


New Hampshire Integrated Transportation Planning Workshop

Concord, New Hampshire
November 4, 2014

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Federal Highway Administration



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I. Executive Summary

This report documents a one-day *Integrated Transportation Planning* workshop held in Concord, New Hampshire, on November 4, 2014. The Federal Highway Administration (FHWA) sponsored the workshop as part of its Scenario Planning Program in partnership with the Federal Transit Administration (FTA).¹ The workshop was developed in close coordination with the Nashua Regional Planning Commission (Nashua RPC) and the FHWA New Hampshire Division. The New Hampshire Department of Transportation (NHDOT) hosted the event.

Participants included a diverse range of agencies, such as NHDOT, New Hampshire's five rural RPCs, and four metropolitan planning organization (MPO)-designated RPCs (herein after referred to collectively as "RPCs" in this report). Approximately 50 participants attended the event. [Appendix C](#) lists the workshop attendees.

The workshop focused on the themes of integrated planning, performance-based planning and programming (PBPP), and scenario planning. During early planning discussions for the workshop, Nashua RPC and the FHWA New Hampshire Division indicated interest in addressing these three themes, given the State's recent activities as part of its Granite State Future (GSF) initiative, funded by the U.S. Department of Housing and Urban Development.

In 2013, the New Hampshire RPCs finished their GSF initiative, a three-year, statewide visioning process. As part of the effort, the agencies used a scenario planning approach to help collect stakeholder input. In addition, GSF addressed integrated planning goals given its regional approach as well as established performance measures. The workshop was designed to bring together the New Hampshire RPCs to discuss ways of leveraging the GSF work and incorporate it into transportation plans and practices in the State.

To assist in meeting these workshop goals, two expert peers participated in the event:

- Peter Keating, Senior Transportation Planner, Chittenden County RPC (CCRPC) (Vermont); and
- Josh Roll, Transportation Planner, Central Lane MPO (Oregon).

The peers presented on their experiences with PBPP and scenario planning. CCRPC presented on its use of PBPP, and both peers shared techniques and strategies to engage stakeholders in scenario planning exercises and implement scenarios. Key themes from the peers' presentations included:

- Several multi-disciplinary connections between integrated planning, PBPP, and scenario planning;
- Best practices when interpreting performance data and model outcomes;
- Use of a community's values as the basis for evaluating potential performance goals and scenarios; and
- The importance of displaying data, performance indicators, and potential scenarios so that they are easily understood by policy makers and the public.

During the workshop, FHWA staff provided introductory presentations on three topics mentioned above and used group activities to engage workshop participants in discussions that will guide

¹ Workshops are one resource offered by the FHWA-FTA Scenario Planning Program, which offers a variety of resources for agencies interested in using or learning more about scenario planning. The Scenario Planning Program falls under the larger FHWA-FTA [Transportation Planning Capacity Building Program](#), which provides resources and tools to assist agencies in implementing effective transportation planning.

the RPCs' next steps in leveraging the GSF work. Throughout the day, participants engaged in group discussions and report-outs to provide input into potential challenges and opportunities they envisioned for the region's future. They then used the results from their discussions to create "Action Plans" that identified challenges, potential solutions, action items, and key contacts associated with implementing integrated planning, PBPP, and scenario planning in New Hampshire.

Some of the recommendations identified in the Action Plans included:

- Establishing partnerships with local elected officials, State agencies, and other sectors;
- Standardizing data sources;
- Developing performance measures and tracking progress towards agreed-upon targets; and
- Modifying project selection criteria to prioritize projects that help meet performance goals.

The groups agreed that leveraging partnerships will help the RPCs implement integrated planning, develop effective performance measures and collect more comprehensive data to guide PBPP, and align funding sources from multidisciplinary stakeholders to implement outcomes from the prior GSF work. The recommendations developed in the Action Plans serve as the primary products from the workshop, which the RPCs may use going forward.

Post-workshop evaluations received from participants indicated the event increased their knowledge of integrated planning, PBPP, and scenario planning and provided a forum for discussions about implementing GSF and integrating land use and transportation decisions.

II. Introduction

New Hampshire's five rural regional planning commissions (RPCs) and four metropolitan planning organization (MPO)-designated RPCs requested the *Integrated Transportation Planning* workshop, supported by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) Scenario Planning Program, to build upon the recently completed statewide visioning process, [Granite State Future \(GSF\)](#). A three-year effort, GSF involved all nine of New Hampshire's RPCs.

In 2011, the State's RPCs received a U.S. Department of Housing and Urban Development (HUD) grant to implement GSF, which aimed to integrate planning efforts throughout New Hampshire and was the State's largest visioning, regional planning, and public involvement campaign to date.² GSF reflected the [New Hampshire Livability Principles](#), including traditional settlement patterns and development design, housing choices, transportation choices, natural resource functions and quality, community and economic vitality, and climate change and energy efficiency. In the first two years, the RPCs focused on engaging citizens and leaders through a broad visioning process regarding these principles as well as local working sessions focused on local interests. In the second year, the regions also conducted regional needs assessments to set goals and priorities and develop components of their regional plans. The third year involved reviewing and finalizing the plans. The RPCs are now beginning to implement specific tasks.

New Hampshire RPCs

New Hampshire's five rural RPCs include:

- Central New Hampshire Regional Planning Commission
- Lakes Region Planning Commission
- North Country Council
- Southwest Region Planning Commission
- Upper Valley Lake Sunapee Regional Planning Commission

The State's four MPO-designated RPCs include:

- Nashua Regional Planning Commission
- Southern New Hampshire Planning Commission
- Rockingham Planning Commission
- Strafford Regional Planning Commission

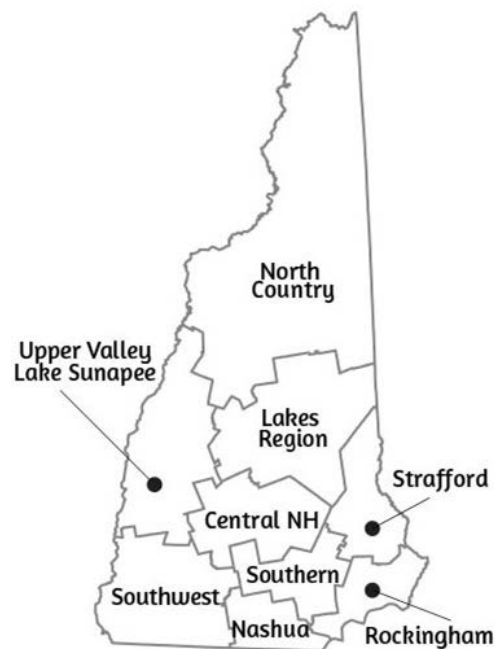


Figure 1. Map of New Hampshire RPCs
Source: [Granite State Future](#)

After conducting GSF, New Hampshire's RPCs sought effective strategies for integrating the results of this process into their transportation plans and activities. Together with the New Hampshire Department of Transportation (NHDOT), the New Hampshire RPCs requested support from the FHWA-FTA Scenario Planning Program to host a workshop that addressed integrated planning, performance-based planning and programming (PBPP), and scenario planning. The agencies also

² The RPCs received the HUD funding and signed Memoranda of Understanding with the New Hampshire MPOs and other partners to help with implementation. For more information, please visit the GSF [website](#).

wanted the workshop to focus on the ways in which these approaches could inform their implementation of GSF and guide their updates to each region's planning process. Representatives from many of the State's RPCs participated in the workshop on November 4, 2014.

The workshop included three sessions, one focused on integrated planning, another on PBPP, and a third on scenario planning. Each session began with a presentation by FHWA to introduce the topic, followed by peer presentations during the PBPP and scenario planning sessions. Each session concluded with group discussions on the lessons learned from that session. Participants were divided into six group tables to develop "Action Plans" among their groups throughout the day. The group discussions generated content for these plans, including key goals, objectives, and challenges during the integrated planning session, and strategies for establishing and tracking performance measures during the PBPP session. Following the scenario planning session, next steps and action items were developed for implementing GSF and incorporating the workshop's three planning themes. Brian Betlyon, Metropolitan Planning Specialist with the FHWA Resource Center, and Leigh Levine, Planning and Development Manager for the FHWA New Hampshire Division, facilitated the presentations and discussions during the event.

