Peer Exchanges

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FHWA/FTA
Transportation Planning Capacity Building

Transportation Planning Capacity Building Program

– Peer Exchange Report –

"Incorporating Performance Measures into Regional Transportation Planning"

Location:	Washington, DC
Date:	February 24, 2010
Exchange Requestor:	National Association of Regional Councils (NARC)
Exchange Participants:	Atlanta Regional Commission (ARC) – Atlanta, GA Chicago Metropolitan Agency for Planning (CMAP) – Chicago, IL Delaware Valley Regional Planning Commission (DVRPC) – Philadelphia, PA KYOVA Interstate Planning Commission (KYOVA) – Huntington, WV Southern California Association of Governments (SCAG) – Los Angeles, CA Southeast Michigan Council of Governments (SEMCOG) – Detroit, MI Federal Highway Administration (FHWA) Federal Transit Administration (FTA) U. S. Department of Transportation (U.S. DOT) Volpe National Transportation Systems Center (Volpe Center)

I. Introduction

This report documents the key findings from the "Incorporating Performance Measures into Regional Transportation Planning" peer exchange held on February 24, 2010 at the U.S. Department of Transportation (USDOT) Headquarters in Washington, D.C. The one-day exchange was sponsored by the Transportation Planning Capacity Building (TPCB) Program, which aims to advance the state of the practice in multimodal transportation planning nationwide. The TPCB Program is jointly funded by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

The peer exchange was planned in response to a request from the National Association of Regional Councils (NARC) to discuss the benefits and challenges of effectively incorporating performance measures into regional transportation planning and programming. The peer exchange had two overarching goals, to:

1. Highlight the key benefits and challenges of incorporating performance measures into regional transportation planning in an effort to inform future capacity building[1] and technical assistance.

2. Highlight the performance measure techniques currently being used at six Metropolitan Planning Organizations (MPOs).

Staff representatives from each of the six MPOs provided an overview of how their agency uses performance measures and highlighted benefits and challenges they each have experienced in incorporating performance measures into their transportation planning and programming processes. Representatives from FHWA and FTA highlighted potential opportunities to further integrate the use of performance measures into Federally-required transportation planning processes. This report summarizes key findings from the peer exchange, supported by examples of notable practices and lessons learned from the individual MPOs. It is organized in the following sections:

[1] Capacity building refers to any activities that strengthen the knowledge, abilities, skills and behavior of individuals and/or staff to improve institutional structures and help organizations meet their goals and mission in a sustainable way.

II. The Role of Performance Measures in Transportation Planning

A. What are performance measures?

Performance measurement is a process for evidence-based decisionmaking and forecasting, as well as monitoring progress towards long-term goals and objectives. The FHWA defines a performance measure as "a qualitative or quantitative measure of outcomes, outputs, efficiency, or cost-effectiveness." The FTA notes that "measuring performance is a way to gauge the impacts of the decisionmaking process on the transportation system."[2] Transportation planning agencies can use performance measures throughout the planning, programming, project development, and evaluation process to[3]:

- Set goals and standards;
- Detect and correct problems;
- Manage, describe, and improve processes; and
- Document accomplishments.

Traditionally, transportation planning agencies have focused their use of performance measures on technical transportation issues, such as pavement or bridge conditions or the number of transit passengers served. Today, agencies are increasingly using performance measures to assess a broader set of transportation and livability goals, including mobility, environmental quality, and economic vitality. This report documents MPO efforts to use performance measurement to improve their transportation planning process.

B. Federal Perspective on Performance Measures in Transportation Planning

The U.S. Congress is currently formulating proposed legislation for the reauthorization of the Federal Surface Transportation Program. Congress has engaged transportation agencies, industry associations, and stakeholder groups at the local, state and Federal level in discussions about the next transportation authorization, including the potential role that performance measures may play in transportation planning. FHWA and FTA provided an overview of current discussions from the Federal perspective and outlined potential roles that performance-based transportation planning and programming may play in the new Federal surface transportation legislation.

Currently, Federal oversight of the transportation planning efforts at the state and MPO level focuses on process, with less attention on outcomes. For example, a long-range transportation plan at the MPO level is required to be fiscally constrained, include multimodal projects, and reflect public input; however, there are no Federal requirements to meet system-wide performance measures. To date, the adoption of a more outcome-based approach to transportation planning has been the result of initiatives taken by state and local officials. Future surface transportation legislation may support greater integration of performance measures and a more outcome based approach in transportation planning, however.

State and local initiatives to adopt performance measures may serve as a model for future authorization of the Federal surface transportation programs. These initiatives have used measurable goals and objectives to demonstrate, to varying degree, the potential impact of adopted plans and programs, as well as individual projects, on overall transportation system performance – with program priority or success related to the degree to which an agency's

[2] FTA, http://www.fta.dot.gov/planning/metro/planning_environment_9391.html
[3] FHWA, Office of Operations. http://ops.fhwa.dot.gov/perf_measurement/fundamentals/purpose.htm

adopted goals, objectives, and targets are met. Practitioners have found that a performance-based approach to planning has promoted:

- Greater accountability about how funds are spent;
- Improved transparency to ensure public involvement and understanding;
- An assessment of "system" performance, rather than individual projects;
- A refocusing of decisionmaking on outcomes; and
- Increased attention to cost-effectiveness.

