



# RURAL PERFORMANCE BASED PLANNING GUIDEBOOK

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# **RURAL PERFORMANCE BASED PLANNING GUIDEBOOK**

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## **DISCLAIMER**

This research was performed in cooperation with the Texas Department of Transportation (TxDOT) and the Federal Highway Administration (FHWA). The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official view or policies of the FHWA or TxDOT. This report does not constitute a standard, specification, or regulation.

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## INTRODUCTION

Performance-based transportation planning has existed for many years. Recently, it is becoming more accepted and practiced as a result of federal rules. It is fast becoming the cornerstone for transportation decision making throughout the country in both metropolitan and non-metropolitan (rural) areas. Establishing a common set of performance measures allows for the evaluation and comparison of different projects and transportation corridors for both current and future conditions, and translates data and statistics into a form that the public and decision makers can easily understand. The guidebook directs the reader through the framework for conducting a rural transportation system assessment based on individual goals and objectives and selected performance measures and weights. The planning tool developed as part of this project is intended for use with the guidebook for establishing and using rural performance-based transportation system assessment, monitoring, planning, and programming consistent with statewide plans and programs.

### WHAT IS THE FRAMEWORK?

A framework establishes an organizational structure and process that directs users through the important considerations and tasks needed to develop and implement a particular program. For this project, the proposed framework is based on recent federal and state legislation and the current structure of rural transportation planning within Texas. It is designed to implement performance-based planning, programming, and monitoring for rural counties in Texas under the direction of the Texas Department of Transportation (TxDOT) districts.

The framework presented in the guide is a six-step process that guides users through the important considerations to develop and implement rural performance-based planning. The steps are as follows, and subsequent sections of this guidebook direct the user in addressing key issues and questions at each step along the way:

- **Step 1:** Identify Rural Area Needs, Strategies, Goals, and Objectives.
- **Step 2:** Prepare Monitoring Plan and Performance Measures.
- **Step 3:** Assess the Rural Multimodal Transportation System.
- **Step 4:** Prioritize Projects and Funding Scenarios.
- **Step 5:** Prepare Regional Transportation Plan to Communicate Recommended Project and Investment Strategies.
- **Step 6:** Implement Projects and Monitor System Performance.

Each step is a fundamental element of performance-based planning, and more than one step can be conducted simultaneously with another, or the sequence of steps may vary. Additionally, each step should result in a planning product or output. The major outputs for this framework will be a 10-year regional multimodal transportation investment plan including a 4-year program of projects that is monitored over time.

### WHO CAN USE THIS GUIDEBOOK?

This guidebook is intended for practitioners responsible for implementing rural performance planning and contains some technical details in the framework steps. While the guidebook was

written for a technical audience, there is also information of value for those interested in less technical detail. The guidebook intentionally removes the overwhelming nature of the highly technical undertaking of performance-based planning, and organizes it into more manageable and smaller sections. Furthermore, although the guidebook is a standalone document, it is best used as a supplement to a workshop.

## **HOW DO I USE THIS GUIDEBOOK?**

This guidebook directs you through the rural performance planning framework where each step of the framework is presented as its own section of the guidebook. The structure of each section is similar. The objective of each step is introduced at the beginning of each section, followed by a brief description. The remainder of each section (i.e., each step in the framework) includes subsections typically presented in the form of key questions that the reader should ask at that juncture in the process. The guidebook provides useful insights to each of these questions.

## **SUPPLEMENTAL MATERIALS**

The following documents and materials are supplements for this guide:

- Rural Performance-Based Planning Tool.
- Planning Tool User Manual.
- Workshop Instructor Guide with Lesson Plans and workshop materials.

## **BACKGROUND**

The guidebook provides a framework consistent with other federal and state planning regulations. The following sections briefly describe statewide planning and programming documents, rural transportation planning, and performance planning at TxDOT.

### **STATEWIDE TRANSPORTATION PLANNING AND PROGRAMMING DOCUMENTS**

TxDOT prepares transportation planning and programming documents that are the cornerstones for the performance-based framework for rural transportation planning. In addition to consistency with the Fixing America's Surface Transportation (FAST) Act and Moving Ahead for Progress in the 21st Century Act (MAP-21) requirements, the rural framework is intended to be consistent with existing plans developed by TxDOT for statewide long range planning and programming. The primary guiding documents include:

- The Texas Transportation Plan 2040.
- TxDOT's Strategic 5-year Plan.
- The Texas Rural Transportation Plan.
- The Unified Transportation Program (UTP).
- Modal Transportation Plans.

#### **Texas Transportation Plan 2040**

The Texas Transportation Commission adopted the Texas Transportation Plan (TTP) 2040 on Feb. 26, 2015, to serve as TxDOT's long-range, performance-based transportation plan (1). The TTP addresses the statewide planning requirements under the federal surface transportation act – MAP-21 and Title 43, Texas Administrative Code, Chapter 16.

The TTP 2040 guides planning and programming decisions for the development, management, and operation of the statewide, multimodal transportation system in Texas over the next 25 years.

