



# Transportation System Plan Guidelines

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Oregon Department of Transportation

April 2020

# Transportation System Plan Guidelines

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# What is a TSP?

A TSP describes a transportation system and outlines projects, programs, and policies to meet transportation needs now and in the future based on community aspirations. A TSP typically serves as the transportation component of the local comprehensive plan.



## WHAT IS A TRANSPORTATION SYSTEM PLAN?

A TSP describes a transportation system and outlines **projects, programs,** and **policies** to meet its needs now and in the future based on the community's aspirations.

## Questions the TSP Process will Help You Answer



What do we want?



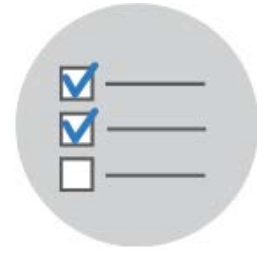
What do we have now?



What will we need in the future?



How will we fund our projects?



What should we do first?

## Making your TSP a Success

A successful TSP is as unique as the community it describes: its policy framework, planning direction, and selected projects and programs reflect a community's objectives and priorities to meet local multimodal transportation needs. Successful TSPs are developed in coordination with local city, county, regional, and state agency partners with input from local community leaders, business owners, and citizens.

# Regulatory Compliance

A TSP must be consistent with other TSPs and planning documents governing the region it serves and with the Oregon Transportation Plan and its modal and topic plans. TSPs are required by the Transportation Planning Rule documented in the Oregon Administrative Rule 660-012-0015.

## Example Transportation System Plans

### Region 1: Portland Metro

#### Gladstone TSP (2017)

The [City of Gladstone TSP](#) focuses on active transportation modes, multimodal connectivity, and the jurisdiction's connection to regional systems (e.g., Regional Transportation Plan or regional transit network). It is organized around modal elements and focused on system needs, with mapped modal plan projects, project lists, and photo illustrations of design treatments included in to each modal chapter.

#### Multnomah County TSP (2016)

The [Multnomah County TSP](#) was developed in conjunction with the county's Comprehensive Plan update. Notable elements include:

- Addresses a wide range of users (from farm equipment operators to a growing cycling community)
- Addresses areas with unique needs (e.g., Sauvie Island)
- Supplements discussions of safety with a comprehensive map of crash types
- Presents transportation solutions in a highly graphical, accessible toolbox
- Provides a robust set of policies with an emphasis on health, equity, and inclusion of wildlife considerations (crossings)
- Addresses bridges as a distinct element in the system plan.

#### Washington County TSP (2015)

Washington County created a TSP Users' Guide designed to be a user-friendly version of the [Washington County TSP](#). This document, like the TSP itself, makes effective use of graphics and photos to illustrate the modal elements that make up the transportation system. Development code amendments adopted in conjunction with the TSP focus on implementation of the active transportation and transit elements of the plan.

#### West Linn TSP (2016)

The [West Linn TSP](#) features quantifiable targets to accompany goals instead of standard objectives. These are used as performance measures for TSP implementation. The bicycle element includes guidance from the League of American Bicyclists regarding bicycle-friendly communities and bicycle facility design guidance in a graphic matrix format. The plan includes constrained cross-section options for all functional classifications from minor arterials to local streets, and it has a well-developed transportation system management and operations section.



## Wilsonville TSP (2013)

The [2013 Wilsonville TSP](#) represents a new generation of reader-friendly TSPs with simple chapter categories and a heavily graphic orientation. The plan establishes an extensive set of policies that are more topic-oriented and includes policy areas such as connectivity and interchange management areas. Active transportation options are provided in both cross-sections and plan views for shared-use path, trail, and protected bike facility designs. The TSP presents recommended projects and programs in their own respective chapters and includes performance measures based on measures recommended by Metro.

## Region 2: Willamette Valley and North Coast

### Cottage Grove TSP (2015)

The [Cottage Grove TSP](#) is a small community TSP and a good example of simple, clear document organization. The transportation projects are divided into financially constrained and illustrative (aspirational) categories. The plan identifies a wide range of pedestrian and bicycle treatments in the standards section; however, it does not provide design guidance (e.g., cross-sections) for the treatments.

### Eugene TSP (2017)

The [Eugene TSP](#), an adopted TSP from a large community includes a major university and an airport, and features extensive modally oriented policies. Policies specifically address complete streets, climate change, and equity, reflecting a triple-bottom-line planning and decision-making approach. The TSP explains its relationship to the state-mandated Regional TSP and the federally mandated Regional Transportation Plan. The TSP provides helpful graphics showing bicycle and pedestrian facility types, including neighborhood greenways, and organizes pedestrian and bicycle projects by treatment type.

### Gearhart TSP (2017)

The [Gearhart TSP](#) presents four improvement packages for different funding scenarios, including a financially constrained scenario. The plan includes a discrete section on emergency routes; describes Lifeline Routes and evacuation routes; and provides an evacuation route map showing the Lifeline Route (US 101), bridges and culverts, and tsunami assembly areas. Specialized street cross-sections allow for queuing on narrow local streets and include guidelines for modifying design elements in constrained areas. The TSP makes funding recommendations related to the City's existing road district tax (a rare funding source) and other sources appropriate to the community's tourism-based economy (e.g., transient room tax). The plan acknowledges that a project extensive enough to reduce congestion on US 101 would likely have unacceptable impacts on the community. The state and city must therefore address congestion by means such as introducing travel demand options; enhancing local street connectivity; maximizing system efficiency; and increasing walking, biking, and transit ridership.

### Aumsville TSP (2010)

Aumsville is a small community accessed by a state highway, OR 22. The [Aumsville TSP](#) has several exemplary elements for communities similarly situated and of a similar size. The plan presents transportation needs and recommends improvements based on two scenarios: build-out of the Urban Growth Boundary and Urban Growth Boundary expansion. Each recommended bicycle and pedestrian project briefly identifies the need addressed by the project. The plan includes a table of transportation demand management strategies that provides estimates of the trip reduction potential of each strategy. Access management strategies from the OR 22/Shaw Highway Interchange Area

Management Plan are incorporated into the TSP. The funding section provides a methodology for a potential new Transportation System Development Charge program.

## Region 3: Southwestern Oregon

### Jackson County TSP (2017)

Jackson County has roadway authority over several unincorporated urban areas and must coordinate transportation system planning with a number of cities and the Rogue Valley Metropolitan Planning Organization, or MPO. An important accomplishment embodied in the [Jackson County TSP](#) is the inclusion of updated goals and policies that clarify the county's development-related expectations and requirements as they pertain to transportation improvements. Exemplary TSP goals and policies articulate the county's expectations regarding design guidelines and development regulations, jurisdictional transfer, and transit improvements. In addition, the Goals and Policies section contains credible objectives related to coordination within the MPO, financing and project prioritization, and planning a multimodal transportation system that is responsive to environmental and scenic resources.

### Phoenix TSP (2016)

The city of Phoenix straddles and is adjacent to major state facilities including I-5 and OR 99. The project lists in its TSP identify which projects may be bundled with others listed. The [Phoenix TSP](#) incorporates and/or refers to elements of the Fern Valley Interchange Area Management Plan, including alternative mobility targets and a trip budget overlay zone. In a strong visual display, the plan provides project cost by mode pie charts for both city project costs and those shared by ODOT and the developer.

### Talent TSP (2015)

The [Talent TSP](#) categorizes projects into two tiers. Projects reasonably likely to be funded are in tier 1 and those that need new or additional funding are in tier 2. The TSP provides innovative cross-sections that enhance the safety and operations of the bicycle and pedestrian modes, particularly on key facilities in the city. The plan emphasizes trail improvements and connections, including those for the regional Bear Creek and Wagner Creek Greenways. The improvements recommended in the TSP are referred to as complete street and trail projects.

### Brookings TSP (2017)

The [Brookings TSP](#) provides a good overview of the city's demographics and the location of vulnerable communities (Title VI and Environmental Justice populations). The plan includes strong active transportation elements such as:

- A map of pedestrian and bicycle network opportunities and constraints
- A bicycle parking inventory
- Performance measures including pedestrian level of service and bicycle level of stress (color-coded mapping)
- Safety/crash analysis for non-motorized modes

It also features specialized street cross-sections including hillside and residential street designs differentiated by the number of dwellings accessing the street and the proximity of parking. Recommended projects are effectively formatted as prospectus sheets. Bicycle improvement projects are notable and include recommended kiosk locations for information, rest stops/seating, bike tools, and other resources.

## Region 4: Central Oregon

### Klamath Falls Urban Area TSP (2012)

The [Klamath Falls Urban Area TSP](#) is a jointly-adopted plan that documents both city and county facilities within the city's Urban Growth Boundary. Recommended projects are documented in geographic information system-based maps and are further defined in specific project prospectus sheets.

### Crook County TSP (2017)

The [Crook County TSP](#) is organized around modal elements and focused on system needs. Within each modal element section, the TSP outlines a cost summary with expected County contribution to roadway projects by cost. Each section includes a table listing project descriptions, cost, funding partners, relative priority, and a modal plan map that identifies the locations of the listed projects. Another exemplary feature is the Roadway Design Standards section, which describes how County roadways are to be designed to city standards within the City of Prineville's urban growth boundary, providing clear direction for updating the two governments' Urban Growth Management Agreement.

## Region 5: Eastern Oregon

### Pendleton Active Transportation and Transit Plan TSP Update (2016)

The [Pendleton Active Transportation and Transit Plan](#) is a focused, graphical, and reader-friendly document. The plan presents projects in tables and prospectus sheets, a format the city intends to use in future grant proposals. The project prospectus sheets give a color-coded, at-a-glance evaluation of how well the projects address planning goals. The plan includes a robust trail section with enhanced project prospectus sheets (additional map) and trail cross-section options. The detailed transit plan addresses the variety of transit services in the Pendleton area and is based on service provider plans, an original survey, and other data analysis. The plan concludes with a graphical, high-level health-impact evaluation.

### Weston TSP (2015)

Weston is a very small community with no state facilities inside city limits. Its 2015 TSP includes local street cross-section options to accommodate combinations of parking and drainage swales as well as cross-section renderings showing vehicles typically seen in the community (e.g., tractors). The plan includes projects just outside the Urban Growth Boundary that the city would like ODOT and Umatilla County to take into consideration. The TSP features prospectus sheets for each project, a particularly strategic and helpful tool for cities such as Weston, which have no internal funding source for transportation. Policy and development code amendments (Volume II) emphasize transportation options for health benefits and cost-effectiveness.

### Nyssa TSP (2011)

A small community on the Oregon/Idaho border, the city of Nyssa is traversed by state highways. The [2011 Nyssa TSP](#) is an update of the non-motorized elements of the TSP focused on active transportation and trails. The plan incorporates helpful illustrations for the use of sharrows and a targeted set of projects to improve connections to the school and a detailed section on trails. Lists of recommended projects specify levels of project readiness.

For more examples of TSPs and other planning documents, see the [Transportation Planning Online Database](#).

# Why Update a TSP?

A TSP provides a comprehensive, multimodal picture of how the existing and future transportation system meets the needs of its users. While the Transportation Planning Rule requires most Oregon jurisdictions to adopt a TSP, there are many other good reasons to employ this critical long-range planning tool.

## Plot a clear course for your community



Show how your **transportation goals** meet the goals and needs of **planned land uses**



Determine where **planned transportation improvements** should be located and what right-of-way needs be protected



Provide rationale for making **prudent transportation investments** and land use decisions



Identify and advocate for **projects and services the community would like**, but cannot fund within the planning horizon

## Work toward shared goals

Your TSP tells others how transportation policies and investments support your broader community and regional goals. Being able to see where these goals overlap with those of other agencies opens valuable opportunities for collaboration.



## Attract and secure funds

Not only does a TSP provide a necessary linkage to the [Statewide Transportation Improvement Program](#) to secure funding, it also provides the policy foundation and documentation of need to support other transportation funding decisions and requests.

## Getting results

Read how TSP updates have helped communities fund system investments, coordinate with other jurisdictions and agencies, and deliver projects.

### Increase potential funding

The Wilsonville TSP Update, funded through the Oregon Transportation and Growth Management program, will help the city pursue funding for projects on the state system. Adding these projects on the state system to the city's TSP will allow them to be added to the Regional Transportation Plan, a critical step in increasing their potential for funding.

See "[I-5/Wilsonville Road interchange discussed by Wilsonville council](#)" from the Portland Tribune.

### Support transportation decisions

As part of its Transportation and Growth Management-funded TSP update, the City of Ashland examined a road diet on North Main Street (OR 99) which would reduce the number of lanes from four to three, providing room for bicycle lanes. North Main Street is an alternative route to I-5, so the ODOT's Motor Carrier Transportation Division was brought in. After extensive consultations between the city and state and a major public involvement effort, the city proceeded with a one-year pilot project to restripe North Main Street. After the one-year pilot period, the city council voted to make the road diet permanent.

See the excerpt from [TGM Tangibles Volume II](#).

### Make major improvements through small, affordable steps

The City of Newberg was awarded an Oregon Transportation and Growth Management grant to prepare a pedestrian and bicycle plan, with a special emphasis on identifying a critical core network of Americans with Disability Act, or ADA accessible routes. Rather than wait until funding can be secured to construct improvements along an entire corridor, the plan identifies spot improvements that can strategically and affordably remove barriers along a route quicker and for a fraction of the cost. This plan resulted in an amendment to the City's TSP updating the bicycle and pedestrian elements to include the critical routes and improvements.

For more information on plan implementation, see the excerpt from [TGM Tangibles Volume II](#).

# When to Update a TSP

Like all planning documents, a TSP should be updated periodically to reflect growth and change. Many circumstances can trigger a TSP update, including state or regional compliance issues, and changing community priorities, and funding availability.

## Does my community need to have a TSP?

As allowed by the Transportation Planning Rule, the following may not be required to develop or adopt a TSP:



Cities with **fewer than 10,000 residents**



Counties with **fewer than 25,000 residents**



Unincorporated areas of counties within urban growth boundaries with **fewer than 10,000 residents**

The Department of Land Conservation and Development may grant a whole or partial exemption from Transportation Planning Rule requirements for these jurisdictions. Exempt jurisdictions are still eligible for state grant funding to prepare or update a TSP and may not be obligated to fulfill all the requirements in the Transportation Planning Rule.

## How long will it take?

Completing all elements of a TSP typically takes 12-15 months, with additional time for public adoption. Scope, complexity, staff availability, and number of agency participants can influence the timeline.

## What might trigger an update?



Unanticipated changes to the location or rate of change in population or employment.

Specific Examples:

- Urban Growth Boundary amendments
- Annexations
- New or relocated employment center



Changed community priorities that necessitate a reexamination of planned facilities and services.

Specific Examples:

- New economic development policies and programs that depend on adequate infrastructure to succeed
- Emergency preparedness objectives requiring planning for evacuation and supply routes
- Community health objectives and community interest in enhancing and investing in active transportation modes
- Funding constraints and the need to maximize the efficiency of the existing transportation system (i.e., community focus on active transportation and cost-effective improvements)
- Newly adopted Americans with Disabilities Act Transition Plans.



The current TSP document no longer addresses the existing or future transportation needs/vision/standards of the local jurisdiction.

Specific Examples:

- Need for new transportation projects based on updated future travel demand and a reassessment of capacity, deficiencies, and needs
- Need to update a Capital Improvement Program
- Plan amendments or zone changes have had unanticipated impacts on the community or one or more transportation facilities
- Specific modal elements need inclusion or update
- Roadway functional classifications and/or design standards between local and state jurisdictions are inconsistent
- Concerns about underlying conditions and capacity of roadways (reevaluation and reassessment needed)
- Current TSP planning horizon is less than 15 years from the present date



The current TSP is inconsistent with other local community plans or policies.

Specific Examples:

- Updated comprehensive plan elements
- New or updated transit development plan
- Updated system development charges/transportation impact fees
- Scheduled periodic review work program
- Urban Reserves designation
- Planning for the location or relocation of a major transportation facility
- Transportation refinement plans (draft, adopted by resolution, or legislatively adopted by reference into the TSP)
- Planning for major improvements on the state system (e.g., freeway interchanges or new bypasses)
- Plans related to access to and connectivity with other transportation modes (e.g., air, rail, transit, freight)



The current TSP is inconsistent with State or Regional plans or policies.

Specific Examples:

- For jurisdictions within a Metropolitan Planning Organization area, amendments to the area's Regional Transportation Plan
- Changes to state policy or requirements in the Oregon Transportation Plan or the associated mode and topic plans
- Proposed major projects that require Statewide Planning Goal exceptions (e.g., Goal 3, Agricultural Lands)

## When is a TSP update required?

An update is required under the Transportation Planning Rule in the following cases:

### Periodic Review

The jurisdiction is required and scheduled to undertake a Periodic Review process based on an evaluation and work program developed with the assistance of the Oregon Department of Land Conservation and Development; elements of the TSP have been identified as areas for review and possible updates.