During the workshop, FHWA presented integrated planning as a concept that many sectors should consider together during the transportation planning process. These sectors could include transportation, land use, environment, health, the economy, and many others. The underlying concept is that each sector impacts the other and that all contribute to meeting residents' and policy-makers' goals for the region.

PBPP was the second theme discussed. FHWA defines PBPP as a strategic approach that uses system information to make investment and policy decisions to achieve the national performance goals established by the Moving Ahead for Progress in the 21st Century Act (MAP-21).³ Performance management enables organizations to define and measure the success of existing efforts through before-and-after studies.

Lastly, the workshop addressed the topic of scenario planning. Scenario planning involves creating plausible future visions based on a wide range of variables. Creating different scenarios helps stakeholders and planners evaluate and plan for potential outcomes. Scenario planning also helps understand how various development patterns and policies can influence a community or region.

During the workshop, the RPCs heard from peers from two transportation agencies that have experience with PBPP and scenario planning: the Chittenden County RPC (CCRPC) in Vermont and the Central Lane MPO in Oregon. These peers discussed their experiences and provided tips for the New Hampshire RPCs as they begin transitioning the GSF work into their planning processes.

The small group discussions about each type of planning, the creation of the action plans, and the participant evaluations provided at the end of the day yielded several considerations for the New Hampshire RPCs as they begin incorporating the GSF results into their planning processes. Recommendations included building partnerships with elected officials and other sectors, establishing performance measures and centralized data repositories to support PBPP, and identifying funding opportunities to bring the GSF findings further into the planning process.

³ MAP-21 established the following [national performance goals](#): safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery delays. The legislation also emphasized [PBPP](#) as a means of achieving these goals. For more information about MAP-21 and transportation performance management, please visit the FHWA Transportation Performance Management website at: www.fhwa.dot.gov/tpm/about/tpm.cfm

III. Presentations and Discussion Highlights

The following content represents highlights from the New Hampshire *Integrated Transportation Planning* Workshop. While a group discussion followed each of the themed sessions, the results from these discussions are included later in this report, in the section describing the action plans that the groups developed over the course of the day (see [Understand the models' limitations and underlying processes when calculating the reference scenario for the future](#)). Modelers should know their models' internal processes and underlying assumptions so they can accurately communicate information produced by the model system to the stakeholder group. The analytic staff should attend the meetings about modeling results to help clarify details and offer recommendations for additional analysis. Central Lane MPO uses the Oregon GreenSTEP model, or GHG Strategic Transportation Energy Planning model, which allows the MPO's staff to change key variables quickly. The GreenSTEP model estimated that, based on current trends, the Lane County region would achieve about a three (3) percent reduction in per capita GHG emissions (after accounting for emission reductions from vehicle fleet and fuel changes), far below the 20 percent reduction goal. Even though the future year reference case planned for large increases in transit service, bicycling, transportation demand management, and fuel price, rising household incomes and more efficient vehicles make reducing emissions from light-duty vehicles very difficult. The model also gave measures on projected energy consumption, economic measures, cost, land use, and natural resource use. Using the Integrated Transport and Health Impact Assessment Model (ITHIM), the model also projected public health measures, including air quality and premature death and disease.

- **Test multiple alternative future scenarios with various combinations of aggressive policy changes.** Mr. Roll emphasized that, especially for GHG reductions considerations, scenario planning efforts are more successful when considering long time frames of 30 to 40 years. Longer planning horizons can free stakeholders (including elected officials) to think more strategically and allow for bigger changes that might take place due to new transportation financing mechanisms or disruptive technologies like electric bikes. The GreenSTEP tool allowed Central Lane MPO to take advantage of this principle. GreenSTEP is a strategic model rather than a travel-demand model, which enabled the MPO to model many innovative transportation policies, such as VMT user fees and pay-as-you-drive insurance. Sensitivity analysis showed that efforts in only one area, such as increasing transit service and bicycling, would fail to reach the 20 percent reduction goal. Instead, to reach the reduction goal, the region would have to not only increase the use of alternative modes but also significantly increase the cost to drive and use new technologies to implement several other pricing schemes for driving. The MPO also varied the background inputs, such as the effects of a smaller increase in household income and fuel price and different levels of advanced vehicle adoption.
- **Communicate the data in a manner easily understandable to policy makers and the public.** The GreenSTEP model showed many potential scenarios, but Central Lane MPO needed to represent the data in a way that policy makers and the public could understand and use to make decisions. To do so, the MPO met with stakeholder groups to discuss their priorities and preferences, such as the equitable distribution of benefits across sectors of the population. The MPO staff then used these priorities as guidelines when distilling the GreenSTEP data into two alternative future scenarios. In the first, the region would meet the 20 percent GHG reduction goal, and in the second, it would surpass the goal. The scenarios also communicate the relative investments in pricing mechanisms and in bicycle, pedestrian, and transit infrastructure and programs. Based on public opinion surveys, another public workshop, and discussions with policy makers, the preferred scenario will aim to meet the GHG reduction target while maintaining livability for citizens of the region. The preferred scenario will be selected in early 2015 and a full report issued back to the State legislature

describing the process and outcomes. Due to successful communication of the lessons from the Central Lane MPO scenario planning efforts, Eugene recently passed a climate recovery ordinance that is more aggressive than that of the State. More conservative policy makers in the region now understand that efforts to reduce GHG emissions simultaneously benefit residents' health and can save households money, which could inspire future efforts to find more ways to reduce GHG emissions.

Bringing It All Together: Action Plans for the Future).

Welcome and Introduction

Representatives of Nashua RPC and FHWA provided opening remarks and a short welcome to workshop participants. Kerrie Diers, Executive Director of the Nashua RPC, introduced the workshop by discussing its use for the New Hampshire RPCs. She explained that, to address the unique situation in which the State's RPCs recently finished ambitious community visioning and transportation demand modeling as part of GSF, the FHWA, FTA, and Nashua RPC workshop planning team decided to craft the event around the themes of integrated planning, PBPP, and scenario planning.

Patrick Bauer, FHWA New Hampshire Division Administrator, reiterated the workshop's goal to help the New Hampshire RPCs integrate GSF with established transportation planning processes and to discuss strategies for implementing a performance-based framework as required under MAP-21.⁴ Mr. Bauer explained that performance measures can help track progress on areas from safety to sustainability, that integrated planning can help transportation agencies link land use with transportation to promote economic vitality, and that scenario planning enables these agencies to examine a variety of alternatives in the planning process with stakeholder input.

Federal Overview of Integrated Planning

Brian Betlyon and Leigh Levine provided case-study examples of agencies performing integrated planning activities and led a group discussion focusing on goals and key issues associated with integrated planning.

Mr. Betlyon stated that agencies can use a regional plan framework to integrate considerations about land use, transportation, and natural and cultural resources. Integrating planning for these topics requires collaboration across modes and disciplines, much like the New Hampshire RPCs facilitated during the GSF process. In addition to integrating land use and environmental considerations into the transportation planning process, integrated planning can help agencies address the PBPP approach required under MAP-21.

Workshop participants then brainstormed additional considerations that could be incorporated into the transportation planning process, including resiliency and emergency preparedness, technological advances, public health, intergovernmental collaboration, and sustainability.

