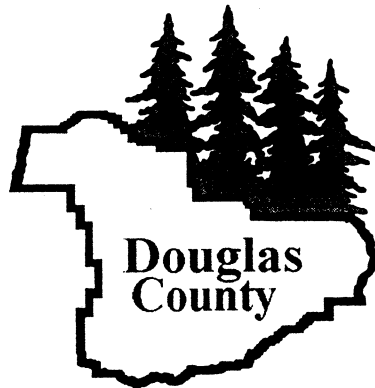


Douglas County Transportation System Plan Completion Project



Prepared by the Douglas County Planning
Department

Keith L. Cubic
Planning Director

Kelly Niemeyer
Planner

Fall, 2004

Table of Contents

Section 1: Introduction

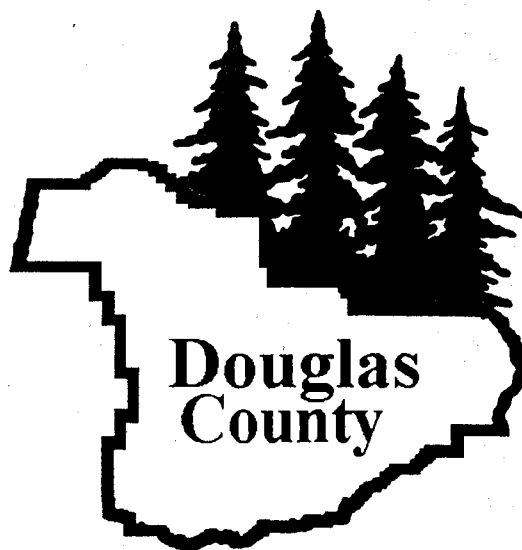
Section 2: Bicycle and Pedestrian Plan

Section 3: Sidewalks

Section 4: Street Standards

Douglas County Transportation System Plan Completion Project

Section 1: Introduction and Overview of Douglas County



Introduction

Since Douglas County first adopted its Land Use and Development Ordinance (LUDO), it has had a transportation element. In the mid-ninety's Douglas County began a process to updated this element. The update was substantially completed in 1998 but was appealed to the Land Use Board of Appeals (LUBA). A few issues remain from this appeal and this document is intended to address these remaining issues. They will be addressed as follows:

- **Bicycle and Pedestrian Plan, Section 2**
- **Sidewalks, Section 3**
- **Street Standards, Section 4**

Douglas County, Oregon is a rural County that extends from the Pacific Ocean coastline to the Cascade Mountain range. With 5,071 square miles of land, it is the largest of western Oregon counties. Douglas County has a population of 102,000 and a population density of 20 people per square mile. This rural County was built on the lumber and wood products industry. While the timber industry is not flourishing as it did until the 1990's, it is still a vital industry that employs and supports many Douglas County residents.

High quality roads are imperative in Douglas County. They serve a recreation oriented vehicle dependent public, a heavy vehicle dependent industry, and automobile dependent, working residents. From the shortest of local County roads to the major arterial, Interstate 5, the Douglas County road system is a network of increasing traffic volumes. Local roads lead to collector roads that lead to arterial roads. Major roads serve as a link between and through the cities and communities within Douglas County. They also provide access to otherwise inaccessible forest lands.

The Douglas County TSP is an encompassing document. It has identified transportation related needs for all of Douglas County. Automobile, pedestrian and bicycle modes of transportation have been identified as vital and important methods of transportation and recreation. Each of these modes has been planned for within the Douglas County planning area where and to what extent necessary to meet current and future needs.

Douglas County Transportation System Plan Completion Project

Section 2: Bicycle and Pedestrian Plan



Section Two

ISSUE ONE: BICYCLE AND PEDESTRIAN PLAN

From the LUBA decision - Fourth Assignment of Errors:

Petitioner's Argument

Determination of "transportation needs," an inventory and general assessment of existing transportation facilities, including bicycle and pedestrian facilities, and bicycle and pedestrian plan requirements not met.

Douglas County's Response

The Bikeway Master Plan, adopted in 1983 and revised in 1997, as well as existing bikeway and pedestrian circulation policies satisfy the following OAR provisions. See below for supporting evidence.

Relevant OAR Provisions

OAR 660-12-0020, in relevant part:

(2) The TSP shall include the following elements:

(a) A determination of transportation needs as provided in OAR 660-012-0030;

(d) A bicycle and pedestrian plan for a network of bicycle and pedestrian routes throughout the planning area. The network and list of facility improvements shall be consistent with the requirements of ORS 366.514
(See appendix for ORS 366.514)

(3) Each element identified in subsections (2)(b)–(d) of this rule shall contain:

(a) An inventory and general assessment of existing

(b) and committed transportation facilities and services by function, type, capacity and condition:

(c) A system of planned transportation facilities, services and major improvements. The system shall include a description of the type or functional classification of planned facilities and services and their planned capacities and levels of service;

(d) A description of the location of planned facilities, services and major improvements, establishing the general corridor within which the facilities, services or improvements may be sited. This shall include a map showing the general location of proposed transportation improvements, a description of facility parameters such as minimum and maximum road right of way width and the number and size of lanes, and any other additional description that is appropriate;

OAR 660-012-0045 states, in relevant part:

(6) In developing a bicycle and pedestrian circulation plan as required by 660-012-0020(2)(d), local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas. Appropriate improvements should provide for more direct, convenient and safer bicycle or pedestrian travel within and between residential areas and neighborhood activity centers (i.e., schools, shopping, transit stops). Specific measures include, for example, constructing walkways between cul-de-sacs and adjacent roads, providing walkways between buildings, and providing direct access between adjacent uses.

Bicycle and Pedestrian Plan

Recognizing the rising popularity of bicycling and the need to provide a Countywide bikeway system, Douglas County adopted a Bikeway Master Plan in June of 1983 and revised in 1997. The plan was developed through coordination with the cities within the County, County schools, State Department of Transportation, local cycling groups, Roseburg Track Club, as well as County Parks, Public Works, Planning and Sheriff's Departments. It was adopted as a Supplement to the Transportation Chapter of the Comprehensive Plan. Furthermore, the TSP has incorporated Findings, Goals and Policies from the Bikeway Master Plan. A map of bicycle routes and an inventory of these routes were also developed and incorporated into the Transportation System Plan (TSP). Not only does the Bikeway Master Plan provide for bikeway circulation, it also adequately serves as a pedestrian plan.

See the Appendix for the following:

- Inventory of Douglas County's designated bikeway routes;
- Map of Douglas County's designated bikeway routes;
- Policies regarding bicycle use in Douglas County;
- Policies regarding pedestrian use in Douglas County;
- Findings regarding bicycle use in Douglas County;
- Findings regarding pedestrian use in Douglas County.

The Goal of the Bicycle Transportation portion of the TSP is, "To provide a safe, convenient, and efficient bikeway network for Douglas County..." In order to meet that goal, an inventory of bicycle designation routes with routes classified as Class I, Class II, Class III, and Class IIIs (see below for definitions of these class types) was established. Furthermore, the inventory describes the location of the routes, the jurisdiction of the road and the route's approximate mileage. Route Class is defined as follows:

Class I: A separate trail for joint use of bicyclists and pedestrians. It may be entirely independent of other transportation facilities.

Class II: A bikeway that is adjacent to the travel lane of motorized traffic, but provides a physically separated through lane for bicycles and pedestrians.

Class III: A bikeway that shares the roadway with motor vehicles. Class III routes are designated by designing, striping, and other visual markings. A Bicycle Lane is a Class III Bikeway.

Class IIIs: A Class III bikeway which is signed only. A Bicycle Route is a Class IIIs Bikeway.

The Class designations are a part of the Bikeway inventory's compliance with OAR 660-12-0020.

Furthermore, the Douglas County Land Use and Development Ordinance (LUDO) provides mandates for Bicycle and Pedestrian Circulation under 3.35.070. Specifically 3.35.070(1) states that:

Bicycle parking facilities shall be provided as part of new multi-family residential developments of four units or more and new retail, office and institutional development within Urban Unincorporated Areas (UUA's) and Urban Growth Boundaries (UGB's) where this ordinance is applicable. Bicycle parking facilities shall not be required for existing developments.

The installation of bicycle parking facilities shall occur as follows:

<u>USE</u>	<u>STANDARD</u>
Multi-Family Residential - 4+	1 space per dwelling unit
Retail	1 space per 3,000 sq. ft.
Office	1 space per 1,000 sq. ft.
Institutional	1 space per 1,000 sq. ft.

