



State DOT Public Transportation Performance Measures: State of the Practice and Future Needs

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NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

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Research Results Digest 361

STATE DOT PUBLIC TRANSPORTATION PERFORMANCE MEASURES: STATE OF THE PRACTICE AND FUTURE NEEDS

The research reported herein was performed under NCHRP Project 20-65 (Task 29) by ICF International, Washington, DC. The report was prepared by Michael Grant, Principal; Terence Plaskon, Senior Associate; Stephanie Trainor, Associate; and Sonya Suter, Research Assistant. ICF International collaborated with Joe Crossett, Partner, High Street Consulting, LLC, Chevy Chase, MD, for this report.

SUMMARY

Introduction

State departments of transportation (DOTs) are increasingly using performance measures to improve their planning, construction, and operations and in response to greater need for accountability. Some state DOTs have developed sophisticated agency-wide strategic performance management initiatives that are credited with helping meet challenges such as managing scarce financial resources more effectively, focusing staff on leadership priorities, and providing the transparency the general public demands today. Moreover, state DOT use of performance measures now extends to public transportation, an area where DOTs traditionally have had only a limited role. While use of performance measures in public transportation is well established, typical practices for public transportation performance measures are oriented to collection and reporting of data on operations performance via metrics for issues such as ridership and service cost effectiveness. In the context of the expanded reliance on performance management that is anticipated with reauthorization, there is a need for more effective use of public transportation performance measures to support state DOT

investment decision-making. The purpose of this digest is to provide more information on performance measures and performance management approaches that can be used by state DOTs in relation to public transportation programs.

Findings

In a nationwide survey, approximately two-thirds of all state DOTs indicated that they have some public transportation performance measures in place (30 out of 43 respondents). A number of motivations led these DOTs to the use of public transportation performance measures, including providing accountability to stakeholders. This desire for more accountability has led some state legislatures to impose their own requirements in the use of performance measures. Some DOTs are doing more than tracking performance data and reporting it. Some are experimenting with use of performance data to improve decisions made during long-range planning, and for transit plans and capital programs. Performance measures are a way for agency leaders to communicate organizational priorities to their staff.

Of the state DOTs that are using public transportation performance measures, many

CONTENTS

Summary, 1
Chapter 1 Introduction, 3
Chapter 2 Background and Context, 5
Chapter 3 Current State of the Practice, 6
Chapter 4 Best Practices, 14
Chapter 5 Case Studies, 22
Chapter 6 Conclusion, 28
Bibliography, 28
Acronyms, 29
Appendix A, 30
Appendix B, 43

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are using multiple performance measures. The number of public transportation performance measures used within each state varies; most DOTs indicated they have between two and six measures, though several DOTs reported using seven or more measures. Common measures include *ridership measures*, those focused on the level of public transportation riders using services; *availability measures*, those focused on the availability of services (e.g., total hours, average number of days per week available); *internal cost and efficiency measures*, those focused on internal utilization of resources, cost, and other measures of efficiency; *quality measures*, those that measure the quality of service experienced by the customer; *asset management measures*, those that look at the physical components of the system (e.g., age of fleet, etc.); and *community measures*, those that focus on impacts to a community in the way of mobility, air quality, and energy savings. Findings indicate that ridership and internal cost and efficiency measures are much more widespread than measures of availability, service quality, asset management, or community impacts.

Use of performance measures by State DOT public transportation divisions is driven by the business functions these divisions perform, including compliance with data reporting requirements and supporting statewide public transportation planning decisions and funding allocation. Within the survey, 17 state DOTs indicated they are using public transportation performance measures to support allocation of or formulas for public transportation operating funding, and 11 indicated they are using performance measures to support allocation of or formulas for capital funding. Several also identified that they were using performance measures to measure progress toward statewide goals (15 state DOTs) or for measuring progress toward agency targets or comparing agency services (15 state DOTs).

Still, there are a number of challenges to widespread use of public transportation performance measures by state DOTs. According to the survey, over half the states without public transportation performance measures indicated that data availability and lack of technical resources were challenges that have prevented the agency from using performance measures. Among those with performance measures, the case studies suggest it has been challenging to apply performance measures to inform investment decision-making, in part since decision-making by public transportation funding recipients is largely autonomous to statewide planning priorities.

Among the best practices and lessons learned, several state DOTs emphasized the importance of picking measures that could be consistently used over many years. Others emphasized the importance of selecting measures that are meaningful to the storyline surrounding public transportation performance in the state. It was found that the type of service being measured affects what is considered meaningful. For example, rural public transportation systems must often look beyond traditional cost-efficiency measures to those that gauge social value and quality of life. Performance measures can also be used to track progress toward an agency's stated goals and objectives. Thirty state DOTs responding to the survey indicated that they have statewide public transportation goals in place, and 15 indicated they are using performance measures to track progress toward those goals. In developing measures, DOTs rely on various resources including their peer DOTs, their transit partners, and national-level documentation. Some DOTs are also developing partnerships with public transportation associations and universities to support data collection. Since most state DOTs do not directly operate transit services, cooperation and coordination with public transportation providers is critical to having a robust statewide performance measure program for public transportation.

The case studies noted a number of notable practices. In Florida, performance measures related to cost efficiency and project costs are informally used in funding decisions, along with qualitative assessments, such as the community support, the public transportation agency's past performance, a project's overall viability, and its potential ability to compete with national projects. Kansas DOT plans to hire a full-time staff person dedicated to performance measurement, which will likely increase the agency's ability to incorporate data into its management decisions. In Minnesota, the DOT evaluates its public transportation providers based on performance, making funding allocation decisions performance-based. New Mexico DOT uses a funding distribution index, rewarding public transportation providers that perform better. The state of Virginia has adopted a robust business approach that extends to Virginia DOT and the Virginia Department of Rail and Public Transportation, to support targeting investment where it is needed. Finally, Washington State illustrates strong data collection and reporting practices.

Conclusions

The research finds that many state DOTs are tracking public transportation performance measures to increase accountability to stakeholders, improve management and decision-making, and comply with state mandates and federal data requirements. Most of these performance measures focus on ridership and internal factors (e.g., cost, efficiency), though quality and asset management are becoming more widespread. States with the most advanced public transportation performance measurement were notable for the linkages they made between their goals, performance measures, and funding decisions; their data collection efforts; collaboration with public transportation providers; and reporting methods.

A number of challenges remain, however, for advancing public transportation performance measures at state DOTs. Collecting data and connecting performance to funding decisions are two key challenges. Many state DOTs pointed to a need to find ways to compare disparate public transportation systems and to collect accurate and relevant data from their public transportation providers. Moreover, developing appropriate performance measures is often challenging, given the disparate nature of different types of public transportation services, particularly in rural areas.

CHAPTER 1 INTRODUCTION

Purpose of Report

State departments of transportation (DOTs) are increasingly using performance measures to help manage scarce financial resources more effectively, focus staff on key priorities, and provide greater accountability to the public. It is anticipated that performance measurement may be institutionalized at the national level in the next federal transportation bill, increasing state accountability for progress in areas like congestion relief, safety, energy use, and infrastructure preservation. This would be in addition to existing executive and legislative mandates in many states that require state DOTs to track and report on their performance and on the condition of state transportation systems.

The public transportation field has a long history of performance measurement, codified in the federal requirement that agencies receiving federal funding for transit programs report to the National Transit Database (NTD). Most of the measures reported in

NTD, however, are focused on activity levels and internal cost and efficiency measures, rather than outcomes tied to state or regional transportation goals. Moreover, many state DOTs are uncertain about how to apply public transportation performance measures, given the limited role that most state DOTs play in public transportation service provision. The purpose of this digest is to provide more information on performance measures and performance management approaches that can be used by state DOTs in relation to public transportation programs.

Research Approach

The findings in this report are drawn from the three lines of research described in the following sections.

Literature Review of State DOT Performance Management and Public Transportation Performance Measures

The research team conducted a literature review on the state of the practice for use of public transportation performance measures at state DOTs. Several long-range statewide transportation plans (LRSTPs) and state transit plans were reviewed to identify public transportation performance measures reported in these documents, as well as national-level reports documenting different types of public transportation performance measures and their use. This review included two of the most notable national-level resources available on public transportation performance measures: *TCRP Report 88: A Guidebook for Developing a Transit Performance Measurement System* (Kittelson & Associates 2003) and *TCRP Synthesis 56: Performance-Based Measures in Transit Fund Allocation: A Synthesis of Transit Practice* (Stanley and Hendren 2004). Reports related to state DOT performance measurement, such as the NCHRP report on the 2010 National Forum on Performance-Based Planning and Programming (Cambridge Systematics, Inc. 2010) were also reviewed.

Web Survey of State DOT Public Transportation Performance Measures

In August and September of 2010, the research team conducted an online survey of state DOTs to gather information about their use of public transportation performance measures. After receiving input from the NCHRP Project 20-65 panel, the research team invited DOTs from all 50 states and

the District of Columbia and Puerto Rico to take the survey. The research team identified survey participants based on their membership in the American Association of State Highway and Transportation Officials' (AASHTO) Standing Committees on Public Transportation, Planning, and Performance Measurement. The research team gathered information from each jurisdiction to identify the individual(s) best suited to complete the survey and, as a result, contacted 238 representatives via e-mail, approximately 4 to 5 representatives per jurisdiction. The research team received a response from 43 DOTs, totaling a response rate of 83 percent.

The survey employed conditional logic in inquiring about DOT use of public transportation performance measures. The research team asked respondents a set of questions depending on whether or not their DOT had public transportation performance measures. If they had performance measures, the research team followed up about their development, use, and impact. If they did not have public transportation performance measures, the research team asked whether they were considering their use in the future. See Appendix A for a complete version of the Web survey, along with a summary of survey results.

Interviews with Selected State DOTs

Based on the literature review and survey, the research team identified a diverse group of six DOTs that illustrate current practice in the use of public transportation performance measures. We contacted representatives of the public transportation division (or equivalent) at each of these state DOTs, and conducted an interview to understand their motivations, development, and use of public transportation performance measures. The following are the states that were interviewed as well as highlights:

- Florida: Florida DOT (FDOT) documents and monitors its performance measures in a number of ways, including customer satisfaction surveys and performance reports; measures are also monitored by the independent Florida Transportation Commission (FTC). FDOT uses performance measures to support funding decisions, such as in a state block grant formula.
- Kansas: Kansas DOT (KDOT) is just beginning to utilize performance measures, and its experience with public transportation performance measures is limited. KDOT's public transportation program focuses on directing

state and federal funding to rural public transportation providers, and its data collection focuses on measures required as a condition of receiving federal funding and reported in the Federal Transit Administration's (FTA) National Transit Database (NTD).

- Minnesota: Minnesota DOT (Mn/DOT) has public transportation goals and performance measures that are clearly linked. Its efforts are documented in statewide plans and performance reports, and the Office of Transit tracks several performance indicators that are used for funding distribution and monitoring public transportation service providers.
- New Mexico: New Mexico DOT (NMDOT) is one of only three state DOTs responding to the survey who directly operate public transportation. NMDOT manages operations of the state's intercity public transportation, the Rail Runner Express commuter rail, and a park-and-ride express intercity bus service. It also administers funds for 23 rural public transportation providers and three small urban providers. NMDOT uses performance measures addressing the services it operates, as well as measures to support distribution of Section 5311 funds through a funding distribution index.
- Virginia: The *Virginia Performs* website documents state public transportation goals and performance measures, allowing users to examine plans, goals, performance reports, and budget documents. The Virginia Department of Rail and Public Transportation (DRPT) makes funding allocation decisions for the state's 60 public transportation providers and 55 human service transportation operators, with the majority of funding in urbanized areas. Performance measures play a key role in a "business approach" by linking goals, objectives, and performance measures to support targeting of investments.
- Washington: Washington State DOT (WSDOT) is recognized as a leader in agency-wide performance measurement with its *Gray Notebook* and years of accompanying data on a wide variety of performance measures. Although WSDOT's Public Transportation Division is focused mostly on meeting rural public transportation needs, it is required by state law to collect performance data on every public transportation agency in the state.

The research team conducted interviews by phone in October 2010. A copy of the questions can be found in Appendix B, and information from the interviews is summarized in the case studies in Chapter 5. In addition, the research team interviewed several state DOT representatives during research for NCHRP Project 20-65, Task 34 on Statewide Transit Goal Setting, and some information from those interviews is included in this report.

CHAPTER 2 BACKGROUND AND CONTEXT

Performance measures can be used to evaluate how well an agency, organization, or service is fulfilling its purpose and meeting its constituents' needs. As part of a management approach, performance measures provide quantitative metrics to determine progress toward defined organizational objectives. They rely on data that can be measured and tracked over time to gauge success. Performance measures also can be used to compare performance of different agencies, programs, or services. They can be used at the level of an individ-

ual service provider or at a regional or state level. The specific metrics that are used will differ based on the level of analysis, as well as the organization's goals and objectives.