⁴ 23 U.S.C. 134 (h)(2) states that "the metropolitan transportation planning process shall provide for the establishment and use of a performance-based approach to transportation decisionmaking." Each MPO must develop surface transportation performance targets in coordination with the State and public transportation providers and adopt public transportation performance targets no later than 180 days after the State and public transportation providers establish their performance targets. Each MPO must also integrate the State's and public transportation providers' performance targets in its metropolitan transportation planning process. 23 U.S.C. 134 (i)(2) states that MTPs must include a description of the MPO's, State's, and public transportation providers' performance measures as well as a system performance report that tracks progress towards the performance targets. (FHWA's [Model LRTPs: A Guide for Incorporating Performance-Based Planning](#), p. 158-160)

In particular, the session focused on the integration of transportation and land use planning and transportation planning and environmental analyses:

- **Integrating Transportation and Land Use Planning**

Transportation and land use activities are intimately connected, as transportation supply affects development decisions just as transportation demand depends on current and planned land uses. Mr. Betlyon stated that today, many sophisticated tools exist to examine the intersections between transportation and land use decisions. Regional visioning presents an effective way of linking the two processes while involving the public in making decisions about the region's future development patterns. One reason visioning and modeling tools are effective in promoting the integration of land use and transportation is that residents may be more likely to accept visions that include density and diversity of uses if they can see an image of what their area might look like in such a system. Public visioning and development of goals also help residents in planning for the future of their communities. Transportation Improvement Programs (TIPs) and State Transportation Improvement Programs (STIPs) can incorporate these decisions by including land use criteria in project selection and also designing projects to reflect the land use context.

- **Integrating Transportation Planning and Environmental Analyses**

Federal requirements dictate some aspects of integrated planning. For instance, transportation planning agencies must collaborate with resource agencies and develop consensus on potential environmental mitigation activities to include in their metropolitan transportation plans (MTPs).⁵ Federal programs such as Planning and Environmental Linkages (PEL) also relate to integrated planning. FHWA developed PEL to help agencies expedite project delivery by considering environmental, community, and economic goals early in the planning process. FHWA asks agencies that adopt PEL to incorporate these goals in the early planning stages and carry them through project development and delivery.

New Hampshire RPCs have already started integrating environmental, community, and economic considerations into their planning processes by incorporating the New Hampshire Livability Principles into their MTPs. Some of the potential outcomes for this process include:⁶

- Tying regional transportation to local Land Use and Capital Investment Plans,
- Aligning Federal planning resources,
- Increasing public participation in the planning process,
- Reducing social and economic disparities,
- Decreasing the cost of transportation,
- Promoting infill development, and
- Increasing the proportion of low-income households within a 30-minute commute by transit of a major employer.

Federal Overview of Performance-Based Planning and Programming

Brian Betlyon and Leigh Levine introduced the topic of PBPP and discussed strategies for developing a compatible PBPP framework. They also led a group discussion to examine opportunities to leverage the GSF work in the transportation planning process and to use GSF data metrics as a basis for potential performance measures.

⁵ 23 U.S.C. [134](#), [135](#)

⁶ Granite State Future [Regional Plan Framework](#), p. 8-9

Mr. Betlyon explained that performance-based plans include goals and objectives, trends data, and fiscally constrained investment scenarios and priorities. He noted the following for agencies interested in establishing performance-based plans:

- **Goals and objectives** must be specific and measurable, with regular updates to ensure their continued relevance.
- **Performance measures** should reflect the project's goals and track progress toward the objectives.
- **Trends data** help agencies establish realistic targets. This data might include measures of congestion levels and system reliability, for example.
- When developing **fiscally constrained investment scenarios and priorities**, agencies must consider the funds required for asset management and create scenarios and strategies based on various allocations of remaining funds. The MTP reflects each of these steps, while TIPs/STIPs include projects that will move the performance measures data in the direction of the goals and objectives. MAP-21 regulations require MPOs and RPCs to report progress to FHWA and FTA every two years. After five years, FHWA and FTA will report the progress of PBPP efforts nationwide.⁷

To effectively implement PBPP, agencies should incorporate their performance-based plans into their programming, or the development of investment priorities in their TIPs/STIPs. TIPs/STIPs communicate specific investments, funding sources, and how the investments contribute to system performance improvements. To ensure that the TIPs/STIPs include funding for projects that move in the direction of performance-based goals and objectives, agencies should adjust their project selection criteria accordingly.

Peer Approaches to Performance-Based Planning and Programming

Peter Keating, Chittenden County RPC

During the PBPP session, Peter Keating of CCRPC also shared his agency's experiences in developing performance measures. Mr. Keating focused his presentation on CCRPC's [Environment, Community, Opportunity, Sustainability \(ECOS\) Annual Report](#), which tracks the region's progress using mutually agreed-upon performance measures.

Chittenden County encompasses the region around Burlington, Vermont, which includes 42,000 residents within a metropolitan area of 150,000. This region represents 22-25 percent of the State's population, so while it is similar or even smaller in size than some New Hampshire regions, it represents a greater proportion of the State's population than the New Hampshire RPCs. In fact, CCRPC is the State's only MPO, though it is one of 12 RPCs.

CCRPC received a HUD regional sustainability grant in 2009, two years before the New Hampshire RPCs received their HUD grant to implement GSF. CCRPC undertook a similar process to GSF, using its funding to conduct an extensive outreach process with local residents and stakeholders to consider potential scenarios for the region's future. Based on residents' feedback, CCRPC developed the [ECOS Regional Plan](#) and adopted it in early 2013. Since then, the agency regularly releases annual indicator reports based on several indicators included in the plan. These reports and indicators serve as good examples for steps the New Hampshire RPCs can take to implement GSF.

First, CCRPC considered over 20 performance measures that address the plan's goals and then chose two to five indicators per goal that staff could track easily over time. The annual report includes over 90 indicators that address a range of topics, including transportation, housing,

⁷ For more information, please see FHWA's [MAP-21 Performance Requirements Summary](#).

education, water, food, energy, health, social connectedness, and economic development. CCRPC released its first ECOS Annual Report about a year ago and is nearing the completion of the second.

Several lessons emerged from Mr. Keating's presentation:

- **Incorporate multidisciplinary indicators related to transportation.** Among other organizations, the CCRPC partnered with its Chamber of Commerce, a local hospital, and the Vermont Department of Health to receive guidance and information on performance indicators related to the region's economy and health. Health, in particular, is an emerging aspect to consider in planning, and partnering with health organizations can help transportation agencies incorporate health in comprehensive planning activities.
- **Consider the data as a piece of multi-year trends rather than focusing on year-to-year changes.** Many measures do not have data available every year. Even for those measures that do, agencies should be careful not to consider year-to-year changes as trends. For instance, CCRPC includes vehicle crashes per one million annual vehicle-miles traveled (VMT) data in every annual report. While the agency continuously works to reduce this number, Mr. Keating emphasized that the trend would only be clear after several years. CCRPC is also working to refine measures over time, such as separating bicycle and pedestrian crashes from vehicle crashes to provide more detail. Another factor to consider in analyzing trends is the margin of statistical error. For instance, CCRPC's measure of the percentage of residents driving single-occupancy vehicles to work has varied in the last five years, but never outside of the margin of error.
- **Communicate the performance on various measures using clear, creative graphics.** CCRPC includes a table at the end of its annual reports that lists all the indicators and a red, yellow, or green mark to convey progress on each metric. For example, the miles of sidewalks and shared use paths would show green if the number increased, because one of the CCRPC's goals is for pedestrian and bicycle infrastructure to increase in the future. As another example, VMT per capita currently shows as green because the number is decreasing, in accordance with CCRPC's goals. This method allows the agency to easily evaluate and communicate which measures require further strategies to move in the right direction.

Federal Overview of Scenario Planning

Dave Harris, Transportation Specialist from the FHWA Office of Planning, provided an overview of scenario planning, including key concepts, origin, benefits, and current support offered by the FHWA-FTA Scenario Planning Program. FHWA and FTA established the scenario planning program to offer a range of training and resources for scenario planning practitioners, including workshops, webinars, and case studies of best practices. Since 2004, the program has supported 25 scenario planning workshops in 22 States. FHWA and FTA also maintain a [scenario planning website](#) with information about workshops and webinars, as well as a guidebook that explains the key steps of scenario planning with detailed examples for each step.

Mr. Harris explained that, to connect scenario planning with integrated and PBPP, transportation agencies may evaluate the desirability of various targets by comparing baseline conditions with scenarios in which performance measures meet those targets. Transportation agencies can also consider the effect that changes in transportation can have on other fields like employment and health and vice versa.

