



DRAFT TECHNICAL MEMORANDUM #6

Date: November 25, 2015 Project #: 18018.0

To: Mike Kuntz, Jackson County

CC: Allie Coates, Oregon Department of Transportation, Region 3

From: Matthew Bell and Susan Wright, P.E., Kittelison & Associates, Inc.

Project: Jackson County Transportation System Plan (TSP) Update

Subject: Draft Technical Memorandum #6: Preferred Alternative

This memorandum presents the preferred transportation system alternatives for addressing the deficiencies identified in *Technical Memorandum #3: Existing Conditions and Technical Memorandum #4: Future Conditions*. This memorandum also presents the preferred transportation system alternatives developed as part of several previous planning efforts conducted throughout the County, including the Jackson County Transportation System Plan (TSP), the Rogue Valley Metropolitan Planning Organization (RVMPO) Regional Transportation Plan (RTP), several Interchange Area Management Plans (IAMP) both adopted and in-process, and several state and local corridor plans. These alternatives are intended to serve as the baseline for developing a prioritized list of transportation system improvement projects for the Jackson County TSP update. This memorandum is divided into four sections, consistent with the four modal elements of the TSP update. The sections include:

- **Roadway Element** – This element presents the County’s updated functional classification plan, the updated Roadway Design Standards, and the preferred alternatives for Roadway, Freight, Bridge, Intersection, Interchange, and Safety Improvements.
- **Bicycle and Pedestrian Element** – This element presents the County’s proposed Bicycle Route Designation Map and the preferred alternatives for Bicycle and Pedestrian Improvements in Rural and Urban Areas.
- **Public Transportation Element** – This element presents the preferred alternatives for Public Transportation Improvements.
- **Air, Water, Rail, and Pipeline Element** - This element presents the preferred alternatives Air Water, Rail, and Pipeline Improvements.

The project tables included in each section provide a basic description of the preferred alternatives. They also identify the source of the preferred alternatives (TSP Update, 2003 TSP, RTP, etc.) and if they are already included in the current Statewide Transportation Improvement Plan (2015-2018 STIP),

Metropolitan Transportation Improvement Program (2015-2018 MTIP), or Jackson County Capital Improvement Plan (2015 CIP).

ROADWAY ELEMENT

This section presents the County's updated functional classification plan, the updated roadway design standards, and the preferred alternatives for Roadway, Freight, Bridge, Intersection, Interchange, and Safety Improvements.

The roadway element of the TSP update will include a detailed description of the County's updated functional classification plan and roadway design standards as presented within this memorandum. It will also include a detailed description of the County's Access Management and Traffic Operations Standards, which will be further evaluated in a subsequent technical memorandum. Finally, it will also include a prioritized list of transportation system improvement projects based on the alternatives presented in this section.

Functional Classification Plan

The proposed functional classification plan is shown in Figure 1. This plan includes several updates to the existing plan that reflect:

- Changes in the urban growth boundaries of the incorporated cities;
- Changes in traffic volumes and travel patterns along County roadways;
- Recommendations in several state, regional, and local planning documents; and,
- Improvements to the existing functional classification plan.

Most of the updates increase the classification of the roadways from local streets to minor or major collectors; however, a few of the updates decrease the classification of the roadways from major to minor collectors or from major to minor arterials. Other updates include changes in the urban versus rural designation of the roadways. These updates impact the design of the roadway, including the types of bike and pedestrian facilities. Figure 1 highlights the changes in the functional classification plan. A more detailed description of these changes is provided in *Technical Memorandum #5: Transportation Alternatives*.

Roadway Design Standards

The County's roadway design standards are summarized in Tables 1 and 2. Typical cross sections are included in Attachments A and B. The cross sections include additional information on right-of-way width, number of travel lanes, bicycle and pedestrian facilities, and other amenities such as landscape strips and on-street parking. These cross sections are intended for planning and designing new roadways, as well as for improving existing roadways where it is physically and economically feasible.

Table 1: Rural County Roadway Standards and Specifications

	Local Road A	Local Road B	Local Road C	Minor Collector	Major Collector	Arterial
Typical ADT (Average Daily Traffic)	0-120	120-600	600-1,500	1,250-5,000	>4,500	>4,500
Design Speed						
Minimum	25	30	30	45	50	50
Recommended	30	35	35	45	50	50
Lane Width						
Minimum ^①	10'	10'	11'	11'	11'	11'
Recommended	11'	11'	12'	12'	12'	12'
Shoulder Width						
Minimum ^①	1'	2'	3'	4'	5'	5'
Recommended	2'	3'	4'	5'	6'	6'
Shoulder Surface	Gravel	Gravel	AC	AC	AC	AC
Pavement Width ^②	20-22'	20-22'	28-32'	30-34'	32-36'	32-36'
Recommended Minimum Access Spacing ^③	75'	100'	125'	150'	300'	300'
Surface Type	Oil Mat	Oil Mat	AC	AC	AC	AC
Minimum ROW Width	50'	50'	50'	60'	60'	60'
Degree of Curve						
Maximum ^①	30° 30'	21°	21°	8° 30'	7°	7°
Recommended	21°	15°	15°	8° 30'	7°	7°
Maximum Grade	15%	12%	12%	9%	9%	9%
Minimum Vertical Distance	16'	16'	16'	16'	16'	16'
Load Design (Structures)	HS 20-44	HS 20-44	HS 20-44	HS 20-44	HS 20-44	HS 20-44
Applicable Specifications	④	④	④	④	④	④

General Notes:

1. Whenever any street or road is created or upgraded within the UGB or ½ mile of any incorporated city, the policy outlined in the Goal and Policy section of this TSP with respect to the Urban Growth Management Agreement will apply (see Chapter 3, Policy 3.2.1-R).

2. The urban roadway standard for the corresponding functional classification may be built if the County Engineer determines that the urban standard is more appropriate for the road section.

AC = Asphaltic Concrete Pavement: The asphaltic concrete mixture in the pavement may be either hot-mix or warm-mix and shall conform to Jackson County standards.

HS = X.

Notes:

① Design for Recommended Standard unless approved by the County Engineer.

② Pavement width depends on design widths for travel lanes and shoulders.

③ Lower spacing may be allowed when supported by a traffic study and approved by the County Engineer, or when no other public road access is possible.

④ Oregon Department of Transportation "Standard Specifications for Highway Construction" and the "Special Provisions" applicable to the project.

Table 2: Urban County Roadway Standards and Specifications

	Local Street	Industrial Local	Industrial Collector	Minor Collector	Major Collector	Minor Arterial	Major Arterial
Typical ADT (Average Daily Traffic)	0-2,000	0-3,000	2,750-7,000	1,500-4,000	3,500-12,000	5,000-15,000	>12,000
Design Speed							
Minimum	25	25	30	25	45	45	50
Recommended	25	25	35	35	45	45	50
Number of Travel Lanes	2	2	3	2	3	3	5
Lane Width							
Minimum ^①	10'	11'	12'	11'	11'	11'	11'
Recommended	10'	12'	14'	12'	12'	12'	12'
Turn turn/Median Width							
Minimum	No	No	12'	No	12'	12'	12'
Recommended			14'		14'	14'	14'
Bike Lanes	No	No	No	4-5'	5-6'	6'	6'
On-Street Parking, Width	Both Sides, 7'	No	No	One Side, 8'	No	No	No
Pavement Width ^②	34'	34-36'	48-54'	38-42'	44-50'	46-50'	68-74'
Sidewalk Width	6'	6' Shoulder	6' Shoulder	5-7' ^①	5-7' ^①	5-7' ^①	5-7'
Landscape Strip Width ^③	7'	None	None	7'	7'	7'	7'
Right-of-Way Width	60'	74'	74'	62-70'	68-78'	70-80'	92-102'
Recommended Minimum Access Spacing ^④	75'	250'	200'	150'	250'	250'	300'
Surface Type	AC	AC	AC	AC	AC	AC	AC
Degree of Curve							
Maximum ^①	30° 30'	21°	21°	8° 30'	8° 30'	8° 30'	7°
Recommended	21°	15°	15°	8° 30'	8° 30'	8° 30'	7°
Minimum Stopping Sight Distance	200'	240'	240'	315'	315'	315'	350'
Maximum Grade	15%	12%	12%	9%	9%	9%	9%
Minimum Vertical Distance	16'	16'	16'	16'	16'	16'	16'
Load Design (Structures)	HS 20-44	HS 20-44	HS 20-44	HS 20-44	HS 20-44	HS 20-44	HS 20-44
Applicable Specifications	⑤	⑤	⑤	⑤	⑤	⑤	⑤

General Notes:

1. Whenever any street or road is created or upgraded within the UGB or ½ mile of any incorporated city, the policy outlined in the Goal and Policy section of this TSP with respect to the Urban Growth Management Agreement will apply (see Chapter 3, Policy 3.2.1-R).

