

**Agenda**  
**Salem-Keizer Area Transportation Study (SKATS)**

**Technical Advisory Committee (TAC)**

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**Date:** Tuesday, October 9, 2018  
**Time:** 1:30 p.m.  
**Place:** MWVCOG Conference Room B  
100 High St. SE, Suite 200  
Salem, OR 97301  
**Phone:** (503) 588-6177 FAX (503) 588-6094  
**E-mail:** mwvcog@mwvcog.org  
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- A. Call to Order .....Victor Lippert
- B. Approval of TAC Minutes September 11, 2018 .....Victor Lippert
- C. RTSP Project Selection Process.....Ray Jackson

Background: The existing 2015-2035 Regional Transportation System Plan’s (RTSP) Chapter 5 (Proposed System) includes the lists and maps of future projects included in the financially constrained RTSP. These projects come from the combination of the previous RTSP, local TSPs, and ODOT’s STIP. Chapter 6 (Impacts) also includes a discussion of how those projects will impact the regional system.

The Federal Highway Administration and the Federal Transit Administration’s (FHWA/FTA) 2016 Planning Certification Review for SKATS had a corrective action that noted that the next RTSP update (i.e., the 2019-2043 RTSP) needs to revise the project selection process to meet the requirements of 23 CFR §450.324 including “how the plan’s vision, goals, objectives, and indicators were used to guide decision-making.” In addition, the new RTSP must consider how the future projects will help achieve the adopted federal Performance Measure targets.

In order to have a more explicit consideration of the Goals of the Plan, at the last two TAC meetings, SKATS staff proposed a new process that evaluates the list of projects using criteria aligned with the goals and objectives in the plan. Further refinements to the proposed process have been developed and are described in the *attached* memorandum.

The Mid-Willamette Valley Council of Governments is pleased to comply with the Americans with Disabilities Act (ADA). If you need special accommodations or translation services to attend this meeting, please contact Lori Moore at (503) 540-1609 or send e-mail to lomoore@mwvcog.org at least 72 hours prior to the meeting. *Hearing impaired please call Oregon Telecommunications Relay Service, 7-1-1.* Thank you.

Action

Requested: Discussion and provide feedback/direction on the proposed process.

**D. RTSP Chapter 5 – Needs and Gaps Analysis .....Ray Jackson**

Background: Chapter 5 of the SKATS 2019-2043 RTSP presents the identified needs, gaps, and transportation-related issues with the existing regional transportation system as of 2018. This is a new chapter with the goal to provide a link between the existing system and the one that will be proposed in Chapter 7. The TAC is asked to review the chapter (*attached*) and ensure that it adequately captures this topic.

Action

Requested: Review and provide feedback/corrections to the draft chapter.

**E. RTSP Financial Information.....Ray Jackson**

Background: A final reminder for financial information for use in the RTSP was sent to the TAC on September 26, 2018, with a request to provide the data by October 5, 2018. The data requested was:

- a) Forecasted revenues available to your jurisdiction/agency for use in operations, maintenance, and capital projects from 2019 to 2043.
- b) Forecasted expenditures for operations and maintenance of your jurisdiction’s portion of the regional system (roads and bridges for the cities, counties, and ODOT, transit revenue vehicles and transit centers/stops for SAMTD) for the years 2019 to 2043.

For this update to the RTSP, all the SKATS members will be receiving additional funds from the State of Oregon due to H.B. 2017. We want to document what these additional funds will be used for, whether for catching up on the maintenance backlog or for use in funding capital projects. Please be sure to include this information in your submittal.

Action

Requested: Information item.

**F. Other Business..... SKATS Staff**

- Policy Committee Meeting – October 23, 2018
- Next TAC Meeting – November 13, 2018
  - RTSP Chapter 6 – Financial

**G. Adjournment .....Victor Lippert**

# DRAFT

## Minutes

Salem-Keizer Area Transportation Study (SKATS)  
Technical Advisory Committee (TAC)  
September 11, 2018  
100 High St. SE, Suite 200  
Salem, OR  
1:30 p.m.

### **TAC Members Present**

Lisa Anderson-Ogilvie, Salem Community Development  
Nate Brown, Keizer Community Development, 2018 Vice Chair  
Steve Dickey, Salem Area Mass Transit District  
Dan Fricke, ODOT Region 2  
Victor Lippert, Salem-Keizer School District, 2018 Chair  
Austin McGuigan, Polk County Planning  
Brandon Reich, Marion County Planning  
Cindy Schmitt, Marion County Public Works  
Julie Warncke, Salem Public Works

### **TAC Members Absent**

Sam Ayash, ODOT System Studies, (non-voting)  
Angela Carnahan, DLCD  
Bill Lawyer, Keizer Public Works  
David Sawyer, City of Turner  
Rachael Tupica, FHWA, (non-voting)  
Todd Whitaker, Polk County Public Works  
Cory Ann Wind, DEQ, as needed

### **Others Present**

Ray Jackson, MWVCOG-SKATS  
Lori Moore, MWVCOG-SKATS  
Karen Odenthal, MWVCOG-SKATS  
Kim Sapunar, MWVCOG-SKATS  
Janelle Shanahan, Marion County Public Works

### **Agenda Item A. Call to Order**

The meeting was called to order at 1:34 p.m. by past chair Lisa Anderson-Ogilvie.

## **Agenda Item B. Approval of the Minutes of August 14, 2018**

**Motion was made by Steve Dickey, seconded by Brandon Reich, to approve the minutes of the August 14, 2018, TAC meeting as submitted.** Those voting in favor of the motion were Lisa Anderson-Ogilvie, Steve Dickey, Dan Fricke, Austin McGuigan, Brandon Reich, Cindy Schmitt, and Julie Warncke. **The motion passed unanimously.**

## **Agenda Item C. RTSP Project Selection Process**

Ray Jackson explained that following input from TAC members last month, he revamped the Regional Transportation Systems Plan (RTSP) project selection process to better align with the proposed goals of the plan. There are currently four project categories: Roads-Bridges, Bike-Pedestrian, ITS-Signal, and Transit. He scored and ranked the projects in the existing RTSP Project Database in order to demonstrate the proposed process in practice. The results of the process were included in the agenda along with what was learned during scoring and ranking and suggestions for revisions.

Nate Brown arrived at 1:37 p.m. Chair Victor Lippert arrived at 1:38 p.m. He conducted the remainder of the meeting.

Mr. Jackson noted that it is easier to score projects if the project description is clear and fully developed. He advised the group that some of the evaluation criteria need to be revised such as changing bridge condition ranking to those that are rated with a positive 'Good' classification as opposed to scoring bridges with a negative 'Poor' classification. He emphasized the importance of having sufficient information to correctly categorize projects.

Some of the evaluation criteria need additional work before they can be used effectively such as the criteria related to *Located at a Safety Priority Intersection*.