2. The installation of public bikeways as part of new subdivisions, multi-family developments, planned developments and for new commercial structures greater than 3,000 sq. ft. within commercial districts shall occur, as described below, within the UUA of Green and UGB's where this ordinance is applicable. If Urban Growth Management Agreement (UGMA) standards exist which address public bikeways, those standards shall apply.
 - a. As a condition of development approval, public bikeway improvements necessary to develop designated bikeways, in the Comprehensive Plan, shall be installed along the front of the subject parcel. Bikeway improvements shall meet those standards described in the Douglas County Comprehensive Plan and shall be installed under the guidance of the Public Works Department.

This provision dictates provision of bicycle facilities in all Urban Unincorporated Areas (UUA's) and Urban Growth Boundaries (UGB's) and bikeways in the Green UUA and UGB's. Not only does Douglas County have a Bikeway Master Plan, it also has provisions for bicycle facilities and bikeways.

Pedestrian Circulation

Pedestrian circulation is well served by the Bikeway Plan. The network of bikeway routes provides adequate travel for pedestrians as well. The County has also made provisions for pedestrian circulation where it is most important – in urban level development areas.

TSP Objective F: To encourage, coordinate and assist in the development of transportation modes other than private vehicle.

Policy 11 most specifically :

Sidewalks shall be installed along arterials, major collectors and minor collectors as part of new subdivisions, multi-family developments, planned developments and development within commercial districts. The sidewalk requirement is applicable within the Urban Unincorporated Area (UUA) of Green and Urban Growth Boundaries (UGB's) as implemented through the Urban Growth Management Agreement (UGMA). If UGMA supplemental standards exist which address public sidewalks, those standards shall apply. (Revised 12/5/01)

To implement this policy from the TSP, 3.35.070(3) of the Douglas County Land Use and Development Ordinance

Pedestrian Circulation

3. The installation of public sidewalks as part of new subdivisions, multi-family developments, planned developments and within commercial districts shall occur, as described below, within the UUA of Green and UGB's as implemented through the UGMA. If UGMA supplemental standards exist, which address public sidewalks, those standards shall apply. Public sidewalks shall not be required for existing developments.

The installation of public sidewalks shall occur as follows:

<u>USE</u>	<u>STANDARD</u>
New Subdivision	Along adjacent arterials, major collectors and minor collectors to County standards
Multi-family unit(s)	Along adjacent arterials, major collectors and minor collectors to County standards

<u>USE</u>	<u>STANDARD</u>
Planned Developments	Along adjacent arterials, major collectors and minor collectors to County Standards
Commercial district	Along adjacent arterials, major collectors and minor collectors to County Standards

* Note: The effective date of Section 3.35.070.3 is April 1, 2002 (Ordinance No. 2001-12-2).

AND -

SECTION 3.35.080 Internal Pedestrian Circulation

Prior to issuance of a building or placement permit for new office parks and commercial developments located within Urban Unincorporated Areas (UUA's) and Urban Growth Boundaries (UGB's) where this ordinance is applicable, the plot plan which accompanies the application for a building permit shall demonstrate internal circulation is being provided through clustering of buildings, construction of accessways, walkways and similar techniques.

Douglas County has not only a County-wide Bikeway Master Plan that also serves pedestrian use, it also has provisions for internal bicycle and pedestrian circulation for new higher intensity development in areas that necessitate this level of planning.

As the TSP bicycle and pedestrian plan, it is in compliance with OAR660-12-0020(2)(d) which states that, "A bicycle and pedestrian plan for a network of bicycle and pedestrian routes throughout the planning area..." Additionally, the TSP is in compliance with OAR660-12-0020(3)(a), which requires an, "Inventory and general assessment of existing and committed transportation facilities and services by function, type, capacity and condition." The Douglas County TSP recognizes the importance of pedestrian and bicycle travel for both recreational and transportation purposes and has made provisions to provide safe travel for both. The TSP is also in compliance with OAR 660-012-045 as provisions for internal bicycle and pedestrian circulation facilities exist in the LUDO.

SUMMARY

ISSUE ONE: BICYCLE AND PEDESTRIAN PLAN

From the LUBA decision - Fourth Assignment of Errors:

Petitioner's Argument

Determination of "transportation needs," an inventory and general assessment of existing transportation facilities, including bicycle and pedestrian facilities, and a bicycle and pedestrian plan requirements not met.

Douglas County's Response

Douglas County's Transportation System Plan and Comprehensive Plan are concurrent with OAR provisions relevant to a bicycle and pedestrian plan based upon the provided information:

- Bikeway Master Plan was adopted in 1983, revised in 1997, and created with the input from several interest groups
- Inventory of designated bikeways (found in both the TSP and Comprehensive Plan)
- Policies, findings and maps from the TSP and Comprehensive Plan
- Pedestrian provisions in the Land Use and Development Ordinance, TSP and Comprehensive Plan

Douglas County's TSP is compliant with State requirements for a bicycle and pedestrian plan.

Appendix to Section Two
Bicycle and Pedestrian Plan

366.514 Use of highway fund for footpaths and bicycle trails. (1) Out of the funds received by the Department of Transportation or by any county or city from the State Highway Fund reasonable amounts shall be expended as necessary to provide footpaths and bicycle trails, including curb cuts or ramps as part of the project. Footpaths and bicycle trails, including curb cuts or ramps as part of the project, shall be provided wherever a highway, road or street is being constructed, reconstructed or relocated. Funds received from the State Highway Fund may also be expended to maintain footpaths and trails and to provide footpaths and trails along other highways, roads and streets.

(2) Footpaths and trails are not required to be established under subsection (1) of this section:

- (a) Where the establishment of such paths and trails would be contrary to public safety;
- (b) If the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use; or
- (c) Where sparsity of population, other available ways or other factors indicate an absence of any need for such paths and trails.

(3) The amount expended by the department or by a city or county as required or permitted by this section shall never in any one fiscal year be less than one percent of the total amount of the funds received from the highway fund. However:

(a) This subsection does not apply to a city in any year in which the one percent equals \$250 or less, or to a county in any year in which the one percent equals \$1,500 or less.

(b) A city or county in lieu of expending the funds each year may credit the funds to a financial reserve fund in accordance with ORS 294.525, to be held for not more than 10 years, and to be expended for the purposes required or permitted by this section.

(c) For purposes of computing amounts expended during a fiscal year under this subsection, the department, a city or county may record the money as expended:

(A) On the date actual construction of the facility is commenced if the facility is constructed by the city, county or department itself; or

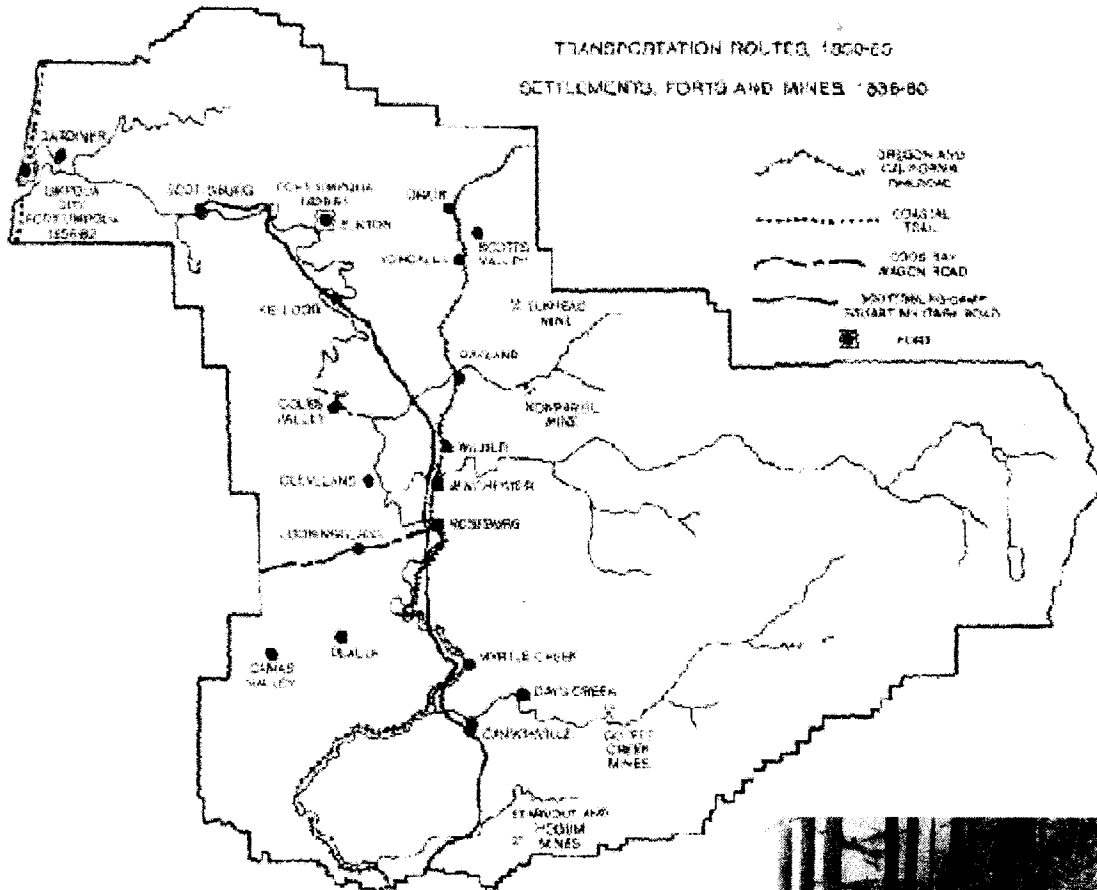
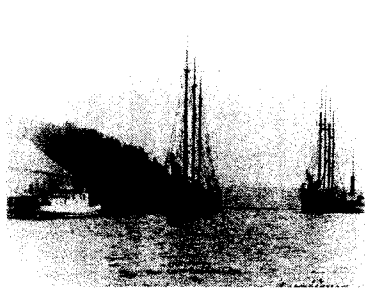
(B) On the date a contract for the construction of the facilities is entered with a private contractor or with any other governmental body.