One potential role for the Federal government in supporting a performance-based approach to transportation planning and programming may be to establish a few overarching goals and identify supportive performance measures within each goal area that State Departments of Transportation (State DOTs) and MPOs could incorporate into their own transportation planning process (*see Table 1 below for examples*). Ideally, the list of Federal transportation performance measures could be concise and could focus on data that are already available and reliable. This approach could also allow individual State DOTs and MPOs to add goals and measures of their own to reflect each state's or region's unique needs and conditions.

Table 1. Potential National Goal Areas and Associated Performance Measures

Potential National Goal Area	Potential Performance Measures
Safety	Fatalities and injuries
State of Good Repair	Pavement or bridge rating, useful life of assets,
Freight	Reliability and intermodal connections
Environment	Air quality and pollutant emissions levels
Mobility and Congestion	Annual hours of delay and reliability
Livability	Access to work travel time and availability of mode choices

C. International Scan: Linking Transportation Performance and Accountability

In August 2009, FHWA sponsored a scanning tour on *Linking Transportation Performance and Accountability*. A diverse team of U.S. transportation officials from metropolitan, state, and Federal transportation agencies visited international transportation agencies in Australia, England, Sweden, and New Zealand. Each of the transportation agencies from these four countries have more than a decade's worth of experience developing and refining performance management systems. The scan team identified five key concepts that are applicable for performance management in the U.S.[4]:

1. Articulate a limited number of high-level national transportation policy goals and link them to a clear set of measures and targets.
2. Negotiate intergovernmental agreements on how state, regional, and local agencies will achieve national goals while translating them into state, regional, or local context and priorities.
3. Evaluate performance by tracking progress against the measures. Report results in clear language appropriate for the target audience.

[4] Linking Transportation Performance and Accountability, FHWA, January 2010.

4. Collaborate with state, regional, and local agencies to achieve the targets by emphasizing incentives, training, and support—instead of penalties—as the preferred way to advance performance.

5. Perpetuate long-term improvement by understanding that the real value of performance management is the development of improved decisionmaking and investment processes, not the achievement of many short-term targets.

The team found that a positive product of the consistent use of performance measures over time was in the achievement of steady progress in meeting core performance objectives. The team also found that the relationship between the federal and state players in these four foreign countries was cooperative rather than confrontational in nature. Often, performance targets were set collaboratively among the various levels of government.

III. How MPOs May Benefit from Using Performance Measures

Peer exchange presentations and discussions by MPO representatives highlighted several broad benefits that may accrue to agencies from integrating performance measures into their transportation planning and programming efforts. Where applicable, notable practice examples are given to illustrate how these benefits are realized at the individual MPO. The notable practices listed in this section should not be seen as "one size fits all" solutions, but rather as examples of techniques being employed by MPOs to better use performance measures in the decisionmaking process.

A. Performance measures can be used to improve communication with the public. Agencies can use performance measures to translate complex technical information about transportation planning and funding decisions to the public in a way that people can more easily understand. This is usually accomplished by the use of graphical depictions of measures and performance as well as the inclusion of the data behind the measurements. The notable practice examples below show some of the ways that MPOs have used performance measures to improve communication and engagement with the public.

> **For many people transportation planning is very esoteric. Performance measures help us communicate the value of our projects to people living in our region.**
>
> ***-MPO Staff Representative***

Notable Practice Example: In an effort to better engage Chicago communities and the public at large, the Chicago Metropolitan Agency for Planning (CMAP) partnered with the Chicago Community Trust to create the Regional Indicators project. CMAP staff held public workshops in all seven counties in the greater Chicago region to gather input on indicator selection. Indicators were then refined through CMAP working committees in a series of public meetings and advisory committees appointed by the Trust. Based on public input, the CMAP board ultimately adopted more than 200 regional indicators covering issues from transportation to education to civic involvement. A final report will be released in the fall of 2010 that will analyze regional performance for all 227 adopted indicators. The Regional Indicators project will also launch a website in late 2010 that will provide raw data and include interactive visualizations, mapping tools, and other data analysis templates. CMAP's goal is to provide this raw, open-source data along with multiple tools and techniques to empower local governments and members of the public to conduct their own analyses about important planning and community development issues in their individual neighborhoods, as well as the region as a whole.

Notable Practice Example: The Delaware Valley Regional Planning Commission (DVRPC) prepares a *Tracking Progress* report to communicate progress towards achieving the goals established in its long-range transportation plan. DVRPC considers

the progress reports to be critical tools for greater public engagement and communication about regional performance. The reports are designed with colorful, engaging graphics and easy-to-understand visual cues, such as "dashboard" indicators, to make findings easy to understand for the public (see *Figure 1 below*).