Questions asked of TAC members by Mr. Jackson included:

- a. Are there additional changes that need to be made to the evaluation criteria?
- b. As this process is intended to develop an initial list of RTSP projects, what measures should be used to determine the final, prioritized list?
- c. Should local jurisdiction priority influence project selection, in particular, if the project is low scoring? If so, how?

Cindy Schmitt expressed disapproval of some of the evaluation criteria while Julie Warncke questioned what should be done if a project doesn't fit into the four-defined categories. She also wanted to know what to do if a project fits into more than one category.

Discussion continued related to how to handle two projects scoring the same but with significantly different costs. Mr. Jackson reminded the group that equity/funding distribution issues still need to be resolved. Julie Warncke requested information on how other MPOs handle these problems. Nate Brown suggested that the project categories need to be broader rather than specific to allow for comparison between apples and oranges projects.

Mr. Jackson commented that if the project description is detailed sufficiently, it should be relatively easy for anyone to use the evaluation criteria to score a project; and two scorers should usually agree on the same score

Karen Odenthal noted that projects that address one goal very well but don't address other goals may not always rise to the top. The scoring seems to benefit projects that meet many of the goals. A good project could fit one of the criteria very well but not anything else.

Ways of measuring long-term value of a project needs consideration along with the value of ideally matching a single goal. Should that impact project selection? If so, how?

The merits of continuing the project selection process used for the previous RTSPs were discussed along with the concept of justifying project selection after the projects have been chosen.

Mr. Jackson announced that a project submittal form has been developed for the submission of new projects.

#### **Agenda Item D. RTSP: Chapter 4-Existing System**

Ray Jackson explained that Chapter 4 contains an overview of the existing regional transportation system. There are five districts, and specific information is presented for each district along with an overall description of the existing regional system. The districts are:

- Downtown Salem;
- West Salem;
- Keizer and North Salem;
- East Salem; and
- South Salem and Turner.

Highlighted sections of the draft document contain information that needs review and verification by TAC members.

Referencing the Regional Bicycle and Transit map, Mr. Jackson noted that each mode will be illustrated individually. One map for the Bicycle System, and a second map for the Transit System. Combining the two modes in one map makes the information displayed hard to decipher.

Mr. Jackson informed TAC members that as previously requested, he researched the status of the projects in the 1996 RTSP. He reported that of the ninety projects included in the 1996 RTSP, thirty-four have been completed and nineteen are probably done but with changes in the description.

## **Agenda Item E. Other Business**

The next SKATS Policy Committee meeting is scheduled for noon on September 25, 2018. An amendment to the TIP related to the purchase of three new buses will be reviewed. The draft amendment is currently out for public review and can be located on the MWVCOG website.

Another topic scheduled for Policy Committee (PC) discussion is OMPOC (Oregon Metropolitan Planning Organizations Consortium) 2019 Legislative Priorities. PC members will be asked to provide their OMPOC representatives with their priorities.

Cost escalations related to post-project scoping are becoming an important issue to smaller jurisdictions in the state. How to come up with additional match funding, especially large sums, is an issue for smaller cities. This issue was raised at the September MWACT (Mid-Willamette Valley Area Commission on Transportation) meeting. It was asked if this issue could impact the SKATS TIP. The response was that it could; however, any impact is unknown at this time. It was noted that if there are cost overruns related to this issue in the SKATS area, requests could be made for any non-programmed SKATS discretionary funds to make underfunded projects whole.

The next TAC meeting is scheduled for October 9, 2018. TAC members will review draft Chapter 5-Needs Analysis.

Chair Victor Lippert adjourned the meeting at 3:07 p.m.

## **Agenda Item C.**

### **RTSP Project Selection Process**

**SKATS Technical Advisory  
Committee (TAC)  
October 9, 2018**

#### **Action Requested:**

Discussion and provide feedback/direction on the proposed process.



## Memorandum

**Date:** October 2, 2018  
**To:** SKATS Policy Committee (PC) Members  
**From:** Ray Jackson, Senior Transportation Planner  
**Re:** **Project Scoring and Ranking Process**

At the August and September SKATS Technical Advisory Committee (TAC) meetings, staff introduced the need for a more transparent and accountable process in selecting the projects for inclusion in the financially constrained Regional Transportation Systems Plan (RTSP). The motivation for this is two-fold: first it can be used to show how the RTSP is considering the federal planning factors as required under 23 CFR 450.324 (a), and second, it addresses a corrective action identified by Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) staff as part of their findings from the 2016 Planning Certification Review Report. That corrective action states (with emphasis added):

*“By May 31, 2019, with the update of the MTP (Metropolitan Transportation Plan), SKATS must clearly document an integrated, regional transportation planning process, including all supporting analysis, to meet the requirements of 23 CFR 450.324.*

*The MTP should include documentation on:*

- a) the clear integration of Federal planning factors;*
- b) the use of the plan’s vision, goals, objectives, and indicators in the decision-making process;*

The most straightforward way of showing how the plan’s goals are used in the decision-making process is to tie the goals with criteria that are used to evaluate whether a project addresses the goal and to use the result to inform the decision as to whether to include the project in the financially constrained plan.

An initial proposal was discussed at the August meeting, which was refined and presented at the September meeting. At that meeting, the results of scoring of all 223 projects in the RTSP Project Database using the proposed criteria and process were discussed. During the

September meeting the discussion by the TAC members focused on how the proposed criteria and process might be used and included suggestions that the criteria should be broader and not narrowly focused.

As a result of that discussion, the proposed criteria have been revised, reducing the number of criteria and reflecting that more than one of the RTSP’s goals can be addressed by a single criterion. The revised criteria are presented in **Table 1**.

*Table 1: Project Criteria and Associated Goal(s) - Proposed*

Criteria	Goal(s) Addressed
<b>Increases the miles of pavement in travel lane that are ranked “good”</b>	3
<b>Increases the number of bridges that are ranked “good”</b>	3, 4
<b>Enhances transit service or operations</b>	2, 3
<b>Reduces a gap in a regional system</b>	1, 3, 6, sometimes 4
<b>Does not impact a CEH resource</b>	7, (indirectly 8)
<b>Addresses freight movement impediment on designated CUFC</b>	4, 6, 9
<b>Increase access to employment center or jobs</b>	1, 5, 9
<b>Project does not produce a disproportionate burden on an EJ population</b>	5
<b>Addresses a known safety location/issue</b>	4
<b>Addresses a bottleneck along a corridor</b>	4, 6

In addition, each project is required to have:

- A recent cost estimate (goal 8)
- Be in the local Transportation Systems Plan (TSP) or equivalent, or from a planning study (goal 10)

### **Scoring and Ranking**

Scoring the projects will again be by assigning one (1) point if the project meets the criterion and zero (0) points if it does not. Scores are summed for each project and the projects can be ranked by the total score. The list can then be reviewed by the TAC to ensure that the ranking is consistent with local priorities, and the revised list presented to the Policy Committee for final review and acceptance as the financially constrained project list for inclusion in the public review draft of the RTSP.