While the process of completing a task on the work program varies based on the needs and practices of the jurisdictions and the nature of the task, the local process for developing a TSP is essentially the same as it would be for a plan amendment outside periodic review. The notice requirements, however, are different.

Periodic review requirements are established in ORS 197.628 to 197.650, and are interpreted and supplemented by OAR 660, Division 25.

### Major Plan Amendment

The jurisdiction is undertaking a major plan amendment that would significantly affect one or more transportation facilities.

The TPR requires local jurisdictions to evaluate proposed plan amendments and zone changes for consistency with adopted land use and transportation plans. This part of the TPR, OAR 660-012-0060, is commonly referred to as Section -0060. It is designed to address several important objectives:

- Ensuring that local governments consider transportation impacts of changes to land use plans
- Keeping land use and transportation plans in balance with one another by ensuring that the planned transportation system is adequate to support planned land use
- Addressing how needed transportation improvements will be funded
- Accommodating new development in a way that minimizes its traffic impacts

Section -0060 specifies a category of facilities, improvements, and services that can be assumed to be in place or committed and available to provide transportation capacity over a 20-year planning horizon. The Transportation Planning Rule guides local jurisdictions in determining what transportation improvements are reasonably likely to be provided by the end of the planning period when considering amendments to local plans and land use regulations.



# Regional Transportation Plan Impacts

For cities in a Metropolitan Planning Organization area, and there is a new or updated Regional Transportation Plan.

Local TSPs must be consistent with the applicable Regional Transportation Plan. A jurisdiction within a Metropolitan Planning Organization area must make findings that the proposed Regional Transportation Plan amendment or update is consistent with the local TSP and comprehensive plan or adopt amendments that make the Regional Transportation Plan and the TSP consistent with one another. (OAR 660-012-0016) TSP updates must occur within one year of the adoption of a new or updated Regional Transportation Plan. (OAR 660-012-0055).

## Transportation Planning Rule Citations

Statewide Planning Goal 12, Transportation, defines the State's policies on transportation. OAR 660 Division 12, also known as the Transportation Planning Rule, implements Goal 12. The Transportation Planning Rule requires:

- Most jurisdictions to prepare and adopt a regional or local transportation plan that serves as the transportation element of a comprehensive plan. ([OAR 660-012-0015](#))
- Local TSPs to be consistent with Regional TSPs. Where elements of the Regional TSP have not been adopted, coordination between the city/county and the regional transportation planning agency in the preparation of the local TSP is needed. ([OAR 660-012-0015](#))

# How to Update a TSP

There are four phases to preparing or updating a TSP:

- [Scope Phase](#)
- [Prepare Phase](#)
- [Adopt Phase](#)
- [Implement Phase](#)

## Scope Phase

The first phase in preparing a TSP involves identifying your community's objectives and defining the steps, tasks, and budget needed to meet them.

### Your Scope of Work



#### FRAME YOUR PLAN

- Determine the TSP's focus
- Draft a project statement
- Develop a timeline, staffing requirements, oversight responsibility, and budget



#### REVIEW THE FUNDING PICTURE

- Determine what local funding is secured
- Assess what other funding may be available



#### COORDINATE

- Outline how you will coordinate your planning effort with neighboring jurisdictions, metropolitan planning areas, transit providers and ODOT



#### ASSEMBLE YOUR RESOURCES

- Assign staff
- Seek expertise from a consultant if needed

## Coordinating with Other Cities and Counties

Local and Regional TSPs must be consistent with one another. Where elements of the Regional TSP have not been adopted, a city or county must coordinate preparation of the local TSP with the regional transportation planning agency. As part of this coordination effort, cities and counties should clearly define which TSP will govern county facilities located within the city's urban growth boundary.

## Coordinating with Metropolitan Planning Organizations

Local TSPs must also be consistent with the Regional Transportation Plan of the applicable Metropolitan Planning Organization. Jurisdictions within a metropolitan area must adopt TSPs that reflect regional goals, objectives, and investment strategies specific to the area and demonstrate how local transportation system planning helps meet regional performance targets. For best results, consulting with ODOT and the Metropolitan Planning Organization in the scoping phase to determine specific topics to be updated or included in the TSP to ensure consistency with state and regional plans.

## Assembling your Resources

Before assigning staff and/or hiring a consultant, a jurisdiction should:

- Assess available resources to determine the level of in-house expertise.
- Evaluate staffing options and determine the appropriate mix of staff/consultant expertise:
  - Use existing staff expertise or new staff.
  - Use a combination of staff and consultant expertise.
  - Use predominantly consultant expertise (local staff to review, not generate, work).
- Identify and secure sufficient funding for staff/consultant work to develop and adopt the TSP.
- If using a consultant, issue a request for proposals and select the consultant, accounting for time needed to execute a contract or work order and issue a Notice to Proceed.

## State Funding Assistance

ODOT has limited funding to assist local jurisdictions with transportation planning projects through the [Transportation and Growth Management Program](#) and through individual Region Statewide Planning and Research funding allocations. Generally, ODOT considers funding requests for TSP projects for jurisdictions that:

- Are required to have TSPs or ready for a TSP update.
- Are in critical transportation areas, non-exempt locations, or have unique transportation circumstances.
- Have an identified local agency project manager.

Typically, an intergovernmental agreement between ODOT and the local jurisdiction is required. As a condition of funding, the intergovernmental agreement and the scope of work must be approved by ODOT. ODOT may require project team members to possess specific licenses or certifications as a demonstration of necessary expertise. An ODOT project manager—typically a Region or Transportation Development Division planner—can provide technical assistance with the intergovernmental agreement and the scope of work. ODOT has several contracts in place that can expedite consultant selection for ODOT-funded TSP processes.

# Prepare Phase

This phase starts with the formulation of a public involvement and coordination plan and ends with the preparation of the actual TSP document. The steps in between relate to information gathering and analysis needed to develop elements of the TSP.

## Step 1: Agency/Public Engagement Plan

A key step in the development or update of a TSP is early coordination and formation of various agency advisory committees. These committees can be instrumental in supporting and guiding the technical aspects of the transportation planning process. A parallel effort involves early coordination and development of a plan to engage the public and community stakeholders throughout the planning process. This plan will define the means and methods by which Statewide Goal 1, Public Involvement, will be met in developing the TSP. This section provides guidance on agency coordination and development of a formal public-involvement plan.

[Agency Coordination Plan](#)

[Public Involvement Plan](#)

## Step 2: Goals and Objectives

One of the initial steps in the development of a TSP is to identify and validate the goals and objectives that support the desires and vision the community has for the existing and future transportation system. The following information expands upon their importance of goals and objectives in the planning process and provides guidance on their development. Guidance concludes with various samples that can serve as starting points for future TSPs.

[The Intent \(Why you do it\)](#)

[The Approach \(How you do it\)](#)

[Evaluation and Prioritization Criteria](#)

## Step 3: Existing Conditions

An early step in the development of a TSP is a review of the plans and policies that currently influence and shape the transportation infrastructure. This is followed by a thorough inventory and assessment of the existing multimodal transportation network. The following information provides a detailed overview of the various local, regional, and state planning documents that are typically reviewed in the development of a TSP. Detailed guidance is then provided on the inventory, assessment, and documentation of the existing transportation infrastructure.

[Plans and Policy Review](#)

[Existing Conditions Inventory](#)

[Existing Needs Determination](#)

[Funding Review](#)

[Documentation of Existing Conditions and Needs](#)

## Step 4: Future Conditions

Following the Existing Conditions assessment, the next step in the planning process is to analyze future multimodal travel demand and identify future needs (deficiencies and gaps) in the transportation infrastructure. The following information provides a detailed overview of the requirements and processes needed to prepare the Future Conditions assessment.

[Future Conditions Overview](#)

[Future Capacity Determination](#)

[Future Travel Demand Determination](#)

[Future Deficiencies Determination](#)

[Future Needs Determination](#)

## Step 5: Solution Development & Evaluation

The following information provides a detailed overview on how to develop, evaluate, and select multimodal transportation solutions.

[Developing and Evaluating Solutions Overview](#)

[Developing Solutions](#)

[Evaluating Proposed Solutions](#)

[Selecting and Prioritizing Preferred Solutions](#)

[Documentation](#)

## Step 6: Funding Program

The transportation funding program identifies which projects/programs developed in the TSP process will be funded based on existing and anticipated revenue sources as well as the projected costs of proposed projects and programs. This task is completed after the [Step 5: Developing & Evaluating Solutions](#) task and builds upon the preliminary [funding review assessment](#) prepared in the Existing Conditions analysis.

[Development of a Financially Constrained List of Transportation Projects/Programs](#)

[Identifying Potential Funding Sources](#)

[Documentation](#)

## Step 7: TSP Documentation

The TSP document is the culmination of the planning process. It identifies the goals and objectives of the TSP update and the new policies, plans, programs, and projects that will shape the transportation system over the planning horizon. The Transportation Planning Rule defined in Oregon Administrative Rule 660-012 outlines specific required content for all TSPs. The following sections outline these requirements while providing guidance and best practices on additional content, organizational format, and presentation.

[What a TSP Shall Include](#)

# Step 1: Agency/Public Engagement Plan

## Agency Coordination Plan

To ensure that all respective state and local agencies with a stake in the TSP are engaged, a coordination plan is typically developed. This coordination plan identifies which internal and external agencies should be involved in the TSP, the means and methods by which they participate, and what role they may play in the adoption and/or acceptance of the TSP. The level of agency coordination will depend on the jurisdiction, the available planning project budget, and the type and scale of the planning process. Jurisdictions are encouraged to consider the scope of the project and anticipate the level of agency interest it will generate when developing an agency coordination plan.

Advisory committees are the typical medium for bringing together the various levels of internal and external agencies. They can be composed of local, county, and state agency staff; local/regional transportation service providers; emergency service providers; and other technical and non-technical constituents that can help guide the technical and policy elements of the planning process. Most TSPs developed in recent years with funding from ODOT have included technical and non-technical advisory committees.

## Shall

At a minimum, agency coordination **Shall** include:

- An advisory committee process that follows local planning or code requirements
- Soliciting participation on advisory committees from Title II, Title VI and EJ populations

## Should

In addition to the items listed above, agency coordination **Should** include the following elements when locally appropriate and when funding allows:

- A committee to guide the technical elements of the planning process. This is often referred to as the Technical Advisory Committee.
  - Technical Advisory Committees focus on the technical analyses' methodologies and results to maintain consistency between and within jurisdictions as well as maintain compliance with state and regional plans and regulations.
  - Technical Advisory Committees members are typically identified and appointed by the city/county and include local agency staff such as planning directors, public works directors, traffic engineers, transit agency leaders, and other technical staff such as transportation analysts or modelers. Members might include representatives from ODOT, the county, adjacent cities, the Metropolitan Planning Organization (where applicable), transportation service providers, emergency services providers, local public health agencies, utilities, schools, and liaisons from the planning commission or council/commission/court.
- A committee to guide the nontechnical elements of the planning process. This is often referred to as a Stakeholder Advisory Committees or Citizen Advisory Committees.

- These nontechnical committees focus on policies and outcomes of the technical analyses and provide valuable insight into community priorities.
- Nontechnical committee members are typically identified and appointed by the city/county and include members of the general public such as: residents, property owners, business owners, representatives from underserved communities, advocacy groups, civic institutions, community centers, and senior centers. As with Technical Advisory Committees, it can also be helpful to include a liaison from the planning commission or council/commission/court.
- A project-specific charter that formally identifies roles, responsibilities, expectations, and procedures for attending meetings and providing feedback.

## Could

Although not typically required or critical to the development of most TSPs, agency coordination **Could** include the following elements when locally appropriate and when funding allows:

- Combined Technical Advisory Committee/Stakeholder Advisory Committee meetings.
  - Combined advisory committee meetings can be effective in small communities and in cases where each group understanding the perspectives of the other is beneficial to achieving consensus. However, there are several challenges to combining these groups: Technical Advisory Committee members are typically available during the day while Stakeholder Advisory Committee members are typically available at night; some Technical Advisory Committee members may not be comfortable speaking openly in front of some Stakeholder Advisory Committee members on potentially sensitive issues and vice versa; and some Stakeholder Advisory Committee members may not be comfortable with the technical nature of the discussions.

## Public Involvement Plan

A key requirement for developing or updating a TSP is a public involvement effort that brings citizens into the planning process. The Public Involvement Plan will define the means and methods by which Statewide Goal 1, Public Involvement will be met in developing the TSP. Special effort should be made to involve nontraditional transportation interests such as low-income and minority households and businesses, youth, the elderly, and other transportation disadvantaged populations. Most TSP processes will also include outreach to transportation interest groups, businesses, property owners, and other stakeholders.

Early and continued public involvement can lend support throughout the process. Effective engagement plans can help identify important community goals and issues, develop community understanding and confidence in the planning process, and, ideally, bring about broad local support for the plan. The level and type of public involvement will depend on the jurisdiction, the available planning project budget, and the type and scale of the planning process. Jurisdictions are encouraged to consider the scope of the project and anticipate the level of public interest it will generate when developing a public involvement plan. The number of meetings, open houses, virtual open houses, other events and distribution of materials can be tailored to match public interest in the project.

Workshops, community meetings, and online engagement invite the general public to participate in the planning process. They provide people with opportunities to learn about the TSP, ask questions, review project materials and progress to date, and provide feedback. Turnout at in-person workshops and community meetings can vary; however, they continue to play an important role in many public engagement efforts. This is due, in part, to the importance of

providing participants with the opportunity to meet face-to-face with project planners, local staff, and other key project leaders. Virtual and online engagement is a widely accepted and expected form of engagement that accommodates busy families, social media–focused generations, and those who are uncomfortable providing input in a public setting.

## Shall

The process in which the general public is engaged is flexible and should be tailored to the community. However, at a minimum, the Public Involvement Plan **Shall**:

- Include Workshops and Community Meetings (in-person or virtual/online):
  - Ensure that workshops and community meetings are structured to solicit feedback from participants
  - Include workshops and community meetings at strategic times throughout the planning process (i.e., existing conditions and future needs, transportation system solutions, financially constrained project list, draft TSP)
- Be inclusive of Title II, Title VI and Environmental Justice, or EJ, populations within the community (Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies)
  - Per ODOT Title VI Guidance, identify Title II, Title VI, and EJ populations early in the planning process so demographic information can inform the Public Involvement Plan.
  - The local jurisdiction will often have insight into the Title II, Title VI, and EJ populations; however, US Census data can be used to understand the different populations within the community. Census data can also be mapped to illustrate the location and concentration of Title VI and EJ populations within the community. See the [Regional Equity Atlas](#) for an example of how to map and use interactive mapping tools to identify various equity-based measures
  - Engage existing community organizations such as local churches or advocacy groups that work with or serve Title II, Title VI, and EJ populations.
  - Partner with nonprofits and established community groups, in particular those that provide assistance to minorities (speak the language, are trusted spokes people, etc.), to conduct outreach. See [Centro Cultural](#) for an example of a nonprofit organization of this type.
  - Ensure the planning process does not result in projects that have a disproportionate negative impact on Title II, Title VI, and EJ populations, such as displacing or creating barriers between them and the rest of the community.
- Include opportunities for Title II, Title VI, and EJ population input at stakeholder engagement meetings that are inclusive of key user groups within the community.

## Should

Although not formally required, the following public involvement efforts **Should** be included in the process when locally appropriate and when funding allows:

- Virtual/Online Engagement:
  - Project websites provide a one-stop location for:
    - Project overview/schedule
    - Latest news (project updates, meeting announcements, etc.)
    - Meetings and meeting materials (agendas, presentations, etc.)
    - Project documents (tech memos, reference materials, etc.)



- Project team contact information
  - Interactive project maps can be used to solicit feedback on transportation-related issues and potential solutions within the jurisdiction.
  - Virtual open houses can be used in conjunction with in-person open houses. They can and should provide participants with the same opportunities to provide feedback on meeting materials. Virtual open houses are particularly effective in larger communities where population is dispersed over a large area (e.g. rural communities).
- Title II, Title VI, and Environmental Justice
  - Advertise upcoming meetings in locations where Title II, Title VI, and EJ populations live and work.
  - Ensure advertisements are translated appropriately or include bilingual content to indicate how people can participate.
  - Host public meetings in locations that are accessible and where Title II, Title VI, and EJ populations will feel comfortable entering and participating, such as a community church or non-governmental facility.
  - Provide interpreters at public meetings, translated materials, and simultaneous interpretation for presentations (if available).
  - Evaluate the effectiveness of the Title II, Title VI, and EJ population engagement and make changes as needed throughout the planning process.
- Workshops and Community Meetings
  - Identify locations for workshops and open houses that are sufficient to meet the needs of the community.
- Stakeholder Engagement that targets the following groups:
  - Residents
  - Traditionally underserved residents (e.g., minorities, low-income residents, disabled, senior citizens, youth)
  - Transportation providers (e.g., transit operators, shuttle service providers, rideshare providers, freight operators, ports, railroads)
  - Transportation interest groups (e.g., road advisory committees, traffic safety committees, bicycle and pedestrian advocates, special interest advocacy groups)
  - Community economic interests (e.g., neighborhood associations, business associations, main street coalitions, chambers of commerce, local real estate boards)
  - Local public health organizations (e.g., county health departments, regional health equity coalitions, and public health focused nonprofits)
  - Local health care organizations (e.g., hospitals, clinics, and coordinated care organizations)
  - Affordable housing organizations (e.g., community development corporations, community action agencies, social service providers)
  - State transportation and planning agencies (e.g., ODOT, Oregon Health Authority and the Oregon Department of Land Conservation and Development)
  - Other jurisdictions (e.g., metropolitan planning organizations, councils of governments, adjacent cities, etc.)
  - Tribal groups (if applicable)
  - Elected and non-elected officials (e.g., mayors, city councilors, county commissioners, planning commissioners, etc.)

