

DATE: January 27, 2016

TO: Matt Kittelson, Project Manager

FROM: DJ Heffernan

SUBJECT: Madras Transportation System Plan Update – Technical Memo 1
Task 2.3 - Plan and Policy Review and Funding Review

Overview

This memorandum is prepared in accordance with the work scope of the 2016 Madras Transportation System Plan (TSP) update, Task 2.3. It reviews various state, federal, and local plans that may affect transportation system planning for the Madras Urban Area (Madras) and also reviews how Madras transportation systems and services are financed. The intent of the memo is to develop an understanding for the policy and regulatory framework in which the Madras TSP functions.

The review is divided into three sections. The first section reviews adopted state plans and regulatory documents whose policies, rules, and programs affect the preparation of local transportation system plans (TSP). This includes documents like the Oregon Transportation Plan, the Oregon Highway Plan, the Oregon Rail Plan and other documents that provide guidance for transportation planning in Madras.

The second section reviews adopted state, local, and regional plans that have a direct effect on the Madras transportation system, including the State Transportation Improvement Program (STIP), the Cascade West Transit Plan, and other regional and local transportation plans. The distinction between sections 1 and 2 is that the first section focuses on policy documents and regulations that influence the planning process while the second section focuses on documents that directly affect the delivery of transportation system improvements and services. A table at the end of the memo lists all of the reviewed documents.

The third section of the memorandum reviews funding for the Madras transportation system, including federal, state, and local resources that are dedicated to or used on a discretionary basis to finance transportation improvements and programs.

Section 1 - State Plans and Regulatory Documents

This section reviews state plans and regulations that affect the preparation of local TSPs. Federal plans and programs that are integral to state plans and rules are not reviewed separately. For example, the federal MAP-21 and Highway System Plans are not specifically reviewed but their effect on Oregon transportation plans, facilities, and programs are captured in the following reviews for state transportation planning documents.

1999 Oregon Highway Plan (Updated 2015)

The Oregon Highway Plan (OHP) is a modal plan that is adopted by the Oregon Transportation Commission (OTC) that guides the Oregon Department of Transportation's (ODOT's) Highway Division in planning, operations, and financing the state road network. Policies in the OHP emphasize the efficient management of the state highway system to increase safety and to extend highway capacity, partnerships with other agencies and local governments.

The plan makes use of new techniques to improve road safety and capacity. The plan is organized around policies that establish links between land use and transportation, set standards for highway performance and access management, and emphasize the relationship between state highways and local road, bicycle, pedestrian, transit, rail, and air systems. The following policies, in particular, are relevant to the Madras TSP update process.

Policy 1A: State Highway Classification System

The OHP classifies the state highway system into four levels of importance: Interstate, Statewide, Regional, and District. ODOT uses this classification system to guide management and investment decisions regarding state highway facilities. The system guides the development of facility plans, as well as ODOT's review of local plan and zoning amendments, highway project selection, design and development, and facility management decisions including road approach permits.

In Madras, US 97 and US 26 are classified as statewide highways and OR 361 (Culver Highway) is classified as a district highway in the state classification system. The purpose and management objectives of these highways are provided in Policy 1A, as summarized below. There are no regional highways in Madras and are described for reference only.

- **Statewide highways** (US 97, and OR 26) typically provide inter-urban and inter-regional mobility and provide connections to larger urban areas, ports, and major recreation areas that are not directly served by Interstate Highways. A secondary function is to provide connections for intra-urban and intra-regional trips. The management objective is to provide safe and efficient, high-speed, continuous-flow operation.
- **Regional highways** typically provide connections and links to regional centers, Statewide or Interstate highways, or economic or activity centers of regional significance. The management objective for these facilities is to

provide safe and efficient, high-speed, continuous-flow operation in rural areas and moderate to high-speed operations in urban and urbanizing areas.

- **District highways** (OR 361) are facilities of county-wide significance and function largely as county and city arterials or collectors. They provide connections and links between small urbanized areas, rural centers and urban hubs, and also serve local access and traffic.

In addition to the state highway classification system, US 97 and US 26 have been given the following designations:

- US 97 – National Highway System (NHS), State Freight Route (FR), federally designated Truck Route (TR), Reduction Review Route (RRR)
- US 26 – National Highway System (NHS), State Freight Route (FR), federally designated Truck Route (TR), Reduction Review Route (RRR)

Policy 1B: Land Use and Transportation

Policy 1B applies to all state highways. It is designed to clarify how ODOT will work with local governments and others to coordinate land use and transportation needs in transportation plans, facility and corridor plans, plan amendments, access permitting and project development. Policy 1B recognizes that state highways serve as the main streets of many communities and strives to maintain a balance between serving local communities (accessibility) and the through traveler (mobility). This policy recognizes the role of both the state and local governments related to the state highway system and calls for a coordinated approach to land use and transportation planning.

Inside designated Special Transportation Area (STAs) local access is a priority; inside designated Urban Business Areas (UBAs), mobility is balanced with local access. These special highway segment designations require an amendment to the OHP and allow for changes to the applicable ODOT design standards, mobility standards and access management spacing standards within the designated segments. Madras is not designated an STA or UBA in the OHP.

Policy 1C: State Highway Freight System

The primary purpose of the State Highway Freight System is to facilitate efficient and reliable interstate, intrastate, and regional truck movement through a designated freight system. This freight system, made up of the Interstate Highways and select Statewide, Regional, and District Highways, includes routes that carry significant tonnage of freight by truck and serve as the primary interstate and intrastate highway freight connection to ports, intermodal terminals, and urban areas. Highways included in this designation have higher highway mobility standards than other statewide highways. US 97 and US 26 in Madras are part of the State Highway Freight System.

Policy 1D: Scenic Byways

The primary purpose of Scenic Byways is to preserve and enhance the highway by considering aesthetic and design elements along with safety and performance considerations. Aesthetic and design elements are applied within the public right-of-way through developed guidelines. Plans and projects on highways with this designation should consider impacts to the scenic qualities of the roadway. The Madras transportation planning area includes no designated state or federal scenic routes.

Policy 1F: Highway Mobility Standards Access Management Policy

Policy 1F sets mobility targets for ensuring a reliable and acceptable level of mobility on the state highway system. The standards are used to assess system needs as part of long range, comprehensive planning transportation planning projects, during development review, and to demonstrate compliance with the Transportation Planning Rule (TPR).

Amendments to Policy 1F were adopted in 2015. The revisions were made to address concerns that state transportation policy and requirements have led to unintended consequences and inhibited economic development. Policy 1F now provides a clearer policy framework for considering measures other than volume-to-capacity (v/c) ratios for evaluating mobility performance. Also as part of these amendments, v/c ratios established in Policy 1F were changed from being standards to "targets." These targets are to be used to determine significant effect pursuant to OAR 660-012-0060 of the TPR.

Table 1 includes the mobility targets include for the state facilities in the Madras TSP study area. For this policy, the mobility analysis shall focus on peak hour conditions with peak hour represented by mobility at the 30th highest annual hour. This approximates weekday peak hour traffic in urban areas. Alternatives to the 30th highest annual hour may be considered and established through an alternative mobility target processes.

