April 2012

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN UPDATE

TECHNICAL APPENDIX VOLUME 1

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

APPENDICES

Technical Appendices, Volume 1

Technical Appendices, Volume 2 (Separate Document)

Appendix 1A Public Involvement Plan

INTERAGENCY AND PUBLIC INVOLVEMENT PROGRAM

As part of the Klamath Falls Urban Area TSP update, interagency and public involvement occurred through: a Technical Advisory Committee (TAC) and Citizen Advisory Committee (CAC) that had regular meetings; two public Open Houses and virtual open houses involving local citizens, property owners, and business owners; public comments posted on the project website; and, a joint work session of the City of Klamath Falls and Klamath County Planning Commissions, Klamath Falls City Council, and Klamath County Commissioners that was open to the public. An overview of the TAC and CAC meetings and open houses is summarized below.

Technical and Community Advisory Committees

The TAC and CAC guided the planning work and were responsible for reviewing all work products, providing input on all planning recommendations such as the project study area, goals and objectives, level of public involvement, technical analysis, and the proposed alternatives. Ultimately the TAC and CAC helped select the projects and policies included in the TSP. A Project Management Team (PMT) performed a coordination function, planning and executing project management tasks related to project schedule, meeting logistics, and final project recommendations. The PMT included representation from ODOT, the City of Klamath Falls, Klamath County, and the consultant team and were all members of the TAC.

Membership on the TAC and CAC was established through input from City, County, and ODOT representatives. A list of TAC and CAC members is included in Table 1A-1.

TABLE 1A-1: PROJECT PARTICIPANTS

Project Management Team (PMT)	
Mark Willrett, PE *City of Klamath Falls*	Stan Strickland *Klamath County`*
Sandra Fox *City of Klamath Falls*	Dennis Nelson, PE *Klamath County*
Devin Hearing *Oregon Department of Transportation*	Bill Adams *Klamath County*
Susan Wright, PE *Kittelson & Associates, Inc.*	Darci Rudzinski *Angelo Planning Group*
Technical Advisory Committee (TAC)	
Mark Willrett, PE *City of Klamath Falls*	Stan Strickland *Klamath County*
Sandra Fox *City of Klamath Falls*	Dennis Nelson, PE *Klamath County*
Devin Hearing *Oregon Department of Transportation*	Bill Adams *Klamath County*
Mike Stinson *Oregon Department of Transportation*	Peter Schuytema *Oregon Department of Transportation*
C. David Lanning *ODOT Rail*	Ernie Palmer *Basin Area Transit Service*
John Longley *City of Klamath Falls*	
Citizen Advisory Committee	
Cole Chase *City Planning Commission*	Bud Hart *City Council*
Greg Taylor *City Council*	Tim Thompson *County Planning Commission*
Al Switzer *Board of County Commissioners*	Roger Lindgren *County Road Advisory Committee/OIT*
Mike Moore *Parking Board*	Shawn Snoozy *Klamath County School District*
Sam McGuire *Klamath Falls City Schools*	Randy Bednar *County Bike and Pedestrian Committee*
Clidia Gibson *SPOKES*	Jeff Monson *Commute Options of Central Oregon*
Chip Massie *Chamber of Commerce*	

Consultant Team	
Kittelson & Associates, Inc.	*Angelo Planning Group*
Marc Butorac, PE, Project Principal	Darci Rudzinski, AICP
Susan Wright, PE, Project Manager	
Erin Ferguson, PE	
Matt Kittelson	

Public Involvement Plan

To ensure that adequate project coordination and public participation occurred throughout the development of the Klamath Falls Urban Area TSP, a series of joint TAC and CAC meetings, public workshops and virtual open houses, and public joint work sessions were held over the course of the project. A summary of all of the meetings associated with the project, as well as the meeting objectives, are summarized in 0.

TABLE 1A-2: MEETING SUMMARY

Meeting Event	Date/Location	Meeting Purpose/Objectives
TAC/CAC Meeting #1	Monday, November 15, 2010 City of Klamath Falls	Provided an opportunity for project stakeholders to become familiar with the project scope, schedule and key deliverables. Discussed draft Technical Memorandum #1 and #2
TAC/CAC Meeting #2	Wednesday, January 19, 2011 City of Klamath Falls	Discussed Technical Memorandum #3 and #4, which evaluated existing and future conditions and presented the results.
Public Workshop #1	Wednesday, January 19, 2011 Community Meeting Room 133 North 4th Street Klamath Falls, OR	Provided an opportunity for community members to share their ideas, thoughts, concerns and desires related to Klamath Falls in its present state and the future of Klamath Falls. Also presented the results of the existing and future conditions analyses. A Virtual Open House was also available for those unable to attend to have information discussed available online and to submit their comments electronically.
TAC/CAC Meeting #3	Tuesday, March 29, 2011 City of Klamath Falls	Discussed Technical Memorandum #5, which summarized the alternatives analysis conducted.
Adopting Bodies Joint Work Session #1	Tuesday, March 29, 2011 Klamath County Commissioners Chambers	Discussed project findings to date and outlined project tasks yet to be completed.
Access Spacing Discussion	Monday, June 6, 2011 City of Klamath Falls	Discussed existing and potential access spacing standards with City, County, and ODOT staff.

Meeting Event	Date/Location	Meeting Purpose/Objectives
TAC/CAC Meeting #4	Monday, June 6th, 2011 City of Klamath Falls	Discussed Technical Memorandum #6, which summarizes the preferred plan and the cost constrained plan.
Public Workshop #2	Wednesday, June 29, 2011 Klamath Falls City Council Chambers 500 Klamath Avenue Klamath Falls, Oregon	Provided an opportunity for community members to hear review the projects included in the draft preferred plan and provide input. A general project update was also provided. A Virtual Open House was also available for those unable to attend to have information discussed available online and to submit their comments electronically.
TAC/CAC Meeting #5	Tuesday, September 6th, 2011 City of Klamath Falls	Discussed the Draft TSP.
Adopting Bodies Joint Work Session #2	Monday, September 19, 2011 Klamath County Commissioners Chambers	Provided an overview of the Draft TSP.
Board of County Commissioners Public Hearing	Tuesday, January 24th, 2012 Klamath County Commissioners Chambers	Adopted Klamath Falls Urban Area TSP. This was a joint hearing with the Klamath County Planning Commission.
County Planning Commission Public Hearing	Tuesday, January 24th, 2012 Klamath County Commissioners Chambers	Adopted Klamath Falls Urban Area TSP. This was a joint hearing with the Klamath County Board of Commissioners.
City Planning Commission Public Hearing	Monday, April 9th, 2012 City of Klamath Falls Council Chambers	Adopted Klamath Falls Urban Area TSP. This was a joint hearing with the Klamath Falls City Council.
City Council Public Hearing #1	Monday, April 9th, 2012 City of Klamath Falls Council Chambers	This was the first reading of the Klamath Falls Urban Area TSP. This was a joint hearing with the Klamath Falls City Planning Commission.
City Council Public Hearing #2	Monday, August 6th, 2012 City of Klamath Falls Council Chambers	Adopted Klamath Falls Urban Area TSP.

Appendix 1B Recommended Ordinance Amendments

Angelo planning group LAND USE PLANNING • TRANSPORTATION PLANNING • PROJECT MANAGEMENT

Memorandum

Date: September 12, 2011

To: Mark Willrett, City of Klamath Falls
Stan Strickland, Klamath County

cc: Project Management Team, Technical Advisory Committee,
Citizens Advisory Committee

From: Darci Rudzinski and Shayna Rehberg

Re: Klamath Falls Urban Area Transportation System Plan Update
Recommended Ordinance Amendments WORK SESSION REVIEW DRAFT

I. Introduction

This memorandum presents draft amendment language for the City of Klamath Falls Community Development Ordinance (CDO) and the Klamath County Land Development Code (LDC). The proposed language reflects issues that have been raised during the update of the Urban AreaTransportation System Plan (TSP) and identified during the initial regulatory review conducted for Task 2 of this project's scope of work (see Technical Memorandum #1). The intent of the proposed amendments is to ensure consistency between local code requirements, policy language, and the TSP as well as bring local ordinances into greater compliance with the Oregon Transportation Planning Rule (TPR). These objectives correspond to those established in Task 6.

A summary list of proposed changes and corresponding TPR requirements follows;[1] proposed amendments to the City's CDO begins on page 5 and proposed County LDC language begins on page 16. Code amendment language is presented such that language recommended for addition to the code is underlined and language recommended for removal from the code is ~~struck through~~.

Proposed amendments will not be adopted until which time the City and County initiate a legislative action, either concurrent with the adoption of the Urban Area TSP or through a subsequent hearing process, to amend the respective local ordinances.

[1] For reference seethe TPR http://arcweb.sos.state.or.us/rules/OARS_600/OAR_660/660_012.html; a summary of relevant Transportation Planning Rule requirements can also be found in Technical Memorandum #1, Table 1.

Ordinance Section	Description of Amendment	Corresponding TPR Citation
City of Klamath Falls Community Development Ordinance		
Chapter 10 General Provisions		
10.610 Notice of Hearing.	Notice to and coordination with ODOT and other affected agencies.	660-12-0045(1)(c) 660-12-0045(2)(f)
10.815 Agency Involvement.	Notice to and coordination with ODOT and other affected agencies.	660-12-0045(2)(d)
Chapter 11 Land Development Review		
11.415 Required Findings. [Change of Zone – Major Parcels]	Compliance with TPR -0060. Note: Similar language should be included for legislative and quasi-judicial amendments to code and map amendments procedures/ requirements, a section that the CDO does not currently have. The Amendment procedures are listed in the Comprehensive Plan. Should TPR -0060 related policy language reside in the TSP instead, thereby revising the Comprehensive Plan's amendment procedures, or should the CDC be revised to include all amendment procedures?	660-12-0045(2)(g) Through the Urban Area TSP update, the 20-year transportation improvement needs have been determined and corresponding funding sources identified for "reasonably likely" determination [TSP Citation]
11.805 Design Standards.	Cross-reference to TIS requirements and new language requiring connectivity for all modes.	660-12-0045(4)(b)
11.810 Tentative Plan Content.	Cross-reference to TIS requirements.	
11.815 Review Criteria.	Cross-reference to TIS requirements.	
11.820 Approval of Tentative Subdivision Plan.	Conditions of approval added to address needed transportation improvements.	660-12-0045(2)(e)
Chapter 12 Land Use		
12.005 Uses Permitted by Zone.	Permitted transportation improvements.	660-12-0045(1)(b)
Chapter 14 Private Site and Public Facility Standards		
14.010 Off-Street Parking Requirements.	Carpool and vanpool requirements.	660-12-0045(4)(d)
14.048 Vehicle Parking Variance Criteria.	Transit-related and carpool/vanpool parking	660-12-0045(4)(e)

Ordinance Section	Description of Amendment	Corresponding TPR Citation
	reduction.	
14.050 Access and Driveways.	Replace access spacing requirements with a citation to Table 4-3 in the Urban Area TSP. Model code language pertaining to access consolidation, shared access. Also includes pedestrian circulation/access requirements within commercial, industrial, multifamily development and required connections to transit. Originally proposed for subdivision design standards (11.805) in Tech Memo #1. Similar recommendations in 1998 TSP, Appendix G. (Did not include the recommendation from this plan "Walkways shall be provided to the street for every 330 feet of frontage.")	660-12-0045(2)(a) 660-12-0045(3)(b) 660-12-0045(3)(e) 660-12-0045(4)(b) 660-12-0045(4)(f)
14.051 Traffic Impact Study Requirements.	New TIS requirements (from Guidelines developed by Kittelson).	660-12-0045(2)(b) 660-12-0045(2)(e) 660-12-0045(3)(c)
14.445 Location. [NEW SECTION]	Bike lanes shall be located on collectors and arterials; cross-reference to Urban Area TSP standards.	660-12-0045(3)(b)
Klamath County Land Development Code		
Chapter 10 General Provisions		
Article 11 Definitions	Added "certain transportation improvements" to the list of Extensive Impact Services and Utilities.	660-12-0045(1)(b)
Chapter 20 Review Procedures		
21.040 – Notice, Hearing and Appeal	Notice to ODOT.	660-12-0045(1)(c)
Chapter 30 Public Hearings, Notice and Appeal		
32.030 – Types of Notice	Notice to and coordination with ODOT and other affected agencies.	660-12-0045(1)(c) 660-12-0045(2)(d) 660-12-0045(2)(f)
Chapter 40 Application Procedures		

Ordinance Section	**Description of Amendment**	**Corresponding TPR Citation**
41.060 – Site Plan Requirements	Site plan requirement to include non-vehicular access and circulation [new section] and Cross-reference to TIS requirements.	
44.030 Review Criteria	CUP review criteria; compliance with the TSP. Cross-reference to conditions of approval related to transportation impacts.	
46.030 Review Criteria	Land subdivision; transportation improvements. Cross-reference to TIS requirements.	
46.050 Preliminary Subdivision Plan Requirements	Show non-vehicular access and circulation.	*Cross-reference to walkways and pedestrian connections required by Article 71.*
47.030 - Review Criteria	Quasi-Judicial Zone Change; Compliance with TPR -0060.	660-12-0060
48.030 - Review Criteria	Quasi-Judicial Comprehensive Plan Designation Change; Compliance with TPR -0060.	660-12-0060
49.030 - Review Criteria	Legislative Amendment to Code/Plan; Compliance with TPR -0060.	660-12-0060
Chapter 50 Land Use Zones		
50.040 – Transportation-Related Uses [New Section]	Permitted transportation improvements.	660-12-0045(1)(b)
Chapter 60 Planning Department Development Standards		
68.030 – Off-Street Parking Requirements	Bicycle parking standards for Urban Area consistent with the City CDO. Carpool and vanpool requirements. Transit-related and carpool/vanpool parking reduction.	660-12-045(3)(a) 660-12-0045(4)(d) 660-12-0045(4)(e)
Chapter 70 Public Works Department Development Standards		
71.020 – Vehicular Access and Circulation	"Non-vehicular" added to section title and included in the text of the purpose statement.	660-12-0045(3)(b)
71.020 - Access Standards	Citation to Table 4-3 in the Urban Area TSP.	660-12-0045(2)(a)

Ordinance Section	**Description of Amendment**	**Corresponding TPR Citation**
71.050 - Improvements in the Klamath Falls Urban Area	Sidewalks and bike lanes required on arterials and collectors.	660-12-0045(3)(b)
71.100 - Cul-de-sacs	Pedestrian connectivity and pedestrian way standards consistent with City CDO.	660-12-0045(3)(b)
71.150 - Blocks	Block standards for Urban Area consistent with City CDO.	Model Development Code
71.190 - Non-Vehicular Access and Circulation [New Section]	Pedestrian circulation/access requirements within commercial, industrial, multifamily development and required connections to transit. (Language consistent to proposed City CDO amendments.)	660-12-0045(3)(b) 660-12-0045(3)(e) 660-12-0045(4)(b) 660-12-0045(4)(f)
71.200 - Traffic Impact Study [New Section]	New TIS requirements (from Guidelines developed by Kittelson).	660-12-0045(2)(b) 660-12-0045(2)(e) 660-12-0045(3)(c)

City of Klamath Falls Community Development Ordinance

CHAPTER 10
GENERAL PROVISIONS

NOTIFICATION REQUIREMENTS

10.605 Public Hearings. Unless otherwise required by this Ordinance, any hearing before the Commission or Council required by any provision of Chapters 10 to 14 shall be a public hearing held in accordance with the notification and procedure requirements hereinafter provided.

10.610 Notice of Hearing.
(2) Notice of any hearing shall be given not less than twenty (20) days prior to the evidentiary hearing, or ten (10) days if two or more evidentiary hearings are allowed as follows:

a. By publication once in a local newspaper of general circulation;
b. By providing notice to all local electronic media;
c. By first class mail to applicant and all property owners as shown on the ownership list filed with the application. However, failure to receive such notice shall not invalidate any of the proceedings involved if the City can demonstrate by affidavit that such notice was given, by mail.
d. Any governmental agency that is entitled to notice under an intergovernmental agreement entered into with the City or is otherwise potentially affected by the proposal. For proposals located adjacent to a state roadway or where proposals are expected to have an impact on a state transportation facility, notice of the hearing shall be sent to ODOT; and
e. Where applicable, by posting in accordance with Section 10.615.

ADMINISTRATIVE REVIEW

10.815 Agency Involvement. To assure affected agencies involvement in the planning process, every application may be referred to appropriate local, state and federal agencies for their review and comment. For application sites located adjacent to a state roadway or where proposals may have an impact on a state transportation facility, notice of a complete application shall be sent to ODOT. The Planning Department shall utilize procedures as outlined in the Klamath Falls Urban Growth Boundary Management Agreement in notifying appropriate Klamath County Departments for review and comment and/or recommendation.

CHAPTER 11
LAND DEVELOPMENT REVIEW

CHANGE OF ZONE - MAJOR PARCELS

11.415 Required Findings. Prior to making a recommendation on the proposed change of zone, the Commission shall analyze the following criteria and incorporate such analysis in their decision:
(1) The change of zone is in conformance with the Comprehensive Plan and all other provisions of Chapters 10 to 14 and any applicable street plans.
(2) The property affected by the change of zone is adequate in size and shape to facilitate those uses that are normally allowed in conjunction with such zoning.
(3) The property affected by the proposed change of zone is properly related to streets to adequately serve the type of traffic generated by such uses that may be permitted therein.

a) Transportation Planning Rule Compliance. A proposed comprehensive plan amendment, zone change or land use regulation change, whether initiated by the city or by a private interest, shall be reviewed to determine whether it significantly affects a transportation facility, in accordance with Oregon Administrative Rule (OAR) 660-012- 0060 (the Transportation Planning Rule – "TPR"). "Significant" means the proposal would:

i. Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);
ii. Change standards implementing a functional classification system; or
iii. As measured at the end of the planning period identified in the adopted transportation system plan:

1. Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;
2. Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP; or
3. Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.

b) Amendments to the comprehensive plan and land use regulations that significantly affect a transportation facility shall ensure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the TSP. This shall be accomplished by one or a combination of the following:

i. Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.
ii. Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of Section -0060 of the TPR.

iii.Altering land use designations, densities, or design requirements to reduce demand for vehicle travel and meet travel needs through other modes of transportation.
iv. Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.

c) Traffic impact study: A Traffic Impact Study shall be submitted with a zone change application pursuant to Section 14.051, Traffic Impact Study Requirements.

(4) The proposed change of zone will have no adverse effect on abutting property of the permitted uses thereof.

TENTATIVE SUBDIVISION PLAN

11.805 Design Standards.

[…]
(10) Access to Subdivision. All major means of access to a subdivision or major partition shall be from existing streets fully improved to City standards and which in judgment of the Public Works Director, have the capacity to carry all anticipated traffic from the development. Capacity of the surrounding transportation system shall be assessed pursuant to the requirements of Section 14.051, Traffic Impact Study Requirements. Streets, sidewalks, and walkways/pathways in the subdivision shall be planned to provide connections to surrounding commercial areas, activity centers, and transit stops, pursuant to Section 14.050.

[…]
(12) Cul De Sacs. A cul de sac shall be as short as possible and shall have a maximum length of five hundred feet (500') and a minimum length of two hundred and fifty feet (250'). All cul de sacs shall terminate with a circular turnaround. The City may require the applicant to provide a sidewalk or bikeway between the cul de sac and adjacent streets in order to enhance accessibility and connectivity.

11.810 Tentative Plan Content.
[…]
(8) A traffic impact study as required by Section 14.051, Traffic Impact Study Requirements.

11.815 Review Criteria. Prior to making a decision on the proposed tentative plan, the Commission shall analyze the following criteria and incorporated such analysis in their decision:
[…]
(7) The tentative plan complies with the Comprehensive Plan and Chapters 10 to 14 and other applicable local and state regulations. The tentative subdivision plan must be found to be in compliance with the Urban Area Transportation System Plan; transportation system impacts

associated with the subdivision shall be assessed pursuant to the requirements of Section 14.051, Traffic Impact Study Requirements.