AC = Asphaltic Concrete Pavement: The asphaltic concrete mixture in the pavement may be either hot-mix or warm-mix and shall conform to Jackson County standards.

HS = X.

Notes:

- ① Design for Recommended Standard unless approved by the County Engineer.
- ② Pavement width depends on design widths for travel lanes as well as bike lanes and on-street parking where permitted.
- ③ Landscape strips are allowed in areas where there is an agreement that the adjacent property owner will maintain the landscape.
- ④ Lower spacing may be allowed when supported by a traffic study and approved by the County Engineer, or when no other public road access is possible.
- ⑤ Oregon Department of Transportation “Standard Specifications for Highway Construction” and the “Special Provisions” applicable to the project.

Roadway Improvements

The preferred alternatives for roadway improvements are summarized in Table 3 and shown in Figure 2. The alternatives developed as part of the TSP update were combined with other alternatives identified in the County’s current TSP, the RVMPO RTP, and several corridor studies. As shown in Table 3, several of the alternatives are currently identified projects in the STIP, the MTIP, or the County’s CIP.

The alternatives for roadway improvement include:

- Upgrading roadways in rural areas to provide two travel lanes and shoulders
- Widening roadways in urban areas to provide three to five travel lanes, bike lanes, and sidewalks
- Constructing new roadways in the rural and urban areas
- Enhancing existing roadways with streetscape projects and/or access management; and
- Developing design plans for new roadways and refinement plans for existing roadways throughout the County.

Table 3 summarizes the roadway improvements proposed to be included in the TSP update.

Table 3: Roadway Improvements

Map ID	Location	Project Type	Project Description	Source	STIP/MTIP/CIP
R1	E Vilas Road from McLoughlin Drive to Foothill Road	Upgrade	Improve to 2-lane rural major collector standard	2003 TSP Tier 2	CIP Priority C
R2	E Vilas Road from OR62 to McLouglin Drive	Upgrade	Improve to 2-lane rural major collector standard	2003 TSP Tier 2	CIP Priority B
R3	Hull Road from S Stage Road to Stewart Avenue	Upgrade	Improve to 2-lane rural major collector standard	2003 TSP Tier 2	CIP Priority B
R4	Antelope Road from Kershaw Road to Bigham Brown Road	Upgrade	Improve to 2-lane rural major collector standard		CIP Priority C
R5	Applegate Road from OR238 to Carberry Creek Road	Upgrade	Improve to 2-lane rural major collector standard		CIP Priority C
R6	Beall Lane from Hanley Road to Old Stage Road	Upgrade	Improve to 2-lane rural major collector standard		CIP Priority C
R7	Bellinger Lane from Hull Road to S Stage Road	Upgrade	Improve to 2-lane rural major collector standard		CIP Priority C
R8	Bigham Brown Road from Antelope Road to Alta Vista Road	Upgrade	Improve to 2-lane rural major collector standard	2003 TSP Tier 1	CIP Priority C
R9	Carpenter Hill Road from Coleman Creek to Voorhies Road	Upgrade	Improve to 2-lane rural major collector standard	2003 TSP Tier 1	CIP Priority C
R10	Coleman Creek Road from Houston Road to Carpenter Hill Road	Upgrade	Improve to 2-lane rural major collector standard		CIP Priority C
R11	Dead Indian Memorial Road from MPO limits to County line	Upgrade	Improve to 2-lane rural major collector standard		CIP Priority D
R12	E Evans Creek Road from Minthorne Road to Queens Branch Road	Upgrade	Improve to 2-lane rural major collector standard		CIP Priority C

R13	E Evans Creek Road from Rogue River city limit to Minthorne Road	Upgrade	Improve to 2-lane rural major collector standard	2003 TSP Tier 2	CIP Priority C
R14	Foothill Road from Coker Butte Road to Corey Road	Upgrade	Improve to 2-lane rural major collector standard	2003 TSP Tier 1	CIP Priority A
R15	Foothill Road from Delta Waters to Coker Butte Road	Upgrade	Improve to 2-lane rural major collector standard	2003 TSP Tier 1	CIP Priority A
R16	Hanley Road from Beall Lane to Rossanley Drive (OR238)	Upgrade	Improve to 2-lane rural major collector standard		CIP Priority D
R17	Oak Street from Eagle Mill Road to Nevada Street	Upgrade	Improve to 2-lane rural major collector standard	2003 TSP Tier 2	CIP Priority C
R18	Old Stage Road from I-5 to roadway terminus	Upgrade	Improve to 2-lane rural major collector standard		CIP Priority D
R19	OR238 from Ross Lane North to Bybee Corner	Upgrade	Improve to 2-lane rural major collector standard	2003 TSP Tier 1	
R20	S Valley View Road from I-5 to West Valley View Road	Upgrade	Improve to 2-lane rural major collector standard		CIP Priority D
R21	Table Rock Road from Kirtland Road to Wheeler Road	Upgrade	Improve to 2-lane rural major collector standard		CIP Priority C
R22	Table Rock Road from Wheeler Road to OR234	Upgrade	Improve to 2-lane rural major collector standard		CIP Priority D
R23	Voorhies Road from Carpenter Hill Road to S Stage Road	Upgrade	Improve to 2-lane rural major collector standard	2003 TSP Tier 1	CIP Priority C
R24	Old Stage Road from Jacksonville city limits Winterbrook Lane	Upgrade	Improve to 2-lane rural major collector with 4-foot shoulders consistent with Old Stage Road Plan		
R25	Old Stage Road from MPO limit to I-5	Upgrade	Improve to 2-lane rural major collector with 4-foot shoulders consistent with Old Stage Road Plan	2003 TSP Tier 1	CIP Priority B
R26	Old Stage Road from Winterbrook Lane to MPO limit	Upgrade	Improve to 2-lane rural major collector with 4-foot shoulders consistent with Old Stage Road Plan	2003 TSP Tier 1	CIP Priority B
R27	Kings Highway from S Stage Road to Medford UGB	Upgrade	Improve to 2-lane rural minor arterial standard	2003 TSP Tier 1	CIP Priority C
R28	N Phoenix Road from Phoenix City limits to Medford City Limits	Upgrade	Improve to 2-lane rural minor arterial standard		CIP Priority C
R29	Butte Falls Road from Butte Falls Highway to City limits	Upgrade	Improve to 2-lane rural minor collector standard		CIP Priority D
R30	Eagle Mill Road from S Valley View Road to Oak Street	Upgrade	Improve to 2-lane rural minor collector standard	2003 TSP Tier 2	CIP Priority C
R31	East Dutton Road from OR62 to Atlantic Avenue	Upgrade	Improve to 2-lane rural minor collector standard		CIP Priority D
R32	Fern Valley Road from Phoenix City Limits to Payne Road	Upgrade	Improve to 2-lane rural minor collector standard		CIP Priority D
R33	Modoc Road from Table Rock Road to Antioch Road	Upgrade	Improve to 2-lane rural minor collector standard		CIP Priority C
R34	North Applegate Road from OR 238 to County Line	Upgrade	Improve to 2-lane rural minor collector standard		CIP Priority C
R35	Peninger Road from Expo Park to Upton Road	Upgrade	Improve to 2-lane rural minor collector standard		CIP Priority D
R36	Wilson Road from Upton Road to Table Rock Road	Upgrade	Improve to 2-lane rural minor collector standard	2003 TSP Tier 2	CIP Priority B
R38	Stewart Avenue from Hull Rd to Oak Grove Road	Upgrade	Improve to 2-lane rural minor collector standard	2003 TSP Tier 1	CIP Priority B
R39	Stewart Avenue from Oak Grove Road to approximately 100-feet east of Gaylee Avenue	Upgrade	Improve to 2-lane rural minor collector standard	2003 TSP Tier 1	