(4) For the purposes of this chapter, the establishment of paths, trails and curb cuts or ramps and the expenditure of funds as authorized by this section are for highway, road and street purposes. The department shall, when requested, provide technical assistance and advice to cities and counties in carrying out the purpose of this section. The department shall recommend construction standards for footpaths and bicycle trails. Curb cuts or ramps shall comply with the requirements of ORS 447.310 and rules adopted under ORS 447.231. The department shall, in the manner prescribed for marking highways under ORS 810.200, provide a uniform system of signing footpaths and bicycle trails which shall apply to paths and trails under the jurisdiction of the department and cities and counties. The department and cities and counties may restrict the use of footpaths and bicycle trails under their respective jurisdictions to pedestrians and nonmotorized vehicles, except that motorized wheelchairs shall be allowed to use footpaths and bicycle trails.

(5) As used in this section, "bicycle trail" means a publicly owned and maintained lane or way designated and signed for use as a bicycle route. [1971 c.376 §2; 1979 c.825 §1; 1983 c.19 §1; 1983 c.338 §919; 1991 c.417 §7; 1993 c.503 §12; 1997 c.308 §36; 2001 c.389 §1]

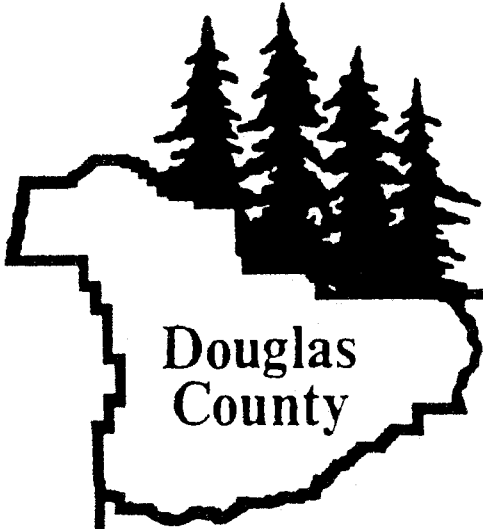
DOUGLAS COUNTY

\$25.00



TRANSPORTATION SYSTEM PLAN

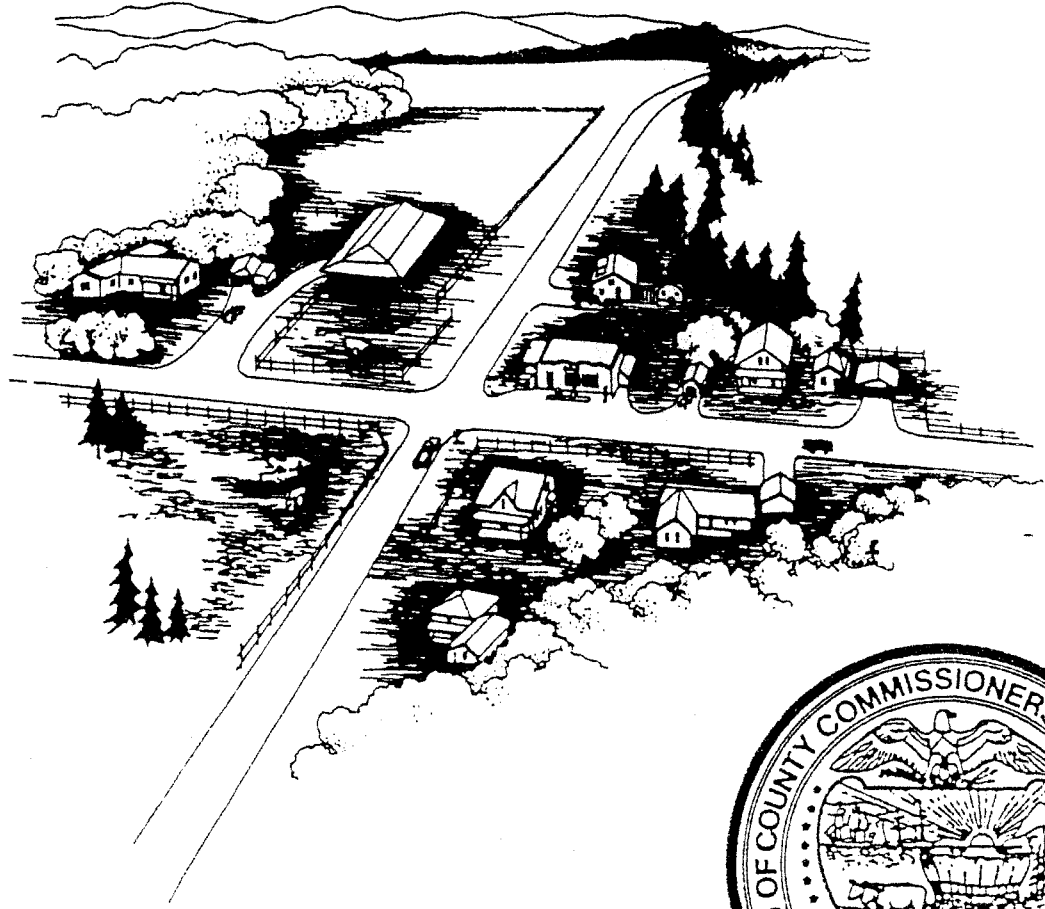
December 2001



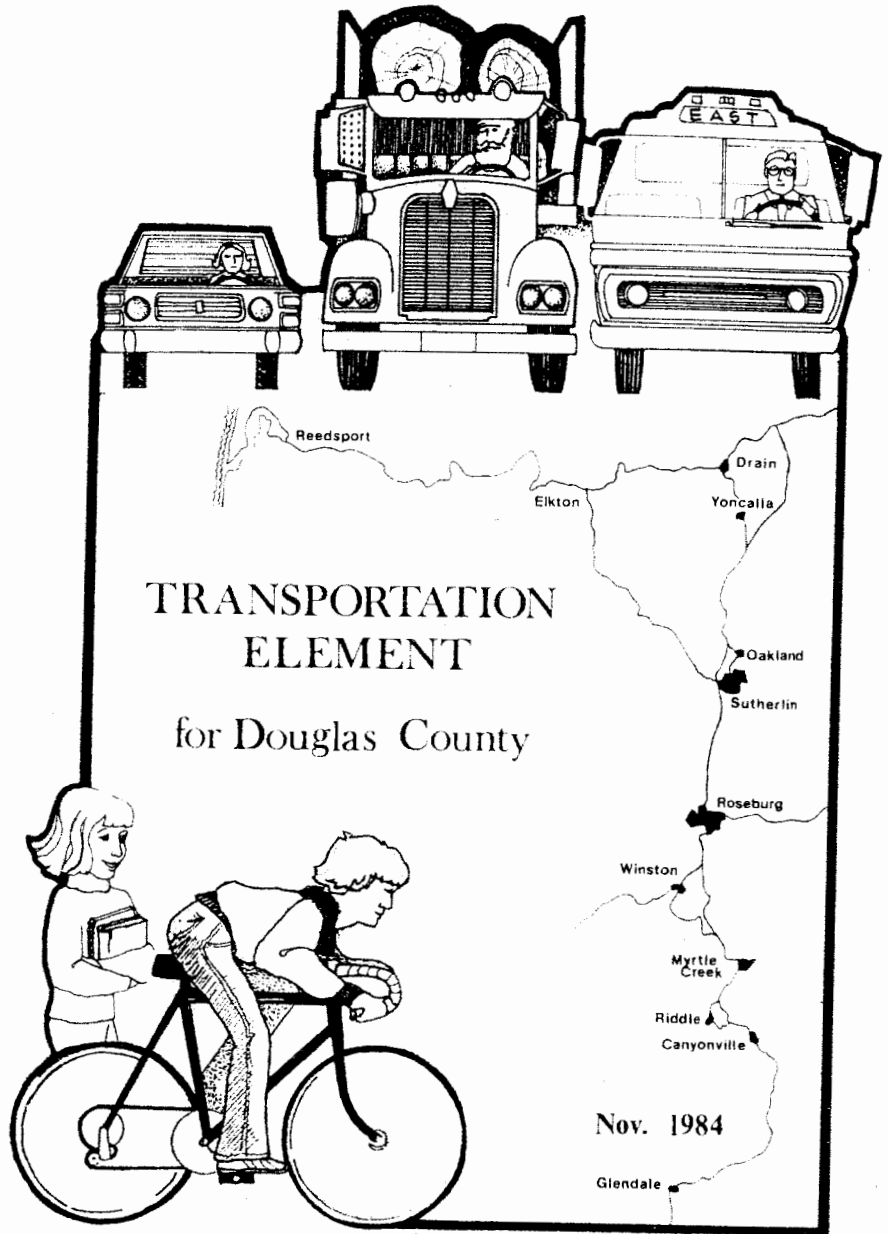
\$20.00

Douglas
County

DOUGLAS COUNTY COMPREHENSIVE PLAN



REVISED: JULY 14, 2004



LATEST REVISION
DECEMBER 2001

BICYCLE TRANSPORTATION FINDINGS AND INVENTORY OF DESIGNATED BIKEWAY ROUTES FROM THE DOUGLAS COUNTY COMPREHENSIVE PLAN AND TRANSPORTATION SYSTEM PLAN

BICYCLE TRANSPORTATION Bicycle Usage

- 170. The popularity of bicycling continues to increase in this country. (Revised 8/13/97)
- 171. Assuming Douglas County is typical of the nation overall, there are approximately 27,000 bicycles in the County. Bicycles are found in most American households; the number of cyclists is rising, particularly among adults, who outnumber child cyclists. It is estimated that one Oregonian in two owns a bicycle. (Revised 8/13/97)

Types of Bicycle Trips

- 172. Cycling activity, as with other forms of travel, falls into two major categories: recreational and utilitarian. The type of bikeways appropriate for recreational use often differ considerable from those intended for utilitarian use. Recreational cycling involves the use of bikeways for touring, exercise, social purposes or as a sport. Utilitarian cycling utilizes bikeways to reach a specific destination, such as employment, school, and for neighborhood circulation trips such as shopping, childrens' activities, etc. The skill of the cyclist within both of these categories vary greatly. (Revised 8/13/97)
- 173. Often the recreational cyclist will prefer meandering or looping routes with scenic qualities which avoid areas with high automobile traffic volumes. Recreational trip length is not as important a factor as utilitarian trip length in that the cycling activity is the purpose of the recreational trip rather than reaching a specific destination.
- 174. Consideration of trip length and relative travel time is a prime factor in identifying work trips which could be served by bikeways. Work trips are utilitarian and are very sensitive to travel time. Average trip distances are short (typically under five kilometers), and short trips are the ones most easily made by bicycling or walking. (Revised 8/13/97)
- 175. Urban areas benefit most from improved bicycle and pedestrian transportation facilities. School trips are utilitarian and have the most probability of being served by bicycle travel. However, responses to the County bikeway questionnaire indicate that in rural portions of the County where elementary school attendance areas are large relatively few students ride to school. (Revised 8/13/97)