11.820 Approval of Tentative Subdivision Plan.

1. Tentative Plan. The Commission shall review the plan and the report of the staff. The Commission may approve the tentative plan as submitted or as modified or reject it. The Commission's decision shall be based upon, but shall not be limited to, the Comprehensive Plan and all other adopted plans supplementary to it.

a) Within forty five (45) days of its decision, the Commission shall forward to the Council a copy of such decision and any supporting information. The Council shall review the tentative plan, the report of the staff and the decision of the Commission and may approve, modify or reject the decision. The Planning Director shall provide the developer with written notice of the Council's action within five (5) days of such action. Such written notice shall include findings relative to the above mentioned factors. Approval of the tentative plan shall not constitute final acceptance of the plat of the proposed subdivision; however, approval of a tentative plan shall be binding upon the City for the purposes of the preparation of the final plat. The City may require only such changes in the final plat as are necessary for compliance with the terms of its approval of the tentative plan.

b) Conditions of approval: The Council may deny, approve, or approve a development proposal with appropriate conditions needed to meet transportation operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system. Conditions of approval that may apply include:

1) Crossover and/or reciprocal easement agreements for all adjoining parcels to facilitate future access between parcels.

2) Access for new developments that have proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing access driveways.

3) Right-of-way dedications for future planned roadway improvements.

4) Half-street improvements along site frontages that do not have full-buildout improvements in place at the time of development.

CHAPTER 12
LAND USE

12.005 Uses Permitted by Zone

1. The following transportation-related improvements and activities are permitted outright in all City zones, unless otherwise specified in individual zones.

a. Normal operation, maintenance, repair, and preservation projects of existing transportation facilities.

b. Installation of culverts, pathways, medians, fencing, guardrails, lighting, and similar types of improvements within the existing right-of-way.

c. Projects specifically identified in the Urban Area Transportation System Plan.
d. Landscaping as part of a transportation facility.
e. Emergency measures necessary for the safety and protection of property.
f. Acquisition of right-of-way for public roads, highways, and other transportation improvements designated in the Urban Area Transportation System Plan, except for those that are located in exclusive farm use or forest zones.
g. Construction of a street or road as part of an approved subdivision or land partition approved that is consistent with the applicable land division regulations.

2. The following transportation-related improvements and activities are permitted conditionally/subject to Minor Design Review (Section 11.000) in all City zones, unless otherwise specified in individual zones.
a. Construction, reconstruction, or widening of highways, roads, bridges or other transportation projects that are:
(1) Not improvements designated in the Transportation System Plan; or
(2) Not designed and constructed as part of a subdivision or planned development subject to site plan and/or conditional use review.
(3) An application is subject to review under a Minor Design Review process; however the decision criteria in that section do not apply to transportation improvements. In order to be approved, the site plan permit shall comply with the Urban Area Transportation System Plan and applicable standards of this title, and shall address the criteria below. For State projects that require an Environmental Impact Statement (EIS) or EA (Environmental Assessment), the draft EIS or EA shall be reviewed and used as the basis for findings to comply with the following criteria:
(a) The project is designed to be compatible with existing land use and social patterns, including noise generation, safety, and zoning.
(b) The project is designed to minimize avoidable environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities.
(c) The project preserves or improves the safety and function of the facility through access management, traffic calming, or other design features.
(d) The project includes provision for bicycle and pedestrian circulation as consistent with the Comprehensive Plan and other requirements of this ordinance.

CHAPTER 14
PRIVATE SITE AND PUBLIC FACILITY STANDARDS

OFF STREET PARKING AND LOADING
14.010 Off-Street Parking Requirements.
(5) Carpool and Vanpool Parking. Large employers (those with 50 employees or more working the same hours or shift) shall dedicate 10% of the required parking spaces for carpools and vanpools.

a) These designated spaces shall be the closest parking spaces to the building entrance normally used by employees, with the exception of disabled/handicap accessible parking spaces.
b) Carpool and vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only" along with specific hours of use.
c) Any other use establishing carpool and vanpool spaces may reduce the minimum parking requirement by 3 spaces for each carpool/vanpool space created.

14.048 Vehicle Parking Variance Criteria.
Upon submission of documentation by the applicant of how the project meets the following criteria, the Director may approve a variation to the parking requirements of Section 14.010 , if the Director finds that:
1. The parking needs of the use will be adequately served; and either
2. Shared Parking is provided consistent with the requirements of Section 14.025(4); or
3. The applicant provides an acceptable proposal for an alternate mode~~s~~ of transportation program, including a description of existing and proposed facilities and assurances that the use of alternate modes of transportation will continue to reduce the need for on-site parking on an on-going basis.

a) Transit-related parking reduction. The number of minimum required parking spaces may be reduced by up to 10% if:
   1) The proposal is located within a ¼ mile of an existing or planned transit route, and;
   2) Transit-related amenities such as transit stops, pull-outs, shelters, park-and-ride lots, transit-oriented development, and transit service on an adjacent street are present or will be provided by the applicant.
b) Carpool and Vanpool Parking. The number of minimum required parking spaces may be reduced by 3 spaces for each carpool/vanpool space created, pursuant to Subsection 14.010(5).

SITE ACCESS AND ~~BOUNDARIES~~ CIRCULATION
14.050 Access and Driveways.
1. All new development and redevelopment shall meet the ~~following~~ access ~~design~~ spacing standards~~:~~ in Table 4-3 of the Urban Area Transportation System Plan.

~~(a) On Category 4 highways and 5-lane arterial streets, maintain 500-foot spacing (centerline-to-centerline) between either public or private access on both sides of the roadway and both sides of the proposed access point.~~

~~(b) On Category 5 highways and 3-lane arterials, 300-foot spacing (centerline-to-centerline) between either public or private access on both sides of the roadway and both sides of the proposed access point.~~

~~(c) On Category 6 highways, 150-foot spacing (centerline-to-centerline) between either public or private access on both sides of the roadway and both sides of the roadway and both sides of the proposed access point.~~

2. For each single family dwelling, a private access driveway shall be provided which shall be at least 10 feet in width. For two or more dwelling units, a private access driveway shall be provided; the improved portion of which shall be at least 20 feet in width. When parking is to be permitted on either or both sides of such driveway, there shall be provided a parking lane on that side of the driveway of at least eight feet in width. For two or more dwelling units, if the driveway dead ends, a turnaround area of not less than 20 feet in diameter shall be provided, which is other than the private driveway service to the dwelling.

3. The surface of driveways shall be of material meeting the standards of Subsection 14.040 (1). All driveways shall be well drained so as to prevent ponding greater than one half inch in depth or two feet in diameter and the provisions for drainage shall be approved by the City Engineer.

4. Access points to an industrial or commercial site from a street shall be located to minimize traffic congestion and hazard. No access point shall be allowed which would direct industrial or commercial traffic into a residential zone. Wherever possible, access points shall be so located so as to serve more than one industrial or commercial site or use.

~~5. All Proposed zone changes, subdivisions, partitions, new development and or/redevelopment shall provide a traffic impact study to the City of Klamath Falls and Oregon Department of Transportation if the proposed use:~~

~~a) Directly accesses a state highway; or~~

~~b) Requires a comprehensive plan amendment; or~~

~~a. Under the TSP, there is a recognized traffic safety or operations deficiency in streets impacted by the proposed land use action;~~

~~and the proposed use exceeds the thresholds defined as:~~

~~b. trip generation threshold- 50 newly generated trips (inbound and outbound) during the adjacent street peak hour; or ,~~

~~c. mitigation threshold- installation of any traffic control device and/or construction of geometric improvements that will affect the progression or operation of traffic travelling on, entering, or exiting the highway; or,~~

~~d. Heavy vehicle trip generation threshold- 20 newly generated heavy vehicle trips (inbound and outbound) during the day.~~

<u>5. When the site of development or redevelopment has frontage on roads with different functional classifications, the site shall take access on the road with the lower functional classification.</u>

6. The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.

a) Shared driveways and frontage streets may be required to consolidate access onto a collector or arterial street. When shared driveways or frontage streets are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway or street temporarily ends at the property line, but may be extended in the future as the adjacent parcel develops. "Developable" means that a parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).

b) Reciprocal access and crossover easement agreements shall be recorded for all shared driveways, including pathways, on all affected properties at the time of final plat approval or as a condition of site development approval.

c) Exception. Shared driveways are not required when existing development patterns or physical constraints (e.g., topography, parcel configuration, and similar conditions) prevent extending the street/driveway in the future.

7. For new commercial, light industrial, and multi-family residential development, internal pedestrian circulation shall be provided through sidewalks and walkways/pathways, pursuant to the following standards:

a) Walkways shall be provided connecting building entrances and streets adjoining the site.

b) Connections shall be direct and driveway crossings minimized.

c) Walkways shall be at least five-feet-wide, raised, include curbing, or have different paving material when crossing driveways.

d) Pedestrian connections to adjoining properties shall be provided except where such a connection cannot be accommodated due to topographical constraints or where existing development on adjacent sites preclude connections. Pedestrian connections shall connect the on site circulation system to existing or proposed streets, walkways, and driveways that abut the property. Where adjacent properties are undeveloped or have potential for redevelopment, streets, accessways and walkways on site shall be laid out or stubbed to allow for extension to the adjoining property.

8. Transit Access. New commercial and light industrial buildings within 600 feet of an exsiting or planned transit facility, as identified in the Urban Area TSP, shall provide for pedestrian access to transit through the following measures:

a) Either locate buildings within 20 feet of the transit facility, a transit street, or an intersecting street or provide a pedestrian plaza at the transit facility or a street intersection;

b) Provide a reasonably direct pedestrian connection between the transit facility and building entrances on the site;

c) Provide a transit passenger landing pad accessible to disabled persons;

d) Provide an easement or dedication for a passenger shelter if requested by the transit provider; and

e) Provide lighting at the transit facility.

14.051 Traffic Impact Study Requirements.

1. A traffic impact study shall be developed by a Professional Engineer under the following conditions.

a) The proposed development generates 50 or more peak-hour trips or 500 or more daily trips.

b) An access spacing exception is required for the site access driveway(s) and the development generates 25 or more peak-hour trips or 250 or more daily trips.

c) The proposed development is expected to impact intersections that are currently operating at the upper limits of the acceptable range of level of service during the peak operating hour.

d) The proposed development is expected to significantly impact adjacent roadways and intersections that have previously been identified as high crash locations or areas that contain a high concentration of pedestrians or bicyclists such as school zones.

2. Submittal requirements: The study shall~~and~~ include the following minimum requirements:

a)~~1.~~ The analysis shall include alternates other than what the developer originally submits as a proposal for access.

b)~~2.~~ The analysis of alternate access proposals shall include:

1)~~a.~~ Existing daily and appropriate design peak hour counts, by traffic movements, at intersections that would be affected by traffic generated by the development.

2)~~b.~~ Projected daily and appropriate design peak hour volumes for these same intersections and at the proposed access points after completion of the development. If the development is to be constructed in phases, projected traffic volumes at the completion of each phase shall be determined.

3)~~c.~~ Trip Generation shall be calculated using the Institute of Transportation Engineers' manual "Trip Generation – 5th Edition" or other, more current, and/or applicable information.

4)~~d.~~ A determination of the need for a traffic signal based on warrants in the "Manual on Uniform Traffic Control Devices".

~~3. The recommendations made in the report shall be specific and based on a minimum level of service when the development has been completed. As an example, if a traffic signal is recommended, the recommendations should include the type of traffic signal control and what movements should be signalized. If a storage lane for right turns or left turns is needed, the recommendations should include the amount of storage needed. If several intersections are involved for signalization, and an interconnected system is considered, specific analysis should be made concerning progression of traffic between intersections.~~

c)~~4~~. The internal circulation of parking lots must be analyzed to the extent that it can be determined whether the points of access will operate properly.

d)~~5~~. An analysis of the impacts to neighboring driveway access points and adjacent streets affected by the proposed new development driveways.

e)~~6~~. A discussion of bike and pedestrian use and the availability of transit to serve the development.

f) The recommendations made in the report shall be specific and based on a minimum level of service when the development has been completed. As an example, if a traffic signal is recommended, the recommendations should include the type of traffic signal control and what movements should be signalized. If a storage lane for right turns or left turns is needed, the recommendations should include the amount of storage needed. If several intersections are involved for signalization, and an interconnected system is considered, specific analysis should be made concerning progression of traffic between intersections.

3. Review criteria and procedure. The following criteria should be used in reviewing a transportation impact analysis:

a) The road system is designed to meet the projected traffic demand at full build-out.

b) Proposed driveways do not adversely affect the functional characteristics of the surrounding roadways.

c) Adequate intersection and stopping sight distance is available at all driveways.

d) Proposed driveways meet the City and County's access spacing standard or sufficient justification is provided to allow a deviation from the spacing standard.

e) Opportunities for providing joint or crossover access have been pursued.

f) The site does not rely upon the surrounding roadway network for internal circulation.

g) The road system provides adequate access to buildings for residents, visitors, deliveries, emergency vehicles, and garbage collection.

h) A pedestrian path system is provided that links buildings with parking areas, entrances to the development, open space, recreational facilities, and other community facilities in accordance with the state Transportation Planning Rule.

4. Conditions of Approval. As part of every land use action, the City of Klamath Falls and/or Klamath County, and ODOT (if access to a state roadway is proposed) will be required to identify conditions of approval needed to meet operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system. Conditions of approval that may apply include:

a) Crossover easement agreements for all adjoining parcels to facilitate future access between parcels.

b) Conditional access permits for new developments which have proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing access driveways.

c) Right-of-way dedications for future planned roadway improvements.

d) Half-street improvements along site frontages that do not have full-buildout improvements in place at the time of development.

BIKEWAYS

14.445 Location. Bike lanes shall be located on collectors and arterials in the city and Urban Area. This includes the construction of new collectors and arterials and the reconstruction and re-surfacing of existing collectors and arterials. Refer to the cross-sections in the Urban Area Transportation System Plan and engineering standards for design and dimensions.

Klamath County Land Development Code

CHAPTER 10
GENERAL PROVISIONS

Article 11 Definitions

ESSENTIAL SERVICES:
Facilities and services which are necessary and accessory to the principle land use or development, and involve infrastructure such as pipelines, power lines and poles, distribution feeders, meter boxes and pump-houses. Essential services may include, but are not limited to water, sewer, natural gas, cable and electric power service, and certain transportation improvements, as specified in Section 50.040.A.

EXTENSIVE IMPACT SERVICES AND UTILITIES:
Any public or private facilities, services and utilities which may have a substantial impact on surrounding land uses. Typical uses include, but are not limited to: airports, detention and correction institutions, fairgrounds, disposal sites, incinerators, commercial power generating facilities, sports arenas and stadiums, outdoor theaters and amphitheaters, vehicular raceways, electrical transmission towers over 200 feet in height, commercial communication towers, recycle centers, natural gas or petroleum transmission pipelines, and certain transportation improvements, as specified in Section 50.040.B.

CHAPTER 20
REVIEW PROCEDURES

ARTICLE 20 BASIC PROVISIONS
20.040 - CONDITIONS OF APPROVAL
A. General Authorization to Impose Conditions of Approval
In approving any type of development application, the Review Body is authorized to impose such conditions as may be necessary to assure compliance with the applicable provisions of this code, the Comprehensive Plan, the Urban Area Transportation System Plan, the state Transportation Planning Rule, or other requirements of law. Any conditions attached to approvals will be directly related to the impacts of the proposed use or development and will be roughly proportional in both extent and amount to the anticipated impacts of the proposed use or development.

1. In the case of transportation impacts, conditions needed to meet operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system may be imposed. Conditions of approval that may apply include but are not limited to:

a. Crossover and/or reciprocal easement agreements for all adjoining parcels to facilitate future access between parcels.
b. Access for new developments that have proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing access driveways.
c. Right-of-way dedications for future planned roadway improvements.
d. Half-street improvements along site frontages that do not have full-buildout improvements in place at the time of development.

ARTICLE 21 PRE-APPLICATION CONFERENCE PROCEDURE

21.040 - NOTICE, HEARING AND APPEAL Because a pre-application conference is not a land use decision, no notice, hearing or appeals shall be provided. The discussions of a pre-application conference shall not be binding on any party. For application sites located adjacent to a state roadway or where proposals are expected to have an impact on a state transportation facility, ODOT shall be invited to participate in the conference.

CHAPTER 30
PUBLIC HEARINGS, NOTICE AND APPEAL

ARTICLE 32 PUBLIC NOTICE
32.030 - TYPES OF NOTICE

C. Mailed Public Hearing Notice - Notice of a quasi-judicial land use hearing shall be mailed by first class mail in the following manner: *(ORS 197.763(3))*

1. No later than 20 days prior to the date of the scheduled review or hearing:
   a. To all owners of real property within 500 feet, including rights-of-way and water bodies, of the subject property for actions involving land planned and zoned for farm or forestry use;
   b. To all owners of real property within 250 feet, including rights-of-way and water bodies, of the subject property for actions involving property outside an urban growth boundary that is not zoned for farm or forest use;
   c. To all owners of real property within 100 feet, including rights-of-way and water bodies, of the subject property for actions wholly or partially within an Urban Growth Boundary;
   d. To a public use airport owner if: (ORS 215.416(7) […]
   e. To each mailing address for tenants of a mobile home park for a zone change involving property encompassing all or part of a mobile home park as identified in ORS 446.003. Such notice may not be mailed more than 40 days before the date of the first hearing on a zone change. *(ORS 215.223(7))*
   f. To all property owners affected by a legislative zone change involving a substantial area and number of property owners in accordance with ORS 215.503, if applicable.

g. Notice shall also be provided to any neighborhood or community organization formally recognized by the Board of Commissioners and whose boundaries include the site. *(ORS 197.763(2)(b))*

h. Any governmental agency that is entitled to notice under an intergovernmental agreement entered into with the County or is otherwise potentially affected by the proposal. For application sites located adjacent to a state roadway or where proposals may have an impact on a state transportation facility, notice of the decision shall be sent to ODOT.

D. Mailed Tentative Decision Notice - Notice of a quasi-judicial land use decision made without a hearing shall be mailed by first class mail in the following manner: *(ORS 215.416(11)(a))*

1. No later than 5 days following a written decision rendered pursuant to a Type II Administrative Review Procedure, provided the notice states the 12-day period for appeal of the tentative decision starts on the date the tentative decision is mailed:

a. To all owners of real property within 750 feet, including rights-of-way and water bodies, of the subject property for actions involving land planned and zoned for farm or forestry use;

b. To all owners of real property within 250 feet, including rights-of-way and water bodies, of the subject property for actions involving property outside an urban growth boundary that is not zoned for farm or forest use;

c. To all owners of real property within 100 feet, including rights-of-way and water bodies, of the subject property for actions wholly or partially within an Urban Growth Boundary;

d. To any governmental agency that is entitled to notice under an intergovernmental agreement entered into with the County or is otherwise potentially affected by the proposal. For application sites located adjacent to a state roadway or where proposals are expected to have an impact on a state transportation facility, notice shall be sent to ODOT

CHAPTER 40
APPLICATION PROCEDURES

ARTICLE 41
SITE PLAN REVIEW

41.060 - SITE PLAN REQUIREMENTS
Site plans shall include the following information:
A. Tax lot number and street address;
B. Dimensions of property, scale, and north arrow;
C. Location, name, width and surface type of adjacent streets;
D. Location, dimensions and surface type of existing or proposed driveways or parking areas;

E. Location, dimensions (including height), and use or occupancy of all existing and proposed structures on the property, including accessory structures, decks, balconies, and other structural elements;
F. Distance from property lines to existing and proposed structures, septic tanks, drain lines, and wells;
G. Location of water and drainage features and the flow direction of any ponds, channels, creeks, swales or other drainage facilities effecting the proposed use;
H. Location, type, and dimensions of proposed on-site sewage disposal and water supply, if any;
I. Location and descriptions of any topographic or developed features on the site, such as rock outcrops, excavations, etc.;
J. Location and dimensions of all easements;
K. Landscaping as required by Article 65;
L. Signs as required by Article 66;
M. Parking as required in Article 68;
N. Vehicular access and circulation as required by Article 71;
O. Non-vehicular access and circulation as required by Article 71;
~~O~~P. Other appropriate information that otherwise may be required by this code, including a Traffic Impact Study pursuant to Section 71.200;
~~P~~Q. Signature of applicant.

ARTICLE 44
CONDITIONAL USE PERMIT

44.030 - REVIEW CRITERIA
A. The use complies with policies of the Comprehensive Plan;
B. The use is in conformance with all other required standards and criteria of this code; and
C. The location, size, design, and operating characteristics of the proposed use will not have a significant adverse impact on the livability, value or appropriate development of abutting properties and the surrounding area. This includes impacts on the transportation system to be determined pursuant to Section 71.200.
D. Conditions - The review body may grant a Conditional Use Permit subject to such reasonable conditions, pursuant to Section 20.040, based on findings of fact that it deems necessary to ensure compliance with the Klamath County Comprehensive Plan, Land Development code, Urban Area Transportation System Plan, and sound land use planning principles.

