce the amount of land consumed by nearly 100 square miles by 2030.

Utahans selected Scenario C as a preferred growth paradigm for their state, which featured more infill and redevelopment and new growth focused into walkable, transit-oriented communities.





Changing people's behavior is possible, many agreed, but may take some work. As one participant explained, since people really care about their values, "we have to convince them that our elegant solutions are worthwhile."

Discussion Topic: Can Planning Shape the Future?

One question relevant to transportation planning that often goes unexamined is whether policies have the power to change behaviors and shape a future society. Experience suggests that people and businesses often resist what they perceive are government efforts to dictate outcomes and influence private life. With this in mind, participants debated the importance of transportation as a factor in people's personal decisions and what role transportation policy can play. Overall, the discussion indicated optimism about the impact and value of scenario planning:

- Participants pointed to the success of the anti-smoking campaign in the public sector, and everyday marketing in the private sector as evidence that it is possible for public information to effect large-scale change in individual behavior. This suggests that the process of educating citizens through scenario planning can meaningfully affect choices and collective outcomes.
- In making planning decisions, decision makers can consider ways to harness market forces to move society in a desirable direction. Tax policy is one tool for effecting change. Our existing tax policies give us the shape of metropolitan America, pointed out one participant, but is it the shape we want? Providing incentives and disincentives can be an effective means of influencing the choices that both businesses and individuals make.
- Demographic trends are clearly important in shaping our environment, and those trends may be influenced by policies relating to land use, immigration, and transportation. Those interested in implementing scenario planning should utilize the tools that are available.
- Some participants doubted that transportation is a deciding factor in where most people choose to live and work, so transportation policy may have a limited effect on development trends. One participant argued that school quality, perception of personal safety, and housing costs are more important than commute considerations. Participants agreed that more research is needed on the influence of urban design on travel behavior.
- In response to those who doubt the potency of transportation policy, one participant reminded the group that we do not yet know how large an impact transportation policy might have, if a comprehensive policy is executed since this has never been attempted.
- Participants seemed to agree that transportation policy would be most effective if implemented in conjunction with complementary policies, across agencies and throughout all levels of government.



Discussion Topic: How to Bring About Regional Planning?

Participants raised the concern that, in many areas, regional planning is generally lacking because regional issues do not fall under any one government's jurisdiction. As one participant explained, the government framework is divided into Federal, state, and local jurisdiction. However, the impacts of transportation and land use planning do not respect such boundaries; they unfold across global, regional, and neighborhood lines. This gap between the governance structure and reality is a challenge for transportation policy makers. For instance, one participant observed that planning officials are often limited in how far they can pursue truly regional planning, since they are chartered to represent a local jurisdiction.

Some participants felt that MPOs could take more of a leadership role in developing and implementing regional visions. Others agreed that MPOs are best equipped to provide a regional context for decision making. They noted that the legislative requirements that govern MPOs are flexible, suggesting that citizens should become more involved in their MPOs to help influence the regional planning process.

Ideas for facilitating regional planning included the following:

- Local elected officials might better serve as regional planners if regional planning were somehow a part of their required tasks.
- Collaboration between MPOs, land use planners, and the state DOT is beneficial. Consider multi-state coalitions with a particular focus on economic development.
- States could give most of the authority to MPOs for planning in their region.
- Use training exercises to educate staff on the use of planning tools.
- The Federal government could use different terminology to help bridge the local-regional divide, helping people to think more regionally, rather than inviting people to bring their individual perspectives to the table.



Success Story The Metropolitan Washington COG



In the recent preparation of an Environmental Impact Statement for a bridge project, the Metropolitan Washington Council of Governments used a facilitator, who was able to establish a high degree of trust among all participants. A question arose about whether other bridge crossings in the area might help alleviate traffic. At first the participants considered the question out of the project scope, but then recognized it as an opportunity. The process established by the facilitator helped produce regional planning, something that is rarely part of a corridor study.



III Public Involvement in Scenario Planning

Public involvement is an essential part of any planning process, whether for transportation or land use. Scenario planning is particularly well-suited to public participation, because the process centers on constructing and exploring stories about the future. And these are stories about citizens' immediate environment—neighborhoods, districts, and towns. Thus, people respond energetically to the task. Moreover, participants agreed that citizens can do an effective job if given the proper tools and background.

Public involvement is critical to the ultimate success of scenario planning, in part because participation gives citizens a sense of ownership in the outcome of the planning process. That sense smoothes the path to building consensus and obtaining buy-in from stakeholders. Participants also observed that public involvement can get a scenario planning effort back on track, in situations where the usual players may have reached a stalemate.