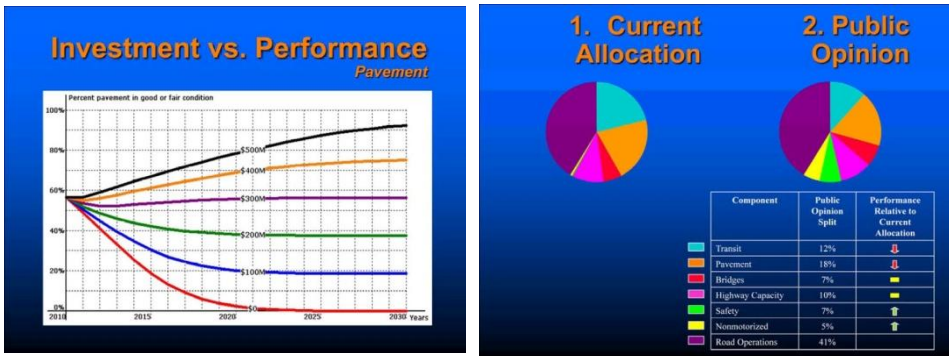
Figure 1. DVRPC Uses "Dashboard Indicators" to Communicate Regional Transportation Performance with the Public

TR 1: Have vehicle crashes and fatalities declined?	Between 2001 and 2005, the DVRPC region experienced an 18% decrease in fatalities per million VMT and less than 1% decrease in all crashes per million VMT. However, the overall number of crashes rose by 4.6% during this same time period.	
TR 2: Is congestion getting worse?	Congestion appears to be stable – neither improving nor worsening, though VMT has increased.	
TR 3: Is transit ridership increasing?	While transit ridership has experienced some fluctuation, it has increased in the last 5 years.	
TR 4: Has the number of deficient bridges in need of rehabilitation or replacement decreased?	The number of bridges identified as structurally deficient in the DVRPC region has remained steady, but remains twice as high as the acceptable level set by FHWA in its current strategic plan.	
TR 5: Are roads better maintained?	The region saw a slight increase in road miles considered to be deficient, mostly due to NJDOT's stricter standards.	
TR 6: Are fewer people driving to work alone?	The number of people driving to work by themselves continues to increase and is now 73% of all commuters.	
TR 7: Are people driving less?	There are more cars and more drivers driving more miles every year in the region. The region appears to be more auto-dependent.	
TR 8: Are DVRPC's TIP investments in keeping with the LRP goals?	Approximately 97% of the mapped 2007-2010 TIP project funding supports the Long Range Plan and its stated goals.	

Source: DVRPC's Tracking Progress Towards 2030 Report

Notable Practice Example: The Southeast Michigan Council of Governments (SEMCOG) has developed a tool to help visualize the trade-offs between performance and funding constraints. SEMCOG hosted a series of public meetings to share information about the extent and condition of the existing transportation system, how infrastructure is generally funded, and the average cost for maintaining the infrastructure (*see Figure 2, below*). After learning about needs, performance, and funding constraints, participants were asked to make choices about where and how they would like to see funds spent. The informational displays can be found on the section of SEMCOG's webpage that describes Regional Network Characteristics for the long-range transportation plan.

Figure 2. Graphics from SEMCOG's performance analysis to help the public visualize trade-offs for transportation decisionmaking.



Source: SEMCOG image

B. Performance measures can add transparency and more visible relevance to the long-range transportation planning process. Agencies can use performance measures to quantify regional goals and objectives, evaluate the impacts of multiple future development scenarios, and choose what mix of major investments will best serve their region's growth and development goals. When performance criteria are used to guide long-range transportation planning, project selection and alternative investment decisions can be traced back to a logical and transparent basis. Once planning decisions are made, agencies may then use ongoing monitoring through regional indicators to track Regional Transportation Plan (RTP) implementation. This allows the agency to see where and how to revise goals and investment decisions in subsequent updates to the plan. The notable practices below show how five MPOs have integrated performance measures into their long-range planning process.

Notable Practice Example: DVRPC prepares a single, joint long-range transportation *and* long-range comprehensive land use and development plan for the Philadelphia region. By developing a standard set of performance measures for use in this plan, DVRPC is able to draw a tighter connection among transportation, land use, economic development, environmental protection, and other related issues. Using performance measures to inform preparation of DVRPC's long-range plan enhances the legitimacy of its transportation planning process because efficient mobility is dependent on supportive land use development patterns. One staff representative noted that the goal of DVRPC's performance measurement approach to long-range transportation planning is to develop a comprehensive performance framework in which community livability, economic development, and environmental sustainability goals actually "drive" future transportation investments and decisionmaking, rather than just level of service on the transportation network.

Notable Practice Example: Portland Metro (Metro) and the Metropolitan Transportation Commission (MTC), in the San Francisco Bay Area have both incorporated performance outcome targets in their current RTPs that are linked to the "Three Es of Sustainability–Environment, Economy, and Equity" (*see Tables 2 and 3, below*). These agencies believe that conducting a thorough analysis upfront of the projected outcomes of transportation investments over time creates more informed decisionmaking and better project selection for the long-range plan.