As a reminder, this process will be completed every four years as part of updating the RTSP . It is taken as a given that priorities for the SKATS members will change over time, especially, if there are exogenous events that need to be addressed.

## Items for Discussion

There are three considerations for the TAC to consider:

- 1) Do the criteria shown in **Table 1** adequately capture the goals of the RTSP?
  - a. Are there any additional criteria that should be included?
- 2) Once there is consensus that the criteria are acceptable for use in this process, the next task is determining how they should be scored. The proposal is again for a simple one point if the project addresses the criterion and no points if it does not.
  - a. Should there be any weighting of the criteria or goals?
  - b. Many examples of project scoring use multiple values to reflect the preferences for projects that better address an identified need. For example, for projects that “Reduces a gap in a regional system”, five (5) points might be awarded to a project that fills in a gap between two segments, two (2) points for project that extends a system (reducing the gap) but that does not eliminate the gap, and zero (0) points for a project that is located away from any other completed part of the network.
- 3) Finally, after the projects have been scored how should they be ranked?
  - a. Are all projects considered equal? Should one type of projects be prioritized over others? Should the regional funds be allocated by mode, jurisdiction, or another feature?

For the October meeting, we would like to reach consensus on the first question at the very least. We will need a process in place before the December 2018 TAC meeting.

### Reminder on RTSP Project Database Entries

For the process described above, all projects that are not marked “completed,” “obligated,” or “removed” in the RTSP Project Database will be used. Some projects currently classified as “illustrative” will not satisfy the requirement for a recent cost estimate. The jurisdiction which ‘owns’ the project can elect to submit a revised cost estimate if they determine that the project could be built in the next 20 years and has the necessary political backing to be included in the financially constrained RTSP.

This is one of the reasons to review, revise, and update the entries in the RTSP Project Database on a regular basis (traditionally every four years). The RTSP Project Database is meant to include all the regionally significant projects that have been identified through planning studies and updates to the local TSPs and long-range planning documents. To ensure we know about all the projects that you are planning, funded or not, these should be entered into the Project Submittal Form (now available online), and the database will be updated periodically. All projects are assumed to be illustrative unless funding is shown on the form.

**Existing Goal Statements:** The goals of the RTSP are to have a Regional Transportation System that is:

- Goal 1:** [...] Designed to allow easy access to people and goods, and meet the mobility needs of the region for the next 20 years.
- Goal 2:** [...] Preserved in good repair and replaced at the end of their useful life, as necessary, and maintained to be usable to protect the region's investment.
- Goal 3:** [...] Developed with the collaboration of state and local governments to enhance the safety and security of the regional system for all users and modes of travel.
- Goal 4:** [...] meets the needs for users of the regional transportation system: that the benefits and burdens of the transportation system are not disproportionately distributed.
- Goal 5:** [...] Efficient to use: this refers to a system that provides the greatest benefit to the users of the system and does with projects that are cost appropriate.
- Goal 6:** [...] Multimodal and comprehensive, supportive of moving goods and people by the mode of their choice.
- Goal 7:** [...] Planned to minimize the impact(s) to the natural and built environment. *(under review)*
- Goal 8:** [...] Developed and maintained with the funds available to the region.
- Goal 9:** [...] Invests in transportation infrastructure that supports a vibrant regional economy.
- Goal 10:** [...] Based from the result of an open and continuous dialog with the public, other stakeholders, local jurisdictions, and agencies within the SKATS area.

RJ:lm

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## **Agenda Item D.**

### **RTSP Chapter 5 – Needs and Gaps Analysis**

**SKATS Technical Advisory  
Committee (TAC)  
October 9, 2018**

#### **Action Requested:**

Review and provide feedback/corrections to the draft chapter

## Chapter 5 – Needs, Gaps and Deficiency Analysis and Identification

As illustrated in the maps and discussion of **Chapter 4**, there are several gaps and deficiencies in the existing regional system. These preclude the existing regional system from fully meeting the Goals and Objectives that were presented in **Chapter 3**. Identifying these gaps and deficiencies is the first step to addressing them with projects and programs that will allow the future regional system to meet the stated Goals and Objectives. These gaps and deficiencies are discussed in this chapter in preparation for the proposed package of projects and programs that is discussed in **Chapter 7**, linking the program of projects to the identified needs and the Goals of the Plan.

Identification of gaps and deficiencies of the regional transportation system come from many planning efforts. First, there are on-going system monitoring processes (such as the crash reporting and Congestion Management Process [CMP]) in place to identify areas with issues that degrade the safety or ability of the public to use the existing systems. Second, since the adoption of the Regional Transportation Systems Plan (RTSP) in 2015, there have been several planning studies for specific corridors undertaken by the local jurisdictions. Third, SKATS has started an effort to identify the presence of sidewalks along the regional corridors. Fourth, updates to planning documents by other organizations, such as by ODOT to their *Oregon Freight Plan* (2017), provide new information and analysis of their facilities and current and future needs. Finally, studies that are not primarily focused on transportation, such as forecasting the impact of seismic events, have been consulted to provide information on possible effects to the regional system. These sources help expand the understanding of the current system and identify the areas where there is either a missing component (such as sidewalk connectivity) or an inability to handle an extreme event (such as an earthquake or flood). Additional data on the state of system will be available as local governments provide road condition data to ODOT, as required by state law adopted in 2017.

### Roads & Bridges – Preservation

The Regional Road System is composed of approximately 255 lane-miles of roadways with a functional classification of minor arterial or higher. No official estimate of the replacement value of these roads has been produced; however, protecting this sizeable investment is a Goal and Objective of this Plan, as it is typically less costly to maintain a roadway or bridge than to completely replace it. Each of the jurisdictions are responsible for operating and maintaining the roadways and bridges they own. To do, this they primarily rely on State Highway Funds that are distributed by ODOT, but also use local funds (e.g. transportation bonds funded with property taxes). However, due to the increasing efficiency of vehicles and even considering that a state fuel tax has been raised 10 cents since 2009, the needs for preserving the road system are greater than the resources. Add to this the increases in construction costs during periods of economic expansion along with general inflationary increases and the purchasing power available from the funds received from the fuel tax (and other sources) is diminished over time. This results in the jurisdictions either lowering their standards, deferring maintenance, or finding additional funds (or some combination of the three). This situation will likely be exacerbated in the future as vehicles become more efficient (if fossil-fuel powered) or not subject to the fuel taxes (in the

case of electric vehicles<sup>1</sup>). One consequence of deferring maintenance is that more roads and bridges will need to be reconstructed or replaced completely, at a much higher cost.