The roundtable received two presentations that centered on effective practices for public involvement in scenario planning. The presentations fed a discussion of several issues relating to public involvement.

Jacky Grimshaw



Ms. Grimshaw is Vice President of Policy, Transportation, and Community Development at the Center for Neighborhood Technology in Chicago. The Center's mission is to invent and implement new methods for creating livable urban communities. A longtime social and political activist, Grimshaw has worked for the Chicago mayor's office, the state of Illinois, and the Federal government.

In Chicago, we brought together both the professional participants and people that had never been to a meeting and never knew their opinion mattered, Grimshaw explained.

Citizen's Leadership Commission

Jacky Grimshaw explained that the opportunities for engaging people in the public process are as varied as the people you want to involve. In organizing the Citizen's Leadership Commission, which was charged with developing public consensus for a Regional Long-Range Transportation Plan in the Chicago area, Grimshaw started with eight focus groups. The focus groups were asked who the stakeholders were, and they came up with a list of 152 organizations or representatives as a basis for learning about what citizens valued. Another method Grimshaw has implemented is to select groups by geography, dividing the region into 11 areas. In each case, Grimshaw explained, community members helped to plan the meeting, including important logistical details such as location and time. Including a review cycle, generating the final report was a 21-month process.

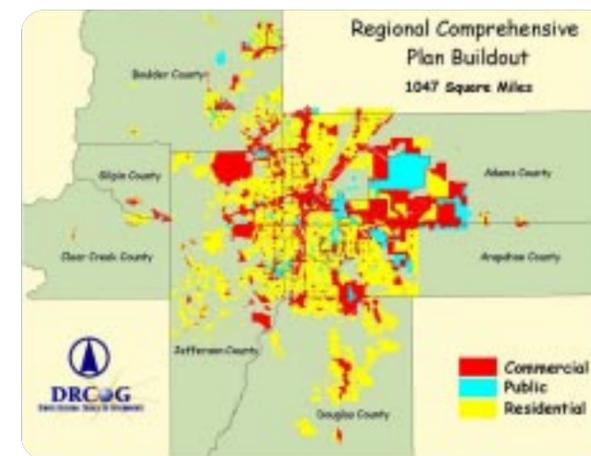
Grimshaw recommended that any public recruitment process must begin with an understanding that there are a lot of issues, and that it will be necessary to build trust and credibility. Identify special specific populations, such as youth, older people, couples with or without children, and disabled people, and find a way for your message

to resonate with each of those groups, she suggested. You may need to spend time building the educational background needed for participation. Then cultivate long-term involvement with continuous renewal. As a result of public participation, Grimshaw advised, participants receive an education, they feel like their voices matter, and the plan is better than it otherwise could have been.

Metro Vision 2020

Sharon Richardson explained that when Denver-area planners put together a composite map of all of the local plans of the municipalities in the region, they realized they needed a regional vision. The composite map indicated more growth than was expected, and an imbalance of residential and non-residential uses. Over several years, task forces and committees comprised of local governments, business interests, and environmental groups cooperatively developed the Metro Vision 2020 plan to serve as a guide for local planning efforts. In the process, several different scenarios were developed. In order to involve citizens in the decision-making process, each alternative was publicized by way of fliers and public displays. In the end, the best features of the various scenarios culminated in a final plan.

Richardson reported that some of the major challenges along the way were "not in my backyard" attitudes among the public at large, and the difficulty for business representatives to devote a lot of time to the effort. Interest groups proved to be a key component in connecting to the regional community.



Sharon Richardson



Ms. Richardson is Mayor Pro Tem of Federal Heights, Colorado, and has represented her jurisdiction on the board of directors of the Denver Regional Council of Governments for 12 years. A community activist for over 17 years, she has contributed to a number of local and regional organizations, and has represented five western states on the board of directors of the National Association of Regional Councils.

Richardson noted that the public helped shape the Metro Vision 2020 by participating in task forces that envisioned different scenarios for the Denver region.





An MPO can consider appointing a committee comprised of all the viewpoints that ought to be represented, rather than relying on volunteers.

Discussion Topic: Public Participation Goals

Participants identified several challenges related to public involvement.

The Diversity of the Represented Voices

One challenge to public involvement is ensuring that diverse members of the community participate in the process. Participants explained that self-selecting advocacy groups tend to dominate public involvement processes since they are well-practiced and well-informed. However, these groups do not necessarily represent all constituents' interests. Some observed that business groups tend to shy from participation in debates involving esoteric questions and do not have time for participation in lengthy planning procedures. Another participant pointed out that elected officials are often overlooked as effective public representatives.