The TTP includes:

- An infrastructure inventory, such as highways and bridges, and their usage.
- A future infrastructure inventory and service needs.
- A future funding projection.
- A funding sources description and an analysis of alternative and innovative sources to address funding shortfalls.
- Performance goals, measures, and targets.

The TTP 2040 was developed through a collaborative process of metropolitan planning organizations (MPOs) and communities, as well as city, county, transit, stakeholder and private company officials.

## TxDOT's Strategic 5-Year Plan

On June 26, 2014, the Texas Transportation Commission adopted the TxDOT 2015–2019 Strategic Plan, which states the agency's mission, values, goals, objectives, budgetary performance measures, strategies, and key planning contextual information that will direct the department over the next five years (2). The plan also includes a description of the strategic planning process, current organizational chart, workforce plan, technology initiative assessment, and a survey of employee engagement.

The four goals identified by the agency in this plan are to:

- Maintain a safe system.
- Address congestion.
- Connect Texas communities.
- Become a best in class state agency.

TxDOT priorities include strengthening and enhancing their relationship with MPOs, local governments, and other key stakeholders; acting as a resource for transportation funding; researching transportation technology solutions; developing innovative maintenance approaches that reduce costs and improve and preserve transportation system conditions; and developing effective information systems.

Table 1 lists the planning goals and emphasis areas for the various plans. The emphasis areas among the various TxDOT transportation planning products and legislation were identified to ensure inclusion in the rural performance-based planning framework.

**Table 1. Transportation Plan Goals.**

TxDOT Plan Emphasis Area		Legislative Emphasis Area	
TxDOT Strategic 2019	TxDOT TTP 2040	HB 20	FAST Act
Safe System	Safety	Safety	Safety
	Asset Management		Infrastructure Condition
Address Congestion	Mobility & Reliability	Congestion	Congestion - Reliability
Connect Communities	Multimodal Connectivity		Freight Mobility
Best in Class Agency	Stewardship	Economic Development	
		Available Funding	
		Environmental Impact	Environmental
		Socioeconomic Impact	Sustainability
	Customer Service	Other	

## **Texas Rural Transportation Plan 2035**

Last updated in 2012, the Texas Rural Transportation Plan (TRTP) is the rural component of the Statewide Long Range Transportation Plan (SLRTP) 2035 (3). As part of the SLRTP, the TRTP is a blueprint for the planning process in the rural areas that will guide the collaborative efforts between TxDOT, local and regional decision makers, and all transportation stakeholders to reach a consensus on needed transportation projects and services through 2035. It is a standalone document, fully consistent with the SLRTP.

The TRTP is a multimodal transportation plan that includes highways and the following non-automobile/non-highway modes:

- Bicycles and pedestrians.
- General aviation.
- Inland waterways.
- Rail (freight and passenger)
- Public transportation.

## **Unified Transportation Program 2015**

The Texas Transportation Commission and TxDOT use the UTP as TxDOT's 10-year plan to guide transportation project development (4). The UTP is developed annually in accordance with the Texas Administrative Code (TAC §16.105) and is approved by the Texas Transportation Commission annually prior to August 31. The UTP authorizes projects for construction, development, and planning activities and includes projects involving highways, aviation, public transportation, and state and coastal waterways.

The UTP is an intermediate programming document linking the planning activities of the SLRTP, the metropolitan transportation plans, and rural transportation plans to the detailed programming activities under the Statewide Transportation Improvement Program and TxDOT's 24-month (2-year) Letting Schedule.

Specifically, the UTP is a listing of projects and programs that are planned to be constructed and/or developed within the first 10 years of the 24-year SLRTP. Project development includes activities such as preliminary engineering work, environmental analysis, right-of-way acquisition, and design. Despite its importance to TxDOT as a planning and programming tool, the UTP is neither a budget nor a guarantee that projects will or can be built. However, it is a critical tool in guiding transportation project development within the long-term planning context. In addition, it serves as a communication tool for stakeholders and the public in understanding the project development commitments TxDOT is making.

The TAC §16.105.b.2.F states, "the UTP will list all projects and programs that the department intends to develop, or on which the department intends to initiate construction or maintenance, during the UTP period, and the applicable funding category to which a project or program is assigned, after consideration of *the recommendations of rural planning organizations (RPO)* as provided in this subchapter."

## **Modal Transportation Plans**

This framework recognizes the additional statewide plans for other modes that may play a role in rural performance planning. These include:

- **Texas Freight Mobility Plan (5)** – Goals include: safe and reliable movement of freight, definition of policies/investments to enhance freight transportation, and establishment of a process to inform stakeholders and decision makers.
- **Texas Rail Plan (6)** – Investment program for freight and passenger rail (long-term planning effort).
- **Texas Airport System Plan (7)** – Strategies to maximize investments for aviation capital improvements.
- **Texas Ports Capital Program (8)** – Funding requests and economic development projects.