State DOTs are increasingly using performance measures in their planning and reporting, and to drive funding and capital investment decision-making (Poister 2004). In regard to public transportation, however, the state DOT role in investment decision-making is somewhat limited. Although all states are responsible for distributing a portion of FTA public transportation funding (see text box), few states directly operate public transportation services, and DOTs vary in the amount of assistance they provide to public transportation systems. Most DOTs are responsible for rural public transportation systems in their state, including funding distribution, data collection assistance, technical assistance, or other regulation, while large urbanized areas may have their own public transportation authorities that receive direct federal funding and report directly to the federal government. As a result, state DOTs often oversee

FTA Transit Funding Programs

Federal funding is often the primary source of transit funding for many states and operators. The major federal programs are:

- **Sections 5303, 5304, 5305 Metropolitan & Statewide Planning:** provide funds to State DOTs (who may pass them along to MPOs) for cooperative, continuous, and comprehensive planning.
- **Section 5307 Urbanized Area Formula Program:** available to urbanized areas and governors (or their agencies) for transportation planning, capital expenses, and operating assistance (for areas with populations less than 200,000).
- **Section 5309 Transit Capital Investment Program:** provides funds to public bodies and transit agencies for capital projects. Its three components are:
 - New Fixed Guideway (New Starts and Small Starts): start or expand fixed guideway systems.
 - Fixed Guideway Modernization: capital projects related to existing fixed guideway systems.
 - Bus and Bus Facilities: used to purchase new and replacement buses and for investments in facilities.
- **Section 5310 Transportation for Elderly Persons and Persons with Disabilities:** provides funds to states in order to help non-profits assisting the elderly and those with disabilities in areas where existing services are not sufficient.
- **Section 5311 Formula Grants for Other than Urbanized Areas:** provides funding to state DOTs to assist rural areas with populations less than 50,000 in providing public transportation services.
- **Section 5316 Job Access and Reverse Commute Program:** provides funds to states and public bodies (who may pass funds along to non-profit organizations and transit operators) for the purpose of assisting low-income individuals in their commutes.
- **Section 5317 New Freedom:** provides funds to states and other public bodies for new public transportation services and alternatives to assist individuals with disabilities in meeting their transportation needs beyond requirements of the Americans with Disabilities Act.

Source: http://www.fta.dot.gov/funding/grants_financing_263.html

rural public transportation systems more closely than they do urban systems.

States are increasingly providing funds for public transportation in both higher numbers and at higher levels when compared with 1990 (AASHTO 2010). The increased funding strengthens the connections between state DOTs and public transportation providers. Opportunities to use this funding in conjunction with performance measurement can be limited, however, due to the methods used to distribute state and federal public transportation funding. Of all public transportation funding in 2008, states allocated 59 percent of public transportation funding by formula, 19 percent by discretion, and the remaining 22 percent by other methods, often as directed by the legislature or as a local pass-through (APTA 2010). Consequently, federal funding formulas and legislated distribution methods may limit the ability of state DOTs to utilize performance measures for more performance-based allocation methods.

State DOT public transportation performance measures are often included in statewide plans, such as the LRSTP. For example, New Jersey DOT and New Jersey Transit developed public transportation performance measures that link to the statewide transportation goals in the LRSTP. Some states also have specific public transportation plans where more detailed measures related to public transportation modes are described, such as Vermont's *Public Transportation Policy Plan*.

Legislative mandates in some states require reporting of performance measures to the state's legislature or other state transportation oversight body. For example, Oregon DOT provides an annual report to the state legislature, while Florida DOT provides an annual report to the Florida Transportation Commission. Some DOTs also have internal measures that are used for reporting within the DOT or within the public transportation division for resource allocation. New Mexico DOT, for example, uses a broader set of measures than they report to the legislature to inform their funding distribution.

Several publications and research efforts have identified lists of possible public transportation performance measures along with guidance on their use, meaning, and data requirements. One guide frequently consulted is *TCRP Report 88: A Guidebook for Developing a Transit Performance-Measurement System*, which provides examples of over 400 performance measures. Other sources include *TCRP Report 136: Guidebook for Rural Demand-Response*

Transportation: Measuring, Assessing, and Improving Performance, as well as NCHRP's report on the 2010 National Forum on Performance-Based Planning and Programming. Additionally, TCRP conducted surveys of state DOTs as well as metropolitan planning organizations (MPOs) and transit agencies in 1994 and 2004 regarding the use of performance measures to affect public transportation funding decisions (Stanley and Hendren 2004). These documents also provide case studies and information on best practices for public transportation performance measures as well as data on the state of the practice. However, they generally focus on measures at the transit agency level, rather than at the state DOT level, and these measures may not be appropriate for state-level tracking of performance toward meeting statewide goals or for supporting funding allocation decisions.

CHAPTER 3 CURRENT STATE OF THE PRACTICE

State DOT Use of Public Transportation Performance Measures

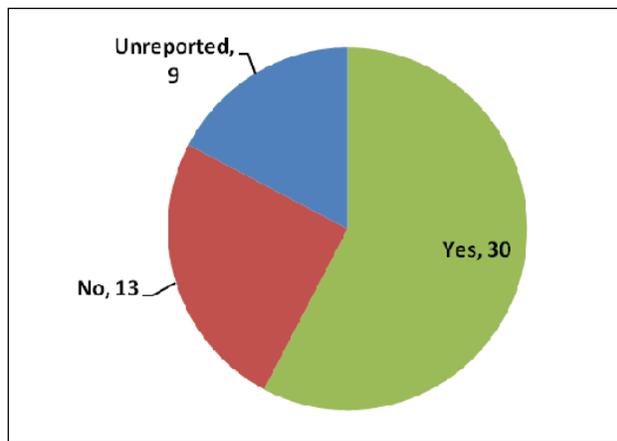
Over the last 10 years, many state DOTs have established performance measurement programs that touch many aspects of their business. While many of these performance initiatives focus on responsibilities like managing road and bridge conditions, congestion, or safety, most DOTs appear to be using performance measures for public transportation in some form. The NTD helped establish data collection as part of the business procedures conducted by public transportation divisions, and these measures are often considered part of a performance measurement approach. According to the Web survey conducted for this project, two-thirds of all state DOT public transportation divisions taking the survey indicated that they have some public transportation performance measures in place (see Figure 1).

Motivations to Use Performance Measures

The following paragraphs describe several motivations for using public transportation performance measures.

Providing Accountability to Stakeholders

Political leaders increasingly expect greater accountability for performance within the govern-



Note: Total includes 50 states, plus the District of Columbia and Puerto Rico.

Figure 1 State DOTs reporting use of public transportation performance measures.

ment agencies they oversee. In Maryland, for example, the governor requires all state agencies to participate in “Statestat,” which is a cabinet-wide performance-measurement and management tool. Reporting agencies include the Maryland Transit Administration (MTA) under Maryland DOT. The MTA report addresses internal business performance (e.g., finance and personnel) and system performance (e.g., ridership and service quality). The trend toward greater external performance accountability is growing, and in response, state DOTs often develop their own dashboards or other performance measurement tools to help demonstrate accountability desired by stakeholders. In Minnesota, for example, one of Mn/DOT’s early efforts using public transportation performance measures focused on demonstrating progress toward a legislatively mandated performance target of public transportation service for all counties.

Compliance with Federal/State Legislative Mandates

A desire for more accountability has led some state legislatures to impose their own requirements in the use of performance measures. Legislative requirements often prescribe categories of measures or specific measures that must be used, as well as reporting methods and frequency. For example, Oregon DOT is legislatively mandated to produce an Annual Performance Progress Report that features “Key Performance Measures” specified by the legislature. Several other state DOTs, including Washington State, Florida and Minnesota, are

required by their state legislatures to provide reports on public transportation performance. In addition, FTA requires all state DOTs to provide annual data reports on the extent of rural public transportation service in their states.

Improving Management and Decision-Making

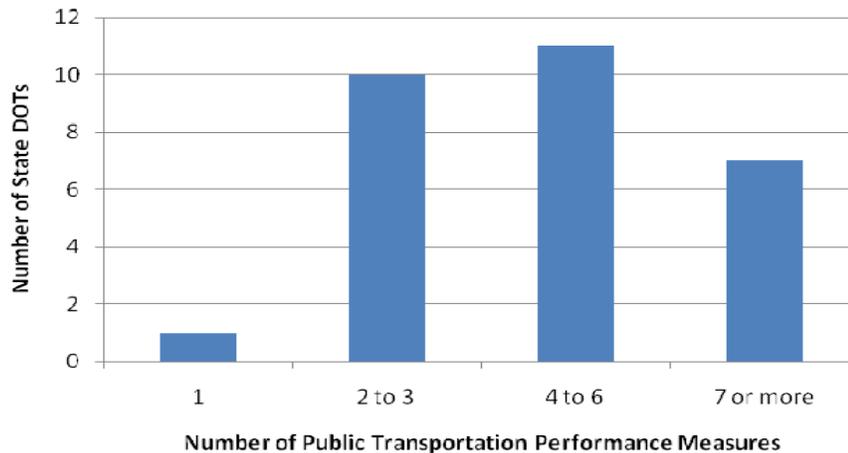
In response to external motivating forces, some DOTs are doing more than just tracking performance data and reporting it. Agencies are experimenting with use of performance data to improve decisions made during development of LRSTPs, transit plans, and capital programs. They are integrating discussion of performance trends and targets with information about strategic priorities and funding resources. Performance measures are helping them make more insightful decisions. For instance, Mn/DOT is integrating performance management information into its long-range planning and capital program development processes.

Setting Priorities and Direction

Performance measures are a way for agency leadership to communicate organizational priorities to their staff. Leaders use performance management to keep their staff focused on important priorities and to hold them accountable. Virginia DRPT uses performance measures as a way to translate priorities set by the governor to local agencies that operate public transportation in the state. Public transportation-related goals are developed in a collaborative process with Virginia DRPT’s stakeholders, and performance measures are used to keep goals in focus over time through regular reporting.

Repairing/Maintaining Public Credibility

Threatened or actual loss in public credibility can be a powerful motivator for agencies to use performance measures. Some of the DOTs recognized in performance management first began their initiatives in response to agency-wide crises. WSDOT, for example, first developed systematic performance reporting as part of a larger effort in the late 1990s to address a credibility gap concerning project delivery and to repair an erosion of trust between the department and the state legislature. At present, federal and occasionally state mandates appear to be some of the strongest motivators for introducing performance measures in public transportation divisions.



Note: Data in this chart is from the Web survey, based on 29 state DOT respondents.

Figure 2 Number of public transportation performance measures.

Types of Public Transportation Performance Measures in Use

Of the state DOTs that are using public transportation performance measures, many are using multiple performance measures. The number of public transportation performance measures used within each state varies; most DOTs indicated they have between two and six measures, though several DOTs reported using seven or more measures (Figure 2).

The list of possible performance measures for public transportation is extensive, as demonstrated by publications such as *TCRP Report 88: A Guidebook for Developing a Transit Performance-Measurement System*, which includes a long catalogue of possible measures. There are hundreds of different potential performance measures for public transportation, including individual measures (which can be measured directly), ratios (developed by dividing one individual measure by another), and indexes (which involve a number of different factors often developed through an equation that weights different factors). State DOTs may require different performance measures than those used by transit agencies, who measure service at the agency- and individual route-level, and may have different types of goals and objectives. Moreover, rural public transportation services, which are a focus of many state DOTs' programs, may require different types of measures than urban systems.

Although there are various ways to classify performance measures, the following list contains a few common measure categories, along with examples of specific measures being used by state DOTs. This

typology reflects one of several possible ways to organize performance measures based on what they measure. Many of these metrics can also be broken down by type of service (e.g., fixed-route or demand response).

- **Ridership Measures:** These measures focus on the level of public transportation riders using a service or services, and are commonly used by state DOTs. Examples include the following:
 - Total public transportation ridership, or ridership by mode or service type (used by 17 states in our survey).
 - Number of riders at park-and-ride (New Mexico DOT).
 - Ratio of ridership growth to population growth (Florida DOT).
 - Passengers per capita (Texas DOT, Wisconsin DOT).
 - Passenger trips.
 - Passenger miles.
- **Availability Measures:** These measures focus on the availability of public transportation services. Examples include the following:
 - Total number of public transit bus service hours provided compared to the total number of hours needed to meet transit demand (Minnesota DOT).
 - Percent of Regional Trade Centers with scheduled intercity bus service (Minnesota DOT).
 - Average days per week that rural public transportation service is available (Missouri DOT).

- **Internal Cost and Efficiency Measures:** These measures focus primarily on internal utilization of resources, cost, and other measures of efficiency. Examples include the following:
 - Vehicle utilization measures, such as:
 - Passengers per vehicle mile.
 - Passengers per vehicle hour.
 - Cost-efficiency measures, such as:
 - Total operating cost per passenger (Pennsylvania DOT).
 - Operating expense per vehicle revenue mile (New Jersey DOT).
 - Recovery cost, or ratio of revenues to total operating cost.
 - Fuel economy (miles per gallon).
- **Quality Measures:** These measures address factors that affect the quality of service experienced by customers—speed, safety, reliability, or comfort. Examples include the following:
 - Reliability measures, such as:
 - On-time performance by mode (District of Columbia DOT).
 - Safety measures, such as:
 - Rate of injuries involving transit vehicles per million vehicle revenue miles (New Jersey Transit).
 - Rate of fatalities involving transit vehicles per 100 million vehicle revenue miles (New Jersey Transit).
 - Other measures related to system satisfaction or complaints, such as:
 - Ratings of public transportation system (New Jersey Transit).
- **Asset Management Measures:** These measures address the maintenance of the physical components of the public transportation system. Examples include the following:
 - Vehicle age measures, such as:
 - Age of fleet by vehicle type (Virginia DRPT).
 - Percent of remaining useful life for vehicles (Maine DOT).
 - Maintenance measures, such as:
 - Number of mechanical failures (New Jersey Transit).
 - Distance between failures for transit vehicles (Connecticut DOT).
- **Community Measures:** These measures focus on impacts to served communities and beyond—including economic or environmental effects. They can be used to help make the

case for public transportation investments, and are typically derived from other measures. These measures seem to be less frequently used by state DOTs than other measures, although they relate to overarching system goals. Examples include the following:

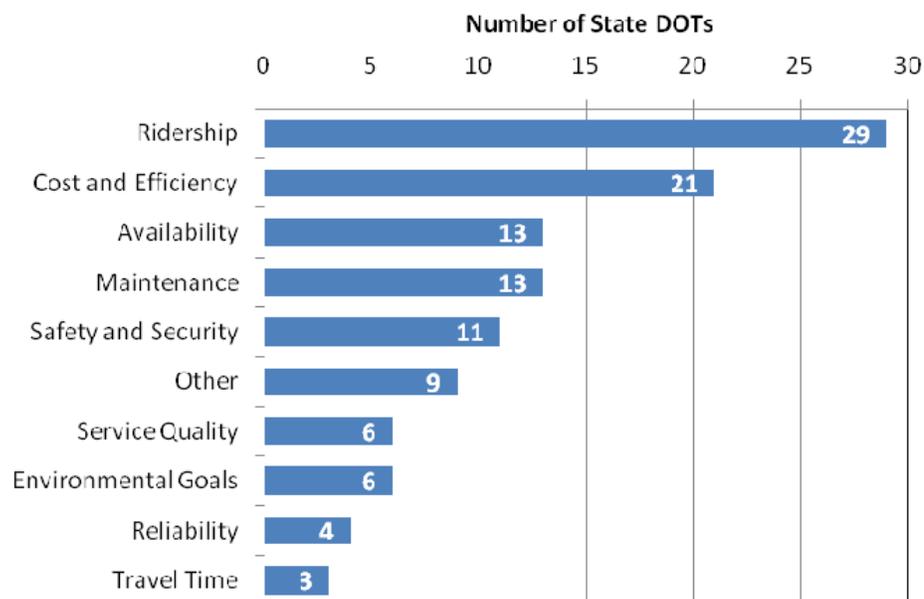
- Mobility measures, such as:
 - Percent of non-single occupancy vehicle (SOV) commuters (Oregon DOT).
- Air quality impact measures, such as:
 - Number of auto vehicle trips reduced.
 - Percentage of fleets transitioned to clean fuel (Maine).
- Energy savings.

