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## Performance Measures to Improve Transportation Planning Practice

*A Peer Exchange*

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# Performance Measures to Improve Transportation Planning Practice

## *A Peer Exchange*

*Charleston, South Carolina  
May 6, 2004*

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*For the*  
Transportation Research Board  
Performance Measurement Committee

May 2005

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## **BACKGROUND**

The following report summarizes the results of a peer review on the use of performance measures to improve transportation planning and its relationship to project programming. The review was coordinated through the Transportation Planning Capacity Building (TPCB) program, which is sponsored jointly FHWA and FTA. The AASHTO Standing Committee on Planning (SCOP) hosted the event as part of its annual meeting, held in Charleston, South Carolina.

This peer review is one of several events sponsored by the U.S. Department of Transportation (DOT), AASHTO, and TRB that enable information exchange and document effective practices for performance measurement in transportation planning:

- U.S. DOT Performance Measures Roundtable, October 2003 (proceedings available at TPCB program website: [www.planning.dot.gov](http://www.planning.dot.gov));
- FHWA, AASHTO, and TRB International Scan on Performance Measures, March 2004 (the report will be posted on the FHWA Office of International Programs website: [www.international.fhwa.dot.gov](http://www.international.fhwa.dot.gov));
- NCHRP 20-24 project focusing on performance measures of interest to state chief executive officer, ongoing; and
- TRB's Performance Measures to Improve Transportation Systems: Second National Conference, August 2004.

## **PEER REVIEW SUMMARY**

The one-day peer review focused on how state DOTs are using performance measures to improve planning practices. Representatives of 13 DOTs shared their approaches and discussed the successes and challenges experienced in programming and planning. (See Appendix B for a list of participants.) The agencies presented diverse approaches to performance measurement and demonstrated that states can tailor the implementation of performance measures to their own particular transportation context and needs.

Attention to performance measurement in transportation planning is growing, in part because many state DOTs face increasing planning responsibilities while staffing and budget resources are limited. The ability to measure the success of current processes can help state DOTs use their limited resources more effectively. The information shared during this peer review also shows how performance measures can become an effective tool for communicating an agency's performance and decision-making rationale to local and state officials and to the public.

The discussion during the peer exchange was wide ranging, covering many aspects of the planning and programming process from the performance measures perspective. The following items were the main topics:

## **Using Performance Measures to Connect Planning and Programming**

Many participants pointed out that the effectiveness of long-range planning can be assessed with respect to the strength of the planning-to-programming relationship—specifically the extent to which the plan drives the programming process and project development. Strong planning practices can provide the foundation for future investment decisions. A number of participants observed that the need for a strong planning-to-programming link is driving many states to create effective practices using performance measures. Studies that measure the impacts of planning before and after implementation can help determine whether specific forecasts are accurate and what investment decisions and planning efforts should be addressed or reevaluated. Planning also can influence project development practices by presenting opportunities to avoid potential environmental impacts or by justifying why not to proceed with a particular project.

## **Long-Range Planning Approaches**

Long-range planning initiates the process of setting specific project needs and can assist in preparing for project issues. Many state DOTs are recognizing specific projects in their long-range planning efforts. This approach can help justify the need for specific funding allocations or revenue increases, or both, to support a state's plan. A recent California DOT (Caltrans) study found that advanced planning also could serve as a proactive tool leading to cost-savings and time-savings within the state. However, including project-specific details in long-range plans is very time and resource intensive. States that are faced with limited staff and budgets may shape a more policy-driven plan due to these constraints. State approaches to long-range planning include the following:

- Caltrans sets its own objectives to measure the outcome of its planning process. For example, the DOT may work to create an outcome that calls for a connected multimodal system that meets specific productivity measures.
- Arizona DOT's new long-range plan has been developed to be more project-specific and can create a more measurable product for customers who are interested in the delivery of projects.
- Maryland DOT, through a state mandate, links performance measures with the goals and objectives of its statewide plan. However, these performance measures have not been used yet to measure the long-range plan.
- Wisconsin DOT, faced with major staffing cuts, has adopted a more policy-focused plan, because it requires less resource-intensive analysis. Although the Bureau of Planning is an integral part of the overall programming and project development process, it often is difficult to convince management of its entire value. This makes planning more vulnerable when faced with staffing cuts. This is a concern among many states.