## **RURAL TRANSPORTATION PLANNING CONTEXT**

TxDOT currently operates a decentralized organizational structure using 25 regional districts to carry out rural transportation planning objectives. Each district has considerable latitude in setting priorities for design and construction projects, maintenance, and operations activities. Decisions about transportation in areas outside the MPO boundaries are made by TxDOT district engineers in cooperation with and input from local leaders such as county judges, county commissioners, mayors, and city council members.

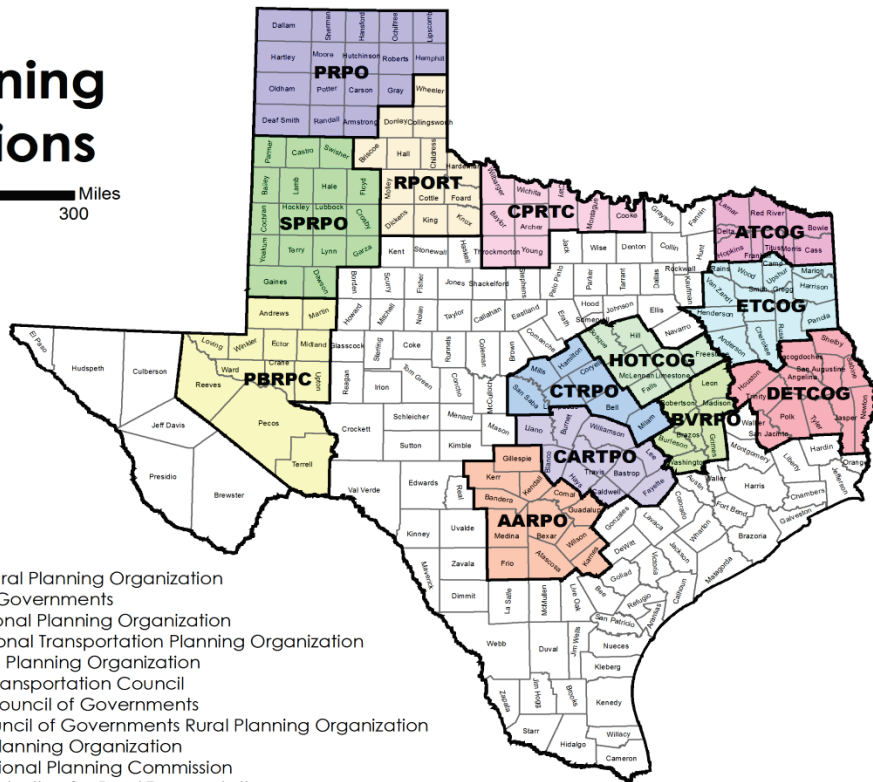
## **RURAL PLANNING ORGANIZATIONS**

In Texas, RPOs are voluntary organizations created and governed by local elected officials organized to address rural transportation priorities and planning and provide recommendations to TxDOT for areas of the state not included in MPO boundaries. In some areas of the state, RPOs have been established and play an active role in the rural transportation planning process. Figure 1 illustrates the location and boundaries of RPOs in Texas. In areas without RPOs, TxDOT districts work cooperatively with local stakeholders and officials.



# Texas Rural Planning Organizations

0 50 100 200 300 Miles



- AARPO Alamo Regional Rural Planning Organization
- ATCOG Ark-Tex Council of Governments
- BVRPO Brazos Valley Regional Planning Organization
- CARTPO Capital Area Regional Transportation Planning Organization
- CTRPO Central Texas Rural Planning Organization
- CPRTC Cross Plains Rural Transportation Council
- DETCOG Deep East Texas Council of Governments
- HOTCOG Heart of Texas Council of Governments Rural Planning Organization
- PRPO Panhandle Rural Planning Organization
- BBRPC Permian Basin Regional Planning Commission
- RPORT Rolling Plains Organization for Rural Transportation
- SPRPO South Plains Rural Planning Organization



**Figure 1. Map Showing the Boundaries of Texas RPOs.**



## FRAMEWORK FOR RURAL PERFORMANCE PLANNING

This framework establishes an organizational structure and process that can be used to guide RPOs through the important considerations and tasks needed to develop and implement performance-based planning, programming, and monitoring for rural counties in Texas under the direction of the TxDOT districts.

### RURAL FRAMEWORK STEPS

The framework guides RPOs through performance-based planning activities that are presented here as steps:

- Step 1. Identify Rural Area Needs, Strategies, Goals, and Objectives.
- Step 2. Prepare Monitoring Plan and Performance Measures.
- Step 3. Assess the Rural Multimodal Transportation System.
- Step 4. Prioritize Projects and Funding Scenarios.
- Step 5. Prepare Regional Transportation Plan to Communicate Recommended Project and Investment Strategies.
- Step 6. Implement Projects and Monitor System Performance.

Each step contains a fundamental element of performance-based planning, and more than one step can be conducted simultaneously with another, or the sequence of steps may vary, illustrated in Figure 2. This framework will result in a program of projects within the 10-year plan that can be monitored over time to verify the estimated benefits are obtained from the projects selected.