Scenario planning creates plausible stories about what the future could hold based on a wide range of variables. The exercise of creating different scenarios helps foster an understanding of the driving forces in transportation, and helps stakeholders and planners assess and prepare for possible

outcomes. It is also useful in demonstrating a range of possible development patterns and policies because, by creating scenarios, one can show how development decisions impact a community or region.

Peer Approaches to Scenario Planning

Two peer agencies—CCRPC and Central Lane MPO—provided insight into their past and current efforts in scenario planning, discussed best practices, and shared feedback for the New Hampshire RPCs to consider in their use of scenario planning. Information shared by the peers focused on the topics of analyzing potential scenarios through visioning efforts and models and presenting the resulting data in a manner easily understandable to the public.

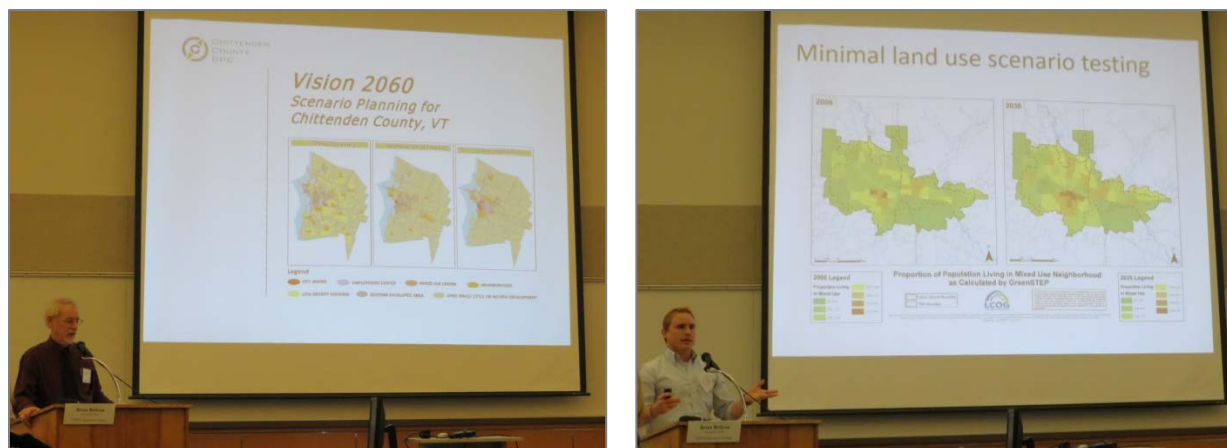


Figure 2. Peter Keating (left) and Josh Roll (right) present scenario planning strategies.
Source: USDOT Volpe Center.

Peter Keating, Chittenden County RPC

About five years ago, CCRPC began its [Vision 2060](#) Scenario Planning Process. The agency wanted the process to engage the public, identify residents’ concerns for and visions of the future, and encourage stakeholders to consider land use in conjunction with transportation activities.

Vision 2060 involved a series of community workshops in which CCRPC staff asked participants to think about the region’s land use and transportation needs for the next 50 years. In small groups, participants engaged in an exercise in which they placed “chips,” or game pieces, on a map of the region. Participants received chips that represented various land uses as well as transportation corridors. CCRPC then created three scenarios based on: 1) current trends; 2) groups’ suggestions from the “chips” exercise; and 3) more extreme land conservation and compact development than the groups had suggested. Later feedback, via a survey, favored this last scenario focused on compact growth.

Mr. Keating suggested several lessons from CCRPC’s Vision 2060 scenario planning process:

- **Prior to conducting scenario planning exercises, ask stakeholders to discuss their key values and factors which will motivate development decisions.** Before directing residents to develop their ideal maps, CCRPC staff conducted a roundtable exercise to discuss their core principles and priorities for the future, which provided participants with guidelines for their work. Mr. Keating emphasized that this exercise should also encourage stakeholders to consider transportation as well as economic development and housing. The

Vision 2060 workshop participants tended to focus mostly on the land use aspects of the exercise rather than the transportation aspects, but Mr. Keating stated that all the sectors should be considered together. He also suggested reminding participants they can redevelop previously developed areas to make them denser or less dense.

- **Refine the scenarios to just a few options for the public to consider.** After the workshops, the MTP Advisory Committee determined that almost all of the groups' plans were fairly similar. Most groups chose to develop the region at higher densities than the current trend to preserve more open land. The MTP Advisory Committee adopted one of the typical plans as a "workshop" scenario. In addition to the workshop scenario and a trend scenario (based on current trends), CCRPC staff developed a "core" scenario in which Burlington experienced 45 percent of the regional growth and most of the rural lands remained undeveloped.
- **Limit the number of indicators to avoid overwhelming stakeholders.** The MTP Advisory Committee used models to test several metrics that varied with the three land use development scenarios. When presenting the scenarios to the public for consideration, however, the committee chose only a few key indicators, like congestion and weekday greenhouse gas emissions (GHG), to demonstrate the differences. This made the data easier to consider. The CCRPC then surveyed residents about their preferred alternatives. Based on the proposed land trends and indicators, residents responded to the CCRPC survey by ranking the "core" scenario first. The participants ranked environmental impacts, energy consumption, alternative modes of transportation, and the minimization of land consumption as important factors in their decision. They also expressed support for increasing the gas tax if investment went to all transportation modes but did not favor raising property taxes or tolls to fund transportation.
- **Ideally, scenario planning leads to implementation.** Based on the scenario planning exercises and public feedback, the MTP Advisory Committee developed a slightly more nuanced scenario as its target and adopted new fiscal priorities: 1) 65 percent of funds will go to maintenance, 2) funds for roadways will decline 22 percent over the next 25 years compared to a 10-year TIP historical baseline, and 3) the remaining funds will go to alternative modes of transportation as well as transportation-demand management.

Josh Roll, Central Lane MPO

Central Lane MPO serves the Eugene-Springfield metropolitan area in Oregon, which has a population of about 250,000. It is one of six MPOs in Oregon. Due to Oregon's implementation of urban growth boundary requirements in 1973, when each of the State's cities designated a boundary outside of which it will not develop the land, Oregon cities have long considered various scenarios for the development of their limited land. Recently, Central Lane MPO began a transportation greenhouse gas scenario planning process legislated by the State. The MPO is required to develop a future transportation and land use scenario that achieves a 20 percent per capita light-duty vehicle emissions reduction by 2035. Concurrently with the scenario planning effort, the Central Lane MPO established the [Lane Livability Consortium](#) with funding from HUD to develop health, equity, and economic vitality performance measures to measure all aspects of emissions reduction scenarios. Thus, the consortium included a diverse mix of stakeholders.

Several lessons arose from Mr. Roll's discussion of the Lane Livability Consortium efforts:

- **Understand the models' limitations and underlying processes when calculating the reference scenario for the future.** Modelers should know their models' internal processes and underlying assumptions so they can accurately communicate information produced by the model system to the stakeholder group. The analytic staff should attend the meetings about modeling results to help clarify details and offer recommendations for additional analysis. Central Lane MPO uses the Oregon [GreenSTEP model](#), or GHG Strategic

Transportation Energy Planning model, which allows the MPO's staff to change key variables quickly. The GreenSTEP model estimated that, based on current trends, the Lane County region would achieve about a three (3) percent reduction in per capita GHG emissions (after accounting for emission reductions from vehicle fleet and fuel changes), far below the 20 percent reduction goal. Even though the future year reference case planned for large increases in transit service, bicycling, transportation demand management, and fuel price, rising household incomes and more efficient vehicles make reducing emissions from light-duty vehicles very difficult. The model also gave measures on projected energy consumption, economic measures, cost, land use, and natural resource use. Using the [Integrated Transport and Health Impact Assessment Model \(ITHIM\)](#), the model also projected public health measures, including air quality and premature death and disease.