## **Managing Stakeholder Input to Planning and Programming**

Input from stakeholders, including the general public and decision makers, is central to planning and programming. The planning process can be used to demonstrate the need for revenue and can provide a framework for decision makers as they process project options. It was pointed out that a strong planning process also can pave the way for effective communication of project-

related decisions to the public. The timeliness of projects is often a concern, so the speed at which planning and programming take place can contribute to how stakeholders perceive the effectiveness of planning. Many also believe that the ultimate measure of the overall programming process is whether or not the programming decisions result in the vision outlined in the plans.

Thus, many tools focus on gathering information from stakeholders, including citizens and decision makers. For example, telephone or mail-in surveys may be used to assess public perceptions and attitudes. Public involvement techniques can become a mechanism in measuring effectiveness because they can communicate the framework behind the planning process to key audiences and can educate stakeholders on issues that arise during planning. Many participants also noted that performance measures are used to educate their agency's leadership and decision makers, to show how the system is performing, and to identify where funding and improvements are needed. Successful experiences shared by exchange participants include the following:

- Colorado DOT surveyed its partners and customers on their perceptions of the value of the DOT's Planning Division. An internal survey and a customer survey were developed. The customer survey focused on how much the public knew about the planning process and how much access they felt they had to planning information. The internal survey focused on how internal customers perceived the service provided by the planning staff.

- Maryland DOT evaluates the effectiveness of project planning as a separate task outside of systems-level planning. The surveys have customers look at the project outcomes, since they are a visible result that the public can witness and experience.

- Florida DOT works with local elected officials to determine their accessibility to projects and planning. Because the planning process can serve as the framework for decision makers, it is important to know if they have complete access to the information they need, and if they easily can interpret the information. These are critical elements that contribute to their satisfaction or dissatisfaction with the effectiveness of the planning process.

### **Long-Range Planning Versus Short-Term Planning Practices**

Several state DOT participants questioned the role that long-range plans (with a horizon of 20 years) should play in planning. Because it often is difficult to predict the needs for the next 20 years, some participants believe that 20-year plans allow states to be less responsible for the long-term, because they cannot predict meaningfully what will happen in that timeframe. Performance measures included in long-range plans could be less relevant as a result.

Although long-range plans are a requirement, many state DOTs would like to see these plans incorporate certain aspects of short-term planning. Short-term accountability and the measures that communicate performance more usefully support sound decisions on current planning. Some participants suggested that performances reported at monthly or weekly intervals may be useful in better engaging the public in the short-term.

Long-range plans can be useful, especially if they are revisited and revised continually as future needs become clearer. Without having a long-range plan, a state or corridor's vision may not be analyzed or achieved. In addition, metropolitan planning organizations (MPOs) use the 20-year forecasting method to assist them with preparation of their metropolitan plans. Conversely, the private sector often limits its own long-range planning to five years. These different perspectives on long-range planning and visioning timeframes can complicate planning



practices and create difficulty in receiving buy-in from stakeholders who question the accuracy of a plan's vision.

### **The Use of Long-Range Planning**

Each participating state DOT explained how it incorporates long-range planning into business practices. These practices varied with agency size, operations structure (decentralized or centralized), number of corridors in the state, and long-range planning focus (policy or project-driven). Many states have created plans at both a project level and systems level. Specific examples of how states address planning efforts include the following:

- Colorado DOT, with 300 corridors, has created corridor visions to identify long-term goals for the corridors. The visions do not include specific performance measures, but do identify specific goals, objectives, and strategies appropriate to the corridors that also must adhere to the DOT's performance standards.
- Minnesota DOT's statewide plan contains 10 policies, 15 performance measure categories, and 40 performance measures. However, Minnesota is challenged with incorporating this state emphasis of performance measures into their districts' plans. The DOT continues to work with its districts to redevelop a planning process that incorporates a more performance-based approach for the distribution of funds.
- Pennsylvania DOT's strategic plan outlines the state's system measures. The DOT districts are able to develop their own performance measures based on the strategic plan.
- The Massachusetts Highway Department's new long-range plan will provide a project list with measurable goals. Funding needs and available revenue forecasts will be included to determine which projects can move forward.