**Figure 2. Framework for Rural Performance Planning.**

Table 2 provides a quick reference highlighting the steps of the framework and process. The individual steps are described in detail in the following sections.

**Table 2. Summary of Performance Planning Framework.**

Step	Who Develops	Who Approves	Time Horizon	Activities/Content	Products	Update
1. Identify Needs Strategies, Goals, and Objectives	RPO/TxDOT	TxDOT District	On-going	<ul style="list-style-type: none"> <li>- Coordinate with existing plans.</li> <li>- Public involvement and stakeholder activities.</li> <li>- Process for identifying transportation needs and priorities.</li> </ul>	<ul style="list-style-type: none"> <li>- Public and stakeholder involvement record.</li> <li>- Prioritized list of specific rural needs, strategies, goals, objectives.</li> </ul>	On-going, as needed. Changes in economy, demography, disaster response, etc.
2. Prepare Monitoring Plan and Performance Measures	RPO/TxDOT	TxDOT District	Multi-year	Collect system performance data from existing resources and information systems.	Monitoring plan. Performance measures and metrics.	Annually, as needed
3. Assess the Rural Multimodal Transportation System	TxDOT with RPO	TxDOT District	On-going	Document the state of existing conditions. Identify future needs and costs. Conduct outreach and education.	Description of current conditions and needs. Funding sources and investment scenarios.	As needed.
4. Prioritize Project and Funding Scenarios	TxDOT with RPO	TxDOT/ RPO	4 years	4-yr prioritized program of projects. Constrained funding scenarios.	Rural TIP. UTP. Recommendations.	Annually
5. Prepare 10-Year Plan Recommended Project and Investment Strategies	TxDOT with RPO	TxDOT/ RPO	10 years	Communication plan. Investment scenarios.	Investment Strategies 10 year plan of projects.	4–5 years
6. Implement Projects and Monitor System Performance	TxDOT/ RPO	TxDOT District	On-going	Design PS&E, letting, construct, maintain, monitor.	PS&E, letting, monitoring data reporting.	On-going

## **STEP 1: IDENTIFY RURAL AREA NEEDS, STRATEGIES, GOALS, AND OBJECTIVES**

Rural counties in Texas (counties located outside MPO boundaries) have a wide range of transportation issues and needs to be addressed through short- and long-term planning. The objective of this step is to evaluate key considerations early and carry them forward in the planning process in answering the question: “What do we want to accomplish?” This step establishes the performance-based planning and programming process that will address the local area needs and how the TxDOT district staff will cooperate with the RPO and rural stakeholders.

The major elements and activities of this step include:

- Establish the local area process for identifying transportation needs and priorities.
- Present the performance-based planning, programming, monitoring requirements, and how to:
  - Use it to meet local area needs and support statewide goals and objectives.
  - Use it to communicate with public.
  - Determine how completed projects achieve/do not achieve local goals and objectives.
- Identify and prioritize local area needs, goals, and objectives.
- Review strategic plans, TTP 2040, FAST, MAP-21, UTP 2015, and HB 20 for consistency in planning emphasis areas and goals with local rural goals and priorities.
- Identify funding sources and relevant programs.

The goals and objectives identified through discussions with local area officials will be used to:

- Establish a range of appropriate performance measures and metrics covering the legislatively required areas and the areas identified through local area coordination that support the statewide goals.
- Identify data resources to be used to monitor performance.
- Identify measures and metrics that support the goals and objectives.
- Assign weighting method to reflect priorities.
- Develop a method using the selected performance measures and metrics to assess the current system to create a baseline for assessing future projects.
- Identify existing monitoring methods (and develop additional methods as needed) to monitor the system and evaluate individual projects.

Table 3 summarizes key responsibilities, time frame, activities, and products resulting from completion of Step 1 of the Performance-Based Planning framework.

**Table 3. Step 1 Summary for Rural Performance-Based Planning.**

<b>Step 1: Identify Rural Area Needs, Strategies, Goals, and Objectives</b>					
<b>Who Develops</b>	<b>Who Approves</b>	<b>Time Horizon</b>	<b>Activities/Content</b>	<b>Products</b>	<b>Update</b>
RPO/TxDOT	TxDOT District	On-going	Coordinate with existing plans. Public involvement and stakeholder activities. Process for identifying transportation needs and priorities.	Public & stakeholder involvement record. Prioritized list of specific rural needs, strategies, goals, objectives.	Annually, as needed, for changes in economy, demography, disaster response, etc.

### **HOW TO IDENTIFY VISION, GOALS AND STRATEGIES**

The starting point for identifying vision, goals, and strategies is to review existing TxDOT statewide and rural transportation plans for consistency. Although rural transportation needs may vary by region, and stakeholder input, the overall goals should be consistent with existing TxDOT transportation plans and programming documents described earlier in this guidebook (see Background).

### **HOW TO IDENTIFY NEEDS**

There are many needs also described in existing TxDOT planning documents. The purpose of this step is to narrow identified needs that are most important and relevant to your region. This is where input from area engineers, along with county judges, commissioners, and local officials is very important. Districts can have outreach meetings and workshops to review on-going and planned projects, funding categories, and availability.