- **Test multiple alternative future scenarios with various combinations of aggressive policy changes.** Mr. Roll emphasized that, especially for GHG reductions considerations, scenario planning efforts are more successful when considering long time frames of 30 to 40 years. Longer planning horizons can free stakeholders (including elected officials) to think more strategically and allow for bigger changes that might take place due to new transportation financing mechanisms or disruptive technologies like electric bikes. The GreenSTEP tool allowed Central Lane MPO to take advantage of this principle. GreenSTEP is a strategic model rather than a travel-demand model, which enabled the MPO to model many innovative transportation policies, such as VMT user fees and pay-as-you-drive insurance. Sensitivity analysis showed that efforts in only one area, such as increasing transit service and bicycling, would fail to reach the 20 percent reduction goal. Instead, to reach the reduction goal, the region would have to not only increase the use of alternative modes but also significantly increase the cost to drive and use new technologies to implement several other pricing schemes for driving. The MPO also varied the background inputs, such as the effects of a smaller increase in household income and fuel price and different levels of advanced vehicle adoption.
- **Communicate the data in a manner easily understandable to policy makers and the public.** The GreenSTEP model showed many potential scenarios, but Central Lane MPO needed to represent the data in a way that policy makers and the public could understand and use to make decisions. To do so, the MPO met with stakeholder groups to discuss their priorities and preferences, such as the equitable distribution of benefits across sectors of the population. The MPO staff then used these priorities as guidelines when distilling the GreenSTEP data into two alternative future scenarios. In the first, the region would meet the 20 percent GHG reduction goal, and in the second, it would surpass the goal. The scenarios also communicate the relative investments in pricing mechanisms and in bicycle, pedestrian, and transit infrastructure and programs. Based on public opinion surveys, another public workshop, and discussions with policy makers, the preferred scenario will aim to meet the GHG reduction target while maintaining livability for citizens of the region. The preferred scenario will be selected in early 2015 and a full report issued back to the State legislature describing the process and outcomes. Due to successful communication of the lessons from the Central Lane MPO scenario planning efforts, Eugene recently passed a climate recovery ordinance that is more aggressive than that of the State. More conservative policy makers in the region now understand that efforts to reduce GHG emissions simultaneously benefit residents' health and can save households money, which could inspire future efforts to find more ways to reduce GHG emissions.

Bringing It All Together: Action Plans for the Future

Throughout the day, workshop participants worked in small groups to develop "action plans." Participants were divided into six groups, with members representing the various agencies present. After the presentations on each topic, the teams worked to develop "action plans" for GSF implementation. Each team would brainstorm key issues and concerns with implementing each type

of planning as well as next steps and strategies, including action items, an agency lead, and a goal for completion. The teams then reported their discussions to the full group. At the end of the day, the full group also discussed the opportunities for applying integrated planning, PBPP, and scenario planning principles in the New Hampshire context.

Several observations emerged from the report-out sessions. These observations point to useful considerations for the New Hampshire RPCs when moving forward with implementing GSF through integrated planning, PBPP, and scenario planning.

During the integrated planning portion of the workshop, participants focused on identifying key goals, objectives, issues, and concerns. When discussing key goals and objectives, the groups noted needs to:

- update MTPs in accordance with the GSF vision;
- develop a central data repository that the RPCs could regularly update and use for plan development;
- use flexible funding mechanisms;
- engage a broader variety and larger number of stakeholders and partners, including local elected officials; and
- address changing demographics and environmental challenges such as climate change, water quality, and energy shortages.

When discussing key issues and concerns regarding integrated planning, the groups agreed that decentralized decisionmaking about land use and alternative transportation modes, communicating the value of integrated planning solutions, and the advisory nature of GSF and transportation plans posed challenges to meeting their goals and objectives.

During the PBPP session, workshop participants identified the following steps to implementing PBPP in New Hampshire:

1. **Establish visions, goals, and objectives.** Organize meetings and events with stakeholders, including the public and decisionmakers, to determine the community's vision and goals for the future.
2. **Identify and standardize existing data sources.** To help with this process, GSF can host a data viewer that allows comparison between New Hampshire transportation data sources.⁸ These include [GSF metrics](#) as well as the [NHDOT Balanced Scorecard](#), which tracks the State DOT's progress on 29 performance measures.
3. **Identify gaps in available data** and new data collection that would be helpful. Participants suggested that potential data gaps include information on transit, bicycle, and pedestrian networks and traffic; travel time; GHG emissions; freight; and health.
4. **Determine funding and time available for new data collection.** The groups suggested crowdsourcing as a strategy for collecting data at less cost.
5. **Establish performance measures** based on existing data sets and data that can be realistically collected. The groups recommended that performance measures reflect integrated planning goals, GSF goals, and feedback from the public and stakeholders in sectors other than transportation. Participants further suggested limiting the number of performance measures.
6. **Set targets for each performance measure** that are specific, measurable, agreed upon, realistic, and timebound (SMART). Identify the responsible parties for achieving these goals.
7. **Modify project selection criteria** to prioritize projects that help meet performance goals.

⁸ These data sources also include the State's Comprehensive Economic Development Strategy ([CEDS](#)) metrics and [Driving Towards Zero](#) crash data.

To measure success, the groups recommended developing a “report card” that shows whether the trends for each performance measure are moving in the direction of the targets. Participants also noted that public satisfaction and engagement, better communication of data between agencies, and implementation of GSF goals by policymakers are important indicators of successful planning.

After the presentations on scenario planning, the work groups suggested several strategies to leverage the GSF work using integrated, performance-based, and scenario planning. These strategies centered on relationships at the local, regional, and State level. For instance, the groups recommended:

- building on GSF partnerships to forge new relationships with other sectors, including public health agencies and AARP;
- better connecting MPO representatives with local elected officials, transportation commissioners, county delegations, legislative forums, and Chambers of Commerce;
- integrating transportation plans into local, regional, and State planning documents; and
- using existing RPC/MPO meetings and working with the State, partners in other sectors, elected officials, and the public to jointly develop performance measures.

These relationships would allow the RPCs to align funding resources from multidisciplinary stakeholders, educate Technical Advisory Committee (TAC) members and elected officials about PBPP, assess how performance measures will affect and benefit stakeholders, ensure consistency in performance measures across regions, and increase the chances of securing a political champion to lead the implementation of GSF plans.

The groups also recommended broadly publicizing GSF results, providing incentives for agencies to implement GSF, and regularly updating GSF metrics as a way to sustain momentum and inform the RPCs’ regional transportation plans. Participants suggested using scenario planning to present bold and compelling ideas, engage the public, and examine various strategies to meet performance targets.

Finally, the groups identified action items and key partners. Action items included:

- establishing a workgroup on data development for Unified Planning Work Programs;
- updating project selection criteria to reflect GSF goals and recommendations;
- developing clear and succinct outreach materials on GSF;
- organizing briefings and meetings to educate elected officials about GSF;
- seeking project-specific funding;
- scheduling a time during TAC meetings to discuss potential partners; and
- hosting a performance-based TAC meeting to establish goals and expectations.

Potential partners included transportation advocacy groups; State departments; health, housing, and education organizations; and the private sector.

A copy of the Action Plan and responses provided by each group is included in [Appendix D](#). Action Plan: Break-Out Group Responses.

Next Steps

Kerrie Diers, Executive Director of Nashua RPC, and Mary Beth Mello, FTA Region 1 Administrator, ended the workshop with concluding remarks. The New Hampshire RPCs will use the “action plan” material they developed during the workshop to inform their next steps in incorporating the GSF

results into their plans and activities. For example, the RPCs are currently coordinating with NHDOT to organize a PBPP working group in 2015 as an outcome of the workshop.

IV. Conclusion

The FHWA *Integrated Transportation Planning* workshop provided an opportunity for participants to learn more about integrated planning, PBPP, and scenario planning, engage with peer experts, identify useful practices, and develop action plans to inform next steps.

The workshop allowed for peer-to-peer exchange of ideas and practices related to integrated planning, PBPP, and scenario planning. Participants were able to discuss how these three themes could be applied to New Hampshire. The workshop discussions and input from the peer experts will support the New Hampshire RPCs as they begin to incorporate the lessons from GSF into their planning processes and address MAP-21's PBPP requirements.