Table 1 – State Facility Mobility Targets

	Inside Urban Growth Boundary			Outside of Urban Growth Boundary	
	Non-MPO Outside of STAs where non-freeway posted speed limits is			Unincorporated Communities	Rural Lands
	<= 35 mph	> 35 mph	>= 45 mph		

Statewide Expressways	0.85	0.80	0.80	0.70	0.70
Freight Route on a Statewide Highway	0.85	0.80	0.80	0.70	0.70
District Highway	0.90	0.85	0.80	0.80	0.75

Policy 1G: Major Improvements

This policy requires that the state maintain performance and improve safety on the highway system by improving efficiency and management of the existing roadway network before adding capacity. The state's highest priority is to preserve the functionality of the existing highway system. Tools that could be employed to improve the function of the existing system include access management, transportation demand management (TDM), traffic operations improvements (e.g. signal timing to improve traffic flow), and changes to local land use designations or development regulations.

After existing system preservation, the second priority is to make minor improvements to existing highway facilities, such as adding ramp signals at highway interchanges, or making improvements to the local street network to minimize or reduce local trips on a state facility.

The third priority is to make major roadway improvements such as adding lanes to increase capacity on existing roadways. As part of this TSP process, ODOT will work with Madras and other stakeholders to determine appropriate strategies and tools that can be implemented at the local level that are consistent with this policy.

Policy 2B: Off-System Improvements

This policy recognizes that the state may provide financial assistance to local jurisdictions to make improvements to local transportation systems if the improvements would provide a cost-effective means of improving the operations of the state highway system. As part of this TSP update process, ODOT will work with Madras and project stakeholders to identify improvements to the local road system that support the planned land use designations in the study area and that will help preserve capacity and ensure the long-term efficient and effective operation of state highway facilities.

Policy 2F: Traffic Safety

This policy emphasizes the state's efforts to improve safety of all users of the highway system. Action 2F.4 addresses the development and implementation

of the Safety Management System to target resources to sites with the most significant safety issues.

Policy 3A: Classification and Spacing Standards

It is the policy of the State of Oregon to manage the location, spacing, and type of road intersections on state highways to ensure the safe and efficient operation of state highways consistent with the classification of the highways.

Action 3A.2 calls for spacing standards to be established for state highways based on highway classification, type of area, and posted speed. Tables in OHP Appendix C present access spacing standards which consider urban and rural highway classification, traffic volumes, speed, safety, and operational needs. The access management spacing standards established in the OHP are implemented by access management rules in OAR 734, Division 51, addressed later in this memorandum.

Policy 4A: Efficiency of Freight Movement

This policy emphasizes the need to maintain and improve the efficiency of freight movement on the state highway system. US 97 and US 26 are state freight routes and federally designated truck routes.

Relevance: *ODOT is an important stakeholder and participant in the TSP update. Important programs, policies, and regulations that affect the updated TSP will be reviewed to ensure that the TSP complies or moves in the direction of meeting the standards and targets established in the OHP related to safety, access, and mobility.*

Oregon Bicycle and Pedestrian Plan (Updated 2011)

The intent of the Oregon Bicycle and Pedestrian Plan (OBPP) is to provide safe and accessible bicycling and walking facilities in an effort to encourage increased levels of bicycling and walking. The plan is comprised of two parts: the Policy and Action Plan and the Oregon Bicycle and Pedestrian Design Guide.

The current plan was adopted in 1995 and reaffirmed as an element of the OTP in 2006. The second part of the plan – the Design Guide – was updated in 2011. ODOT is now updating the OBPP. According to the ODOT scope of work, the update will include a broader policy framework and be reviewed for consistency with OTP modal plan requirements, federal requirements, and the statewide planning program. The updated OBPP plan is being developed in collaboration with stakeholders representing a variety of transportation interests. The update is due to be completed in 2016.

Madras will have initiated its TSP update process before adoption of the updated OBPP plan. New requirements in the OBPP will not effect the 2016 Madras TSP update but will affect future updates. The TSP planning team will monitor the OBPP update process for possible changes to bike and pedestrian

facility plans on state roadways and the feasibility for following the emerging guidance.

The existing OBPP Policy and Action Plan provides background information for relevant state and federal laws, as well as goals, actions, and implementation strategies to improve bicycle and pedestrian transportation. The plan states that bikeway and walkway systems will be established on state highways as follows:

- As part of modernization projects (bike lanes and sidewalks will be included);
- As part of preservation projects, where minor upgrades can be made;
- By re-striping roads with bike lanes;
- With improvement projects, such as completing missing sidewalk segments;
- As bikeway or walkway modernization projects;
- By developers as part of permit conditions, where warranted.

The OBPP Design Guide is the technical element of the plan that guides the design and management of bicycle and pedestrian facilities on state-owned facilities. It has been designated as a companion piece to the Highway Design Manual and includes updated pedestrian and bicycle treatments.

Relevance: *The standards and guidelines for pedestrian and bicycle facilities in the OBPP serve as "best practices" and will inform the recommended bicycle and pedestrian improvements on state highway facilities in the updated TSP. In addition, the advisory committee for the TSP update includes members that represent pedestrian and bicycle interests.*

Oregon State Rail Plan (2014)

The Oregon State Rail Plan ("State Rail Plan"), a state modal plan under the OTP, addresses long-term freight and passenger rail planning in Oregon. The State Rail Plan provides a comprehensive assessment of the state's rail planning, freight rail, and passenger rail systems. The State Rail Plan identifies specific policies and planning processes concerning rail in the state, establishes a system of integration between freight and passenger elements into the land use and transportation planning processes, and calls for cooperation between state, regional and local jurisdictions in completing the plan.

Currently, freight rail service in Madras is provided by several railroad companies. Burlington Northern RR is responsible for the mainline track up to ___ and for the track that serves the Madras Industrial Area. Union Pacific RR

is responsible for the mainline track beyond _____, including the bridge across the Willow Creek canyon. There is currently no passenger rail service in Madras of Jefferson County.

Relevance: *The TSP update will consider the needs of the rail freight system in developing recommended policies and projects related to improving rail safety and mobility in Madras. In addition, the project advisory committee includes representatives that represent rail and freight interests.*

Oregon Freight Plan (2011)

The Oregon Freight Plan (OFP) is another modal plan of the OTP and implements the state goals, and policies related to the movement of goods and commodities. Its purpose statement identifies the state's intent "to improve freight connections to local, Native American, state, regional, national, and global markets in order to increase trade-related jobs and income for workers and businesses." The objectives of the OFP include prioritizing and facilitating investments in freight facilities, including rail, marine, air, and pipeline infrastructure, and adopting strategies to maintain and improve the freight transportation system.

The OFP summarizes the importance of freight-dependent industries to Oregon and identifies strategic freight routes based on factors that drive freight transportation demand in Oregon: the economy, critical freight-dependent industries and their supply chains. Madras includes a small portion of the US 97 and US 26 corridors.¹ These highways, however, are part of the State Highway Freight System and federally designated Truck Routes and therefore are important to the movement of goods in and through central Oregon. The Madras Airport is not identified in the OFP as a freight facility (OFP Table 4-1).

OFP Issues and Strategies include actions that proactively protect and preserve identified strategic corridors. With so little of this system present in Madras, the more relevant implication for the TSP update are local strategies and actions that address capacity constraints, congestion, reliability, geometric deficiencies, and safety in the US 97 and US 26 highway corridors and in the mainline rail corridor (Freight Issues #3 and #4). An important component of the state strategy is the concept of improving "last mile" connections from inter-modal freight facilities to National Highway System roads.