- 176. Neighborhood circulation trips cover all the miscellaneous trips made in a neighborhood which cannot be readily classified including children's activities, local shopping, visiting friends, trips to parks, etc. The number and frequency of these types of trips is a function of the local population and the favorability of the bicycling environment. This type of trip is particularly important to all youth below driving age as the bicycle is their primary means of personal mobility. The number of dedicated walkways between residential areas have been reduced because of increasing vandalism and criminal activities. (Revised 8/13/97)

Trip Length

- 177. In Oregon, approximately 16% of the adult population do not have a valid driver's license. Walking and bicycling are often their only transportation choices, especially in areas not served by public transportation. School age children make up approximately 13% of Oregon's population. Walkways

29970
of
Appalachian
doesn't
do it up

and bikeways enable school children to walk or bike more safely and conveniently to school, reducing the need for busing or automobile trips by parents. (Revised 8/13/97)

178. The length of cycling trips for various recreational and utilitarian purposes varies considerably depending on topography, bikeway availability and traffic characteristics. With minimal physical exertion, a person in reasonable physical condition can walk up to one kilometer (0.621 mile) or ride a bicycle up to 5 kilometer (3.1 miles) or more, in less than twenty minutes. - shorter than many automobile or transit commutes. (Revised 8/13/97)

Monthly Ridership

179. Bicycle volume counts conducted by ODOT indicate that in 1973 seventy-four percent of all usage of the bikeways counted occurred from May through October. A 1993 survey taken for the Oregon Bicycle and Pedestrian Plan in Eugene, Corvallis and Bend indicate that a third of regular bicycle commuters ride year-round; others ride from March to November. Traveling in the dark may be more of a deterrent than weather. (Revised 8/13/97)
180. The Oregon Bicycle and Pedestrian Plan identifies that most bicycling crashes (65% - 85%) do not involve collisions with motor vehicles; they usually involve falls or collisions with stationary objects, other cyclists and pedestrians. Many bicycle/motor vehicle crashes are not reported. The Oregon Bicycle and Pedestrian Plan statistics reveals statewide approximately 800 injury crashes a year are reported including 10-15 fatalities (1-2% of total). (Revised 8/13/97)

Bicycle Accidents

181. In Douglas County, between January, 1977, and September, 1982, there were 105 bicycle accidents which were reported to the Oregon Motor Vehicles Division. Two of these accidents involved fatalities. Only one cyclist in the 105 accidents did not receive injuries. All but one accident involved a motor vehicle as a direct collision. The only accident not involving a collision resulted from a cyclist's attempts to avoid a collision with a motor vehicle. As reflected by these statistics, the cyclist is in jeopardy regardless of who violated the traffic laws. (Revised 8/13/97)
182. Seventy-five per cent of the accidents reported between January, 1977, and September, 1982, involved cyclists 18 years of age and younger.
183. Sixty per cent of the accidents during the survey period occurred between 3:00 p.m. and 7:00 p.m. This is consistent with the period of high ridership, as it is after school and during the early family hours. Also, traffic volumes during this period of time are heavier, resulting in a higher degree of exposure.
184. Of the 105 accidents reported, 75 were determined to be the fault of the bicyclist. Thirty were the fault of the motor vehicle driver. Most crashes are due to bicyclists or motorists disobeying the rules of the road, often out of ignorance. Most crashes occur where two roadways or a roadway and a driveway intersect, and one user failed to yield the right of way to the other. The leading cause of crashes in which the bicyclist is at fault is wrong-way riding. This behavior is observed in about 15% of riders, and is responsible for 17% of crashes. (Revised 8/13/97)
185. No unincorporated location within the County was identified as exhibiting a pattern of bicycle-related accidents.