### Roads

The preservation of the investment in the regional system is captured by the federal performance measures for the condition on the bridges and pavement along the Interstate and non-Interstate National Highway System (NHS). ODOT provides SKATS updates for these values every two years, allowing for progress to be tracked over time. There are approximately **87 miles of roads** classified as part of the National Highway System (which includes the Interstate) in the SKATS area. The percent of the pavements on these roads that have been classified as “Good”, “Fair” or “Poor” since 2008 are presented in **Table 5-1**.

Table 5-1: Pavement Quality of the Roads on the Interstate System in SKATS (2008-2016) Source: ODOT

Classified	2008	2010	2012	2014	2016
Good	71%	39%	42%	29%	31%
Fair	29%	61%	58%	71%	69%
Poor	0.7%	0	0	0	0

Table 5-2: Pavement Quality of the Roads on the Non-Interstate National Highway System in SKATS (2008-2016) Source: ODOT

Classified	2008	2010	2012	2014	2016
Good	33%	32%	34%	41%	41%
Fair	47%	45%	48%	42%	42%
Poor	20%	23%	18%	17%	17%

As discussed in **Chapter 3**, SKATS has agreed to support ODOT’s statewide targets for pavement condition in 2022. While there is no requirement for the SKATS area to meet the statewide targets, by agreeing to support ODOT’s targets, the MPO must show how the projects selected for the RTSP and the Transportation Improvement Program (TIP) will make progress toward the targets. Essentially, funding spent on maintenance, or for projects that involve infrastructure renewal (such as preservation or reconstruction), should maintain or increase the number of miles of roads that are rated “Good” and limit the number of miles of roads that decrease to a “Poor” rating.

In addition to these results for the NHS, the local jurisdictions are required to report the condition of their roads (urban minor collectors and above) to the Oregon Department of Transportation (ODOT) every two years as part of the accountability requirements in H.B. 2017. The first reports will be available in 2019 (after the draft RTSP is completed). This will likely impact the investment decisions that the cities and counties make for their roads that are not on the National Highway System.

### Bridges

Bridges are also a vital component of the Regional Road System. ODOT inspects all the bridges in the state every two years, providing up-to-date information on how well these resources are

<sup>1</sup> As part of H.B. 2017, the State of Oregon is raising the registration fees for electric vehicles in 2019 and 2020 to ensure EV owners pay their some fees for the upkeep of the transportation system.

aging. Many of the bridges in the state, and within the SKATS area were built more than 50 years ago and are nearing the end of their design life. There are three parts to each bridge: the deck area – where vehicles are driven and people walk; the substructure – which supports the deck area and superstructure lifting it over the waterway or other feature and distributing the loads to the ground; and the superstructure – which supports the deck and distribute the loads on the bridge to the substructure (see **Figure 5-1**). While all parts are necessary for a bridge to function, only the rating for the deck area is included as part of the new federal performance measures. The data from 2009 to 2017 for all the bridges in the SKATS area located along NHS routes is illustrated in **Table 5-3**.

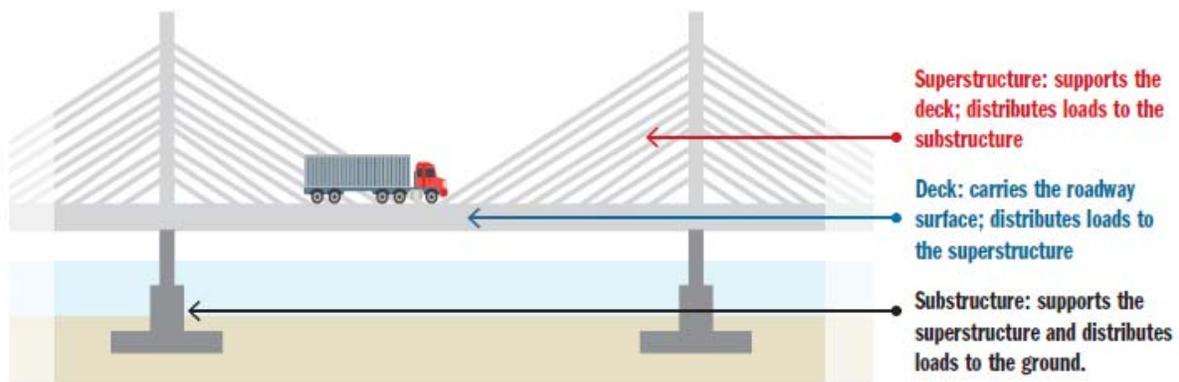


Figure 1: Components of a Bridge (Source: ODOT Bridge Condition Report 2017)

Table 5-3: Bridge Deck Rating for Bridges on NHS Routes in SKATS (2009-2017) Source: ODOT

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Good	29%	25%	25%	22%	22%	22%	12%	11%	8%
Fair	58%	63%	62%	65%	65%	76%	86%	87%	89%
Poor	13%	12%	12%	13%	13%	2%	2%	1%	3%

The locally owned bridges on the NHS and their rating are presented in **Table 5-4**. Note that a project has been identified to replace the bridge over the Little Pudding River on Silverton Road and is scheduled for construction in 2019.

Table 5-4: Rating of Locally-owned bridges on the NHS in SKATS (Source: ODOT)

Location	Rating
Capitol/Mill Creek (N. of Union)	Good
Commercial/Pringle Creek (S. of Trade)	Good
Kuebler/Mill Creek (E. of Turner Rd)	Good
Summer/Mill Creek (S. of D)	Fair
Cordon/W. Fork Little Pudding River	Fair
NB 13th/Pringle Creek (Near RR Station)	Fair
SB 13th/Pringle Creek (Near RR Station)	Fair
Liberty/Pringle Creek (S. of Trade)	Fair
Commercial/Battle Creek (Near I-5 Ramps)	Fair
Kuebler/RR Tracks (W. of Turner Rd)	Fair
Silverton/Little Pudding River	Poor

Again, SKATS has agreed to support ODOT’s statewide targets for bridge condition in 2022, and the local jurisdictions are required to report the condition of their bridges to ODOT every two years as part of the accountability requirements in H.B. 2017. Bridge inspection will likely be coordinated by ODOT, as they have been inspecting all the bridges in the state for years. For bridges, there is a need to keep the bridge deck ratings in the ‘Fair’ category and not deteriorate into being rated ‘Poor.’

### Roads – Efficient Use

An additional 85,000+ people and almost 35,000 jobs are forecast for the SKATS area by 2043, resulting in an increased demand to travel. To respond to this increased demand on the Regional Transportation System, our roads will need to be designed, operated and used more efficiently in the future. . The region has invested in promoting and encouraging employers and employees to use alternatives to traveling alone in a vehicle for the past 40 plus years via the Cherriots Trip Choice program (nee Cherriots Rideshare). Promoting ridesharing, telework, biking, walking, and taking transit reduce the level of system congestion. Encouraging employers to offer flexible schedules helps not just with the amount of traffic but allows employees to have more control of their life. Other on-going investments are in the Regional Traffic Signal Control Center, which can monitor and optimally control most of the signals in the area, along with investment in cameras to monitor the system and interconnects to transfer the data between signals and the control center. Not all the traffic signals in the Salem metropolitan area are connected to the Regional Traffic Signal Control Center. These gaps have been identified and projects have been proposed to link the remaining signals to the center (**Table 5-5**).