Based on the response to the Web-based survey, ridership and internal cost and efficiency measures are much more widespread than measures of availability, service quality, asset management, or community impacts within state DOTs. Of 30 state DOTs indicating what types of transit performance measures they use, 29 indicated they use “ridership” as a performance measure (97 percent of respondents). “Cost and efficiency concerns” were reported by 21 states (70 percent). In total, 70 percent also indicated that they use a quality-related measure, such as “safety and security” (11 state DOTs); “service quality” (6 state DOTs); “reliability” (4 state DOTs); or “travel time” (3 state DOTs). Some DOTs reported using more than one of these measures; in total, 21 DOTs reported using one or more of these quality-related measures. Thirteen state DOTs (43 percent) indicated they use a “maintenance” measure (categorized above as asset management), as did those reporting using an “availability” measure. Only six state DOTs responding (20 percent) indicated they use performance measures related to “environmental goals” (see Figure 3).

Figure 4 provides examples of current public transportation performance measures in states participating in the Web survey.

How Public Transportation Divisions Use Performance Measures

Use of performance measures by public transportation divisions is driven by the business functions these groups perform. In many cases, statewide oversight for rural public transportation service is the primary motivator for state DOT use of public transportation performance measures. Key roles include managing capital and operating funding



Note: Data in this chart is from the Web survey, based on 30 state DOT respondents, with performance measure types used in the survey grouped into categories. Respondents could select multiple responses.

Figure 3 Number of state DOTs reporting different types of public transportation performance measures in use.

Performance Measure	Examples of State DOTs Using
Ridership Measures	
Ridership	AR, CO, CT, DC, FL, IA, KY, MO, MS, MT, NJ, NM, OK, PA, SD, TN, VA
Passengers per capita	TX, WI
Route percent of ridership	DC
Ratio of ridership growth to population growth	FL
Number of special transit rides per each elderly and disabled person	OR
Boardings per day	VT
Percent increase in rural ridership	WV
Availability Measures	
Ratio of revenue hours to service area population	OR, WI
Service hours	CO
Average days per week with rural transit service available	MO
Number of intercity bus stops	MO
Percent of population with daily intercity transit service	OR
Internal Cost and Efficiency Measures	
Cost per service hour	CO, MS, NJ, PA, VT, WA, WI
Farebox recovery ratio	FL, MS, VA, VT, WA, WV
Riders per revenue mile	CO, DC, MS, TX, VT
Cost per trip	FL, MS, SD, VA, WI,
Passengers per hour—applied to different system peer groups	MN, MS, VA, VT, WA
Cost per rider	CO, DC, PA, VT
Cost per mile	CO, MS, NJ, VT
Total expenses	AR, CO

Figure 4 Sample of public transportation performance measures in use by state DOTs.

Performance Measure	Examples of State DOTs Using
Miles per operating expense	IN, TX
Subsidy per rider	DC
Route percent of revenue	DC
Route percent of hours	DC
Rate of return on transit new-starts	FL
Trips per operating expense	IN
Vehicle utilization	MS
Revenue per person	NM
Revenue hours per total vehicle hours	WA
Passenger trips per revenue mile	WA
Revenue hours per full time equivalent	WA
Revenue mile per revenue hour	WA
Quality Measures	
On-time performance	CT, NJ
Transit “incidents	FL
Injury rate involving transit vehicles	NJ
Fatality rate involving transit vehicles	NJ
Ratings of system	NJ
Asset Management Measures	
Average fleet age	CT, NJ, VA
Maintenance costs	AR
Distance between failures	CT
Percent of remaining useful life for vehicles	ME
Number of mechanical failures	NJ
Community Measures	
Percent of fleet transitioned to clean fuel	ME
Fuel economy average	MS
Air pollutants: tons per day	NJ
Percent of population on top categories of transit score index	NJ
Percent of non-SOV commuters	OR

Figure 4 (Continued)

support to grantees, providing technical support, and assuring compliance with regulatory requirements associated with public transportation, which include reporting of performance data. In the context of these roles, performance measures are used for a variety of purposes that are described in the following paragraphs.

Basic Compliance with Federal/State Data Reporting

Evidence from the survey and case studies confirms that performance measurement within public transportation divisions is strongly influenced by federal and state-driven data reporting requirements, particularly NTD-related reporting requirements which tend to emphasize internal cost and efficiency measures. The NTD’s rural public transportation data

reporting requirements went into effect in 2006. They require the state DOT to report annually on their grantees’ total annual revenue, sources of revenue, operating costs, capital costs, fleet make-up, revenue vehicle miles, and ridership. Some states simply collect data from grantees and collate it for reporting to FTA. Other states use NTD data as the basis for their own selection of rural public transportation-related performance measures within states.

External Reporting on Public Transportation Performance

Many DOTs publish an agency-wide performance report, hardcopy or online, and public transportation-related metrics are frequently included as part of these reports. States vary in the level of performance detail they provide in external reports. Most state

DOTs limit external reporting of public transportation measures to a handful of measures, but others, such as Washington State’s public transportation division, provide a dedicated annual compendium of public transportation data.

Measuring Progress Toward Strategic Goals

One use of performance measures among public transportation divisions is for tracking progress toward public transportation-related strategic goals. Thirty state DOTs responding to the survey indicated that they have statewide public transportation goals in place and 15 state DOTs indicated they are using performance measures to track progress toward those goals. Common goals address ridership growth and improved public transportation access. At Florida DOT, for example, the agency uses performance measures to report on goals established in its 2025 Florida Transportation Plan (FTP). The FTP’s “mobility and economic competitiveness” goal seeks to create “a stronger economy through enhanced mobility for people and freight.” In terms of transit, this is measured via growth in statewide transit ridership with a target of ensuring ridership grows at twice the rate of population. Despite clear interest in measuring performance related to strategic public transportation goals, the case studies suggest that states are still learning how to connect day-to-day decision-making with strategic goals.

Supporting Statewide Public Transportation Planning Decisions

Use of performance data as a decision-support tool during planning is an emerging use among DOTs. As the logical focal point for addressing statewide rural public transportation planning, a DOT’s public transportation division is uniquely positioned to use performance measures to inform short- and long-range planning decisions, drawing on information related to geographic distribution of public transportation service, service cost efficiency, quantity of service, quality of service, ridership growth, and condition of assets. Within the survey, 12 state DOTs indicated that they are using public transportation performance measures to support decisions on infrastructure investments. Still, the case studies suggest that several states have found it challenging to apply performance measures to inform investment decision-making, and note that decision-making by public transportation funding

recipients is usually autonomous to statewide planning priorities.

Supporting Funding Allocation

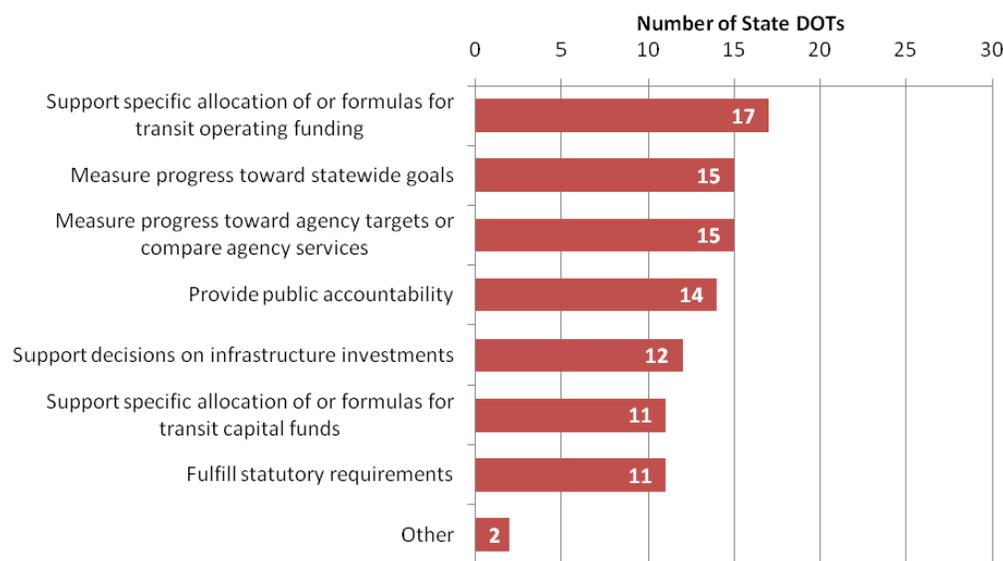
Many state DOTs are using public transportation performance measures to support funding decisions in some way (to support decisions on infrastructure investments or to support specific allocation of or formulas for distributing capital or operating funds). Funding decisions are often prescribed via formulas that are based on measures such as ridership or are allocated using a competitive grant selection process that often factors in system performance or cost efficiency. In our survey, 17 state DOTs indicated they are using transit performance measures to support specific allocation of or formulas for transit operating funding, and 11 indicated they are using performance measures to support specific allocation of or formulas for transit capital funding.

In summary, most state DOTs that are using public transportation performance measures indicate they are using them for multiple purposes. Figure 5 shows the share of state DOTs reporting different uses of public transportation performance measures, based on our Web survey. Based on the survey, the most frequent use of public transportation performance measures is to support allocation of or formulas for public transportation operating funding (17 state DOTs, or 61 percent of the 28 answering this question). This is followed closely by measuring progress toward statewide goals and measuring progress toward agency targets or comparing agency services (both 15 state DOTs, or 54 percent).

Overall, the picture that emerges from the literature review, survey, and case studies is that the majority of public transportation divisions are using performance measures (30 of 43 responding). These measures are being used in many cases to support allocation of funding, and to support agency decision-making. Some are leading the practice in terms of use of these measures to influence decision-making.

Challenges to Greater Use of Performance Measures

Many DOT public transportation divisions have begun to use performance measures, but some serious challenges, described in the following paragraphs, still stand in the way of widespread use leading to meaningful application.



Note: Data in this chart is from the Web survey, based on 28 state DOT respondents. Respondents could select multiple responses.

Figure 5 Number of state DOTs reporting different uses of public transportation performance measures.

Constraints on the Ability of Local Public Transportation Agencies to Collect Raw Data

According to our survey, the primary challenge faced in using performance measures is data availability (reported by 66 percent of respondents who have public transportation performance measures). A recent Government Accountability Office (GAO) report found that many state DOTs consider public transportation data and other multimodal data collection to be a considerable challenge (GAO 2010). Public transportation divisions depend on their local public transportation agency partners to collect much of the performance data they need. Our case studies suggest that rural public transportation providers face special challenges in collecting timely and accurate data. Many small public transportation providers lack the dedicated staff, expertise, and technical resources to conduct on-going data gathering. As a result, data quality may be compromised. This threatens the credibility of performance measures depending on this data. Some states are working with local-level partners to advance data collection practices through a combination of training, technical resources, and financial support.

Fractured Nature of Public Transportation Decision-Making

Strong local autonomy in public transportation decision-making can be a barrier to greater use of per-

formance management in this area by state DOTs. In many states, local-level decision-making by individual public transportation providers is favored over coordinated statewide planning. As a result, some state DOT public transportation divisions see limited value in using performance measures because they do not play a strong role in influencing results. Greater collaboration between state and local agencies working together to solve statewide concerns may help to create an environment where performance values become more useful.

Difficulty in Establishing Appropriate Performance Measures

There are a number of different perspectives or ways to measure performance in the design and delivery of public transportation services. Although efficient and effective operations is a goal for virtually all transit systems, there are typically also a range of other goals, such as increased ridership, market share, service coverage, or share of user financial contribution. Traditional internal cost and efficiency measures such as cost per mile or cost per trip may be useful for analyzing daily operational efficiency, but are not effective in evaluating transit's contributions to local, regional, or state goals.

Moreover, a challenge in establishing performance measures to support investment decisions is that typical agency and community goals may be

contradictory. For example, expanding service coverage may increase ridership (which may be a state or community goal) but cost efficiency considerations (an agency goal) may require reductions in service coverage and frequency. For rural transit systems in particular, non-traditional transit measures that incorporate social values or quality of life measurements (e.g., number of people transported to meal sites to receive nutritious food, local residents who move from welfare to employment because of access to transit) are often important in order to appropriately account for the value their services provide (Radow and Winters). For benchmarking and comparative analysis, it is also important to select appropriate peer agencies, given the wide diversity of land-use patterns, population characteristics, and local conditions experienced in different parts of individual states.