COUNTY BIKEWAY SYSTEM

Route Selection Criteria

186. Three primary and a number of secondary criteria have been used in the process of selection of bikeways for designation by this Plan. The primary criteria include anticipated usage of the bikeway, safety of the bikeway and cost of construction. These criteria were rated as being of significant importance by most of the respondents to the questionnaire. Although all are considered to be of significant importance, the relative value of each varied from route to route.
187. In the less densely populated portions of the County, most of the cycling which occurs is recreational. The distances from residential areas to activity centers in rural areas generally are such that utilitarian cycling is not practical. (Revised 8/13/97)
188. In the more densely populated areas, such as Roseburg, where residential areas are closer to activity centers, utilitarian cycling is more common.
189. The greatest amount of utilitarian cycling occurs within city limits - particularly Roseburg - where densities are the greatest and the distances from residential areas to activity centers are the shortest.
190. It is recognized that the increased interest in jogging and walking has resulted in use of many bikeways by this secondary user group. This secondary use is anticipated to continue and, as a result, has been considered in designation of all bikeways in this Plan. (Revised 8/13/97)
191. In all rural areas most bikeways are anticipated to be recreational. However, in the more urban areas of the County, consideration has been given to utilitarian needs as well as recreational needs.
192. The recreational routes which are proposed are intended to serve cyclists of most levels of ability and interest from the occasional cyclist interested in a trip of moderate length involving an hour or less time to the accomplished cyclist interested in long distance trips involving a half day, full day or longer.
193. Utilitarian routes have been mapped to connect major residential areas with activity centers including industrial, commercial, institutional and recreational sites. These routes are located in the urban area around Roseburg and in Green and the Tri City portion of the Myrtle Creek UGB. (Revised 8/13/97)
194. In unincorporated areas of the County where densities are low, short distance bikeways generally would not receive enough use to warrant inclusion in this Plan. The exceptions to this are the County's urban unincorporated areas particularly the Tri City portion of the Myrtle Creek UGB and Green. (Revised 8/13/97)
195. The need for additional short distance bikeways in the County's urban unincorporated areas should be assessed in the future and this Plan amended as appropriate.
196. The significance of safety to residents of the County was made evident by the responses to the bikeway questionnaires. This criterion was rated as the most significant factor to be used in selection of specific bikeways.
197. Four potential conflicts between motor vehicles and bicycles were evaluated in designating routes along roadways for inclusion within the bikeway system. These four criteria include the speed of motor vehicle traffic, the volume of motor vehicle traffic, the separation of motor vehicle and bicycling traffic and turning and intersection conflicts.
198. The degree to which safety has been considered in designating bikeways in this Plan has varied depending on the type of use a designated route is anticipated to receive. In designating routes

intended for short distance school, neighborhood circulation or recreational use, safety has been considered to be a more significant factor than for routes intended for long distance recreational use.

199. As a criterion in route selection, construction cost includes consideration of the anticipated primary user group and the physical characteristics of the route.
200. The cost of construction has been a more significant criterion in designating recreational bikeways than utilitarian bikeways due to the importance of safety and directness of utilitarian bikeways.
201. The adequacy of road right-of-way width, roadway pavement width and physical barriers to bikeway construction are other factors involved in the evaluation of the cost of bikeway construction.
202. Often only one roadway exists which would satisfy an identified bikeway need. This is particularly true in rural areas where there are fewer roads.
203. In areas where alternative routes could serve an identified need, five criteria, in addition to anticipated usage, safety and construction cost, were used in the route selection process. These criteria include directness of the route, continuity of the route with other routes or facilities, the grade(s) of the route, the scenic quality of the route and the frequency of required stops along the route. The relative significance of these five criteria in the route selection process varied depending on the anticipated primary usage of the alternative routes under consideration. For utilitarian routes, directness, continuity and grade(s) of the potential alternatives were the more significant criteria. For recreational routes, scenic quality and the number of required stops were given greater consideration. (Revised 8/13/97)

Determination of Bikeway Classification

204. This Bikeway Plan includes all three classes of bikeways.
205. The criteria used in determination of the appropriate classification for each route was based on a number of factors including safety, cost of route construction, level of usage anticipated, and type of usage anticipated.
206. Few Class I routes have been proposed by this Plan due primarily to the high cost of construction of this bikeway type. This Class of bikeway is proposed primarily in areas where no other class of route is feasible or where safety requires it. This Class of bikeway is proposed in areas where no other class of route is feasible, such as the maintenance road under I-5 on the Fairgrounds to Green Route #30 or where safety requires it, such as State Highway 99 over the North Umpqua River. (See Bikeway Master Plan Map for location of bikeways.) (Revised 8/13/97)
207. No Class II bikeways are designated in this Plan other than those which presently exist. This class of bikeway is generally considered to be undesirable.
208. For the purposes of this Plan, Class III bikeways have been divided into two subclasses: Class III and Class IIIs. Class III bikeways will all include creation of striped lanes on the roadway pavement in addition to signing and other required improvements. Class IIIs bike routes may require some of the improvements required for Class III bikeways. However, Class IIIs routes will not include creation of striped lanes.
209. In the determination of the appropriate classification for all routes in the County, emphasis has been placed on designating bikeways for Class III and IIIs improvements. This is due to the generally low

cost of development of these types of bikeways and their appropriateness in the more rural portions of the County.

210. Bikeways which have been designated for full Class III improvements (including striping of bike lanes) have received this designation because of the high volumes of automobile traffic they carry and widths of their respective travel lanes, the high volume of existing or anticipated bicycle ridership on the road and/or the extent of existing or anticipated usage of the bikeway by children.
211. Use of these criteria has resulted in the designation for full Class III improvements to many State highways and roads to schools and parks which are proposed to be included within the bikeway system.
212. Roadways which are proposed for improvement to the Class IIIs bike route standards generally are those routes in rural areas which are relatively long distance and are intended for use by accomplished cyclists, and rural routes with low volumes of vehicular and/or cycling traffic use.

Inventory of Designated Bikeways

213. Approximately 679 miles of bikeways have been designated by this Plan for unincorporated area of the County. A breakdown of this mileage by type of bikeway follows: (Revised 8/13/97)

Designated Bikeways

Class I		25.8 miles
Class II		1.2 miles
Class III	127.2 miles	
Class IIIs		355.4 miles

214. Of the 60 bikeways designated by this Plan, the total length of 4 of these and part of an additional 3 bikeways have been constructed. The total mileage of these constructed bikeways is 27.4 or 5.5% of the overall system.
215. The bikeways designated by this plan are shown on the Bikeway Master Plan Map, Map 2 (at end of policy section), and defined by the following listing:

TABLE 13-2. DESIGNATED BIKEWAY ROUTES. (Revised 5/31/95), (Revised 8/13/97)

<u>BIKEWAY ROUTE #</u>	<u>ROUTE NAME</u>	<u>ROAD NUMBER</u>	<u>LIMITS</u>	<u>CLASS</u>	<u>JURIS-DICTION</u>	<u>APPROXIMATE MILEAGE</u>
COAST						
1	U.S. Hwy 101	101	Northern County limits to Southern County limits	III	State	22.0
2	Sparrow Park Rd.	247	U.S. Hwy 101 to end (beach)	IIIs	County	3.5
3	Salmon Harbor Dr.	251	U.S. Hwy 101 to end (beaches)	III	County, State & Federal	4.0
4	Lighthouse Rd.	87	U.S. Hwy 101 to Salmon Harbor Dr. #251	I or IIIs	County, State & Federal	1.5
5	Transcontinental Bike Route					
	Smith River Rd.	48	U.S. Hwy 101 to BLM Rd. 20-11-36.0	IIIs	County	13.0
	BLM Rds.	20-11-36.0	End of Smith River Rd. #48 to beginning of BLM Rd. 20-8-17.0	IIIs	Federal	28.0
	BLM Rd.	20-8-17.0	BLM Rd. 20-11-36.0 to northern County limits	IIIs	Federal	11.0

<u>BIKEWAY ROUTE #</u>	<u>ROUTE NAME</u>	<u>ROAD NUMBER</u>	<u>LIMITS</u>	<u>CLASS</u>	<u>JURIS-DICTION</u>	<u>APPROXIMATE MILEAGE</u>
6	Reedsport-Sutherlin Route					
	State Hwy	38	Reedsport city limits to Elkton city limits	IIIs	State	35.0
	State Hwy	138	Elkton city limits to Sutherlin city limits	IIIs	State	24.0
NORTH COUNTY						
7	State Hwy Drain Yoncalla Hwy Goodrich Highway	99 389 126A	Pass Creek Park to Rice Hill (excluding sections within Drain city limits)	III	State & County	18.0
8	Territorial Hwy	116	State Hwy 99 to northern County limits (Gravel)	IIIs	County	5.6
9	Hayhurst Route					
	State Hwy	38	Drain city limits to Hayhurst Rd. #24	III	State	1.0
9 (Cont.)	Hayhurst Rd.	24	State Hwy 38 to Yoncalla city limits	IIIs	County	8.0
10	The Dr. Al Morelang Aerobic Route					
	Elkhead Rd.	7	Drain Yoncalla Hwy 389 to beginning Elkhead Road #50	IIIs	County	10.0
	Elkhead Rd.	50	End of Elkhead Rd. #7 to Driver Valley Rd. #22	IIIs	County	8.0
11	Scotts Valley Rd.	8	Elkhead Rd. #7 to Scotts Valley School	IIIs	County	0.6
CENTRAL COUNTY						
12	Dr. Warren Kadas Scenic Loop					
	Driver Valley Rd.	22	Oakland city limits to Fair Oaks Rd. #22A (southerly intersection)	IIIs	County	13.0
	Fair Oaks Rd.	22A	Driver Valley Rd. #22 to Driver Valley Rd.	IIIs	County	4.0