ARTICLE 46
LAND SUBDIVISION

46.030 - REVIEW CRITERIA
[…]
B. A subdivision plat shall be reviewed against the following criteria:

1. The subdivision development complies with policies of the Comprehensive Plan, including the policies and standards of the Urban Area Transportation System Plan;
2. The subdivision plat is in conformance with all standards and criteria of this code and applicable state statutes;
3. The site of the proposed subdivision is physically suitable for the type and density of the proposed development;
4. The street plan for the proposed subdivision will permit its development in a safe and efficient manner in accordance with the Comprehensive Plan and this code and transportation improvements, consistent with the findings from a Traffic Impact Study pursuant to Section 71.200;
5. The street plan for the proposed subdivision will permit the development of adjoining land in a safe and efficient manner in accordance with the Comprehensive Plan and this code; and
6. The existing and proposed infrastructure and public facilities and services required by this code are adequate to serve the proposed development.

46.050 - PRELIMINARY SUBDIVISION PLAT REQUIREMENTS
[…]
D. Required Information - All preliminary subdivision plats shall show the following information:

1. Existing Conditions:
   a. The location, width, and names of all existing or platted streets, ways or other public ways within or adjacent to the proposed subdivision, easements, railroad rights-of-way, and other important features, including but not limited to section lines and corners, city and school district boundaries;
   b. For subdivision within urban growth boundaries, contour lines shall […]
2. Proposed Development:
   a. All streets showing the location, widths, names, approximate grades, and approximate radii of curves and the relationship of all streets to any projected streets. This shall include any walkways and pedestrian connections as required by Article 71, Vehicular and Non-Vehicular Access and Circulation;
   […]

E. Accompanying Statement. A separate statement containing the following information shall accompany the preliminary subdivision plat if the following information cannot be shown practically on the preliminary subdivision plat:

1. Proposed uses of the property and present zoning;
2. Existing and/or proposed deed restrictions, if any;
3. A statement of the improvements proposed to be made or installed, the time such improvements are proposed to be made or completed, and the procedures the subdivider proposes to use;
4. A statement of what provisions are proposed for water supply, sewage disposal and drainage; and

5. Identification of the irrigation district involved and provisions for delivering irrigation water to the lots in the subdivision.

F. Drainage Plan. A drainage plan, prepared in accordance with Article 73 shall accompany all preliminary subdivision plats in the Klamath Falls Urban Area.

G. Evidence that the applicant has contacted the Environmental Health Department regarding the provision of on-site sewage disposal and other requirements, as applicable.

H. A Traffic Impact Study as may be required by Section 71.200.

ARTICLE 47
CHANGE OF ZONE DESIGNATION (QUASI-JUDICIAL)

47.030 - REVIEW CRITERIA

A. A request for a change of zone designation may only be approved if it meets all applicable review criteria.

B. A request for a change of zone designation shall be reviewed against the following criteria:

1. The proposed change of zone designation is in conformance with the Comprehensive Plan and does not afford special privileges to an individual property owner not available to the general public or outside the overall public interest for the change;

2. The property affected by the change of zone designation is adequate in size and shape to facilitate any uses allowed in conjunction with such zoning;

3. The property affected by the proposed change of zone designation is properly related to streets and roads and to other public facilities and infrastructure to adequately serve the types of uses allowed in conjunction with such zoning and the proposed change is in compliance with the Transportation Planning Rule (TPR) OAR 660-012-0060;

4. Traffic impact study: A Traffic Impact Study shall be submitted with a zone change application pursuant to Section 71.091, Traffic Impact Study.

~~4.~~ 5. The proposed change of zone designation will have no significant adverse effect on the appropriate use and development of adjacent properties; and

~~5.~~ 6. The proposed change is supported by specific studies or other factual information, which documents the need for the change.

ARTICLE 48
CHANGE OF COMPREHENSIVE PLAN DESIGNATION
(QUASI-JUDICIAL)

48.030 - REVIEW CRITERIA

A. A request for a change of Comprehensive Plan designation may only be approved if it meets all applicable review criteria;

B. A request for a change of Comprehensive Plan designation shall be reviewed against the following criteria:

1. The proposed change is supported by specific studies or other factual information, which documents the public need for the change;
2. The proposed change complies with policies of the Comprehensive Plan and policies and standards of the Urban Area Transportation System Plan; and
3. The proposed change complies with the Oregon State wide Planning Goals and Administrative Rules, including compliance with the TPR (OAR 660-012-0060). Exceptions to the Statewide Planning Goals, shall be based upon Statewide Planning Goal 2, Part II (Exceptions) as interpreted by Oregon Administrative Rules (OAR Chapter 660, Division 4).
4. Traffic impact study: A Traffic Impact Study shall be submitted with a zone change application pursuant to Section 71.091, Traffic Impact Study.

ARTICLE 49
LEGISLATIVE AMENDMENT TO THE KLAMATH COUNTY
COMPREHENSIVE PLAN, LAND DEVELOPMENT CODE, OR ZONING MAP

49.030 - REVIEW CRITERIA
A. An amendment to the Comprehensive Plan or Land Development Code may only be approved if it meets all applicable review criteria.
B. An amendment to the Comprehensive Plan or Land Development Code shall be reviewed against the following criteria:
1. The proposed amendment is supported by specific studies or other factual information, which documents the public need for the change;
2. The proposed amendment complies with policies of the Comprehensive Plan and policies and standards of the Urban Area Transportation System Plan; and
3. The proposed amendment complies with the Oregon Statewide Planning Goals, ~~and~~ state statutes, and administrative rules, including compliance with the TPR (OAR 660-012-0060).
4. Traffic impact study: A Traffic Impact Study shall be submitted with a zone change application pursuant to Section 71.091, Traffic Impact Study.

CHAPTER 50
LAND USE ZONES

ARTICLE 50
BASIC PROVISIONS
50.010 – PURPOSE
50.020 – LIST OF BASIC ZONES
50.030 – LIST OF SPECIAL PURPOSE ZONES
50.040 – TRANSPORTATION-RELATED USES

A. The following transportation-related improvements and activities are considered "Essential Services" uses and are permitted outright in all County zones, unless otherwise specified in individual zones.

1. Normal operation, maintenance, repair, and preservation activities of existing transportation facilities.
2. Installation of culverts, pathways, medians, fencing, guardrails, lighting, and similar types of improvements within the existing right-of-way.
3. Projects specifically identified in the Urban Area Transportation System Plan.
4. Landscaping as part of a transportation facility.
5. Emergency measures necessary for the safety and protection of property.
6. Acquisition of right-of-way for public roads, highways, and other transportation improvements designated in the Urban Area Transportation System Plan, except for those that are located in exclusive farm use or forest zones.
7. Construction of a street or road as part of an approved subdivision or land partition approved that is consistent with the applicable land division regulations.

B. The following transportation-related improvements and activities are considered "Extensive Impact Services and Utilities" uses and are permitted conditionally in all County zones, unless otherwise specified in individual zones.

1. Construction, reconstruction, or widening of highways, roads, bridges or other transportation projects that are:
    a. Not improvements designated in the Urban Area Transportation System Plan; or
    b. Not designed and constructed as part of a subdivision or planned development subject to site plan and/or conditional use review.
    c. An application for site plan review is subject to review under Article 41. In addition, the site plan permit shall comply with the Urban Area Transportation System Plan and applicable standards of this title, and shall address the criteria below. For State projects that require an Environmental Impact Statement (EIS) or EA (Environmental Assessment), the draft EIS or EA shall be reviewed and used as the basis for findings to comply with the following criteria:
        (1) The project is designed to be compatible with existing land use and social patterns, including noise generation, safety, and zoning.

(2) The project is designed to minimize avoidable environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities.
(3) The project preserves or improves the safety and function of the facility through access management, traffic calming, or other design features.
(4) The project includes provision for bicycle and pedestrian circulation as consistent with the Comprehensive Plan and other requirements of this ordinance.

CHAPTER 60
PLANNING DEPARTMENT DEVELOPMENT STANDARDS

ARTICLE 68
OFF-STREET PARKING AND LOADING

68.030 – OFF-STREET PARKING REQUIREMENTS
A. The following off-street parking requirements shall apply to all buildings, structures, developments and land uses unless otherwise specified in this code.
[***Parking standards table remains unchanged.]***
B. Carpool and Vanpool Parking. Large employers (those with 50 employees or more working the same hours or shift) shall dedicate 10% of the required parking spaces for carpools and vanpools.

1. These designated spaces shall be the closest parking spaces to the building entrance normally used by employees, with the exception of disabled/handicap accessible parking spaces.
2. Carpool and vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only" along with specific hours of use.
3. Any other use establishing carpool and vanpool spaces may reduce the minimum parking requirement by 3 spaces for each carpool/vanpool space created.

C. Transit-related parking reduction. The number of minimum required parking spaces may be reduced by up to 10% if:

1. The proposal is located within a ¼ mile of an existing or planned transit route, and;
2. Transit-related amenities such as transit stops, pull-outs, shelters, park-and-ride lots, transit-oriented development, and transit service on an adjacent street are present or will be provided by the applicant.

D. Bicycle Parking Standards
1. The following bicycle parking standards are applicable only inside an Urban Unincorporated Community or within an Urban Growth Boundary for which Klamath County has jurisdiction. The Klamath Falls Urban Area is exempt from this Bicycle Parking Standards section due to an adopted Urban Area Transportation System Plan (KC ORD. 44.68 Acknowledged November 12, 1998).
[***Subsection 2. and the County standards remain unchanged.***]

3. In the Klamath Falls Urban Area, bicycle parking facilities shall be provided for all new or expanded multi dwelling residential, institutional, commercial and industrial uses. Bicycle parking shall be provided as follows:

1. One bicycle parking space shall be provided for every twelve (12) required off street parking spaces, with a minimum of one bicycle parking space.
2. Required bicycle parking facilities shall be located no further than fifty feet (50') from a public entrance.
3. Bicycle parking facilities may be provided in a dedicated area within a building that is accessible to bicycle storage.

4. Bicycle Parking Design Guidelines. The following guidelines are applicable to bicycle parking facilities in the Klamath Falls Urban Area:

1. Bicycle parking facilities shall either be stationary racks, which accommodate bicyclist's locks securing the frame and both wheels or lockable rooms or enclosures in which the bicycle is stored.
2. Bicycle parking spaces shall be at least six feet (6') long and two feet (2') wide. Upright bicycle storage structures are exempted from the parking space length standard.
3. A five-foot (5') aisle for bicycle maneuvering shall be provided and maintained beside or between each row of bicycle parking.
4. Bicycle racks or lockers shall be anchored to the ground surface or to a structure.

CHAPTER 70
PUBLIC WORKS DEPARTMENT DEVELOPMENT STANDARDS

ARTICLE 71
VEHICULAR AND NON-VEHICULAR ACCESS AND CIRCULATION

71.010 - PURPOSE
The purpose of these standards is to ensure safe ingress and egress to and from properties; to minimize street congestion and traffic hazards; to provide safe and convenient access to businesses, public services, and places of public assembly; and to make vehicular and non-vehicular circulation more compatible with surrounding land uses.

71.020 - ACCESS STANDARDS
A. Vehicular Access - Vehicular access shall be provided to all lots or parcels from a dedicated street. Developments fronting on an arterial street or road may be required to provide a frontage or service road.
B. Director of Public Works Approval - Access to property fronting upon a county or public road shall be subject to the approval of the Director of Public Works.
C. Oregon Department of Transportation (ODOT) Approval - Access to property fronting upon a state highway shall be subject to the permits issued by ODOT.
D. Rural County Road Access Management – Minimum Centerline Spacing Standards

[***Rural County spacing standards remain unchanged.***]

E. Klamath Falls Urban Growth Area Access Spacing Standards - All new development and redevelopment shall meet the access spacing standards in Table 4-3 of the Urban Area Transportation System Plan.
F. When the site of development or redevelopment in the Urban Area has frontage on roads with different functional classifications, the site shall take access on the road with the lower functional classification.
G. The County or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. In the Klamath Falls Urban Growth Area, access to and from off-street parking areas shall not permit backing onto a public street.

71.050 - IMPROVEMENTS IN THE KLAMATH FALLS URBAN AREA
The following roadway improvements shall be required for all subdivisions within the Klamath Falls Urban Growth Area unless otherwise specified, and shall be provided at the expense of the developer:
A. ~~Concrete curbs, gutters, sidewalks and paved roadways a minimum width of 36 feet shall be provided where the average lot size of the development is not greater than 20,000 square feet;~~
~~B. Concrete curbs, gutters and paved roadways a minimum width of 36 feet shall be provided where the average lot size of the development is greater than 20,000 square feet and not greater than 43,560 square feet (1 acre);~~
~~C. Roadways paved to a minimum width of 24 feet with gravel shoulders improved to a minimum width of 4 feet and drainage facilities as required by the Director of Public Works shall be provided where the average lot size of the development is greater than 43,560 square feet (1 acre);~~
All roads that are functionally classified as arterials or collectors shall provide sidewalks and bikeways (e.g. bicycle lanes) on both sides of the roadway, except as determined otherwise by the Director of Public Works.
~~D~~B. As required by the Director of Public Works, all rights-of-way shall be cleared between the catch points of cuts or fills of the approved cross section. The entire right-or-way shall be cleared of all flammable brush, limbs, logs and stumps outside of slope limits to the full width of the right-of-way;
~~E~~C. When necessary for public convenience and safety, the review body may require pedestrian ways to permit access to cul-de-sacs, to pass through oddly shaped or unusually long blocks, or to provide access to schools, parks or other public or private areas. Pedestrian ways shall be no less than 10 feet in width with an improved surface no less than 8 feet in width, and shall be dedicated to the public.

~~F~~D. All development shall be designed and constructed in accordance with the Department of Public Works Standard Drawings, as may be revised.

71.100 - CUL-DE-SACS
A. The length of a cul-de-sac shall be measured along the centerline of the roadway from the right-of-way line to the farthest point of the cul-de-sac.
B. All cul-de-sacs shall terminate with a circular turn around having a right-of-way not less than 50 feet radius and an improved turnaround of not less than 40 feet radius, unless otherwise specified in this code.
C. In urban areas a cul-de-sac shall not exceed 500 feet in length or serve more than 18 dwelling units. The review body may require a pedestrian way or bikeway between the cul-de-sac and adjacent streets in order to enhance accessibility and connectivity. Pedestrian ways shall be no less than 10 feet in width with an improved surface no less than 8 feet in width, and shall be dedicated to the public;
D. In rural areas, a cul-de-sac shall not exceed 700 feet in length, unless otherwise specified in this code.
E. The maximum grade of a cul-de-sac turnaround shall not exceed 3%.

71.150 - BLOCKS
A. The length, width and shape of blocks shall be designed with regard to providing a safe and efficient layout of building sites when considering topography, access, circulation and safety.
B. Blocks shall not exceed 1,320 feet when measured from road centerline to road centerline. In the Klamath Falls Urban Growth Area, block length shall not exceed 600 feet to improve connectivity for vehicular and non-vehicular traffic.

71.190 – NON-VEHICULAR ACCESS AND CIRCULATION
1. For new commercial, light industrial, and multi-family residential development, internal pedestrian circulation shall be provided through sidewalks and walkways/pathways, pursuant to the following standards:

a) Walkways shall be provided connecting building entrances and streets adjoining the site.
b) Connections shall be direct and driveway crossings minimized.
c) Walkways shall be at least five-feet-wide, raised, include curbing, or have different paving material when crossing driveways.
d) Pedestrian connections to adjoining properties shall be provided except where such a connection cannot be accommodated due to topographical constraints or where existing development on adjacent sites preclude connections. Pedestrian connections shall connect the on site circulation system to existing or proposed streets, walkways, and driveways that abut the property. Where adjacent properties are undeveloped or have potential for redevelopment, streets, accessways and walkways on site shall be laid out or stubbed to allow for extension to the adjoining property.

2. Transit Access. New commercial and light industrial buildings within 600 feet of an existing or planned transit facility, as identified in the Urban Area TSP, shall provide for pedestrian access to transit through the following measures:

a) Either locate buildings within 20 feet of the transit facility, a transit street, or an intersecting street or provide a pedestrian plaza at the transit facility or a street intersection;
b) Provide a reasonably direct pedestrian connection between the transit facility and building entrances on the site;
c) Provide a transit passenger landing pad accessible to disabled persons;
d) Provide an easement or dedication for a passenger shelter if requested by the transit provider; and
e) Provide lighting at the transit facility.

71.200 – Traffic Impact Study

A. A traffic impact study shall be developed by a Professional Engineer under the following conditions.

1. The proposed development generates 50 or more peak-hour trips or 500 or more daily trips.
2. An access spacing exception is required for the site access driveway(s) and the development generates 25 or more peak-hour trips or 250 or more daily trips.
3. The proposed development is expected to impact intersections that are currently operating at the upper limits of the acceptable range of level of service during the peak operating hour.
4. The proposed development is expected to significantly impact adjacent roadways and intersections that have previously been identified as high crash locations or areas that contain a high concentration of pedestrians or bicyclists such as school zones.

B. Submittal requirements: The study shall include the following minimum requirements:

1. The analysis shall include alternates other than what the developer originally submits as a proposal for access.
2. The analysis of alternate access proposals shall include:
    a. Existing daily and appropriate design peak hour counts, by traffic movements, at intersections that would be affected by traffic generated by the development.
    b. Projected daily and appropriate design peak hour volumes for these same intersections and at the proposed access points after completion of the development. If the development is to be constructed in phases, projected traffic volumes at the completion of each phase shall be determined.
    c. Trip Generation shall be calculated using the Institute of Transportation Engineers' manual "Trip Generation – 5th Edition" or other, more current, and/or applicable information.
    d. A determination of the need for a traffic signal based on warrants in the "Manual on Uniform Traffic Control Devices".
3. The internal circulation of parking lots must be analyzed to the extent that it can be determined whether the points of access will operate properly.

4. An analysis of the impacts to neighboring driveway access points and adjacent streets affected by the proposed new development driveways.
5. A discussion of bike and pedestrian use and the availability of transit to serve the development.
6. The recommendations made in the report shall be specific and based on a minimum level of service when the development has been completed. As an example, if a traffic signal is recommended, the recommendations should include the type of traffic signal control and what movements should be signalized. If a storage lane for right turns or left turns is needed, the recommendations should include the amount of storage needed. If several intersections are involved for signalization, and an interconnected system is considered, specific analysis should be made concerning progression of traffic between intersections.

C. Review criteria and procedure. The following criteria should be used in reviewing a transportation impact analysis:

1. The road system is designed to meet the projected traffic demand at full buildout.
2. Proposed driveways do not adversely affect the functional characteristics of the surrounding roadways.
3. Adequate intersection and stopping sight distance is available at all driveways.
4. Proposed driveways meet the County's access spacing standard or sufficient justification is provided to allow a deviation from the spacing standard.
5. Opportunities for providing joint or crossover access have been pursued.
6. The site does not rely upon the surrounding roadway network for internal circulation.
7. The road system provides adequate access to buildings for residents, visitors, deliveries, emergency vehicles, and garbage collection.
8. A pedestrian path system is provided that links buildings with parking areas, entrances to the development, open space, recreational facilities, and other community facilities in accordance with the state Transportation Planning Rule.

D. Conditions of Approval. As part of every land use action, Klamath County and the City of Klamath Falls, and ODOT (if access to a state roadway is proposed) will be required to identify conditions of approval needed to meet operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system. Conditions of approval that may apply include:

1. Crossover easement agreements for all adjoining parcels to facilitate future access between parcels.
2. Conditional access permits for new developments which have proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing access driveways.
3. Right-of-way dedications for future planned roadway improvements.
4. Half-street improvements along site frontages that do not have full-buildout improvements in place at the time of development.

Appendix 1C Transportation Impact Analysis Guidelines

TRANSPORTATION IMPACT ANALYSIS REQUIREMENTS

INTENT AND PURPOSE

A transportation impact analysis (TIA) provides an objective assessment of the anticipated modal transportation impacts associated with a specific land use action. A TIA is useful for answering important transportation-related questions such as:

- Can the existing transportation system accommodate the proposed development from a capacity and safety standpoint?
- What transportation system improvements are necessary to accommodate the proposed development?
- How will access to the proposed development affect the traffic operations on the existing transportation system?
- What transportation impacts will the proposed development have on the adjacent land uses, including commercial, institutional, and residential uses?
- Will the proposed development meet current standards for roadway design?
- Does the proposed development comply with the TSP?

Throughout the development of the TIA (and beginning as early as possible), cooperation/coordination between City of Klamath Falls, Klamath County, and ODOT staff (as applicable), the applicant, and the applicant's traffic engineer is encouraged to provide an efficient and effective process.