R40	Dead Indian Memorial Road from OR66 to MPO limits	Widen	Install passing lanes or slow moving turnout lanes		CIP Priority B
R42	Beall Lane from Front Street (OR99) to Hanley Road	Widen	Widen to 3-lane urban major collector standard		CIP Priority C
R43	E Main Street from Walker Road to OR66	Widen	Widen to 3-lane urban major collector standard		CIP Priority D
R44	Sage Road from Rossanley Drive to Ehrman Way	Widen	Widen to 3-lane urban major collector standard	2003 TSP Tier 2	
R45	Rogue River Drive from OR62 to Walnut	Widen	Widen to 3-lane urban major collector standard		CIP Priority C
R46	Hanley Road from W Pine Street to Beall lane	Widen	Widen to 3-lane urban minor arterial standard	2003 TSP Tier 1	CIP Priority C
R47	Beall Lane from Merriman Road to Front Street (OR99)	Widen	Widen to 3-lane urban minor arterial standard	2003 TSP Tier 1	CIP Priority B
R48	Foothill Road from Hillcrest Road to McAndrews WB Ramp	Widen	Widen to 3-lane urban minor arterial standard	2003 TSP Tier 1	CIP Priority C
R49	Foothill Road from McAndrews WB Ramp to Delta Waters Road	Widen	Widen to 3-lane urban minor arterial standard	2003 TSP Tier 1	CIP Priority C
R50	Kings Highway from Medford UGB to Stewart Avenue	Widen	Widen to 3-lane urban minor arterial standard	2003 TSP Tier 1	CIP Priority C
R51	N Phoenix Road from Medford City limits to Barnett Road	Widen	Widen to 3-lane urban minor arterial standard		CIP Priority E
R54	Table Rock Road from Bear Creek Greenway to Pine Street-Biddle Road	Widen	Widen to 3-lane urban minor arterial standard	2003 TSP Tier 1	CIP Priority A
R55	W Pine Street from Glenn Way to Vincent Avenue	Widen	Widen to 3-lane urban minor atrial standard	2003 TSP Tier 1	CIP Priority E
R56	W Pine Street from Haskell Street to Glenn Way	Widen	Widen to 3-lane urban minor atrial standard	2003 TSP Tier 1	
R58	W Pine Street from Vincent Avenue to Hanley Road	Widen	Widen to 3-lane urban minor atrial standard		CIP Priority E
R59	Lozier Lane from Stewart Avenue to W Main Street	Widen	Widen to 3-lane urban minor collector standard	2003 TSP Tier 1	CIP Priority A
R60	Peninger Road from Pine St to Expo Park	Widen	Widen to 3-lane urban minor collector standard	2003 TSP Tier 2	CIP Priority C
R61	Table Rock Road from Elmhurst Street to Mosquito Lane	Widen	Widen to 5-lane urban major arterial standard	2003 TSP Tier 1	CIP Priority C
R62	Table Rock Road from Mosquito Lane to Antelope Road	Widen	Widen to 5-lane urban major arterial standard	2003 TSP Tier 1	CIP Priority B
R64	E Vilas Road from Medco Haul Road to Crater Lake Avenue	Widen	Widen to 5-lane urban minor arterial standard	2003 TSP Tier 1	
R65	Table Rock Road from Gregory Road to Elmhurst Street	Widen	Widen to 5-lane urban minor arterial standard	2003 TSP Tier 1	CIP Priority C
R66	Table Rock Road from Wilson Road to Gregory Road	Widen	Widen to 5-lane urban minor arterial standard	2003 TSP Tier 1	CIP Priority C
R68	Jacksonville Arterial Connector from North of City of Jacksonville to Pair-a-Dice Ranch Road	Refinement Plan	Refinement plan & draft EIS for rural arterial, state land use goals exception	2003 TSP Tier 2	
R69	Foothill Road from Corey Road to Atlantic Avenue	New Roadway	New 2-lane rural major collector	2003 TSP Tier 1	CIP Priority A
R70	S Stage Road from UGB to N Phoenix Road	New Roadway	New 2-lane rural minor arterial over I-5	2003 TSP Tier 1	
R72	West Dutton Road from Terminus to Agate Road	New Roadway	New 2-lane urban industrial collector	2003 TSP Tier 2	CIP Priority C

R73	Crater Lake Avenue from Corey Road to Gramercy Drive	New Roadway	New 2-lane urban minor collector	2003 TSP Tier 2	
R75	Atlantic Avenue from Cole Drive to East Dutton Road	New Roadway	New 3-lane urban major collector		CIP Priority B
R78	OR62 from I-5 to Poplar Drive	New Roadway	Unit 1 interchange & roadway improvement	2003 TSP Tier 1	
R79	OR62 from Biddle to Delta Waters	New Roadway	Unit 2: new 4-lane expressway	2003 TSP Tier 2	
R80	OR62 from Delta Waters to Vilas	New Roadway	Unit 3: new 4-lane expressway	2003 TSP Tier 2	
R81	Interstate 5 Medford Viaduct	New Roadway	Viaduct replacement or retrofit	2003 TSP Tier 2	
R82	OR62 from Biddle to Vilas	EIS and Design Study	Unit 2 EIS and design study	2003 TSP Tier 1	
R83	OR62 from Vilas to OR140	EIS and Design Study	Unit 3 EIS and design study	2003 TSP Tier 1	
R84	OR99 from Oak to First (Phoenix)	Access Management	Channelize through traffic to outside lane	2003 TSP Tier 1	
R85	OR99 from OR99 through Phoenix	Access Management	Restrict left-turn movements	2003 TSP Tier 1	

Table 4 summarizes the roadway improvements that will be removed from the County’s TSP as part of the TSP update. These improvements have either been completed or are no longer needed to support the long-term needs of the transportation system.

Table 4: Roadway Improvements to be removed from the TSP

Map ID	Location	Project Type	Project Description	Source	STIP/MTIP/CIP
X1	Ross Lane North from McAndrews to Rossanley Drive	Widen	Widen to 3-lane urban major collector standard with bike lanes and sidewalks	2003 TSP Tier 1	
X2	Freeman Road from Pine to Oak	Widen	Widen to 3-lane urban minor collector with bike lanes and sidewalks	2003 TSP Tier 2	
X3	Antelope Road from Table Rock Road to 7th Street	Widen	Widen to 5-lane urban major arterial standard with bike lanes and sidewalks	2003 TSP Tier 2	
X4	Avenue H from Wilson Way to OR62	New Roadway	New 2-lane urban minor collector with bike lanes and sidewalks	2003 TSP Tier 2	
X5	Wilson Way from Avenue G to Avenue H	New Roadway	New 2-lane urban minor collector with bike lanes and sidewalks	2003 TSP Tier 2	
X6	Avenue G from Pacific Avenue to Kirtland Road	New Roadway	New 3-lane urban industrial collector with shoulders	2003 TSP Tier 2	
X7	Leigh Way from Agate Road to Antelope Road	New Roadway	New 3-lane urban industrial collector with shoulders	2003 TSP Tier 1	

Freight Route Designations

The County’s designated freight routes are shown in Figure 3 along with ODOT’s Motor Carrier Transportation Division (MCTD) freight routes and the routes identified in the RVMPO Freight Study as roads determined to accommodate actual use and anticipated need by the Freight Advisory Council. The designation of these routes can ensure that the County plans for and provides alternative routes that minimize out-of-direction travel and regulatory restrictions for efficient freight movement. A more

detailed description of these routes is provided in *Technical Memorandum #5: Transportation Alternatives*.

Freight Improvements

The preferred alternatives for freight improvements are summarized in Table 5 and shown in Figure 4. The alternatives developed as part of the TSP update were combined with other alternatives identified in the County’s current TSP and the RVMPO Freight Study. As shown in Table 5, none of the alternatives are currently included in the STIP, the MTIP, or the County’s CIP.

The alternatives for freight improvements include:

- Developing refinement plans for existing roadways throughout the County
- Intersection improvements at specific locations (The RVMPO Freight Study does not provided project descriptions for all locations; however, many are identified in the proposed intersection improvements section)
- Segment improvements along specific roadways (The RVMPO Freight Study does not provided project descriptions for all roadways; however, many are identified in the proposed roadway improvements section)

Table 5 summarizes the freight improvements proposed to be included in the TSP update.