## Could

Although not typically required or critical to the development of most TSPs, public involvement efforts **Could** include the following elements when locally appropriate and when funding allows:

- Design Charrettes
  - Though not a common part of the TSP public involvement process, a design charrette could be used as a valuable inclusionary feedback tool when dealing with complex transportation or land use issues.
- Virtual/Online Engagement
  - Live stream meetings and presentations
  - Use online polling that allows participants to vote on an issue by sending a text message or electronic comments. The results can be updated in real time and displayed in a presentation.
- Workshops and Community Meetings
  - Provide supervised activities for children so parents can focus on the open house.
  - Include refreshments
  - Have raffle or prize drawings.

## Public Involvement Considerations/Best Practices

Many practices and approaches are common to all public involvement efforts. The following list of best practices should be considered when engaging in workshops/community meetings, stakeholder engagement activities, and charrettes.

### Considerations and Best Practices

- Workshops and Community Meetings
  - Advertise workshops and community meetings two or more weeks in advance so people can plan to attend. Effective advertising methods include:
    - Placing ads in local newsletters, newspapers, or other news media sources
    - Creating posters to hang in civic buildings, local businesses, and on community bulletin boards
    - Creating flyers to pass out at local events
    - Creating display boards and putting them in vacant storefronts
    - Using social media to advertise meetings and engagement opportunities
  - Identify locations for workshops and community meetings that are sufficient to meet the needs of the community. Effective workshop locations used in practice include:
    - Locations where people feel comfortable (e.g., churches, senior centers, schools, banquet facilities, etc.)
    - Well-lit and visible locations with adequate Americans with Disabilities Act–access
    - Popular locations (e.g., parks, high school football games, etc.)
    - Booths at local farmers markets, street fairs, or other events
  - Select workshops and community meeting locations away from government buildings to attract populations that are sensitive or suspicious of government programs and regulations. Consider partnering with local organizations to host public events in tandem with established meetings of local groups/committees.
  - Ensure that workshops and community meetings are structured to solicit feedback from participants. Effective meeting structures used in practice include:

- Providing a rolling PowerPoint presentation that people can watch independently to get acclimated to the project
  - Creating stations that focus on different travel modes or elements of the TSP
  - Providing participants with specific direction on the type of feedback you are looking for both prior to and at the meeting
  - Providing appropriate staff to answer questions and provide clarification
  - Encouraging dialogue and discussion with staff
  - Providing opportunities for people to give feedback on maps, flip charts, comments cards, and other media
  - Incorporating a survey
  - Providing a place for people to sit down and fill out comment cards
- Stakeholder Engagement
  - Define goals and objectives for stakeholder engagement that are agreed upon ahead of time and communicated throughout the planning process.
  - Develop evaluation criteria to determine stakeholder engagement effectiveness and make changes as needed throughout the update.
  - Develop procedures and strategies for stakeholder engagement and periodically review their effectiveness to ensure a full and open participation process.
  - Determine what role the jurisdiction will play in stakeholder engagement (lead/support, marketing/outreach, mailing/advertising, hosting project webpages/open houses, securing venues, etc.).
  - Stakeholder engagement meeting should occur at strategic times throughout the planning process (i.e., existing conditions and future needs, alternative development and screening, financially constrained project list, draft TSP).
- Charrettes
  - Charrettes should include a facilitator that leads and coordinates the work of the group.
  - When possible, charrettes should be hands-on events where participants are encouraged to provide input on a variety of materials.
  - Materials should be displayed so they are visible to the entire group. As work progresses, so should the displays, so people can visualize things moving forward.
  - Prepare a schedule for the charrette and communicate it to all participants in advance.
  - Prepare a timeline for each day of the charrette that identifies how much time will be spent on each activity.
  - Separate participants into multiple groups to address different issues or aspects of an issue.
  - Encourage participants to focus on one area throughout the charrette.
  - Have breakout sessions where participants discuss the issue or aspects of an issue, develop solutions, and report back to the larger group.
  - Ensure that a professional planner or engineer leads the breakout sessions to help people understand potential trade-offs.

# Step 2: Goals & Objectives

## The Intent (Why you do it)

How a jurisdiction defines and addresses transportation system needs through planning should be a reflection of community priorities. These priorities are typically reflected in the establishment of transportation goals and objectives. Goals provide direction for where a community would like to go; corresponding objectives provide more detail on how to achieve the goal or articulate desired specific outcomes related to the goal. The TSP goals and objectives provide a framework for shaping transportation policies and are the basis for the formation of performance measures and targets to help define gaps and deficiencies as well as evaluation criteria to determine which transportation projects, programs, pilot projects, and refinement studies best meet community needs.

Generally, goals and objectives should:

- Articulate community transportation priorities
- Define how the transportation system should ideally function
- Form the basis for developing measures to evaluate and select preferred infrastructure improvements
- Be the basis for comprehensive plan transportation policy statements

### Plan Objectives vs. Plan Policies

Cities and counties must adopt a local TSP as part of their comprehensive plans. This requires a comprehensive plan amendment after TSP adoption - either by replacing the transportation element of the comprehensive plan or adding references to the updated TSP. As discussed, the plan goals and objectives guide the development or update of a TSP. Toward the end of the planning process when jurisdictions identify solutions (projects, programs, policies, pilot projects, and studies) to satisfy needs, policy statements should be developed to help implement plan recommendations. These policy statements are the jurisdiction's comprehensive plan transportation goal policies and will help guide future actions, including land use decisions. Little modification will be needed to implement transportation system plan (project) objectives that are formatted and phrased in a way that is consistent with other adopted comprehensive plan policies and that have bearing on future decisions. TSP objectives that are more specific to the planning process, rather than future decision-making, may need to be modified to have utility beyond plan adoption.

Specifically, jurisdictions should reflect the following in the new or updated TSP planning goals and objectives:

- Transportation-related objectives and outcomes from past planning studies and adopted plans (e.g., downtown plans, hazard mitigation plans, hospital or health department community health assessments and improvement plans, consolidated housing and community development plans, health impact assessments, Americans with Disabilities Act transition plans, access management plans, corridor studies, special transportation area plans, etc.)
- Regional priorities, performance measures and targets (e.g., safety, mobility, single-occupancy vehicle trip reduction, air quality) especially in metropolitan planning organization areas as articulated in the Regional TSP
- Consistency with the goals, objectives, and operational and service standards of other transportation service providers managing facilities and servicing the community (e.g., ODOT, the county, transit providers)

- Alignment with new federal, state, and metropolitan planning organization policies
- New transportation-related policy objectives, modeling, management, and design techniques and approaches that were not prevalent or known during the last TSP planning process. These policies could reflect new trends (e.g., bicycle tourism, sea level changes, etc.) and/or current best practices within one or more modes

## The Approach (How you do it)

Jurisdiction staff will begin to formulate and articulate project goals and objectives at the very start of a TSP planning project. Project participants—in particular, advisory committee members—will further refine goals and objectives during one of the initial tasks of the planning process. Project goals should reflect the character and vision of the community and be consistent with other comprehensive plan objectives as well as the Transportation Planning Rule and regional, state, and federal plans and policies. This section provides guidance on how to develop or update goals and objectives organized under broad topic areas.

### Comprehensive Plan Policies and the TSP

Most jurisdictions will have transportation goals and policies in the adopted comprehensive plan. For jurisdictions with adopted and acknowledged TSPs, the document will likely have existing goals and objectives that guided the previous planning process. The comprehensive plan goals and policies may or may not be identical or similar to the TSP's goals and objectives, depending on when each document was last updated and the extent to which one plan's contents reflects the other.

When assessing the current relevance of existing goals, objectives, and policies, jurisdictions will need to look beyond the existing statements in the adopted TSP. Also relevant are local comprehensive plan policies that articulate current community conditions, aspirations, and priorities as they relate to the transportation system. Note that the review of the comprehensive plan is not limited to transportation policies alone and should include an assessment of goal and policy statements that have a bearing on the transportation system, including but not limited to those addressing housing, economic development, park and recreation planning, accessibility, and urbanization. Jurisdictions should identify adopted policies relevant to the planning process, explain how they might ultimately influence recommendations in the new or updated TSP, and document those that may need to be revised to be consistent with the new plan. See [Step 3: Existing Conditions - Plans & Policy Review](#).

ODOT has identified 10 topic areas that describe the state's vision for the transportation system:

- Communication, Collaboration and Coordination
- Safety and Security
- Health
- Mobility
- Accessibility and Connectivity
- Equity
- Community and Economic Vitality
- Environmental Sustainability
- Strategic Investment
- Land Use and Transportation Integration

Learn more about these topic areas and how they relate to statewide modal and topic plans by using [OR-Plan](#). This online tool is an easy way to find policies and strategies related to specific issues, modes, or plans. Whether creating,

updating, or replacing existing goals and objectives, the topic areas are a good starting point. The intent of the sample policy language is to ensure that the topic areas, methodologies, and approaches for the planning process are documented and can serve as a solid basis for evaluation criteria.

For jurisdictions that have an adopted TSP, there are two approaches to creating updated goals and objectives: update-and-modify or replace. Either approach entails a review of existing goals and objectives to assess how well they reflect the reasons for undertaking the planning project, including up-to-date community priorities and new approaches to transportation planning. This review should consider: adopted comprehensive plan policies; current community objectives; new transportation-related policy objectives; and modeling, management, and design techniques and approaches that were not prevalent or known during the last TSP process. The update-and-modify method works best when the following is true:

- The TSP is relatively up-to-date (less than 10 years old)
- The goals and objectives already reflect integrated multimodal planning (i.e., the goals are organized by topic area, not by mode)
- Community circumstances (e.g., urban growth boundary limits, population, etc.) have not changed drastically since plan adoption, and the existing goals and objectives generally reflect the community vision and expectations for the transportation system

### Topic Areas & Goal Statements

Sample goal language in the TSP Guidelines illuminates general topic areas and can serve as umbrella statements under which objectives covering multiple aspects of the transportation system can live. Recommended topic areas will resonate in specific ways for the local community based on existing circumstances, areas of local concern, and demographic make-up. In developing goal statements, jurisdictions can combine topic areas in different ways (e.g., "Accessibility and Connectivity," "Safety and Mobility," "Mobility and Connectivity") or broken out and/or renamed to highlight a specific community focus (e.g., "Environment," "Livability") to better articulate community interests. Similarly, tailoring the associated goals and objectives is a necessary part of the TSP planning process to ensure that this language faithfully reflects the community and is a legitimate basis for evaluation criteria.

### Resources

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[Sample Goals and Objectives](#)

## Evaluation and Prioritization Criteria

Developing evaluation factors or criteria is part of the goal setting phase of a TSP process. TSP goals and objectives are the basis for the evaluation framework, which jurisdictions use to assess and compare the suitability of transportation system alternatives and to prioritize projects, programs, policies, pilot projects, and/or refinement studies to address the community's identified transportation needs. Evaluation criteria may be somewhat general and subjective, similar to goal statements or objectives, or may be more specific and quantitative in anticipation of evaluating the performance of different transportation system solutions.

These guidelines provide a [Sample Evaluation Matrix](#) with examples of evaluation criteria that correspond with the Goals and Objectives template. Also included is draft introduction language explaining the evaluation process and the mechanics of project selection and prioritization. The matrix lists example evaluation criteria; depending on the method selected, jurisdictions can develop and apply different scoring approaches [e.g., consumer report; +1/0/-1; +4/+2/0/-2/-

4]. Using a qualitative approach, the criteria will not be weighted; rather, the ratings will be used to inform discussions about the benefits and tradeoffs of each alternative. Using a quantitative approach, a point-based technical rating system where scoring depends on how well proposed projects meet the criteria, the criteria can be weighted (if desired) and the evaluation score can be summed to compare alternatives. In either approach, there may be quantitative performance measures for the evaluation criteria (such as volume-to-capacity ratio, bicycle level-of-traffic stress, predicted crash rate, % of completed sidewalks, etc.). In these cases, a jurisdiction can assess how a project is helping the agency achieve or move toward their desired performance levels.

## **Resources**

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[Implementation Tip: Scoring Examples](#)

[Sample Evaluation Matrix](#)

# Step 3: Existing Conditions

## Plans and Policy Review

A critical early step in the development or update of a TSP is to conduct a review of all state, regional, and local planning documents relevant to the planning area. The product of this work is a technical memo that:

- Identifies relationships, conflicts, and discrepancies within and between these documents
- Identifies inconsistencies between existing federal, state, regional and local plans and policies and the TPR
- Reviews existing cross-section standards for private and public streets to be consistent with State facility design (e.g., ODOT's Blueprint for Urban Design)
- Reviews proposed multimodal improvements to state, county, or local facilities
- Reviews relevant traffic and modal studies
- Reviews relevant environmental studies (e.g., local Goal 5 inventory, [Oregon Conservation Strategy](#), [Preparing for Landslide Hazards: A Land Use Guide for Oregon Communities](#) and [Oregon Plan for Salmon and Watersheds](#)) and baseline environmental data
- Reviews existing sources for funding transportation facilities and services
- Reviews land use policies and regulations that guide the relationships between land uses and transportation facilities and their impacts on each other
- Reviews demographic and economic data, forecasts and plans as they relate to transportation and land development
- Identifies how these plans, policies, regulations, and standards impact the transportation system

## Local Plan Review

It is important to consider all adopted policy direction that relates to the function of or planning for all modes that make up the transportation system. The [Local Plan & Policy Review Checklist](#) lists the types of local documents to consider part of a plans and policy review effort. This TSP section will need to explain how relevant content might influence the outcomes of the planning process and where the jurisdiction may need to modify existing policy or recommendations in adopted plans based on the recommendations of the new or updated TSP. Jurisdictions should also briefly explain the role of each plan reviewed and the date it was adopted or last revised. This review will give context on how each plan is related to transportation system planning and how its content compares to the unique project objectives of the transportation system planning process.

### Resources

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[Local Plan & Policy Review Checklist](#)

## State Document Review

The Oregon Transportation Plan statewide modal and topic plans that apply the Oregon Transportation Plan and the Transportation Planning Rule (OAR 660, Division 12) include state policy, requirements, and guidance related to transportation system planning. Because local planning and actions implement many statewide transportation planning goals and objectives, these documents play a critical role in the development of local TSPs. Jurisdictions must address



the statewide planning documents listed in the [State Plan & Policy Review Checklist](#) as part of the local TSP planning process.

## Resources

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[State Plan & Policy Review Checklist](#)

## Existing Conditions Inventory

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A thorough review and assessment of the existing transportation system is typically done early in the TSP planning process. The inventory provides a snapshot of the system as it is today and serves as the basis for identifying future transportation improvements. OAR 660-012-0020 requires that all applicable travel modes be included in the inventory and assessment process.

### Air

OAR 660-013 addresses the need for communities with planning authority for an airport to adopt comprehensive plan and land use regulations to ensure planning compatibility with the function of the airport. While this rule deals primarily in the operation and land use coordination area, OAR 660-012-0020(2)(e) specifically calls out air transportation as a component of the TSP planning process. In general, the air component covers all public use airports and air infrastructure located within the planning area. While each airport typically has a separate facility master plan, local TSPs are required to coordinate with these master plans and help preserve the state's public-use aviation system. For these reasons, an inventory of the public-use air infrastructure is required.

### Shall

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Where applicable, the inventory of the air infrastructure **Shall** include:

- Identification of public airports or the location of the closest airports, including international, national, and local aviation facilities. Each identified public-use airport shall include the service area, type of services provided (passenger/freight), and airport classification
- Identification of the airport protected surface area (e.g., Runway Protection Zone)

### Should

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In addition to the items listed above, the inventory of the air infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Identification of multimodal access opportunities to the airport
- Identification of runway length and condition
- Identification of future airport operations and long-range planning for infrastructure
- Identification of the owner/operator for any private use aviation airport

### Could

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Although not typically required or critical to the development of most TSPs, the inventory of the air infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Identification of surrounding land uses and zoning
- Identification of planned airport improvements
- Rough cost estimates for planned airport improvements

## Bicycle

Bicycling is an important mode of transportation for both large and small communities that offers many benefits in the form of enhanced mobility, congestion relief, health, and recreation. OAR 660-012-0020(2)(d) requires that bicycle transportation be an integral component of TSP planning process. As such, a detailed inventory of the bicycle system is necessary.