If a TIA is not required, a Transportation Assessment Letter shall be submitted indicating that the proposed land use is exempt. The letter should also detail site trip generation requirements confirming the exempt status and verify site-access driveways meeting applicable sight distance requirements.

City of Klamath Falls and Klamath County staff may, at their discretion, and depending on the specific situation, require additional study components in a TIA beyond what is outlined in this section or waive requirements deemed inappropriate.

These requirements are for development applications that are expected to affect City and/or County operated facilities. For development applications that require an ODOT access permit, land use zoning changes, or comprehensive plan modifications, applicable ODOT requirements should be referenced and ODOT should be consulted during the project scoping process.

The City of Klamath Falls and Klamath County assume no liability for any costs or time delays (either direct or consequential) associated with the preparation and review of a transportation impact analysis.

1. **When a Transportation Impact Analysis is Required.** A TIA shall be required when:
    a. The development generates 50 or more peak-hour trips or 500 or more daily trips;
    b. An access spacing exception is required for the site access driveway(s) and the development generates 25 or more peak-hour trips or 250 or more daily trips;
    c. The development is expected to impact intersections that are currently operating at the upper limits of the acceptable range of level of service during the peak operating hour; or
    d. The development is expected to significantly impact adjacent roadways and intersections that have previously been identified as high crash locations or areas that contain a high concentration of pedestrians or bicyclists such as school zones.
    e. A major construction project is anticipated to significantly impede normal traffic flow or roadway capacity, as determined by the Public Works Director.
    f. A construction project is anticipated to cause significant deterioration of the roadway infrastructure, as determined by the Public Works Director.
2. **When a Transportation Assessment Letter is Required.** If a TIA is not required, the applicant's traffic engineer shall submit a transportation assessment letter to the City and/or County indicating the proposed land use action is exempt. This letter shall outline the trip-generating characteristics of the proposed land use and verify that the site-access driveways or roadways meet the City of Klamath Falls or Klamath County sight-distance and access spacing requirements and roadway design standards.
3. **Scoping Memorandum.** For either a TIA or Transportation Assessment Letter, a scoping memorandum shall be prepared and submitted to the City, County, and/or ODOT. This memorandum should detail the proposed analysis approach, relevant assumptions, project background information, assumed trip generation and trip distribution for the site, and proposed study facilities, at a minimum.
4. **Contents of a Transportation Impact Analysis**. As a guide in the preparation of a transportation impact analysis, the City of Klamath Falls and Klamath County recommend the following format be used to document the analysis.
    a. **Table of Contents.** Listing of all sections, figures, and tables included in the report.
    b. **Executive Summary.** Summary of the findings and recommendations contained within the report.

c. **Introduction.** Proposed land use action, including site location, building square footage, and project scope. Map showing the proposed site, building footprint, access driveways, and parking facilities. Map of the study area, which shows site location and surrounding roadway facilities.

d. **Existing Conditions.** Existing site conditions and adjacent land uses. Roadway characteristics (all transportation facilities and modal opportunities located within the study area, including roadway functional classifications, street cross section descriptions, posted speeds, bicycle and pedestrian facilities, on-street parking, and transit facilities). Existing lane configurations and traffic control devices at the study area intersections. Existing traffic volumes and operational analysis of the study area roadways and intersections. Roadway and intersection crash history analysis.

e. **Background Conditions** (without the proposed land use action). Approved developments and funded transportation improvements in the study area. Traffic growth assumptions. Addition of traffic from other planned developments. Background traffic volumes and operational analysis.

f. **Full Buildout Traffic Conditions** (with the proposed land use action). Description of the proposed development plans. Trip-generation characteristics of the proposed development (including trip reduction documentation). Trip distribution assumptions. Full buildout traffic volumes and intersection operational analysis. Intersection and site-access driveway queuing analysis. Expected safety impacts. Recommended roadway and intersection mitigations (if necessary).

g. **Site Circulation Review.** Evaluate internal site access and circulation. Review pedestrian paths between parking lots and buildings. Ensure adequate throat depth is available at the driveways and that vehicles entering the site do not block the public facilities. Review truck paths for the design vehicle.

h. **Turn Lane Warrant Evaluation.** Evaluate the need to provide turn lanes at the site driveways.

i. **Conclusions and Recommendations.** Bullet summary of key conclusions and recommendations from the transportation impact analysis.

j. **Appendix.** Traffic counts summary sheets, crash analysis summary sheets, and existing/background/full buildout traffic operational analysis worksheets. Other analysis summary sheets such as queuing and signal warrant analyses.

K. **Figures.** The following list of figures should be included in the Transportation Impact Analysis: Site Vicinity Map; Existing Lane Configurations and Traffic Control Devices; Existing Traffic Volumes and Levels of Service (all peak hours evaluated); Future Year

Background Traffic Volumes and Levels of Service (all peak hours evaluated); Proposed Site Plan; Future Year Assumed Lane Configurations and Traffic Control Devices; Estimated Trip Distribution Pattern; Site-Generated Traffic Volumes (all peak hours evaluated); Full Buildout Traffic Volumes and Levels of Service (all peak hours evaluated).

L. **Preparer Qualifications**. An Oregon-registered professional engineer (Civil or Traffic) shall prepare the Transportation Impact Analyses. In addition, the preparer should have extensive experience in the methods and concepts associated with transportation impact studies.

5. **Study Area**. The study area shall include, at a minimum, all site-access points and intersections (signalized and unsignalized) adjacent to the proposed site. If the proposed site fronts an arterial or collector street; the study shall include all intersections along the site frontage and within the access spacing distances extending out from the boundary of the site frontage. Beyond the minimum study area, the transportation impact analysis shall evaluate all intersections that receive site-generated trips that comprise at least 10% or more of the total intersection approach volume. In addition to these requirements, the City or County Public Works Director (or his/her designee) shall determine any additional intersections or roadway links that might be adversely affected as a result of the proposed development. The applicant and the Public Works Director (or his/her designee) will agree on these intersections prior to the start of the transportation impact analysis, preferably with input from ODOT. The required study area may need to be expanded to comply with ODOT requirements.
6. **Study Years to be Analyzed in the Transportation Impact Analysis**. A level-of-service analysis shall be performed for all study roadways and intersections for the following horizon years:
    a. **Existing Year.** Evaluate all existing study roadways and intersections under existing conditions.
    b. **Background Year.** Evaluate the study roadways and intersections in the year the proposed land use is expected to be fully built out, without traffic from the proposed land use. This analysis should include traffic from all approved developments that impact the study intersections, or planned developments that are expected to be fully built out in the horizon year.
    c. **Full Buildout Year**. Evaluate the expected roadway, intersection, and land use conditions resulting from the background growth and the proposed land use action assuming full build-out and occupancy. For phased developments, an analysis shall be performed during each year a phase is expected to be completed.

d. **Twenty-Year Analysis.** For all land use actions requesting a Comprehensive Plan Amendment and/or a Zone Change, a long-term level-of-service analysis shall be performed for all study intersections assuming buildout of the proposed site with and without the comprehensive plan designation and/or zoning designation in place. The analysis should be performed using the future year traffic volumes identified in the Transportation System Plan (TSP). If the applicant's traffic engineer proposes to use different future year traffic volumes, justification for not using the TSP volumes must be provided along with documentation of the forecasting methodology. The required study area may need to be expanded to comply with ODOT requirements.

7. **Study Time Periods to be Analyzed in the Transportation Impact Analysis.** Within each horizon year, a level-of-service analysis shall be performed for the time period(s) that experience the highest degree of network travel. These periods typically occur during the mid-week (Tuesday through Thursday) morning (7:00 a.m. to 9:00 a.m.), mid-week evening (4:00 p.m. to 6:00 p.m.), and Saturday afternoon (12:00 p.m. to 3:00 p.m.) periods. The transportation impact analysis should always address the weekday a.m. and p.m. peak hours when the proposed lane use action is expected to generate 25 trips or more during the peak time periods. If the applicant can demonstrate that the peak-hour trip generation of the proposed land use action is negligible during one of the two peak study periods and the peak trip generation of the land use action corresponds to the roadway system peak, then only the worst-case study period need be analyzed.

   Depending on the proposed land use action and the expected trip-generating characteristics of that development, consideration of non-peak travel periods may be appropriate. Examples of land uses that have non-typical trip generating characteristics include schools, movie theaters, and churches. The Public Works Director (or his/her designee) and applicant should discuss the potential for additional study periods prior to the start of the transportation impact analysis.

8. **Traffic Count Requirements**. Once the study periods have been determined, turning movement counts should be collected at all study area intersections to determine the base traffic conditions. These turning movement counts should typically be conducted during the weekday (Tuesday through Thursday) between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m., depending on the proposed land use. Historical turning movement counts may be used if the data are less than 2 years old, but must be factored to meet the existing traffic conditions.

9. **Trip Generation for the Proposed Development**. To determine the impacts of a proposed development on the surrounding transportation network, the trip-generating characteristics of

that development must be estimated. Trip-generating characteristics should be obtained from one of the following acceptable sources:

a. Institute of Transportation Engineers (ITE) *Trip Generation Manual* (latest edition).

b. Specific trip generation studies that have been conducted for the particular land use action for the purposes of estimating peak-hour trip-generating characteristics. The Public Works Director (or his/her designee) should approve the use of these studies prior to their inclusion in the transportation impact analysis.

c. In addition to new site-generated trips, several land uses typically generate additional trips that are not added to the adjacent traffic network. These trips include pass-by trips and internal trips and are considered to be separate from the total number of new trips generated by the proposed development. The procedures listed in the most recent version of the *Trip Generation Handbook* (ITE) should be used to account for pass-by, diverted link, and internal trips.

10. **Trip Distribution**. Estimated site-generated traffic from the proposed development should be distributed and assigned on the existing or proposed arterial/collector street network. Trip distribution methods should be based on a reasonable assumption of local travel patterns and the locations of off-site origin/destination points within the site vicinity. Acceptable trip distribution methods should be based on one of the following procedures:

a. An analysis of local traffic patterns and intersection turning movement counts gathered within the previous 12 months.

b. A detailed market study specific to the proposed development and surrounding land uses.

c. Using the Klamath Falls travel demand model with a select-zone analysis.

11. **Intersection Operation Standards**. The City of Klamath Falls and Klamath County evaluate intersection operational performance based on level of service.

a. **Intersection Levels of Service**. The City of Klamath Falls and Klamath County require all intersections within the study area to maintain an acceptable level of service (LOS) upon full buildout of the proposed land use action. LOS calculations for signalized intersections are based on the average control delay per vehicle, while LOS calculations for unsignalized intersections are based on the average control delay for the worst or critical movement. All LOS calculations should be made using the methods identified in the most recent version of the *Highway Capacity Manual*, published by the Transportation Research Board. The minimum acceptable level of service for signalized intersections is LOS "D" while the minimum acceptable level of service for unsignalized

intersections is LOS "E". Any intersections not operating at these standards will be considered to be unacceptable.

12. **Review Policy and Procedure**. The following criteria should be used in reviewing a transportation impact analysis as part of a subdivision or site plan review.
    a. The road system is designed to adequately meet the projected traffic demand at full build-out.
    b. Proposed driveways do not adversely affect the functional characteristics of the surrounding roadways.
    c. Adequate intersection and stopping sight distance is available at all driveways.
    d. Proposed driveways meet the City and County's access spacing standard or sufficient justification is provided to allow a deviation from the spacing standard.
    e. Opportunities for providing joint or crossover access have been pursued.
    f. The site does not rely upon the surrounding roadway network for internal circulation.
    g. The road system provides adequate access to buildings for residents, visitors, deliveries, emergency vehicles, and garbage collection.
    h. A pedestrian path system is provided that links buildings with parking areas, entrances to the development, open space, recreational facilities, and other community facilities per the Transportation Planning Rule.
13. **Conditions of Approval.** As part of every land use action, the City of Klamath Falls and/or Klamath County, and ODOT (if access to a state roadway is proposed) will be required to identify conditions of approval needed to meet operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system. Conditions of Approval that should be evaluated as part of subdivision and site plan reviews include:
    a. Crossover easement agreements for all adjoining parcels to facilitate future access between parcels.
    b. Conditional access permits for new developments which have proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing access driveways.
    c. Right-of-way dedications for future planned roadway improvements.
    d. Half-street improvements along site frontages that do not have full-buildout improvements in place at the time of development.

Appendix 1D Prospectus Sheets

Project #: B1	**Washburn Way Bicycle Lanes:Eberlein Avenue to South 6th Street**

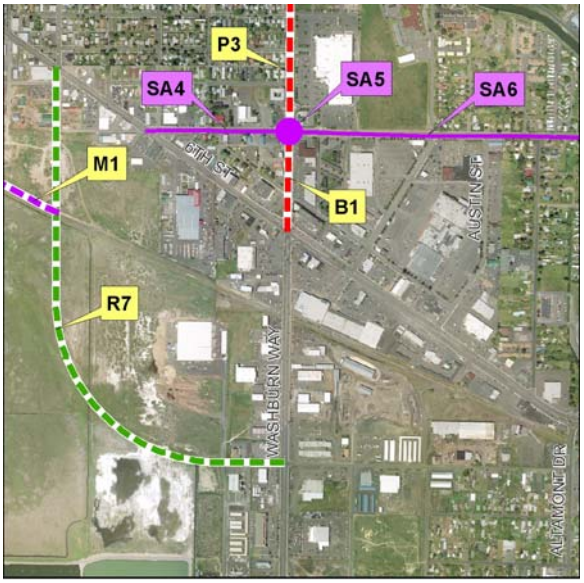
Description: Would add bike lanes to both sides of the street

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Bicycle	Major Arterial	0-5 Years	$2,570,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☑	☑	☐	☑	☑

Project Location:



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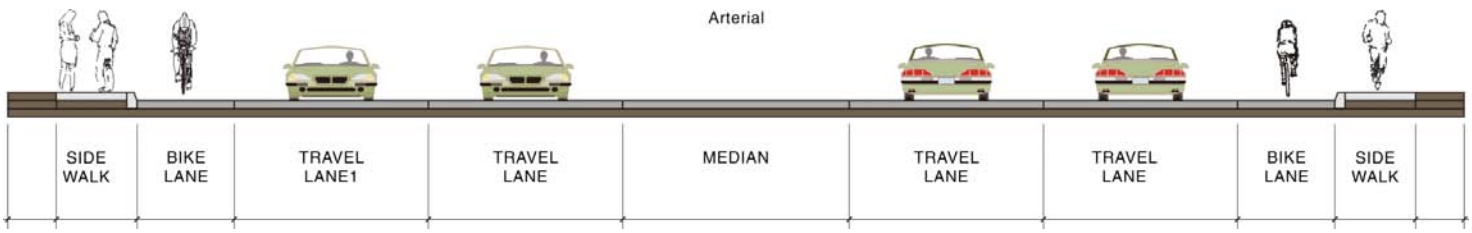

Project #: M1	**Extend OC&E trail to downtown**

Description: Would extend the existing alignment of the OC&E trail to serve downtown Klamath Falls

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Multi-use Path	N/A	0-5 Years	$5,485,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☑	☑	☐	☑	☑

Project Location:

Project Image:

Project #: M2	**New Multi-Use Path Along Foothillls Boulevard**

Description: Would construct a new multi-use path from Washburn Way to Homedale Road

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Muli-use Pathw	N/A	0-5 Years	$1,410,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
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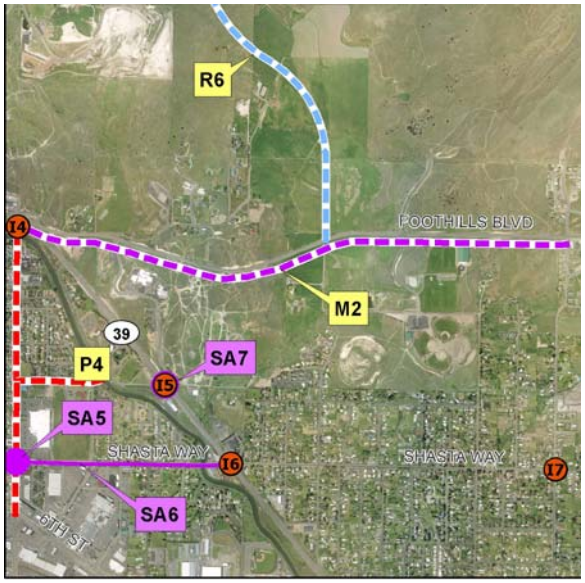
Project Location:



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Project #: P1	**Daggett Avenue Sidewalks: El Dorado Avenue to Clairmont Drive**

Description: Would add sidewalks to both sides of the street

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Pedestrian	Local Road	0-5 Years	$355,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
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Project Location:

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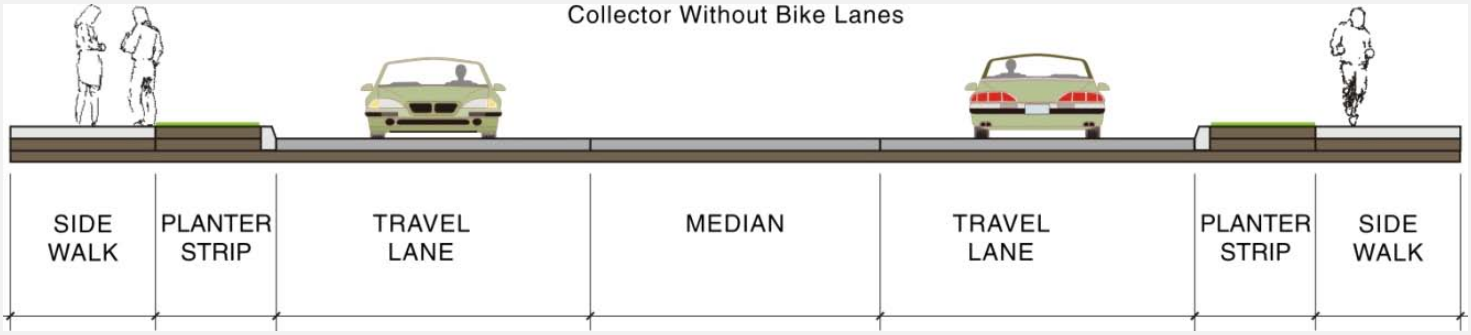

Project #: P2	**El Dorado Avenue Sidewalks: Van Ness to Daggett Avenue**

Description: Would add sidewalks to one side of the street

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Pedestrian	Collector	0-5 Years	$820,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
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Project Location:

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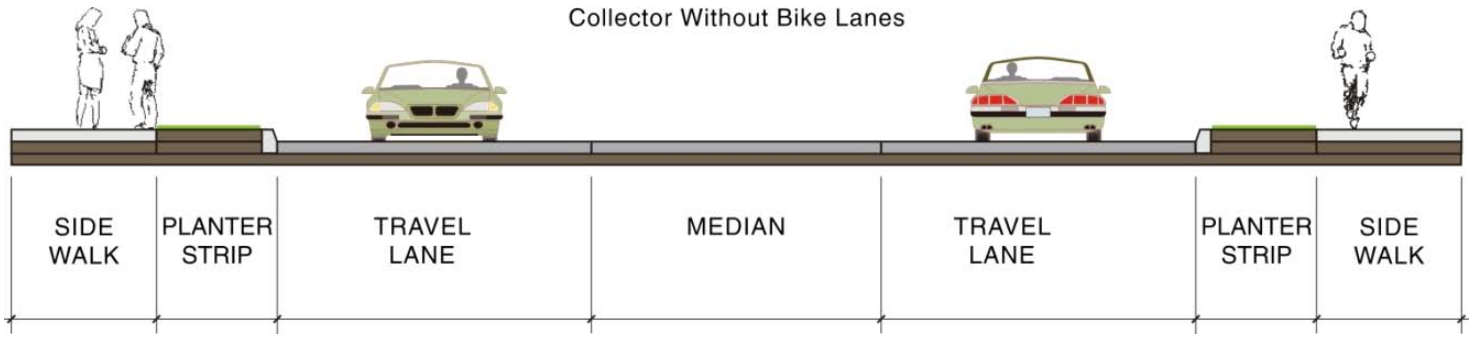