Table 5: Freight Route Projects

Map ID	Location	Project Type	Project Description	Source	STIP/MTIP/CIP
F1	White City/I-5 Freight Mobility Study (Highway 140 to I-5)	Refinement Plan	Refinement plan for road improvements to improve freight mobility between I-5 and White City/Hwy 140	2003 TSP Tier 1	
F2	White City/I-5 Freight Connector (Highway 140 to I-5)	Refinement Plan	Implement recommendations of the White City/I-5 Freight refinement study	2003 TSP Tier 1	
F4	Table Rock Road/Vilas Road	Intersection Improvement	No project description is provided in the RVMPO Freight Study - See Intersection Improvements (I3)	RVMPO Freight Study	
F5	Table Rock Road/Hamrick Road	Intersection Improvement	No project description is provided in the RVMPO Freight Study	RVMPO Freight Study	
F6	E Vilas road from Haul Road to Crater Lake Avenue	Segment Improvement	No project description is provided in the RVMPO Freight Study – See Roadway Improvements (R64)	RVMPO Freight Study	
F7	OR62/Delta Waters Road	Intersection Improvement	No project description is provided in the RVMPO Freight Study	RVMPO Freight Study	
F8	Table Rock Road from Wilson Road to Antelope Road	Segment Improvement	No project description is provided in the RVMPO Freight Study – See Roadway Improvements (R61, R62, R65, and R66)	RVMPO Freight Study	
F9	Phoenix Road from Houston Road to industrial site	Segment Improvement	No project description is provided in the RVMPO Freight Study	RVMPO Freight Study	
F10	Airway Drive E Vilas Road	Intersection Improvement	Install a traffic signal when warranted	RVMPO Freight Study	

F11	Kirtland Road from High Banks Road to Blackwell Road	Segment Improvements	Widen shoulders consistent with ODOT standards – See Roadway Improvements (S62)	RVMPO Freight Study	
F12	North Runway Drive Extension	Segment Improvement	No project description is provided in the RVMPO Freight Study	RVMPO Freight Study	
F13	Table Rock/Airport Road	Intersection Improvement	No project description is provided in the RVMPO Freight Study	RVMPO Freight Study	
F14	OR238 from Jacksonville to west of Jacksonville	Segment Improvement	No project description is provided in the RVMPO Freight Study	RVMPO Freight Study	
F15	Table Rock Road from Bear Creek Greenway to Pine Street-Biddle Road	Segment Improvement	No project description is provided in the RVMPO Freight Study – See Roadway Improvements (R54)	RVMPO Freight Study	

Bridge and Culvert Improvements

The preferred alternatives for Bridge and Culvert improvements are summarized in Table 6 and shown in Figure 5. The alternatives developed as part of the TSP update were combined with other alternatives identified in the County’s current TSP. As shown in Table 6, several of the alternatives are identified in the current STIP, the MTIP, or County CIP.

The alternatives for bridge and culvert improvements include:

- Replacing existing bridge structures
- Widening existing bridge structures
- Constructing new bridge structures
- Replacing existing culverts

Table 6 summarizes the bridge and culvert improvements proposed to be included in the TSP update.

Table 6: Bridge & Culverts Projects

Map ID	Location	Project Type	Project Description	Source	STIP/MTIP/CIP
B1	Gulch Creek Bridge on Applegate Road	Bridge	Replace structure	2003 TSP Tier 1	
B10	Sams Creek Bridge on Sams Creek Road	Bridge	Replace structure	2003 TSP Tier 2	
B11	Snider Creek Bridge at Wheeler Road (Bridge #360)	Bridge	Replace Glue Lam Bridge		CIP Priority A
B12	Sams Creek Bridge on Ramsey Road (Bridge #651)	Bridge	Replace Timber Bridge		CIP Priority A
B13	Trails Creek Bridge at Elder Mill Road	Bridge	Replace Glue Lam Bridge		CIP Priority A
B14	NF Big Butte Creek Bridge at Fredenburg Road (Bridge #265)	Bridge	Replace Timber Bridge HBP		CIP Priority B
B15	Galls Creek Bridge at Lampman Road (Bridge #807)	Bridge	Replace Pony Truss HBP		CIP Priority B
B16	Dodge Bridge (#703)	Bridge	Replace Box Culvert for Capacity		CIP Priority C
B17	Trail Creek Bridge at Swingle Road (Bridge #545)	Bridge	Replace Glue Lam Bridge		CIP Priority C

B18	WF Trail Creek Bridge at WF Trail Creek Road (Bridge #642)	Bridge	Replace Glue Lam Bridge		CIP Priority C
B19	Little Applegate River Bridge at Yale Creek Road (Bridge #501)	Bridge	Replace Glue Lam Bridge		CIP Priority C
B20	Yale Creek Bridge at Yale Creek Road (Bridge #502)	Bridge	Replace Glue Lam Bridge		CIP Priority C
B21	Neil Creek Bridge at Dead Indian Memorial Road (Bridge #36B)	Bridge	Replace Concrete Slab Bridge HBP		CIP Priority C
B22	Jackson Creek Bridge at Hanley Road (Bridge #114)	Bridge	Replace triple RCBC for fish passage		CIP Priority C
B23	Jackson Creek Bridge at Ross Lane (Bridge #130)	Bridge	Replace triple RCBC for fish passage		CIP Priority C
B24	Kane Creek Bridge at Old Stage Road (Bridge #120)	Bridge	Replace CIP Slab Bridge HBP		CIP Priority C
B25	Sardine Creek Road at Sardine Creek	Culvert	Replace 72" culvert w/bridge for rust and fish passage		CIP Priority B
B27	E Evans Creek Road at Ramsey Creek	Culvert	Replace 96" culvert w/bridge for rust and fish passage		CIP Priority C

Intersection Improvements

The preferred alternatives for intersection improvements are summarized in Table 7 and shown in Figure 6. The alternatives developed as part of the TSP update were combined with other alternatives identified in the County’s current TSP, the RVMPO RTP, and several corridor studies. As shown in Table 7, several of the alternatives are currently included in the STIP, the MTIP, or the County’s CIP.

The alternatives for intersection improvements include:

- Monitor the intersection to determine if the projected deficiencies are realized or if planned improvements mitigate the issue.
- Add a separate left- and/or right turn lane (*Dual left or right-turn lanes also frequently require two receiving lanes*).
- Optimize the signal timing/phasing
- Install a traffic signal when warranted
- Reconfigure the intersection to improve operations, such as s a roundabout

Table 7 summarizes the intersection improvements proposed to be included in the TSP update.

Table 7: Intersection Projects

Map ID	Location	Project Type	Project Description	Source	STIP/MTIP/CIP
I1	Hamrick Road/E Pine Street-Biddle Road	Monitor	Monitor traffic operations at the intersection following the completion of the Gebhard extension and potential heavy vehicle restrictions along Hamrick Road ¹		

12	Table Rock Road/Biddle Road	Reconfigure	Widen the south leg of Table Rock Road to a five-lane cross section and optimize the signal timing/phasing		
13	Table Rock Road/Vilas Road	Monitor/ Turn Lane	Monitor traffic operations at the intersection following construction of the OR62 Bypass to determine if the turning movements are as high as projected and potential heavy vehicle restrictions along Hamrick Road. If issues persist, install a second separate left-turn lane and a separate right-turn lane at the westbound approach and optimize the signal timing/phasing		
14	Table Rock Road/Gregory Road	Traffic signal	Install a traffic signal when warranted		CIP Priority B
15	Kershaw Road/OR140	Monitor/ Restrict Movements	Monitor traffic operations at the intersection following construction of the Foothill Road extension to OR140. If Issues persist, restrict left and through movements from Kershaw Road		
16	OR62/OR140-Leigh Way	Monitor/ Reconfigure	Monitor traffic operations at the intersection following completion of STIP Project #17471, which will relocate the traffic signal and modifying the lane configurations to improve operations	2003 TSP Tier 1	
17	OR62/OR234-Del Isle Way	Turn Lane	Restripe the north leg of the intersection to allow two-stage left-turn movements from OR234 to OR62.		
18	OR62/Vilas Road	Monitor	Monitor traffic operations at the intersection following construction of the OR62 Bypass to determine if the turning movements are as high as projected		
19	Foothill Road/McAndrew Road WB Ramp	Traffic signal	Widen Foothill Road to provide a center two-way left-turn lane and install a traffic signal when warranted		STIP project number #19231
110	Foothill Road/McAndrew Road EB Ramp	Traffic signal	Widen Foothill Road to provide a center two-way left-turn lane and install a traffic signal when warranted		STIP project number #19231
111	Foothill Road/Lone Pine Road	Turn Lane	Install a separate left-turn lane		CIP Priority E
112	Bursell Road/Beall Lane	Traffic signal	Install a traffic signal when warranted	2003 TSP Tier 1	CIP Priority B
114	Beall Lane at Hanley Road	Traffic signal	Install a traffic signal when warranted		CIP Priority C
115	S Stage Road at Orchard Home Road	Turn Lane	Install a separate left-turn lane		CIP Priority C
116	Highway 99/Rose St to Oak St (Phoenix)	Traffic signal	Install 6 traffic signals when warranted	2003 TSP Tier 1	
117	Interstate 5/Central Point SB off- ramp	Turn Lane	Extend & channelize southbound off-ramp	2003 TSP Tier 1	
118	Foothill Road/East Vilas Road	Turn Lane	Install a separate left-turn lane		CIP Priority A
119	S Stage Road at Voorhies Road	Turn Lane	Install a separate left-turn lane		CIP Priority B
122	Bursell Road/Hopkins Lane	Traffic signal	Install a traffic signal when warranted	2003 TSP Tier 2	
124	Foothill Road/Atlantic Avenue	Traffic signal	Install a traffic signal or roundabout when warranted		CIP Priority A
125	Foothill Road/Coker Butte Road	Turn Lane	Install a separate left-turn lane and right turn taper		CIP Priority A

1. This alternative would require an amendment to the Exit 33 IAMP as described below.

Table 8 summarizes the intersection improvements that will be removed from the County's TSP as part of the TSP update. These improvements have either been completed or are no longer needed to support the long-term needs of the transportation system.