¹ See Figure 4.13. "This route is important in terms of connectivity because it connects a major area (Central Oregon) with two major interstates (I-84 and I-5). It also connects the freight-dependent industries in Bend with cities to the east and the I-5 Corridor to the west. Without this facility, businesses located near U.S. 20 in the South East Oregon ACT or Central Oregon ACT might struggle to compete because of high travel times and transportation costs to get goods to market." OFP p. 118.

Relevance: Performance of the urban roadway system as it relates to freight movement and connections between freight generation sites and the State Highway Freight System will be evaluated as part of the TSP update. Maintaining and enhancing efficiency of the truck and rail freight system in the study area will be integrated into the updated TSP. The project advisory committee includes representatives from ODOT and local freight interests.

Oregon Public Transportation Plan (1997)

The Oregon Public Transportation Plan (OPTP) is the modal plan of the OTP that provides guidance for ODOT and public transportation agencies regarding the development of public transportation systems. The vision guiding the OPTP is as follows:

- A comprehensive, interconnected and dependable public transportation system, with stable funding, that provides access and mobility in and between communities of Oregon in a convenient, reliable, and safe manner that encourages people to ride.
- A public transportation system that provides appropriate service in each area of the state, including service in urban areas that is an attractive alternative to the single-occupant vehicle, and high-quality, dependable service in suburban, rural, and frontier (remote) areas.
- A system that enables those who do not drive to meet their daily needs.
- A public transportation system that plays a critical role in improving the livability and economic prosperity for Oregonians.

The OPTP Implementation Plan directs ODOT investments towards commuter and mobility needs in larger communities and urban areas and also in smaller communities where warranted. It also prioritizes investments in intercity connections statewide. Long-term implementation and funding is geared toward both modernization and preservation projects while preservation projects are more the focus for short term implementation and funding.

Relevance: Madras currently does not have a transit district providing fixed-route public transit. The Central Oregon Regional Transit Master Plan addresses the needs of the transportation disadvantaged; it is reviewed later in this memorandum along with regional plans related to Transportation Options, Park and Ride, and other transportation alternatives intended to reduce reliance on the automobile. The TSP should reference the unmet transit needs identified in the Central Oregon Regional Transit Master Plan along with the results of related planning efforts and, when appropriate, identify specific actions that advance regional solutions consistent with these plans.

Oregon Aviation Plan (2007 and updates)

The Oregon Aviation Plan (OAP) is a modal plan of the OTP that defines policies and long-range investment strategies for Oregon's public use aviation system. The plan addresses the existing conditions, economic benefits, and jurisdictional responsibilities for the existing aviation infrastructure. It contains policies and recommended actions to be implemented by the Oregon Department of Aviation in coordination with other state and local agencies and the Federal Aviation Administration. The OAP categorizes airports based on functional role and service criteria. The Madras City/County Airport is recognized in the Plan as a Category IV airport – Local General Aviation.

According to the 2007 OAP, Category III airports "support primarily single-engine general aviation aircraft but are capable of accommodating smaller twin-engine general aviation aircraft. These airports support local air transportation needs and special use aviation activities." Madras completed an update to its Airport Master Plan in 2014; it is reviewed later in this memorandum.

In 2014 the state undertook an update of the Economic Impact Study that was completed as part of the 2007 OAP. The Economic Impact Study Update ("update") was conducted to determine the value of the Oregon Aviation System. The update included the Madras City/County Airport as one of the fifty-seven Oregon airports listed in the National Plan of Integrated Airport Systems (NPAIS). The analysis measured economic impacts of these airport facilities, within the region and throughout the state. The direct effect of airport activities on the economy for the airport was calculated in terms of jobs, wages and business sales. The economic impact is shown in Table 2.

Table 2 - Madras City/County Airport Economic Impact - 2014

Airport Name	Airport Code	Jobs	Payroll	Business Sales
Madras City-County	S33	36	\$1,114,000	\$3,956,000

Relevance: The TSP update will consider the information in the OAP and its implications for the Madras City/County Airport in the TSP update and especially state policies that effect access and capital improvement projects at the airport.

Oregon Transportation Safety Action Plan (2011)

An element of the OTP, the Oregon Transportation Safety Action Plan (TSAP) establishes a safety agenda to guide the long-term investments and actions of ODOT and the state. As indicated in the name of the plan, the emphasis of the TSAP is action and implementation. Actions included in the OTSAP are

chosen based on crash data and information provided by transportation safety experts.

ODOT is in the process of updating the TSAP. The focus to date has been on plan policies and strategies. The planning team is now considering areas of emphasis, key initiatives, and performance measures, which will be used to target limited resources. The outcome of that work may affect transportation safety initiatives in Madras. A review draft is available at the following link: http://www.oregon.gov/ODOT/TD/TP/TSAP/201511_PrelimReport.pdf

Actions identified in the 2011 TSAP that will guide or be addressed in the Madras TSP update process include:

- Focus on “safety areas of interest” such as intersection crashes and pedestrian/bicycle crashes with improvements such as advance signing, roundabouts, and access management, (Action 23).
- Elevate safety in local system plans by, for example, more widely implementing access management strategies and moving toward compliance with access management standards; and involving engineering, enforcement, and emergency service staff professionals, as well as local transportation safety advocacy groups, in planning (Actions 8 and 9).
- Design improvements for the increased safety of pedestrians, bicyclists, and other non-motorized vehicles, accommodating multiple users on a street and considering the needs of families, seniors, and children using transportation facilities (Action 4).

Relevance: *The TSP update will consider the TSAP’s priorities for making state highway system intersections in Madras safer.*

Roadway Departure Plan

The Roadway Departure Plan (RDP) is an element of the OTSP that provides specific information and identifies areas regarding safety improvements to reduce roadway departure (vehicles running off the road) that are consistent with the current Action Plan. The traditional approach of relying primarily on pursuing major improvements at high-crash roadway departure locations must be complemented with two additional approaches:

- A systematic approach that involves deploying large numbers of relatively low-cost, cost-effective counter-measures at many targeted segments of roadway with a history of roadway departure crashes, and

- A comprehensive approach that coordinates an engineering, education, and enforcement (3E)² initiative on corridors and in urban areas with high numbers of severe roadway departure crashes.

The systematic improvement categories to be deployed include the following: sign and marking enhancements on curves, centerline rumble strips on rural two-lane highways, edge line rumble stripes and shoulder rumble strips, alignment delineation, and selective rural tree removal.

The systematic and comprehensive approaches will generate a higher number of roadway departure improvements statewide, and Region personnel will require training as they are asked to take a more active role in identifying the appropriateness of systematic improvements within their Regions.

Low-cost, cost-effective countermeasures should be considered on other types of projects as appropriate (e.g., resurfacing, surface transportation projects) when a crash history exists within the area of the work and the countermeasure can reduce future crash potential. In these cases, safety-specific funding can be used to supplement the project funds when necessary.

The Roadway Departure Plan for Region 4 identifies segments of US 97/26 within and in the vicinity of Madras for safety improvements, including sign and marking enhancements on curves, and edge line, shoulder, and centerline rumble strips.³ It does not identify any local road network enhancement measures for Jefferson County.