Within state DOTs, public transportation performance measures currently tend to focus on ridership and cost efficiency measures, largely building on data collected for the NTD. These data are more readily available than many other types of measures and address two important elements of well-managed public transportation programs. Measures addressing issues like service quality, on-time performance, customer satisfaction, or environmental benefits, which often tie to statewide goals, are less commonly used, in part due to limited data or methods to analyze these performance metrics. According to the survey, over half the states without public transportation performance measures indicated that data availability and lack of technical resources were challenges that have prevented the agency from using performance measures.

DOT Staff and Funding Shortages

In the current economic climate, public transportation divisions are struggling to provide basic business functions, such as technical assistance or grants management. Taking the time and resources to implement an effective performance measurement system can be challenging in this environment. As a recent GAO report on statewide transportation planning highlights, this issue is exacerbated by the difficulty many DOTs report having when seeking to secure sufficient resources for performance management systems in general. According to the survey, those state DOTs without public transportation performance measures perceived staffing shortages to be the largest impediment to the use of performance measures (69 percent

of those without performance measures, or 9 state DOT respondents).

CHAPTER 4 BEST PRACTICES

Building on the information collected during interviews conducted by the research team, this section presents some current best practices related to the development and use of performance measures.

Developing Performance Measures

Performance measures are generally developed as part of the LRSTP process or through a broader state effort to transition to performance-based planning. In the interviews, a mix of internally-driven process and ones more participatory in nature were found. Because the development of performance measures is generally part of a larger DOT process and because the broader literature on performance-based planning provides guidance on how to effectively develop performance measures, the focus here is not on the processes used. The focus is instead on what factors and sources influenced the selection of performance measures for public transportation.

Characteristics of Good Performance Measures

Trackable Over Time. Several of the state DOTs we interviewed emphasized the importance of picking measures that could be consistently used over many years. Oregon DOT, for example, considers it very important to be able to track measures over time. The process for changing officially adopted performance measures in Oregon takes about a year; consequently, consistency in measures is highly desired from an administrative perspective. Moreover, Oregon DOT cited the value of consistently tracked data for making predictions and looking at impacts.

Storytelling Potential. A related consideration for DOTs is selecting performance measures that are meaningful and can help weave a storyline around public transportation performance in the state. Florida DOT, for example, emphasized the importance of storytelling when selecting and presenting measures. According to Florida DOT staff, performance measures should be an effective communication tool for the DOT overall and for reporting to the Florida Transportation Commission and the state legislature. Oregon DOT similarly looks for measures to be

meaningful and convincing, particularly over the long term.

Meaningful for Types of Service Measured. The type of services being measured affects what measures will be considered meaningful. For rural public transportation systems, in particular, meaningful performance measures often mean that DOTs must look beyond internal cost-efficiency measures to more non-traditional measures that incorporate social values or quality of life measurements (Radow and Winters). Mn/DOT specifically chose not to use ridership as one of its primary performance measures for rural public transportation because the DOT felt it would not meet the needs of their agencies. Instead, Mn/DOT's performance goals are tied to service hours. This measure better reflects the availability of public transportation service, which is the state legislature's primary concern for rural public transportation. In New Mexico, NMDOT eliminated fare revenue per passenger as a measure because it was not seen as a sufficiently meaningful measure for the types of service now being provided in the state. Another way to ensure that performance measures are meaningful is to only make comparisons within peer groups of public transportation systems, such as rural demand response and small urban systems. Mn/DOT, for example, has a breakdown of service types that it uses when making comparisons.

Relation to Statewide Public Transportation Goals. In performance-based planning, performance measures should track progress toward an agency's stated goals and objectives. Goals and objectives are therefore an important factor in performance measure selection. In our survey, three quarters of those DOTs with public transportation performance measures indicated they had statewide public transportation goals. For instance:

- FDOT uses performance measures to track progress towards a statewide public transportation goal of increasing ridership at twice the rate of population growth. FDOT then uses its performance measures as tools and guides to focus FDOT's overall objectives in improving public transportation system performance in meeting the state's mobility goals.
- Virginia takes a business-like approach to the state's management and so Virginia DRPT, along with all state agencies, has developed a

strategic plan with six agency goals that are tied to measurable objectives that are tracked. The goal of helping to manage traffic congestion, for example, is measured by tracking ridership growth and growth in rail freight. These measures are in addition to the performance measures DRPT tracks annually for the individual public transportation systems in the state.

- In Minnesota and Oregon, the state public transportation goals have performance measures embedded in them. Mn/DOT has a legislatively set goal of meeting 80 percent of state public transportation needs in Minnesota by 2015, as measured by total service hours. In 2010, Mn/DOT reports that 1.03 million hours of service were provided versus a target of 1.42 million hours of service. Oregon DOT set goals to increase public transportation usage and availability in the state by specific percentages using certain measures, such as the percent of Oregonians who commute to work during peak hours by means other than Single Occupancy Vehicles (SOVs). The DOT has established a target of 30 percent non-SOV peak hour commute share.

Available Data. In many cases, the measures selected are heavily influenced by the availability of public transportation data. As most states do not directly operate public transportation services, they rely on the data available from local public transportation providers. Some states, like Florida and Kansas, rely on the data collected for the NTD; other states, like Minnesota and Virginia, have more extensive data reporting requirements for their public transportation providers. The available data will vary from urban to rural systems and unless measures are targeted to urban and rural systems separately, then performance measures must rely on data available from all public transportation providers.

Sources Consulted

In developing performance measures, state DOTs rely on various resources. These include the following:

Other State DOTs. State DOTs often look to one another for lessons learned. Several DOTs we interviewed mentioned that they look to what other states have done, particularly states they view as peers

with similar transportation demands or population levels or states with a reputation for advanced performance-based planning. Florida DOT, for example, noted that they look at what other states are doing in terms of data collection and the use of performance measures to tell a story about public transportation in their state. Similarly, Mn/DOT explained that they look to other states, based on similarities to Minnesota, with a reputation for good performance measurement and efforts to tie funding to reporting and tracking.

Public Transportation Providers. State DOTs also look at how their state’s public transportation providers are measuring their own performance, separately from the state’s requirements. Oregon DOT, for example, looks to the state’s largest public transportation provider, Tri-Met in the Portland region, for ideas on future public transportation performance measures such as a public transportation level of service measure. The challenge is applying a measure that is used by a single agency in a way that it can be applied statewide to a variety of contexts, operators, and modes. At the same time, using an already established measure can help with data collection; at least one provider is already collecting the data and can therefore provide guidance for other providers on how to collect that data.

National-Level Documentation. A primary source reported by interviewees is national-level documentation from the Transportation Research Board, the U.S. DOT, or other national organizations such as the AASHTO. Several state DOT representatives said they had consulted *TCRP Report 88* and similar reports that identify a broad range of performance measures and that describe best practices and the current state of the practice (Kittelsohn & Associates 2003). Consulting these reports helps DOTs access a variety of best practices.

Performance Measures for Internal Use

In states where performance measures are a legislative requirement, the process of setting and later revising performance measures can be lengthy. In some cases, this appears to have led to the development of performance measures that are for internal use by the public transportation division within the state DOT. These additional measures do not have to go through the state legislature or overall DOT adoption process and can be more easily changed.

DOT leadership and state transportation commissions are generally informed of the measures and their use, even if the measures are not part of the more formal performance measurement program. In several instances, these “internal” performance measures are the ones more directly linked to funding allocation. The development of these additional measures may allow DOTs to experiment more with new measures and to follow developing trends in the public transportation field (or in data methods).

Both Mn/DOT and NMDOT have performance measures used in funding distribution that are different from the required performance measures reported in response to legislative requirements. These additional measures may still be reported in other documentation. In Minnesota, the development of an internal service-hour performance measure was later formally adopted by the legislature. Oregon DOT is hoping to take a similar approach with a new funding program the state is developing for non-highway modes. The program is still in development, but it is expected that there will be new criteria for funding that goes beyond current performance measures. Oregon DOT would like to eventually turn the program’s application criteria into performance measures.

Data Collection and Analysis

Data availability is a limiting factor for performance measurement in many states, and in most cases, DOTs rely on information collected by public transportation agencies. For rural and small urban public transportation providers, the state is required to provide data to the NTD. This information can be used as the basis for public transportation performance measures, but expanding beyond the most basic public transportation performance measures can be difficult if more data are not available. Some DOTs are finding ways to work around these constraints.

Data Sources

Access to Public Transportation Data. Florida DOT relies on NTD data for its performance measures. Its 29 urban operators all report directly to the NTD. To facilitate access to this information, FDOT developed the Florida Transit Information System (FTIS) in 2000 and made it available on the Internet

in 2005. The system includes several components that support both state and local public transportation planning:

- **Integrated National Transit Database Analysis System:** this tool allows the retrieval and analysis of the NTD data. It can be used to access NTD data for any geography in the United States.
- **Florida Transit Geographic Information System:** provides planning-related Geographic Information System (GIS) for all public transportation systems in the state, including public transportation routes and stops, census information, additional employment data.
- **Automated Transit Stop Inventory Model:** A “system for the collection, analysis, and maintenance of transit stop inventories.” The system works with a handheld mobile device with Global Positioning System (GPS) capabilities to capture information on public transportation stops out in the field and build those into a GIS dataset. This tool can be used by public transportation systems outside Florida.

Support for Uniform Public Transportation Provider Data Collection. To make public transportation data comparable and useful at a statewide level, the information must be collected in a uniform manner by all public transportation providers. Both FDOT and Virginia DRPT have built systems to help their public transportation providers collect uniform system data beyond the basic NTD data. In Florida, the transit stop inventory component of FTIS assists public transportation providers with a data collection tool for public transportation stop data, which can be used to build a statewide database of public transportation stops. Virginia DRPT wanted more asset performance data but knew it needed to provide support for public transportation providers to collect and maintain the data. In response, DRPT built an asset management system that the public transportation providers help to keep current through reporting.

Direct Data Collection. As part of its commuter trip reduction program, WSDOT conducts periodic commuter surveys that monitor mode share and vehicle miles traveled. These are important elements of public transportation planning in Washington State and inform both state and local planning.

Partnerships

DOTs can also rely on other organizations in their state to assist with data collection and analysis. State public transportation associations can be a good channel for standardizing public transportation data collection. For example, since 2008, WSDOT has worked with the Washington State Transit Association, which represents the majority of public transportation systems in the state, to develop a standard template for collecting and reporting data. This template has helped improve consistency in how information is reported and reduce “dueling” information from different sources. FDOT similarly partners with the Florida Public Transportation Association on issues including data collection and dissemination.

Many states can also partner with state university resources, such as the federally supported University Transportation Centers located throughout the country. For example, FDOT has a strong partnership with the Center for Urban Transportation Research (CUTR) at the University of South Florida. CUTR provides FDOT with data interpretation as needed, as well as research and policy support. FDOT partnered with Florida International University for the development of FTIS.

Cooperation and Coordination with Public Transportation Providers

Since most state DOTs do not directly operate transit services, cooperation and coordination with public transportation providers is critical to having a robust statewide performance measure program for public transportation.

Public Transportation Provider Performance Measurement

While most state public transportation performance measurement occurs at the aggregate, statewide level, several states also encourage or require their individual public transportation providers to monitor their own performance. These measures do not have to be linked to the state’s performance measures, but instead seek to instill a similar performance-based approach to funding and service provision at the local level. In one case of this, Mn/DOT has been encouraging its state public transportation providers to adopt and track performance measures since the development of their first public transportation plan in 2001. That public transportation plan identified a menu of

performance measures that providers could adopt. Mn/DOT hoped providers would adopt those that were most relevant to their services. Mn/DOT has been tracking how many public transportation providers are adopting such service standards and after finding that public transportation providers were not adopting service standards, Mn/DOT started to make standard setting look more like a state requirement.

Monitoring Systems

State DOTs may also develop systems that support both local and state level performance monitoring. For example, Virginia DRPT has developed an asset management inventory system that public transportation providers are required to keep up-to-date. The database allows the state to forecast asset needs and know the statewide state of good repair (a statewide performance measure). At the same time, local agencies are also more aware of their asset needs. The database can also feed into the new administrative requirement that public transportation providers develop and adopt 6-year transit development plans (TDPs). As with the asset management inventory, Virginia DRPT is helping providers to comply with the requirements, in this case through technical assistance and a model plan for providers to emulate.

Transit Development Plans

Most states either require or encourage their public transportation providers to prepare a TDP, a strategic guide for public transportation over the next few years. TDPs are usually prepared for a three- to five-year time horizon and updated annually or biennially per legislative requirement. TDPs document current service, provide short-term capital and operating budgets, and may include needs assessments. TDPs can help track public transportation agency performance, particularly with regard to asset management, through the information provided in the regular updates to the plans.

In Washington State, public transportation agencies are required to prepare a 6-year TDP for that calendar year and the ensuing five. TDPs should be consistent with the comprehensive plans of local jurisdictions and meet state and local long-range priorities for public transportation, capital improvements, significant operating changes planned for the system, and how the municipality intends to fund program needs. TDPs are required by WSDOT by April of each year and must show how the provider

is meeting recommendations in the state transportation policy plan on preservation, safety, economic vitality, mobility, and environmental quality and health. TDPs also include reporting on various performance measures, such as revenue vehicle hours, passenger trips, collisions, and energy consumed.

In Florida, the Public Transit Block Grant Program provides a source of state funding for public transportation and requires providers to develop and adopt a 5-year TDP. The TDP includes an evaluation of existing services, a review of demographic and travel behavior characteristics of the service area, a summary of local public transportation policies, the development of proposed public transportation enhancements, and the preparation of a 5-year implementation plan that provides guidance for the local agency during the 5-year planning horizon. TDP updates must be submitted to FDOT in July of every year. A major update is required every 3 years and minor updates are required in the interim years.