Table 2. MTC's Performance Objectives for *Transportation 2035* (current RTP)

E's	Goals	Performance Objectives
Economy	**Maintenance & Safety**	**Improve maintenance** Local streets & roads: maintain pavement condition index of 75 or better State highways: distressed lane-miles no more than 10% of system Transit: average asset age no more than 50% of useful life and average distance between service calls of 8,000 miles. *Sources: State and local strategic plans*
		Reduce injuries and fatalities Motor-vehicle fatalities: 15% from today Bike and pedestrian injuries and fatalities: 25% each from 2000 levels *Source: California State Strategic Highway Safety Plan*
	Reliability	**Reduce delay** 20% per capita from today 4 *Source: California's Strategic Growth Plan*
	Freight	
Environment	**Clean Air**	**Reduce vehicle miles traveled and emissions** Vehicle miles traveled: 10% per capita from today Fine particulate matter (PM2.5): 10% from today Coarse particulate matter (PM10): 45% from today Carbon dioxide (CO_2): 40% below 1990 levels *Sources: State regulations and laws*
	Climate Protection	
Equity	**Access**	**Improve affordability** 10% reduction from today in share of earnings spent on housing and transportation costs by low and moderately-low income households *Source: Adapted from the Center for Housing Policy*
	Livable Communities	

Source: Transportation 2035

Table 3. Metro's Performance Targets for MTC's *2035 RTP* (current)

Three Es	Objective	Performance Target
Economy	*Safety*	By 2035, reduce crashes, injuries and fatalities by 50 percent compared to 2005.
	Congestion	By 2035, reduce vehicle hours of delay per person by 10 percent compared to 2005.
	Freight	By 2035, reduce vehicle hours of delay truck trip by 10 percent, compared to 2005.
Environment	*Climate change*	By 2035, reduce carbon dioxide emissions by 40 percent below 1990 levels.
	Active transportation	By 2035, triple walking, biking and transit trips compared to 2005.
	Clean air	By 2035, ensure zero percent population exposure to at-risk levels of air pollution.
	Basic Infrastructure	By 2035, increase by 50 percent the number of essential destinations accessible within 30 minutes by trails, bicycling, and public transit or within 15 minutes by sidewalks for all residents compared to 2005.
	Travel	By 2035, reduce vehicle miles traveled per person by 10 percent compared to 2005.
Equity	*Affordability*	By 2035, reduce the average household combined cost of housing and transportation by 25 percent compared to 2000
	Access to daily needs	By 2035, increase by 50 percent the number of essential destinations accessible within 30 minutes by bicycling and public transit for low-income, minority, senior and disabled populations compared to 2005.

Source: Metro 2035 RTP

Notable Practice Example: The Southern California Association of Governments' (SCAG) Regional Council first adopted a policy that RTP decisions would be based on performance measures in 1998. Since then, performance measures have been used to quantify regional goals and provide a way to evaluate progress over time during three successive RTP updates. SCAG's current RTP, *Making the Connection*, goes a step further by establishing performance outcome targets to help focus and guide transportation decisionmaking (*see Table 4, below*). A separate *Performance Measures Report* was also prepared to explain the performance measures being used in the RTP.

Table 4. SCAG's Performance Outcome Measures in *Making the Connection* (current RTP)

Performance Measure	Measure/s	Definition	Performance Target
Mobility	Speed Delay	Speed – experienced by travelers regardless of mode Delay – excess travel time resulting from the difference between a reference speed and actual speed. Delay per capita can be used as a supplemental measure to account for population growth impacts on delay.	Improvement over Base Year
Accessibility	Percent PM peak period work trips within 45 minutes of home Distribution of work trip travel times.		Improvement over Base Year
Reliability	Percent variation in travel time.	Day-to-day change in travel times experienced by travelers. Variability results from accidents, weather, road closures, system problems and other non-recurrent conditions.	Improvement over Base Year
Productivity	Percent capacity utilized during peak conditions	Transportation infrastructure capacity and services provided. Roadway Capacity – vehicles per hour per lane by type of facility Transit Capacity – seating capacity by mode	Improvement over Base Year