Table 5-5: List of Corridors with Identified Interconnect Projects (Source: Salem, 2017)

Project
Kuebler - Cordon
Salem Pkwy - Portland Rd - Chemawa
Mission - Lancaster - Rickey
Summer - Market - Court - High
12th Street
Liberty - Kuebler
Center - Hawthorne - Market
Wallace Rd
Glen Creek - Doaks Ferry - Orchard Heights

Other means that the region uses to improve the efficient use of the regional system include investments in Cherriots transit service, promoting the use of TripCheck.com to ‘*know before you go*,’ and the increasing use of the traveling public on private providers travel information, such as Waze and in-vehicle traffic information.

However, given the forecasted increase in traffic, additional investments in these existing funded programs, plus identifying others, will be necessary to ensure that people and goods can efficiently move in, and through, the SKATS area over the next 20 years.

It should be noted that it is possible that exogenous factors will play a larger role in addressing this issue than has been true in the past. The development of connected and/or autonomous vehicles could increase the efficiency and carrying capacity of the existing system with only minor or moderate investments from the public sector. This is an area of rapid development and will be monitored closely.

### Roads – Congestion

SKATS monitors the operations of the regional system as part of the Congestion Management Process (CMP - see **Appendix E**). This includes continuously collecting traffic volumes at over 50 locations in the area, analyzing travel time along 15 corridors, and gathering transit ridership from Cherriots. These data streams are used to identify areas where recurring congestion is present. With this information, the owner/operator of the facility (ODOT or one of the local jurisdictions) will typically conduct an in-depth planning study to further analyze the corridor and develop projects that attempt to address the congestion.

One area that has been studied extensively is the crossing of the Willamette River. There have been three studies since the 1970s with the latest, the Salem Rivercrossing Environmental Impact Study building upon the earlier Willamette River Crossing Study (2002). A separate study in the 1990s examined ways to make the current bridges on Marion and Center Street operate better (Bridgehead Engineering Study 1998). Traffic crossing the Marion and Center Street bridges is primarily composed of people in vehicles from West Salem traveling to work or shopping on the east side of the river and then returning home, although there is also the reverse of that (people traveling east to work, shop, etc.). A smaller proportion of the traffic is either people from other parts of Polk County and Yamhill County or travel to/from the Oregon Coast.

A separate planning study was conducted in 2018 (*Congestion Relief Task Force*) to look at possible near-term options for reducing the congestion on the bridges. **The results of this study will be added when they are finalized.**

Traffic volumes crossing the Willamette River between 1993 and 2017 are illustrated in **Figure 5-2**. The previous peak in travel was 2006 with volume decreasing during, and after, the Great Recession to a low in 2011. As the economy has rebounded, so has the traffic with volume in 2016 equaling the previous peak and an even higher volume in 2017.

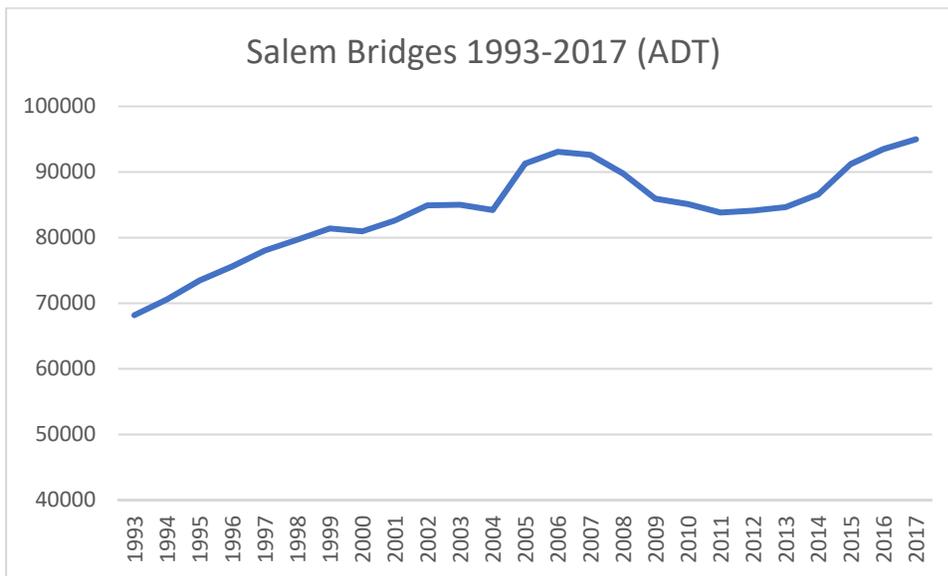


Figure 5-2: Travel Over the Willamette River, 1993-2017 (Average Daily Traffic) Source: ODOT

Other corridors that are congested include Lancaster Drive, Mission Street, the Trade Street/Ferry Street couplet, the Marion Street/Center Street couplet, River Road North, Commercial Street/Liberty Street couplet, and Wallace Road. A ranking of the regional corridors that are tracked as part of the CMP by the travel time index<sup>2</sup> (a measure of congestion) are presented **Table 5-6**. This index was calculated for the period from 4 p.m. through 6 p.m. for each weekday in 2017, excluding holidays. More information is available in **Appendix E**. Sometimes the cause of the congestion is due to bottlenecks, such as a reduction in the number of lanes, a change in speed, or a geometric condition (such as an “S” curve). Other times the cause is likely the lack of parallel facilities and/or adjacent land uses that attract or produce trips.

<sup>2</sup> The travel time index shows the ratio of peak period travel time to free-flow conditions. For example, the 1.55 value for Marion St-Wallace Rd (WB) means a 10-minute trip would take 15.5 minutes in the peak hours.