Interaction With Public Transportation Providers

States have developed mechanisms for interacting with their public transportation providers. Some states, such as Florida, take a more decentralized approach to DOT management with a smaller central office and well-staffed regional offices that maintain relationships with public transportation providers in their area. In other states, such as Kansas, the central office takes more of a lead, but there is still regional coordination. Public transportation providers in Kansas are statutorily required to be a member of a Coordinated Transit District (CTD). The CTDs are intended to enhance coordination among providers within their local area and to help in the management of state and federal public transportation funds. However, due largely to a shortage of funding and authority, the CTDs are not effective as they had been intended. KDOT is currently undertaking a strategic initiative to strengthen coordination within and among CTDs with the goal of improving the efficiency of service provision and closing gaps in service availability.

Public Sector Accountability Through Reporting

Greater accountability to citizens and elected representatives is one of the key reasons that DOTs use performance measures. Several of the states interviewed for this project have successfully incor-

porated public transportation-related performance measures into their external reporting documents, either as part of broader performance reports or as stand-alone public transportation-focused documents. Their practices provide insight on how DOTs are bringing accountability to public transportation divisions.

Inclusion of Public Transportation Measures in Agency-Wide Performance Reports

The most common way that state DOTs provide accountability for public transportation performance is through use of performance measures in broader DOT reports. These are intended chiefly for external audiences and use a handful of high-level measures. Several of the DOTs we profiled in the case studies or reviewed during the literature search produce these types of performance reports:

Minnesota. Once a year, Mn/DOT publishes the *Annual Minnesota Transportation Performance Report*. The report includes 18 high-level categories of measures that address agency-wide performance, including two public transportation measures: (1) express ridership for the Twin Cities (“express ridership” includes ridership on all “express” buses, light rail, vanpools and commuter rail) and (2) statewide hours of bus service. For each measure, including the public transportation measures, the report lays out the annual performance trend and what Mn/DOT is doing to affect it. For example, Mn/DOT reports that transit ridership is growing rapidly. Mn/DOT identifies two groups of strategies that support this growth: transit system expansion and having transit service more competitive with auto travel.

Missouri. Every quarter, Missouri DOT (MoDOT) publishes *The Tracker*, which is a compendium of performance measures in 18 focus areas that includes a section on Easily Accessible Modal Choices. Public transportation measures included in Missouri’s *The Tracker* include public transportation passenger ridership, average number of days per week rural public transportation service available, number of intercity bus stops, rail (Amtrak) ridership, funding for multimodal options, and percent of customers satisfied with multimodal options. Alongside clear presentation of performance information, *The Tracker* describes for each measure what MoDOT is doing to improve performance.

New Mexico. NMDOT publishes a quarterly performance report called *Good to Great* that includes several dozen performance measures characterized by NMDOT as “primary indicators of NMDOT’s overall results.” *Good to Great* includes ridership performance for Rail Runner Express commuter rail service in the Santa Fe/Albuquerque travel corridor.

The high-level public transportation-related performance measures used by these DOTs in their performance reports are intended as broad indicators of statewide progress on strategic public transportation goals. Well-designed graphics are a key component of performance data presentation in each state’s report. Likewise, each state’s report is accompanied by a narrative story that explains why the measure is important, what the data trends mean, and what the agency is doing to address them. Each state has a slightly different approach to presenting performance information: NMDOT establishes targets for its measures based on past performance; MoDOT benchmarks against other states where possible; and Mn/DOT attempts to predict future performance.

Some states are supplementing traditional performance reports like *the Tracker* or *Good to Great* with online “dashboards” to extend performance accountability beyond a single paper or electronic performance report. Performance metrics used in a state DOT’s dashboard are often a narrow sub-set of those described in its performance reports, but they are sometimes updated more frequently or they allow viewers to “drill down” into data according to selected parameters such as timeframe or geographic location. Safety and congestion measures are good candidates for inclusion in online dashboards because performance data can be updated on a monthly or more frequent basis. Examples of DOTs with well-established dashboards include Virginia and North Carolina.

Public Transportation-Specific Reporting

Several states produce annual summary reports of public transportation performance. Washington State produces a report dedicated to public transportation called the *Washington State Summary of Public Transportation* (“*Transit Summary*”). The *Transit Summary* is a yearly report prepared by WSDOT in collaboration with the state’s public transportation providers that summarizes the status of public transportation across Washington State. It provides a considerable amount of data to public

transportation providers, legislative transportation committees, and local and regional governments. Preparation of the *Transit Summary* is required under state law and it serves primarily as a resource for state legislators and individual public transportation providers on public transportation system characteristics and performance in Washington State. Performance measures included in the *Transit Summary* include the following:

- Fares/Operating Cost;
- Operating Cost/Passenger Trip;
- Operating Cost/Revenue Vehicle Mile;
- Operating Cost/Revenue Vehicle Hour;
- Operating Cost/Total Vehicle Hour;
- Revenue Vehicle Hours/Total Vehicle Hour;
- Revenue Vehicle Hours/FTE;
- Revenue Vehicle Miles/Revenue Vehicle Hour;
- Passenger Trips/Revenue Vehicle Hour; and
- Passenger Trips/Revenue Vehicle Mile.

The *Transit Summary* is devoted to 5- to 10-page profiles of the state's 28 public transportation providers' operating characteristics, services, and achievements. The body of the *Transit Summary* is over 200 pages long and it presents highly detailed information about each agency. Washington State is currently in the process of conducting an assessment to examine the content and purpose of *Transit Summary*, which is likely to lead to changes in the content of the report.

Using Performance Measures to Affect Funding Decisions

Funding Distribution Processes

In the survey, over three-quarters of state DOTs with public transportation performance measures said that their performance measures were supporting public transportation funding distribution or decisions for transit operating funding or capital investments. A slightly smaller number of states said that their performance measures had impacted their investments. This may be in part because some states have been using at least basic performance measures for funding distribution for many years, but are only beginning to take a performance management approach that ties funding to performance in attaining specific objectives. At the same time, a couple of states noted that their use of performance measures was too recent to have impacted investment decisions yet.

Focusing on capital and operating funds, the report titled *TCRP Synthesis 56: Performance-Based Measures in Transit Fund Allocation* concludes that state DOT use of public transportation performance measures in funding distribution remained relatively stable over the previous decade (Stanley and Hendren 2004). That report finds that the performance measures used often address ridership, availability, and asset management, and less frequently address internal (cost and efficiency) measures. Funding distribution formulas also often account for population and other service area characteristics.

The interviews with state DOTs found that in many cases there has been a relatively recent shift in how funding is distributed. Most states cited a shortage of funding as at least part of the impetus for the new or revamped approach. This differs from the findings of the *TCRP Synthesis 56*, which notes that state DOTs were reluctant to incorporate more public transportation internal (cost and efficiency) performance measures in their funding decisions because of the "inequity stemming from the zero-sum nature of performance-based allocations under constrained resources." States have found several ways to address this concern, ranging from consideration of other factors beyond performance (such as population or past funding level) to using performance measures to determine the percentage increase in funding, not the entire funding amount.

The following paragraphs describe several good practices for incorporating transportation performance measures into funding distribution:

Minnesota. Mn/DOT allocates state and federal public transportation funding based on public transportation system performance. Public transportation providers annually submit their line-item budgets with costs both per route and system-wide. Mn/DOT evaluates agencies against others in their peer group, taking the following performance measures into account:

- Passengers per service hour (the primary measure);
- Cost per service hour;
- Cost per passenger ride; and
- Farebox recovery ratio.

Mn/DOT also uses this information as an opportunity to provide guidance to underperforming systems on how to improve their services. Mn/DOT can see which lines are underperforming

from the application information and make recommendations to the providers, such as suggesting that the line be restructured and only as a last resort, discontinued.

Virginia. Virginia DRPT has linked its project prioritization to the department's priorities, as identified in its goals and performance measures. In fiscal year 2011, the department prioritized achievement of a state of good repair for public transportation systems. The department's average vehicle age performance measure, coupled with its new asset management inventory system for public transportation providers, has helped to focus agency attention on system needs. By knowing upcoming asset needs, the department can take measures to spread out expected costs or seek more money. For example, in fiscal year 2011 Virginia DRPT offered a larger state match ratio for projects related to state of good repair.

New Mexico. As of fiscal year 2010, NMDOT is using a set of internal indicators to develop a distribution index that ranks public transportation providers applying for FTA funding under Section 5311. The providers at the top end of the index rankings are eligible for larger funding increases than those at the lower end. NMDOT developed this index when funding availability no longer met all of the requests they were receiving from public transportation providers. The index is seen as a defensible, data-based means of distributing limited funds, and it also allows the DOT to reward those providers that perform better. The index measures can be found in NMDOT's *Statewide Transit Application/RPO Prioritization and Budget Award Recommendation Meeting Agenda* (2010). They are the following:

- Section 5311 ridership from the previous year;
- Ratio of percent of total state Section 5311 ridership to percent of state total Administration/Operations (A/O) award;
- Cost per passenger trip;
- Administration/operations ratio;
- Regional Planning Organization Prioritization;
- Percent of previous year A/O federal award expended; and
- A/O cost per vehicle mile.

Florida. FDOT distributes public transportation funding both by formula and by discretion, and performance measures inform both methods. FDOT's formula considers the following:

- Ridership;
- Revenue miles of service; and
- Ratio of public transportation ridership growth rate to the population growth rate.

FDOT also uses cost-related performance measures to inform its discretionary public transportation funding decisions, though only informally at this point. The DOT noted the difficulty of making comparisons across its different public transportation agencies as part of the reason the performance measures are not more formally included in that decision process.

Iowa. Iowa DOT uses ridership and revenue miles from the previous year in a formula to allocate Section 5310 and 5311 funds. One-quarter of the funding is distributed to small urban (under 50,000 population) systems and the other three-quarters go to regional systems. For small urban systems, individual allocations are determined on the basis of:

- Percentage of total small urban ridership accomplished by that system (50 percent), and
- Percentage of total small urban revenue miles provided by the individual system (50 percent).

Individual allocations for regional systems are based on:

- System's percentage contribution to total regional transit ridership (40 percent), and
- System's percentage contribution to total regional revenue miles (60 percent).

State Transit Assistance funding is also distributed by a formula using ridership and revenue miles, along with other statistics.

Supporting State Funding Requests

State DOTs can also use the information collected through their performance measures to help make the case to their state legislatures for increased public transportation funding. Virginia DRPT's asset management inventory system and public transportation development plan requirement helps both public transportation providers and the department to manage better. Virginia DRPT is aware of upcoming system needs and future initiatives and, in response to those, can go to the legislature and request increased funding to address gaps in the short and long term. Oregon DOT similarly reports that information on public transportation vehicle condition has supported

their requests for funds to increase vehicle replacement.

CHAPTER 5 CASE STUDIES

Florida Department of Transportation

State Overview

FDOT is decentralized in accordance with legislative mandates, with 10 staff members in its central Transit Office. Despite its decentralization, FDOT uses statewide public transportation performance measures to inform state policy and public transportation investments. Performance measurement is mandated by the Florida Legislature: the DOT is required to “Develop, publish, and administer state measures concerning system management, performance, productivity, cost distribution, and safety of governmentally owned public transportation systems and privately owned or operated systems financed wholly or in part by state funding.”

The DOT is divided into seven districts, each of which has a transit office staffed by 5–10 people, although the structure of these district offices varies. These districts serve as the liaison between the state and all local public transportation agencies, which together operate the 29 urban fixed route systems across the state. FDOT provides public transportation agencies with planning assistance training, vehicle procurement assistance, and public transportation safety guidance. FDOT provides some matching money for federal funds, but public transportation agencies fund themselves primarily through sales taxes, local funds, and their operating revenue. The Florida Transportation Commission, appointed by the governor, is legislatively mandated to oversee FDOT.

FDOT’s performance measures come from three primary sources: (1) the *2025 Florida Transportation Plan*, a statewide policy overview; (2) the *Long-range Program Plan 2010–2015*, which provides shorter-term projects and goals; and (3) the *FDOT Annual Program Objectives and Accomplishments*, an internal report. These include:

From the *Florida Transportation Plan*, tied to the statewide transportation goals:

- Annual number of Florida’s Fixed-Route Transit Incidents.
- Number of one-way public passenger trips for both fixed-route and the transportation disadvantaged.

- Operating cost per total passenger trip for both fixed-route and the transportation disadvantaged.
- Ratio of statewide transit ridership growth rate to population growth rate.

From the *Long-range Program Plan*:

- Rate of return on transit new starts funding.

Internal objectives, used in *FDOT Annual Program Objectives and Accomplishments*:

- Actual transit funding program commitments to planning program levels.
- Transit operating revenues to cost.

In addition, The Florida Transportation Commission tracks state public transportation performance, using the ratio of statewide public transportation ridership growth rate to population growth rate (from the *Florida Transportation Plan*) and secondarily tracks the annual growth rate in public transportation revenue miles. Two of the measures considered most useful by the department are the ratio of the public transportation ridership growth rate to population growth rate and the ratio of public transportation operating revenues to cost of operation.

Best/Notable Practices

Funding Decisions. Performance measures related to cost efficiency and project costs (particularly the rate of return on New Starts funding) are informally used in FDOT funding decisions, along with qualitative assessments, such as the community support, the public transportation agency’s past performance, a project’s overall viability, and its potential ability to compete with national projects. As with several states, FDOT also uses performance measures in a state block grant formula, which takes ridership, revenue miles of service, and the ratio of the public transportation ridership growth rate to the population growth rate into account.

Goals and Reporting. In addition to applying performance measures for funding purposes, performance measures are used as tools and guides to focus FDOT’s overall objectives in improving public transportation system performance in meeting the state’s mobility goals. They are also used to illustrate the performance and accomplishments of FDOT to the general public, management, elected officials, and policy makers.