Performance Measure	Measure/s	Definition	Performance Target
Safety	Accident rates	Measured in accidents per million vehicle-miles by mode for: • Fatalities • Injuries • Property	"0" for all accident types and modes
Sustainability	Total cost per capita to sustain system performance at Base Year levels	Focus is on overall performance, including infrastructure condition. Preservation measure is a subset of sustainability.	Improvement over Base Year
Preservation	Maintenance cost per capita to preserve system at Base Year conditions	Focus is on infrastructure condition. Subset of sustainability.	Improvement over Base Year
Cost-Effectiveness	Benefit-to-Cost (B/C) Ratio	Ratio of benefits of travel alternatives to the costs of travel including infrastructure, maintenance, travel time, environmental, accident, and vehicle operating costs. This can be used to evaluate impacts of mode split changes resulting from RTP investments.	Improvement over Base Year
Environmental	Emissions generated by travel.	Measured/forecast emissions include CO, NOX, PM2.5, PM10, SOX, and VOC. CO2 as secondary measure to reflect greenhouse gas emissions.	Meet SIP Emission Budgets & Transportation Conformity requirements
Environmental Justice	Distribution of benefits and costs: Accessibility Environmental Emissions Noise	Share of net benefits and costs by mode, household income, race/ethnicity: • RTP expenditures • Taxes paid (e.g., income, sales & use, gas) • Access to jobs (See "Accessibility") • Travel time savings by mode • Environmental impacts from PEIR	Equitable distribution of benefits and costs

Source: Making the Connection

C. Performance measures can be used to better connect short-term transportation programming and project implementation decisions with long-term regional vision plans and goals. Agencies can use performance measures to decide which projects are included in the short-range Transportation Improvement Program (TIP) and ensure that the selected projects reflect the goals adopted in the long-range transportation plan. The notable practices below show examples of how three MPOs have used performance measures to help short term investment decisions build towards long-term regional goals and vision.

> ***Notable Practice Example:*** The Atlanta Regional Commission's *Livable Centers Initiative* (LCI) provides an opportunity to link short-term investment decisions with long-term regional goals. First created in 2000, the LCI program "encourages local jurisdictions to plan and implement strategies that link transportation improvements with land use development strategies to create sustainable, livable communities consistent with regional development policies." The program provides funding to local jurisdictions for planning studies, technical assistance, and capital investments that support transit-oriented development (TOD) and other smart growth principles. Innovative performance measures are used for LCI project selection in the TIP, such as requiring transit-supportive zoning in local land use plans to qualify for capital grants.

Notable Practice Example: DVRPC has developed a fully integrated, performance-based, multi-modal transportation planning process that links scenario planning, visioning, planning, programming, and monitoring in a cyclical feedback loop. Based on a thorough needs assessment, the RTP allocates funding to various project categories and successive TIPs draw from those respective funds. The projects funded through the TIP are designed to support RTP performance goals. *Tracking Progress* reports assess how well the region is performing within established RTP goal areas and DVRPC's subsequent RTP and TIP processes are designed to respond to identified gaps.

Notable Practice Example: Every year, SEMCOG reviews the TIP projects implemented in the previous year, compares that to the projects listed in the RTP, and then determines the impact of implemented projects on system performance. This Progress Report shows how the region's investments impacted safety, transit service, and pavement and bridge conditions. By evaluating how an implemented project or program performs, an MPO is better equipped to make decisions on where to make future investments in order to meet RTP goals.

Figure 3. SEMCOG's Progress Report Documents Increasing Transit Service

Source: SEMCOG

D. Performance measures can be used to better inform MPO board decisionmaking. Performance measures can be used to help board members better understand the trade-offs of investment alternatives. Board members are often faced with difficult decisions due to constrained funding. As the notable practice examples below show, performance analysis can create a neutral framework for MPO board members to engage in dialogue, which can lead to a more logical, transparent process for transportation decisionmaking.

Notable Practice Example: The impetus to integrate performance measures into DVRPC's work was driven by its board in the late 1990s. Prior to that time, DVRPC prepared plans and made recommendations for implementation, but the staff did not directly track progress. Once performance measures were instituted, DVRPC began analyzing regional performance outcomes for each RTP update in order to better understand opportunities for future improvement. For example, DVRPC's last *Tracking Progress* report showed that the region was not performing as well as it had hoped to in several key areas:

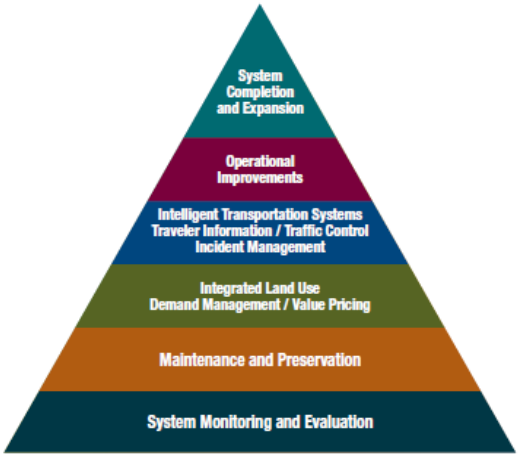
- Curbing sprawl.
- Redirecting new growth to the region's established centers.
- Addressing the large number of deficient bridges and road miles within the region.

The DVRPC board used these performance results to agree on goals and priorities for the next RTP. In fact, three of the four goals of *Connections 2035* (the current RTP) come directly from the *Tracking Progress* report findings. Staff noted that performance measures are now seen as a critical component of DVRPC's work because the board has seen how valuable they are to help guide board decisionmaking and gain buy-in from local elected officials.