### **WHAT MAKES A GOOD PERFORMANCE MEASURE?**

“What gets measured gets done; what gets recognized gets done even better.” A performance measure is considered “good” if it leads to developments that improve the conditions it monitors.

### **SMART Performance Measures**

“SMART” performance measures are: Specific, Measurable, Attainable, Realistic, and Timely. The SMART model is a popular performance measure-setting tool with each letter in the word SMART represents an actionable performance measure:

**S – Specific:** Is the performance measure detailed enough so that it is well understood by those involved in its monitoring and by stakeholders?

**M – Measurable:** How will those involved in collecting the performance data know the improvement has been accomplished and how will stakeholders determine its success?

**A – Attainable:** Is collecting the performance data feasible given the resources available?

**R – Relevant:** Does the performance measure advance the organization’s vision, mission, values, principles, and strategies?

**T – Time bound:** Do the performance data have a target date for completion?

## **How Many Measures Are Needed?**

The amount of measures needed is as many as needed to monitor the transportation system and meet requirements, and few enough to be easily managed. The number of measures, even it is just one, depends on what you are communicating and to whom.

## **OBJECTIVES**

At the end of this step, the rural planning team should:

- Have an established public and stakeholder record of involvement along with roles, responsibilities, and priority ranking.
- Have a prioritized list of specific rural needs, strategies, goals, and objectives.
- Have a process to update these needs on a regular basis to account for changes in the economy, demography, disaster response, etc.





## **STEP 2: PREPARE MONITORING PLAN AND PERFORMANCE MEASURES**

This step identifies performance measures and metrics and prepares the monitoring plan that will be used for the district (or RPO region). There may be a wide range of issues, needs, goals, and objectives across the districts. There are also existing TxDOT performance measures and monitoring plans from TxDOT divisions and information systems that can be referenced.

Table 4 summarizes key responsibilities, time frame, activities, and products resulting from completion of Step 2 of the Performance-Based Planning framework.

The goals and objectives identified through discussions with local area officials will be used to:

- Establish a range of appropriate performance measures and metrics covering the legislative required areas and the areas identified through local area coordination that supports the statewide goals.
- Identify data resources to be used to monitor performance.
- Identify measures and metrics that support the goals and objectives.
- Assign weighting or method as needed to reflect priorities.
- Develop a method using the selected performance measures and metrics to assess the current system to create a baseline for assessing future projects.
- Identify existing monitoring methods (and develop additional methods as needed) to monitor the system and evaluate individual projects.

**Table 4. Step 2 Summary for Rural Performance-Based Planning.**

<b>Step 2: Prepare Monitoring Plan and Performance Measures</b>					
<b>Who Develops</b>	<b>Who Approves</b>	<b>Time Horizon</b>	<b>Activities/Content</b>	<b>Products</b>	<b>Update</b>
TxDOT with RPO	TxDOT District	Multi-year	Collect system performance data for the region from existing TxDOT plans, resources and information systems.	Monitoring plan performance measures	Annually, as needed

### **HOW TO IDENTIFY PERFORMANCE MEASURES**

Performance-based planning is not new to TxDOT. Many elements of the transportation project development process already include performance measurement and monitoring. In response to the new requirements of MAP-21 and FAST, TxDOT is taking steps to prepare for performance-based planning requirements. TxDOT drafted the following set of preliminary performance measures for the Texas transportation system to be used by decision makers at the national, state, and local levels. Table 5 shows those preliminary performance measures and the goal areas they are aligned with.

The TxDOT UTP can also be referenced to for performance measures as these are often tied to recent legislation and those identified in MAP-21 and FAST. For example, in the 2017 UTP, historical average crash rates and fatality rates for given routes are used to weigh safety metrics.

**Table 5. Preliminary Performance Measures Monitored by TxDOT and TEMPO and Aligned with MAP-21/FAST Goals.**

<b>Goal Areas</b>	<b>Measures</b>
<b>Safety</b>	<ul style="list-style-type: none"> <li>• Fatality Rate</li> <li>• Number of Fatalities</li> <li>• Serious Injury Rate</li> <li>• Number of Serious Injuries</li> </ul>
<b>Freight</b>	<ul style="list-style-type: none"> <li>• Annual Hours of Truck Delay</li> <li>• Truck Reliability Index</li> </ul>
<b>National Highway System Performance</b>	<ul style="list-style-type: none"> <li>• Annual Hours of Delay—National Highway System (NHS)</li> <li>• Annual Hours of Delay—Interstates</li> <li>• Annual Hours of Delay—Non-interstate NHS</li> <li>• Reliability Index—NHS</li> <li>• Reliability Index—Interstates</li> <li>• Reliability Index—Non-interstate NHS</li> </ul>
<b>Transit Condition</b>	<ul style="list-style-type: none"> <li>• Transit Fleet State of Good Repair</li> </ul>
<b>Bridge Condition</b>	<ul style="list-style-type: none"> <li>• Structurally Deficient Deck Area Bridges</li> <li>• Bridges with Cyclic Maintenance Needs</li> <li>• Bridges with Preventative Maintenance Needs</li> <li>• Bridges with Rehabilitation or Replacement Needs</li> </ul>
<b>Pavement Condition</b>	<ul style="list-style-type: none"> <li>• Interstate Pavement Condition</li> <li>• Non-interstate NHS Pavement Condition</li> </ul>

## **OBJECTIVES**

At the end of this step, the rural planning team should:

- Be able to collect system performance data from existing resources and information systems.
- Have completed a performance monitoring plan.