Data Collection. FDOT uses NTD data in its performance measures and has developed a set of tools called the Florida Transit Information System (FTIS)—for extracting data from the NTD in a more usable format. FTIS is not restricted to extracting NTD data just for Florida, so it can be used by agencies nationwide.

Outreach and Partnerships. The Florida Transportation Plan is multimodal and is the result of local outreach and participation from stakeholders across all modes. FDOT coordinates with a steering committee involving public transportation agencies, local government, MPO representatives, and economic development groups, among others. This steering committee is broken into subcommittees to handle specific topics, and public workshops are held to seek input. FDOT has a strong partnership with CUTR at the University of South Florida. CUTR houses the National Center for Transit Research and the National Bus Rapid Transit Institute. CUTR provides FDOT with additional data interpretation and policy support. Additionally, FDOT is an ex-officio member of the Florida Public Transportation Association, and the two entities have a strong, on-going, collaborative relationship around information sharing and distribution and coordination on legislative and other issues.

Challenges

Data Updates and Reporting. Like other states, FDOT has difficulty collecting the data it needs at the times needed for its legislatively mandated annual reports to the Florida Transportation Commission. The reporting schedule for the NTD does not align with the FDOT's schedule or with the schedule of Florida's public transportation agencies. FDOT works to accurately interpret and understand its performance measure data each year.

Kansas Department of Transportation

State Overview

As a state DOT just beginning to examine possibilities of managing for performance, KDOT represents a baseline case for performance measurement within state DOTs. KDOT focuses primarily on meeting rural public transportation needs; it provides limited state funding and oversight to the state's five urban public transportation systems. KDOT has broad responsibility for directing state

and federal funding to the state's 175 rural public transportation providers who depend on these two sources of funding to maintain service. To carry out its responsibilities, KDOT's Public Transportation Program is primarily engaged in ensuring distribution of funds to operators and in oversight of transportation providers' operations, training, and maintenance practices, and coordination of federal reporting requirements.

KDOT produces an annual report measuring performance, although it does not include public transportation performance measures. KDOT and the state's rural public transportation providers work together to collect data elements required as a condition of receiving federal funding and report it in the FTA's NTD. Data needed as part of these reporting requirements include the following:

- Total annual revenue;
- Sources of revenue;
- Total annual operating costs;
- Total annual capital costs;
- Fleet size and type, and related facilities;
- Revenue vehicle miles; and
- Ridership.

Best/Notable Practices

Initiatives to Advance Performance Management. KDOT plans to hire a full-time staff person dedicated to performance measurement, which will likely increase the agency's ability to incorporate performance data into its management, including public transportation performance data. In order to adequately capture useful information in the future, KDOT would like to focus on measuring county-wide service extent, quality of service, on-time performance, links to economic development, and vehicle operation characteristics by county.

Challenges

Lack of Resources. The diffuse nature of rural public transportation service provision in Kansas makes effective performance measurement a challenge. About 180 independent, small operators provide rural public transportation service to residents in 90 of Kansas's 106 counties. Individual providers often lack resources and expertise to collect reliable performance data. The modest number of Public Transportation Program staff at KDOT constrains the agency's ability to coordinate reporting among so many providers.

Data Collection and Use. At present, KDOT limits data reporting to meeting NTD requirements. Although the NTD’s rural public transportation data requirements went into effect in 2006, KDOT is still working out ways to generate reliable and accurate data, which can be hampered by a lack of resources, expertise, and available staff. From KDOT’s perspective, the current focus of most public transportation data and performance measurement does not fit the department’s needs. This is because the value provided by rural public transportation service is not adequately captured by the same metrics used for urban/suburban systems. Similarly, data reported to the NTD is not relevant to KDOT’s strategic goals for rural public transportation service.

Minnesota Department of Transportation

State Overview

Mn/DOT is responsible for providing financial and technical assistance to the 67 public transportation systems in “Greater Minnesota,” parts of the state outside the Twin Cities (Minneapolis/St. Paul) metropolitan area. Mn/DOT distributes approximately \$28 million from the state’s general fund and the state’s motor vehicle sales tax to public transportation providers in Greater Minnesota. Public transportation agencies in the Twin Cities are overseen by the regional government (the Metropolitan Council) and receive funding from the sales tax through the Council, but no general fund revenue.

Mn/DOT’s efforts to plan for and track state public transportation service have been documented in the *Greater Minnesota Transit Plan, 2010–2030*; the *Statewide Transportation Policy Plan, 2009–2028*; and the *Annual Minnesota Transportation Performance Report*. Additionally, Mn/DOT is currently completing a *Greater Minnesota Transit Investment Plan*, as directed by the Minnesota Legislature.

Prior to 2001, Mn/DOT’s performance measurement focused on providing public transportation in every county. However, in 2001, when the state had nearly met this goal, Mn/DOT began its current performance measurement framework by instead setting a goal to meet 80 percent of public transportation need, as measured by service hours, by 2015. This new model allowed for the state to better measure the level of service provided rather than just the existence of service. The state legislature formalized this measure and set the target at 80 percent of pub-

lic transportation need by 2015 and 90 percent by 2025. The legislature also required Mn/DOT to develop a public transportation investment plan to show how Mn/DOT will meet these goals. That plan is currently under development.

The state *Policy Plan* identified two to four performance measures per mode. For public transportation in Greater Minnesota, these are the following:

- Bus service hours: “total number of public transit bus services hours provided compared to the total number of hours needed to meet transit demand”;
- Public transportation coverage: “number of counties in Greater Minnesota with county-wide transit service”;
- Access to intercity bus service: “percent of [defined] Regional Trade Centers with scheduled intercity bus service”;
- Remaining service life for public transportation fleets: “percent of Greater Minnesota transit fleet with a remaining life within the minimum normal service life.”

The Office of Transit also tracks several related performance indicators that are used for funding distribution and monitoring public transportation service providers. A primary indicator is passengers per service hour. In recent years, the department has begun to put pressure on individual public transportation agencies to implement their own service standards.

Best/Notable Practices

Funding Distribution. Unlike many other state DOTs, Mn/DOT does not distribute funding by formula. Instead, its allocations are considered to be performance based, with agencies submitting their line item budgets to the state annually. Mn/DOT evaluates agencies against others in their peer group, considering their performance as measured by:

- Passengers per service hour,
- Cost per service hour,
- Cost per passenger ride, and
- Farebox recovery ratio.

Mn/DOT uses this information to guide investments as well as to support individual public transportation providers. In situations where an agency (or a particular route) is found to be underperforming, Mn/DOT provides guidance on how to improve. Guidance ranges from restructuring the route to, as a last resort, discontinuing the service.

Transparency. Mn/DOT's current initiative aims to make its funding decisions more transparent through the creation of a *Greater Minnesota Transit Investment Plan*, as directed by the Minnesota State Legislature. This plan will attempt to document the decision-making process that drives investment, although Mn/DOT wants to avoid losing flexibility in funding decisions that may be context-specific.

Challenges

Diversity of Providers. Unlike some other states, Minnesota does not have a requirement for how individual public transportation providers should be structured, and as a result there is a lot of diversity in providers. Mn/DOT has found this diversity to be a challenge when seeking to set statewide standards, particularly with regard to performance measures and funding decisions. They have responded by creating peer groups, so similar services are compared when making funding decisions.

Legislative Oversight. The Minnesota legislature takes an active interest in Mn/DOT and transportation in the state. In several instances, the legislature has codified initiatives begun by Mn/DOT, but with additional requirements or factors.

New Mexico Department of Transportation

State Overview

NMDOT's performance measurement system is an example of the state of the practice, with an internal funding index that takes some performance measures into account. NMDOT administers funds for 23 rural public transportation providers and three small urban public transportation providers. NMDOT manages operations of the state's intercity public transportation: the Rail Runner Express commuter rail between Santa Fe and Belen (in partnership with the Rio Metro Regional Transit District, the lead implementing agency), and a park and ride express intercity bus service with eight routes and a shuttle service, which is operated by a private vendor. The bus service is offered during morning and afternoon commuting hours for a low fare, and parking is provided for free for passengers. While NMDOT's role is primarily to distribute federal funds, it has utilized state money for the Rail Runner capital and operations of the park and ride express intercity bus service.

NMDOT's public transportation performance measures fall into two categories: state-approved measures and internal performance measures used by the Transit and Rail Division. The two state-approved measures are targets based on past performance and are reported quarterly to the state legislature in NMDOT's *Good to Great Performance Measures Report*. The measures are the following:

- Annual park and ride bus ridership, and
- Annual Rail Runner Express ridership.

Internal measures are used for the distribution of Section 5311 funds through a funding distribution index. Inputs into the index include both quantitative performance measures as well as some qualitative assessments (such as whether the regional need is "low, medium, or high"). They can be found in NMDOT's *Statewide Transit Application/RPO Prioritization and Budget Award Recommendation Meeting*. The internal measures in the Transit Funding Index are the following:

- Section 5311 ridership from the last complete fiscal year;
- Total administration/operations (A/O) ratio based on previous year funding award;
- Cost per passenger trip from the last complete fiscal year;
- Total A/O cost per vehicle mile from the last complete fiscal year;
- Regional Planning Organization prioritization;
- Percent of A/O federal award expended from the last complete fiscal year; and
- Ratio of the percent of total state Section 5311 ridership to the percent of state total A/O award from the last complete fiscal year.

Best/Notable Practices

Use of Funding Distribution Index. As of fiscal year 2010, the internal measures above are used to rank operators applying for FTA funding under Section 5311, and to help NMDOT make funding decisions. NMDOT developed this index when funding availability no longer met all of the requests they were receiving from public transportation providers. The index is seen as a defensible, data-driven method for distributing limited funds, and it allows NMDOT to reward public transportation providers that perform better. Budget recommendations are made based on past performance and opportunity for improvement. The index measures were developed internally and

presented to the New Mexico State Transportation Commission, which did not object to their use.

Challenges

Implementing Changes. Although implementing the index could have faced opposition, all public transportation providers did receive a funding increase in FY2011—the index simply determined how large this increase was—and so opposition was minimal. However, not all agencies were able to contribute the local match up to the full funding level they were eligible to receive.

Statewide Performance Measurement. The internal measures used in the funding distribution index are independent of the “state approved” performance measures that monitor NMDOT-provided public transportation services. The internal measures are therefore seen as less official and disconnected from the broader statewide performance management process.

Virginia Department of Rail and Public Transportation

State Overview

Virginia’s Secretary of Transportation oversees five departments, of which DRPT is one. DRPT does not directly operate public transportation services, but does make funding allocation decisions for the state’s 60 public transportation providers and 55 human service transportation operators. Over 90 percent of the money and ridership for Virginia’s public transportation service is in the more heavily urbanized urban crescent (Northern Virginia, Richmond, Hampton Roads), while the rest of the state tends to have more small urban or rural services.

Virginia’s performance measures are documented on the *Virginia Performs* website, as well as in the *DRPT Strategic Plan* that releases both quarterly and annual updates. The website tracks the governor’s key performance measures; other agency measures (planning, safety, rail, public transportation, transportation demand management, and construction); and administrative measures. The governor’s key public transportation-related measures are: (1) The number of passenger trips per person on public transportation in urbanized areas; and (2) Passenger trips taken by elderly, disabled, and low income people. Every goal and objective in DRPT’s strate-

gic plan has at least one measure tied to it. Each measure has a baseline and set target.

Additionally, DRPT produces an annual public transportation system performance report for the 60 public transportation systems in the Commonwealth. The report benchmarks Virginia against the national average, neighboring states, and the leading state for six performance measures. These include:

- Ridership;
- System Efficiency (cost per passenger trip);
- System Effectiveness (passenger trips per vehicle revenue hour);
- Total Transit Miles Operated;
- Farebox Recovery; and
- Average Vehicle Age.

Best/Notable Practices

Business Approach. The Virginia DRPT and the state as a whole have adopted a strong business approach that lends itself to performance-based planning. In order to connect its strategy and its budget, DRPT has broken itself into “service centers” that each must have linked goals, objectives, and performance measures. Every 2 years, the DRPT develops a strategic plan tied to both its own goals and the statewide goals, and each year it also develops a business plan as an implementation guide to supplement its strategic plan. This approach helps DRPT target investment where it is needed.

Asset Management System. DRPT has also strengthened the links between its performance measures and its funding allocations by implementing an asset management inventory system, which the public transportation providers help to keep current through reporting. Public transportation agency reports on their performance measures allow the state to forecast its inventory needs and help the state to see where investment is needed. For example, DRPT has prioritized capital funding to address average fleet ages, providing a higher match ratio for buses that need replacement most. Funding decisions are linked to planning documentation, and decisions are made based on project readiness, planning need, and projected results.

Performance-Based Planning by Agencies. DRPT is implementing a new requirement for public transportation agencies to produce public transportation development plans by December 2011. These plans must be tied to local and state goals and will help

DRPT when planning future investments and seeking funding from the state. DRPT staff is providing assistance to agencies that do not have the needed expertise.

Challenges

Data Collection. Virginia DRPT, like many state DOTs, has difficulty collecting and verifying the accuracy of all of the data it needs. Benchmarking its performance is also a challenge given that this depends upon the NTD's timely release of this information.

Changing the Culture About Use of State and Federal Funds. Virginia DRPT recognizes that the federal program eligibility should not be the sole basis for distributing funds. They have been trying to change how the department and the public transportation agencies approach this process, to focus on strategic investments and timely project implementation. These initiatives are part of this process. Despite the fact that the initiatives were initially seen by some agencies as an additional burden, the benefits derived in the last 2 years from the initiatives (more effective use of federal and state funds) are now supported by a large majority of public transportation systems in the state.