Notable Practice Example: Performance measures have helped to streamline transportation decisionmaking at SCAG, whose 83-member governing board oversees decisions serving more than 19 million residents living in the region's six counties and 189 cities. The Board called for SCAG to incorporate the Federal planning factors into its performance measures in order to create a more explicit link between Federal priorities and local priorities. In addition, SCAG has incorporated a mobility pyramid into its RTP to

provide a rational decision-making framework that has comprehensive system monitoring and evaluation as its foundation (*see Figure 4, below*).

Figure 4. SCAG's Mobility Pyramid Supports Board Decision-Making



Source: Making the Connection

Notable Practice Example: SEMCOG uses its trade-off tool (*see description of the tool on page 6*) to better inform board decisionmaking. Just as with its interaction with the public, SEMCOG shared information with its various committees about the extent and condition of the existing transportation system, how infrastructure is generally funded, and the average cost for maintaining the infrastructure (*see Figure 2, on page 6*). Committee members were provided with several funding and performance scenarios to consider, with the impact of each being related to the current regional allocation (i.e., expected performance if transportation continued to be funded according to the status quo). Scenarios included a preservation-heavy allocation, a transit-heavy allocation, and an allocation based on public opinion. Committee members were asked to identify their preferences among the scenarios or to suggest their own. A revised allocation was developed based on this input and eventually presented to the committees for adoption as the official regional investment direction guiding project programming.

IV. Some Challenges to Effective Performance Measurement and How MPOs are Overcoming Them

Peer presentations and discussions highlighted a range of challenges that agencies face when integrating performance measures into their transportation planning and programming cycles. Lessons learned are described to highlight how individual agencies are overcoming the challenges they face. Notable practices are also highlighted to demonstrate examples of innovative measures being developed by MPOs around the country.

A. Selecting the "right" number and mix of performance measures can be a challenge and is an evolving process. Adopting too many performance measures can complicate or even dilute a performance measures strategy. Tracking too many measures can be both time consuming and costly. As the lesson learned below notes, agencies have found that using fewer, more meaningful measures may be a more effective approach to integrating performance measures into the transportation planning and programming process.

> **You can't have too much data, but you can have too many performance measures.**
>
> ***-MPO Staff Representative***

Lesson Learned: Portland Metro reduced the number of performance measures it uses in the RTP in order to make the most effective use of resulting analyses. Initially, Metro staff identified over 100 potential measures that support the goals and objectives of its RTP. The data collection for so many measures was cumbersome, however, and staff found that it was hard to synthesize the results of performance analyses for overall impacts or to prioritize among so many measures. As a result, Metro decided to focus its performance analysis on a smaller number of "used and useful" measures. Now, Metro has identified a total of 10 performance target measures that best support the specific outcome goals and objectives of the *2035 RTP* (*see Table 3, page 9*) in order to guide its performance analysis. This lesson learned is also congruent with the findings of the International Scan (*see summary on page 4*).

B. Agencies must be creative in dedicating adequate resources to develop an effective performance measurement strategy. From data collection and maintenance to staff time for performing analyses and monitoring, developing an effective performance measures strategy can be costly in terms of finances and staff time. In order to be successful, agencies need to make creative use of existing resources. A common theme heard from peer exchange participants was the usefulness of creating partnerships with local agencies, such as universities or foundations, in developing and monitoring an effective performance measures strategy (*see lessons learned, below*). Participating MPOs requested that the U.S. DOT consider opportunities to support the collection and sharing of consistent, high-quality data, as well as to develop performance analysis tools that would assist MPOs in their performance measurement efforts.

Lesson Learned: CMAP partnered with the Chicago Community Trust to fund the Regional Indicators project. Today, CMAP manages over 700 different data tables that track the performance of the more than 200 indicators adopted by its board. CMAP will need to allocate significant resources in order to continue to maintain the quality of these datasets over time, but believes that this is important information to provide to stakeholders. CMAP is developing online tools and templates to help users graph, tabulate, download, or map any of the data in CMAP's online data warehouse and is collaborating with the University of Massachusetts, Lowell and the Open Indicators Consortium to develop open source data visualization tools for users as well. In these ways, CMAP is expanding access to valuable data regionwide while reducing the cost to analyze it for local jurisdictions and community-based organizations, as well as members of the public.

Lesson Learned: As noted before, Portland Metro reduced the number of transportation measures it tracks in the RTP from over 100 to 10. To expand on the information available in the RTP, Metro formed a partnership with Portland State University (PSU) to develop a broad set of regional indicators that will track multiple components of regional livability, including public safety, education, environment, and transportation. The regional livability measures and data will be managed and maintained by PSU. This broader set of indicators complements the refined set of transportation performance measures used by the MPO in the RTP.