Relevance: *The TSP update will consider the RDP's priorities for making state highways safer from vehicle departures.*

Intersection Safety Plan

The Intersection Safety Plan is an element of the OTSP that provides specific information and identifies areas regarding intersection safety improvements to implement the current Action Plan. The traditional approach of relying primarily on pursuing major improvements at high-crash intersections must be complemented with an expansion of the systematic approach that involves deploying large numbers of relatively low-cost, cost-effective countermeasures at many targeted high-crash intersections and a comprehensive approach that coordinates an engineering, education, and enforcement (3E) initiative on corridors with high numbers of severe intersection crashes. The plan identifies a number of locations within or in the vicinity of Madras for intersection improvements to address safety concerns.⁴

² "3E" – Engineering, Education, & Enforcement

³ http://www.oregon.gov/odot/hwy/traffic-roadway/pages/roadway_departure.aspx#Implementation_Plan

⁴ ODOT Region 4 Map: <http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/docs/pdf/Region4IntersectionMap.pdf>

These include three urban intersections in Jefferson County on HWY 97 and one urban intersection on the Culver Highway.

Relevance: *The updated TSP will incorporate information from the state highway intersection safety improvement program in the development of policies and capital improvement projects.*

Bicycle and Pedestrian Safety Implementation Plan (2014)

The Bicycle and Pedestrian Safety Implementation Plan is an element of the OTSP that provides a systemic safety planning process to prioritize corridors across all public roads in Oregon. The Plan also identifies corridors with the most potential for reducing frequency and severity of pedestrian and bicycle crashes. The 2014 plan does not identify bicycle or pedestrian high-risk corridors in Madras.⁵

Relevance: *The TSP update process will consider pedestrian and bicycle safety in the selection and prioritization of transportation projects consistent with the state's action plan for bicycle and pedestrian modes of transportation on state highways in Madras.*

Transportation Planning Rule (OAR 660-012) (Updated 2011)

The Transportation Planning Rule (TPR), OAR 660-012, implements Goal 12 (Transportation) of the statewide planning goals. The TPR contains numerous requirements governing transportation planning and project development, including the required elements of a TSP. In addition to plan development, the TPR requires each local government to amend its land use regulations to implement its TSP (-0045). It also requires local government to adopt land use or subdivision ordinance regulations consistent with applicable federal and state requirements: "to protect transportation facilities, corridors and sites for their identified functions."

Exhibit 1 at the end of this memorandum breaks the TPR down into its relevant constituent sections for the Madras TSP Update. The exhibit will be used as a checklist at the end of the process to ensure local compliance with the rule. Compliance may be achieved through a variety of measures, including transportation facility design standards, operating standards to protect road functions, and notice and coordinated review procedures for land use applications. Local development codes also should include a process to apply "conditions of development approval" to development proposals that adversely impact transportation system elements, and regulations ensuring that amendments to land use designations, densities, and design standards are consistent with the functions, capacities, and performance standards of facilities identified in the TSP.

⁵ http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/docs/pdf/13452_report_final_partsA+B.pdf

The most recent amendments to TPR, effective January 1, 2012, include new language in subsection -0060 that allows a local government to exempt a zone change from the "significant effect" determination if the proposed zoning is consistent with the comprehensive plan map designation and the TSP. Madras anticipates it will include a comprehensive plan zone change amendment as part of the TSP update, but it will not be relying on the exemption clause in subsection -0060 to make the change. An analysis of the effect on the transportation network will be considered as part of the TSP update process.

The 2012 amendments also allow a local government to amend a functional plan, comprehensive plan, or land use regulation without applying mobility standards (V/C, for example) if the subject area is within a designated multi-modal mixed-use area (MMA). This standard likely would not apply in the case of the envisioned zone change.

The TPR does not regulate access management. ODOT adopted OAR 734-051 to address access management and it is expected that ODOT, as part of this project, will coordinate with the City in planning for access management on state roadways consistent with its Access Management Rule. The review of OAR 734-051 in the next section of the memo discusses state access management rules.

Relevance: *The TPR directs local governments to prepare TSPs that include specific transportation elements and to implement the plans using local development ordinances. Local requirements such as access management, coordinated land use review procedures, and transportation facility standards and requirements are meant to protect road operations and safety and to provide multi-modal access and mobility for system users. Implementation measures that will be developed with the TSP update may necessitate amendments to city (and possibly county) land development ordinances to ensure consistency with TPR requirements.*

Access Management Rule (OAR 734-051) (Updated 2012)⁶

Oregon Administrative Rule (OAR) 734-051 defines the State's role in managing access to highway facilities in order to maintain functional use and safety and to preserve public investment. OHP Policy 3A and OAR 734-051 set access spacing standards for driveways and approaches to the state highway system.⁷ The standards are based on state highway classification and

⁶ Amendments to OAR 734-051 were adopted in early 2012 based on passage of Senate Bill 1024 and Senate Bill 264 in the 2010 and 2011 Oregon Legislature respectively. The amendments were intended to allow more consideration for economic development when developing and implementing access management rules, and involved changes to how ODOT deals with approach road spacing, highway improvements requirements with development, and traffic impact analyses requirements for approach road permits.

⁷ ODOT Access Management Standards – OAR 734-051-4020, Tables 4 and 6:
http://www.oregon.gov/ODOT/HWY/ACCESSMGT/docs/pdf/734-051_Perm_Rule.pdf

differ depending on posted speed and average daily traffic volume. The standards for highways in Madras are presented in Tables 3 and 4 below.

Table 3 – Spacing Standards for Statewide Highways, ADT > 5000

Posted Speed (mph)	Statewide Highways, Rural Expressway Areas (feet)	Statewide Highways, Urban Expressway Areas (feet)	Statewide Highways, Urban Areas (feet)	Statewide Highways, Unincorporated Communities, Rural Areas (feet)
55 and higher	5280	2640	1,320	1,320
50	5280	2640	1,100	1,100
40-45	5280	2640	800	990
30-35	-	-	500	770
25 and lower	-	-	350	550

Table 4 – Spacing Standards for District Highways, ADT > 5000

Posted Speed (mph)	Statewide Highways, Rural Expressway Areas (feet)	Statewide Highways, Urban Expressway Areas (feet)	Statewide Highways, Urban Areas (feet)	Statewide Highways, Unincorporated Communities, Rural Areas (feet)
55 and higher	5280	2640	700	700
50	5280	2640	550	550
40-45	5280	2640	500	500
30-35	-	-	400	350
25 and lower	-	-	400	250

Relevance: OAR 734-051 regulates access to properties that abut state roadways and spacing between access points and intersections on state highways. The analysis for the TSP update and final project

recommendations need to reflect state's requirements for access dimensions and spacing. TSP implementation measures in local regulations may necessitate code amendments to ensure that zoning and development regulations are consistent with state access requirements.

ODOT Highway Design Manual (Updated 2012)

The 2012 Highway Design Manual provides ODOT with uniform standards and procedures for planning studies and project development for the state's roadways. It is intended to provide guidance for the design of new construction; major reconstruction (4R); resurfacing, restoration, and rehabilitation (3R); or resurfacing (1R) projects. It is generally in agreement with the American Association of State Highway and Transportation Officials (AASHTO) document *A Policy on Geometric Design of Highways and Streets - 2011*. A summary of applicable design standards for state roadways in Madras is in Table 5.