Project #: P3	**Washburn Way Sidewalks: Crater Lake Parkway to Shasta Way**

Description: Would add sidewalks to both sides of the street

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Pedestrian	Major Arterial	0-5 Years	$1,523,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
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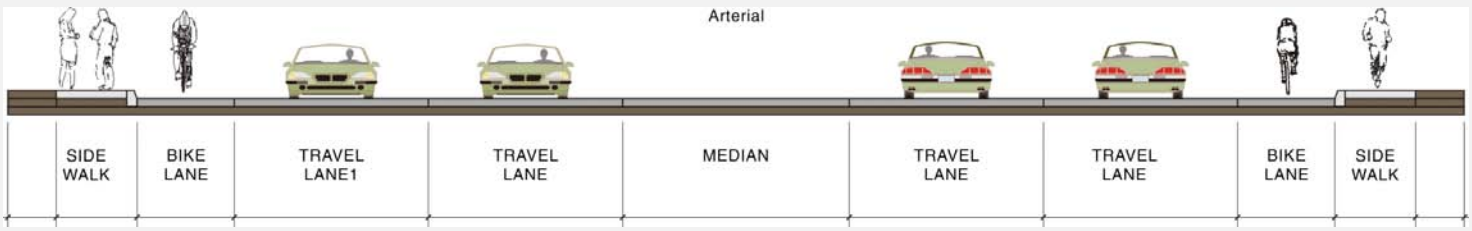
Project Location:

Project Image:



Project #: P4	**Eberlein Avenue Sidewalks: Washburn Way to Canal**

Description: Would add sidewalks to both sides of the street

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Pedestrian	Collector	0-5 Years	$620,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
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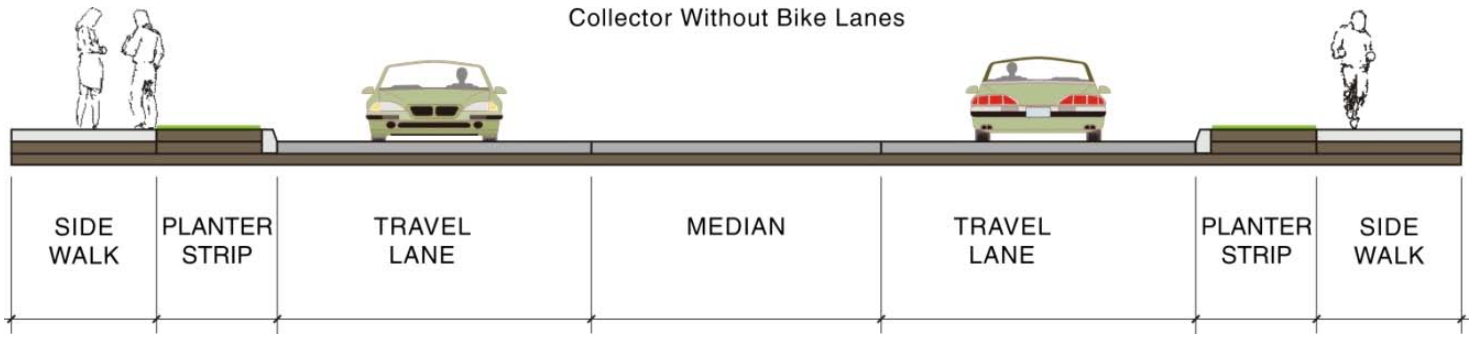
Project Location:

Project Image:



Project #: P5	**Crest Street and Clinton Street Sidewalks: Hilyard Avenue to Summers Lane**

Description: Would add sidewalks to both sides of the street

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Pedestrian	Collector	0-5 Years	$2,900,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
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Project Location:

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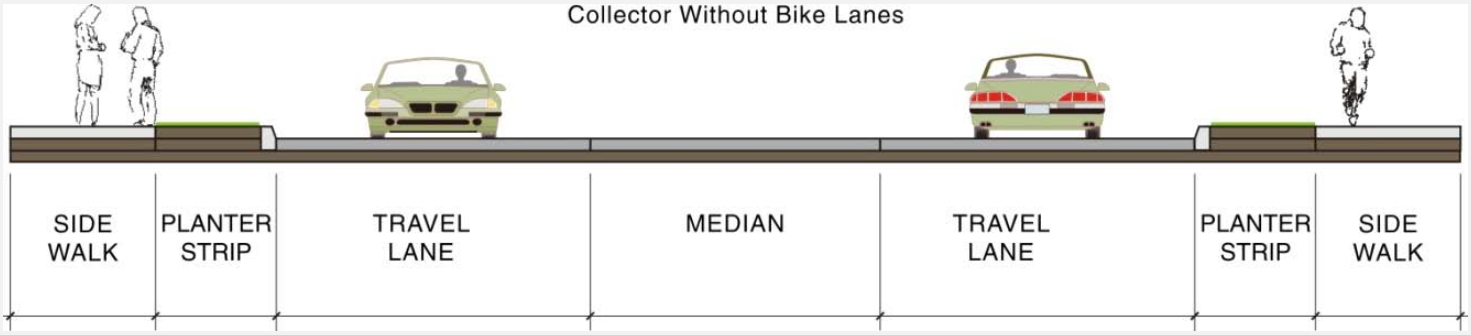

Project #: P6	**Crest Avenue Street andto Clinton Street Sidewalks: Hilyard Avenue to Summer Lane**

Description: Would add sidewalks to both sides of the street

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Pedestrian	Collector	0-5 Years	$1,665,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
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Project Location:

Project Image:

Project #: I1	**OR 39/Biehn Street/Campus Drive Intersection**

Description: Construct a northbound left-turn lane. Would require the construction of an additional receiving lane.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Intersection	State Highway/Collector	15-25 Years	$839,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
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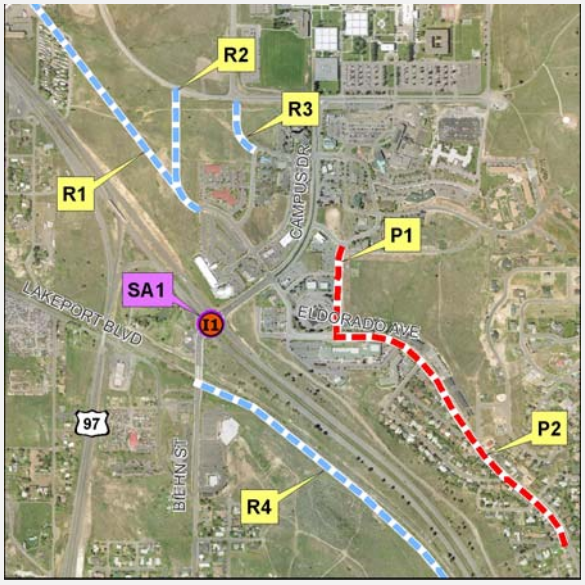
Project Location:



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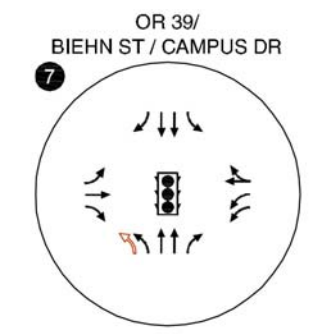

Project #: I2	**Biehn Street/Oregon Avenue Intersection**

Description: Construct a southbound left-turn lane.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Intersection	Collector	5-15 Years	$164,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☐	☐	☐	☑	☑	☐

Project Location:

Project Image:

Project #: I3	**Main Street/OR 39 Intersection**

Description: Modify signal timings to better serve existing and future demand.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Intersection	State Highway/Collector	15-25 Years	$195,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
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Project Location:

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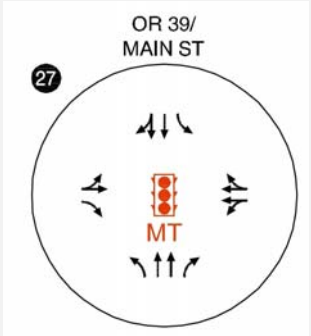

Project #: I4	**OR 39/Washburn Way Intersection**

Description: Modify signal phasing to provide protected/permitted phasing northbound, permitted phasing southbound, overlap phasing for eastbound right-turn, and overlap phasing for southbound right-turn.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Intersection	State Highway/Collector	0-5 Years	$195,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
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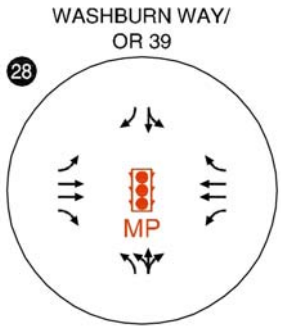
Project Location:

Project Image:



Project #: I5	**Eberlein Avenue/OR 39 Intersection**

Description: Install traffic signal.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Intersection	State Highway/Collector	5-15 Years	$507,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☐	☐	☐	☑	☑	☐

Project Location:

Project Image:

Project #: I6	**OR 39/Shasta Way Intersection**

Description: Modify signal phasing to provide protected/permitted phasing on Shasta Way.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Intersection	State Highway/Collector	15-25 Years	$195,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☐	☐	☐	☑	☑	☐

Project Location:

Project Image:

Project #: I7	**Shasta Way/Homedale Road Intersection**

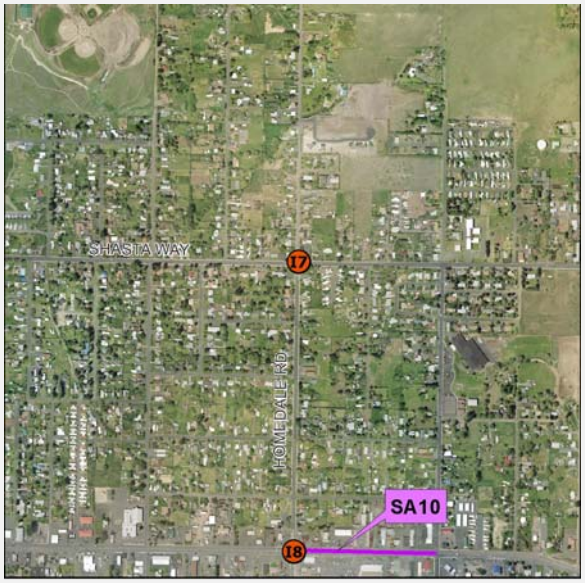
Description: Install traffic signal.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Intersection	Collector	5-15 Years	$507,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☐	☐	☐	☑	☑	☐

Project Location:



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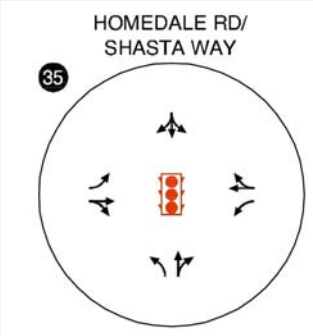


Project #: I8	**Homedale Road/OR 39 Intersection**

Description: Construct eastbound right-turn lane. Would likely impact adjacent parking lot.

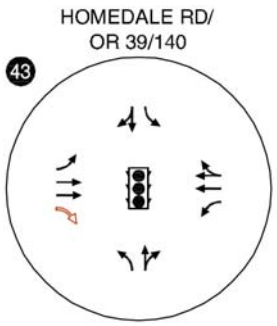
Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Intersection	State Highway/Collector	0-5 Years	$743,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☐	☐	☐	☑	☑	☐

Project Location:

Project Image:



Project #: I9	**Summers Lane/Clinton Avenue Intersection**

Description: Install traffic signal.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Intersection	Collector	5-15 Years	$507,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☐	☐	☐	☑	☑	☐

Project Location:

Project Image:

Project #: I10	**OR 39/OR 140 (Big Y) Intersection**

Description: Construct southbound left-turn lane. Would require second receiving lane and would likely impact adjacent parcels.

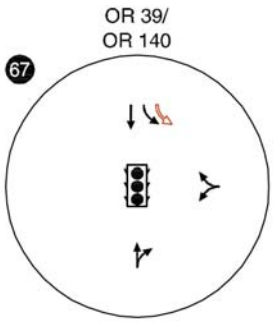
Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Intersection	State Highway	0-5 Years	$825,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☐	☐	☐	☐	☑	☐

Project Location:

Project Image:



Project #: I11	**Washburn Way/OR 140 Eastbound Ramps Intersection**

Description: Install traffic signal

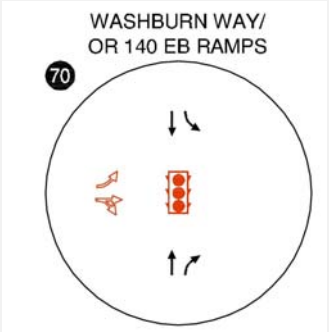
Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Intersection	State Highway/Collector	0-5 Years	$507,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☐	☐	☐	☑	☑	☐

Project Location:

Project Image:



Project #: I12	**OR 39/OR 140 (South of Big Y) Intersection**

Description: Install traffic signal

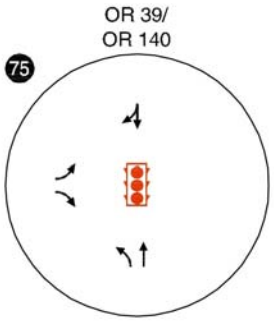
Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Intersection	State Highway	5-15 Years	$507,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☐	☐	☐	☑	☑	☐

Project Location:

Project Image:



Project #: R1	**New Minor Collector from Dan O'Brien Way to Dahlia Street**

Description: Would create a new connection from Dan O'Brien Way to Dahlia Street.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	Collector	N/A	$8,216,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☐	☐	☐	☑	☑	☐	☑

Project Location:

Project Image:

Project #: R2	**Daggett Avenue Extension**

Description: Would extend existing Daggett Avenue alignment north to Dan O'Brien Way.

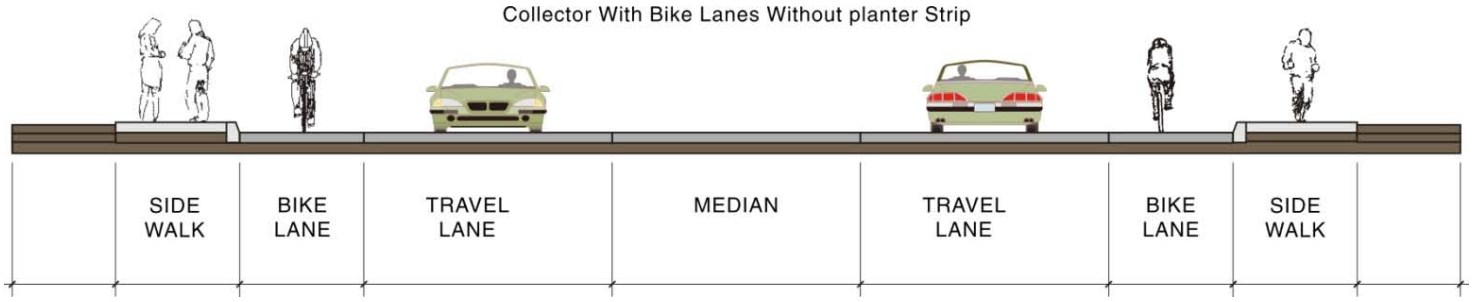
Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	Local Road	N/A	$1,738,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☐	☐	☐	☑	☑	☐	☑

Project Location:

Project Image:



Project #: R3	**Dahila Street Extension**

Description: Would extend existing Dahila Street alignment north to Dan O'Brien Way (near Industrial Park Drive)

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	Collector	N/A	$882,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☐	☐	☐	☑	☑	☐	☑

Project Location:

Project Image:

Project #: R4	**Crescent Avenue Extension**

Description: Would extend the existing Crescent Avenue alignment north to Biehn Street.

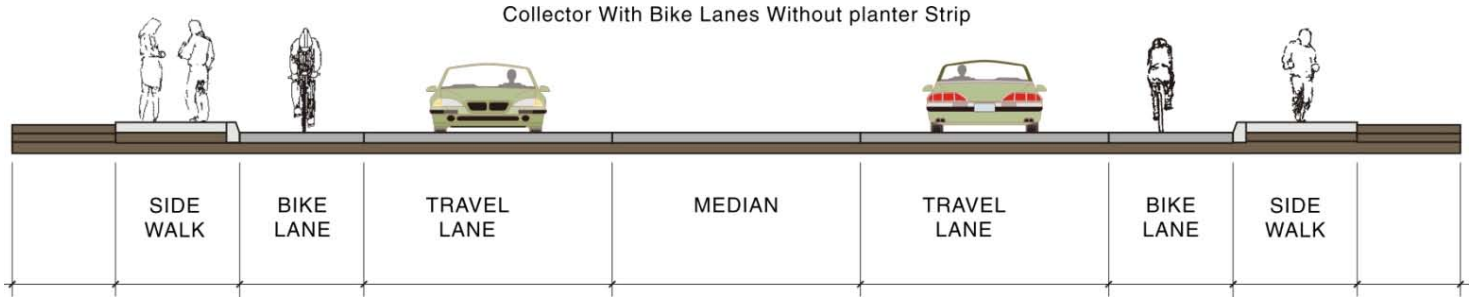
Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	Collector	N/A	$6,753,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☐	☐	☐	☑	☑	☐	☑

Project Location:

Project Image:



Project #: R5	**Basin View Roadway**

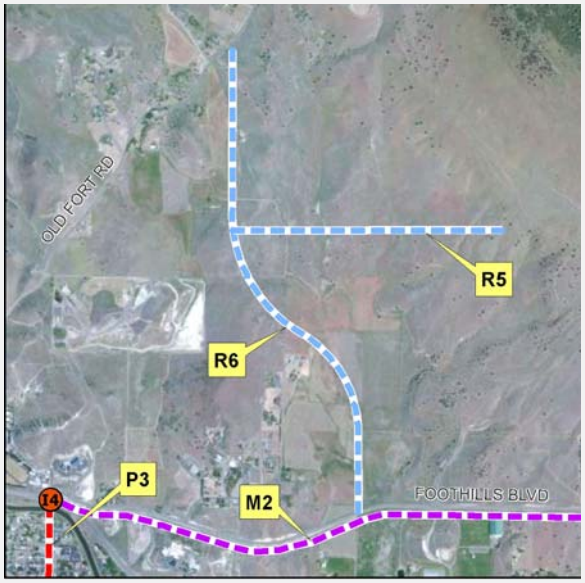
Description: Roadway would serve Basin View development area.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	Collector	N/A	$8,654,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☐	☐	☐	☑	☑	☐	☑

Project Location:



Project Image:

Project #: R6	**Roadway from Foothill Blvd to Old Fort Road**

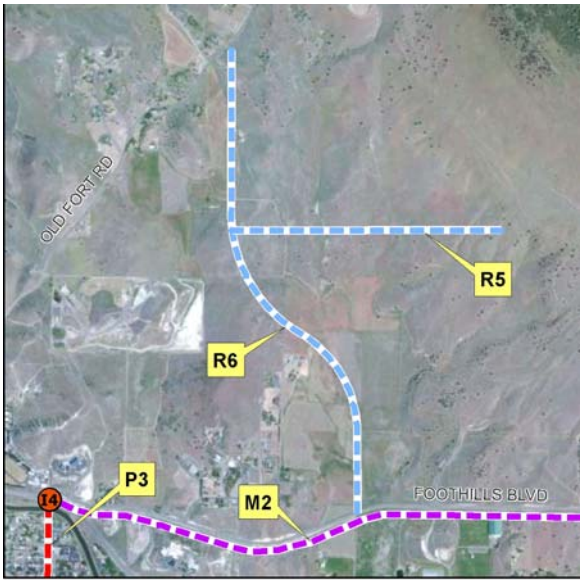
Description: Roadway would extend north from Foothills Boulevard to Old Fort Road.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	Collector	N/A	$17,455,000

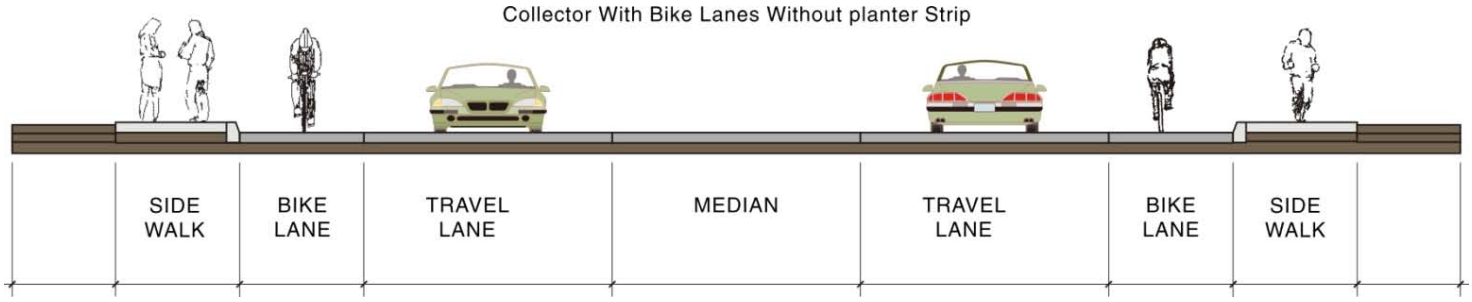
Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☐	☐	☐	☑	☑	☐	☑

Project Location:



Project Image:



Project #: R7	**East Main Street Extension**

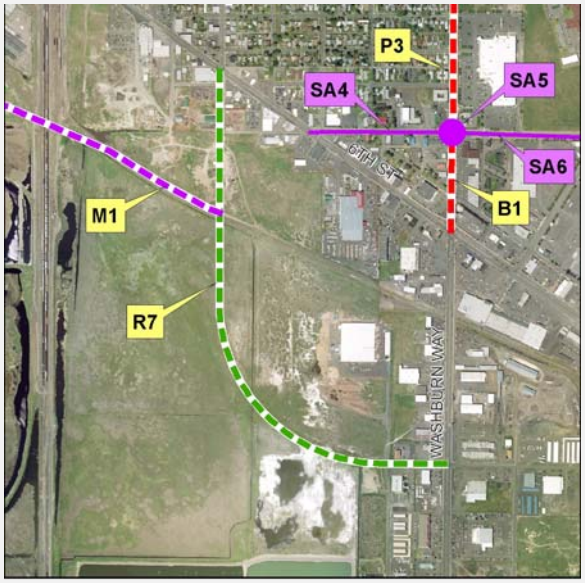
Description: Would extend East main Street from the intersection of East main Street/South 6th Street to the intersection of Washburn Way/Crosby Avenue.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	Collector	N/A	$11,820,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☐	☐	☐	☑	☑	☐	☑

Project Location:



Project Image:

Project #: R8	**Upgrade Emerald Street**

Description: Would upgrade Emerald Street south of OR 66 to serve future development in the area.