Table 8: Intersection Improvements to be removed from the TSP

Map ID	Location		Project Description	Source	STIP/MTIP/CIP
X8	Antelope Road/Agate Road	Traffic signal	New traffic signal	2003 TSP Tier 1	
X9	Coker Butte Road/Crater Lake Ave	Traffic signal	New traffic signals and realignment	2003 TSP Tier 1	
X10	Coker Butte Road/Highway 62	Traffic signal	New traffic signals and realignment	2003 TSP Tier 1	
X11	Elliot (Webfoot)/Crater Lake Ave	Traffic signal	New traffic signals	2003 TSP Tier 1	
X12	Elliot (Webfoot)/Highway 62	Traffic signal	New traffic signals	2003 TSP Tier 1	
X13	Fern Valley Road/N Phoenix Rd	Traffic signal	New traffic signal	2003 TSP Tier 1	
X14	Highway 140/Kershaw Road	Beacon	Install flashing beacon at intersection	2003 TSP Tier 1	
X15	Highway 238/Bybee Corner	Reconfigure	Improve intersection alignment	2003 TSP Tier 1	
X16	Highway 99/Fern Valley Rd/Cheryl Ln	Reconfigure	Realign intersection and upgrade signal	2003 TSP Tier 1	
X17	Interstate 5/South Medford Interchange	Reconfigure	Relocate & construct new interchange	2003 TSP Tier 1	
X18	Interstate 5/Fern Valley Rd Interchange	Reconfigure	Widen and possibly realign interchange	2003 TSP Tier 1	

Interchange Improvements

ODOT has completed four Interchange Area Management Plans (IAMPs) within Jackson County and has two in the plan development process. The following identifies the IAMPs and any identified projects on County facilities:

- **I-5 Exit 19 (North Ashland) IAMP (November 2011)** – This IAMP includes several local street network modifications and access changes along S. Valley View Road
- **I-5 Exit 21 (Valley View) IAMP – Preferred Alternative (February 2015)** – This IAMP identifies improvements to bring W. Valley View Road up to standards from the I-5 southbound ramp to Suncrest Drive.
- **I-5 Exit 24 (Fern Valley) IAMP (February 2011)** – This IAMP does not include any projects on County facilities or any projects in addition to the interchange improvements currently under construction.
- **I-5 Exit 33 (Central Point) IAMP (June 2015)** – This IAMP primarily identifies improvements to East Pine Street and its' intersections, including the I-5 ramp terminals, to improve operations on E. Pine Street and the ramp terminals in the interchange area. The County has jurisdiction east of the interchange from the northbound ramps east; however, the IAMP identifies ODOT and Central Point as the implementing agencies of the IAMP.
- **I-5 Exit 35 (Seven Oaks) IAMP (September 2013)** – This IAMP identifies improvements by ODOT to the northbound and southbound ramp terminals and improvements at the Blackwell Road/Kirtland Road intersection. County implementation includes requiring development of a local street network in the vicinity of the interchange by development.

- **I-5 Exit 40 & 43 (Gold Hill) IAMP – Alternative Analysis (September 2015)** – This IAMP is anticipated to include improvements to on- and off- ramps and several intersections at each interchange to improve operations and improve turning radii. Most improvements are anticipated to be on ODOT facilities and implemented by ODOT; however there are several multi-modal improvements identified on or parallel to County facilities to improve access and circulation for pedestrians and bicycles.

Table 9 includes the projects from the IAMPs on County facilities that are proposed to be included in the TSP update. Additional information on land use, system, travel demand, and access management strategies is included in each IAMP.

Table 9: IAMP Projects

Map ID	Location	Project Type	Project Description	Source	STIP/MTIP/CIP
	S. Valley View Road	Interchange	Install a non-traversable median barrier from I-5 southbound ramp terminal to approximately 750 feet south along S. Valley View Road.	I-5 Exit 19 IAMP	
	Lowe Road	Interchange	Close Lowe Road approach to S. Valley View Road and extend Low Road southward to connect with S. Valley View Road opposite Eagle Mill Road.	I-5 Exit 19 IAMP	
	New Road	Interchange	Construct a new road extending northward from Eagle Mill Road near S. Valley View Road that can serve adjacent parcels and access businesses along the east side of S. Valley View Road.	I-5 Exit 19 IAMP	
	Orchard Lane Extension	Interchange	Extend Orchard Lane north of E. Ashland Lane to E. Butler Lane and close existing E. Ashland Lane approach to S. Valley View Road.	I-5 Exit 19 IAMP	
	W. Valley View Road	Interchange	Improve W. Valley View Road from the I-5 southbound ramp to the northbound ramp to 12 foot travel lanes (one lane in each direction) with 5 foot shoulders. Improve to 11 foot travel lanes and 5 foot shoulders from the northbound ramp to Suncrest Road	DRAFT I-5 Exit 21 (Valley View) IAMP	
	I-5 Southbound Ramp Terminal/East Pine Street TSM	Interchange	Signal Timing Modifications: Maintain traffic signal timing to safely manage queues on the SB off-ramp (Ongoing)	I-5 Exit 33 (Central Point) IAMP	
	I-5 Northbound Ramp Terminal/East Pine Street TSM	Interchange	Signal Timing Modifications: Maintain traffic signal timing to safely manage queues on the NB off-ramp (Ongoing)	I-5 Exit 33 (Central Point) IAMP	
	10th Street/Freeman Road/ East Pine Street TSM	Interchange	Signal Timing Modifications and Queue Storage: Maintain signal progression, change signal phasing, extend westbound left-turn lane striping on East Pine Street to provide more queue storage, consider access restrictions to improve safety (Ongoing)	I-5 Exit 33 (Central Point) IAMP	
	Peninger Road/East Pine Street TSM	Interchange	Signal Timing Modifications: Maintain signal progression to avoid queuing conflict that affects I-5 NB Ramp Terminal, and change signal phasing (Ongoing)	I-5 Exit 33 (Central Point) IAMP	
	East Pine Street TSM	Interchange	Signal Timing Modifications: Maintain signal progression, particularly in the eastbound direction, to avoid queuing that affects I-5 NB ramp terminal (Ongoing)	I-5 Exit 33 (Central Point) IAMP	

	South Sidewalk between Ramp Terminals	Interchange	Add a sidewalk on the south side of East Pine Street between the northbound and southbound ramp terminals (High to Medium Priority)	I-5 Exit 33 (Central Point) IAMP	
	Bike Lane Improvements	Interchange	Restripe eastbound travel lanes between 9th Street and the I-5 southbound ramp to improve bike lane transitions (High Priority)	I-5 Exit 33 (Central Point) IAMP	
	I-5 Southbound On-Ramp	Interchange	Dual Westbound Left-Turn Lanes: Add a second westbound left-turn lane on East Pine Street onto the I-5 southbound on-ramp and a second southbound receiving lane on the I-5 southbound on-ramp (High to Medium Priority)	I-5 Exit 33 (Central Point) IAMP	
	I-5 Northbound Ramp Terminal	Interchange	Dual Right Turn Lanes: Widen the I-5 northbound off-ramp to add a second right-turn lane at the northbound approach to East Pine Street (Medium to Low Priority)	I-5 Exit 33 (Central Point) IAMP	
	Penninger Road/East Pine Street Intersection Improvements	Interchange	Implement Central Point TSP Tier 2 Project #236 as revised – Widen East Pine Street to accommodate a third westbound through travel lane, maintain bike lanes, and add sidewalks where necessary (Medium to Low Priority)	I-5 Exit 33 (Central Point) IAMP	
	Hamrick Road/East Pine Street Intersection Improvements	Interchange	Implement Central Point TSP Tier 1 Project #216 – Widen west and north approaches to add a dual eastbound left-0turn lane and second northbound receiving lane (Medium to Low Priority)	I-5 Exit 33 (Central Point) IAMP	
	Proposed City Shared Use Path Project	Interchange	Construct a shared use path on the north side of East Pine Street from 9th Street to the Bear Creek Greenway (Priority established by City)	I-5 Exit 33 (Central Point) IAMP	
	Blackwell Road/OR99	Interchange	Provide access for all modes of travel between Access Road and KOA campground by widening shoulders or constructing a multi-use path	DRAFT I-5 Exit 40 and 43 (Gold Hill) IAMP	
	Profetta Lane to Old Stage Road – I-5 Multimodal Crossing	Interchange	Provide alternate multi-modal crossing of I-5 with multi-use path connection and provide multi-use path along Old Stage Road	DRAFT I-5 Exit 40 and 43 (Gold Hill) IAMP	

TSM=Transportation System Management

Safety Improvements

The preferred alternatives for safety improvements are summarized in Table 10. The alternatives developed as part of the TSP update were combined with other alternatives identified in other planning documents. As shown in Table 10, few of the alternatives are currently identified in the STIP, MTIP, or County CIP.