Table 5 – Design Standards Selection Matrix, ODOT Highway Design Manual

Project Type	Roadway Jurisdiction				
	State Highways			Local Agency Roads	
	Interstate	Urban State Highways	Rural State Highways	Urban	Rural
Modernization/ Bridge New/Replacement	ODOT 4R/New Freeway	ODOT 4R/New Urban	ODOT 4R/New Rural	AASHTO	
Preservation/ Bridge Rehabilitation	ODOT 3R Freeway	ODOT 3R Urban	ODOT 3R Rural	AASHTO	ODOT 3R Rural
Preventive Maintenance	1R	1R	1R	NA	NA
Safety- Operations- Miscellaneous/ Special Programs	ODOT Freeway	ODOT Urban	ODOT Rural	AASHTO	ODOT 3R Rural

The Highway Design Manual is to be used for all projects that are located on the state highways. National Highway System or Federal-aid projects on roadways that are under the jurisdiction of counties will typically use the 2011 AASHTO design standards or ODOT 3R design standards. State and local

planners will also use the manual in determining design requirements as they relate to the state highways in TSPs, Corridor Plans, and Refinement Plans. Sound engineering judgment, however, must continue to be a vital part in the process of applying the design criteria to individual projects. The flexibility contained in the 2012 Highway Design Manual supports the use of Practical Design concepts and Context Sensitive Design practices.

Some projects under ODOT roadway jurisdiction traverse across local agency boundaries. Some local agencies have adopted design standards and guidelines that may differ from the various ODOT design standards. Although the appropriate ODOT design standards are to be applied on ODOT jurisdiction roadway facilities, local agency publications and design practices can also provide additional guidance, concepts, and strategies for design.

Relevance: *The ODOT Highway Design Manual provides design standards on state roadways. The analysis for the TSP update and final project recommendations will need to reflect state requirements for planned improvements to state facilities. State standards and guidelines should be considered for additional guidance, concepts, and strategies for design.*

Oregon Public Transportation Plan (1997)

The Oregon Public Transportation Plan (OPTP) is the modal plan of the OTP that provides guidance for ODOT and public transportation agencies regarding the development of public transportation systems. The vision guiding the Public Transportation Plan is as follows:

- A comprehensive, interconnected and dependable public transportation system, with stable funding, that provides access and mobility in and between communities of Oregon in a convenient, reliable, and safe manner that encourages people to ride
- A public transportation system that provides appropriate service in each area of the state, including service in urban areas that is an attractive alternative to the single-occupant vehicle, and high-quality, dependable service in suburban, rural, and frontier (remote) areas
- A system that enables those who do not drive to meet their daily needs
- A public transportation system that plays a critical role in improving the livability and economic prosperity for Oregonians.

The OPTP Implementation Plan directs ODOT investments towards commuter and mobility needs in larger communities and urban areas and also in smaller communities where warranted. It also prioritizes investments in intercity connections statewide. Long-term implementation and funding is geared

toward both modernization and preservation projects while preservation projects are more the focus for short term implementation and funding.

Relevance: *There is currently no transit district providing fixed-route public transit in Madras. The Central Oregon Regional Transit Master Plan addresses the needs of the transportation disadvantaged; it is reviewed later in this memorandum along with regional plans related to Transportation Options, Park and Ride, and other transportation alternatives intended to reduce reliance on the automobile. The TSP should reference the unmet transit needs identified in the Central Oregon Regional Transit Master Plan along with the results of these related planning efforts and, when appropriate, identify specific implementation actions that advance regional solutions consistent with these plans.*

Section 2 – State, Local, and Regional Transportation Plans and Regulatory Documents

This section reviews state, regional and local transportation plans that include specific project or program recommendations for enhancing, operating, or regulating the Madras' transportation system.

State Transportation Improvement Program (STIP)

The Oregon STIP is published by ODOT every other year. The STIP establishes the capital improvement projects and transportation investments that are programmed for funding over the next four years. Most major state, federal, and tribal funded projects and investments are programmed through the STIP. The process is administered by ODOT with regional advisory review. Work on various aspects of an upcoming STIP cycle occurs on a continuous basis.

For the 2015-2018 STIP, the only project within the Madras planning area that currently is programmed is a resurfacing and safety project on US 97 from approximately mile-post 106 to mile-post 120. A small segment of this project is in the Madras transportation planning area. Engineering and design is scheduled for 2016 with construction in 2017.

Relevance: *The Madras TSP update will include relevant projects from the 2015-18 STIP in the TSP's capital improvement project list. The team also will need to consider programs that are implemented through the STIP and the need to secure state approval for STIP funded projects. The STIP process is an important financing process that needs to be recognized in the TSP's policies and implementing measures.*

ODOT Region 4 Park and Ride Lot (2014)

The Central Oregon Intergovernmental Council (COIC) prepared the *Region 4 Park and Ride Lot Plan*.⁸ It covers central Oregon district counties from Wasco on the Columbia to Klamath on the California border, including Jefferson County. Stakeholder interviews indicated that demand for park and ride services in Jefferson County were medium to low at the time the plan was prepared, but Madras was rated a high priority location for a park and ride facility on the basis of commuter trips between Madras and other ODOT Region 4 destinations, and in particular between Madras and Warm Springs. The Safeway Parking Lot in Madras was one of the highest rated locations analyzed in the plan. Development of a park and ride at this location is one of 9 high priority projects identified in the plan.

⁸ See https://newcoic.files.wordpress.com/2012/11/parkride-plan_final.pdf

Relevance: *The ODOT Region 4 Park and Ride Lot Plan includes recommendations for alternative modal investment in Region 4. The Madras TSP update will need to consider these recommendations as part of its capital projects and implementing measures.*

Central Oregon Strategic Transportation Options (2013)

The Central Oregon Transportation Options Plan (COTOP) is a long-range strategic plan to guide local and inter-community public transportation investment in Central Oregon to the year 2030 and beyond. The plan provides guidance for strategic investments in public transportation and transportation options in the region with the aim to reduce traffic on Central Oregon's inter-city roadways. Options considered commuter rail, transit, demand management, car/van pool and other alternative transportation solutions. Highway Segments #3, #6, and #7 are between Madras Redmond, Prineville, and Culver, for which the analysis showed varying levels of success reducing traffic growth.⁹

Relevance: *The COTOP includes findings for cost effective programs that promote the use of alternative transportation modes. The Madras TSP update will need to consider these recommendations as part of its TSP policies and implementing measures.*

Cascades East Regional Transit Master Plan (2013)

The Central Oregon Regional Transit Plan (CORTP) is a five-volume document that reviews existing transit options and future transit needs in Central Oregon. Volume IV presents a service plan for the region; it includes specific recommendations for transit options in Madras and other cities in Crook, Deschutes, and Jefferson counties.¹⁰ The recommended Madras solution, which could replace the existing Dial-a Ride service, includes local and inter-city flex-route service. The existing service model has scheduling and capacity constraints.