To ensure a diversity of views, one participant advised that outreach efforts should target groups other than those that normally participate. Also, a consideration of a range of needs and perspectives should be reflected in the outreach phase, and in the project outcome. In particular, planners should consider the following throughout the project:

- Underrepresented or specific groups such as elderly, youth, immigrant, poor, and disabled constituents.
- Elected officials (both to educate them about issues and to expose them to constituents' views).
- Other decision makers, including city planners and all stakeholders.

Educating the Participants

Another challenge identified was how to empower those that have little experience with the issues at hand to make informed decisions. Education is key in any collective decision-making process. It is important to educate the public so that they can become involved in the planning process, so that they can make better decisions in their own lives, and because their preferences drive the choices of elected officials. It may also be important to educate the decision makers, as many officials are only part-time, have busy schedules, and turn over rapidly due to term limits.

Resources such as technical assistance, facts and data, staff time, and leadership help support scenario planning and other collaborative decision-making

processes. Organizers should keep in mind that people with different experiences and demographic backgrounds may require different kinds of information.

Mitigating Conflict

Participants proposed several strategies that can help:

- It is best to move the public involvement process upstream, focusing on long-term priorities and goals. Short-term decisions can bring out "not in my backyard" attitudes.
- The role of the public should be to identify collective goals. The experts should provide forecasts and options; the public should respond and express preferences. Planning bodies can then collectively decide how to modify their plans in order to reach their goals.
- Establishing relationships with all stakeholders early, before the planning process becomes politicized and challenging, can help ensure their participation.

Discussion Topic: How to involve the public?

Participants emphasized the need to make participation easy. The following strategies were suggested for scenario planning and other collaborative decision-making activities:

- Visual and hands-on presentations are most effective. Consider using maps, graphics, simulations, animated simulations, physical pieces people can place on maps, and three-dimensional models.
- Talk about people's own neighborhoods; mention details that they can relate to.
- Fully engage the media to work for you to educate the public. The web can also be a supplemental outreach tool.
- For conveying national trends, maps are effective because people identify with their state and are interested in how it fares in relation to other states.
- Focus on the problem first, then the vision.
- Monitor the retention of your participants. If a participant disappears, call to find out why, thank them for their participation, and ask if they can recommend a replacement.

Success Story Dallas Area Rapid Transit



Dallas Area Rapid Transit (DART) has a community affairs group in their service area, which helps them identify obstacles early in the planning process. "We've got the pulse," Trip Brizell, Senior Manager of Capital Programming, explained, which helps ensure that DART does not design or suggest solutions that are not accepted by the community.

Success Story Envision Utah



In recruiting participants for Envision Utah, staff members would ask their contacts, "Who should we invite?" Inevitably, the contacts would end up recommending themselves for the project, without having felt the pressure of a direct request.





Jean Brittingham



Ms. Brittingham is Vice President of the Transportation Business Group at CH2M HILL, a firm that supplies engineering, construction, operations, and related services to public and private clients, with a particular focus on applying technology and safeguarding the environment. She is also a faculty member in the Prince of Wales Business and Environment Programme at the University of Cambridge, United Kingdom. With over 17 years of service in the public and private sectors, Brittingham is an experienced practitioner of future search, systems thinking tools, scenario planning, visioning techniques, and stakeholder involvement. Brittingham was a key contributor to the creation of new models for program implementation at the Utah Department of Transportation, in Camp Lejeune, North Carolina, and in Puerto Rico.

It is essential to have things that people can see, hear, and feel, Brittingham advised.

IV Technology Tools for Scenario Planning

Two experts, Jean Brittingham and Chris Sinclair, presented information on tools that can aid in the scenario planning process.

Sample Tools and Techniques

For effective outreach, it is essential to have things that people can see, hear, and feel, Jean Brittingham explained. Photo simulations help dramatize the built effect, allowing people to visualize different options and evaluate alternatives at a relatively low cost. Other effective tools include simulated animation, building height shape files, and the integration of these visual simulation tools with geospatial databases.



BEFORE



AFTER

In addition, software such as Quest provides a Scenario Engine that allows models to talk to each other and generate visual representations of the consequences of the complex set of choices that planners must juggle, Brittingham explained. Using the software, planners can choose what options to explore, and then see the results of different choices.



Experience in Charlottesville, Virginia

Chris Sinclair shared his experience in shepherding the Jefferson Area Eastern Planning Initiative through the development of a 50-year vision for the Charlottesville area. To assess public preferences, they began by asking people to react to photos depicting different types of places. They found consistent preference for a human-scale, walkable, mixed-use paradigm with more of a focal point and a better use of open space. Sinclair's group then used the CorPlan software tool to generate different scenarios of the area's future under a variety of circumstances, using Geographic Information System mapping of land use regulations, traffic modeling, and demographic statistics as inputs.