### **Measuring Shared Accountability**

The overall performance of the transportation system relies on multiple parties. For this reason, state DOTs are developing methods and techniques that create a shared accountability system for performance among their system partners. Creating a partnership with these agencies can be an essential element in finding a successful approach to achieve shared accountability. Some example practices and recurring challenges include the following:

- Washington State DOT's shared accountability with its 11 MPOs has led the MPOs to be more accountable to their customers. However, the MPOs are not required to be accountable at the state level.
- Florida DOT is working with its 26 MPOs on preservation of the system in order to address capacity. This will allow the DOT to use its long-range revenue forecast to inform MPOs on how funding will be allocated.
- Maryland DOT, which owns and operates six different transportation entities, has performance measures created by the legislature. At this time only mandated measures are being used.
- The governor of California requires Caltrans to create a shared-accountability system to benefit the health of the state. This initiative will allow the DOT, 19 MPOs, and 43 regional

planning agencies to discuss cross-cutting issues. In addition, the DOT is working to include pavement management system guidance in its statewide plan.

MPOs use a broad range of performance measures. These are not always easily comparable or aggregated to the state level. The lack of consistency makes it more challenging for states to fully manage a shared accountability approach.

### **Development of Multimodal Measures**

Many multimodal measures exist in state plans. The most common performance measures at a systems level include travel-time delay, travel-rate index, and reliability. Intelligent Transportation Systems (ITS) also play a large role by collecting data for measures such as incident-response, system-efficiency, and delay. However, it is a challenge to archive ITS data to measure long-term performance. For example, Maryland DOT's ITS data for incident-response are held only for two weeks. Data are not available for detailed or long-term analysis of performance. On the other hand, Washington State DOT currently archives its ITS data for reoccurring and non-reoccurring delays.

Many states that have large freight corridors and commercial traffic also have performance measures specific to this activity. Reducing commercial incidents and measuring system reliability are key performance measures for freight transportation.

### **Measuring Avoidance**

Many exchange participants felt that one of the greatest challenges in measuring the effectiveness of planning is how to capture what state DOTs are deciding not to do as the result of avoidance outlined during planning (for example, avoiding potential environmental justice impacts by changing project location).

APPENDIX A

**Performance Measures to Improve  
Transportation Planning Practice**  
*Agenda*

May 6, 2004

8:00–8:30 a.m.	Continental breakfast
8:30–8:45 a.m.	Introductions and objectives
8:45–10:00 a.m.	Icebreaker question: Are you using performance measurement in your agency? If you are not using performance measurement in your agency, then why not?
10:00–10:15 a.m.	Break
10:15 a.m.–12:00 p.m.	Main question: Use of system performance measures in planning and programming. <ul style="list-style-type: none"><li>• How do you connect system performance measures, particularly measures used in long-range system planning, to your program and budget?</li><li>• What success have you had in using system performance measures to influence budget decisions?</li><li>• Have system measures been useful in examining tradeoffs among different funding allocation options?</li><li>• What issues have stood in your way?</li><li>• What lessons have been learned?</li></ul>
12:00–1:00 p.m.	Lunch
1:00–2:00 p.m.	Continue discussion on main question
2:00–2:15 p.m.	Break
2:15–3:45 p.m.	Secondary question: How do we measure the success (importance and contribution) of the planning process itself?
3:45–4:00 p.m.	Wrap up

## APPENDIX B

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