Relevance: *The CERPT compares various options and costs for delivering transit services in Central Oregon with specific recommendations for Madras. The Madras TSP update will need to consider these recommendations as part of the plan's transit modal solutions and implementing measures.*

Central Oregon Rail Planning Report (2009)

The Central Oregon Rail Planning Report (CORP) analyzed a variety of questions related to safety, congestion, freight mobility, and economic

⁹ See https://newcoic.files.wordpress.com/2012/10/cotop-final-report_coic.pdf

¹⁰ See https://newcoic.files.wordpress.com/2012/12/coic-rtmp-vol-iv-service-plan-7-2013_final.pdf,

development issues that affect rail service and reliability in Central Oregon. The study area was limited to Crook, Deschutes and Jefferson counties. These issues were studied in the context of at-grade crossings, rail alignments, and passenger rail service. The report includes recommendations for grade separation and at-grade closures. The report's freight mobility recommendations include specific policy language to be added to local comprehensive plans (CORP, page 19, #7) and other recommendations for a regional multi-modal terminal.

Relevance: *The CORP includes analysis and recommendations for improving rail service safety and reliability in Central Oregon. The Madras TSP update will need to consider these recommendations as part of the plan's freight modal solutions.*

Jefferson County Coordinated Human Services Transportation Plan (2007)¹¹

The Coordinated Human Services Transportation Plan was prepared for Jefferson County in 2007. The report was updated in 2009. Technical assistance was provided by COIC. The plan address federal requirements that all states adopt coordinated plans that to improve transportation services for people with disabilities, seniors, and individuals with lower incomes by identifying opportunities to coordinate existing resources; providing a strategy to guide the investment of financial resources; and guide the acquisition of future grants. In Oregon, this requirement was met by developing plans that address transportation needs of the federally designated target groups for counties and tribal areas.

The Jefferson County plan includes the following specific recommendations:

- Designate COIC as the Regional Public Transportation Coordinating Organization.
- Develop a Shuttle Connecting Warm Springs and Madras.
- Support, Maintain and Strengthen the Existing Transportation Network.
- Develop a strategic marketing program.
- Focus on Replacing and Expanding (as necessary) the Fleet.

The plan references specific policies in the Jefferson County Transportation System Plan that support the Human Services Transportation Plan. The plan includes a list of public, private, and non-profit providers that serve the county's transportation disadvantaged. It also includes needs and strategies to better serve populations with transportation disadvantages.

¹¹ See <https://newcoic.files.wordpress.com/2012/09/jeffersoncountyplan.pdf>

Relevance: *The JC-HSTP includes analysis and recommendations for improving transportation services for elderly, disabled, and low income residents of Jefferson County. The Madras TSP update will need to consider the recommendations as part of its transportation options and implementing measures.*

Jefferson County Transportation System Plan (2007)

The Jefferson County Transportation System Plan (County TSP) was adopted as part of the County Comprehensive Plan in 2007. The plan addresses relevant state planning requirements for county transportation plans per OAR 660-12-0015 et seq. The County's plan covers all unincorporated land outside of urban growth boundaries and tribal lands and county transportation assets that are inside urban growth areas. It is comprised of seven sections and three appendices.

Of particular importance to Madras are the plan elements that address county roads in the Madras Urban Reserve Area (URA), which lies outside the Madras Urban Growth Boundary (UGB) but the comprehensive plan envisions that over time these areas will be urbanized. They have first priority for future expansion of the Madras UGB. The city and county have adopted special land use and growth management policies for this area. In particular, these regulations limit interim development from encroaching into future urban transportation and utility corridors.

Section 4 of the TSP focuses on the Road System. Tables 4.3 lists county road system projects that are intended to support urban growth; they are referenced as Projects 61-76. Some but not all of these projects also are listed in the Madras TSP. These projects include a mix of planned road improvements inside the existing Madras UGB and within the URA. Figures 4.3 and 4.4 both show the location of these urban growth projects. Some of these projects may be important for resolving the jurisdictional transfer of roads from the County to the City at the time of or after city annexation. Table 4.4 and Figure 4.9 include information about alternative routes for a proposed Culver Hwy./US 97 Truck By-pass Route, which also is referenced as Project 13 in Table 4.1.

The County TSP also includes bicycle and pedestrian projects that have relevance to the Madras TSP. Projects B1, B2, and B3 in Table 5.1 – also shown in Figure 5.1 – are intended to provide bike connections from Madras to other destinations in the county. The County TSP also references the Willow Creek Trail, which originates in Madras. The end-points for these county projects need to be integrated with the bike/ped plan in the Madras TSP.

The County TSP discusses air, rail, and pipeline transportation assets in the County. The City and County TSPs should be consistent in their review and treatment of these assets where they overlap.

Finally, Sections 6 and 7 of the County TSP address financing planned system investments and the plan's implementation. Coordination between the City and County regarding these plan elements, which are common to all TSPs, is important.

Relevance: *The County TSP includes analysis and recommendations for transportation system elements in Jefferson County, including the urban growth area between city-limits and the urban growth boundary. The Madras TSP update will need to review these recommendations from the County TSP and make sure they are consistent with the updated City TSP.*

Jefferson County Comprehensive Land Use Plan (2007)

The Jefferson County Comprehensive Land Use Plan was updated in 2013. The plan provides the factual basis and policy framework for regulating all land uses in the County. It addresses all relevant Statewide Land Use Planning Goals, including Goal 12 - Transportation.

As the designated land use planning coordinating entity for the county, the plan includes important policies and procedures that relate to planning by municipalities in Jefferson County and for the mutual adoption of land use plans for urban designated areas, including Madras. Plan policies related to Goal 2 – Land Use Planning, and Goal 14 – Urbanization are especially important in this regard. The County's general land use plan establishes land development rights and a regulatory framework for all unincorporated land in the County. Within the Madras UGB, the City and County have agreed that Madras will conduct development reviews. This agreement is spelled out in an Urban Growth Management Agreement (UGMA) between Madras and the County for unincorporated county land that is inside the Madras UGB and for land that is in the Madras Urban Reserve Area.

County transportation issues are addressed in the County TSP, which in effect is part of the County Comprehensive Plan.

An important land use issue affecting county land that will be addressed by the TSP update is an analysis of a future urban street plan for the Madras Urban Reserve Area (URA). This will provide conceptual guidance for the general location and spacing of higher-order urban roads. Interim development would be reviewed to ensure it does not conflict with the future placement of roads and utilities that support future urban expansion.

Relevance: *The County Comprehensive Land Use Plan establishes important procedural requirements for updating land use plan elements inside urban growth boundaries. The Madras TSP update will need to be developed and adopted in a manner that is consistent with these policies and regulations.*

Warm Springs Reservation Transportation Plan (2014)

The Warm Springs Reservation Transportation Plan (WSTP) provides guidance for planned system improvements within the reservation boundary, and lands outside the reservation boundary that have been acquired by the Tribe. The main objectives of this Plan are:

- To establish a continuous transportation planning process for transportation systems on the reservation;
- To develop a surface transportation plan that is consistent with other modes of transportation and the plans of other transportation agencies;
- To identify and address the transportation needs that support the Tribes' socio-economic objectives;
- To include in the Plan access to new land parcels acquired by the Tribes; and
- To periodically monitor the TTP Road Inventory for the Warm Springs Reservation to ensure that the CTWS receives its fair share of Highway Trust Funds through the current BIA funding allocation formula.

Project in the plan that require federal assistance are programmed for delivery through the Oregon STIP. Non-federal funded projects are programmed through the Tribe's annual budget process.