Feedback provided by participants about the event and from the roundtable discussions with the peers offered insights and new ideas for the New Hampshire RPCs to consider as they begin integrating the results of GSF into their planning processes. FHWA and the peers' sharing of information and experiences highlighted effective techniques and approaches to integrated planning, PBPP, and scenario planning. The evaluation forms collected at the end of the workshop indicated participants felt their knowledge of integrated planning, PBPP, and scenario planning had improved as a result of the workshop. Participants stated that their involvement was worthwhile, the overall content of the workshop was very good, and the peers' presentations were excellent and brought significant value to the event. Most participants also found the presentations by Nashua RPC and FHWA beneficial. Based on the presentations, participants recommended integrating GSF into transportation plans and activities by improving coordination, including: 1) data sharing between State, regional, and local officials; 2) encouraging the use of sustainable and flexible funding sources to enhance integrated planning and scenario planning; and 3) updating GSF data, incorporating it into local plans, and sharing trends in easy-to-read reports.

Appendices

Appendix A: Workshop Agenda

Time	Session	Speaker
8:00 - 8:30	Registration and Check-in	
8:30 - 9:00	Welcome and Introduction to the Workshop	<ul style="list-style-type: none"> • Kerrie Diers Executive Director, Nashua RPC • Patrick Bauer Administrator, FHWA New Hampshire Division • Brian Betlyon Metropolitan Planner, FHWA Resource Center; Workshop Facilitator • Leigh Levine Planning & Development Manager, FHWA New Hampshire Division; Workshop Facilitator
9:00 - 10:15	Session 1: Integrated Planning	<ul style="list-style-type: none"> • Brian Betlyon Metropolitan Planner, FHWA Resource Center; Workshop Facilitator • Leigh Levine Planning & Development Manager, FHWA New Hampshire Division; Workshop Facilitator
10:15 - 10:30	Break	
10:30 - 11:45	Session 2: Performance-Based Planning	<ul style="list-style-type: none"> • Brian Betlyon Metropolitan Planner, FHWA Resource Center; Workshop Facilitator • Leigh Levine Planning & Development Manager, FHWA New Hampshire Division; Workshop Facilitator • Peter Keating Senior Transportation Planner, Chittenden County RPC
11:45 - 12:15	Group Discussion	<ul style="list-style-type: none"> • Workshop Facilitators
12:15 - 1:15	Lunch	
1:15 - 2:30	Session 3: Scenario Planning	<ul style="list-style-type: none"> • Dave Harris Transportation Specialist, FHWA Office of Planning • Peter Keating Senior Transportation Planner, Chittenden

		<p>County RPC</p> <ul style="list-style-type: none"> • Josh Roll Transportation Planner, Central Lane MPO
2:30 - 2:45	Break	
2:45 - 3:45	Session 4: Bringing It All Together: Action Plans for the Future	<ul style="list-style-type: none"> • Workshop Facilitators
3:45 - 4:30	Group Report-outs and Discussion	<ul style="list-style-type: none"> • Workshop Facilitators
4:30 - 4:45	Next Steps	<ul style="list-style-type: none"> • Kerrie Diers Executive Director, Nashua RPC • Mary Beth Mello Administrator, Federal Transit Administration Region 1 • Bill Watson Planning and Community Assistance Bureau Chief, NHDOT

Appendix B: Questions and Responses

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

Peer Approaches to Performance-Based Planning and Programming

Peter Keating

1. *Did you collect additional data when tracking performance measures, or did you rely on existing data?*
CCRPC started collecting more data related to pedestrian and bicycle use and infrastructure, but had not translated the data into indicators. The MPO has recently established indicators for this data and is now considering targets.
2. *Is your agency responsible for programming funds in the TIP?*
Yes, CCRPC is responsible for programming funds in the TIP.
3. *When the trends for a performance measure are negative, what is the public reaction?*
The public has not reacted to the data, despite efforts to secure press attention. However, the trends have only 2-3 years of data points, so as CCRPC continues to collect data, the public may express more of a reaction to the trends. The MPO has started a funding effort to update the data in the next iteration of the MTP, but no residents have expressed concerns about the initiative.
4. *How many metrics did you develop in coordination with the State DOT?*
As the only MPO in Vermont, CCRPC worked closely with the State DOT to develop performance measures and secure data. The MPO receives much of its data from the State DOT.
5. *You examine single-occupancy vehicle (SOV) mode share. Do you also have measures on bicycle, pedestrian, and transit use?*
CCRPC started by examining SOV mode share because it represents the highest percentage of commuters. However, the MPO is examining the potential for performance measures on the use of alternative modes.
6. *Are any rural RPCs in Vermont moving towards implementing scenario planning?*
Several rural RPCs in the State also received HUD grants in previous rounds; however, any direct ties to scenario planning are not known.
7. *How much influence does the MPO have on the number of people that drive to work?*
CCRPC is discussing the impact of shifting its investment priorities towards alternative modes. Tracking performance measures led to plans to invest in other modes. This will hopefully lead to policy that shifts the investments, which may not initially impact SOV mode share but may increase the use of alternative modes over several years.

Peer Approaches to Scenario Planning

Peter Keating

- 1. Were the initial workshops broadly advertised, and was there an effort to engage policy makers and a broad spectrum of stakeholders?*

CCRPC targeted the workshops to the general public and local government leaders to involve decisionmakers in the process. The people who attended tended to be well-informed and averaged about 50 years old.
- 2. Was there a difference in turnout between outlying communities and Burlington?*

Compared to the workshops in the city, fewer people attended the workshop in our rural towns.
- 3. Due to slower growth rates now, would the scenario planning exercises you conducted still be effective?*

The scenario planning exercises provided a valuable understanding of residents' values and priorities for development patterns in the coming years. In a few years, we may want to conduct the scenario planning exercises again to reflect changes in those values and priorities, regardless of our growth rates; however, this will be determined as we move forward.
- 4. Did you conduct scenarios with different population and employment forecasts? What sources did you use to make those forecasts?*

We did not alter population or financial assumptions for the various scenarios. We used various sources to develop population and financial projections.
- 5. How will you change the scenario planning exercises to help participants consider transportation as well as land use?*

We are still considering options for improving this aspect of the exercises.
- 6. To help participants understand the 50-year timescale, did you show them how the region looked 50 years ago?*

We did not show participants images of land use in the region from 50 years ago.
- 7. Did you tell participants the relative costs of bus routes, bicycle paths, and other transportation options for the region?*

We did not discuss the financial aspects of the various transportation options. The participants placed greater focus on preserving rural land than on developing the region's transportation infrastructure. For the groups that did consider transportation options, there did not seem to be significant discussion of the financial needs behind their proposals.
- 8. Where will you get matching funds for the funds you are planning to shift from highways to transit?*

CCRPC will need to discuss potential funds with transit agencies. From the scenario planning exercises, the MPO knows the region must shift towards investing more in alternative modes, but CCRPC has not yet had detailed funding conversations about the transition.

Josh Roll

1. *Is the GreenSTEP model available for use by other agencies?*

GreenSTEP was a statewide model that was modified for metropolitan areas. FHWA rebranded the tool and the Florida DOT has started using it. GreenSTEP is now open-source and more modular so agencies can implement and upgrade it more easily. Agencies must know how to use the open-source statistical software R in which GreenSTEP is coded. However, the GreenSTEP tool has been reprogrammed into [SmartGAP](#) with some added features.

2. *How did you incorporate public feedback into the model?*

Four public workshops were held as well as a phone survey and online tool. Information collected through these outreach measures were incorporated into selection of the final preferred scenario inputs and report to the legislature.