### Shall

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At a minimum, the inventory of the bicycle infrastructure **Shall** include:

- Identification of on-street bicycle facilities by type, such as shared lane pavement markings, on-street bike lanes, enhanced bicycle crossings, cycle tracks, separated bike facilities, multi-use trails, etc.
- Identification of the general location of public, off-street bicycle facilities by type, such as bike hubs, short- and long-term bike parking, etc.
- Identification of the consistency of facilities with applicable state, regional, and local standards

### Should

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In addition to the items listed above, the inventory of the bicycle infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Identification of critical/priority bicycle network
- Identification of bicycle generators (e.g. origin and destination)
- Identification of intermodal connections such as bicycle hubs and parking at transit facilities

### Could

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Although not typically required or critical to the development of most TSPs, the inventory of the bicycle infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Identification of bicycles on transit policies or guidelines
- Identification of bicycle tourism routes and related infrastructure

## Marine

OAR 660-012-0020(2)(e) requires water or marine transportation to be a component of TSP planning process. In this context, marine planning refers to all maritime ports and water systems that are used for the movement of freight and/or passengers.

### Shall

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At a minimum, the inventory of the marine infrastructure **Shall** include:

- Identification of navigable lakes, streams, rivers, etc. as well as the infrastructure/programs (water taxis, ferries, etc.) that use them for transportation of goods and passengers
- Identification of marine port facilities including the existence of intermodal connectors

### Should

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In addition to the items listed above, the inventory of the marine infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Identify marine port activities (e.g. commodities going through the port, annual tonnage, landings or number of containers imported or exported)
- Identification and description of waterside facilities at marine ports
  - channel depth and width
  - number or size of berths, piers, and docks
- Identification and description of landside facilities at marine ports
  - access roads and intermodal connectors that serve the marine port
  - railroad spurs that serve the marine port
  - cranes and yard hostlers

### Could

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Although not typically required or critical to the development of most TSPs, the inventory of the marine infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Identification of the types and number of businesses located at the port, especially those that ship or receive freight
- Identification of the type and number of ships, barges, and tugs that utilize the port
- Identification of parking or other support areas for marine ports (marinas, boat ramp parking, storage, etc.)
- Identification of abandoned or underutilized facilities with the potential to accommodate future traffic
- Identification of future port operations opportunities

## Pedestrian

OAR 660-012-0020(2)(d) requires that pedestrian transportation be an integral component of the TSP planning process. As such, a detailed inventory of the pedestrian system is necessary.

### Shall

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At a minimum, the inventory of the pedestrian infrastructure **Shall** include:

- Identification of all formal and informal pedestrian facilities (enhanced pedestrian crossings, sidewalks, paved and unpaved pathways, multi-use trails, etc.)
- Identification of the width, condition, and use of pedestrian facilities
- Identification of the consistency of pedestrian facilities with applicable state, regional, and local design standards
- Conduct a case-level (identification of gaps and critical corridor deficiencies) Americans with Disability Act, or ADA, inventory guided by the priorities outlined in the local agency ADA Transition Plan. The inventory shall be

assessed for compliance with ADA requirements, and at a minimum include curb ramps, pedestrian push button signals, and sidewalk clear widths for routes in high pedestrian-traffic areas.

## Should

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In addition to the items listed above, the inventory of the pedestrian infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Identification of intermodal connections (e.g. access to transit)
- Identification of barriers to pedestrians
- Identification of pedestrian generators (e.g. origins and destinations)
- Identification of any existing safe routes to school action plans
- Identification of education, outreach, and other Transportation Demand Management programs and services that focus on pedestrian forms of transportation

## Could

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Although not typically required or critical to the development of most TSPs, the inventory of the pedestrian infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Conduct an implementation-level (identification of specific non-ADA compliant infrastructure) ADA inventory for all pedestrian routes within the jurisdiction. Features included in the inventory could be guided by the local agency ADA Transition plan and could include non-ADA compliant curb ramps, pedestrian push button signals, and sidewalk clear widths as well as transit stops, crosswalks and shared-use paths.

## Pipeline

OAR 660-012-0020(2)(e) specifically calls out pipelines as a component of the TSP planning process. Pipeline planning in this context typically refers to the network of pipelines that transport natural gas and/or petroleum products. Most of these networks are planned, owned, and maintained by private utility companies. For security reasons, most utility companies do not want the intricate details behind the pipeline networks made public. Therefore, thoughtful coordination with the utility companies is typically required when inventorying pipeline networks.

## Shall

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At a minimum, the inventory of the pipeline infrastructure **Shall** include the following, subject to local conditions and close coordination with utility providers:

- Identification of pipeline owners and operators
- General identification of pipeline locations
- Identification of pipeline type
- Identification of pipeline terminals

## Should

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In addition to the items listed above, the inventory of the pipeline infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Identification of impending changes to the pipeline network and pipeline operations

## Rail

ODAR 660-012-0020(2)(e) requires that rail transportation be a component of TSP processes. Rail planning in this context refers to all mainline, branch line, and affiliated railroad facilities that are used for the purposes of moving freight.

### Shall

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At a minimum, the inventory of the rail infrastructure **Shall** include:

- Identification of the location of rail lines and key support facilities, such as yards and terminals
- Identification of the location and type of rail crossings (i.e. grade separated, at-grade, signalized, unsignalized, gates, lights, bells, etc.)
- Identification of the owners and operators of rail lines and classification (I, II, III) of each operating entity. Note: Many Oregon line segments are owned by Class I railroads but leased to short lines for operation. More than one railroad may operate over track in a jurisdiction, so all users shall be identified
- Identification of the type of freight service
- Identification of the approximate number of daily trains and their timing if they operate on schedules. Most of this information can be obtained from the rail owner and/or the ODOT's Rail division

### Should

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In addition to the items listed above, the inventory of the rail infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Identification of track conditions and numerical Federal Railroad Administration standards to which they are maintained (Excepted, 1, 2, 3, 4, 5)
- Identification of train speeds. Note: Speeds may vary for different segments of track through a jurisdiction

### Could

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Although not typically required or critical to the development of most TSPs, the inventory of the rail infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Identification of the industries served and commodities handled
- Identification of potential for rail banking, trail use, or public use if a rail line were to become a candidate for abandonment

## Roadway

ODAR 660-012-0020(2)(b) requires that a road plan be a component of TSP planning process. Roadway planning refers to all state highways and local/regional public roads including arterials, collectors, local streets, and other significant public roads/streets that serve the movement of motorized forms of transportation. The recommended approach for mapping Federal Functional Classification in TSP deliverables is to maintain consistency with the preferred ODOT color scheme presented in the [ODOT City and County Map series](#), enabling comparison of TSPs across jurisdictions.

### Shall

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At a minimum, the inventory of the roadway infrastructure **Shall** include:

- Identification of roadway ownership by jurisdiction
- Identification of roadway classifications by [Federal Functional Classification](#) as required by the Federal Highway Administration and supported by ODOT
- Identification of roadway classifications by jurisdiction, including federal, state, regional, and local classifications
- Identification of roadway characteristics (number of travel lanes, lane widths, shoulder widths, posted speeds, etc.)
- Identification of study-area intersection lane configurations and traffic control devices
- Identification of area-wide traffic signals and ownership responsibility
- Identification and type of intelligent transportation systems facilities
- Collection of weekday evening peak-period traffic counts at the identified study intersections
- Identification of bridge location, condition (bridge sufficiency rating), and ownership responsibility

### Should

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In addition to the items listed above, the inventory of the roadway infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Identification of pavement type and conditions through a windshield survey
- Crash data (with focus on fatalities and serious injuries)
- Quantify average annual daily traffic volumes on all paved public roads
- Safety analysis (e.g., crash data, Safety Priority Index System locations, off-ramp queuing)

### Could

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Although not typically required or critical to the development of most TSPs, the inventory of the roadway infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Collection of weekday morning and/or weekday mid-afternoon peak-period traffic counts at the identified study intersections
- Identification of existing right-of-way widths for all collector and arterial roadways and where the right-of-way may be insufficient to accommodate future buildout
- Identification of the number and locations of points-of-access to state facilities
- Identification of on-street parking locations
- Collection of 16-hour full-classification traffic counts at the identified study intersections
- Identification of detailed pavement conditions of all federal-aid-eligible roadways using pavement conditions index

## Transit

OAR 660-012-0020(2)(c) requires that a Public Transit Plan be a component of TSP planning processes. Transit planning refers to all bus, streetcar, passenger rail, and other public transportation services and associated infrastructure.

### Shall

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At a minimum, the inventory of the public transportation infrastructure **Shall** include:

- Identification of transit service providers
- Identification of fixed-route and dial-a-ride service areas and the location of fixed routes and stops
- Identification of service characteristics, such as days and hours of operation and service frequency
- Identification of intercity bus and passenger rail terminals and park-and-ride facilities
- Identification of the location of transportation-disadvantaged and disabled populations
- Identification of special service characteristics such as bus rapid transit

## Should

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In addition to the items listed above, the inventory of the public transportation infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Identification of transit provider funding sources, revenue generation, and transit supportive ITS infrastructure
- Identification of transit stop amenities by transit stop
- Identification of bicycle and pedestrian facilities adjacent to transit stops
- Identification of ADA accessibility to individual transit stops
- Identification of areas with existing or planned transit supportive densities (*See Transit Capacity and Quality of Service Manual* methodology)
- Identification of ridership by route or stop
- Identification of major transit generators (i.e. retail/commercial centers, business centers, recreational areas, planned and implemented transit oriented development or other housing with limited parking)
- Identification of volunteer, social service, and/or private providers operating in the area, with kinds of service offered and area served. Examples might include transportation network companies; carshare and bikeshare services; and senior or veterans' transportation services.
- Identification of local shuttle, carpool, and vanpool services

## Could

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Although not typically required or critical to the development of most TSPs, the inventory of the public transportation infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Identification of the number, age, and condition of capital equipment and facilities
- Identification of local employers with employee-based commute programs, carpools, and vanpools

## Truck Freight

Although the movement of freight can occur via multiple modes (truck, rail, air, marine), freight planning in this context refers to the use of the public roadway and highway infrastructure for the movement of commercial goods and services. This includes trucks and other motorized vehicles used to commercially transport goods and services.

## Shall

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At a minimum, the inventory of the truck freight infrastructure **Shall** include:

- Identification of Oregon Highway Plan Freight Routes and Reduction Review Routes

- Identification of National Highway System, or NHS, freight intermodal connectors and facilities (e.g. truck-rail intermodal yards, truck-rail reload facilities, marine terminals, pipeline terminals, air-cargo facilities, park-and-ride lots, highway-to-rail transfer facilities), including service levels and other characteristics
- Identification of the National Highway Freight Network Critical Urban and/or Rural Freight Corridors
- Identification of local and regional truck freight routes
- Freight bottlenecks identified in other state, regional, or local plans

### Should

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In addition to the items listed above, the inventory of the truck freight infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Identification of truck freight average daily traffic volumes on roadways and intersections that experience significant truck traffic
- Identification of truck freight routes with weight, height, or other freight-related restrictions
- Identify major truck freight generators and receivers that support local industry and economy

### Could

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Although not typically required or critical to the development of most TSPs, the inventory of the truck freight infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Identify truck-involved crash data on roadways and intersections that experience significant truck traffic
- Identification of intersections with truck turning limitations
- Identification of ODOT Motor Carrier Transportation Division routes and ORS 366.215 Reduction Review Routes

## Existing Needs Determination

Once the transportation system inventory is completed, the next step in the planning process is to analyze the existing inventory and determine needs. The analysis provides a snapshot of the existing transportation system to determine where the system is currently deficient.

Deficiencies are defined as the difference between the current transportation system and adopted standards based on performance measures and evaluation criteria developed in [Step 2: Goals & Objectives](#). Deficiencies are capacity or design constraints that limit but do not prohibit the ability to travel by a given mode. Gaps are defined as missing links in the transportation system for any mode. Gaps either prohibit travel by a particular mode or make it functionally unsafe. Together, gaps and deficiencies are defined as needs.

## Air

### Shall

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At a minimum, the assessment of the air infrastructure **Shall** include:

- Evaluation of the airport's consistency with state, regional, and local transportation/land use plans
- Evaluation of the airport's function regarding state, regional, and local air travel needs

### Should

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In addition to the items listed above, the assessment of the air infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Evaluation of multimodal access to air facilities
- Evaluation in intermodal linkages for passengers and goods

## Bicycle

### Shall

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At a minimum, the assessment of the bicycle infrastructure **Shall** include:

- Identification of the local, regional, and state standards for adequacy
- Evaluation of deficiencies in the bicycle network, including gaps/missing bike lanes, narrow bike lanes, poor surface conditions, roadway hazards, etc.

### Should

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In addition to the items listed above, the assessment of the bicycle infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Analysis of bicycle connectivity along key study corridors using one of two methodologies:
  - Conduct a Qualitative Multimodal Assessment of the bicycle network (see ODOT's [Analysis and Procedures Manual](#) for technical guidance)
  - Conduct a bicycle level-of-traffic stress analysis of the bicycle network (see ODOT's [Analysis and Procedures Manual](#) for technical guidance)
- Evaluation of gaps in bicycle access to destinations including transit stops, schools, shopping, medical, civic, recreational uses, and trails
- Analysis of bicycle crash data and risk-based safety issues (see ODOT's [Bicycle Safety Implementation Plan](#) for additional information)
- Evaluation of high bicycle fatality and serious injury crash locations

### Could

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Although not typically required or critical to the development of most TSPs, the assessment of the bicycle infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Evaluation of bicycle design standards (e.g. Central Business District, residential standards, etc.)

## Marine

### Shall

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At a minimum, the assessment of the marine infrastructure **Shall** include:

- Identification of any capacity issues related to infrastructure/programs (water taxis, ferries, etc.) that use navigable lakes, streams, or rivers for transportation of goods and passengers
- Identification and description of any capacity issues related to port facilities and operations

## Should

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In addition to the items listed above, the assessment of the marine infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Identification and description of waterside operating capacity issues such as:
  - channel depth and width
  - inadequate infrastructure including berths, piers, and docks
- Identification and description of any landside operating capacity issues such as:
  - access road and intermodal connector constraints
  - inadequate cranes and yard hostlers
  - inadequate railroad spurs
- Evaluation of multimodal access to port facilities

## Could

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Although not typically required or critical to the development of most TSPs, the assessment of the marine infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Identification and description of any issues related to land availability and use
- Identification of the adequacy of marine port parking facilities

## Pedestrian

### Shall

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At a minimum, the assessment of the pedestrian infrastructure **Shall** include:

- Evaluation of gaps in the existing and planned pedestrian network, including missing curb ramps, sidewalks, enhanced crossings, Americans with Disabilities Act facilities, etc.
- Evaluation of physical deficiencies in the pedestrian network, including narrow, curb-tight sidewalks; poor sidewalk condition; poor street lighting; pedestrian ramps; wide spacing between protected pedestrian crossings; etc.

### Should

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In addition to the items listed above, the assessment of the pedestrian infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Analysis of pedestrian connectivity along key study corridors using one of two methodologies:
  - Conduct a Qualitative Multimodal Assessment of the pedestrian network (see ODOT's [Analysis and Procedures Manual](#) for technical guidance)
  - Conduct a pedestrian level of traffic stress analysis of the pedestrian network (see ODOT's [Analysis and Procedures Manual](#) for technical guidance)
- Evaluate gaps in pedestrian access (i.e. accessible curb ramps, pedestrian signals and sidewalks) to pedestrian destinations, including transit stops, schools, shopping, medical, civic, recreational uses, and trails
- Conduct a pedestrian crash analysis and risk-based safety analysis

- Evaluate high pedestrian fatal- and serious-injury crash locations
- Evaluate pedestrian crossings on arterials and collectors

### Could

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Although not typically required or critical to the development of most TSPs, the assessment of the pedestrian infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Conduct an evaluation of pedestrian design standards (e.g. Central Business District, residential standards, etc.)
- Conduct an evaluation of all other ADA-related features

## Pipeline

### Shall

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At a minimum, the assessment of the pipeline infrastructure **Shall** include the following, subject to local conditions and security issues:

- In coordination with service provider capital facility plans, identify any deficiencies associated with pipeline capacity, location, terminals, etc.