The alternatives for safety improvements include:

- Specific intersection and segment improvements

Table 10 summarizes the safety improvements that will be considered as part of the TSP update. In addition to these projects, the TSP will include a toolkit that identifies systematic safety enhancements that can be implemented to improve safety on the County’s rural roads.

Table 10: Safety Projects

Map ID	Location		Project Description	Source	STIP/MTIP/CIP
S1	Hamrick Road/E Pine Street-Biddle Road	Intersection Improvement	Replace the 5-section head at the westbound approach with a 4-section head consistent with the other protected-permitted signal heads along the corridor		
S2	Table Rock Road/Vilas Road	Intersection Improvement	Manage access points close to the intersection on the north, east, and west legs of the intersection using techniques such as raised medians, closing or combining access points, and narrowing curb cuts		
S3	Kershaw Road/OR140	Intersection Improvement	Install an intersection collision avoidance system. These systems warn motorists along the main line to watch for entering traffic on the minor street when flashing		
S4	OR62/Vilas Road	Intersection Improvement	No additional safety improvements have been identified – See Intersection Improvements (I8)		
S5	Foothill Road/Coker Butte Road	Intersection Improvement	No additional safety improvements have been identified – See Intersection Improvements (I25)		CIP Priority A
S6	Hanley Road (OR238)/W Main Street	Intersection Improvement	Reconfigure the intersection as a three-way stop. Install a traffic signal when warrants are met.1	Road Safety Audit	
S7	Foothill Road from Coker Butte Road to Corey Road	Segment Improvement	Widen Foothill Road to provide separate left-turn lanes at intersections, wider travel lanes, and wider shoulder along this segment		
S8	Hanley Road from Rossanley Road to Jacksonville City Limits	Segment Improvement	Provide drivers with more warning and feedback on approach to the curves. Treatments include guardrails, shoulder rumble strips, and chevrons and other curve warning signage		
S9	OR62/Crater lake Avenue	Intersection Improvement	Relocate Crater Lake Avenue away from OR62	ODOT SPIS	
S10	OR99/Rogue Valley Road	Intersection Improvement	Convert Elm Street to right in right out on both sides of highway, install median barrier, no work at Table Rock Road at this time.	ODOT SPIS	STIP # 14433 & 14434
S11	OR99/Rogue Valley Road	Intersection Improvement	Extend RED clearance	ODOT SPIS	
S12	OR238/Jacksonville	Intersection Improvement	Coordinate with city for possible future project to address accesses	ODOT SPIS	
S13	OR238/Jacksonville	Intersection Improvement	Consider rumble strip installation	ODOT SPIS	

1. Reconfiguring the intersection as a three way stop and/or installing a traffic signal will require the approval of the State Traffic Engineer.

BICYCLE AND PEDESTRIAN ELEMENT

The pedestrian and bicycle plan includes a countywide Roadway Bicycle Designation map as well project lists that identify projects to address the needs of bicycles and pedestrians in the rural areas and urban areas.

Bicycle Route Designations

The Bicycle Route Designation map is shown in Figure 7. This map illustrates the bicycle route designations for all County and ODOT facilities. The designations help define the type of bicycle facility planned for each roadway. The designations are described below.

- **Non-Designated Routes** - Non-Designated Routes are roads without bicycle facilities that are not signed or designated bicycle routes; however, bicycles may still use these routes.
- **Shared Roadway** - Shared Roadways are roads without bicycle facilities that are designated bicycle routes. This designation may influence how the County signs, maintains, or makes other decisions with regard to these facilities. Shared Roadways are most commonly acceptable along roadways where the average daily traffic (ADT) is less than 400 vehicles per day in rural areas and 3,000 vehicles per day in urban areas or where vehicular travel speeds and volumes allow cyclists to comfortably and conveniently “share the road” with motorists. In rural areas, “Share the Road” or “Bikes in Road” signs can be used to remind drivers to watch for bicyclists on roadways without on-street bicycle lanes. In urban areas, shared-lane pavement markings, or sharrows, can be used. Sharrows remind motorists of the presence of bicycles and indicate to cyclists where to safely ride within the roadway.
- **Bikeway** - Bikeways include both shoulder bikeways in rural areas and bike lanes in urban areas. Jackson County’s current roadway standards require 4-foot shoulders along rural local streets (Local Street C), 5-foot shoulders along rural minor collectors, and 6-foot shoulders along rural major collectors and arterials. Shoulder bikeway designated routes should provide space for cyclists to travel outside of the vehicle travel lane where warranted. This could include continuous shoulder bikeways on both sides of the roadway ranging from 3-foot to 6-foot wide, depending upon the rural character of the area, but could also include uphill climbing lanes only, intermittent shoulders in low visibility areas, or bike pull-out areas. Shoulder bikeway designated routes typically have higher speeds and traffic volumes than routes where a shared roadway designation would be appropriate in both directions for the entire length of the roadway.
- **Enhanced Bikeway** - Enhanced bikeways include a variety of different facility types and treatments and are intended to provide more separation and protection for cyclists from vehicles than a standard shoulder bikeway or bike lane. In rural areas, treatments include additional shoulder width or a parallel shared-use path. In urban areas, enhanced bikeway treatments include buffered bike lanes, cycle tracks or protected bikeways, or parallel shared-use path.
 - **Buffered bike lanes** are on-street lanes that include a physical separation (“buffer”) between the bike lane and the vehicle traffic lane and/or the vehicle parking lane. Buffered bike lanes can be particularly helpful on streets with high vehicle speeds, high vehicle volumes, or relatively frequent parking turnover.

- **Cycle tracks** (or protected bikeways) are exclusive bikeways separated from vehicle travel lanes, parking lanes and sidewalks. Cycle tracks can be one- or two-way and can be at the street level, sidewalk level, or somewhere in between. If at the street level, cycle tracks can be separated from the vehicle travel lane by raised medians, on-street parking, or bollards. If at the sidewalk level, a curb or median separates them from the vehicle travel lane, while different pavement color/texture separates the cycle track from the sidewalk. By separating cyclists from motor vehicles, cycle tracks can offer a higher level of security than bike lanes and are attractive to a wider spectrum of the public.
- **Shared-use paths** are separated from the roadway by an open space or barrier. Shared-use paths are typically used by pedestrians and bicyclists as two-way facilities. Such paths can also be constructed on alignments separate from roadways to create more direct routes between destinations and also serve as elements of a recreational trail system.

Projects to complete the bicycle network and meet the needs of bicyclists and pedestrians in rural and urban areas are described below.

Bicycle and Pedestrian Improvements in Rural Areas

Pedestrian needs within the rural areas are primarily addressed through the addition of shoulders that serve pedestrians and bicyclists or through shared-use paths. Rural areas where concentrations of pedestrian activity warrant the use of shared-use paths include Prospect, Foots Creek, Ruch, and Wimer. The preferred alternatives for bicycle and pedestrian improvements in the rural areas are summarized in Table 11 and shown in Figure 8. The alternatives developed as part of the TSP update were combined with other alternatives identified in the County's current TSP, the RVMPO RTP, and several corridor studies. As shown in Table 11, several of the alternatives currently identified projects in the STIP, the MTIP, or the County CIP.

The alternatives for bicycle and pedestrian improvements in the *rural* areas include:

- Installing shared roadway pavement markings and signs along both sides of the roadway
- Installing shoulders along both sides of the roadways consistent with Jackson County and ODOT standards
- Installing shared-use paths

Table 11 summarizes the bicycle and pedestrian improvements in the *rural* areas that are proposed to be included in the TSP update. The alternatives shown in grey are shoulder bikeway projects included in existing plans but that are identified in the draft bicycle designation map as shared roadways. These projects should be discussed for modification, removal, or designating as low priority.