Washington State Department of Transportation

State Overview

WSDOT is a leader in the use of performance measures for agency-wide reporting. Its *Gray Notebook*, the agency's main performance assessment and reporting tool, is recognized as an industry standout. However, WSDOT is less experienced in using performance measures for the state's public transportation systems. WSDOT's Public Transportation Division is focused mostly on meeting rural public transportation needs by supporting the administration of funding for services through competitive awarding of grants, oversight of public transportation operations, training and maintenance practices, and coordination of federal reporting requirements. WSDOT administers a number of programs that support local efforts to improve public transportation mobility and reduce congestion, including the commute trip reduction program, vanpool services, an intercity bus program, and a regional mobility program. In Washington State, urban public transportation is administered

largely independent of state DOT involvement. Funding is provided directly from FTA, local revenue sources and farebox revenues. The majority of public transportation systems in the state assume limited state capital funding. WSDOT includes performance measures in its *2007–2026 Transportation Plan*, but these do not cover public transportation.

Best/Notable Practices

Data Collection. Though not always used for performance management, WSDOT has strong data collection practices. WSDOT is required by state law to develop an annual *Transit Summary* that summarizes the status of public transportation in Washington State and contains measures on the performance of every public transportation agency. Since 2008, WSDOT has worked with the Washington State Transit Association, which represents the majority of public transportation systems in the state, to develop a standard template for collecting reporting data. WSDOT also conducts commuter surveys that monitor mode share and vehicle miles traveled. The information contained in the *Transit Summary* is primarily used by local public transportation agencies and at present, is not used as part of budgeting, grant selection, or other decision-making processes. This data includes:

- Fares per operating cost,
- Operating cost per passenger trip,
- Operating cost per total vehicle hour,
- Operating cost per revenue vehicle hour,
- Revenue vehicle hours per total vehicle hour,
- Passenger trips per revenue vehicle mile,
- Revenue vehicle hours per full-time equivalent employee,
- Passenger trips per revenue vehicle hour,
- Operating cost per revenue vehicle mile, and
- Revenue vehicle miles per revenue vehicle hour.

Additionally, WSDOT tracks Amtrak and state ferries' on time performance as part of its *Strategic Business Plan 2011–2017*, which sets out goals for the percentage of on-time trips.

Challenges

Linking Performance to Investment. Although the small number of state dollars used in support of public transportation has limited WSDOT's ability to apply statewide public transportation performance measures, the State is increasingly interested in

developing them. According to the *2007–2026 Transportation Plan*, “the Transportation Commission recommends that consideration be given to addressing performance measures with regard to all investment guidelines,” and that the *Gray Notebook’s* “performance measurement approach needs to be expanded to include other components of what is truly an integrated system” (WSDOT 2006).

CHAPTER 6 CONCLUSION

Public transportation performance measurement is a topic of increasing interest to state DOTs. The research team found that many state DOTs are tracking public transportation performance measures to increase accountability to stakeholders, improve management and decision-making, and comply with state mandates and federal data requirements. Measures in use tend to focus on ridership and internal factors (e.g., cost, efficiency), though quality and asset management are becoming more widespread. States with the most advanced public transportation performance measurement were notable for the linkages they made between their goals, performance measures, and funding decisions; their data collection efforts; collaboration with public transportation providers; and reporting methods.

Limitations in transportation funding are driving a shift to more performance-based funding allocation, both within public transportation and across all modes in the state. Effective performance measures can help DOTs efficiently and effectively invest their limited funds across all modes. A number of challenges remain, however, for advancing public transportation performance measures at state DOTs. Data collection and connecting performance to funding decisions are two key challenges. Many state DOTs pointed to a need to find ways to compare disparate public transportation systems and to collect accurate and relevant data from their public transportation providers. Moreover, developing appropriate performance measures is often challenging, given the disparate nature of different types of public transportation services, particularly in rural areas.

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ACRONYMS

A/O	Administration/Operations
AASHTO	American Association of State Highway and Transportation Officials
CTD	Coordinated Transit District
CUTR	Center for Urban Transportation Research
DOT	Department of Transportation
DRPT	Department of Rail and Public Transportation
FDOT	Florida Department of Transportation
FTA	Federal Transit Administration
FTC	Florida Transportation Commission
FTIS	Florida Transit Information System
GAO	Government Accountability Office
GIS	Geographic Information System
GPS	Global Positioning System
KDOT	Kansas Department of Transportation
Mn/DOT	Minnesota Department of Transportation
MoDOT	Missouri Department of Transportation
NCHRP	National Cooperative Highway Research Program
NMDOT	New Mexico Department of Transportation
NTD	National Transit Database
ODOT	Oregon Department of Transportation
TCRP	Transit Cooperative Research Program
TDP	Transit Development Plan
WSDOT	Washington State Department of Transportation

APPENDIX A WEB SURVEY FOR NCHRP PROJECT 20-65, TASK 29

Note: The survey covered both transit goals and performance measures. This appendix includes only those sections designed for this task. For questions with the possibility of a narrative “other” response, those responses have been included directly. Many questions allowed respondents to select all the responses that applied, so percentages will not total 100 percent for all questions. Response percent is calculated based on the number of respondents answering that question, not the total possible respondents (i.e. where respondents skipped a question, they are not counted for that question).

Please Select your State.

AK	GA	MI	NM	UT
AL	HI	MN	NV	VA
AR	IA	MO	NY	VT
AZ	ID	MS	OK	WA
CA	IN	MT	OR	WI
CO	KS	NC	PA	WV
CT	KY	ND	SD	WY
DC	LA	NE	TN	
FL	ME	NJ	TX	

Total: 43

What is your division or department within your agency?		
Answer Options	Response Percent	Response Count
Planning	27.9%	12
Public Transportation/Transit	60.5%	26
Operations	0.0%	0
Other (please specify)	11.6%	5
	<i>answered question</i>	43
<hr/>		
Quality Management		
Multimodal Operations Division		
Local Government Division		
Highways Administration		
Intermodal Division		
Program Development		

Does your agency directly operate transit service?

Answer Options	Response Percent	Response Count
Yes	7.0%	3
No	93.0%	40
	<i>answered question</i>	43

Does your agency use transit performance measures? Note: If performance measures are currently under development and are far enough along that you can speak to their content and development process, please select “yes.” Otherwise, select “no.”

Answer Options	Response Percent	Response Count
Yes	69.8%	30
No	30.2%	13
	<i>answered question</i>	43

Note: only those selecting “yes” to the previous question answered the following questions:

How many transit performance measures does your agency use?

Answer Options	Response Percent	Response Count
1	3.4%	1
2 to 3	34.5%	10
4 to 6	37.9%	11
7 or more	24.1%	7
	<i>answered question</i>	29

What types of transit performance measures are being used? (Please select all that apply.)

Answer Options	Response Percent	Response Count
Cost and Efficiency Concerns	70.0%	21
Safety and Security	36.7%	11
Availability	43.3%	13
Service Quality	20.0%	6
Reliability	13.3%	4
Travel Time	10.0%	3
Maintenance	43.3%	13
Ridership	96.7%	29
Environmental Goals	20.0%	6
Other	30.0%	9
	<i>answered question</i>	30

Revenue hours, revenue miles
Fares/operating costs; operating cost/revenue vehicle mile; revenue vehicle hour/total vehicle hr; revenue vehicle hours/FTE; revenue vehicle mile/revenue vehicle hour; passenger trips/revenue vehicle hour; passenger trips/revenue vehicle mile
Locally Derived Income
Replacing transit vehicles so they are within 50% of their useful life, replace ferry vessels, build inter-modal facilities, transition to clean fuels
Effectiveness, Vehicle Utilization, Productivity
Training
See list of 26 AIMS in response to Part 1
Mean distance between failure
Revenue Miles

How frequently do you generate reports of performance measures?		
Answer Options	Response Percent	Response Count
Monthly	16.7%	5
Quarterly	33.3%	10
Annually	73.3%	22
Other (please specify)	13.3%	4
	<i>answered question</i>	30
It was annually until 2007 and then WSDOT began reporting every other year.		
The MDOT System Condition website is updated quarterly. Within that website, the transit measures are updated once a year. Not yet reporting on 26 AIMS.		
The interval for reporting LRPT performance indicators has yet to be decided.		
biennially		

[Note: An additional question asked for where these performance measures are documented and when that document was last updated.]

Please describe your agency’s primary transit performance measures.

Ridership, Average Ridership by Day of Week, Accident rate, Injury rate, On-time performance, Complaints/commendations, Vehicle reliability, Vehicle availability, Revenue hours, Revenue miles, Costs, Revenue, Subsidy, Cost/rider, Subsidy/rider, Revenue/rider, Farebox recovery, Resource efficiency
Achieve a minimum of 1.5% annual increase in rural ridership
Secure at least 12% of the operating expenses from the farebox annually
1-3. Total Passengers, Total Operating Revenue and Total Operating Expenses per Revenue Vehicle Hour and 4. Total Operating Expense per Passenger.

The primary performance measure is passengers/hour. The measures are applied at different peer groups of transit systems:

ADA Demand Response	3
Fixed-Route	15 to 20
Rural Demand Response	5
Rural Route Deviation	5
Small Urban Demand Response	5
Small Urban Route Deviation	8
Public Transit Volunteer	2

Ridership, cost per trip

Annual Report on Public Transportation Assistance Programs

Ridership

Availability

Providing access to lifeline services outside on the transit providers local community

The primary performance measures include: Local \$/expense; passengers/capita; passengers/revenue miles; and revenue miles/expense

Passenger Trips, Passenger Miles and Vehicle Revenue Miles

Annual number of Florida's Fixed Route Transit Incidents

Number of one-way public passenger trips

Operating cost per total passenger trip

Ratio of transit ridership growth rate to population growth rate

Rate of return on transit new starts funding

Actual transit funding program commitments to planning program levels

Transit operating revenues to cost

http://www.aot.state.vt.us/ops/PublicTransit/documents/PTPP/AOT-OPS-PT_PTPP_Chapter3.pdf

1. Number of transit passengers (annual statewide for urbanized and rural transit)
2. Average days per week that rural transit service is available
3. Number of intercity bus stops (statewide)

There is no primary performance measure.

To increase transit ridership by using NTD Data by 5% over two years

INDOT is responsible for allocating state funds to our public transit systems. The 3 performance measures are Passenger Trips per Operating Expense, Miles per Operating Expense, and Locally Derived Income per Operating Expense

-Annual number of riders on park and ride

-Annual number of riders on the Rail Runner corridor, in millions

Ridership, operating costs, and maintenance costs.

50% of transit vehicles retain more than 50% of their useful life, for maintenance, 80% of PM's will be accomplished within 10% of schedule, % of fleets transitioned to clean fuel

Performance—a general term used for evaluating the activities of a system; it includes measures such as productivity, efficiency, effectiveness, and impact.

Efficiency and Productivity

Operating cost per Passenger Trip (one-way)—the monthly operating expense divided by the number of one-way passenger trips.

Operating Cost per Vehicle Mile—the monthly operating expense divided by the total distance traveled by all system vehicles.

Operating Cost per Vehicle Hour—the monthly operating expense divided by the sum (for all system vehicles) of the number of hours each vehicle is operated.

Operating Ratio—the monthly operating expense divided by fares and contract revenue combined.

Fuel Economy Average—the average number of miles per gallon realized by the system.

Vehicle Utilization, Productivity, and Effectiveness

Passenger per Vehicle Mile—the number of passenger trips divided by the number of vehicle miles provided by all system vehicles.

Passenger per Vehicle Hour—the number of passenger trips divided by the sum of the hours each vehicle is operated.

Ridership Characteristics—the number of individuals in each group type utilizing the system—Such as General Public, Elderly, Disabled, and Other.

Trip Types: The number of individuals in each trip category utilizing a transit system—Such as Social/Recreation, Education, Employment, Nutrition (meals/grocery), Medical/dental and Other.

Revenue Sources—the total revenue generated by the system—fare box and contract.

Efficiency and Effectiveness

Recovery Cost—the total monthly fares and contract revenue divided by total operating cost for the month. Indicate the percentage of costs which are recovered.

The agency's primary transit performance measures include: evaluating performance and providing technical assistance to transit agencies; cost and efficiency concerns; customer service; staff training; annual budget; and safety and well-being of our citizens, visitors and staff.

Ridership

System Efficiency (cost per passenger trip)

System Effectiveness (passenger trips per vehicle revenue hour)

Total Transit Miles Operated

Farebox Recovery

Average Age of Vehicles

- (a) The ratio of passengers, as expressed in unlinked trips to service area population.
- (b) The ratio of operating expenses to passengers, as expressed in unlinked trips.
- (c) The ratio of operating expenses to revenue hours.
- (d) The ratio of revenues to operating expenses.
- (e) The ratio of passengers, as expressed in unlinked trips, to revenue hours.
- (f) The ratio of revenue hours to service area population.

See response to #5 in Part 2. Once we have a current condition status we will be able to set a standard for each AIM and then the AIMS become measures.

Ridership, cost efficiency

The CTDOT performance measures that are reported online are: rail on-time performance using industry standard commuter rail definitions, ridership (unlinked passenger trips) (bus and rail), average bus fleet age, mean distance between failure (bus and rail)

1. Age of fleet by vehicle type (commuter rail, light rail, bus, demand response, vanpool)
2. Number of major mechanical failures annually on NJ TRANSIT's system
3. % of population in top categories of Transit Score Index
4. % of jobs in top categories of Transit Score Index
5. Rate of injuries involving transit vehicles per million vehicle revenue miles
6. Rate of fatalities involving transit vehicles per 100 million vehicle revenue miles
7. Annual transit ridership (millions)
8. Public transit on-time performance by mode (commuter rail, light rail, bus)
9. Operating expenses per vehicle revenue hour
10. Air pollutants from mobile sources-tons/day (VOC, NOX, CO)
11. Transit operating cost per passenger mile (commuter rail, light rail, bus, vanpool)
12. Ratings of public transportation system in NJ

See previous section

Again, these measures are captured for local agencies, not for our own agency. We do not have specific measures for our own agency.

Expenses, passenger trips, service miles, service hours, cost per mile, cost per service hour, cost per passenger trip, passengers per service hour.