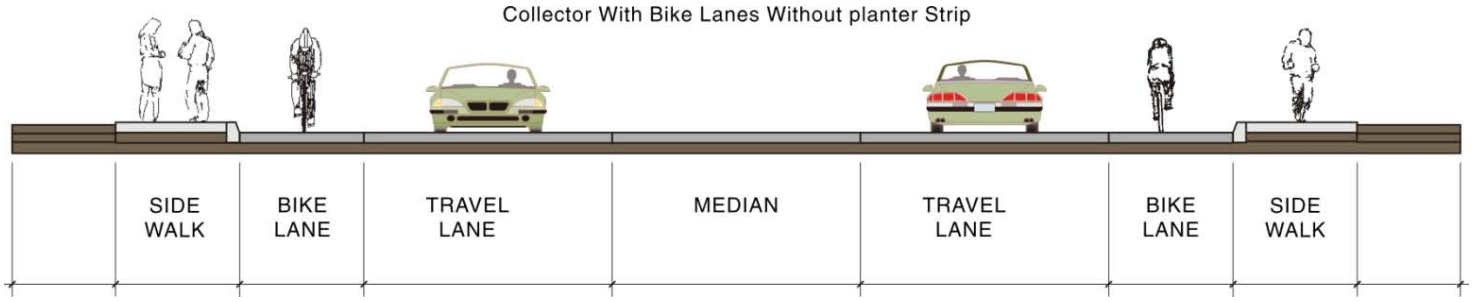
Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	Collector	N/A	$1,666,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☐	☐	☑	☑	☐	☐

Project Location:

Project Image:



Project #: R9	**New Roadway South of OR 66/OR140**

Description: Would construct a new roadway that would extend south from the OR66/OR140 intersection.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	Collector	N/A	$2,574,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☐	☐	☐	☑	☑	☐	☑

Project Location:

Project Image:

Project #: R10	**Hilyard Avenue Extension**

Description: Would connect the eastern portion of Hilyard Avenue to Homedale Road.

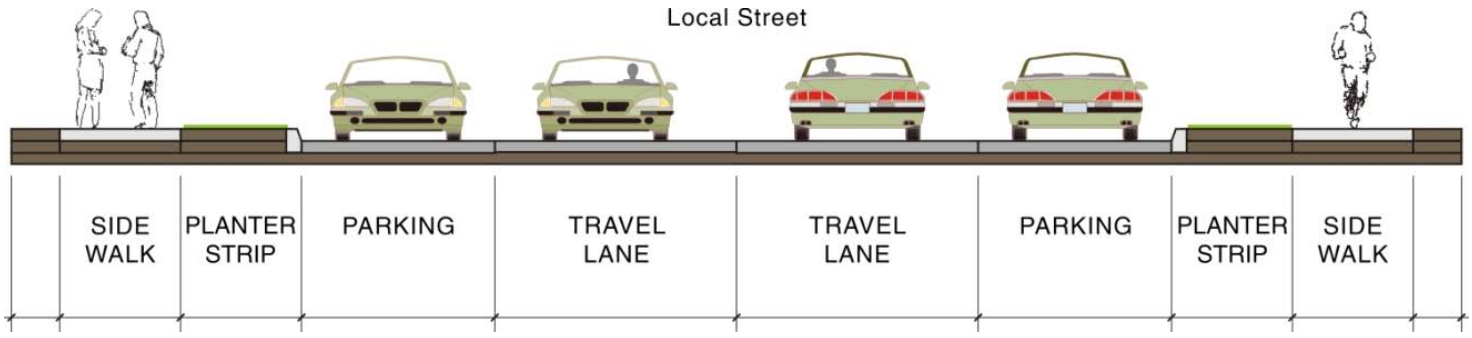
Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	Local Road	5-15 Years	$2,168,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☐	☐	☐	☑	☑	☐	☑

Project Location:

Project Image:



Project #: R11	**New Collector from Hilayrd Avenue to Harlan Drive**

Description: Would create a new connection from Hilyard Avenue to Harland Drive.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	Collector	N/A	$6,651,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☐	☐	☐	☑	☑	☐	☑

Project Location:

Project Image:

Project #: R12	**Washburn Way Realignment**

Description: Would realign Washburn Way to connect with Joe Wright Road east of the railroad track alignment

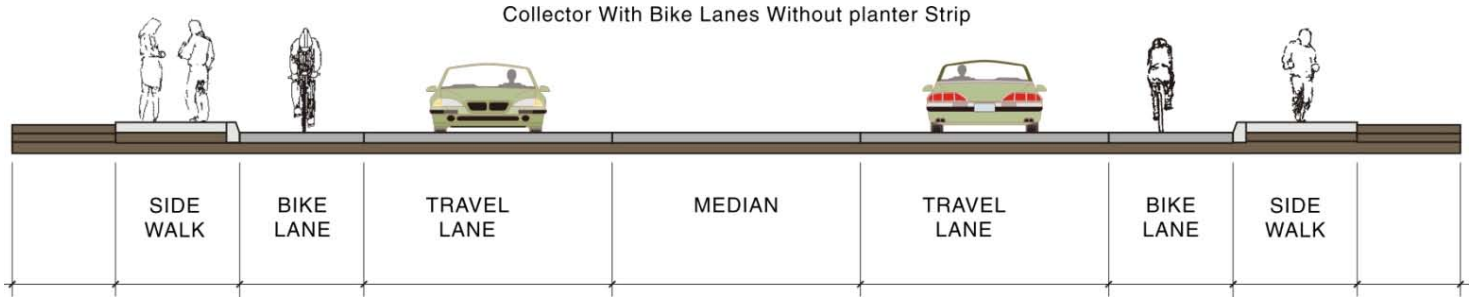
Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	N/A	0-5 Years	$2,389,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☐	☐	☐	☑	☐	☐	☐

Project Location:

Project Image:



Project #: R13	**Brett Way Extension**

Description: Would extend Brett Way from Summer Lane to Homedale Road

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Roadway	Collector	N/A	$9,824,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☐	☐	☐	☑	☑	☐	☑

Project Location:

Project Image:

Project #: SA1	**Improve bicycle facilities at the intersection of Biehn Street/Campus Drive**

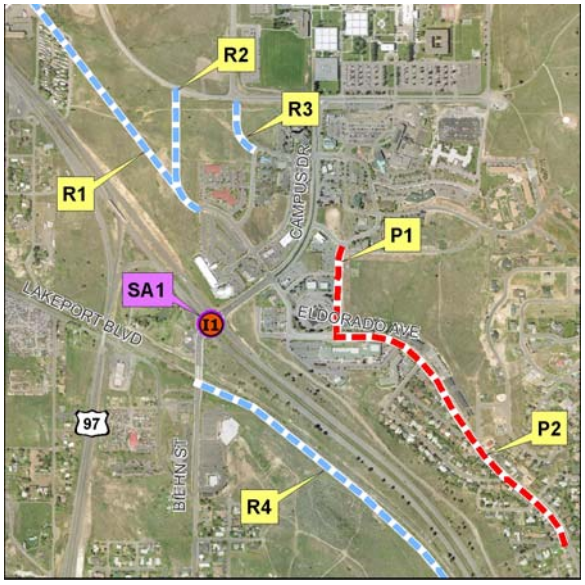
Description: Would improve bicycle facilities at the intersection of Biehn Street/Campus Drive by providing clearer routes through the intersection for bicycle users.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Bicycle	State Highway/Collector	0-5 Years	$30,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☑	☑	☐	☑	☑

Project Location:



Project Image:

Project #: SA2	**Bicycle crossing of OR 39**

Description: Would provide a bicycle connection across OR 39 from Esplanade Avenue to Melrose Street

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Bicycle	N/A	0-5 Years	$30,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☑	☑	☐	☑	☑

Project Location:

Project Image:

Project #: SA3	**Safety Improvements on Klamath Avenue from Main Street to 3rd Street**

Description: City monitor on an annual basis.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Safety	Major Arterial	15-25 Years	$50,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☐	☐	☐	☐	☐

Project Location:

Project Image:

Project #: SA4	**Safety Improvements on Shasta Way from South 6th Street to Washburn Way**

Description: Conduct access management project to decrease the number of access driveways and increase access spacing between driveways along South 6th Street. Investigate feasibility of installing a raised median.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Safety	Collector	15-25 Years	$50,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☐	☐	☐	☐	☐

Project Location:

Project Image:

Project #: SA5	**Safety Improvements at Washburn Way & Shasta Way**

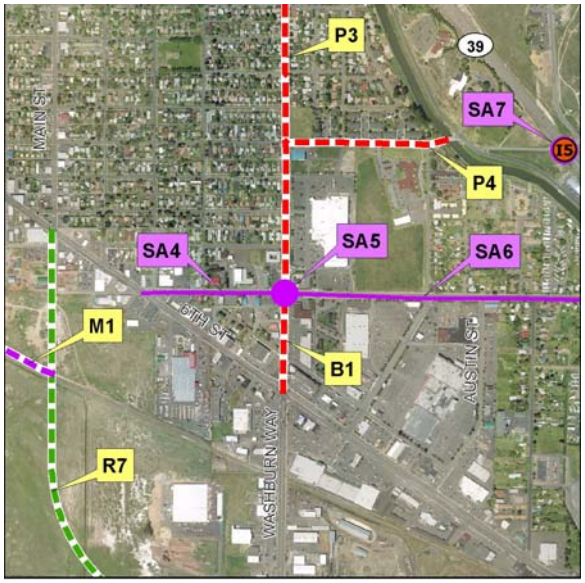
Description: Conduct site visit to confirm traffic signal head visibility on southbound approach. Depending on visibility, investigate ways to improve signal head visibility such as installing near-side traffic signals for approaching vehicles.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Safety	Major Arterial/Collector	15-25 Years	$30,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☐	☐	☐	☐	☐

Project Location:



Project Image:

Project #: SA6	**Safety Improvements on Shasta Way from Washburn Way to OR 39**

Description: Conduct a focused safety study of the segment in conjunction with PRJ-2. Focus of study to identify contributing factors to crashes and determine potential countermeasures to reduce crashes.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Safety	Collector	5-15 Years	$50,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☐	☐	☐	☐	☐

Project Location:

Project Image:

Project #: SA7	**Safety Improvements at OR 39 & Eberlein Avenue**

Description: Conduct sight distance and speed studies to determine adequate sight distance for prevailing speeds. Consult and apply treatments from the Highway Safety Manual, NCHRP 613 Guidelines for Selection of Speed Reduction Treatments at High Speed Intersections and other similar resources as appropriate. Evaluate possible realignment options.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Safety	State Highway/Collector	15-25 Years	$30,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☐	☐	☐	☐	☐

Project Location:

Project Image:

Project #: SA8	**Improve bicycle facilities at the intersection of Summers Lane/South 6th Street**

Description: Would improve bicycle and pedestrian facilities at the intersection of Summers Lane/South 6th Street. Should be considered in conjunction with project I18.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Bicycle/Pedestr	Major Arterial/Collector	0-5 Years	$30,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☑	☑	☐	☑	☑

Project Location:

Project Image:

Project #: SA9	**Safety Improvements on South 6th Street from Summers Lane to Fargo Street**

Description: Conduct access management project to decrease the number of access driveways and increase access spacing between driveways along South 6th Street.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Safety	State Highway	0-5 Years	$50,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☐	☐	☐	☐	☐

Project Location:

Project Image:

Project #: SA10	**Safety Improvements on South 6th Street from Homedale Road to Madison Street**

Description: Conduct access management project to decrease the number of access driveways and increase access spacing between driveways along South 6th Street. Investigate feasibility of installing a raised median.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Safety	State Highway	5-15 Years	$50,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☐	☐	☐	☐	☐

Project Location:

Project Image:

Project #: SA11	**Safety Improvements at Altamont Drive & Laverne Avenue**

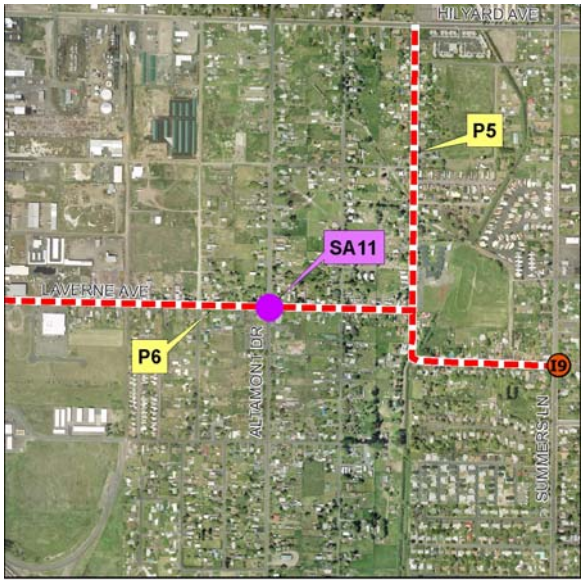
Description: Conduct intersection study to determine existing available sight distance, prevailing speeds on major street, and feasibility of a roundabout. Develop and compare alternative improvement measures to reduce crashes.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Safety	Major Arterial/Collector	0-5 Years	$30,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☐	☐	☐	☐	☐

Project Location:



Project Image:

Project #: SA12	**Safety Improvements at OR 140 & Summers Lane**

Description: Conduct sight distance and speed studies to determine adequate sight distance for prevailing speeds. Consult and apply treatments from the Highway Safety Manual, NCHRP 613 Guidelines for Selection of Speed Reduction Treatments at High Speed Intersections and other similar resources as appropriate. Consider railroad crossing treatments.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Safety	Major Arterial/Collector	5-15 Years	$30,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☐	☐	☐	☐	☐

Project Location:

Project Image:

Project #: SA13	**Safety Improvements at OR 140 & Homedale Drive**

Description: Conduct sight distance and speed studies to determine adequate sight distance for prevailing speeds. Consult and apply treatments from the Highway Safety Manual, NCHRP 613 Guidelines for Selection of Speed Reduction Treatments at High Speed Intersections and other similar resources as appropriate.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Safety	State Highway/Collector	15-25 Years	$30,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☐	☐	☐	☐	☐

Project Location:

Project Image:

Project #: SA14	**Safety Improvements at OR 140 & OR 39 (South of Big Y)**

Description: Conduct sight distance and speed studies to determine adequate sight distance for prevailing speeds. Consult and apply treatments from the Highway Safety Manual, NCHRP 613 Guidelines for Selection of Speed Reduction Treatments at High Speed Intersections and other similar resources as appropriate.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Safety	State Highway	5-15 Years	$30,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☐	☐	☐	☐	☐

Project Location:

Project Image:

Project #: SA15	**Safety Improvements on OR 140 from Western UGB to OR 66**

Description: Conduct study to determine feasibility of shoulder rumble strips, increased roadside delineation and other similar measures to mitigate crashes. Based on study, implement mitigation measures.

Category:	**Functional Classification:**	**Time Frame:**	**Total Cost:**
Safety	State Highway	15-25 Years	$50,000

Project Goals Met:

Safe and Efficient	Access for All	Bike and Ped	Local Circulation	Economic Development	Mobility and Access	Limit Transportation Impacts
☑	☑	☐	☐	☐	☐	☐

Project Location:

Project Image:

Appendix 1E Cost Estimates

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

R1: New Minor Collector from Dan O'Brien Way to Dahlia Street

Project Sheet: R1

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	17,360	$15.00	$260,406
Embankment (Fill)	cu. yd.	6,542	$20.00	$130,832
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	136,000	$8.00	$1,088,000
New Curb	lin. ft.	6,800	$15.00	$102,000
New Sidewalk & Concrete Median	sq. ft.	40,800	$5.00	$204,000
Pavement markings	lin. ft.	13,600	$1.00	$13,600
Signage	each	17	$500.00	$8,500
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$1,807,338*
Storm Drainage System		% of Subtotal A	20%	$361,468
Landscape Improvement		% of Subtotal A	5%	$90,367
Street Lighting	each	34	$7,000.00	$238,000
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	11,180	$150.00	$1,677,000
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$2,416,835*
Subtotal 1 (Subtotals A + B)				$4,224,173
Mobilization		% of Subtotal 1	10%	$422,417
Erosion Control		% of Subtotal 1	5%	$211,209
Traffic Control		% of Subtotal 1	5%	$211,209
Subtotal 2 (Mobilization & Traffic Control)				$844,835
Total (Subtotals 1 + 2)				$5,069,007
Plus Contingencies		% of Total	30%	$1,520,702
Estimated Construction Cost				**$6,589,709**
Architectural/Engineering		% of Est. Cost	15%	$988,456
Construction Management		% of Est. Cost	10%	$658,971
Estimated Professional Fees				**$1,647,427**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$8,237,136**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

R2: Daggett Avenue Extension

Project Sheet: R2

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	5,872	$15.00	$88,079
Embankment (Fill)	cu. yd.	2,213	$20.00	$44,252
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	46,000	$8.00	$368,000
New Curb	lin. ft.	2,300	$15.00	$34,500
New Sidewalk & Concrete Median	sq. ft.	13,800	$5.00	$69,000
Pavement markings	lin. ft.	4,600	$1.00	$4,600
Signage	each	6	$500.00	$3,000
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$611,431*
Storm Drainage System		% of Subtotal A	20%	$122,286
Landscape Improvement		% of Subtotal A	5%	$30,572
Street Lighting	each	12	$7,000.00	$80,500
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$283,358*
Subtotal 1 (Subtotals A + B)				$894,788
Mobilization		% of Subtotal 1	10%	$89,479
Erosion Control		% of Subtotal 1	5%	$44,739
Traffic Control		% of Subtotal 1	5%	$44,739
Subtotal 2 (Mobilization & Traffic Control)				$178,958
Total (Subtotals 1 + 2)				$1,073,746
Plus Contingencies		% of Total	30%	$322,124
Estimated Construction Cost				**$1,395,869**
Architectural/Engineering		% of Est. Cost	15%	$209,380
Construction Management		% of Est. Cost	10%	$139,587
Estimated Professional Fees				**$348,967**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$1,744,837**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

R3: Dahila Street Extension

Project Sheet: R3

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	2,808	$15.00	$42,125
Embankment (Fill)	cu. yd.	1,058	$20.00	$21,164
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	22,000	$8.00	$176,000
New Curb	lin. ft.	1,100	$15.00	$16,500
New Sidewalk & Concrete Median	sq. ft.	6,600	$5.00	$33,000
Pavement markings	lin. ft.	2,200	$1.00	$2,200
Signage	each	3	$500.00	$1,500
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$292,489*
Storm Drainage System		% of Subtotal A	20%	$58,498
Landscape Improvement		% of Subtotal A	5%	$14,624
Street Lighting	each	6	$7,000.00	$38,500
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$161,622*
Subtotal 1 (Subtotals A + B)				$454,111
Mobilization		% of Subtotal 1	10%	$45,411
Erosion Control		% of Subtotal 1	5%	$22,706
Traffic Control		% of Subtotal 1	5%	$22,706
Subtotal 2 (Mobilization & Traffic Control)				$90,822
Total (Subtotals 1 + 2)				$544,933
Plus Contingencies		% of Total	30%	$163,480
Estimated Construction Cost				**$708,413**
Architectural/Engineering		% of Est. Cost	15%	$106,262
Construction Management		% of Est. Cost	10%	$70,841
Estimated Professional Fees				**$177,103**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$885,516**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