## **STEP 3: ASSESS THE RURAL MULTIMODAL TRANSPORTATION SYSTEM**

The system assessment should be communicated to stakeholders to describe: "...where we are, and what do we need to do." The system assessment should be communicated to stakeholders to describe the state of the rural multimodal transportation system. Generally, the needs exceed the funding available to fill that gap. This step should allow for enough information to develop investment scenarios that reflect the priorities. The goals and objectives in Step 3 are to:

- Use the selected performance measures, metrics, and established process to perform an initial assessment of the transportation system. This assessment is used to establish a baseline from which individual projects are evaluated and from which the transportation system is monitored to identify future needs.
- Communicate the results of the system assessment to the RPO, RTPO, counties, and cities.
- Based on the initial system assessment and identified goals and objectives, work with RPO, RTPO, counties, and cities to identify candidate projects to be included in the rural transportation plan.
- Create investment scenarios and financial estimate forecasts.
- Assess connectivity to adjacent regions.
- Identify funding sources and availability.
- Identify project readiness and project development timelines.

Table 6 summarizes key responsibilities, time frame, activities, and products resulting from completion of Step 3 of the Performance-Based Planning framework.

**Table 6. Step 3 Summary for Rural Performance-Based Planning.**

<b>Step 3. Assess the Rural Multimodal Transportation System</b>					
<b>Who Develops</b>	<b>Who Approves</b>	<b>Time Horizon</b>	<b>Activities/Content</b>	<b>Products</b>	<b>Update</b>
TxDOT/RPO	TxDOT District	On-going	Document the state of transportation system and existing conditions. Identify future needs and costs. Conduct outreach and education.	Description of current conditions and needs. Identify funding sources and investment scenarios.	As needed

### **OBJECTIVES**

At the end of this step, the rural planning team should:

- Have a complete description of current conditions and needs.
- Conduct additional outreach and education.
- Identify funding sources and preferred investment scenarios based on reporting of performance numbers during public outreach.



## **STEP 4: PRIORITIZE PROJECTS AND FUNDING SOURCES**

This is not a wish-list, but a list of real projects with cost estimates, limits, and funding sources in answer to the question: "...What will it take?" The output from this would be the Rural Transportation Improvement Program (RTIP) or similar programming document (an example plan is in the Appendix). The goals and objectives of Step 4 are:

- Use the performance measures/ metrics, and initial baseline system assessment to conduct analyses for specific projects identified as candidates for inclusion in the plan.
- Prioritize projects based on the above analyses and anticipated funding.
- Present the results of the prioritization to RPOs, counties, and cities, and obtain feedback on projects.
- Identify projects to be included in the first four years of the RTIP, showing a fiscally constrained approach to reaching goals and objectives.
- Identify projects to be included in the last four years of the RTIP.
- Allocate resources based on project prioritization and selection criteria.
- Ensure project selection is consistent with system performance expectations.

Table 7 summarizes key responsibilities, time frame, activities, and products resulting from completion of Step 4 of the Performance-Based Planning framework.

**Table 7. Step 4 Summary for Rural Performance-Based Planning.**

<b>Step 4. Prioritize Projects and Funding Scenarios</b>					
<b>Who Develops</b>	<b>Who Approves</b>	<b>Time Horizon</b>	<b>Activities/Content</b>	<b>Products</b>	<b>Update</b>
TxDOT in cooperation with RPO	TxDOT/ RPO	4-years	4-yr prioritized program of projects. Constrained funding scenarios.	Rural TIP UTP Recommendations	Annually

### **PERFORMANCE PLANNING TOOL**

The performance-planning tool intended for use with this guidebook is designed to aid analysts in establishing and using rural performance-based transportation system assessment, monitoring, planning, and programming to support the RTPO, TxDOT’s districts, and statewide long-range planning effort. The analyst is encouraged to read the user manual to understand the tool. The tool is developed based on users’ needs and data availability. It provides two types of scoring work sheets for user to select:

1. Quantitative Scoring Worksheet (based on value of performance measures).
2. Qualitative Scoring Worksheet (based on subjective ranking of performance measures).

#### **Quantitative Scoring Worksheet**

The quantitative worksheet is appropriate for users that have detailed data on various performance measures for projects. The worksheet considers two safety performance measures (fatality rate and serious injury rate), a pavement performance measure (pavement condition

score), freight performance measure (truck travel time reliability index), and transit performance measure (state of good repair).

In addition, the tool allows users to enter weights for each of these performance measures and helps ranking various projects based on each of these performance measures or their combination.