Table 5-6: Regional Corridors Ranked by Travel Time Index (For 4-6pm, weekdays in 2017)

Corridor (direction)	Travel Time Index (FF)
Marion St - Wallace Rd (WB)	1.55
OR22E - Mission St (WB)	1.54
River Rd N via Broadway (SB)	1.54
Center St (EB)	1.54
Lancaster Dr (SB)	1.53
River Rd N via Broadway (NB)	1.53
State St (EB)	1.51
Lancaster Dr (NB)	1.51
OR22E - Mission St (EB)	1.5
12th St - Commercial St (SB)	1.46
Commercial St (NB)	1.44
River Rd N via Commercial-Liberty (SB)	1.42
Salem Parkway (SB)	1.4
Commercial St (SB)	1.4
Center St (WB)	1.39
Marion St - Wallace Rd (EB)	1.36
Portland Rd (NB)	1.35
River Rd N via Commercial-Liberty (NB)	1.35
Portland Rd (SB)	1.34
Kuebler Blvd (EB)	1.33
State St (WB)	1.33
Kuebler Blvd (WB)	1.33
Highway 22W (WB)	1.31
12th St - Commercial St (NB)	1.25
Cordon Rd (NB)	1.23
Cordon Rd (SB)	1.22
Highway 22W (EB)	1.15
Salem Parkway (NB)	1.14
I-5 (SB)	1.04
I-5 (NB)	1.01

The movement of goods and freight in, out of, and through the Salem metropolitan area is dependent on a reliable and efficient regional system. The *Oregon Freight Plan (2017)* identified locations in the Salem metropolitan area where road and rail conditions are detrimental to the efficient and reliable movement of goods and freight. The bottlenecks identified above (**Table 5-6**) apply to trucks as well. Sections of the regional road system that have freight reliability reduced by delay are summarized in **Table 5-7**. Other areas identified include the Brooklake Interchange on I-5 due to the outdated design and high number of freight vehicles, and the section of I-5 from the Kuebler Interchange south past the SKATS boundary at the

Delaney Interchange. ODOT has plans on developing an Interchange Area Management Plan for Brooklake in the near-term and has identified and is beginning to fund a project to provide truck climbing lanes on the latter area of I-5.

Table 5-7: Freight Highway Delay Areas (Source: Oregon Freight Plan, 2017)

Route	Start Milepost	End Milepost	Issue(s)	Tier (1-3)
I-5	244.4	248.6	Unreliability south of Salem	2
Ferry St SE	5.3 (Front St)	5.5 (Liberty St)	Delay on Ferry	3
OR 22 E	1.2 (west end of I-5 interchange)	7.9 (between Shaw Rd and Silver Creek Falls Hwy)	Delay on OR 22 west of I-5	3
OR 99E	4.7 (Hood St)	4.9 (Division St)	Delay on 99E (Commercial St)	3

There are four federal performance measures that are applicable to congested roadways:

- Percent of the person-miles traveled on the Interstate that are reliable;
- Percent of the person-miles traveled on the non-Interstate NHS that are reliable;
- Truck Travel Time Reliability Index; and
- Annual Hours of Peak Hour Excessive Delay per Capita (not applicable to SKATS until 2022).

ODOT has set statewide targets for each of these, and SKATS has agreed to support the first three (the fourth is only applicable to urban areas with a population over 1 million in the 2018-2021 reporting period). SKATS is working to integrate these measures into the CMP and apply them on a corridor level instead of their current reporting at the metropolitan level. If successful, this should provide additional information on how the regional system is performing and help identify the congested locations.

Many of the congested locations have been noted, and projects have been proposed. The programs discussed in the *Roads-Efficiency* section apply as here as tools to reduce the amount of traffic on the region’s roads at any one-time during the day.

### Roads – Safety

The safety of all users of the regional system is one of the top Goals of the RTSP, especially reducing the number of fatalities and life-altering injuries. As illustrated in **Figure 5-3** the number of fatalities from traveling on the region’s roads has varied over the last 24 years, never registering much more than 20 in a year. While the number of serious injuries decreased from 1994 to 2011, there has been an increase which spiked in 2014 and 2016. As a similar increase has been noted nationwide, analysts attribute this to the combination of the recovery from the Great Recession and low fuel prices resulting in an increase in VMT (vehicles miles traveled). Combined with other studies that show that 93 percent of all collisions are attributable at least in part to driver error; and it would seem that the area, and the nation as a whole, is facing a situation with few solutions. However, projects can be implemented, and policies and programs put in place that address some of the factors for fatal and injury related crashes, or that reduce the

severity. For example, in 2016 ODOT began to fund lower cost safety projects under the ARTS (All Road Transportation Safety) program.

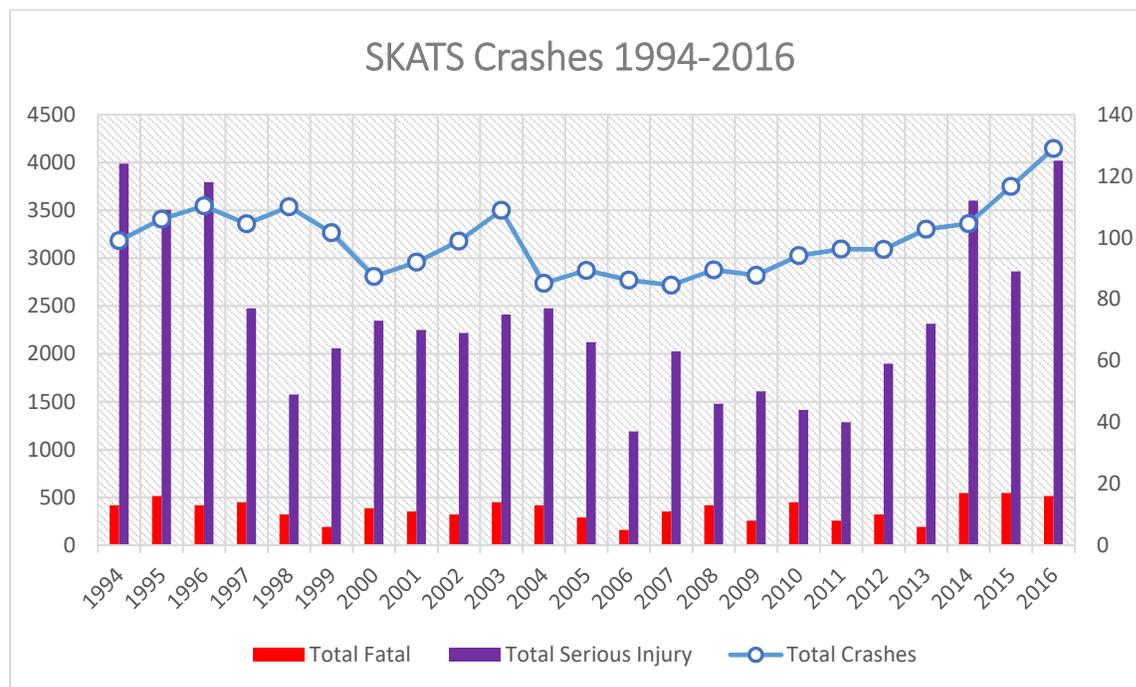


Figure 5-3: Crashes, Fatalities and Serious Injuries within SKATS: 1994-2016 (Source: ODOT) [Crashes use the scale on the left y-axis, Fatalities and Serious Injuries use the scale on the right y-axis]

As discussed in **Chapter 3** and **Appendix P**, SKATS is supporting ODOT’s targets for the federal safety performance measures. These targets are predicated on the assumption that programs such as ARTS and other safety projects will result in a lower number of crashes, especially those that result in a fatality or serious injury.