R4: Crescent Avenue Extension

Project Sheet: R4

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	23,488	$15.00	$352,314
Embankment (Fill)	cu. yd.	8,850	$20.00	$177,008
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	184,000	$8.00	$1,472,000
New Curb	lin. ft.	9,200	$15.00	$138,000
New Sidewalk & Concrete Median	sq. ft.	55,200	$5.00	$276,000
Pavement markings	lin. ft.	18,400	$1.00	$18,400
Signage	each	23	$500.00	$11,500
Pavement Removal	sq. ft.	19,500	$2.00	$39,000
			Subtotal A (Roadworks)	*$2,484,222*
Storm Drainage System		% of Subtotal A	20%	$496,844
Landscape Improvement		% of Subtotal A	5%	$124,211
Street Lighting	each	46	$7,000.00	$322,000
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$993,056*
Subtotal 1 (Subtotals A + B)				$3,477,278
Mobilization		% of Subtotal 1	10%	$347,728
Erosion Control		% of Subtotal 1	5%	$173,864
Traffic Control		% of Subtotal 1	5%	$173,864
Subtotal 2 (Mobilization & Traffic Control)				$695,456
Total (Subtotals 1 + 2)				$4,172,733
Plus Contingencies		% of Total	30%	$1,251,820
Estimated Construction Cost				**$5,424,553**
Architectural/Engineering		% of Est. Cost	15%	$813,683
Construction Management		% of Est. Cost	10%	$542,455
Estimated Professional Fees				**$1,356,138**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$6,780,691**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

R5: Roadway from Foothill Blvd to Homedale Road Extension

Project Sheet: R5

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	30,636	$15.00	$459,540
Embankment (Fill)	cu. yd.	11,544	$20.00	$230,880
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	240,000	$8.00	$1,920,000
New Curb	lin. ft.	12,000	$15.00	$180,000
New Sidewalk & Concrete Median	sq. ft.	72,000	$5.00	$360,000
Pavement markings	lin. ft.	24,000	$1.00	$24,000
Signage	each	30	$500.00	$15,000
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$3,189,420*
Storm Drainage System		% of Subtotal A	20%	$637,884
Landscape Improvement		% of Subtotal A	5%	$159,471
Street Lighting	each	60	$7,000.00	$420,000
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$1,267,355*
Subtotal 1 (Subtotals A + B)				$4,456,775
Mobilization		% of Subtotal 1	10%	$445,678
Erosion Control		% of Subtotal 1	5%	$222,839
Traffic Control		% of Subtotal 1	5%	$222,839
Subtotal 2 (Mobilization & Traffic Control)				$891,355
Total (Subtotals 1 + 2)				$5,348,130
Plus Contingencies		% of Total	30%	$1,604,439
Estimated Construction Cost				**$6,952,569**
Architectural/Engineering		% of Est. Cost	15%	$1,042,885
Construction Management		% of Est. Cost	10%	$695,257
Estimated Professional Fees				**$1,738,142**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$8,690,711**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

R6: Extend Homedale Road to Old Fort Road

Project Sheet: R6

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	61,272	$15.00	$919,080
Embankment (Fill)	cu. yd.	23,088	$20.00	$461,760
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	480,000	$8.00	$3,840,000
New Curb	lin. ft.	24,000	$15.00	$360,000
New Sidewalk & Concrete Median	sq. ft.	144,000	$5.00	$720,000
Pavement markings	lin. ft.	48,000	$1.00	$48,000
Signage	each	60	$500.00	$30,000
Pavement Removal	sq. ft.	50,000	$2.00	$100,000
			Subtotal A (Roadworks)	*$6,478,840*
Storm Drainage System		% of Subtotal A	20%	$1,295,768
Landscape Improvement		% of Subtotal A	5%	$323,942
Street Lighting	each	120	$7,000.00	$840,000
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$2,509,710*
Subtotal 1 (Subtotals A + B)				$8,988,550
Mobilization		% of Subtotal 1	10%	$898,855
Erosion Control		% of Subtotal 1	5%	$449,428
Traffic Control		% of Subtotal 1	5%	$449,428
Subtotal 2 (Mobilization & Traffic Control)				$1,797,710
Total (Subtotals 1 + 2)				$10,786,260
Plus Contingencies		% of Total	30%	$3,235,878
Estimated Construction Cost				**$14,022,138**
Architectural/Engineering		% of Est. Cost	15%	$2,103,321
Construction Management		% of Est. Cost	10%	$1,402,214
Estimated Professional Fees				**$3,505,535**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$17,527,673**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

R8: Upgrade Emerald Street

Project Sheet: R8

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	5,617	$15.00	$84,249
Embankment (Fill)	cu. yd.	2,116	$20.00	$42,328
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	44,000	$8.00	$352,000
New Curb	lin. ft.	2,200	$15.00	$33,000
New Sidewalk & Concrete Median	sq. ft.	13,200	$5.00	$66,000
Pavement markings	lin. ft.	4,400	$1.00	$4,400
Signage	each	6	$500.00	$3,000
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$584,977*
Storm Drainage System		% of Subtotal A	20%	$116,995
Landscape Improvement		% of Subtotal A	5%	$29,249
Street Lighting	each	11	$7,000.00	$77,000
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$273,244*
Subtotal 1 (Subtotals A + B)				$858,221
Mobilization		% of Subtotal 1	10%	$85,822
Erosion Control		% of Subtotal 1	5%	$42,911
Traffic Control		% of Subtotal 1	5%	$42,911
Subtotal 2 (Mobilization & Traffic Control)				$171,644
Total (Subtotals 1 + 2)				$1,029,866
Plus Contingencies		% of Total	30%	$308,960
Estimated Construction Cost				**$1,338,825**
Architectural/Engineering		% of Est. Cost	15%	$200,824
Construction Management		% of Est. Cost	10%	$133,883
Estimated Professional Fees				**$334,706**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$1,673,531**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

R9: New Roadway South of OR 66/OR140

Project Sheet: R9

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	8,170	$15.00	$122,544
Embankment (Fill)	cu. yd.	3,078	$20.00	$61,568
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	64,000	$8.00	$512,000
New Curb	lin. ft.	3,200	$15.00	$48,000
New Sidewalk & Concrete Median	sq. ft.	19,200	$5.00	$96,000
Pavement markings	lin. ft.	6,400	$1.00	$6,400
Signage	each	8	$500.00	$4,000
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$850,512*
Storm Drainage System		% of Subtotal A	20%	$170,102
Landscape Improvement		% of Subtotal A	5%	$42,526
Street Lighting	each	16	$7,000.00	$112,000
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	1	$100,000.00	$100,000
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$474,628*
Subtotal 1 (Subtotals A + B)				$1,325,140
Mobilization		% of Subtotal 1	10%	$132,514
Erosion Control		% of Subtotal 1	5%	$66,257
Traffic Control		% of Subtotal 1	5%	$66,257
Subtotal 2 (Mobilization & Traffic Control)				$265,028
Total (Subtotals 1 + 2)				$1,590,168
Plus Contingencies		% of Total	30%	$477,050
Estimated Construction Cost				**$2,067,218**
Architectural/Engineering		% of Est. Cost	15%	$310,083
Construction Management		% of Est. Cost	10%	$206,722
Estimated Professional Fees				**$516,805**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$2,584,023**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

R10: Hilyard Avenue Extension

Project Sheet: R10

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	7,148	$15.00	$107,226
Embankment (Fill)	cu. yd.	2,694	$20.00	$53,872
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	56,000	$8.00	$448,000
New Curb	lin. ft.	2,800	$15.00	$42,000
New Sidewalk & Concrete Median	sq. ft.	16,800	$5.00	$84,000
Pavement markings	lin. ft.	5,600	$1.00	$5,600
Signage	each	7	$500.00	$3,500
Pavement Removal	sq. ft.	13,500	$2.00	$27,000
			Subtotal A (Roadworks)	*$771,198*
Storm Drainage System		% of Subtotal A	20%	$154,240
Landscape Improvement		% of Subtotal A	5%	$38,560
Street Lighting	each	14	$7,000.00	$98,000
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$340,800*
Subtotal 1 (Subtotals A + B)				$1,111,998
Mobilization		% of Subtotal 1	10%	$111,200
Erosion Control		% of Subtotal 1	5%	$55,600
Traffic Control		% of Subtotal 1	5%	$55,600
Subtotal 2 (Mobilization & Traffic Control)				$222,400
Total (Subtotals 1 + 2)				$1,334,397
Plus Contingencies		% of Total	30%	$400,319
Estimated Construction Cost				**$1,734,716**
Architectural/Engineering		% of Est. Cost	15%	$260,207
Construction Management		% of Est. Cost	10%	$173,472
Estimated Professional Fees				**$433,679**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$2,168,395**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

R11: New Collector from Hilyard Avenue to Harlan Drive

Project Sheet: R11

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	22,977	$15.00	$344,655
Embankment (Fill)	cu. yd.	8,658	$20.00	$173,160
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	180,000	$8.00	$1,440,000
New Curb	lin. ft.	9,000	$15.00	$135,000
New Sidewalk & Concrete Median	sq. ft.	54,000	$5.00	$270,000
Pavement markings	lin. ft.	18,000	$1.00	$18,000
Signage	each	23	$500.00	$11,500
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$2,392,315*
Storm Drainage System		% of Subtotal A	20%	$478,463
Landscape Improvement		% of Subtotal A	5%	$119,616
Street Lighting	each	45	$7,000.00	$315,000
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	0	$250,000.00	$0
HAWK at OC&E Trail	each	1	$70,000.00	$70,000
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$1,033,079*
Subtotal 1 (Subtotals A + B)				$3,425,394
Mobilization		% of Subtotal 1	10%	$342,539
Erosion Control		% of Subtotal 1	5%	$171,270
Traffic Control		% of Subtotal 1	5%	$171,270
Subtotal 2 (Mobilization & Traffic Control)				$685,079
Total (Subtotals 1 + 2)				$4,110,473
Plus Contingencies		% of Total	30%	$1,233,142
Estimated Construction Cost				**$5,343,614**
Architectural/Engineering		% of Est. Cost	15%	$801,542
Construction Management		% of Est. Cost	10%	$534,361
Estimated Professional Fees				**$1,335,904**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$6,679,518**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

R12: Washburn Way Realignment

Project Sheet: R12

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	8,170	$15.00	$122,544
Embankment (Fill)	cu. yd.	3,078	$20.00	$61,568
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	64,000	$8.00	$512,000
New Curb	lin. ft.	3,200	$15.00	$48,000
New Sidewalk & Concrete Median	sq. ft.	19,200	$5.00	$96,000
Pavement markings	lin. ft.	6,400	$1.00	$6,400
Signage	each	8	$500.00	$4,000
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$850,512*
Storm Drainage System		% of Subtotal A	20%	$170,102
Landscape Improvement		% of Subtotal A	5%	$42,526
Street Lighting	each	16	$7,000.00	$112,000
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$374,628*
Subtotal 1 (Subtotals A + B)				$1,225,140
Mobilization		% of Subtotal 1	10%	$122,514
Erosion Control		% of Subtotal 1	5%	$61,257
Traffic Control		% of Subtotal 1	5%	$61,257
Subtotal 2 (Mobilization & Traffic Control)				$245,028
Total (Subtotals 1 + 2)				$1,470,168
Plus Contingencies		% of Total	30%	$441,050
Estimated Construction Cost				**$1,911,218**
Architectural/Engineering		% of Est. Cost	15%	$286,683
Construction Management		% of Est. Cost	10%	$191,122
Estimated Professional Fees				**$477,805**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$2,389,023**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

R13: Brett Way Extension

Project Sheet: R13

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	21,512	$15.00	$322,677
Embankment (Fill)	cu. yd.	8,014	$20.00	$160,284
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	171,000	$8.00	$1,368,000
New Curb	lin. ft.	7,600	$15.00	$114,000
New Sidewalk & Concrete Median	sq. ft.	45,600	$5.00	$228,000
Pavement markings	lin. ft.	15,200	$1.00	$15,200
Signage	each	19	$500.00	$9,500
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$2,217,661*
Storm Drainage System		% of Subtotal A	20%	$443,532
Landscape Improvement		% of Subtotal A	5%	$110,883
Street Lighting	each	38	$7,000.00	$266,000
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	8,000	$150.00	$1,200,000
Railroad Crossing & Signalization	each	1	$750,000.00	$750,000
			Subtotal B (Other)	*$2,820,415*
Subtotal 1 (Subtotals A + B)				$5,038,076
Mobilization		% of Subtotal 1	10%	$503,808
Erosion Control		% of Subtotal 1	5%	$251,904
Traffic Control		% of Subtotal 1	5%	$251,904
Subtotal 2 (Mobilization & Traffic Control)				$1,007,615
Total (Subtotals 1 + 2)				$6,045,692
Plus Contingencies		% of Total	30%	$1,813,707
Estimated Construction Cost				**$7,859,399**
Architectural/Engineering		% of Est. Cost	15%	$1,178,910
Construction Management		% of Est. Cost	10%	$785,940
Estimated Professional Fees				**$1,964,850**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$9,824,249**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

M2: New Multi-Use Path Along Foothillls Boulevard

Project Sheet: M2

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	5,550	$15.00	$83,250
Embankment (Fill)	cu. yd.	3,700	$20.00	$74,000
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	0	$15.00	$0
New Sidewalk & Concrete Median	sq. ft.	100,000	$5.00	$500,000
Pavement markings	lin. ft.	0	$1.00	$0
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$657,250*
Storm Drainage System		% of Subtotal A	5%	$32,863
Landscape Improvement		% of Subtotal A	5%	$32,863
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$0.00	$0
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$65,725*
Subtotal 1 (Subtotals A + B)				$722,975
Mobilization		% of Subtotal 1	10%	$72,298
Erosion Control		% of Subtotal 1	5%	$36,149
Traffic Control		% of Subtotal 1	5%	$36,149
Subtotal 2 (Mobilization & Traffic Control)				$144,595
Total (Subtotals 1 + 2)				$867,570
Plus Contingencies		% of Total	30%	$260,271
Estimated Construction Cost				**$1,127,841**
Architectural/Engineering		% of Est. Cost	15%	$169,176
Construction Management		% of Est. Cost	10%	$112,784
Estimated Professional Fees				**$281,960**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$1,409,801**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

P1: Daggett Avenue Sidewalks

Project Sheet: P1

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	566	$15.00	$8,492
Embankment (Fill)	cu. yd.	377	$20.00	$7,548
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	1,700	$15.00	$25,500
New Sidewalk & Concrete Median	sq. ft.	10,200	$5.00	$51,000
Pavement markings	lin. ft.	1,700	$1.00	$1,700
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$94,240*
Storm Drainage System		% of Subtotal A	20%	$18,848
Landscape Improvement		% of Subtotal A	5%	$4,712
Street Lighting	each	9	$7,000.00	$59,500
Private Utility Coordination	Lump/Sum	1	$5,000.00	$5,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$88,060*
Subtotal 1 (Subtotals A + B)				$182,299
Mobilization		% of Subtotal 1	10%	$18,230
Erosion Control		% of Subtotal 1	5%	$9,115
Traffic Control		% of Subtotal 1	5%	$9,115
Subtotal 2 (Mobilization & Traffic Control)				$36,460
Total (Subtotals 1 + 2)				$218,759
Plus Contingencies		% of Total	30%	$65,628
Estimated Construction Cost				**$284,387**
Architectural/Engineering		% of Est. Cost	15%	$42,658
Construction Management		% of Est. Cost	10%	$28,439
Estimated Professional Fees				**$71,097**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$355,484**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

P2: El Dorado Avenue Sidewalks

Project Sheet: P2

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	1,032	$15.00	$15,485
Embankment (Fill)	cu. yd.	688	$20.00	$13,764
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	1,700	$15.00	$25,500
New Sidewalk & Concrete Median	sq. ft.	18,600	$5.00	$93,000
Pavement markings	lin. ft.	3,100	$1.00	$3,100
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$150,849*
Storm Drainage System		% of Subtotal A	20%	$30,170
Landscape Improvement		% of Subtotal A	5%	$7,542
Street Lighting	each	31	$7,000.00	$217,000
Private Utility Coordination	Lump/Sum	1	$15,000.00	$15,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$269,712*
Subtotal 1 (Subtotals A + B)				$420,561
Mobilization		% of Subtotal 1	10%	$42,056
Erosion Control		% of Subtotal 1	5%	$21,028
Traffic Control		% of Subtotal 1	5%	$21,028
Subtotal 2 (Mobilization & Traffic Control)				$84,112
Total (Subtotals 1 + 2)				$504,673
Plus Contingencies		% of Total	30%	$151,402
Estimated Construction Cost				**$656,075**
Architectural/Engineering		% of Est. Cost	15%	$98,411
Construction Management		% of Est. Cost	10%	$65,607
Estimated Professional Fees				**$164,019**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$820,093**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

P3: Washburn Way Sidewalks

Project Sheet: P3

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	2,420	$15.00	$36,297
Embankment (Fill)	cu. yd.	1,510	$20.00	$30,192
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	6,800	$15.00	$102,000
New Sidewalk & Concrete Median	sq. ft.	40,800	$5.00	$204,000
Pavement markings	lin. ft.	6,800	$1.00	$6,800
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$379,289*
Storm Drainage System		% of Subtotal A	20%	$75,858
Landscape Improvement		% of Subtotal A	5%	$18,964
Street Lighting	each	41	$7,000.00	$287,000
Private Utility Coordination	Lump/Sum	1	$20,000.00	$20,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$401,822*
Subtotal 1 (Subtotals A + B)				$781,111
Mobilization		% of Subtotal 1	10%	$78,111
Erosion Control		% of Subtotal 1	5%	$39,056
Traffic Control		% of Subtotal 1	5%	$39,056
Subtotal 2 (Mobilization & Traffic Control)				$156,222
Total (Subtotals 1 + 2)				$937,334
Plus Contingencies		% of Total	30%	$281,200
Estimated Construction Cost				**$1,218,534**
Architectural/Engineering		% of Est. Cost	15%	$182,780
Construction Management		% of Est. Cost	10%	$121,853
Estimated Professional Fees				**$304,633**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$1,523,167**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

P4: Eberlein Avenue Sidewalks

Project Sheet: P4

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	999	$15.00	$14,985
Embankment (Fill)	cu. yd.	666	$20.00	$13,320
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	3,000	$15.00	$45,000
New Sidewalk & Concrete Median	sq. ft.	18,000	$5.00	$90,000
Pavement markings	lin. ft.	3,000	$1.00	$3,000
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$166,305*
Storm Drainage System		% of Subtotal A	20%	$33,261
Landscape Improvement		% of Subtotal A	5%	$8,315
Street Lighting	each	15	$7,000.00	$105,000
Private Utility Coordination	Lump/Sum	1	$5,000.00	$5,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$151,576*
Subtotal 1 (Subtotals A + B)				$317,881
Mobilization		% of Subtotal 1	10%	$31,788
Erosion Control		% of Subtotal 1	5%	$15,894
Traffic Control		% of Subtotal 1	5%	$15,894
Subtotal 2 (Mobilization & Traffic Control)				$63,576
Total (Subtotals 1 + 2)				$381,458
Plus Contingencies		% of Total	30%	$114,437
Estimated Construction Cost				**$495,895**
Architectural/Engineering		% of Est. Cost	15%	$74,384
Construction Management		% of Est. Cost	10%	$49,589
Estimated Professional Fees				**$123,974**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$619,868**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