### Should

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In addition to the items listed above, the assessment of the pipeline infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Evaluate consistency with state, regional, and local plans

## Rail

### Shall

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At a minimum, the assessment of the rail infrastructure **Shall** include:

- Evaluation of operations and safety of rail crossings for all modes

### Should

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In addition to the items listed above, the assessment of the rail infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Evaluation of multimodal access to rail facilities
- Evaluation of consistency with state, regional, and local plans and policies
- Evaluation of land use connections (e.g. access to industrial zoned areas)

### Could

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Although not typically required or critical to the development of most TSPs, the assessment of the rail infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Evaluation of hazmat safety plan priorities

## Roadway

### Shall

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At a minimum, the assessment of the roadway infrastructure **Shall** include:

- Identification of the local, regional, and state standards for adequacy of roadway and intersection capacity
- Identification of inconsistencies in street classifications between jurisdictions
- Identification and evaluation of street connectivity for higher classification streets (i.e. arterial, collectors) consistent with OAR 660-012-0020(2)(b) and 660-012-0045(3)(b)
- Evaluation of existing traffic operations at the identified study intersections and roadway segments consistent with the methodologies identified in the latest *Highway Capacity Manual* (see ODOT's [Analysis and Procedures Manual](#) for further guidance)
- Comparison of existing traffic operations to state, regional, and local mobility and other local vehicle system performance standards and targets to identify deficiencies
- Evaluation of traffic safety at intersections and roadway segments with high crash rates, especially fatalities and serious injuries, and top 5 or 10% Safety Priority Index System locations, consistent with the methodologies identified in the *Highway Safety Manual* (see ODOT's [Analysis and Procedures Manual](#) for further guidance)

### Should

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In addition to the items listed above, the assessment of the roadway infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Comparison of roadway characteristics (travel lane widths, shoulder/bike lane widths, etc.) to applicable state, regional, and local standards
- Discuss the performance of Intelligent Transportation Systems facilities if applicable

### Could

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Although not typically required or critical to the development of most TSPs, the assessment of the roadway infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Identification of geometric design deficiencies (vertical/horizontal curvature, super elevations, ball bank analysis)
- Evaluation of detailed transportation patterns. Perform an origin/destination analysis if necessary
- Comparison of access spacing along key study corridors to applicable standards and identification of deficiencies

## Transit

### Shall

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At a minimum, the assessment of the public transportation infrastructure **Shall** include:

- Conduct a qualitative multimodal assessment of the public transit system (see ODOT's [Analysis and Procedures Manual](#) for technical guidance)

- Conduct assessment of transit stops for accessibility by disabled and safety for all riders, including the accessibility of amenities such as bus shelters

## Should

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In addition to the items listed above, the assessment of the public transportation infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Analyze components of a Transit Development Plan, including:
  - Ridership forecast
  - Existing conditions assessment
  - Transit access needs and Title II and VI analysis
  - Any designated transit priority corridors or other primary routes
  - Future transit routes, capital and infrastructure needs
  - Future transit scenarios
  - Funding needs and priorities
  - Implementation plan
- Analyze components of the Coordinated Public Transit-Human Services Transportation Plan
  - Existing conditions
  - Needs assessment
  - Funding resources

## Could

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Although not typically required or critical to the development of most TSPs, the assessment of the public transportation infrastructure **Could** include the following elements when locally appropriate and when funding allows:

- Analyze existing (and future) public transit service using the methodologies identified in the Transit Capacity Manual and the Quality of Service Manual for service hours, service frequency, and service coverage
- Identify potential deficiencies in service hours and frequency based on existing (and future) population and employment density
- Identify potential gaps in service coverage based on existing (and future) population and employment density
- Include an analysis of who is served by transit (commuters, transportation disadvantaged, students, etc.)
- Include an analysis of where key community destinations are in proximity to transit
- Assess the travel sheds that intercity or commuter service can help accommodate (Maps showing shopping, schools, healthcare, parks, government buildings, etc. are valuable for this analysis)
- Include role of transit in planning for and responding to an emergency

## Truck Freight

### Shall

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At a minimum, the assessment of the truck freight infrastructure **Shall** include:

- Identification of any physical deficiencies related to the movement of freight by trucks on state and local freight routes, including accessibility, mobility, and safety
- Identification of any physical deficiencies related to the movement of freight on any NHS intermodal connector

- Discussion of roadway access and the use of performance measures or standards (e.g., congestion, condition, and safety) to identify existing and potential deficiencies related to the movement of freight on the National Highway System

## Should

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In addition to the items listed above, the assessment of the truck freight infrastructure **Should** include the following elements when locally appropriate and when funding allows:

- Identification of truck pinch points (locations with weight, height, or length restrictions)
- Identification of any physical deficiencies related to the movement of freight at intersections with significant truck traffic
- Identification of any physical deficiencies related to the movement of freight on any non-National Highway System intermodal connector

## Funding Review

It is critical to understand the financial limitations of the study area early in the planning process before the development and assessment of transportation projects. The funding review provides a snapshot of existing revenue and expenditures as well as a preliminary estimate of future funding available to implement projects included in the TSP. The preliminary financial review should take place before assessing potential future transportation system needs and developing solutions to address those needs.

## Shall

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The funding review **Shall** include the following:

- The identification of current and historical (most recent 5-10 year period) revenue sources that have funded the maintenance and improvement of the transportation system within the study area. These sources will vary by jurisdiction, but will likely include:
  - Oregon highway revenue apportionment
    - State Gas Tax Revenue Share
    - Surface Transportation Program fund (if applicable)
  - Transportation System Development Charges (if applicable)
  - General Fund Revenues
  - Miscellaneous revenues (interest, city fees, etc.)
  - Grant income
- The identification of historical expenditures that have supported the transportation system within the study area. These expenditures will vary by jurisdiction, but can likely be broken down into one or more of the following categories:
  - Maintenance of the transportation network
  - Capital improvements
  - Personnel services
  - Debt services
- Preparation of 20-year funding and expenditure forecasts. For many smaller jurisdictions, the projection of revenue and expenditure information using historical trends is the most common and readily available method.

Caution should be used as this method assumes historical trends will continue in the future, which is not always the case.

## Documentation of Existing Conditions and Needs

The product of the existing conditions and needs is a technical memorandum that includes the following:

- Narrative, tables, and maps of all multimodal transportation facilities at levels of detail adequate to represent the existing transportation infrastructure. Where specific modal elements are not applicable, the memo should document what is not relevant to the current transportation planning process and why.
- Narrative, tables, and maps that describe the current deficiencies and gaps within the existing transportation infrastructure.
- Narrative and tables that describe the existing revenue and expenditures used to fund the local transportation system.

The [example TSPs](#) all provide different ways of summarizing the existing conditions and needs as outlined in these guidelines.

# Step 4: Future Conditions

## Future Conditions Overview

Following the existing conditions assessment, the next step in the planning process is to analyze future multimodal travel demand and identify future deficiencies and gaps in the transportation infrastructure. The future conditions analysis combines information from the transportation inventory needs analysis developed and reviewed in the existing conditions element with information about planned transportation improvements and anticipated growth in population and employment.

OAR 660-012-0030(3)(a) indicates that future transportation needs shall be based on population and employment forecasts and distributions shall be consistent with the acknowledged comprehensive plan and must be at least 20 years from the date the TSP is adopted. Depending on the scope of the project, developing or updating a TSP can take one or more years to complete. Accordingly, jurisdictions should set a longer time period for analysis. For example, a 22- or 23-year forecast may be needed to provide extra time to complete the planning and adoption process and to ensure that the plan horizon, or forecast year for the TSP is at least 20 years from the point of adoption.

It is important that this step be accomplished in coordination with state, regional, and local transportation providers to ensure consistency with adopted plans, policies, and projects as well as those currently underway. The product of the future conditions analysis is a technical memo. Information is typically presented in tabular and narrative form with maps showing where deficiencies between demand, capacity, and other performance measures on the system are likely to be the greatest.

## Future Capacity Determination

Future capacity is determined based on an evaluation of capacity-based improvements identified in state, regional, and/or local plans as funded. Future capacity should be determined for all elements of the transportation system (roadway, transit, bicycle, pedestrian, freight, rail, air, pipeline, and marine) as appropriate for the jurisdiction.

### Shall

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At a minimum, this step **Shall** include:

- Identify committed capacity-based improvements in state, regional, and local plans
  - Committed capacity-based improvements may include system improvements identified in the State Transportation Improvement Program, Metropolitan Transportation Improvement Programs, local Capital Improvement Programs, or other improvements that have a committed funding source that are expected to be built before the end of the planning horizon. See OAR 660-012-005(6) for the definition of "Committed Transportation Facilities."
  - Committed capacity-based improvements may include improvements to the roadway system or the pedestrian, bicycle, transit, or other transportation systems (e.g. urban upgrades) that don't necessarily impact roadway capacity.
- Add committed capacity to current capacity to determine baseline capacity through the planning horizon.

### Should

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In addition to the items listed above, this step **Should** include the following elements when locally appropriate and when funding allows:

- Identify changes to performance measures and mobility targets in state, regional, and local plans.
  - Alternative performance measures and mobility targets may be considered at this stage to determine the desired future capacity of the transportation system. These alternatives may include:
    - Modifications to existing mobility standards (i.e. level-of-service and volume-to-capacity) to accept higher levels of congestion during peak hour or over multiple hours.
    - Time-based measures such as delay, travel time, or travel time reliability (assess via dynamic traffic assignment models).
  - See the Oregon Highway Plan for additional information on alternative mobility targets
- Consider potential increases in roadway capacity and throughput related to emerging technologies and trends in transportation.
  - The ability to monitor and respond to surrounding traffic conditions should enable autonomous and semi-autonomous vehicles to travel safely at higher speeds and with reduced headways (space) between vehicles, which could increase lane capacity and throughput.

## Future Travel Demand Determination

Future travel demand is determined based on an evaluation of the adopted comprehensive plan land uses assumptions and population and employment forecasts. Future travel demand should be determined for all elements of the transportation system (roadway, transit, bicycle, pedestrian, freight, rail, air, pipeline, and marine) as appropriate for the jurisdiction and scaled to community size. The impact of anticipated changes in land uses and/or the addition of significant traffic generators should consider all travel modes.

### Shall

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At a minimum, this step **Shall** include:

- Population changes through the planning horizon – Portland State University’s Population Research Center provides population data, information, research, and analysis for Oregon and its communities.
- Employment changes through the planning horizon – Most larger communities have completed Economic Opportunity Analyses. Some regions have also completed regional Economic Opportunity Analyses. Some of those documents, depending on the magnitude of work completed, include employment forecast data. Otherwise the U.S. Census and the Oregon Employment Department can provide information on employment growth.
- Projected changes in population and employment shall be distributed throughout the urban growth boundary consistent with the acknowledged comprehensive plan. The changes in population and employment shall be converted into personal travel on the transportation system and then assigned as pedestrian, bicycle, transit, and motor vehicle volumes. The additional volumes shall be applied to current volumes to produce a forecast of future transportation system conditions. The forecasting methodology should be appropriate to the questions being asked and the complexity of the issues related to the transportation system. There are four levels of methodology, ranging from simple, straightforward trending analyses to more complex and sophisticated regional transportation modeling:
  - **Level 1** Trending Forecast or similar forecasting methodology should be used in areas where there has been slow or steady growth or where there is not enough data available to perform a cumulative analysis.

- **Level 2** Cumulative Analysis or a similar forecasting methodology is preferred over the trend analysis in areas where there has been fast growth or where differing rates of growth existing and when adequate data is available.
- For jurisdictions with a population greater than 15,000 or where a transportation demand model exists (regardless of size), a **Level 3** Transportation Model or similar forecasting methodology is preferable.
- Metropolitan areas (50,000+ persons) require a **Level 4** Regional Transportation Model or similar forecasting methodology.

## Should

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In addition to the items listed above, this step **Should** include the following elements when locally appropriate and when funding allows:

- Consider potential increases in future travel demand related to emerging technologies and trends in transportation.
  - Autonomous and semi-autonomous vehicles have the potential to increase travel demand by shifting people from one travel mode to another (i.e. walking, biking, taking transit to autonomous vehicle); by increasing mobility of people who currently cannot drive (i.e. elderly, disabled, youth), and increasing e-commerce and the frequency of deliveries.

Communities updating a TSP should consult with ODOT Region Planners, Transportation Development Division (Planning), Transportation Planning Analysis Unit, and *Analysis Procedures Manual* to determine the appropriate methodology to use to forecast future demand for their community. Note: Jurisdictions should contact ODOT Region Active Transportation and Transit Liaisons, ODOT Rail and Public Transit Division, Freight Mobility Unit, or the Department of Aviation for guidance in estimating future demand, capacity, deficiencies and needs for their respective modes.

## Future Deficiencies Determination

Jurisdictions should determine future deficiencies for all elements of the transportation system (roadway, transit, bicycle, pedestrian, freight, rail, air, pipeline, and marine if part of the system).

## Shall

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At a minimum, this step **Shall** include:

- Compare future travel demand to future capacity for all travel modes feasible per the jurisdiction through the planning horizon, based on the performance measures or measures of adequacy developed in [Step 2: Goals & Objectives](#).
  - Transportation deficiencies occur where future travel demand exceeds the adopted standard or does not meet goals and performance measures.
  - Gaps and deficiencies may include areas of high crash rates and poor pavement conditions as well as absence of future connectivity for all modes, depending on the measures of adequacy developed in [Step 2: Goals & Objectives](#).

## Should

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In addition to the items listed above, this step **Should** include the following elements when locally appropriate and when funding allows:

- Clearly describe deficiencies where possible and the time period in which they are likely to occur. For example, some intersections may not fail until the 20th year of the planning horizon while others may fail within five.
- Identify infrastructure not able to sustain a Cascadian seismic/tsunami as a potential future deficiency.
- Identify resiliency-type deficiencies associated with non-operational deficiencies for transportation infrastructure located in areas exposed to natural hazards (flooding, landslides), projected impacts from rising sea levels, or seismic/tsunami events.

## Future Needs Determination

Jurisdiction should determine future needs for all elements of the transportation system (roadway, transit, bicycle, pedestrian, freight, rail, air, pipeline, and marine if part of the system).

### Shall

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At a minimum, this step **Shall** include:

- Identification of future needs:
  - Needs should address differences between future transportation system characteristics and adopted standards of adequacy or performance targets for that characteristic as determined in [Step 2: Goals & Objectives](#). For state transportation facilities, the identification of needs shall be based on the standards and targets identified in the Oregon Transportation Plan and associated statewide modal and topic plans.
    - Roadway and road facility needs (i.e. new roadways, travel lanes, traffic control) should be identified against state and local adopted performance measures and targets, such as level-of-service standards or volume-to-capacity ratios. Performance standards for state highway facilities must use v/c for consistency with the Oregon Highway Plan or adopt alternative performance measures.
    - Other non-vehicular facility needs (i.e. new sidewalks, on-street bike lanes, transit service) should be identified against locally adopted performance measures or measures of adequacy. The determination of state needs should be based on performance measures adopted in statewide modal plans.

### Should

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In addition to the items listed above, this step **Should** include the following elements when locally appropriate and when funding allows:

- Identify potential interim needs within the 20-year planning horizon
- Consider potential changes in goals, policies, standards, and investment strategies to prepare for emerging technologies and trends in transportation

# Step 5: Solution Development & Evaluation

## Developing and Evaluating Solutions Overview

In preparing a TSP, a jurisdiction must develop and evaluate solutions that address the transportation system needs identified from the existing and future conditions analyses. As indicated in previous steps, a jurisdiction's needs may vary significantly based on the size of the community, the anticipated change in population and employment, and the characteristics of the transportation system. Therefore, the solutions developed as part of the TSP should reflect the character and complexity of the jurisdiction's transportation system and should be tailored to meet the community's needs.

Large communities and metropolitan planning areas should carefully adhere to the level of detail called for below. In addition to the requirements in OAR 660-012-0035, jurisdictions within Metropolitan Planning Organization areas must ensure that the local TSP is consistent with the applicable Regional Transportation Plan. Smaller communities with less complex transportation issues may find an abbreviated analysis adequate.

Communities that are considering major improvements on the State Highway System are advised to develop solutions that reflect ODOT's major improvements policy addressed in [Policy 1G of the Oregon Highway Plan](#). Policy 1G emphasizes maintaining the current transportation system and improving system efficiency of existing state highways before adding capacity to existing facilities or adding new facilities to the system. The solutions should also reflect [Goal 2 of the Oregon Transportation Plan](#), which is to improve the efficiency of the transportation system by optimizing the existing transportation infrastructure capacity with improved operations and management.

Communities are also advised to develop solutions that take into consideration environmental constraints. For major projects that are likely to involve federal funding, local governments should consider if and how National Environmental Policy Act requirements would apply. Elements of a TSP likely to be funded that will result in a major construction project, should consider National Environmental Policy Act requirements and be developed under the guidance of a purpose and needs statement. Alternatively, the TSP should include a statement that describes the purpose and need for the planned project to ensure that future project development is consistent with the original intent.