Programs and services that have relevance for the Madras TSP involve public transportation services where service connections between the Reservation and Madras are offered. These services are summarized in the WSTP and are detailed in the 2014 *Tribal Transit Plan*. Of special significance are service coordination and collaboration between Warm Springs Tribal Transit Service (WST) and Cascades East Transit (CET). The two agencies coordinate service plans and in particular on service connectivity points in Madras.

Relevance: *The WSTP provides guidance for transportation system investment for Warm Spring Reservation lands and members, including public transportation services linking tribal members with other public transit and serve destinations in Madras. The Madras TSP update needs to consider the WSTP recommendations as part of the Madras TSP planning process and in particular with respect to transit and public transportation services.*

Madras Airport Master Plan (2014)

Review narrative to be added.

Relevance: *The Airport Plan provides guidance for demand and necessary improvements to facilities and services at the Madras City/County Airport over the next ___ years. The Madras TSP update will need to consider these*

recommendations as part of the transportation planning process in the plan section that addresses air, rail, freight, and pipelines.

Madras Parks and Open Space Master Plan (2009)

Review narrative to be added. The Plan title states the PMP was updated in 2009 but the link provided is to a 2004 document. Verify if an update occurred and if so how to access that document.

Relevance: *The Parks Plan provides guidance for park and recreation improvements for the next __ years. The Madras TSP update will need to consider the plan's recommendations as part of the transportation system planning process and in particular with respect to proposed trail system improvements (e.g. Willow Creek) and multi-modal connectivity to existing and planned park and recreation facilities.*

Madras Urban Renewal Plan (2006)

Review narrative to be added. The Plan title implies the URP was updated in 2005 but discussions with City Staff indicate that the plan has been modified since then. Verify if the on-line link includes all relevant projects and correct project delivery schedules for TIF funded projects and programs that effect transportation infrastructure and if not how to access the updated information.

Relevance: *The Urban Renewal Plan provides guidance for the use of TIF revenues within the City's designated urban renewal district. The Madras TSP update will need to consider the plan's programmed public improvements with respect to identified system improvement needs and as a potential source of funding for future projects. Also see financial summary below.*

Madras Urbanization Report (2007)

The 2007 Urbanization Report analyzed the inventory of residential and employment land in Madras to determine if the UGB included enough land to meet the 20-year forecast population and employment. It also analyzed land needs for public and quasi-public uses, like schools, parks, roads, churches, and other supporting urban land uses.

The Report led to two important changes to the urban planning program for the Madras area. First, the analysis demonstrated the need for a small increase in the UGB to meet housing needs. The analysis indicated there could be a deficiency in employment land inventory but several regional planning efforts delayed decisions related to employment land.¹² Second, the

¹² The 2007 urban planning process recommended that the City revisit the question of its employment land inventory after completion of the Airport Master Plan, the Central Oregon

analysis established a basis for designating a large area, mostly to the east of the existing UGB, as an urban reserve area (URA). The land in this area by state rule is highest priority for future urban expansion. The city may prepare conceptual level transportation and utility plans for the URA given that over time it is expected to become part of the UGB.

Relevance: The Urbanization Report itself combined with the 2012 TSP update addressed anticipated changes in traffic patterns related to the plan amendments adopted in 2008. Since then, many of the fundamental planning assumptions for urban growth in Madras have been updated. Other than consideration for an urban transportation framework in the URA, the 2007 Urbanization Report is not expected to affect the 2016 TSP update.

Madras Coordinated Population and Employment Forecast (2006)

Madras is in the process of updating the Goal 9 – Economic Development element of the comprehensive plan. In conjunction with this work, the City prepared an Economic Opportunities Analysis (EOA) that, in essence, replaced the 2006 forecast. The Goal 9 update and related EOA are anticipated to be adopted by the end of March 2016. The forecast used in the EOA update is shown in Table 5.

Table 5 - 2015 Madras Population and Employment Forecast

Year	City of Madras		Jefferson County	
	Population	Employment	Population	Employment
2015	8519	4808	27,469	N/A
2035	16,465	9292	41,576	N/A
2057	27,997	16,205	58,025	N/A

Source: Madras EOA Update and Jefferson County Comprehensive Plan

Relevance: The TSP Update needs to be prepared consistent with the overall population and employment forecasts for the urban growth area.

Regional Rail Plan, and the Central Oregon Regional Large Lot Industrial Program. Those steps concluded in 2012, which led to an update of the Madras Economic Opportunities Analysis in 2015. The result of that work is in the process of being adopted.

Madras Economic Opportunities Analysis (2015)

Madras is in the process of adopting amendments to its Comprehensive Plan related to Goal 9 – Economic Development. The proposed amendments are in response to recommendations in the 2015 Economic Opportunities Analysis (EOA). The recommendations included to expand the city’s inventory of small and medium size lots available for light industrial uses. The City and County are accomplishing this by rezoning all commercially zoned land south of Fairgrounds Road to a new Mixed Use Employment zone.

The new zone allows light industrial, business parks, storage and warehousing, and flex-development in addition to the commercial uses allowed in the existing base zones. An analysis of transportation impacts associated with this change concluded that because the traffic generated from light industrial, office, and warehouse uses tends to be less than for retail commercial uses, the zone change likely would result in a broader mix of uses and less traffic than would occur under the existing land use plan. A detailed analysis of specific network impacts and improvements was not conducted. That analysis is expected to occur as part of the TSP update.

Relevance: *The EOA update significantly alters the mix of allowed uses in the south end of Madras. This change will need to be analyzed as part of the TSP update. The EOA also indicated more development at the Madras Airport as a result of the recent federal designation allowing unmanned aerial vehicle testing at the airport. Transportation impacts associated with this change are not expected to be significant but will need to be assessed.*

Madras Comprehensive Land Use Plan (2007)

To be written. In essence the TSP update also will update the Comprehensive Plan. A general review of the Plan’s policies and narrative will be necessary to ensure the documents are consistent with each other.

Madras Zoning and Subdivision Ordinances

To be written. These local rules are important for implementing the TSP. The review will assess consistency of the current ordinances with requirements in the TSP that affect street design and connectivity, multi-modal access and connectivity, demand management and other rule requirements.

Madras Public Improvements and Design Standards

To be written. These standards establish design and construction parameters for public improvements for various public works, including roads, storm water conveyance systems, and utility installations. The review will consider consistency of City standards with applicable state standards. The local design standards are not an element of the TSP but an implementation mechanism. Updates or modifications to the design standards may be done without going through a land use approval process.

Madras School District 509-J Facility Plan (2009)

ORS 195.110 et seq requires all school districts in the state to prepare facility plans that forecast public education facility needs for grades K-12. The planning assumptions for facility plans need to be consistent with the locally adopted land use plans for each district.

In 2009, the Jefferson County School District adopted a facility plan that meets state statutory requirements. The plan identified a series of improvements to existing school facilities as well as the need for building new schools.

Relevance: *The Jefferson County School District Facility Plan provides information about existing and potential new school facilities in Madras and other Jefferson County communities. The TSP update will need to consider these recommendations for bicycle and pedestrian facilities and safety improvements near schools as important community destinations.*

Section 3 - Transportation Funding Summary

This analysis will review the financial resources that Madras relies on to finance its transportation system infrastructure investments and programs. The information will be summarized in tables that convey sources and uses of existing financing resources as well as explore other potential financing tools. Information sources that will be reviewed are listed below.