C. Some types of performance are easier to measure than others. Traditional performance measures such as pavement conditions and asset management principles are relatively easy to measure and quantify and are widely used at the state and regional level. Other performance measures are more difficult to define and quantify and have not been widely adopted into use. For example, emerging goals such as "livability" and "sustainability" are broader and more subjective concepts. Definitions may differ from one community to another and may include both quantitative and qualitative values. Participating MPOs noted several areas in which it can be a challenge to define and quantify effective performance measures:

- Measuring qualitative goals such as livability and sustainability;

- Qualitative measures for transit;
- Operations measures; and
- Measures that capture both public and private benefits and costs for public-private partnership projects.

As the best practices below note, participating MPOs also shared some examples of innovative performance measures they are developing in response to the challenge areas listed above. Participating MPOs noted that U.S. DOT could play a helpful role in advancing the state of the practice in developing measures for these challenge areas by sharing innovative measures in workshops, publications, and technical assistance.

> ***Notable Practice Example:*** A cornerstone of DVRPC's current RTP, *Connections 2035*, is to "Create Livable Communities." Yet "livability" is an example of how some RTP goals may need multiple indicators and a mix of quantitative and qualitative factors to assess performance. In order to assess regional performance on "community livability" DVRPC is developing a diverse list of quantitative and qualitative indicators, including greenhouse gas emissions, local food production/distribution, and location of affordable housing near transit.

> ***Notable Practice Example:*** ARC is in the process of developing its next RTP, entitled *PLAN 2040*. *PLAN 2040* is organized around the vision of sustainability – social, economic and environmental. It is a fully comprehensive land use and transportation plan. Performance measures are being used to determine plan level investments as well as project-level evaluation. The needs assessment developed for PLAN 2040 includes measures for multimodal accessibility and walkability.

> ***Notable Practice Example:*** SCAG introduced a "productivity" performance measure in its last RTP that measures the impact of nonrecurring congestion on the transportation system in terms of lost lane miles (i.e., road capacity that can't be met due to congestion). In the next RTP update, SCAG staff plan to expand the analysis of this measure to calculate the economic impacts of lost productivity for roads and transit, and use this along with the other adopted performance measures to select projects that improve regional performance.

D. Developing an effective performance measurement approach takes time and capacity building. It may take several iterations to develop an effective performance measurement strategy because it may take several rounds of planning and revision for an agency to understand what combination of measures works best to respond to its regional goals. As the lesson learned below notes, developing an effective performance measure process is fluid and iterative. Capacity building[5] and technical assistance can play an important role in helping agencies refine their approaches over time, given the wide range in staff size and access to resources among MPOs.

> ***Lesson Learned:*** SCAG has been using and revising its performance measures for 12 years over three RTP update cycles. Each time the agency begins an RTP update, it revises its performance measures approach to reflect the lessons learned from prior experiences. SCAG also revises its performance measures in response to changing conditions and emerging state and Federal policy and legislation. For example, with passage of California's Assembly Bill 32 and Senate Bill 375, SCAG's Plans and Programs Technical Advisory Committee will be discussing how to develop GHG-related performance measures for the 2012 RTP.

[5] Capacity building refers to any activities that strengthen the knowledge, abilities, skills and behavior of individuals and/or staff to improve institutional structures and help organizations meet their goals and mission in a sustainable way.

E. An agency should manage expectations - cautionary notes on use of performance measures. Participating agencies see performance measures as an invaluable tool to help make transportation planning and decisionmaking more transparent and rational, but expressed some hesitation about how performance measures may be most effectively used in future transportation funding and planning regulations. Agency representatives expressed caution about the degree to which MPOs can achieve desired performance outcomes since they may not have authority on land use decisions. Participants also expressed some hesitance about performance targets being established at the national level, because regional contexts and needs vary so much from one region to another.

V. Conclusion

This TPCB peer exchange brought together six MPOs to discuss how each has incorporated performance measures into the regional transportation planning process. Each of the agencies shared its key benefits and lessons learned.

Key benefits of integrating performance measures into the planning process include:

- Performance measures can be used to improve communication with the public.
- Performance measures can add transparency to the long-range transportation planning process.
- Performance measures can be used to better connect short-term transportation programming and project implementation decisions with long-term regional vision plans.
- Performance measures can be sued to better inform MPO board decisionmaking.

The use of performance measures is an evolving process and the MPOs shared some of their efforts in addressing the challenges they have faced in integrating performance measures into the planning process. Challenges include:

- Selecting the right number and mix of performance measures can be a challenge and is an evolving process.
- Agencies must be creative in dedicating adequate resources to develop an effective performance measurement strategy.
- Some types of performance are easier to measure than others.
- Developing an effective performance measurement approach takes time and capacity building.
- An agency must manage expectations.

VI. Next Steps

NARC will continue to advance the conversation regarding Federal transportation performance measures through the promotion of regional-level experts and the continued development of capacity on the regional level in this area. NARC will work with U.S. DOT, local, and state level elected officials, and state transportation officials to create an on-going discussion on how best to serve the needs of local communities through the regional transportation planning process while still meeting Federal and state requirements.