## Developing Solutions

OAR 660-012-0035 defines the statewide requirements for the evaluation and selection of transportation system alternatives or solutions. As noted, *"The TSP shall be based upon evaluation of potential impacts of transportation system solutions that can reasonably be expected to meet the identified transportation needs in a safe manner and at a reasonable cost with available technology."* The following components are to be evaluated as part of the system of solutions:

- Transportation System Management measures
- Transportation Demand Management measures
- Improvements to existing facilities or services
- New facilities and services, including different modes or combinations of modes that could reasonably meet identified transportation needs
- Local governments in Metropolitan Planning Organization areas with populations larger than one million shall evaluate alternative land use designations, densities, and design standards to meet local and regional transportation needs

From a modal perspective, the types of solutions that will need to be considered as part of the development or update of a TSP are summarized in the following sections. It is important to ensure that these solutions are consistent with the purpose, goals, objectives, and performance measures established earlier in the planning process. Solutions should be developed to meet the identified community's transportation needs and to advance community goals such as safety, equity, and community health. Solutions should also include opportunities to improve the efficiency of the existing transportation system through strategies such as Transportation System Management and Operations, land use, and access management. Finally, the proposed solutions should align with current and likely future funding sources to ensure that they are feasible for implementation within the planning horizon.

## Air

Air facilities consist of public and private airports, including international, national, and local aviation facilities. Most air facilities have their own separate master plans that guide the near- and long-term needs of the facility. As such, most local jurisdictions have found it critical to ensure that their TSP is at least consistent with and closely references the facility master plan. Beyond the consistency efforts, the development and evaluation of solutions tends to focus mainly on improving multimodal access to the air facility itself.

### Shall

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At a minimum, air solutions **Shall** address the following:

- Solutions needed to maintain consistency with the airport master plan (assuming it has been prepared separately from the TSP)
- Solutions identified in, or consistent with, other state, regional, and local plans and policies
- Solutions that provide or improve bicycle, pedestrian, transit, roadway, and freight access to air facilities

### Should

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In addition to the items listed above, the following air solutions **Should** be considered as part of a TSP update when locally appropriate and when funding allows:

- Solutions that address or improve the near- and long-term air travel needs of the facility when not prepared as part of a separate facility master plan.
- Solutions that integrate intermodal connectors within or adjacent to air facilities.

## Bicycle

Bicycle facilities are elements of the transportation system that enable people of all abilities to travel by bike. At the TSP level, these typically include facilities along arterial and collector streets (e.g., protected bicycle facilities, on-street bike lanes, shared lane pavement markings, and signs), neighborhood greenways and trails, and facilities at key crossing locations (e.g., enhanced bicycle crossings). These also include end of trip facilities (e.g. secure bike parking, changing rooms, and showers at worksites); these facilities are typically implemented through the development code. Each facility plays a role in developing a comprehensive bicycle system.

Chapter 14 of the [Analysis and Procedures Manual](#), or *APM*, identifies four methodologies for evaluating bicycle facilities. Per the *APM*, Bicycle Level of Traffic Stress, or BLTS, is the most appropriate methodology for a TSP. BLTS applies a rating system that reflects the stress a cyclist experiences on a roadway, ranging from BLTS 1 (little traffic stress) to BLTS 4 (high traffic stress). The analysis results can help identify a range of potential solutions for improving

the stress of a roadway, which may involve modifications to other elements of the transportation system. See the *APM* for additional information.

## Shall

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At a minimum, bicycle solutions **Shall** address the following:

- Completeness of the entire bicycle network
- Gaps or inadequacies in the bicycle facilities along or across arterials and collectors.
- Known safety issues in the bicycle network (specifically, crash history or roadway characteristics such as number of lanes, speed and volume of motor vehicles).
- Gaps in the bicycle network that would link key community destinations, such as major employment centers, schools, parks, transit stops, intermodal facilities, and recreation areas.
- Facilities that do not meet the jurisdiction’s adopted performance measures.
- Facilities that do not meet the jurisdiction’s or facility provider’s bicycle design standards.
- Bicycle facility design standards (for arterials and collectors) and multi-use pathway standards.
- Bicycle projects identified in other state and regional plans.

## Should

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The following specific bicycle solutions **Should** be considered as part of a TSP update when locally appropriate:

- Bike lane and bikeways
  - Separated bike lanes (including cycle tracks)
  - Buffered bike lanes
  - On-street bike lanes
  - Shoulder bikeways
  - Shared roadway pavement marking and signs
  - Shared use paths
- Enhanced Bicycle Crossings
  - Bike boxes
  - Two-stage turn queue boxes
  - Intersection crossing markings
  - Median diverters
- Protected Intersections
- Bicycle projects that would enhance access to schools
- End-of-trip facilities
  - Bicycle parking
    - Short-term bicycle parking
    - Long-term bicycle parking
  - Changing rooms/showers
- Wayfinding signs

## Could

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Although not typically required or critical to the development of most TSPs, the following bicycle solutions **Could** be considered when locally appropriate and when funding allows:

- Programs and policies that encourage bicycle use. Additional information on these types of programs and policies is provided in the Transportation System Management and Operations section.

## Marine

Marine facilities consist of navigable lakes, streams, rivers, etc. and the infrastructure/programs (water taxis, ferries, etc.) that use them for transportation of goods and passengers. While most marine facilities have their own master plans, it is necessary to identify and evaluate solutions within the TSP that are consistent with the master plans as well as solutions that improve access to the facilities.

### Shall

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At a minimum, marine solutions **Shall** address the following:

- Solutions needed to maintain consistency with the marine facility master plan (assuming it has been prepared separately from the TSP)
- Solutions identified in, or consistent with other state, regional, and local plans and policies
- Solutions that provide or improve bicycle, pedestrian, transit, freight, and roadway access to marine facilities

### Should

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The following specific marine solutions **Should** be considered part of a TSP update when locally appropriate:

- When not prepared as part of a separate facility master plan and solutions that address or improve the near- and long-term travel and infrastructure needs of the marine facility
- Solutions that improve marine and/or intermodal facilities and connectors related to marine activities or facilities (i.e. water taxis, ferries, etc.)

## Pedestrian

Pedestrian facilities are the elements of the transportation system that enable people to walk or roll throughout the local jurisdiction. These include facilities for pedestrian movement along the planned pedestrian network (e.g., sidewalks on key roadways, multi-use paths, and trails) and for safe roadway crossings (e.g., enhanced pedestrian crossings). Each facility plays an important role in developing a comprehensive pedestrian system.

Chapter 14 of the [Analysis and Procedures Manual](#), or *APM*, identifies four methodologies for evaluating pedestrian facilities. Per the *APM*, Pedestrian Level of Traffic Stress, or PLTS is the most appropriate methodology for a TSP. PLTS applies a rating system that reflects the stress a pedestrian experiences on a roadway, ranging from PLTS 1 (little traffic stress) to PLTS 4 (high traffic stress). The analysis results can help identify a range of potential solutions for improving the stress of a roadway, which may involve modifications to other elements of the transportation system. See the *APM* for additional information.

### Shall

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At a minimum, pedestrian solutions **Shall** address the following:

- Completeness of network.
- Gaps or inadequacies in the pedestrian network along arterials, collectors, and local streets.

- Known safety issues in the pedestrian network (specifically, crash history or roadway characteristics such as number of lanes, speed, and volume of motor vehicles).
- Gaps in the pedestrian network that would link key community destinations such as major employment centers, schools, parks, transit stops, intermodal facilities, and recreation areas.
- Facilities that do not meet the jurisdiction’s adopted performance measures.
- Facilities that do not meet the jurisdiction’s or facility provider’s pedestrian design standards.
- Pedestrian design standards.
- Projects identified in other state and regional plans.
- ADA Compliance:
  - Pedestrian ramps
  - Sidewalks
  - Accessible pedestrian signals at crossings

## Should

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The following specific pedestrian solutions **Should** be considered as part of a TSP update when locally appropriate:

- Sidewalks
- Landscape strips (buffers)
- Enhanced pedestrian crossings
  - Signalized
  - Unsignalized
- Shared-use paths and trails
- Accessways
- Pedestrian scale lighting
- Pedestrian amenities

## Could

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Although not typically required or critical to the development of most TSPs, the following pedestrian solutions **Could** be considered when locally appropriate and when funding allows:

- Programs and policies that encourage pedestrian activity. Additional information on these types of programs and policies is provided in the Transportation System Management and Operations section.

## Pipeline

Pipeline facilities typically consist of pipelines and transfer stations that transport natural gas, petroleum products, and water within a community. While most of these facilities are planned, owned, and maintained by private utility companies, it may be necessary to identify and evaluate solutions within the TSP that are consistent with or acknowledge the plans for changes or expansions of the pipeline facilities.

## Should

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The following pipeline solutions **Should** be considered:

- Solutions that are consistent with or acknowledge future modification or expansion plans for pipeline facilities



- Solutions identified in other elements of the TSP should consider the location of existing or planned pipeline facilities within a community

## Rail

Rail facilities consist of all mainline, branch line, and affiliated railroad facilities that are used for the purposes of moving freight (i.e. railyards, rail terminals, rail crossings, etc.). Most railroads have developed separate master plans that guide near- and long-term needs of the rail corridors. As such, most local jurisdictions have found it critical to ensure that their TSP is consistent and closely references the rail facility master plans. Beyond the consistency efforts, the development and evaluation of solutions tend to focus on rail crossings and improving multimodal access to rail facilities.

### Shall

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At a minimum, rail solutions **Shall** address the following:

- Known safety issues at or near existing or planned rail crossings
- Solutions needed to maintain consistency with other rail facility master plans (if applicable)
- Solutions identified in, or consistent with, other state, regional, and local plans and policies
- Solutions that improve the pedestrian, bicycle, transit, freight, and roadway facilities that provide access to rail facilities, particularly passenger and freight rail terminals

### Should

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The following specific rail solutions **Should** be considered as part of a TSP update when locally appropriate:

- Solutions that improve rail and/or intermodal facilities related to rail activities or facilities
- Solutions that address or improve the near- and long-term travel and infrastructure needs of the rail infrastructure when not prepared as part of a separate rail master plan

## Roadway

Roadway facilities refer to all state and local highways, arterials, collectors, and local streets that serve passenger cars and other forms of personal motorized transportation. Roadway facilities are the key component of the local and regional transportation network.

### Shall

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At a minimum, roadway solutions **Shall** address the following:

- Existing safety issues in the roadway network
- Existing or projected capacity issues along roadway segments and intersections
- Completeness of the roadway network and local street connectivity
- Roadway improvement projects identified in other state and regional plans

### Should

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The following roadway solutions **Should** be considered as part of a TSP update when locally appropriate:

- Transportation Demand Management programs and policies that discourage the use of single occupancy vehicles (additional information on these types of programs and policies is provided in the Transportation System Management and Operations section)
- Signal coordination
- System management and operations strategies
- Intersection control alternatives (traffic signals or roundabouts)
- New arterial and collector streets to serve undeveloped or future expansions of city limits
- Local street extensions for undeveloped properties and local street connectivity
- Channelization improvements
- Additional turn lanes or modifications
- Turn prohibitions
- One-way/two-way conversions
- Access management strategies
  - Access management standards
  - Access consolidation
- Parking management strategies (in metropolitan areas or where applicable)

## Could

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The following roadway solutions **Could** be considered when locally appropriate and when funding allows:

- Additional arterial/collector travel lanes
- Intersection realignments
- Interchange improvements
- New arterial and collector streets

## Transit

Transit service in communities is generally provided by a local or regional transit agency. Service is dependent on supportive land uses and densities. The community can plan for transit-supportive land use patterns and support future transit viability by designing and building streets that accommodate transit stops and are accessible from pedestrian and bicycle modes.

## Shall

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At a minimum, transit solutions **Shall** address the following:

- Gaps in the sidewalk and/or bicycle lanes that limit access to/from existing or planned transit stops
- Known safety issues at or near existing or planned transit stops
- Projects identified in transit agency plans
- Access to intermodal transit facilities and park and ride locations

## Should

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The following transit solutions **Should** be considered as part of a TSP update when locally appropriate:

- Solutions that address or improve the near- and long-term transit infrastructure/service needs when not prepared as part of a separate transit agency master plan

- Transit facilities and services
  - Service hours
  - Service frequency
  - Service coverage
  - Service reliability
  - Designating public transportation priority corridors or other primary routes
  - Including transit priority treatments on priority corridors where appropriate, e.g. que jump lanes, signal priority, other solutions to improve traffic flow
- Stop amenities
  - Accessibility treatments
  - Shelters
  - Benches
  - Schedules
- Bus pullouts
- Park and rides
- Intermodal facilities (mobility hubs)
- Pedestrian and bicycle access to transit stops
- Rideshare facilities and services

## Could

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Although not typically required or critical to the development of most TSPs, the following transit solutions **Could** be considered when locally appropriate and when funding allows:

- Programs and policies that encourage transit use (additional information on these types of programs and policies is provided in the Transportation System Management and Operations section)

## Truck Freight

Truck freight facilities consist of the public roadway and highway infrastructure that provides for the movement of industrial and commercial goods and services. These facilities may have national, state, and/or local freight route designations, or they may be recognized as critical urban and/or rural truck freight corridors.

## Shall

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At a minimum, truck freight solutions **Shall** address the following:

- Known multimodal safety issues along designated freight routes
- Existing or projected future operational issues and geometric bottlenecks that impact the movement of truck freight along designated freight routes
- Projects identified in other state and regional plans

## Should

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The following truck freight solutions **Should** be considered when locally appropriate and when funding allows:

- Solutions that improve truck freight access and circulation to local industrial areas
- Solutions that improve connections between industrial lands and the State Freight Network

- Designation or reclassification of local/regional freight routes
- Solutions that improve intermodal freight facilities and connectors or access to intermodal freight facilities

## Could

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Although not typically required or critical to the development of most TSPs, the following truck freight solutions **Could** be considered when locally appropriate and when funding allows:

- Solutions that address freight reliability along study corridors
- Solutions that improve first- and last-mile access to industrial lands

## Other Solutions

### Land Use (1,000,000 persons or more)

Land use plays an important role in developing a comprehensive transportation system. The amount of land that is planned to be developed, the type of land uses, and how the land uses mix together directly impact how the transportation system will be used in the future. Understanding land use is critical to maintaining or enhancing the transportation system.

## Could

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The following land use solutions **Could** be considered, particularly in communities in metropolitan areas with a population of 1,000,000 persons or more:

- Increased or minimum densities
- Changing the mix of land uses
- Neighborhood shopping or service districts
- Improved job housing balance and connections
- Comprehensive plan policies for infill/redevelopment of urbanizable land

Caution should be taken when considering land use solutions concurrent with the development or update of a TSP.

## Transportation System Management and Operations

Transportation System Management, or TSM, and Transportation Demand Management, or TDM, strategies are two complementary approaches to managing transportation and maximizing the existing system. Together, these strategies are referred to as Transportation System Management and Operations. TSM addresses the supply of the system and uses strategies to improve the system's efficiency without increasing roadway widths or building new roads. TSM measures are focused on improving operations by enhancing capacity during peak times, typically with advanced technologies to improve traffic operations. TDM addresses the demand on the system - the number of vehicles traveling on the roadways each day. TDM measures include any method intended to shift travel demand from single occupant vehicles to non-auto modes or carpooling and travel to less congested times of the day.

## Shall

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The following TSM and TDM solutions **Shall** be considered as part of a TSP update:

- Transportation System Management
  - Signalization
    - Traffic signals
    - Signal timing and phasing optimization
    - Signal coordination
    - Adaptive signal control
    - Traffic responsive signal control
    - Automated traffic signal performance measures
  - Ramp meters
  - Reversible lanes
  - Dynamic lane assignment
  - Dynamic routing
  - Integrated corridor management
  - Hard shoulder running
  - Access management
  - Incident management
  - Intelligent Transportation System
    - Variable message signs
    - Variable speed limit signs
    - Transit signal priority
    - Freight signal priority
    - Emergency medical services preemption
    - Connected vehicle applications
    - Traveler information
- Transportation Demand Management
  - Real-time traveler Information
  - Real-time transit Information
  - Carpool and vanpool services
  - Parking management
    - Required parking ratios in Development Code
    - Parking fees
    - Parking time limits
    - Parking districts
    - Parking prohibitions
  - Programs that encourage active forms of transportation
    - Bike share
    - Safe routes to school
    - Walking school bus

## Health Impacts

In Oregon, four of the top eight leading causes of death and disability—heart disease, stroke, diabetes, and cancer—are directly related to physical inactivity. Increasing opportunities for active transportation is an effective strategy for increasing physical activity rates enough to have measurable health benefits. When looking for ways to promote active transportation, it is also important to keep in mind other health issues that are directly related to transportation—exposure to air pollution, unintentional injuries (crashes), and access to resources.