Appendix C: Workshop Attendees

LAST NAME	FIRST NAME	TITLE	AGENCY
Bauer	Patrick	Administrator	FHWA New Hampshire Division
Betlyon	Brian	Metropolitan Planner	FHWA Resource Center
Bogle	Scott	Senior Transportation Planner	Rockingham Planning Commission
Butler	Fred	Bureau of Rail & Transit	NHDOT
Callister	Dan	Assistant Planner	Lakes Region Planning Commission
Chen	Julie	Senior Transportation Planner	Southern NH RPC
Connors	Mark	Regional Planner	Nashua Regional Planning Commission
Copeland	Cynthia	Executive Director	Strafford Regional Planning Commission
Czysz	Jen	Senior Regional Planner	Nashua Regional Planning Commission
Diers	Kerrie	Executive Director	Nashua Regional Planning Commission
Durfee	Liz	Regional Planner	Strafford Regional Planning Commission
Dusenberry	Linda	Bureau of Planning and Community Assistance	NHDOT
Falk	Tom	Transportation/GIS Analyst	Rockingham Planning Commission
Garcia	Nick	Community Planner	FTA Region 1
Harris	Dave	Transportation Specialist	FHWA Office of Planning
Hlasny	Adam	Transportation Planner	Southern NH RPC
Hunt	Rita	Bureau of Aeronautics	NHDOT
Izard	Mike	Principal Planner	Lakes Region Planning Commission
Jeffers	Dave	Regional Planner	Lakes Region Planning Commission
Keasler	Rae	Transportation Specialist	FHWA Office of Planning
Keating	Peter	Senior Transportation Planner	Chittenden County Regional Planning Commission
Lentz	Colin	Regional Transportation Planner	Strafford Regional Planning Commission
Leuchanka	Natasha	Planner	Strafford Regional Planning Commission
Levine	Leigh	Planning & Development Manager	FHWA New Hampshire Division
Lucken	Emma	Transportation Analyst	USDOT Volpe Center
Mack	J.B.	Principal Planner	Southwest Regional Planning Commission
Margason	Nate		U.S. Environmental Protection Agency
Mattor	Karen	Senior Planner	Southern NH RPC
Mello	Mary Beth	Administrator	FTA Region 1
Miller	Nate	Executive Director	Upper Valley Lake Sunapee Regional PC
Munn, AICP	Jack	Chief Planner	Southern NH RPC
Murphy	Tim	Executive Director	Southwest Regional Planning Commission
Poesse	Mary	Transportation Planner	North Country Council
Pruyne	Robert	GIS Specialist	Rockingham Planning Commission
Ricker	Adam	Assistant Planner	Upper Valley Lake Sunapee Regional PC
Roache	Tim	Assistant Director/MPO Coordinator	Nashua Regional Planning Commission

LAST NAME	FIRST NAME	TITLE	AGENCY
Roll	Josh	Transportation Planner	Lane Council of Governments
Rose	Williams	Bureau of Planning and Community Assistance	NHDOT
Scheiner	Chris	GIS & Technical Analyst	Strafford Regional Planning Commission
Schoeneck Lambert	Tricia L.	Bureau of Aeronautics	NHDOT
Sewake	Geoff	Regional Planner	North Country Council
Sinnott	Cliff	Exec. Director	Rockingham Planning Commission
Strauss	Rachel	Community Planner	USDOT Volpe Center
Sullivan	Sean	Environmental Protection Specialist	FTA Region 1
Tufts	Craig	GIS and Transportation Planner	Central NH RPC
Walker	David	Transportation Program Manager	Rockingham Planning Commission
Watson	Bill	Bureau of Planning and Community Assistance	NHDOT
White	Tim	Principal Transportation Planner	Southern NH RPC
Williams	Dean	Transportation Planner	Central NH RPC
Winters	Shelley	Bureau of Rail & Transit	NHDOT

Appendix D. Action Plan: Break-Out Group Responses

1. **SESSION 1: INTEGRATED PLANNING:** In your groups, please complete the following Sections A and B.

A. Strategic Direction / Goals and Objectives: *Where do you want to go?*

Table 1:

- GSF vision to update long-range transportation plans (LRTPs)
- Efficiency, breaking down silos
- Enhance public participation—real two-way communication
- Broader public involved in process—methods to enhance this
- Integrated planning should be the norm
- Funding as incentive to engage various audiences
- Central data repository that is kept up to date and assists with plan development
- Elevating integrated planning to community leaders
- Having sufficient planning funding
- Flexibility in using planning funding

Table 2:

- Better integrate land use and transportation

Table 3:

- Implementation timeline (MAP-21)
- Metropolitan Transportation Plans (MTPs)
- Land use as a foundations for all chapters
- Process interrelated
- Broader involvement

Table 4:

- Improve coordination and sharing of information
- Complete streets
- Transportation options (e.g., for seniors)

Table 5:

- Meet changing demographics
 - Housing options
 - Transportation options
- Meet environmental challenges
 - Climate/preparedness
 - Water quality
 - Energy

Table 6:

- Implementing GSF plans
- Performance measures
- Integrate public and local elected officials into process
- Make the plans more than advisory

B. Key Issues and Concerns: What are existing conditions or issues to consider?

Table 1:

- Not used to thinking about integration
- Demographic impacts: aging population
- Amount and flexibility of funding
- Safety
- New destinations/travel patterns
- Getting to “shared vision” (e.g., economic growth/community character)
- Historic settlement pattern

Table 2:

- Funding mechanisms (breaking down silos)
- Aging Populations
- Decentralized land use decisionmaking
- Decentralized alternative mode decisionmaking
- Models for small towns and rural areas

Table 3:

- Sustainable funding sources/flexibility
- Location-appropriate alternative modes of transportation
- Demographics/access to transportation choices that meet the needs of all people – age, income, race, ability
- Resiliency
- Deferred maintenance
- Mobility
- Safety

Table 4:

- Lack of coordination among agencies
- Resistance to change
- Demographic changes

Table 5:

- Selling the problems
- Show value in solutions
 - Quantify benefit of transportation investment (rail)
- Long term maintenance
- Funding

Table 6:

- Advisory nature – Planning vs. Policy
- “Shelfability”
- Synthesizing info/public accessibility
- Broad scope
- Resources, update frequency
- Integrating into a statewide framework (horizontal vs. vertical)

2. **SESSION 2: PERFORMANCE-BASED PLANNING:** In your groups, please complete the following Section C.

C. Analysis / Performance Measures: How are we going to get there? How can we measure success?

HOW ARE WE GOING TO GET THERE?

Table 1:

- Establish visions, goals, objectives
- What's important?
- What can we measure?
 - Is there sufficient time and funding?
- Reflect integrated planning goals
- Managing number of measures
- Measures outside/larger than region
- How to move past political decisions
- State increasingly respecting regional priorities
- Project selection criteria
- Integrate non-transportation parties in transportation performance planning
- Establishing targets

Table 2:

- Auto-oriented:
 - Existing documents/sources
 - Existing measures
 - Existing frameworks are still missing key elements
 - Determine existing data and existing data needs (inputs vs. outcome)
- New technology

Table 3:

- Core metrics – GSF (need to compare data, but no need to tabulate)
- GSF will host data viewer to enable data comparison
 - Examples:
 - NHDOT Balanced Scorecard
 - Upper Valley Regional component
 - Data management- as part of Unified Planning Work Programs
 - Want useful data- not just collecting

Table 4:

- Identify data sources
 - Ensure metrics consistent with stakeholder input
- Assess quality of data
 - Work to standardize/improve data sources (e.g. accidents)
- Engagement with communities and residents

Table 5:

- Establish consistent datasets, including commonality
 - GSF metrics
 - NHDOT balanced scorecard
 - Comprehensive Economic Development Strategy metrics

- Driving towards zero

Table 6:

- Collect new data, fill gaps (e.g., bike/ped)
 - Missing data
 - How do you set targets
- Setting realistic goals (S-M-A-R-T goals)
- Identify appropriate metrics based on needs (not just data availability)
- Assess data quality
- Identify funding for data collection
 - Volunteers?
 - Tie in with other efforts

HOW CAN WE MEASURE SUCCESS?

Table 1:

- Moving trends in positive direction
- Who is responsible when/if targets aren't met?
- Greater buy-in/participation in dialogue
- Is the customer satisfied?
- Develop "report card"
- Quality control/assurance on measures
- Standards measures?