#22 (link)

<u>BIKEWAY ROUTE #</u>	<u>ROUTE NAME</u>	<u>ROAD NUMBER</u>	<u>LIMITS</u>	<u>CLASS</u>	<u>JURIS-DICTION</u>	<u>APPROXIMATE MILEAGE</u>
13	Sutherland-Driver Valley Route					
	Nonpareil Rd.	19	Sutherland city limits to Plat K Rd. #75	IIIs	County	3.0
	Plat K Rd.	75	Nonpareil Rd. #19 to Fair Oaks Rd. #22A	IIIs	County	1.4
14	Cooper Creek Access					
	Southside Rd.	120	Sutherland city limits to Cooper Ck. Rd. #305	III	County	0.9
	Southside Rd.	120	Nonpareil Rd. #19 to Cooper Ck. Rd. #305	IIIs	County	1.1
	Cooper Ck. Rd.	305	Southside Rd. #120 to end (Cooper Ck. Reservoir)	III	County	2.4
15	The Ron Hjort - Rochester Bridge Loop					
	Green Valley Rd.	23A	Oakland city limits to beginning of Green Valley Rd. #23	IIIs	County	0.4
15 (Cont.)	Green Valley Rd.	23	End of Green Valley Rd. 23A to Rochester Rd. 76	IIIs	County	2.4
	Rochester Rd.	76	Green Valley Rd. #23 to Rolling Ridge Rd. #10	IIIs	County	1.0
	Rolling Ridge Rd.	10	Rochester Rd. #76 to State Hwy 138	IIIs	County	0.4
	Stearns Lane	10A	Rolling Ridge Rd. #10 to Oakland city limits	IIIs	County	3.4
16	Oakland-Sutherland Route					
	Oakland Underpass	10B	Stearns Lane #10A to State Hwy 99	III	County	0.1
	Oakland Shady Hwy	338	Oakland Underpass #108 to Sutherland city limits	III	State	0.7
17	Church Rd.	9A	State Hwy 138 to	IIIs	County	0.5

Fort McKay Rd. # 9

BIKEWAY ROUTE ROUTE #	ROUTE NAME	ROAD NUMBER	LIMITS	CLASS	JURIS- DICTION	APPROXIMATE MILEAGE
18	Sutherlin-Garden Valley-Winchester Route					
	Fort McKay Rd.	9	Sutherlin city limits to Garden Valley Rd. #6	III	County	6.2
	Garden Valley Rd.	6	Fort McKay Rd. #9 to River Forks Park	III	County	7.4
	Old Garden Valley Rd.	6	River Forks Park to Garden Valley Rd. #6 (east)	III	County	1.4
	Garden Valley	31A	Garden Valley Rd. #6 (north) to Del Rio Rd. #31	III	County	0.6
	Del Rio Rd.	31	Garden Valley Rd. #31A to Del Rio Rd. #115	III	County	4.2
	Del Rio Rd.	115	Del Rio Rd. #31 to State Hwy 99	III	County	2.0
18A	Wilbur Rd.	31	Del Rio Rd. #31 to Oakland Shady Hwy 338	III	County	2.2
	Oakland Shady Hwy	338	Sutherlin city limits to College Rd. #284	III	County	4.4
18A (Cont.)	State Hwy	99	College Rd. #284 to Roseburg city limits excluding North Umpqua Bridge and segment between Club and Courier (North Roseburg)	III	State	3.7
	State Hwy	99	Bridge over North Umpqua River	III	State	0.1
	State Hwy	99	Club St. to Currier Ave. (North Roseburg)	II	State	0.2
18B	Garden Valley Rd.	31	Garden Valley Rd. #6 to Del Rio Rd. #31	III	County	1.2
19	Garden Valley Rd.	6	Roseburg city limits to Garden Valley Rd. #31A	III	County	3.4
20	Umpqua College Rd.	284	Oakland Shady Hwy #338 To UCC	III	County	1.7
21	Page Rd.	115A	State Hwy 99 to Mile Post 0.76	II	County	0.8

22	North Bank Rd.	200	Oakland Shady Hwy #338 to N. Umpqua Hwy 138	IIIs	County	17.0
	<u>BIKEWAY ROUTE</u>	<u>ROAD</u>	<u>LIMITS</u>	<u>CLASS</u>	<u>JURIS-DICTION</u>	<u>APPROXIMATE</u>
	<u>ROUTE #</u>	<u>NUMBER</u>				<u>MILEAGE</u>
22.5	Sunshine Rd.	58	North Bank Rd. #200 to North Umpqua Highway 138 (No Access Across River)	IIIs	County	5.0
23	North Umpqua Route (Revised 8/13/97)					
	Douglas Ave.	4A	Roseburg city limits to No. Umpqua Hwy 138	III	County	1.0
	North Umpqua Hwy	138	Douglas Ave #4A to Glide Loop Rd. #4G	III	State	13.7
	North Umpqua Hwy	138	Glide Loop Rd. #4G to river crossing	I	State	1.6
	North Umpqua Hwy	138	River crossing to Swiftwater Rd. #361	IIIs	State	4.4
	North Umpqua Hwy	138	Swiftwater Rd to Diamond Lake	IIIs	State	61
	Swiftwater Rd.	361	North Umpqua Hwy 138 to Swiftwater Park	IIIs	County	0.4
	Glide Loop Rd.	4G	North Umpqua Hwy 138 to North Umpqua Hwy 138 (alternate route)	III	County	2.0
24	Buckhorn Road Route					
	Buckhorn Rd.	4C	North Umpqua Hwy 138 to Dixonville Rd. #16	III	County	0.7
	Buckhorn Rd.	17	Dixonville Rd. #16 to O.C. Brown Park	III	County	1.1
	Buckhorn Rd.	17	O.C. Brown Park to Little River Rd. #17A	IIIs	County	10.2
	Little River Rd.	17A	Buckhorn Rd. #17 to No. Umpqua Hwy 138	IIIs	County	1.2
25	Whistler's Bend Park Access					
	Whistler's Lane	223	North Umpqua Hwy 138 to Whistler's Bend Pk. Rd. #244	IIIs	County	2.0

Whistler's Bend
Pk. Rd.

244

Whistler's Lane #223 to
Whistler's Bend Park

Ills

County

2.0

<u>BIKEWAY ROUTE #</u>	<u>ROUTE NAME</u>	<u>ROAD NUMBER</u>	<u>LIMITS</u>	<u>CLASS</u>	<u>JURIS-DICTION</u>	<u>APPROXIMATE MILEAGE</u>
26	Roseburg-Melrose Route					
	Melrose Rd.	167	Garden Valley Rd. #6 to Melrose Rd. #13	III	County	1.2
	Melrose Rd.	13	Melrose Rd. #167 to Melrose Rd. #51	III	County	0.2
	Melrose Rd.	51	Melrose Rd. #13 to Colonial Rd. #52	III	County	1.8
26.5	Harvard Ave. Extension		Roseburg city limits to Garden Valley Rd. #6 (No access across river)	III	County	2.5
27	The Craig Glass Fun Run-Bike Route					
	Melqua Rd.	13A	Melrose Rd. #13 to Cleveland Hill Rd. #59	III	County	4.2
	Cleveland Hill Rd.	59	Melqua Rd. #13 to Melrose Rd. #51	III	County	4.0
27.5	Cleveland Hill-Umpqua Route					
	Melqua Rd.	13 & 13A	Cleveland Hill Rd. #59 to Hubbard Ck. Rd. #6	III	County	5.8
	Hubbard Ck. Rd.	6	Melqua Rd. #13A to Fort McKay Rd. #9	III	County	1.2
28	Melrose-Lookingglass-Roseburg Route					
	Flournoy Valley Rd.	51	Colonial Rd. #52 to Reston-Lookingglass Road #5	III	County	6.3
	Reston-Lookingglass Rd.	5	Flournoy Valley Rd. #51 to Roseburg city limits	III	County	9.5
	Old Melrose Rd.	13	Roseburg city limits to Melrose Rd. #167	III	County	3.0
29	Roseburg-Green Route					
	State Hwy	99	Roseburg city limits to Carnes Road #16	III	State	2.5
	Carnes Rd.	16	State Hwy 99 to Roberts Ck. Rd. #16	III	County	2.0

**~~BICYCLE TRANSPORTATION GOALS, OBJECTIVES AND POLICIES FROM
THE DOUGLAS COUNTY COMPREHENSIVE PLAN AND
TRANSPORTATION SYSTEM PLAN~~**

BICYCLE TRANSPORTATION

GOAL: To provide a safe, convenient, and efficient bikeway network for Douglas County which addresses both transportation concerns and recreation needs.