To ensure that active transportation plans and investments do not compromise health outcomes, the following issues should be considered:

- Proximity to high-traffic roadways. Air pollution is most concentrated on and near busy roads (within 100-300 feet). Developing bicycle and pedestrian networks on nearby low-traffic streets can help minimize exposure to roadway air pollution.
- Connectedness to neighborhood commercial areas and community destinations such as parks and schools
- Safety measures for pedestrians, bicyclists, and transit users, including:
  - Lighting
  - Mode separation or minimized mode conflict when possible
  - ADA compliance
  - Signalized or marked crossings near bus stops

## Evaluating Proposed Solutions

Evaluation of the solutions should begin with a baseline condition that illustrates the impact of not changing the current transportation system beyond constructing improvements for which funding is already committed. The “no build” baseline condition is the condition against which the proposed solutions are compared and an important tool for meaningful transportation decision-making. Typical components of the baseline condition include the existing pedestrian, bicycle, transit and roadway systems as well as the committed projects associated with each system.

The baseline condition and the solutions developed to address the identified needs should be evaluated against a set of preliminary evaluation criteria. At a minimum, the preliminary evaluation criteria should help identify:

- Environmental constraints – the solution may impact rivers, streams, wetlands, or other designated environmentally sensitive areas.
- Engineering feasibility constraints – the solutions may pose significant engineering challenges.
- Funding constraints – the solution may have a significant cost, so order of magnitude cost estimates should be developed for each of the solutions.

The preliminary set of evaluation criteria may be different from the criteria developed early in the planning process to evaluate the projects included in the TSP and may be qualitative in nature.

The application of these criteria should help to identify the preferred set of solutions or, at a minimum, prioritize or reduce the potential number of solutions to be included in the TSP.

### Evaluation Standards

OAR 660-012-0035 provides guidance on the identified standards used to evaluate and select the preferred solutions. Selected solutions shall:

- Support urban and rural development by providing types and levels of transportation facilities and services appropriate to serve land uses identified in the acknowledged comprehensive plan.
- Be consistent with state and federal standards for protection of air, land, and water quality including the State Implementation Plan under the Federal Clean Air Act and the State Water Quality Management Plan.
- Minimize adverse economic, social, environmental, and energy consequences.
- Minimize conflicts and facilitate connections between modes of transportation.
- Increase transportation choices to reduce principal reliance on the automobile.

- Achieve adopted standards for increasing transportation choices and reducing reliance on the automobile in Metropolitan Planning Organization areas. Subsection (5) lists the condition that Metropolitan Planning Organization adopted standards must accomplish in order to demonstrate progress toward increasing transportation choices and reducing automobile reliance.) Local jurisdictions may have additional local evaluation standards. Regional Transportation Plans may identify standards with which local TSPs must comply.

## Selecting and Prioritizing Preferred Solutions

Evaluation of the solutions should result in a list of preferred solutions for inclusion in the TSP. The preferred list of solutions should:

- Address the needs determined as local priorities.
- Prioritize based on how well they address the goals and objectives of the TSP (See Step 2 for additional guidance on the development of evaluation and prioritization criteria).
- Be consistent with the Transportation Planning Rule and be technically, environmentally, politically, and financially implementable.
- Have the support of the local elected officials, the project management team, the advisory committees, and the public.
- Provide the local government with a viable package of solutions for the transportation problems facing the community over the 20-year planning horizon.
- Maintain the mobility of the state highway system in part by providing for a system of streets for making short-distance trips and by incorporating the needs of alternative transportation modes.
- Include amendments to previously identified local performance standards or requests to the Oregon Transportation Commission to consider alternative performance standards for state highways consistent with Oregon Highway Plan Action 1F3.

It is important that the planning process document the steps taken and agreements made during the development of the preferred list of solutions. Decisions should be recorded at the time they are made and the basis for each decision should be clearly described. Similarly, agreements and commitments on the part of the governmental agencies involved should be described in the TSP's background information, particularly if they are critical to implementing the TSP.

The preferred list of solutions forms the essence of the TSP. The TSP will identify needs, modes, functions, and general locations of planned improvements. Actual alignments will be determined through the project development or permit approval process or subsequent facility planning to respond to topographical or environmental constraints or to meet urban design goals.

## Documentation

The product of this analysis is a technical memorandum that evaluates the solutions developed to address the transportation system needs and identifies the preferred list of solutions for inclusion in the TSP. Included should be a written description of the needs to be addressed; solutions, evaluation process, potential impacts, and cost estimates for the proposed improvements (projects); maps depicting the locations of projects; and a table comparing the solutions against the evaluation criteria. Solutions with obvious environmental flaws should be rejected or revised to eliminate or minimize the environmental concerns.

# Step 6: Funding Program

## Development of a Financially Constrained List of Transportation Projects/Programs

The transportation funding program identifies which projects/programs developed in the TSP process will be funded based on existing and anticipated revenue sources and the projected costs of proposed projects and programs. Per OAR 660-012-0040, any planned study area located within an urban growth boundary containing a population greater than 2,500 persons **shall** prepare a detailed financial assessment of the preferred list of transportation projects/programs. In general terms, this financial assessment:

- Discusses existing and anticipated funding mechanisms and the ability of these mechanisms to finance future projects/programs.
- Prioritizes and identifies the general timing of each multimodal transportation project/program against the projected funding.

This task is completed after the [Step 5: Solution Development & Evaluation](#) task and builds upon the preliminary historic and projected transportation project funding initially considered as part of the [Existing Conditions assessment](#). This assessment involved the identification of current and historical transportation revenue sources, current and historical transportation expenditures, and a projection of 20-year funding and expenditure forecasts. In recognition that the planning-level cost estimates from the preferred list of transportation projects/programs will likely exceed the projected 20-year funding forecast, a revised project list shall be developed that more closely considers projected financial limitations.

### Shall

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In developing the financially constrained list of projects/programs, the following methods **shall** be applied:

- Prioritize the list of projects
- Coordinate with outside transportation service providers to understand the types and levels of funding available over the course of the planning period
- Match the type of project or program with revenue sources likely to be available
- Match the timing for receipt of revenues with the timing for project or program and construction and implementation

### Should

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Where applicable and sufficient funding details or financing projections are available, the following methods **should** be applied:

- Account for the cost of projects and the buying power of revenues at the anticipated time of construction/implementation
- Use the most flexible revenues on the most difficult-to-fund types of projects (e.g. transit and off-street bicycle and pedestrian facilities)



The product of this effort often leads to a significantly pared down list of transportation projects/programs that can be realistically funded and implemented. All remaining transportation projects/programs will comprise a list of aspirational or desired projects that, while valuable, are unlikely to be funded unless additional revenue sources are found.

## Identifying Potential Funding Sources

Identification of additional local sources of revenue to construct or implement projects and programs that address identified deficiencies is typically necessary given the likelihood that projected revenue will be limited. Additional local revenue sources will vary according to local politics, the jurisdiction's ability to incorporate special financing programs, and local support for new funding programs (i.e. taxes and fees).

### Could

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A matrix of potential new revenue sources **Could** be investigated and will likely include sources from the following categories:

- Developing or increasing transportation system development charges
- Local improvement districts and urban renewal districts
- Urban renewal area
- General obligation bonds
- Local fuel taxes
- Street utility fees
- Miscellaneous fees such as parking fees, vehicle registration fees
- Hotel/motel taxes
- Dedicated property tax
- Income, payroll, or employer tax
- Traffic violation revenue
- Developer dedications of right-of-way and conditional street/intersection improvements
- Grant opportunities including dates, cycles, required match, readiness of projects, etc.
- State funding options
  - Statewide Transportation Improvement Program
  - State Transportation Infrastructure Bank
  - Highway Trust Fund
  - Connect Oregon
  - Oregon Parks/Rec Local Grants
  - Mode-specific funds such as the Statewide Transportation Improvement Fund
  - All Roads Transportation Safety
- Federal resources

ODOT's Transportation and Growth Management program has put together a resource with additional information about each of these funding sources: [Funding Walking & Biking Improvements](#).

As with any new potential revenue source (particularly new fees), it will be important to consider their adoption concurrently with the development of the TSP.

### Resources

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## Documentation

The product of the funding program is a technical memorandum that includes the following:

- The preferred or desired list of transportation projects/programs as generated from the [Step 5: Solution Development & Evaluation](#) task (if additional funding is available)
- A financially constrained list of transportation projects/programs that are reflective of projected transportation revenue amounts
- Identification of potential funding sources that can be considered by the local jurisdiction

# Step 7: TSP Documentation

## What a TSP Shall Include

The TSP document is the culmination of the planning process that identifies the goals and objectives of the TSP update and the new policies, plans, programs, and projects that will shape the transportation system over the planning horizon. With regards to actual content, the Transportation Planning Rule defined in Oregon Administrative Rule 660-012 outlines specific content that is required to be included in all TSPs.

Per OAR 660-012-0020, the following plan elements **Shall** be addressed in a TSP.

For each of the applicable elements, the TSP must document the needs, functions, modes, and general location of planned improvements. These constitute the land use action and must be adopted by ordinance. Any future changes to the needs, modes, function, and general location of improvements also constitute a land use action that must be adopted by ordinance with the proper notices, opportunity for public involvement, etc. It is therefore important that the TSP document clearly distinguish between the part that constitutes the land use action and the background information, in such a way that decision-makers, stakeholders, and the public clearly understand the nature of the decisions.

## Air Element

In areas where an air facility is owned by the jurisdiction and is undergoing a master plan effort/update within the context of the TSP, the air element includes:

- A table of air facility projects that identifies the project location and includes a project description, the project cost estimate, and a likely funding source
- Other projects that address multimodal access to the air facility (these may be addressed separately in other modal elements)
- Graphics that support the projects

In areas where an air facility is owned by another entity and has an existing master plan that was developed/updated separately from the TSP, the air element includes:

- Narrative and supporting documentation that indicates how the TSP is consistent with the master plans for all existing and planned public use airports within the planning area
- Other projects that address multimodal access to the air facility (these may be addressed separately in other modal elements)

## Bicycle Element

- Map of the bicycle network that illustrates/identifies:
  - Existing bicycle facilities (bicycle lanes, routes)
  - General location of planned aspirational bicycle projects
  - General location of planned financially constrained bicycle projects
- Map of the bicycle functional classifications and/or designation classifications (where applicable or desired)
- Table of identified bicycle projects that includes at a minimum:
  - The project location
  - A project description

- The project cost estimate
- Whether the project is financially constrained
- A likely funding source (if financially constrained)
- Narrative that supports the maps and tables and includes:
  - A discussion on the visions, goals, and aspirations for the bicycle element
  - Description and graphical illustration of bicycle functional classification
  - A description of the types of projects included in the bicycle element
  - Bicycle facility design guidelines or standards, including shared-use path design standards
  - Bicycle performance measures, targets, and standards of adequacy
  - Other information necessary to support the bicycle element

## Marine Element

In areas where a marine facility is owned by the jurisdiction and is undergoing a master plan effort/update within the context of the TSP, the marine element includes:

- A table of marine facility projects that includes the project location, the project description, the project cost estimate, and a likely funding source
- Other projects that address multimodal access to the marine facility (these may be addressed separately in other modal elements)
- Graphics that support the projects

In areas where the marine facility is owned by another entity and has an existing master plan that was developed/updated separately from the TSP, the marine element includes:

- Narrative and supporting documentation that indicates how the TSP is consistent with the master plans for all existing and planned port facilities and terminals on navigable waterways within the planning area.
- Other projects that address multimodal access to port facilities, including access roads and intermodal connectors (may be addressed separately in other modal elements).

## Pedestrian Element

- Map of the pedestrian network that illustrates/identifies:
  - Existing pedestrian facilities (sidewalks, multi-use paths, enhanced pedestrian crossings, etc.)
  - General location of planned aspirational pedestrian projects
  - General location of planned financially constrained pedestrian projects
- Map of the pedestrian functional classifications and/or designation classifications (where applicable or desired)
- Table of identified pedestrian projects that includes at a minimum:
  - The project location
  - A project description
  - The project cost estimate
  - Whether the project is financially constrained
  - A likely funding source (if financially constrained)
- Narrative that supports the maps and tables and includes:
  - Discussion on the visions, goals, and aspirations for the pedestrian element
  - Description of pedestrian functional classifications (where applicable)
  - Pedestrian performance measures, targets, and standards of adequacy

- Description of the types of projects included in the pedestrian element
- Other information necessary to support the pedestrian element
  - Pedestrian facility design standards or guidelines
  - Shared-use path standards
  - ADA-related policies and standards
  - Pedestrian crossing spacing or location guidelines
  - Local street connectivity standards

## Pipeline Element

- Narrative and supporting documentation that indicates how the TSP is consistent with the master plans for all existing and planned pipelines and terminals within the planning area

## Rail Element

- A plan that identifies all mainline and branch line railroads and railroad facilities, including at-grade and grade-separated crossings, intermodal facilities, and location of existing and planned terminals within the planning area
- Narrative and supporting documentation that indicates how the TSP is consistent with the master plans for all existing and planned mainline and branch line railroad and railroad facilities within the planning area

## Roadway Element

- Functional Classification Plan
  - Narrative definitions of roadway classifications
  - Functional Classification map that illustrates/identifies:
    - Classifications for all existing public roadways
    - Classifications for planned public roadways/roadway extensions
- Map of the motor vehicle roadway network that illustrates/identifies:
  - Existing roadway network
  - General location of planned aspirational roadway projects
  - General location of planned financially constrained roadway projects
- Table of identified motor vehicle projects that includes at a minimum:
  - The project location
  - A project description, including a description of the need or needs the project is designed to address
  - The project cost estimate
  - Whether the project is financially constrained
  - A likely funding source (if financially constrained)
- Narrative that supports the maps and tables and includes:
  - A discussion on the vision, goals, and aspirations for the motor vehicle element
  - A description of the types of projects included in the motor vehicle element
  - Other information necessary to support the motor vehicle element
- Standards for layout of local streets and other important street or pathway connections.
- Standards for the layout of local streets that provide for safe and convenient bike and pedestrian circulation
- Roadway design standards or guidelines
  - Graphical illustrations for each functional classification; typical cross-sections
  - Graphical illustrations for any special overlay designations
- Local street connectivity plan

- Local street connectivity map illustrating conceptual extensions/connections of local streets that would be constructed by future development
- Mobility standards/targets
  - Signalized/all-way stop-controlled intersections
  - Unsignalized intersections
  - Roundabout intersections
- Roadway safety performance measures, targets, or standards of adequacy
- Access management standards
  - Access spacing standards table and description for each roadway classification
- Neighborhood traffic management plan
  - Toolbox of traffic calming applications that are appropriate for local neighborhood streets

## Transit Element

- Map of transit network that illustrates/identifies:
  - Existing transit system (transit corridors, exclusive transit ways, major transit stops, terminal and major transfer stations, park-and-ride locations, intercity bus routes, passenger rail corridors and stops, etc.)
  - Planned aspirational transit projects
  - Planned financially constrained transit projects
- Map of existing and planned public transportation services for vulnerable populations
- Table of proposed transit projects that include at a minimum:
  - The project location
  - A project description
  - The project cost estimate
  - Whether the project is financially constrained
  - A likely funding source (if financially constrained)
- Narrative that supports the maps and tables and includes:
  - A discussion of the vision, goals, and aspirations for the transit element and how they support local and regional transit initiatives
  - A description and prioritization of projects included in the transit element
  - Transit performance measures, targets, and standards of adequacy
  - For smaller cities/communities, a description of how the transit element of the TSP is the Transit Development Plan
  - Other information necessary to support the transit element
- An evaluation of the feasibility of developing a public transit system at buildout for urban areas with populations greater than 25,000 persons, not served by transit. Where a transit system is determined to be feasible, the plan shall meet the requirements of Transportation Planning Rule Section 660-012-0020 (2)(c)(C)

## Truck Freight Element

- Map of the truck freight network that illustrates/identifies:
  - Location of existing truck freight infrastructure/facilities
  - General location of aspirational truck freight projects
  - General location of financially constrained truck freight projects
- Map of existing and planned local, regional, and state freight routes
- Map of truck freight functional classifications (where applicable)
- Table of identified truck freight projects that includes at a minimum:

- The project location
- A project description
- The project cost estimate
- Whether the project is financially constrained or not
- A likely funding source (if financially constrained)
- Narrative that supports maps and tables and includes:
  - A discussion of the vision, goals, and aspirations for the truck freight element
  - A description of the types of projects included in the truck freight element
  - Description of the truck freight functional classification
  - Truck freight performance measures
  - Other information necessary to support the truck freight element

## Other Elements

### Transportation System Management and Demand Management Plan Element

- For urban areas with populations greater than 25,000 persons, a Transportation System Management and Operations plan element, which includes Transportation System Management and Transportation Demand Management policies and strategies as required in OAR 660-012-0020.

### Parking Plan Element

- For areas within a Metropolitan Planning Organization area, a Parking Plan is required by OAR 660-012-0020.

### Policies, Ordinances and Funding Plans

- Policies, ordinances, and a transportation financing program needed to implement the plan.
- For areas within an Urban Growth Boundary containing a population greater than 2,500 persons, a transportation financing program as required in OAR 660-012-0040.