Madras Municipal Audits

To be written

Madras Municipal Budgets

To be written

Madras Transportation SDC Methodology and Rates

To be written

Madras Urban Renewal Plan and Investment Program

To be written

Jefferson County Budgets

To be written

Cascade West Transit Budgets

To be written

ODOT STIP

To be written

Appendix - List of Documents Reviewed

Document Name	Type
Oregon Highway Plan (with 2006 amendments)	State Plan
OAR chapter 734 division 051 (Access Management)	State Rule
TRIP97 Draft Report and supporting materials	
Oregon Public Transportation Plan	State Plan
Oregon Rail Plan	State Plan
Oregon Bicycle/Pedestrian Plan	State Plan
Statewide Planning Goals (to include OAR chapter 660 division 012, known as the Transportation Planning Rule ("TPR") (including amendments adopted in December 2011)	State Rule
Statewide Transportation Improvement Program	State -Budget
ODOT Highway Design Manual	
ODOT Region 4 Park and Ride Lot Plan	Regional
Cascades East Transit Regional Transportation Plan	Regional
Central Oregon Strategic Transportation Options	Regional
Central Oregon Rail Planning Summary Report	Regional
Jefferson County Coordinated Human Services Transportation Plan	County
Jefferson County Parks and Recreation Master Plan	County
Jefferson County Comprehensive Plan	County
Jefferson County TSP	County

Document Name	Type
Warm Springs Reservation Transportation Plan	Tribal
City Comprehensive Plan	City Plan
City's 2012 TSP	City Plan
City's Airport Master Plan	City/County Plan
City of Madras Parks and Open Space Master Plan, 2009	City Plan
City of Madras Urban Renewal Action Plan, 2006	City Plan
City's Zoning Ordinance, No. 723	City Regulation
City's Subdivision Ordinance, No. 713	City Regulation
City's Public Improvement Design & Construction Standards, 2012	City Regulation
City of Madras Coordinated Population Forecast, 2006	City Plan
City of Madras Urbanization Report, 2007	City Plan
City of Madras Urban Reserve Report, 2008	City Plan
Madras Municipal Budget – current and previous 4 years	City Budget
School District __ J Facility Plan	Special District
Madras Transportation TSP Methodology and Fee Schedule	City
Jefferson County Budget – current and previous 4 years	County Budget

Exhibit 1 - TPR Checklist
Statewide Land Use Planning Goal 12 -
Transportation

Item	TPR Requirement	Response
1	Goal Statement	Madras has an adopted TSP that has previously been acknowledged to meet requirements of OAR 660-12-000 et seq - Transportation Planning Rule (TPR). The rule was specifically written to guide the preparation of Comprehensive Transportation Elements to meet the requirements in Goal 12. The Madras 2015 TSP update work program has been design to meet or exceed requirements of the TPR. It is expected that the updated TSP will comply with Goal 12. No additional planning work outside of that proscribed by the TPR will be necessary.
2	660-12-0020 - TSP Elements	
	Needs determination	As part of the recently completed technical analysis of employment land needs, the City updated its population and employment forecasts for the Urban Growth Boundary. The relationship between existing and future modal needs closely mirror forecast land use conditions that are based on forecast population and employment growth. The implication of the recent Economic Development analysis is that the City will continue to grow but at a lower rate than previously projected. This change needs to be accounted for in the needs analysis that provides the foundation for the TSP update.
	Road element	

Item	TPR Requirement	Response
	Bike Element	Updated in 2012. Needs review but otherwise the existing TSP is largely current with respect to the bike network inventory. One issue that should be reviewed is what impact does the recently updated Goal 7 element (Natural Hazards) have for planned bike/ped trail facilities in the Willow Creek drainage?
	Pedestrian Element	Updated in 2012. Needs review but otherwise the existing TSP is largely current with respect to the pedestrian network inventory. One issue that should be reviewed is what impact does the recently updated Goal 7 element (Natural Hazards) have for planned bike/ped trail facilities in the Willow Creek drainage?
	Transit Element	
	Air, rail, water and pipeline element	This element of the plan has not been updated since 1998 and needs to be re-examined. The City completed an update to the Madras Airport Master Plan in 2014. The Madras Airport was recently approved as a testing site for Unmanned Aerial Vehicle (UAV) testing by the federal Aviation Administration (FAA). The TSP and other fundamental aspects of the air, rail, water, and pipeline element of the TSP need to be reviewed.

Item	TPR Requirement	Response
	Implementation (policies and regulations)	<p>Madras Comprehensive Land Use Plan is a compilation of various plan elements some of which have recently updated, including the Goal 7 - Natural Hazard element and the Goal 9 - Economic Development, while other elements have been updated since the plan was originally adopted. The formal plan documents at times inconsistent with more recent updates to certain plan elements. This is particularly true for the narrative descriptions of various aspects of the plan. For example, it is not clear what the source of the information in the Transportation System narrative that begins on page 68 of the Comp Plan. This narrative summary should be updated based on an "Executive Summary" from the 2012 TSP Update so that the plan narrative and the TSP are in sync. Plan policies in the Comprehensive Plan document differ from the policies in the 2012 TSP. There appear to be some inconsistencies between the policies in the Comp Plan document and the policies in the TSP document. Since technically both are formally part of the Comp Plan, these inconsistencies could pose problems for the City in the enforcement of policy in land use decisions.</p>
	Finance	
	Other	<p>Madras is not part of a designated MPO and has a population less than 2500 so the city is not required to prepare a parking plan or transportation demand management program.</p>
4	660-12-0035 - Transportation System Alternatives	
	existing facilities	
	new facilities	
	TSM measures (operational efficiencies)	
	No build alt	

Item	TPR Requirement	Response
	other	Madras is not part of an MPO with 1,000,000 population and, therefore, is not required to prepare an integrated land use/transportation alternative.
5	660-12-0040 - Transportation Finance Element	Update federal funding discussion to reflect recent passage of the federal transportation and highway program. Update narrative to reflect current SD fees and an analysis of the fee's indexing formula for keeping pace with cost. Status of regional gas tax initiative?
6	660-12-0045 - Policy and Implementation	
	Land Use regulations that implement the TSP	
	Subdivision and land use regulations that are consistent with state and federal plans for transportation facilities	OHP review; Region 4 Modernization Plan Review; Region 4 Bike/Ped plan review; FAA consistency for airport plan;
7	660-12-0050 - Project Development Coordination	
	Project coordination with other governments	Review membership for the TAC. Coordination on timing etc. Airport plan development testing and Warm Springs? ODOT integration into OSHP/STIP?
	Process to design and build projects authorized in the TSP	Policy statement
	TSP projects not subject to further justification	Policy statement

Item	TPR Requirement	Response
	Required justification in the TSP for projects to include need, mode, function, and general location	Policy statement
8	660-12-0060 - Plan and Land Use Regulation Amendments	
	Requirement for review where proposed plan amendment or regulation could significantly affect a planned transportation system facility	Policy framework and review criteria - review model language in the TPR Guidelines.
	Menu of remedies to restore balance to the transportation system when amendments are proposed	Policy framework and review criteria
9	660-12-0065 - Exemptions	List those that apply to Madras