Crash data is used by the local jurisdictions as they identify areas for planning studies or as part of the work to define countermeasures and projects to reduce the risk of injury or death to the traveling public. Refer to the maps of *Fatalities and Serious Injuries from Crashes* presented in **Chapter 4** for an overview of where the most serious crashes have occurred in the region over the last five years.

### Bicycle

The Regional Bicycle System was first defined in the 1996 RTSP. With each update to the Plan, additional segments were identified, often to align with changes that were made in a local transportation systems plan (TSP) or to reflect the construction of new roads or facilities. The original Regional Bicycle System was limited to mainly the arterials in the area. The number of miles designated as part of the Regional Bicycle System over the years are presented in **Table 5-8**.

Table 5-8: Regional Bicycle System - Miles Designated

	1994	2002	2011	2015	2018
Miles Defined	141	174	262.2	309.2	291
Miles Existing	72	110	190	197.3	205
Percent Realized	51%	63%	73%	64%	70.4%

Since 1996 there has also been a change in how people and planners perceive bicycle facilities. Earlier it was deemed desirable to have the bicycle facilities on the major roads, which resulted in the creation of striped bicycle lanes along most of the arterials and collectors in the area. In the early-2000s, several studies were conducted nationally showing that many people felt uncomfortable using these on-street facilities due to the volume and/or speed of the motorized traffic. One solution was to create bicycle routes that used local streets where the volume and/or speed of the motorized traffic is lower. (This is similar, but much less expensive, to an earlier paradigm that advocated for the creation of a bicycle network that was totally separated from motorized vehicles). These have a variety of monikers such as ‘bicycle boulevard,’ ‘family friendly bikeways,’ ‘all ages and abilities (AAA) bikeways,’ and ‘neighborhood greenways.’. It was recognized that at some locations these could not be implemented, such as in downtowns and along commercially oriented streets.

As many of the destinations people want to go to are located along the major roads (and these are typically the shortest paths between two locations), people who are bicycling need a safe way to reach these destinations. To meet this need, there has been a push for facilities on the major roads that provide a degree of separation from motorized traffic, such as buffered bike lanes and cycle tracks.

Planning studies completed in the region, such as Salem’s *Bicycle and Walk Plan Update* (2012), identified locations where facilities are needed. The identified Regional Bicycle System is illustrated in **Map 5-1 (forthcoming)** and highlights the gaps where facilities are currently lacking. The miles of gaps by jurisdiction are presented in **Table 5-9**.

Table 5-9: Regional Bicycle System Gaps (2018)

Jurisdiction	Miles Defined	Miles Completed	Miles of Gaps
Salem	194	125	69
Keizer	26	24	2
Turner	2	2	0
Marion County	55	43	12
Polk County	14	11	3
<b>Total</b>	<b>291</b>	<b>205</b>	<b>86</b>

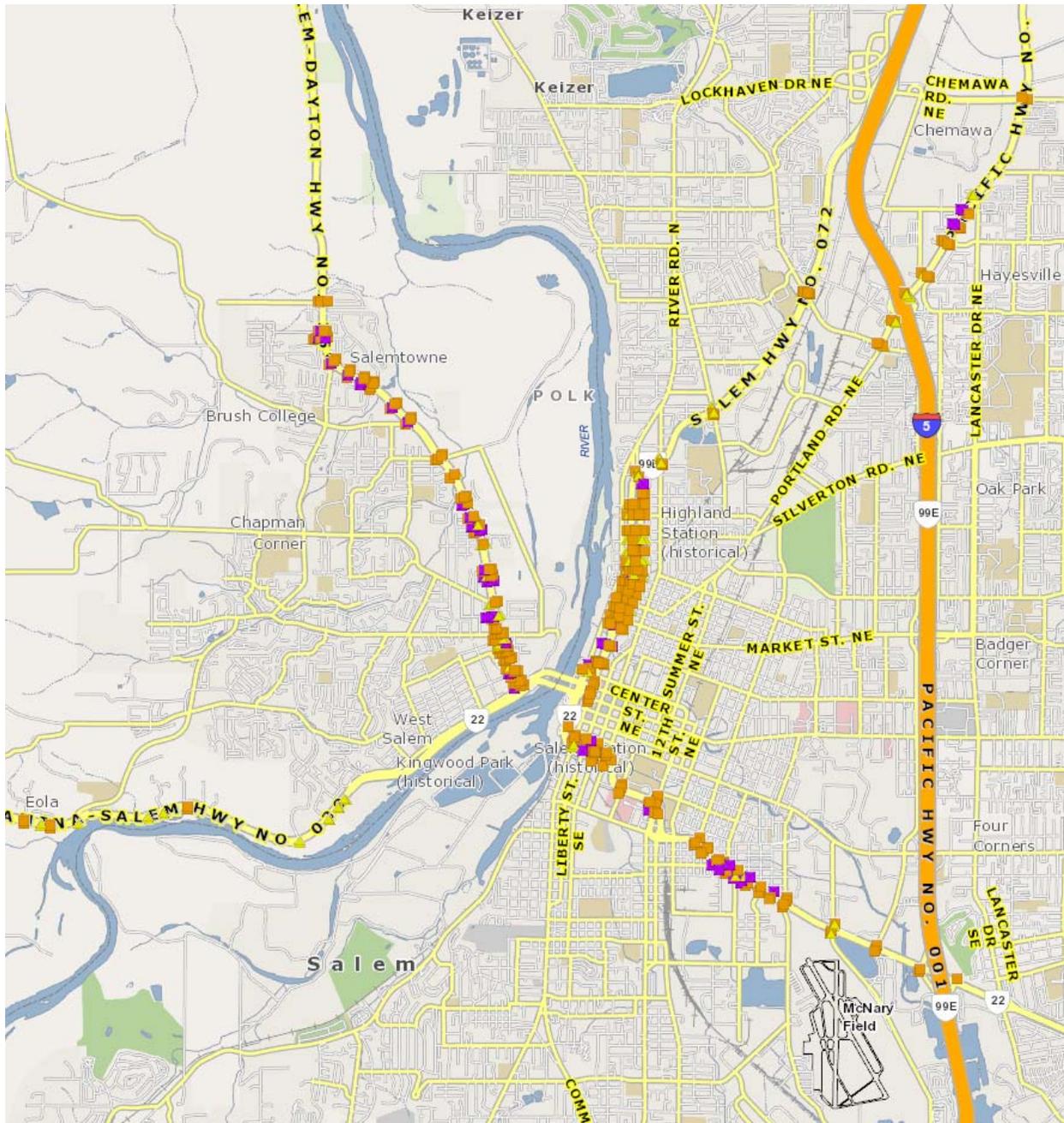
## **Pedestrian**

The 1996 RTSP defined the Regional Pedestrian System along the roads in the areas with high pedestrian use, such as downtown Salem, the Capitol Mall area, Lancaster Mall (now Willamette Town Center), and around Chemeketa Community College. Other areas included the existing and future transit centers in Keizer and West and South Salem. To ensure accessibility for the citizens in the Salem metropolitan area, it is important to provide a network of contiguous and maintained sidewalks that link residential, recreational, and commercial areas. Walking in a street is a safety issue. Also, sidewalks with ADA (American with Disabilities Act) compliant ramps are essential to allow the elderly, people with disabilities, and everyone else to comfortably move between home, work, and shopping. Proper sidewalks linked to transit stops allow people using mobility assistance devices to use the Cherriots service instead of calling for Cherriots Lift (which is more expensive to operate). Currently, there are **sidewalks along XX percent (data forthcoming)** of the regional road system. The regional road system along with areas where sidewalks are missing are presented in **Map 5-2**.