### **Qualitative Scoring Worksheet**

The qualitative worksheet is appropriate for users who do not have complete performance measure data to support the project but have general assessment of each of the performance measure including safety, pavement, freight, and transit. The tool also considers connectivity and mobility aspects of the project.

The user clicks on the cell under each performance measure and chooses the qualitative value from dropdown (i.e., high/medium/low). The performance measure connectivity and mobility suggest increases in connectivity and mobility due to proposed project. If the user believes the project will increase connectivity, they can rate it high. If a user thinks the project will not add to existing mobility, they can rank it low. The users are provided an option to weigh each of these performance measure in terms of importance assigned to them and a combined weighted score is calculated based on users subjective input and weights assigned to each of these performance measures.

### **OBJECTIVES**

At the end of this step, the rural planning team should:

- Be able to prioritize projects in your area using the planning tool.
- Have recommendations for transportation improvements.

## **STEP 5: PREPARE PLAN TO COMMUNICATE RECOMMENDED PROJECT AND INVESTMENT STRATEGIES**

This step answers the question: “How are we going to accomplish our goals?” TxDOT districts will prepare these 10-year plans and present the results to RPOs, counties, and cities. The 10-year plan should include:

- Identification of current trends, performance expectations, and targets.
- Strategies consistent with Strategic Plan and long-range transportation planning goals, and UTP.
- A 10-year regional multimodal transportation plan of projects.
- Recommendation for investment scenarios and priorities based on needs and available funding.
- The recommended projects and investment priorities to stakeholders.
- Performance results from previous implementation and monitoring.

This step prepares a regional multimodal transportation planning document that includes the results of Steps 1–4 (or a summary of key information from these steps) that communicates to stakeholders the needs, strategies, projects, and funding needed to address the region’s transportation priorities.

Table 8 summarizes key responsibilities, time frame, activities, and products resulting from completion of Step 5 of the Performance-Based Planning framework.

**Table 8. Step 5 Summary for Rural Performance-Based Planning.**

<b>Step 5. Prepare Plan to Communicate Recommended Project and Investment Strategies</b>					
<b>Who Develops</b>	<b>Who Approves</b>	<b>Time Horizon</b>	<b>Activities/Content</b>	<b>Products</b>	<b>Update</b>
TxDOT with RPO	TxDOT/RPO	10 years	Regional Multimodal Transportation Plan Communication plan. Investment scenarios.	Investment Strategies 10-year plan of projects.	4 years

### **DETERMINE PREFERRED METHOD OF COMMUNICATION TO THE PUBLIC AND OTHER USERS**

Tables, maps, and graphics are all effective in communicating your monitoring results to different audiences. While tables of data can be effective in communicating results, providing location on maps or presenting data over time through trend analyses are visually effective. It is important to know the audience when selecting communication tools.

#### **Maps**

Use map-type graphics when possible. Stakeholders relate easily to their physical environments. Choose an appropriate scale where the area and its context are large enough to orient the reader, while balanced against the need to show enough detail. Consider the needs of the viewer when

preparing the maps. Consider what you want viewers to see and what visual information you need to provide so they can orient themselves. Avoid extraneous information on the map. Include only the information that is meaningful to the purpose of the data.

## **Tables**

Data tables serve a valuable purpose. Tables should be able to stand alone, be concise, and use simple but clear labels and titles. You should use graphic aids like lines, shading, or spacing to separate data groups. These graphic aids should be used both horizontally and vertically in the table. Separating data groups helps the reader understand where data categories change. Use consistent table formats in your documents with a font that differs from document text.

## **Effective Communication and Documentation**

To better connect with elected officials and the general public, craft your results into a story about the community where your readers live, work, and play. Tips for effectively communicating recommended project and investment strategies include (9):

- Writing in a clear, concise language that stakeholders can understand.
- Choosing an easy-to-read layouts and spell out acronyms.
- Making the document visually appealing with powerful graphic designs and maps to convey results.
- Keeping the document brief and only providing relevant information.

## **OBJECTIVES**

At the end of this step, the rural planning team should:

- Be able to effectively communicate recommended project and investment strategies to the public and other users.
- Be able to effectively document and display performance.
- Have a completed regional multimodal transportation planning document.



## **STEP 6: IMPLEMENT PROJECTS AND MONITOR SYSTEM PERFORMANCE**

This step is an on-going process of implementation and monitoring intended to answer the question: “How did we do?” Implementation and monitoring is intended to use existing TxDOT monitoring and information system resources. This step should include:

- Ongoing monitoring and reporting.
- Communication of performance outcomes.
- Collaborative evaluation to improve strategies.

Table 9 summarizes key responsibilities, time frame, activities, and products resulting from completion of Step 6 of the Performance-Based Planning framework.