Crest Street and Clinton Street Sidewalks: Hilyard Avenue to Summers Lane

Project Sheet: P5

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	2,964	$15.00	$44,456
Embankment (Fill)	cu. yd.	1,976	$20.00	$39,516
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	8,900	$15.00	$133,500
New Sidewalk & Concrete Median	sq. ft.	53,400	$5.00	$267,000
Pavement markings	lin. ft.	8,900	$1.00	$8,900
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$493,372*
Storm Drainage System		% of Subtotal A	20%	$98,674
Landscape Improvement		% of Subtotal A	5%	$24,669
Street Lighting	each	45	$7,000.00	$311,500
Private Utility Coordination	Lump/Sum	1	$20,000.00	$20,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$454,843*
Subtotal 1 (Subtotals A + B)				$948,214
Mobilization		% of Subtotal 1	10%	$94,821
Erosion Control		% of Subtotal 1	5%	$47,411
Traffic Control		% of Subtotal 1	5%	$47,411
Subtotal 2 (Mobilization & Traffic Control)				$189,643
Total (Subtotals 1 + 2)				$1,137,857
Plus Contingencies		% of Total	30%	$341,357
Estimated Construction Cost				**$1,479,214**
Architectural/Engineering		% of Est. Cost	15%	$221,882
Construction Management		% of Est. Cost	10%	$147,921
Estimated Professional Fees				**$369,804**
Right-of-Way	sq. ft.	53,400	$20.00	$1,068,000
Estimated Property Acquisition Cost				**$1,068,000**
Estimated Project Cost				**$2,917,018**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

P5: Laverne Avenue Sidewalks: Washburn Way to Crest Street

Project Sheet: P6

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	2,664	$15.00	$39,960
Embankment (Fill)	cu. yd.	1,776	$20.00	$35,520
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	8,000	$15.00	$120,000
New Sidewalk & Concrete Median	sq. ft.	48,000	$5.00	$240,000
Pavement markings	lin. ft.	8,000	$1.00	$8,000
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$443,480*
Storm Drainage System		% of Subtotal A	20%	$88,696
Landscape Improvement		% of Subtotal A	5%	$22,174
Street Lighting	each	40	$7,000.00	$280,000
Private Utility Coordination	Lump/Sum	1	$20,000.00	$20,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$410,870*
Subtotal 1 (Subtotals A + B)				$854,350
Mobilization		% of Subtotal 1	10%	$85,435
Erosion Control		% of Subtotal 1	5%	$42,718
Traffic Control		% of Subtotal 1	5%	$42,718
Subtotal 2 (Mobilization & Traffic Control)				$170,870
Total (Subtotals 1 + 2)				$1,025,220
Plus Contingencies		% of Total	30%	$307,566
Estimated Construction Cost				**$1,332,786**
Architectural/Engineering		% of Est. Cost	15%	$199,918
Construction Management		% of Est. Cost	10%	$133,279
Estimated Professional Fees				**$333,197**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$1,665,983**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

B1: Washburn Way Bicycle Lanes

Project Sheet: B1

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	6,194	$15.00	$92,907
Embankment (Fill)	cu. yd.	2,753	$20.00	$55,056
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	37,200	$8.00	$297,600
New Curb	lin. ft.	6,200	$15.00	$93,000
New Sidewalk & Concrete Median	sq. ft.	37,200	$5.00	$186,000
Pavement markings	lin. ft.	62,000	$1.00	$62,000
Signage	each	16	$500.00	$8,000
Pavement Removal	sq. ft.	37,200	$2.00	$74,400
			Subtotal A (Roadworks)	*$868,963*
Storm Drainage System		% of Subtotal A	20%	$173,793
Landscape Improvement		% of Subtotal A	5%	$43,448
Street Lighting	each	31	$7,000.00	$217,000
Private Utility Coordination	Lump/Sum	1	$15,000.00	$15,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$449,241*
Subtotal 1 (Subtotals A + B)				$1,318,204
Mobilization		% of Subtotal 1	10%	$131,820
Erosion Control		% of Subtotal 1	5%	$65,910
Traffic Control		% of Subtotal 1	5%	$65,910
Subtotal 2 (Mobilization & Traffic Control)				$263,641
Total (Subtotals 1 + 2)				$1,581,845
Plus Contingencies		% of Total	30%	$474,553
Estimated Construction Cost				**$2,056,398**
Architectural/Engineering		% of Est. Cost	15%	$308,460
Construction Management		% of Est. Cost	10%	$205,640
Estimated Professional Fees				**$514,099**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$2,570,497**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

I1: OR 39/Biehn Street/Campus Way - Modify Signal Timing

Project Sheet: I1

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	1,249	$15.00	$18,731
Embankment (Fill)	cu. yd.	455	$20.00	$9,102
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	10,200	$8.00	$81,600
New Curb	lin. ft.	0	$15.00	$0
New Sidewalk & Concrete Median	sq. ft.	2,100	$5.00	$10,500
Pavement markings	lin. ft.	2,700	$1.00	$2,700
Signage	each	3	$500.00	$1,500
Pavement Removal	sq. ft.	2,100	$2.00	$4,200
			Subtotal A (Roadworks)	*$128,333*
Storm Drainage System		% of Subtotal A	20%	$25,667
Landscape Improvement		% of Subtotal A	5%	$6,417
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$20,000.00	$20,000
New Traffic Signal	each	1	$250,000.00	$250,000
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$302,083*
Subtotal 1 (Subtotals A + B)				$430,417
Mobilization		% of Subtotal 1	10%	$43,042
Erosion Control		% of Subtotal 1	5%	$21,521
Traffic Control		% of Subtotal 1	5%	$21,521
Subtotal 2 (Mobilization & Traffic Control)				$86,083
Total (Subtotals 1 + 2)				$516,500
Plus Contingencies		% of Total	30%	$154,950
Estimated Construction Cost				**$671,450**
Architectural/Engineering		% of Est. Cost	15%	$100,717
Construction Management		% of Est. Cost	10%	$67,145
Estimated Professional Fees				**$167,862**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$839,312**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

I2: Biehn Street/Oregon Avenue - SB Left-Turn Lane

Project Sheet: I2

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	500	$15.00	$7,493
Embankment (Fill)	cu. yd.	200	$20.00	$3,996
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	3,600	$8.00	$28,800
New Curb	lin. ft.	300	$15.00	$4,500
New Sidewalk & Concrete Median	sq. ft.	1,800	$5.00	$9,000
Pavement markings	lin. ft.	900	$1.00	$900
Signage	each	2	$500.00	$1,000
Pavement Removal	sq. ft.	1,800	$2.00	$3,600
			Subtotal A (Roadworks)	*$59,289*
Storm Drainage System		% of Subtotal A	20%	$11,858
Landscape Improvement		% of Subtotal A	5%	$2,964
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$10,000.00	$10,000
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$24,822*
Subtotal 1 (Subtotals A + B)				$84,111
Mobilization		% of Subtotal 1	10%	$8,411
Erosion Control		% of Subtotal 1	5%	$4,206
Traffic Control		% of Subtotal 1	5%	$4,206
Subtotal 2 (Mobilization & Traffic Control)				$16,822
Total (Subtotals 1 + 2)				$100,933
Plus Contingencies		% of Total	30%	$30,280
Estimated Construction Cost				**$131,213**
Architectural/Engineering		% of Est. Cost	15%	$19,682
Construction Management		% of Est. Cost	10%	$13,121
Estimated Professional Fees				**$32,803**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$164,016**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

I3: Main Street/OR 39 - Modify Signal Timing

Project Sheet: I3

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	0	$15.00	$0
Embankment (Fill)	cu. yd.	0	$20.00	$0
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	0	$15.00	$0
New Sidewalk & Concrete Median	sq. ft.	0	$5.00	$0
Pavement markings	lin. ft.	0	$1.00	$0
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$0*
Storm Drainage System		% of Subtotal A	20%	$0
Landscape Improvement		% of Subtotal A	5%	$0
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$0.00	$0
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	1	$100,000.00	$100,000
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$100,000*
Subtotal 1 (Subtotals A + B)				$100,000
Mobilization		% of Subtotal 1	10%	$10,000
Erosion Control		% of Subtotal 1	5%	$5,000
Traffic Control		% of Subtotal 1	5%	$5,000
Subtotal 2 (Mobilization & Traffic Control)				$20,000
Total (Subtotals 1 + 2)				$120,000
Plus Contingencies		% of Total	30%	$36,000
Estimated Construction Cost				**$156,000**
Architectural/Engineering		% of Est. Cost	15%	$23,400
Construction Management		% of Est. Cost	10%	$15,600
Estimated Professional Fees				**$39,000**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$195,000**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

I4: OR 39/Washburn Way - Modify Signal Phasing

Project Sheet: I4

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	0	$15.00	$0
Embankment (Fill)	cu. yd.	0	$20.00	$0
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	0	$15.00	$0
New Sidewalk & Concrete Median	sq. ft.	0	$5.00	$0
Pavement markings	lin. ft.	0	$1.00	$0
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$0*
Storm Drainage System		% of Subtotal A	20%	$0
Landscape Improvement		% of Subtotal A	5%	$0
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$0.00	$0
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	1	$100,000.00	$100,000
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$100,000*
Subtotal 1 (Subtotals A + B)				$100,000
Mobilization		% of Subtotal 1	10%	$10,000
Erosion Control		% of Subtotal 1	5%	$5,000
Traffic Control		% of Subtotal 1	5%	$5,000
Subtotal 2 (Mobilization & Traffic Control)				$20,000
Total (Subtotals 1 + 2)				$120,000
Plus Contingencies		% of Total	30%	$36,000
Estimated Construction Cost				**$156,000**
Architectural/Engineering		% of Est. Cost	15%	$23,400
Construction Management		% of Est. Cost	10%	$15,600
Estimated Professional Fees				**$39,000**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$195,000**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

I5: Eberlein Avenue/OR 39 - Install Traffic Signal

Project Sheet: I5

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	0	$15.00	$0
Embankment (Fill)	cu. yd.	0	$20.00	$0
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	0	$15.00	$0
New Sidewalk & Concrete Median	sq. ft.	0	$5.00	$0
Pavement markings	lin. ft.	0	$1.00	$0
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$0*
Storm Drainage System		% of Subtotal A	20%	$0
Landscape Improvement		% of Subtotal A	5%	$0
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$10,000.00	$10,000
New Traffic Signal	each	1	$250,000.00	$250,000
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$260,000*
Subtotal 1 (Subtotals A + B)				$260,000
Mobilization		% of Subtotal 1	10%	$26,000
Erosion Control		% of Subtotal 1	5%	$13,000
Traffic Control		% of Subtotal 1	5%	$13,000
Subtotal 2 (Mobilization & Traffic Control)				$52,000
Total (Subtotals 1 + 2)				$312,000
Plus Contingencies		% of Total	30%	$93,600
Estimated Construction Cost				**$405,600**
Architectural/Engineering		% of Est. Cost	15%	$60,840
Construction Management		% of Est. Cost	10%	$40,560
Estimated Professional Fees				**$101,400**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$507,000**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

I6: OR 39/Shasta Way - Modify Signal Phasing

Project Sheet: I6

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	0	$15.00	$0
Embankment (Fill)	cu. yd.	0	$20.00	$0
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	0	$15.00	$0
New Sidewalk & Concrete Median	sq. ft.	0	$5.00	$0
Pavement markings	lin. ft.	0	$1.00	$0
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$0*
Storm Drainage System		% of Subtotal A	20%	$0
Landscape Improvement		% of Subtotal A	5%	$0
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$0.00	$0
New Traffic Signal	each	0	$250,000.00	$0
Traffic Signal Modification	each	1	$100,000.00	$100,000
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$100,000*
Subtotal 1 (Subtotals A + B)				$100,000
Mobilization		% of Subtotal 1	10%	$10,000
Erosion Control		% of Subtotal 1	5%	$5,000
Traffic Control		% of Subtotal 1	5%	$5,000
Subtotal 2 (Mobilization & Traffic Control)				$20,000
Total (Subtotals 1 + 2)				$120,000
Plus Contingencies		% of Total	30%	$36,000
Estimated Construction Cost				**$156,000**
Architectural/Engineering		% of Est. Cost	15%	$23,400
Construction Management		% of Est. Cost	10%	$15,600
Estimated Professional Fees				**$39,000**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$195,000**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

I7: Shasta Way/Homedale Road - Install Traffic Signal

Project Sheet: I7

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	0	$15.00	$0
Embankment (Fill)	cu. yd.	0	$20.00	$0
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	0	$15.00	$0
New Sidewalk & Concrete Median	sq. ft.	0	$5.00	$0
Pavement markings	lin. ft.	0	$1.00	$0
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$0*
Storm Drainage System		% of Subtotal A	20%	$0
Landscape Improvement		% of Subtotal A	5%	$0
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$10,000.00	$10,000
New Traffic Signal	each	1	$250,000.00	$250,000
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$260,000*
Subtotal 1 (Subtotals A + B)				$260,000
Mobilization		% of Subtotal 1	10%	$26,000
Erosion Control		% of Subtotal 1	5%	$13,000
Traffic Control		% of Subtotal 1	5%	$13,000
Subtotal 2 (Mobilization & Traffic Control)				$52,000
Total (Subtotals 1 + 2)				$312,000
Plus Contingencies		% of Total	30%	$93,600
Estimated Construction Cost				**$405,600**
Architectural/Engineering		% of Est. Cost	15%	$60,840
Construction Management		% of Est. Cost	10%	$40,560
Estimated Professional Fees				**$101,400**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$507,000**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

I8: Homedale Road/OR 39 - Construct EB Right-Turn Lane

Project Sheet: I8

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	833	$15.00	$12,488
Embankment (Fill)	cu. yd.	333	$20.00	$6,660
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	6,000	$8.00	$48,000
New Curb	lin. ft.	500	$15.00	$7,500
New Sidewalk & Concrete Median	sq. ft.	3,000	$5.00	$15,000
Pavement markings	lin. ft.	1,500	$1.00	$1,500
Signage	each	3	$500.00	$1,500
Pavement Removal	sq. ft.	2,100	$2.00	$4,200
			Subtotal A (Roadworks)	*$96,848*
Storm Drainage System		% of Subtotal A	20%	$19,370
Landscape Improvement		% of Subtotal A	5%	$4,842
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$10,000.00	$10,000
New Traffic Signal	each	1	$250,000.00	$250,000
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$284,212*
Subtotal 1 (Subtotals A + B)				$381,059
Mobilization		% of Subtotal 1	10%	$38,106
Erosion Control		% of Subtotal 1	5%	$19,053
Traffic Control		% of Subtotal 1	5%	$19,053
Subtotal 2 (Mobilization & Traffic Control)				$76,212
Total (Subtotals 1 + 2)				$457,271
Plus Contingencies		% of Total	30%	$137,181
Estimated Construction Cost				**$594,453**
Architectural/Engineering		% of Est. Cost	15%	$89,168
Construction Management		% of Est. Cost	10%	$59,445
Estimated Professional Fees				**$148,613**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$743,066**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

I9: Summers Lane/Clinton Aveneu - Install Traffic Signal

Project Sheet: I9

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	0	$15.00	$0
Embankment (Fill)	cu. yd.	0	$20.00	$0
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	0	$15.00	$0
New Sidewalk & Concrete Median	sq. ft.	0	$5.00	$0
Pavement markings	lin. ft.	0	$1.00	$0
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$0*
Storm Drainage System		% of Subtotal A	20%	$0
Landscape Improvement		% of Subtotal A	5%	$0
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$10,000.00	$10,000
New Traffic Signal	each	1	$250,000.00	$250,000
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$260,000*
Subtotal 1 (Subtotals A + B)				$260,000
Mobilization		% of Subtotal 1	10%	$26,000
Erosion Control		% of Subtotal 1	5%	$13,000
Traffic Control		% of Subtotal 1	5%	$13,000
Subtotal 2 (Mobilization & Traffic Control)				$52,000
Total (Subtotals 1 + 2)				$312,000
Plus Contingencies		% of Total	30%	$93,600
Estimated Construction Cost				**$405,600**
Architectural/Engineering		% of Est. Cost	15%	$60,840
Construction Management		% of Est. Cost	10%	$40,560
Estimated Professional Fees				**$101,400**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$507,000**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

I10: OR 39/OR140 (Big Y) - Construct SB Left-Turn Lane

Project Sheet: I10

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	833	$15.00	$12,488
Embankment (Fill)	cu. yd.	333	$20.00	$6,660
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	6,000	$8.00	$48,000
New Curb	lin. ft.	500	$15.00	$7,500
New Sidewalk & Concrete Median	sq. ft.	3,000	$5.00	$15,000
Pavement markings	lin. ft.	2,500	$1.00	$2,500
Signage	each	1	$500.00	$500
Pavement Removal	sq. ft.	3,000	$2.00	$6,000
			Subtotal A (Roadworks)	*$98,648*
Storm Drainage System		% of Subtotal A	20%	$19,730
Landscape Improvement		% of Subtotal A	5%	$4,932
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$50,000.00	$50,000
New Traffic Signal	each	1	$250,000.00	$250,000
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$324,662*
Subtotal 1 (Subtotals A + B)				$423,309
Mobilization		% of Subtotal 1	10%	$42,331
Erosion Control		% of Subtotal 1	5%	$21,165
Traffic Control		% of Subtotal 1	5%	$21,165
Subtotal 2 (Mobilization & Traffic Control)				$84,662
Total (Subtotals 1 + 2)				$507,971
Plus Contingencies		% of Total	30%	$152,391
Estimated Construction Cost				**$660,363**
Architectural/Engineering		% of Est. Cost	15%	$99,054
Construction Management		% of Est. Cost	10%	$66,036
Estimated Professional Fees				**$165,091**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$825,453**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

I11: Washburn Way/OR 140 EB Ramps - Install Traffic Signal

Project Sheet: I11

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	0	$15.00	$0
Embankment (Fill)	cu. yd.	0	$20.00	$0
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	0	$15.00	$0
New Sidewalk & Concrete Median	sq. ft.	0	$5.00	$0
Pavement markings	lin. ft.	0	$1.00	$0
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$0*
Storm Drainage System		% of Subtotal A	20%	$0
Landscape Improvement		% of Subtotal A	5%	$0
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$10,000.00	$10,000
New Traffic Signal	each	1	$250,000.00	$250,000
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$260,000*
Subtotal 1 (Subtotals A + B)				$260,000
Mobilization		% of Subtotal 1	10%	$26,000
Erosion Control		% of Subtotal 1	5%	$13,000
Traffic Control		% of Subtotal 1	5%	$13,000
Subtotal 2 (Mobilization & Traffic Control)				$52,000
Total (Subtotals 1 + 2)				$312,000
Plus Contingencies		% of Total	30%	$93,600
Estimated Construction Cost				**$405,600**
Architectural/Engineering		% of Est. Cost	15%	$60,840
Construction Management		% of Est. Cost	10%	$40,560
Estimated Professional Fees				**$101,400**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$507,000**

KLAMATH FALLS URBAN AREA TRANSPORTATION SYSTEM PLAN

I12: OR 39/OR 140 (South of Big Y) - Install Traffic Signal

Project Sheet: I12

Note: The Construction Cost Index for 2010 was estimated to be 219

Proposed Road Improvements				
Item	**Unit**	**Quantity**	**Unit Cost**	**Total**
Excavation (Cut)	cu. yd.	0	$15.00	$0
Embankment (Fill)	cu. yd.	0	$20.00	$0
Pavement Rehabilitation	sq. ft.	0	$4.00	$0
New Pavement	sq. ft.	0	$8.00	$0
New Curb	lin. ft.	0	$15.00	$0
New Sidewalk & Concrete Median	sq. ft.	0	$5.00	$0
Pavement markings	lin. ft.	0	$1.00	$0
Signage	each	0	$500.00	$0
Pavement Removal	sq. ft.	0	$2.00	$0
			Subtotal A (Roadworks)	*$0*
Storm Drainage System		% of Subtotal A	20%	$0
Landscape Improvement		% of Subtotal A	5%	$0
Street Lighting	each	0	$7,000.00	$0
Private Utility Coordination	Lump/Sum	1	$10,000.00	$10,000
New Traffic Signal	each	1	$250,000.00	$250,000
Traffic Signal Modification	each	0	$100,000.00	$0
Retaining Walls (less than 5 feet)	sq. ft.	0	$50.00	$0
Structures	sq. ft.	0	$150.00	$0
Railroad Crossing & Signalization	each	0	$750,000.00	$0
			Subtotal B (Other)	*$260,000*
Subtotal 1 (Subtotals A + B)				$260,000
Mobilization		% of Subtotal 1	10%	$26,000
Erosion Control		% of Subtotal 1	5%	$13,000
Traffic Control		% of Subtotal 1	5%	$13,000
Subtotal 2 (Mobilization & Traffic Control)				$52,000
Total (Subtotals 1 + 2)				$312,000
Plus Contingencies		% of Total	30%	$93,600
Estimated Construction Cost				**$405,600**
Architectural/Engineering		% of Est. Cost	15%	$60,840
Construction Management		% of Est. Cost	10%	$40,560
Estimated Professional Fees				**$101,400**
Right-of-Way	sq. ft.	0	$20.00	$0
Estimated Property Acquisition Cost				**$0**
Estimated Project Cost				**$507,000**