OBJECTIVE A: To develop a system of bikeways throughout the County which meets the needs for all types of users consistent with the demand for each.

POLICIES:

1. Bikeways shall be provided which satisfy recreational needs both long distance and local.
2. Bikeways shall be provided which satisfy utilitarian needs by connecting major residential areas to major activity areas (recreational, employment, institutional, commercial) within the County
3. Strong emphasis shall be placed on providing bikeways which satisfy both recreational and utilitarian needs.
4. Bikeways shall be provided which connect communities within the County.
5. Bikeways shall be provided which are capable of serving the needs of secondary users such as joggers and hikers.
6. Emphasis shall be placed on providing bikeways which satisfy recreational needs over utilitarian needs particularly in the less densely populated portions of the County.
7. The need for short distance bikeways in the County's urban unincorporated areas should be assessed and, as appropriate, the Plan

amended to accommodate identified needs.

8. This Bikeway Plan should be periodically reassessed to ensure its consistency with identified needs is maintained.

OBJECTIVE B: To designate specific, cost efficient, bikeways in the unincorporated portions of the County which satisfy the needs of each bicycle user group.

POLICIES:

1. In the designation of specific bikeway routes, safety, cost of route construction and potential usage both by cyclists and other users shall be the primary criteria.
2. In instances where more than one route in an area would serve an identified need, the criteria used in selection of the most appropriate route shall include (in addition to safety, cost of construction and potential usage) directness, continuity, grade(s) and aesthetic quality of the route and frequency of required stops.
3. Emphasis shall be placed on designation of Class III and Class IIIs bikeways where practicable due to the high cost of constructing Class I and relatively undesirable aspects of Class II bikeways.
4. The designation and construction of Class II bikeways shall be discouraged due to the dangerous interface they create between cyclists and motor vehicles.
5. The Bikeway Master Plan Map, Map 2, designating specific bikeway locations, is part of the Douglas County Comprehensive Plan and included at the end of this Element.

OBJECTIVE C: To provide a system of bikeways which is coordinated with other jurisdictional bikeway plans.

POLICIES:

1. The County shall coordinate with other jurisdictions and agencies to ensure development of routes which are continuous across jurisdictional boundaries and which serve the needs of all Douglas County residents.
2. The County shall coordinate the designation and improvement of bikeways within urban growth boundaries with the affected cities.

OBJECTIVE D: To encourage safe bicycling and a safe bikeway system throughout the County.

POLICIES:

1. The County shall develop a comprehensive bicycle safety education program.
2. Safety shall be a primary consideration in designation of bikeways, particularly those intended primarily for short distance recreational and school use.
3. The County shall, within its means, assist school districts in the establishment of an ongoing bicycle safety education program.

OBJECTIVE E: To develop a set of standards for bikeway development and establish a system for prioritization of bikeway construction.

POLICIES:

1. All bikeways designated in this Bikeway Plan shall be developed to meet the appropriate County Bikeway Improvement Standards.
2. All Class III bikeways (excluding Class IIIs) shall ultimately include full Class III improvements including lane striping. However, to allow phasing of development of this Plan, signing of Class III bikeways shall take place as soon as a route meets minimum standards for signing, its construction is practicable, and the route is considered safe for use.
3. To facilitate the use of Class I bikeways by joggers, such bikeways,

where feasible, should be constructed with a maximum 2% cross slope.

4. The State of Oregon Department of Transportation is encouraged to install appropriate bikeway improvements on highways and roads under their jurisdiction (and within their maintenance system) as improvement projects are conducted on designated County bikeways. (Revised 8/13/97)
5. The State of Oregon should include in their Six Year Improvement Program provisions for implementation of County bikeway designations on State highways selected for improvement, construction or reconstruction. (Revised 8/13/97)
6. The County shall develop a program of capital improvements for designated bikeways on the County maintained road system.
7. Funds for development of bikeways should be expended throughout the County consistent with other considerations.
8. Bikeways which presently receive or are anticipated to receive upon improvement a high level of use should be improved prior to those which presently receive or are anticipated to receive lower levels of use.
9. Emphasis shall be placed on timely use of available County bikeway funds in cooperation with other agencies proposing to construct bikeways which fall within the jurisdiction of both agencies.
10. Emphasis shall be placed on improvement of locations along designated bikeways which have been identified as high accident locations.
11. In instances when a designated bikeway may be improved as part of scheduled improvements to a roadway at a cost significantly less than the cost of improving the bikeway independently, the bikeway should be improved as part of the roadway improvements.
12. No bikeway shall be signed, striped, or otherwise physically improved so as to indicate it is available for or encouraged to be used by bicyclists until such time as the entire route or a logical segment of it meets

County Bikeway Improvement Standards.

13. In the event that development of a Class I or III bikeway is impractical, a Class II bikeway may serve to implement designations of this Plan.
 14. In maintenance of County roads, an emphasis should be placed on those roads which also have been designated as bikeways by this Plan.
 15. After the establishment of each bikeway in Douglas County, an effort should be made to determine actual maintenance costs required to keep it in a safe and enjoyable condition for the user.
 16. Jurisdictions responsible for bikeways identified in this Plan should budget sufficient funds each year from available bikeway resources to accomplish the annual maintenance of all bikeways under its jurisdiction.
 17. Federal agencies should include within their respective land use programs the provision for implementation of bikeways designated by this Plan which are within their jurisdiction.
 18. New points of vehicular access to roads which have been designated as bikeways shall, as practicable, be minimized.
-

BIKEWAY ROUTE #	ROUTE NAME	ROAD NUMBER	LIMITS	CLASS	JURIS-DICTION	APPROXIMATE MILEAGE
29.5	Portland Ave.	56A	State Hwy 99 to I-5 Interchange #123 (No access across river)	III	County	0.3
30	Fairgrounds-Green Route		Fairgrounds to Carnes Rd. #16	I	County & State	1.9
31	Green-Dixonville Route					
	Roberts Ck. Rd.	16	State Hwy 99 to Dixonville Rd. #16	IIIs	County	10.0
	Dixonville Rd.	16	Roberts Ck. Rd. #16 to Hatfield Dr. #4D	IIIs	County	3.2
	Hatfield Drive	4D	Dixonville Rd. #16 to No. Umpqua Hwy 138	IIIs	County	0.7
32	State Hwy	42	Carnes Rd. #16 to Winston city limits	I	State	2.0
33	Winston Loop					
	Winston Rd.	111	State Hwy 99 to Winston Park Rd. #266	IIIs	County	1.5
	Winston Park Rd.	266	Winston Rd. #111 to Winston city limits	IIIs	County	0.5
34	Lookingglass-Winston Route					
	Lookingglass Rd.	47	Reston-Lookingglass Rd. #5 to Lookingglass Rd. 107	IIIs	County	5.0
	Lookingglass Rd.	107	Lookingglass Rd. #47 to Winston city limits	IIIs	County	0.8
35	Brockway Rd.	47	Lookingglass Rd. #107 to Dillard Hwy #387	IIIs	County	0.8
36	Happy Valley Rd.	26	Lookingglass Rd. #47 to Carnes Rd. #16	IIIs	County	4.7
37	State Hwy	42	Winston city limits to Lookingglass Ck.	II	State	0.2
	State Hwy	42	Lookingglass Ck. to Olalla-Tenmile Rd. #141	III	State	8.8