### Refinement Plans

A TSP constitutes a land use decision regarding the need for transportation facilities, services and major improvements and their functions, modes, and general locations. While preparing a TSP, it might not always be possible for a local government to make a final land use decision regarding the function, mode, or general location for a needed project. In such cases, OAR 660-012-0025 allows a local government to defer its final land use decision to a refinement plan, provided that certain findings are adopted. These findings shall:

- Identify the transportation need for the facility
- Demonstrate why information needed to make final determinations regarding function, general location, or mode cannot reasonably be made available within the time allowed for preparation of the TSP
- Explain how deferral does not invalidate the TSP assumptions or preclude implementation of the remainder of the TSP
- Describe the nature of the findings needed to resolve issues deferred to a refinement plan

# What a TSP Should Include

## Introduction

The introduction to a TSP can identify what a TSP is, why the jurisdiction has a TSP, and how the jurisdiction uses the TSP to improve its transportation system over time. The introduction can also provide background information on the jurisdiction's transportation infrastructure, how it has evolved over time, and what is driving the need for the TSP update. The introduction can describe how the TSP was updated; it can provide an overview of the planning process; it can identify timelines, major milestones, and key deliverables along the way.

## Acknowledgements

The development of a TSP requires coordination among many stakeholders, including local agency staff, local officials, commissioners, councilors, committee members, and others. The collective effort of these individuals ensures that the TSP will receive broad-based support and will reflect the most critical needs of the community. An acknowledgements page can pay tribute to individuals who dedicated their time and energy to the development of the TSP update.

## Organization

One size does not fit all when it comes to organization of a TSP document. While the final TSP needs to include the various elements discussed in the TSP Guidelines, jurisdictions should organize the local TSP so readers can easily locate and understand what is planned, the timeframe and/or priority for implementation, and, if required, which projects are considered financially constrained. Some jurisdictions may elect to organize their TSP by sequential planning steps, first discussing the existing inventory and then the needs, solutions, and plan for all modes. Other jurisdictions may elect to organize their TSP by mode, addressing all elements (inventory, needs, solutions, and plan) for each mode in its own separate chapters or sections. TSPs organized by mode allow sections to be updated more independently or as part of a package of updates.

## Attachments

TSPs typically include an inventory and general assessment of existing and future transportation facilities (See [Step 3: Existing Conditions](#) and [Step 4: Future Conditions](#)) and an analysis of what will be needed to fix current problems and accommodate future users (See [Step 5: Solution Development & Evaluation](#)). Providing these elements in the TSP at a summary level with references to more detailed information as attachments or in a technical appendix helps keep the TSP concise and focused on decisions and recommendations. Ideally, the attachments or technical appendices will contain all the background information, including the technical memoranda developed throughout the TSP. For example, the TSP and all the attachments desired for frequent reference are included in Volume I and the Technical Appendix, which contains the technical documents that informed the development of the TSP are included in Volume II. If there are supportive documents that will be used for future decisions, such as project prospectus sheets or solution toolkits, the recommended approach is to include these as attachments to the TSP in Volume I.

## Supporting Ordinances

Supporting ordinances or development code amendments may be necessary to include with the draft TSP to be consistent with and implement the updated TSP and to comply with or strengthen compliance with the Transportation Planning Rule. Implementing supporting ordinances or development code amendments can be attached to the draft TSP, so that they are included in the public review process prior to public hearing proceedings and adoption.



The Department of Land Conservation and Development provides a [model code](#) that can be used by cities and counties as a tool or resource for planning in Oregon. The model code is written to help local governments follow best practices, or adhere to new state standards, rules, or statutes; and are often tailored to suit the specific needs of a given community.

<<Include a drop down>>

<<Include a Resources section>>

Curry County 2.040



Curry County  
Zoning Ordinance L

Douglas County 2.040



Douglas County  
Development Appro

## What a TSP Could Include

The following describes additional items a jurisdiction could include as part of their TSP. These items represent current best practices for TSPs.

- Grant-ready project descriptions for projects that will likely require outside funding for implementation project prospectus sheets can be particularly helpful and effective for inclusion in potential grant applications for project funding
- Enhanced visualization tools/graphics to describe complex concepts discussed in the TSP
- Enhanced roadway cross-section drawings to show perspective views using 3D software tools
- Project prospectus sheets that illustrate and summarize project details, such as the deficiency issue at hand, cost estimates, location, preferred solution, etc.

# Adopt Phase

Cities and counties must adopt regional and local TSPs as part of their comprehensive plans (OAR 660-012-0015(4)). Because of this, the local jurisdiction needs to approve TSPs through a legislative adoption process.

## Drafting an adoption ordinance

Clearly specify the elements that will be adopted and provide the foundation for future decision-making. Such elements include:



(If included in TSP rather than a comprehensive plan)

- Maps illustrating the planned modal systems
- Functional classification designations/maps
- Project lists and maps showing the general location of planned projects for all modes
- Street/roadway design standards
- Performance standards
- Access management standards

## Supporting information

Supporting information does not have to be adopted by ordinance. This information is reviewed during the process as technical reports or memoranda and is compiled into a background reference document.

## Amending your TSP

Cities and counties can amend their state-acknowledged comprehensive plans through either periodic review or a post-acknowledgment plan amendment. Local notice procedures remain the same under either process, but notice requirements to the Department of Land Conservation and Development differ, and appeals to the local decision are either heard by the Land Use Board of Appeals (for a post-acknowledgement plan amendment) or the Land Conservation and Development Commission (for periodic review).

## Local actions to support TSP adoption & implementation



**Providing notice** for the adoption hearings

Ensuring that proposed or new transportation policy is **consistent with adopted plans**

**Enhancing** development requirements and funding tools

## Notifying the Public

Jurisdictions must follow their locally adopted notice requirements when proposing a plan amendment or adopting a TSP. Notice for a legislative hearing must be published in the local newspaper. Some local ordinances require posting of public hearing notices; posting locations typically include public buildings, such as city hall and libraries. Examples of additional means of notice include announcements on the local-access cable TV channel, postings on the jurisdiction's website or electronic newsletters, and direct mailing through utility (water and sewer) bills.

Jurisdictions should consult with their city or county attorneys to determine whether a Measure 56 Notice is required, pursuant to the notification requirements of Oregon Revised Statute 215.503. Measure 56 requires cities and counties to notify affected property owners if adopting a proposed comprehensive plan or land use ordinance would result in limiting or prohibiting permissible land uses on their property. See information provided by [Department of Land Conservation and Development](#) and ORS 215.503 (for cities) and ORS 227.186 (for counties).

## Notifying Other Jurisdictions

Adopting a TSP or TSP update also requires notice to the state. In accordance with state law, the Department of Land Conservation and Development must be notified of an amendment to an acknowledged plan (a post acknowledgement plan amendment) 35 days prior to the first evidentiary hearing (ORS 197.610, OAR Chapter 660, Division 18). Department of Land Conservation and Development notice requirements are different if the jurisdiction is undertaking the TSP planning process as part of a periodic review work program. When in periodic review, the jurisdiction notifies the completed periodic review work task to Department of Land Conservation and Development after adoption, rather than prior to the local decision as with a post acknowledgement plan amendment. See [The Complete Planner's Guide to Periodic Review Second Edition \(2012\)](#) for more information on periodic review and completing work program tasks.

Jurisdictions within metropolitan planning organizations will also need to provide the regional government with notice of the plan amendment, consistent with adopted regional requirements.

## Legislative Hearings

The authority to adopt a TSP or TSP update lies with the city council, board of commissioners, or county court. This is because the TSP is part of the local comprehensive plan, which must be adopted by ordinance and therefore can only be amended by elected officials. Amendments to land use and development requirements to implement the TSP also must be adopted by ordinance.

In most communities, the planning commission considers and makes a recommendation on proposed legislative amendments to the comprehensive plan and associated land use and development requirements after one or more public hearings. The commission's recommendation is then considered by the governing body, which holds at least one public hearing before taking final action.

The final decision is supported by a series of findings indicating the rationale for adopting the proposed amendments. These are typically included in a staff report recommending approval of the new or updated TSP and addressing

statewide planning goals, State plans related to transportation, regional plans (where applicable), and the jurisdiction's own policies and codified requirements for legislative amendments.

## Policy and Regulations

A vital step in achieving TSP goals, objectives, and recommendations is to ensure that adopted policy, land use, and development requirements are consistent with (and can help achieve) the desired transportation system. Jurisdictions must develop findings of compliance with applicable statewide planning goals and acknowledged comprehensive plan policies and land use regulations in conjunction with the adoption of the TSP (OAR 660-012-0025(2)).

Cities and counties must adopt a local TSP as part of their comprehensive plans. Jurisdictions amend the comprehensive plan by adopting the TSP by reference. Physical amendments to the comprehensive plan may or may not be necessary, depending on the format and content of both the TSP and the comprehensive plan documents. Land use and development requirements, including subdivision requirements, must be consistent with the TSP. Updates to development requirements may be necessary to ensure that future development is consistent with the location of planned facilities and adheres to updated local transportation standards and state transportation planning requirements. Development requirements help protect roadway function and safety, encourage active modes (transit, ridesharing, bicycling, and walking), and ensure consistency between planned land uses and the planned transportation system.

## Updating the Comprehensive Plan

The transportation element or chapter in the comprehensive plan document will need to be updated through either one or a combination of the following actions:

- Physically replacing the transportation element with information developed for the TSP
- Modifying the transportation element to reflect updated content from the new TSP
- Indicating that the updated TSP supersedes the out-of-date transportation element

Early in the TSP planning process, jurisdictions will [review all comprehensive plan-level policies](#) for their relevance as to the transportation system. This review considers existing transportation policy and typically identifies other goal and policy statements that have a bearing on the transportation system. Policies are revisited during the implementation steps of the TSP process and, where needed, are updated to be consistent with the direction and recommendations in the updated TSP. Updated transportation policies can be included as part of the TSP, or plan objectives can be used to update or create new comprehensive plan policies. Whether housed in the TSP, the comprehensive plan, or both documents, the jurisdiction's transportation policies will help guide future land use actions (e.g., rezoning, discretionary development review) as they relate to planned transportation facilities. Note that changes to policies related to housing, economic development, park and recreation planning, and urbanization may also be needed as part of TSP implementation.

## Updating Land Use Regulations

The jurisdiction's land use and development requirements implement the planned TSP. An assessment of how well local codes or ordinances help meet current (or expected future) local transportation needs, and Transportation Planning Rule requirements, is part of the [policy review](#) performed in the early stages of TSP development. At the adoption stage of the planning process, project participants should revisit the findings and recommendations from that earlier assessment. If needed for consistency, amendments to land use and development requirements should be drafted and

adopted to implement the goals and strategies of the updated TSP. Consistent requirements ensure that future land use decisions and actions comply with the planned transportation system and that future development contributes to the multimodal system.

Implementing ordinances should:

- Allow construction of planned transportation facilities
- Protect planned transportation facilities for their identified function
- Provide for transit, ridesharing, and non-motorized modes

## Allowing Planned Transportation Facilities

When a transportation facility, project, or service is planned for and included in the adopted TSP, additional land use approval should not be necessary. Furthermore, separate or additional land use review should not be necessary for some types of transportation improvements, such as maintenance, that do not have a significant impact on planned land uses or that are consistent with adopted standards. For example, constructing a roadway improvement that is designed to the appropriate dimensional standards in the adopted TSP, pursuant to the functional classification of the proposed roadway, should not require additional land use permitting. Transportation Planning Rule Section-0045(1) lists improvements and activities that under ordinary circumstances do not need to be subject to land use regulations.

## Protecting Transportation Facilities

The local land use and development requirements must contain requirements that will protect transportation facilities for their identified functions as described in the transportation plan. Access management and performance standards, such as mobility standards and requirements to coordinate with other transportation providers can ensure that future development and redevelopment contribute to an efficient transportation system. Adopting and implementing requirements that help manage the transportation system can increase safety and lengthen a facility's useful life so that costly capacity improvements are minimized or not needed. Subsection-0045 (2) of the Transportation Planning Rule indicates the types of management issues that must be included in the local ordinances. Local ordinances that are consistent with Transportation Planning Rule Section-0060 will ensure that proposed comprehensive plan or code modifications that significantly affect the planned transportation system will include actions to bring land use and the transportation system back into balance.

## Providing for Transit, Ridesharing and Non-Motorized Modes

Finally, land use and development requirements must contain standards to ensure that new development provides for safe and convenient transit, rideshare, pedestrian, and bicycle access and circulation. These requirements play an important role in reducing reliance on the single occupant vehicle trip, reducing greenhouse gas emissions, and providing safe and convenient mode choices. Local governments in Metropolitan Planning Organizations areas must adopt ordinances to implement demand management and parking plans and require all major industrial, institutional, retail, and office developments to facilitate transit usage along transit trunk routes when required by the transit operator. These transit, ridesharing, and non-motorized mode requirements are detailed in Transportation Planning Rule Subsections-0045 (3), (4) and (5).

### Resources

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[Crook County TSP Court Hearing Packet Materials](#)

# Implement Phase

Implementing a TSP extends well beyond the adoption date, requiring actions by the jurisdiction, facility, and service providers.



## Seeing projects through

Seeing planned projects through to construction requires several development steps. Prior to construction, additional permits and coordination with government agencies may be required where projects impact resource lands or environmentally sensitive areas.

## Tracking your results

TSPs offer direction over a long planning period, and their relevance can wane over time. It is important to periodically assess how well the TSP predicted transportation needs and whether developments (such as changes in land use, availability of funding sources, or advances in technology) change priorities.

## Modal and Refinement Plans

Modal and refinement plans can play a role in implementing a local TSP. Modal plans provide more detailed information regarding a specific transportation mode than what was included in the adopted TSP. The Transportation Planning Rule allows for an applicable plan to be incorporated by reference (in whole or in part) into a TSP (OAR 660-012-0010(2)). A modal plan must be consistent with, and can implement, the adopted TSP. Mass transit, transportation, airport, and port districts must prepare and adopt plans for transportation facilities and services they provide and these plans must be adequate to implement a local TSP (OAR 660-012-0015(6)). Refinement Plans provide detailed information related to a facility. Refinement plans are necessary when a transportation need exists, but the mode, function, and general location of a transportation improvement have not been determined, and a range of alternatives must be considered before identifying a specific project or projects. As described [Step 7: TSP Documentation – Other Elements](#), a refinement plan may be necessary to implement a TSP recommendation.

## Project Programming

The transportation funding program identifies which projects, programs, or services developed in the TSP process will be funded based on existing and anticipated revenue sources and the projected costs of proposed projects and programs (See [Step 6: Funding Program](#)). The outcome of the funding program is a preferred list of transportation

projects/programs. Jurisdictions can select projects from this list to include in their local capital improvement plans or programs. Typically, these are short-range plans (usually four to 10 years) that identify capital projects and that allocation of capital funds as approved by the jurisdiction's elected officials.

The Statewide Transportation Improvement Program, or STIP, is ODOT's capital improvement program for state and federally funded projects. Local projects on state highways or other projects that require state or federal funding must be selected and approved in the STIP before they can be constructed. Information on the STIP development and project selection processes can be found on the [STIP website](#).

If a TSP project is federally or regionally significant and is located within a Metropolitan Planning Organization area, it needs to be programmed for inclusion in a Metropolitan Transportation Improvement Program. All Metropolitan Transportation Improvement Programs are all incorporated by reference into the Statewide Transportation Improvement Program. Information on Metropolitan Transportation Improvement Program project selection procedures, including timelines and criteria, can be accessed through the respective Metropolitan Planning Organization.

## Project Development

Project development includes determining the precise location, alignment, and preliminary design of transportation facilities or improvements authorized in a TSP. The Transportation Planning Rule requires each jurisdiction to adopt land use regulations to implement its TSP. Depending on the nature of the transportation improvement, additional land use decision-making may or may not be required prior to construction. Section-0045 (1) of the Transportation Planning Rule lists improvements that, under ordinary circumstances, need not be subject to land use regulations. It also identifies types of improvements that will require further land use decision-making. Additional land use decision-making typically is required where the facility or improvement impacts farm or forest lands, Goal 5 resources, floodways or other hazard areas, estuarine or coastal shoreland areas, or the Willamette River Greenway. For these improvements, local governments must provide a review and approval process that is consistent with Transportation Planning Rule Section-0050 (Transportation Project Development).

## Monitoring

Cities and counties should continuously monitor opportunities arising from innovations in transportation technology, demand for evolving mobility needs, and the impact these have on investment priorities. While the TSP is a plan for conditions 20 or more years into the future, it cannot anticipate all advances in technology or their impact on the way people travel within and to a jurisdiction. Examples of potential advances include:

- alternative fuel sources that influence the cost of driving and operating transit service
- autonomous vehicle technology that impacts the safety and efficiency of roadways
- electric-assisted bicycles and other wheeled mobility devices that reduce topography and distance barriers of travel for non-motorized road users