Revenue miles—the time a vehicle is available to the general public and there is an expectation of carrying passengers. Vehicles operated in fare-free service are considered in revenue service.

Ridership—An individual on board, boarding, or alighting from a revenue transit vehicle.

How are transit performance measures being used? (Please select all that apply.)

Answer Options	Response Percent	Response Count
To measure progress toward statewide goals	53.6%	15
To measure progress toward agency targets or to compare agency services	53.6%	15
To support decisions on infrastructure investments	42.9%	12
To support specific allocation of or formulas for transit capital funds	39.3%	11
To support specific allocation of or formulas for transit operating funding	60.7%	17
To fulfill statutory requirements	39.3%	11
To provide public accountability	50.0%	14
Other (please specify)	7.1%	2
	<i>answered question</i>	28

WSDOT calculated the averages of the urban, small urban, and rural transit agencies, and it shows the individual performance of each transit agency to the average of their same type in the annual/biennial statistical report to the state Legislature.

For the measures in the MDOT System Condition website, they are used to measure statewide conditions and support general investment decisions (even though investment of state transit funds is mostly driven by statute).

Please use this space to elaborate on how transit performance measures are being used by your agency.

First and foremost, these are designed to provide accountability and transparency to the government service provided with taxpayer money. These metrics will be used to evaluate current and proposed routes and make changes (add, eliminate) routes or change service. The metrics will also be used to hold our contracting operator accountable for on-time performance and safety.

State funds are annually allocated based on each system's relative share of statewide total passengers, total senior citizen passengers (senior passengers are included in total passenger statistics), total revenue vehicle hours and total revenue miles of service. Also the Department conducts an on-site performance review of each urban and rural transit system (fixed route service only) every five years. This review compares the current four forenamed performance ratios for each system to selected peer systems. This comparison is also done for each of these performance ratios for the prior five-year period. Each system must attain a minimum performance level for each ratio when it is reviewed in five years. The initial review is done to help establish the minimum performance requirements. A system potentially could have up to 5% of its annual state operating grant reduced if it fails to meet the minimum performance level.

State funding has an incentive component based upon increasing ridership and decreasing costs per ride.

Performance data is used in annual allocation of funds and also published annually in a statistical report.

Annual allocation of funding

Florida has a state block grant program which is allocated by a formula which considers population, ridership and revenue

Also serve as measures of historic use and trends of transit service and transit service availability

The division uses some of the data to make funding allocation decisions. The Department uses them for public accountability

To allocate state funds for Public Transit (\$42.7 million for CY 2010)

To justify capital investments, operating and administration assistance for annual assistance and to allocate state funds for transit.

Performance indicators are reviewed on monthly and quarterly basis by Public transit staff to identify any significant changes in performance. This helps to predict shortfalls in project performance and discuss anticipated trends.

Performance measures are also used annually in grant application cycle to substantiate application. It is used to verify if goals set by providers are being met and to justify requests for certain resources.

Performance measures are used in reporting to FTA—Section 5310 projects

They are also used annually for reporting to NTD

Performance measures are also used annually to produce graphs and charts to inform policy makers and elected officials on performance.

Performance reviews are shared with providers on how they are performing in terms of indicators reported.

Transit performance measures are being used to evaluate agency staff on accountability, work product, project planning and implementation, dependability, communication, and service to clients.

They are used to evaluate transit system effectiveness and identify “underperforming” transit systems in need of technical assistance.

The measures in the MDOT System Condition website are being used for public accountability and to evaluate implementation of the State Long-range Plan. A legislatively created task force has established the need for additional state revenue to support the transportation system and the results of task force recommendations are being considered within the state legislature. Having a good system condition measurement process will help support the development of additional revenue

Used to allocate funding, compare historical transit agency performance, identifies cost efficiencies

They are displayed on a performance measures web page for access by the public and agency administrators. They are used to track progress toward meeting the stated targets.

To compare local agency grant recipients of grants that we administer.

Both ridership and revenue miles are used by the Iowa DOT in a formula used to allocate federal 5310 and 5311 funds. The previous year's performance statistics are used to determine individual allocations to small urban systems (under 50K pop) on the basis of 50 percent of the percentage of total small urban ridership accomplished by that system and 50 percent of the percentage of total small urban revenue miles provided by the individual system. Individual allocations for regional systems are based on 40 percent of the system's percentage contribution to total regional transit RIDERSHIP and 60 percent on the system's percentage contribution to total regional revenue miles. The total amount is distributed 25 percent to the small urban (under 50K pop.) systems and 75 percent to regional systems.

State Transit Assistance (STA) funding is also distributed by a formula using ridership and revenue miles, along with other statistics. The formula used to distribute STA is a bit more complicated.

How were the performance measures developed? (Please select all that apply.)

Answer Options	Response Percent	Response Count
Part of a long-range transportation planning process	27.6%	8
Part of another state planning process	27.6%	8
In concert with transit agency(ies)	41.4%	12
By the state legislature (such as through a statute or appropriations bill)	17.2%	5
As required for federal reporting (FTA's National Transit Database)	31.0%	9
Other (please specify)	41.4%	12
	<i>answered question</i>	29

Staff research of TRB documents and other jurisdiction transit performance metrics

Budget requirements

In agency

Legislative Advisory Committee

Developed to support transit related tangible result (goal)

Division Staff Objectives

A consultant study and input from transit operators

Grew out of reviewing existing industry practices

Proposed by state transit policy experts, went through rule-making process with opportunity for public input and finally codified in state administrative code.

MDOT developed its System Condition website internally. The 26 AIMS were developed by an MDOT/Transit Industry/Stakeholder workgroup with an MDOT funded (and industry hired) process manager and an MDOT hired consultant. An advisory committee that included a member from our State Transportation Commission was also on the advisory committee. All transit agencies given opportunities to review and comment at specific points in the process.

Used as part of the distribution of funds

Infrastructure Performance Measures office and the Commissioner

**What challenges, if any, has your agency faced in using performance measures?
(Please select all that apply.)**

Answer Options	Response Percent	Response Count
None	24.1%	7
Data availability	65.5%	19
Staff shortage	37.9%	11
Lack of funding	17.2%	5
Institutional support	17.2%	5
Analytic tools and skill sets	37.9%	11
Other (please specify)	24.1%	7
	<i>answered question</i>	29

Success of the performance measures are dependent on the sub-recipients

Diversity of transit providers and community resources and needs

Data integrity and uniform use of terms/definitions when compiling data.

Verifying Data

See response to question 10.

Trust

Data accuracy

The following questions were asked of those who did not have transit performance measures:

Is your agency using performance measures for other modes?

Answer Options	Response Percent	Response Count
Yes	57.1%	8
No	21.4%	3
Currently developing performance measures	21.4%	3
	<i>answered question</i>	14

Has your agency considered developing transit performance measures?

Answer Options	Response Percent	Response Count
Yes	57.1%	8
No	21.4%	3
Currently developing performance measures	21.4%	3
	<i>answered question</i>	14

What challenges, if any, have prevented your agency from using performance measures? (Please select all that apply.)

Answer Options	Response Percent	Response Count
None	0.0%	0
Data availability	61.5%	8
Staff shortage	69.2%	9
Lack of funding	38.5%	5
Analytic tools and skill sets	46.2%	6
Lack of technical resources	53.8%	7
Other (please provide a short description)	15.4%	2
	<i>answered question</i>	13

Having a clear understanding of what they should be

Resistance to change

Please elaborate or describe these challenges.

As mentioned in #3, transit could use additional staff, needs the tools and skills to accomplish using performance measures and the lack of technical resources.

We have found that there are issues with all measures. We are currently working through a process to identify measures that identify elements that are meaningful.

Data, staff, and money have been limited resources to this point, but ways are being sought to bolster transit office resources.

Our Highways staff has long been focused on providing safe and efficient highway facilities for cars and trucks. The move to actively incorporate other modes of travel has only recently been taken seriously. The current performance measures we currently use are out dated for multi-modal needs. Until the next generation of Planners and Engineers gets promoted into positions of responsibility, there will continue to be a significant resistance to change by the senior management with Hawaii DOT-Highways Division. This shift to promote younger managers has started, but there needs to be a few more before a major shift can start to embrace a multi-modal approach to our highway infrastructure and the development of meaningful performance measures that will ultimately motivate our staff to stretch for higher goals.

The State of Alabama does not provide any funding in support of Transit Programs.

The State Transit Office is insufficiently staffed to plan or administer extensive performance measures and it is as yet unclear how they might be used. Most transit agencies in the state are small, and have minimal staff and funding resources to develop or monitor their own performance measures. Many use multiple funding sources, implying a need for measures sophisticated enough to distinguish results by funding source.

Very small transit staff and state hiring freeze has limited ability to collect and track this data. Currently no state funding for transit.

The ability to develop appropriate performance measures for extreme rural areas when much of the ridership in these coordinated systems are driven by factors outside the control of the transit providers, i.e. Medicaid coverage. The lengthy distances travelled and the low population in the mostly rural areas cannot be compared with the more urban areas.

The following questions were asked of all survey recipients:

Have your agency's transit goals and/or performance measures affected agency investments?

Answer Options	Response Percent	Response Count
Not applicable. No transit goals or performance measures.	14.6%	6
No, my agency's goals or performance measures have not affected agency investments.	46.3%	19
Yes, my agency's goals or performance measures have affected agency investments.	39.0%	16
	<i>answered question</i>	42

We are interested in the collaboration around goal setting and performance measures. Who was involved in developing the goals and/or performance measures? (Please select all that apply.)

Answer Options	Response Percent	Response Count
Not applicable. No transit goals or performance measures.	16.7%	7
State DOT planning staff	40.5%	17
State DOT public transportation division staff	64.3%	27
Transit agency(ies)	47.6%	20
Metropolitan planning organizations	38.1%	16
DOT senior management	40.5%	17
Public/area stakeholder groups	33.3%	14
State legislature	19.0%	8
Other (please specify)	14.3%	6
	<i>answered question</i>	42

Regional Planning Commissions

Division Managers and Program Managers with consideration of data types available

Planned for state transit conference activity Oct 2010

The response to this question pertains to the development of the 26 AIMS in the April 2010 report. A member of our State Transportation Commission was involved in the advisory group

Capital Investment Planning & Development staff

Oregon has very strong public involvement history. Stakeholder advisory groups, technical advisory groups, policy level committees are all used in the goal setting processes.

What agencies or groups are involved in the monitoring and evaluation of these goals and/or performance measures? (Please select all that apply.)

Answer Options	Response Percent	Response Count
Not applicable. No transit goals or performance measures.	14.3%	6
State DOT planning staff	28.6%	12
State DOT public transportation division staff	64.3%	27
Transit agency(ies)	26.2%	11
Metropolitan planning organizations	16.7%	7
DOT senior management	26.2%	11
Public/area stakeholder groups	14.3%	6
State legislature	23.8%	10
Other (please specify)	19.0%	8
	<i>answered question</i>	42

City Administrator

Since we produce a statistical report, virtually the universe is looking at the performance data.

Regional Planning Commissions

MoDOT Organizational Results Division staff

NMDOT Office of Quality Management

Anyone who views them online (transparency and accountability)

Capital Investment Planning & Development staff

Staff set the vehicle condition measure internally. Is not a formally adopted measure but very useful.

If you have any comments to share with the research team regarding this survey or research for this project, please include them in the box below.

The State's transit performance goals are primarily applicable to the individual urban and rural transit systems that receive annual state operating assistance. They are largely not directly applicable to the State DOT.

NDOT does not have any transit performance measures. We do however have overall performance measures.

It is hoped that the outcome of this research will be useful for identifying consistent indicators for performance measurement in the Rural Transit Industry

The uniqueness of rural transit environment does not permit the applicability of Urban Transit performance measures (which dominates the literature on transit performance measures) to Rural Transit systems performance. This research should provide outcomes that could be used to plan and develop research guide/tools that are applicable to all rural transit systems performance measurement.

As we gain experience in collecting data for the 26 AIMS and as we establish standards, we do expect the content to change. This is an evolving process.

Oregon transit has benefitted from the discussion of the high level performance measures in the political setting. However, it is more difficult to adjust the measures to take advantage of improved methodologies or data collection efforts because they are so formally adopted at such a high level. On the other hand, there is consistency in the trending over a long period.

APPENDIX B PUBLIC TRANSPORTATION PERFORMANCE MEASURES INTERVIEW QUESTIONS

State DOT Public Transportation Involvement

- How much and what types of funding does your state provide for public transportation?
- What is the existing level of collaboration between your DOT and state public transportation agencies?
- Does the state legislature have any statutes in place that impact your interaction with public transportation agencies?

Performance Measure Setting

- What process did you use to create your performance measures?
- Who is involved in the setting of statewide public transportation performance measures?
 - How are these stakeholders selected and then involved?
- What criteria are/were used in selecting performance measures?
- Are performance measures tied to specific goals?
- What was the impetus for setting public transportation performance measures?
- How did you develop your process for creating performance measures? Did you consult any particular resources or look at other agency practices?
- How frequently (if at all) are performance measures and/or associated targets revised?

Performance Measure Collection and Reporting

- What is the full range of performance metrics that are used?
- What data is used to generate these performance measures?
- How frequently are performance measurements calculated?
- To whom are they reported and how are they presented?

Performance Measure Use

- How do these measures relate to statewide investment prioritization?
 - To long-range planning?
 - To short-range programming?
 - To other decision-making?
- Who evaluates the attainment of performance measures and how do they make this assessment?
- How does the department respond to lagging performance measures?
 - To performance measures exceeding expectations?

Performance Measure Constraints and Future Development

- What constraints do you face in your performance measurement system? (*open-ended question, but could suggest a few options: funding, data availability, political/jurisdictional concerns, analytic tools, staff expertise, etc.*)
- What if any future initiatives are planned around performance measures? (Are any new improvements in the works?)



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