Table 2:

(rather than addressing how to measure success, Table 2 focused on identifying data needs)

- Data needs:
 - Travel model updates
 - Bike/ped traffic (connectivity/level of service)
 - Greenhouse gas emissions
 - Transit network
 - Travel time
 - Freight
 - Health

Table 3:

- Linkages between data sources
- Consistent messaging
- Better reporting relationships between agencies
- Create consistent set of benchmarks

Table 4:

- Set reasonable time frames to measures progress
- Pursue projects that will help meet goals
- Focus on impacts of specific projects

Table 5:

- Commonality of datasets
- Setting target, then monitor the data toward goals
- Establish (or provide, inform, or suggest) policy to meet goals

Table 6:

- Accurate tracking/ comparison
- Consistency over time, across regions
- Degree of regional integration
- Evolve to meet changing needs
- Use/implementation by decisionmakers
- Public satisfaction

3. SESSION 3: SCENARIO PLANNING: *In your groups, please complete the following Section D.***D. Programming / Outreach and Engagement: What will it take?**

This session was integrated into the Session 4 discussions, noted below. Participants discussed outreach and engagement in tandem with next steps as part of Session 4.

4. SESSION 4: BRINGING IT ALL TOGETHER: ACTION PLANS FOR THE FUTURE: *In your groups, please complete the following Sections E and F.***E. Next Steps and Strategies to Move Forward: What are next steps and opportunities for the future?****Table 1:**

- Make integrated planning the norm
 - Break down silos
 - Broad groups of stakeholders
 - Involve all planning disciplines
 - Increase involvement of all planning disciplines
 - Use GSF as template/strategy to update Regional Plans
 - Keep GSF up to date, use as catalyst to move ideas forward
 - Dedicated/consistent funding to keep plans up to date
- Incorporate scenario planning as commonly used tool
 - Use existing funding for scenario planning
 - Use scenario planning to be bold/compelling
 - Tie scenarios to vision/goals
 - As way to engage public
 - Use crowdsourcing techniques for data collection
- Performance planning
 - Use scenario planning to see how to get to performance targets

Table 2:

- Public outreach with GSF results
- Improve/expand data collection
 - To tell story
 - To evaluate projects
- Scenario planning with public involvement component (additional data to build case)
- Use also at local level where linked to decisionmaking
- Review project selection criteria
- How to couch/frame idea of increasing change
 - Find the “carrot” and minimize the “stick”
- Better connect local MPO representatives with local elected officials

- Build on GSF partnerships and/or forge new partnerships with constituents, AARP, public health, Endowment for Health
- Coordination between RPCs on performance measures
- Model improvements with new underlying survey data

Table 3:

- Maintain communication/collaboration and engagement
- Sustain data collection –find someone to update core metrics
- Formalized/continued training
- After action meeting- what worked best?
- Leverage existing work and bring new partners to the table (collective impact)
- Align funding- bring multidisciplinary stakeholders to the table (e.g. health, human services, housing, natural resources)

Table 4:

- Increase education and outreach
- Improving communication and engagement
 - Brainstorm about strategies at existing RPC MPO meetings
 - Better marketing on what we do
- Ensure consistency across plans at the community, regional, and State level
 - Integrate transportation planning in other planning documents
 - Living vs. stagnant—keep collecting data
- Increase consideration of regional impacts (rural)
- Circuit rider-opportunity
- Create performance measure reports
- Look at and build on existing performance measures
 - Consistency across regions
- Conduct scenario plans
 - Share findings with communities
- Improve public involvement

Table 5:

- Need a political champion
- Identify strategic partners
 - Commissioners
 - County delegations
 - Legislators, legislative forums
 - Chambers of Commerce
- Education, workshops
- Consider the timing

Table 6:

(These numbers correspond with the action items in Section F.)

1. Identify peers in scenario planning
 - a. Also, what systems, models, etc.?
2. Assess how performance metrics will affect stakeholders
3. Integrate Regional Transportation Plans into local master plans
4. Educate Technical Advisory Committee members, selectmen on PBPP
5. Break down barrier with State, integrate plans
6. Work with State to set measures, targets

F. Action Items / Schedule

Item	Action Item Description	Lead Point of Contact	Complete by
	Table 1: <ul style="list-style-type: none"> Learn from others on scenario planning Collectively develop performance measures Complete streets guidance Implementing integrated planning 		
	Table 2: <ul style="list-style-type: none"> Workgroup on data development task for UPWPs to support performance measures Update survey for model Press and presentations of GSF findings Review project selection criteria to reflect GSF goals and recommendations Linkage at local/RPC level Coalition building 		
	Table 3: <ul style="list-style-type: none"> Develop clear, succinct outreach materials 		
	Table 4 did not provide specific items under this section.		
	Table 5: <ul style="list-style-type: none"> Design legislative breakfast/events to educate and get message out Educate Commissioners regarding projects Educate municipalities (Selectmen, City Council, PB) on Regional Plans and actions Move applicable elements of GSF into MTPs (integration, alignment) Attack each goal one by one and implement them (seek project-specific funding) Share data across municipal and regional borders 		

Table 6: The item numbers correspond with the items in Section E.

Item	Action Item Description	Lead Point of Contact	Complete by
1	Add finding peers to a TPC meeting agenda	RPCs	
2, 4	Host a PBPP TAC/Policy meeting early, to set goals/expectations and educate	RPCs	
3	Develop crosswalk between regional and local plans	RPCs	
3	Engage localities in a simplified performance-based project screening process	RPCs	
5, 6	Solicit RPC input on scorecard performance measures	NHDOT	
	Renew Transportation Authorization, including planning funding	Congress	

G. Lead Points of Contact

The groups collectively brainstormed a list of agency contacts:

Agency
<ul style="list-style-type: none">• AAA• AARP• Airports• Bicyclists- Advocacy• Public Transit Providers• Education• Emergency Management• Endowment for Health• Hospitals, Associations• New Hampshire Department of Environmental Services• New Hampshire Department of Health and Human Services• New Hampshire Department of Resources and Economic Development• New Hampshire Housing Finance Authority• New Hampshire Office of Energy and Planning• Private Sector• Transport NH• Utilities and Services

Appendix E. Resources

The following resources were discussed during the workshop. For more information, please visit the links provided below. Please note that the following list is not meant to endorse any particular tools. FHWA recognizes that many tools are available and encourages agencies to use the tools that work best for them.

Integrated Planning

- **Infrastructure Voluntary Evaluation Sustainability Tool ([INVEST self-evaluation tool](#))** – INVEST allows transportation agencies to analyze the sustainability of their planning practices. MPOs can use the tool to evaluate their LRTPs as well as potential performance measures for sustainability.
- **[Second Strategic Highway Research Program \(SHRP2\) Products](#)** – SHRP2 is a large-scale cooperative research program funded by Congress and administered by FHWA in partnership with the American Association of State Highway and Transportation Officials (AASHTO) and the Transportation Research Board (TRB). The program launched more than 100 research projects, known as “SHRP2 Solutions,” to address needs of the Nation’s highway system. These SHRP2 Solutions include:
 - [Planning Process Bundle](#) (C02/C08/C09/C12/C15)
 - [PlanWorks](#) (C01)
 - [SmartGAP](#) (C16)
- **[CommunityViz](#)**

Performance-Based Planning and Programming

- **FHWA [Performance-Based Planning and Programming Guidebook](#)** (September 2013) – This guidebook provides an overview of performance-based planning and programming (PBPP) as well as strategies for developing goals and objectives, selecting performance measures, identifying trends and targets, analyzing alternatives, and developing investment priorities. It also includes case studies of transportation planning agencies that have already implementing PBPP.
- **FHWA [Model LRTPs: A Guide for Incorporating Performance-Based Planning](#)** (August 2014) – This guidebook advises MPOs, State DOTs, and their planning partners how to incorporate PBPP into long-range transportation plans. Specifically, the document discusses public and stakeholder participation and agency collaboration, scoping and baseline information, strategic goals and objectives, performance measures and targets, transportation system performance reports, and connecting the transportation plan and programming.
- **[FHWA PBPP Website](#)**

Scenario Planning

- **[GreenSTEP Model](#)** – This model, which Lane County MPO used to test various GHG emissions reduction scenarios, is available for use by other planning agencies.
- **[FHWA-FTA Scenario Planning Website](#)**