Table 11: Bicycle and Pedestrian Projects in Rural Areas

Map ID	Location	Project Type	Project Description	Source	STIP/MTIP/CIP
S1	Old Stage Road from Jacksonville city limits Winterbrook Lane	Shoulders	Install 4-foot shoulders consistent with the Old Stage Road Corridor Plan - See Roadway Improvement Projects		
S2	Old Stage Road from MPO limit to I-5	Shoulders	Install 4-foot shoulders consistent with the Old Stage Road Corridor Plan - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority B
S3	Old Stage Road from Winterbrook Lane to MPO limit	Shoulders	Install 4-foot shoulders consistent with the Old Stage Road Corridor Plan - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority B
S4	Coleman Creek Road from Pioneer Road to Houston Road	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards	2003 TSP Tier 1	CIP Priority C
S5	Gregory Road from Table Rock Road to Agate Street	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards	2003 TSP Tier 2	
S6	Old Stage Road from I-5 to roadway terminus	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards - See Roadway Improvement Projects		CIP Priority D
S7	Pioneer Road from Coleman Creek Road to Dark Hollow Road	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards	2003 TSP Tier 2	CIP Priority D
S8	Pioneer Road from Colver Road to Coleman Creek Road	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards	2003 TSP Tier 2	CIP Priority C
S9	Pioneer Road from Dark Hollow Road to Griffin Creek Road	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards	2003 TSP Tier 2	CIP Priority C
S10	Scenic Avenue from Old Stage Road to Grant Road	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards	2003 TSP Tier 2	
S11	West Valley View Road from Suncrest to S Valley View Road	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards		CIP Priority D
S12	Butte Falls Road from Butte Falls Highway to City limits	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards - See Roadway Improvement Projects		CIP Priority D
S13	Eagle Mill Road from S Valley View Road to Oak Street	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards - See Roadway Improvement Projects	2003 TSP Tier 2	CIP Priority C
S14	East Dutton Road from OR62 to Atlantic Avenue	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards - See Roadway Improvement Projects		CIP Priority D
S15	Fern Valley Road from Phoenix City Limits to Payne Road	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards - See Roadway Improvement Projects		CIP Priority D
S16	Modoc Road from Table Rock Road to Antioch Road	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards - See Roadway Improvement Projects		CIP Priority C
S17	North Applegate Road from OR 238 to County Line	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards - See Roadway Improvement Projects		CIP Priority C
S18	Peninger Road from Expo Park to Upton Road	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards - See Roadway Improvement Projects		CIP Priority D
S19	Stewart Avenue from Hull Rd to Oak Grove Road	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority B
S20	Stewart Avenue from Oak Grove Road to approximately 100-feet east of Gaylee Avenue	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards - See Roadway Improvement Projects	2003 TSP Tier 1	

S21	Wilson Road from Upton Road to Table Rock Road	Shoulders	Install 5-foot shoulders consistent with rural minor collector standards - See Roadway Improvement Projects	2003 TSP Tier 2	CIP Priority B
S22	Agate Road from Linn Road to OR234	Shoulders	Install 6-foot shoulders consistent with rural major collector standards	2003 TSP Tier 2	
S23	Arnold Lane from S Stage Road to Bellinger	Shoulders	Install 6-foot shoulders consistent with rural major collector standards	2003 TSP Tier 2	
S24	Gibbon Road from Upton Road to Table Rock Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards	2003 TSP Tier 1	CIP Priority C
S25	Griffin Creek Road from S Stage Road to Pioneer Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards		CIP Priority B
S26	Houston Road from Phoenix city limits to Griffin Creek Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards		
S27	Taylor Road from Old Stage Road to Grant Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards	2003 TSP Tier 1	
S28	Upton Road from Peninger Road to Gibbon Rd	Shoulders	Install enhanced bike and pedestrian facilities	2003 TSP Tier 1	
S29	W Main Street from Renault Avenue to Hanley Road	Shoulders	Install enhanced bike and pedestrian facilities		
S30	Antelope Road from Kershaw Road to Bigham Brown Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects		CIP Priority C
S31	Applegate Road from OR238 to Carberry Creek Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects		CIP Priority C
S32	Beall Lane from Hanley Road to Old Stage Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects		CIP Priority C
S33	Bellinger Lane from Hull Road to S Stage Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects		CIP Priority C
S34	Bigham Brown Road from Antelope Road to Alta Vista Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority C
S35	Carpenter Hill Road from Coleman Creek Road to Voorhies Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority C
S36	Coleman Creek Road from Houston Road to Carpenter Hill Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects		CIP Priority C
S37	Dead Indian Memorial Road from MPO limits to County line	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects		CIP Priority D
S38	E Evans Creek Road from Minthorne Road to Queens Branch Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects		CIP Priority C
S39	E Evans Creek Road from Rogue River city limit to Minthorne Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects	2003 TSP Tier 2	CIP Priority C
S40	E Vilas Road from McLoughlin Drive to Foothill Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects	2003 TSP Tier 2	CIP Priority C
S41	E Vilas Road from OR62 to McLouglin Drive	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects	2003 TSP Tier 2	CIP Priority B
S42	Foothill Road from Coker Butte Road to Corey Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority A

S43	Foothill Road from Delta Waters to Coker Butte Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority A
S44	Hanley Road from Beall Lane to Rossanley Drive (OR238)	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects		CIP Priority D
S45	Hull Road from S Stage Road to Stewart Avenue	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects	2003 TSP Tier 2	CIP Priority B
S46	Oak Street from Eagle Mill Road to Nevada Street	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects	2003 TSP Tier 2	CIP Priority C
S48	OR238 from Ross Lane North to Bybee Corner	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects	2003 TSP Tier 1	
S49	S Valley View Road from I-5 to West Valley View Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects		CIP Priority D
S50	Table Rock Road from Kirtland Road to Wheeler Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects		CIP Priority C
S51	Table Rock Road from Wheeler Road to OR234	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects		CIP Priority D
S52	Voorhies Road from Carpenter Hill Road to S Stage Road	Shoulders	Install 6-foot shoulders consistent with rural major collector standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority C
S53	Payne Road from Fern Valley Road to Suncrest Road	Shoulders	Install 6-foot shoulders consistent with rural minor arterial standards		CIP Priority D
S54	S Stage Road from OR99 to Jacksonville	Shoulders	Install 6-foot shoulders consistent with rural minor arterial standards		
S55	Kings Highway from S Stage Road to Medford UGB	Shoulders	Install 6-foot shoulders consistent with rural minor arterial standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority C
S56	N Phoenix Road from Phoenix City limits to Medford City Limits	Shoulders	Install 6-foot shoulders consistent with rural minor arterial standards - See Roadway Improvement Projects		CIP Priority C
S57	Camp Baker Rd from Coleman Creek Road to Colver Road	Shoulders	Install 4-foot shoulders consistent with rural local C standards	2003 TSP Tier 1	
S58	Coleman Creek Rd from MPO limits to Pioneer Road	Shoulders	Install 4-foot shoulders consistent with rural local C standards	2003 TSP Tier 1	
S59	Carpenter Hill Road from Voorhies Road to Pioneer Road	Shoulders	Install 4-foot shoulders consistent with rural local C standards	2003 TSP Tier 2	
S60	Hillcrest Road from Medford city limits to MPO limits	Shoulders	Install 4-foot shoulders consistent with rural local C standards	2003 TSP Tier 2	
S61	Tolo Road from Scenic Avenue to Blackwell Road	Shoulders	Install 4-foot shoulders consistent with rural local C standards	2003 TSP Tier 2	
S62	Kirtland Road from High Banks Road to Blackwell Road	Shoulders	Widen shoulders consistent with ODOT standards	2003 TSP Tier 1	
S63	Blackwell Road from Kirtland Road to Seven Oaks Interchange	Shoulders	Widen shoulders consistent with ODOT standards	2003 TSP Tier 1	
S64	OR234 from Antioch Road to 4th Avenue (Gold Hill)	Shoulders	Widen shoulders consistent with ODOT standards	2003 TSP Tier 2	
S65	OR238 from Upper Applegate Road to Thompson Creek Road	Shoulders	Widen shoulders consistent with ODOT standards	2003 TSP Tier 2	
S66	OR62 from Maple Drive to Elk Creek Road	Shoulders	Widen shoulders consistent with ODOT standards	2003 TSP Tier 2	