<map 5-2 Forthcoming>

The American with Disabilities Act (ADA) was first enacted in 1990 with amendments made in 2008. The purpose of ADA is to ensure that everyone, regardless of capabilities is able "... to fully participate in all aspects of society...". The ADA is most noticeable in transportation projects with the requirements for ramps at intersections, how curb cuts are made to sidewalks to allow vehicles to access a property, and audible pedestrian countdown timers. SAMTD's move to a fleet of low-floor buses helps not only those with mobility issues, but those with strollers or wheeled bags.

In 2017, ODOT settled a lawsuit by agreeing to install \$23 million in curb ramps and pedestrian crossing signals along the roads it operates statewide. ODOT has stated it will fix all non-compliant ramps in the state by 2032. The locations where ramps at intersections are either missing or not compliant with the current ADA regulations along ODOT operated facilities in the Salem metropolitan area are illustrated in **Map 5-3**. The jurisdictions in SKATS are also required to ensure that they update ramps as necessary when doing roadwork.



Map 5-3: Locations of ADA Ramp needs along ODOT Facilities (2018 screen capture from ODOT's TransGIS) Missing Needed Ramps shown as purple squares, orange squares represent ramps not compliant with ADA. Yellow triangles show location of ADA Compliant ramps.

## Transit

Until 2017, there were two types of needs in relation to transit service within the Salem-Keizer area. First, there is the need to provide service on the weekdays beyond the 6 a.m. to 9 p.m. operating times; and, offering service on the weekends and holidays. These two deficiencies made it difficult or impossible for many people to use Cherriots as a viable option to own and operate a vehicle. Second, there is the fact that not all areas within SKATS have transit service.

As part of H.B. 2017 (which was signed into law in 2017), a dedicated stream of funds for operations became available to the transit districts and operators in the Oregon. Cherriots will use their share of these funds to offer service on weekends and holidays and to provide additional weekday service earlier and later in the day beginning in 2019. It remains to be seen whether the new funds will ensure that these services can be offered for the next 20 years without additional funds or increases in the tax rate.

Another hurdle for SAMTD is that changes in federal surface transportation funding means it is difficult to purchase sufficient buses to replace those that are at end-of-service-life. Prior to MAP-21 and FAST, it was possible for SAMTD to get an earmark for bus purchases; this option has been removed.

SAMTD has previously identified the need for a transit center/station serving East Salem. Currently they are in discussions with Chemeketa Community College on expanding and enhancing the collection of stops that serve the campus. Further studies will need to be completed to determine if a second location in East Salem is warranted.

### Goods Movement

In early 2017, SKATS identified six segments (shown in **Table 5-10**), totaling a little over 9 miles in length, on the Regional Road System for designation as *Critical Urban Freight Corridors* (CUFC). These corridors are meant to represent near-term opportunities for improving the flow of freight traffic. Identification as a CUFC allows the roadway owner to apply for funds that are specifically set aside by FHWA for freight projects (INFRA – Infrastructure for Rebuilding America, nee FASTLANE). However, funding is competitive and thus not guaranteed.

Table 5-10: Critical Urban Freight Corridors (SKATS area)

Route	Start Point	End Point	Length (mi)
Marion/Center St Bridges	Commercial St	Rosewood Dr	2.09
OR 22E	I-5	25 <sup>th</sup> St	1.18
25 <sup>th</sup> St	OR 22E	Madrona Av	0.84
McGilchrist St	12 <sup>th</sup> St	25 <sup>th</sup> St	1
Kuebler Blvd	I-5	Aumsville Hwy	2.12
Cordon Rd/OR 22E Interchange	Aumsville Hwy	Gaffin Rd	0.97
Cordon Rd	Gaffin Rd	State St	1.34

Intermodal facilities are needed to allow for freight to be moved from one mode to another allowing the shipper to utilize the most appropriate and cost-effective option. The *Oregon Freight Plan (ODOT, 2017)* identifies three intermodal connector roads in the SKATS area. These are shown in **Table 5-11**.

Table 5-11: Intermodal Connectors (Source: Oregon Freight Plan, 2017)

Road Name	Connecting Highway	Tier (1-3)
25 <sup>th</sup> Street SE	OR 22 E	2
Salem Industrial Drive NE to Cherry Avenue	OR 99E Bus.	2
Brooklake Rd NW	I-5	2

### Seismic

Many of the roads, bridges and buildings in the Salem-Keizer area were built before there was an understanding of the geological conditions that exist under our feet. In the event of a major seismic event, many of these structures will be unsafe and/or unusable. As part of H.B. 2017, the Oregon Legislature included \$60 million to fund seismic retrofitting of the Center Street bridge. Currently a study is on-going to identify whether the Center Street bridge needs seismic retrofitting, and if so, what work needs to be accomplished. Other bridges in the area have been retrofitted as part of projects. ODOT has identified a few bridges along important freight corridors in the Salem area that need either retrofitting or rehabilitation. These are shown in **Table 5-12**.

Table 5-12: Bridges on Freight Corridors, Seismic Needs (Source: Oregon Freight Plan, 2017)

Bridge Location	Milepost	Need(s)
I-5 (NB) bridge over Commercial St SE	249.35	Retrofit
I-5 (NB) bridge over Commercial St SE	249.38	Rehabilitation
I-5 bridge over UP RR mail line	259.1	Rehabilitation
I-5 (NB) over Salem Parkway (NB)	259.95	Retrofit
I-5 (SB) over Salem Parkway (SB)	259.95	Retrofit
I-5 (NB) over Labish Bottom	261.12	Retrofit
I-5 (SB) over Labish Bottom	261.12	Retrofit

### Non-Road Systems

While in **Chapter 4**, the RTSP identifies other components of the transportation system, such as aviation, pipelines and railroads, gaps and deficiencies in these systems are not included in the discussion presented in this chapter as the funds available to SKATS for the most part cannot be spent on these facilities. Many of these systems are privately owned, and the respective companies have identified needs and investments to allow them to meet future needs.