NARC will forward this conversation through the use of its public awareness campaign, *Mobile Regions,* as well as the avenues presented to it through other partner organizations. NARC believes that due to the MPO's policy-setting function, the role of the local elected officials in this process is critical to guiding its overall efforts and success in the field. As such, NARC will reach out to local elected officials at the appropriate times for suggestions and review of a variety of

materials. As further opportunities are identified, NARC will work with the stakeholders to promote the events as well as develop MPO specific content. Through its nation-wide network of regional planning organizations, NARC anticipates being able to transmit communication and best practice examples both vertically and horizontally across the field.

VII. About the Transportation Planning Capacity Building (TPCB) Program

The Transportation Planning Capacity Building (TPCB) Program is a joint venture of the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) that delivers products and services to provide information, training, and technical assistance to the transportation professionals responsible for planning for the capital, operating, and maintenance needs of our nation's surface transportation system. The TPCB Program website (www.planning.dot.gov) serves as a one-stop clearinghouse for state-of-the-practice transportation planning information and resources. This includes over 70 peer exchange reports covering a wide range of transportation planning topics.

The TPCB Peer Program advances the state of the practice in multi-modal transportation planning nationwide by organizing, facilitating, and documenting peer events to share noteworthy practices among state departments of transportation (DOTs), Metropolitan Planning Organizations (MPO), transit agencies, and local and Tribal transportation planning agencies. During peer events, transportation planning staff interact with one another to share information, accomplishments, and lessons learned from the field and help one another overcome shared transportation planning challenges.

VIII. Appendix

A. Acronym and Abbreviation Guide

ARC	Atlanta Regional Commission (Atlanta, Georgia)
CMAP	Chicago Metropolitan Agency for Planning (Chicago, Illinois)
DVRPC	Delaware Valley Regional Planning Commission (Philadelphia, Pennsylvania)
DOT	Department of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
KYOVA	KYOVA Interstate Planning Commission (Huntington, West Virginia)
LCI	Livable Communities Initiative Transportation Program (ARC)
LRTP	Long Range Transportation Plan
Metro	Portland Metro (Portland, Oregon)
MPO	Metropolitan Planning Organization
MTC	Metropolitan Transportation Commission (San Francisco Bay Area)
NARC	National Association of Regional Councils
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments (Los Angeles, California)
SEMCOG	Southeast Michigan Council of Governments (Detroit, Michigan)
TIP	Transportation Improvement Program
UPWP	Unified Planning Work Program
Volpe	Volpe National Transportation Systems Center

B. Participant List

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C. Agenda

Time	Agenda Item
8:30 am	Welcome and Background
8:50 am	Goals and Deliverables of the Peer Exchange
9:15 am	State of the Practice in Performance Measures – *Federal Perspective*
10:00 am	*Break*
10:15 am	Participant Roundtable – *Summary of Participating Agencies' Performance Measurement Approach*
11:30 am	Opportunities and Benefits of Effective Performance Measurement in Regional Transportation Planning
12:15 pm	*Lunch*
1:15 pm	Challenges to Effective Performance Measurement in Regional Transportation Planning
2:00 pm	Lessons Learned in Performance Measurement for Regional Transportation Planning
2:45 pm	*Break*
3:00 pm	Federal Listening Session – *How would participants like to see the planning process evolve to better integrate/support performance measures?*
4:15 pm	Best Practices and Take-Aways
4:45 pm	*Evaluations and Close*

D. Web Resources/ Participant Agency Links

Performance Measures to Improve Transportation Planning Practice (May 2005)
http://onlinepubs.trb.org/onlinepubs/circulars/ec073.pdf

Linking Transportation Performance and Accountability by FHWA, AASHTO, and NCHRP International Scan (August 2009) http://www.international.fhwa.dot.gov/pubs/pl10009/

TPCB Peer Program: http://www.planning.dot.gov/peer.asp

NARC: http://www.narc.org/

ARC: http://www.atlantaregional.com/about-us/public-involvement
ARC Info Resources Center: http://www.atlantaregional.com/info-center

CMAP: http://www.goto2040.org/ideazone/default.aspx
CMAP Community Assistance Tools:
http://www.cmap.illinois.gov/assistance/tools/?ekmensel=c580fa7b_8_24_15956_4

DVRPC: http://www.dvrpc.org/GetInvolved/
DVRPC Community Resources: http://www.dvrpc.org/Community/
DVROC Data Navigator: http://www.dvrpc.org/asp/mcddataNavigator/

KYOVA: http://www.wvs.state.wv.us/kyova/pip.htm
KYOVA: http://www.wvs.state.wv.us/kyova/gis.htm

SCAG: http://scag.ca.gov/involved.htm
SCAG Jurisdiction Reports: http://scag.ca.gov/resources/profiles.htm
SCAG Compass Blueprint Toolbox: http://www.compassblueprint.org/toolbox

SEMCOG:
http://www.semcog.org/Transportaton_Public_Participation.aspx?ekmensel=c580fa7b_36_0_224_6
SEMCOG Data & Maps: http://www.semcog.org/Data_and_Maps.aspx