S67	OR99 from Josephine County to Gold Hill	Shoulders	Widen shoulders consistent with ODOT standards	2003 TSP Tier 2	
S68	Meadows Road from East Evans Creek Road to OR234	Shared Use	Install shared-use signs along both sides of the roadway		CIP Priority D
S69	Suncrust Road from Payne Road to West Valley View Road	Shared Use	Install shared-use signs along both sides of the roadway		
S70	East Valley View Road from S Valley View to Butler Creek Road	Shared Use	Install shared-use signs along both sides of the roadway		
S71	Butler Creek Road from E Valley View Road to Eagle Mill Road	Shared Use	Install shared-use signs along both sides of the roadway		
S72	Dark Hollow Road from Pioneer Road (north) to Pioneer Road (south)	Shared Use	Install shared-use signs along both sides of the roadway		
S73	E Evans Creek Road from Queens Branch Road to Meadows Road	Shared Use	Install shared-use signs along both sides of the roadway		
S74	Griffin Creek Road Pioneer Road to MPO limits	Shared Use	Install shared-use signs along both sides of the roadway	2003 TSP Tier 2	
S75	Bear Creek Greenway	Shared-use Path	Complete County portions of the Bear Creek Greenway	2003 TSP Tier 1	
S76	East West Pathway from Division Road to north of 29th Avenue	Shared-use Path	New multi-use pathway	2003 TSP Tier 2	
S77	McLoughlin Road from South terminus to north UGB Medford	Shared-use Path	New multi-use pathway	2003 TSP Tier 2	

Bicycle and Pedestrian Improvements in Urban Areas

Pedestrian needs within urban areas are primarily addressed through sidewalks or multi-use paths. The preferred alternatives for bicycle and pedestrian improvements in the urban areas are summarized in Table 12 and shown in Figure 8. The alternatives developed as part of the TSP update were combined with other alternatives identified in the County’s current TSP, the RVMPO RTP, and several corridor studies. As shown in Table 12, several of the alternatives are included in the STIP, the MTIP, or the County CIP.

The alternatives for bicycle and pedestrian improvements in the *urban* areas include:

- Installing shared roadway pavement markings and signs along both sides of the roadway
- Installing bike lanes and sidewalks along both sides of the roadways consistent with Jackson County and ODOT standards
- Installing buffered bike lanes, cycle tracks, or multi-use paths

Table 12 summarizes the bicycle and pedestrian improvements in the *urban* areas that are proposed to be included in the TSP update.

Table 12: Bicycle and Pedestrian Projects in Urban Areas

Map ID	Location	Project Type	Project Description	Source	STIP/MTIP/CIP
U1	Crater Lake Avenue from Delta Waters Rd to Vilas Road	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with ODOT standards	2003 TSP Tier 2	
U2	OR66 from I-5 to Crowson Road	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with ODOT standards	2003 TSP Tier 2	
U3	OR99 from OR62 to Beall Lane+K6	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with ODOT standards	2003 TSP Tier 2	
U4	OR99 from Medford SCL to Ashland NCL	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with ODOT standards	2003 TSP Tier 2	
U6	Table Rock Road from Elmhurst Street to Mosquito Lane	Bike Lanes and Sidewalks	Install enhanced bike and pedestrian facilities - See Roadway Improvement Projects	2003 TSP Tier 1	
U7	Table Rock Road from Mosquito Lane to Antelope Road	Bike Lanes and Sidewalks	Install enhanced bike and pedestrian facilities - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority B
U8	Beall Lane from Front Street (OR99) to Hanley Road	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban major collector standards - See Roadway Improvement Projects		CIP Priority C
U9	E Main Street from Walker Road to OR66	Bike Lanes and Sidewalks	Install enhanced bike and pedestrian facilities - See Roadway Improvement Projects		CIP Priority D
U10	Rogue River Drive from OR62 to Walnut	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban major collector standards - See Roadway Improvement Projects		CIP Priority C
U11	Sage Road from Rossanley Drive to Ehrman Way	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban major collector standards - See Roadway Improvement Projects	2003 TSP Tier 2	
U13	Fern Valley Road from N Phoenix Road to Phoenix City Limits	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban major collector standards		
U14	Houston Road from Colver Road to Phoenix city limits	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban major collector standards		
U15	Beall Lane from Merriman Road to Front Street (OR99)	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority B
U16	E Vilas Road from Medco Haul Road to Crater Lake Avenue	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards - See Roadway Improvement Projects	2003 TSP Tier 1	
U17	Foothill Road from Hillcrest Road to McAndrews WB Ramp	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority C
U18	Foothill Road from McAndrews WB Ramp to Delta Waters Road	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority C
U19	Hanley Road from W Pine Street to Beall lane	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority C
U20	Kings Highway from Medford UGB to Stewart Avenue	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority C
U21	Lozier Lane from Stewart Avenue to W Main Street	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority A
U22	N Phoenix Road from Medford City limits to Barnett Road	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards - See Roadway Improvement Projects		CIP Priority E

U23	Peninger Road from Pine St to Expo Park	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards - See Roadway Improvement Projects	2003 TSP Tier 2	CIP Priority C
U26	Table Rock Road from Bear Creek Greenway to Pine Street-Biddle Road	Bike Lanes and Sidewalks	Install enhanced bike and pedestrian facilities - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority A
U27	Table Rock Road from Gregory Road to Elmhurst Street	Bike Lanes and Sidewalks	Install enhanced bike and pedestrian facilities - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority C
U28	Table Rock Road from Wilson Road to Gregory Road	Bike Lanes and Sidewalks	Install enhanced bike and pedestrian facilities - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority C
U29	E Pine Street from Table Rock Road to 500' east	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards		
U30	W Pine Street from Glenn Way to Vincent Avenue	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards - See Roadway Improvement Projects	2003 TSP Tier 1	CIP Priority E
U31	W Pine Street from Haskell Street to Glenn Way	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards - See Roadway Improvement Projects	2003 TSP Tier 1	
U33	W Pine Street from Vincent Avenue to Hanley Road	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards - See Roadway Improvement Projects		CIP Priority E
U34	Crater Lake Avenue from Vilas Road to Corey Road	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor collector standards	2003 TSP Tier 2	
U35	Hillcrest Road from Cherry Lane to Medford city limits	Bike Lanes and Sidewalks	Install sidewalks consistent with urban local standards	2003 TSP Tier 2	

Table 13 summarizes the bicycle and pedestrian improvements that will be removed from the County’s TSP as part of the TSP update. These improvements have either been completed or are no longer needed to support the long-term needs of the transportation system.

Table 13: Bicycle and Pedestrian Projects to be removed from the TSP

Map ID	Location	Project Type	Project Description	Source	STIP/MTIP/CIP
X19	Antelope Road from Table Rock Road to 7th Street	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban major arterial standards	2003 TSP Tier 2	
X20	E Pine Street from I-5 NB ramps to Table Rock Road	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards	2003 TSP Tier 1	
X21	Freeman Road from Pine to Oak	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban minor arterial standards	2003 TSP Tier 2	
X22	Ross Lane North from McAndrews to Rossanley Drive	Bike Lanes and Sidewalks	Install bike lanes and sidewalks consistent with urban major collector standards	2003 TSP Tier 1	

PUBLIC TRANSPORTATION ELEMENT

Public transportation service within Jackson County includes fixed-route service operated by the Rogue Valley Transportation District (RVTD) and specialized transportation services for users such as senior citizens and persons with disabilities. Intercity transit service is provided by Greyhound and by Amtrak Thruway bus service. In addition, Rogue Valley Commuter Line provides commuter transit service from Grants Pass to Medford with stops in Rogue River and Gold Hill, and South West Point provides intercity

service from Brookings to Klamath Falls with multiple stops in Jackson County. Locations of transit stops and park-and-ride locations are shown in Figure 9.

No County plans or projects have been identified for the transit system within Jackson County; however, several projects are identified under the roadway element and the bicycle and pedestrian element that will improve access to the public transportation network.

AIR, WATER, RAIL, AND PIPELINE ELEMENTS

Air System

No County plans or projects have been identified for the air system within Jackson County; however, several projects are identified under the roadway element and the bicycle and pedestrian element that will improve access to the air system facilities including the Medford International Airport.

Water System

No County plans or projects have been identified for the water system within Jackson County; however, several projects are identified under the roadway element and the bicycle and pedestrian element that will improve access to the water system facilities within Jackson County, which are primarily used for recreational purposes.

Rail

No County plans or projects have been identified for the rail system within Jackson County.

Pipeline System

No County plans or projects have been identified for the pipeline system within Jackson County.

MAP ATLAS

1. Functional Classification Plan
2. Roadway Improvements
3. Freight Route Designations
4. Freight Improvements
5. Bridge and Culvert Improvements
6. Intersection Improvements
7. Bike Route Designations
8. Bike and Pedestrian Improvements
9. Public Transportation Routes and Stops

ATTACHMENTS

- A. Rural County Typical Cross Sections
- B. Urban County Typical Cross Sections