**Table 9. Step 6 Summary for Rural Performance-Based Planning.**

<b>Step 6. Implement Projects and Monitor System Performance</b>					
<b>Who Develops</b>	<b>Who Approves</b>	<b>Time Horizon</b>	<b>Activities/Content</b>	<b>Products</b>	<b>Update</b>
TxDOT/ RPO	TxDOT District	On-going	Design, PS&E, letting, construct, maintain, monitor.	PS&E, letting, monitoring data reporting.	On-going

### **ONGOING MONITORING**

A successful performance monitoring program requires continued measurement. One-time measurements will provide only a snapshot in time of the conditions in your community. Ongoing mobility monitoring is essential for you to identify and track changes. Ensuring your monitoring is adequately supported and funded can help guarantee ongoing success. The motivation for continued monitoring should be recorded in the monitoring plans outcomes/desires/objectives. Keep the question “What do we want the press release to say this year, next year, etc.?” in mind. If you desire to report your progress or to strengthen your case for needed resources, continued monitoring is needed.

### **HOW OFTEN SHOULD I MONITOR?**

For programs beginning a performance monitoring process, an annual or bi-annual cycle with some limited, more frequent monitoring may be an adequate starting point. As support for your performance monitoring program grows from municipal or county leaders and the general community, you may seek to increase the monitoring frequency for greater feedback to these stakeholders.

Monitoring frequencies greater than five years may not provide your community enough clarity on changes. Lengthy frequencies may not assist you in detecting smaller changes resulting from population growth and economic development activities within your community. Such long gaps in monitoring may also reduce your ability to detect early warnings of decreasing mobility and safety and, therefore, implement corrective actions.

## **OBJECTIVES**

At the end of this step, the rural planning team should:

- Have a plan to regularly monitor and report project implementation and progress.
- Be able to effectively communicate monitoring results using principles from Step 5.

## APPENDIX. SAMPLE RURAL TRANSPORTATION PLAN

The following represents a mock table of contents for a rural transportation plan report, if needed. Descriptions are provided under the major topic headings to show what should be included in each chapter. The annotated contents are intended to guide planners and officials in preparation of the document that presents the background, planning process, and selected transportation options for the community (10).

### Rural Transportation Plan

### Any County, Texas

### Annotated Outline of Contents

#### Chapter 1. Introduction and Summary

##### A. Purpose

Improvements to the transportation system are important to sustaining the economic vitality of the region. The county began the process of updating the regional transportation plan on \_\_\_\_ during \_\_\_\_ month last year. Many suggestions have been advanced by citizens and elected officials, and this work will evaluate those suggestions.

##### B. Public Involvement Process

The plan recognizes the importance of citizens actively participating in the development, evaluation, and selection of transportation alternatives. For that reason a certain number of meetings were held, and these additional outreach activities were designed to ensure opportunity for input into the regional plan.

##### C. Project Selection Process

A large amount of data is required, including traffic counts, travel projections, environmental assessments, and the citizen input. Population and employment projections contributed to the considerations of appropriate transportation system improvements.

##### D. Special Issues

The county boasts several lakes and tourist locations that attract large numbers of visitors during the summer and on some holidays. The seasonal nature of travel and the impact on the system are considered in this report.

#### Chapter 2. Description of the Region

##### A. Population

Describe the population (past, present, and projections); include tables and graphs.

##### B. Employment

Describe employment (past, present, and projections); include tables and graphs.

#### C. Economic Conditions and Considerations

Discuss the economic conditions and considerations.

#### D. Built and Natural Environment

Present relevant characteristics of the built or natural environment that will affect development of the transportation plan. For instance, delineate the existing roads and highways, describe transit or vanpool service that operates in the area, and provide information on major areas of activities, such as the central focus of agricultural activities or other important local events.

### Chapter 3. Statement of Vision and Goals

Include a positive statement of the desired outcomes for the county once the transportation plan is implemented. An example is as follows: “The regional transportation plan for the county is designed to support a high-quality lifestyle for its residents, promote economic activity while valuing the natural resources, and facilitate travel within and outside of the region in a safe and cost-efficient manner.”

A few examples of goals are shown below:

- Improve the safety of the traveling public and reduce the number of accidents in the county.
- Increase the offerings of public transportation for all residents but particularly for those residents who do not own automobiles or are elderly and unable to drive.
- Support employment and economic development.

### Chapter 4. Transportation System Deficiencies

Identify and describe anything known to be inefficient or ineffective in the system. Examples include high accident-rate locations, bottlenecks that occur at an agricultural warehouse or storage facility, or any problem that a transportation system improvement might alleviate.

### Chapter 5. Plan Elements

The purpose of the plan elements is to determine the actions that the county should pursue to meet the needs identified in the transportation deficiencies section, that respond to the goals and objectives, and that match the population and employment trends. These actions may include:

- street repairs, safety, and operational improvements;
- new roads or bridges;
- public transportation;
- freight and goods transportation considerations;

- environmental considerations or mitigation measures; or
- other elements.

## Chapter 6. Funding and Financial Components and Implementation

Provide estimates for capital costs, project revenues, and expenditures over the project life. Requirements are that the plan be financially constrained and that it is within the funds projected to be available.

Appendix.

Additional information that supports or explains the plan elements is included here.



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