In the figure below, the Dispersed Scenario (left) is the projected "Business as Usual" results for the four-county area by 2050. In this scenario, all new development would be suburban, and 15 percent of farms and forests would be lost. Alternatively, the Nodal Scenario (right) developed in a public workshop slates all new development to be urban or enhanced suburban, with just 5 percent of existing farms and forests lost to development.

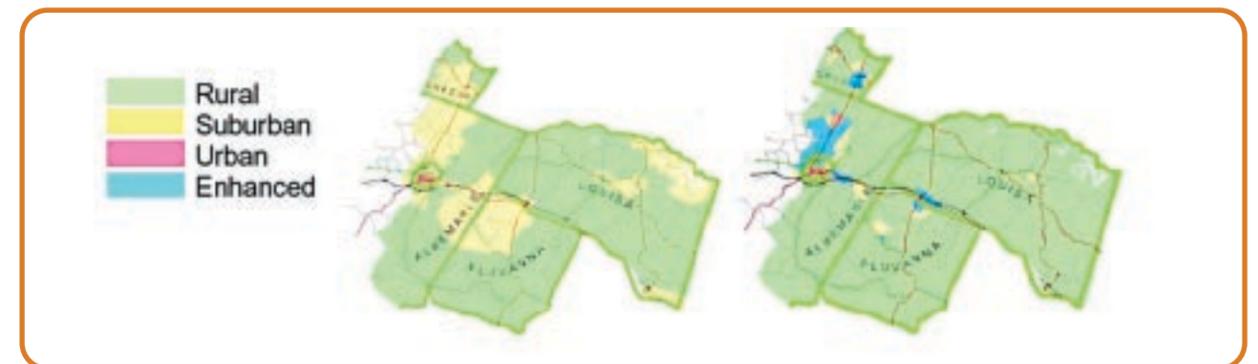
In considering the different scenarios, the participants arrived at a consensus in favor of compact development at key crossroads. According to Sinclair, this choice will have significant implications for the magnitude of both transit and roadway investments in the area.

Chris Sinclair



Mr. Sinclair is President of the consulting firm Renaissance Planning Group, Inc. He has over 20 years of experience managing transportation and land use planning projects for local governments, MPOs, and state and Federal departments of transportation. Sinclair recently helped develop CorPlan, a regional land use planning model.

In Charlottesville, Sinclair saw that only after maps and graphics were put up did the consensus-building process begin. The scenarios help put some reality behind the words and ideas, Sinclair noted.





V Conclusion: Next Steps

The roundtable closed with participants brainstorming recommendations for action to promote and support effective scenario planning. The group offered recommendations for information sharing, resources and technical assistance, and legal or administrative action.

Information Sharing

- Continue to discuss points raised in this roundtable with the participants' respective organizations.
- Publicize places where agencies have tried scenario planning. In particular, provide examples in which agencies have undertaken scenario planning while addressing air quality conformity challenges.
- Compile information on the values expressed by the public and other "lessons learned" by those who have implemented collaborative planning processes, so that others can learn and incorporate relevant factors into their models.
- Gather and distribute research on the influence of urban design on travel behavior.
- Bring more outreach to decision makers, particularly elected officials, at events such as those sponsored by the Association of MPOs, the National Association of Regional Councils, and the National League of Cities.

Resources and Technical Assistance

- Establish a dialogue about scenario planning with research centers, including a discussion of how to do it well, how to make it inclusive, and how to use it to achieve desirable outcomes.
- Provide a range of tools and training to MPOs. They need a bigger tool chest, especially in high-growth areas.
- Consider providing Federal resources to support those who want to do scenario planning.

Legal or Administrative Action

- Clarify what scenario planning is and what initiatives are underway and encouraged at the Federal, regional, and local levels.
- Coordinate a coalition of organizations that would collectively sign off on a statement of support for scenario planning.
- Increase efforts to encourage regionalism at the Federal level, perhaps by speaking out and favoring efforts with funding opportunities.
- Encourage regionalism in Federal publications and regulations by incorporating additional language regarding its benefits.
- Since air quality conformity requirements and the fear of lawsuits may inhibit MPOs from using scenario planning tools to consider a large range of alternatives, provide statutory shelter that is connected to the scenario planning process. In the long run, the process may help to avoid lawsuits.
- Encourage scenario planning in the Federal recertification process.



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For more information, contact the FHWA Office of Planning (HEPP) at 202-366-0106. Look for other scenario planning resources at <http://www.fhwa.dot.gov/planning/index.htm>.



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