<u>BIKEWAY ROUTE #</u>	<u>ROUTE NAME</u>	<u>ROAD NUMBER</u>	<u>LIMITS</u>	<u>CLASS</u>	<u>JURIS-DICTION</u>	<u>APPROXIMATE MILEAGE</u>
38	Berry Creek Access					
	Olalla-Tenmile Rd.	141	State Hwy 42 to Olalla-Coos Bay Rd. #140	IIIs	County	1.1
	Olalla-Coos Bay Rd.	140	Olalla-Tenmile Rd. #141 to Berry Ck. Access Rd. #365	IIIs	County	1.0
	Berry Creek Access Rd.	365	Olalla-Coos Bay Rd. #140 to Berry Creek Reservoir	IIIs	County	2.0
39	State Hwy	42	Upper Camas Rd. #128 to South Camas Rd. #131S	III	State	1.2
40	Main Camas Rd.	131W	State Hwy 42 to Camas Valley Elementary School	III	County	.2
41	Winston-Myrtle Creek Route					
	Dillard Hwy.	387	Winston city limits to Dole Rd. #14	III	County	6.0
	SOUTH COUNTY					
	Dole Rd.	14	Dillard Hwy #387 to Myrtle Ck. city limits (Gravel)	IIIs	County	5.6
42	South Myrtle Route					
	South Myrtle Rd.	18	Myrtle Ck. city limits to Lower South Myrtle Rd. #18A	IIIs	County	1.2
42 (Cont.)	Lower South Myrtle Road	18A	South Myrtle Rd. #18 to Myrtle Ck. city limits	IIIs	County	1.2
43	Covered Bridge Route					
	Days Creek Cutoff Rd.	42	Myrtle Ck. city limits to Neal Lane #124	IIIs	County	0.6
	Neal Lane	124	Days Ck. Cutoff Rd. #42 to Myrtle Ck. city limits	IIIs	County	0.2
44	Myrtle Creek Hwy	386	Myrtle Creek city limits to I-5 Interchange #103	III	County	3.9
45	Chadwick Rd.	20B	Myrtle Creek Hwy #386 to So. Umpqua High School	III	County	0.6

<u>BIKEWAY ROUTE #</u>	<u>ROUTE NAME</u>	<u>ROAD NUMBER</u>	<u>LIMITS</u>	<u>CLASS</u>	<u>JURIS-DICTION</u>	<u>APPROXIMATE MILEAGE</u>
46	Tri City-Riddle Route					
	Pruner Rd.	20	I-5 Interchange #103 to Riddle Bypass Rd. #263	IIIs	County	0.6
	Riddle Bypass	263	Pruner Rd. #20 to Glenbrook Loop Rd. #39 (excluding section within Riddle city limits)	IIIs	County	2.4
47	Glenbrook Loop Rd.	39	Riddle city limits to Hanna Nickel entrance	IIIs	County	2.7
48	Canyonville-Riddle Rd.	21	Riddle city limits to Canyonville City Limits	IIIs	County	4.8
49	Yokum Rd.	20A	Riddle city limits to I-5 Interchange #101	IIIs	County	2.4
50	Tiller Trail Hwy	1	I-5 Interchange #101 to Canyonville city limits	III	County	2.4
51	Tiller Trail Hwy	1	Canyonville city limits to Herbert's Pond Park	III	County	0.7
	Tiller Trail Hwy	1	Herbert's Pond Park to Tiller-So. Umpqua Rd. #46	IIIs	County	22.0
52	Canyonville Park Rd.	215	Tiller Trail Hwy #1 to Canyonville Co. Park	IIIs	County	0.4
53	Windy Creek Park Access					
	Azalea-Glen Rd.	12B	Glendale city limits to Azalea-Glen Rd #12	III	County	0.3
53	Azalea-Glen Rd.	12	Azalea-Glen Rd. #12B to Windy Creek Rd. #28	III	County	0.2
	Windy Creek Rd.	28	Azalea-Glen Rd. #12 to end County Rd.	IIIs	County	5.7
	State Forestry Rd.	32-6-13	End County Rd. to Windy Creek County Pk.	IIIs	State	0.6
54	Diamond Lake Loop		Route circles Diamond Lake	I	Federal	10.4

BIKEWAY ROUTE ROUTE #	ROUTE NAME	ROAD NUMBER	LIMITS	CLASS	JURIS- DICTION	APPROXIMATE MILEAGE
55	Diamond Lake-Crater Lake Route (Revised 8/13/97)					
	Forest Service	6592	Diamond Lake Loop to State Hwy 230	III	Federal	0.7
	State Hwy.	230	Forest Service Rd. #6592 to State Hwy 138	III	State	0.4
	State Hwy.	138	State Hwy 230 to Southern County limits	III	State	4.4
56	Diamond Lake-Lemolo Lake Bike Trail		Diamond Lake to Lemolo Lake	I	Federal	8.4
57	Glendale/Powers Bike Trail		Glendale to		State County Line	21
58	Green Area Austin Road	207A	Rolling Hills to Old Hwy 99S	III	County	1.2
	Cannon Ave	289	Stella St. to Hanna St.	III	County	0.1
	Chandler Road	354A	Carnes Rd. to Melody Lane	III	County	0.4
	Coronado Drive	278N	Del Mar Rd to Green Ave.	III	County	0.2
	Delmar Drive	278A	Carnes Rd to Beech St.	III	County	0.4
	Georginna Drive	375D	Rolling Hills Rd Stella St.	III	County	0.2
	Grange Road	349	Hwy 42 to Roberts Creek Rd.	III	County	0.7
	Green Siding Rd	110	Industrial Dr. to Carnes Rd.	III	County	0.6
	Green Ave.	278F	Carnes Rd. to Circle Dr.	III	County	0.5
	Hermosa Way	278P	Green Ave. to Austin Rd.	III	County	0.2
	Landers Ave	153	Rolling Hills to Melody Ln.	III	County	0.6
	Little Valley Rd	186	Happy Valley Rd 90 degree bend	III	County	0.6
	Melody Lane		Landers Ln to Rolling Hills Rd III	Public		0.8
	Rolling Hills Rd	366	Hwy 42 to Happy Valley Rd	III	County	1.8
	Stella Street	246	Austin Rd to Melody Ln.	III	County	0.5

Consistency With Other Bikeway Plans

216. The Association of Oregon Counties (AOC) developed the Integrated Road Information System (IRIS) specifically for use by Oregon counties. IRIS is designed to acquire and maintain data concerning the roads contained within a county.
217. The objectives of IRIS are to: develop a customized computer system for Oregon's needs, provide better road management tools, develop efficient data acquisition methods and supply information as concisely as possible.

218. The inventory of road shoulders was utilized to evaluate the Class III and Class IIIs routes. In general, the Class III and Class IIIs routes are four foot wide paved surfaces.
219. The Year 2000 update of the Bicycle and Pedestrian Plan considered and evaluated the Urban Unincorporated Areas, Rural Communities and Rural Service Centers. At a minimum, pedestrian access to community centers is available on rudimentary undeveloped routes.
220. Presently, sidewalks are not available in most areas. This has occurred because development has used private road access, construction standards differed at the time the roads were built and a priority was set to complete the vehicle road network.
221. The City of Roseburg adopted a Bikeway Master Plan on July 1988. The City of Reedsport adopted a Bikeway Master Plan on May 1990. These are the only cities in Douglas County with an adopted bikeway plan. (Revised 8/13/97)
222. Bikeways which are shown on the Bikeway Master Plan Map within cities are either in existence or have been adopted as bikeways by those cities.
223. Bikeways within the urban growth boundaries of the cities have been included in this Plan. These routes, particularly the ones which abut city limits, have been coordinated with the affected cities to ensure continuity through these areas.
224. Of the counties which are adjacent to Douglas County, only Jackson and Josephine Counties have adopted bikeway plans. Neither of these plans have designated bikeways which abut Douglas County.
225. Five bikeways within the State bikeway system, the Coast Bicycle Route (Hwy. 101), Interstate-5, Hwy 138, 38 and 42, passes through Douglas County. Bicycle facilities should be provided along the sections of Highway 38 from Drain to Elkton and Reedsport to Scottsburg. All five bikeways are included as part of this Plan. (Revised 8/13/97)
226. There is no comprehensive plan for bikeway development in the Umpqua National Forest. However, the Forest Service has constructed a Class I bikeway that circles Diamond Lake. The Oregon Department of Transportation plans for Diamond Lake-Crater Lake Route has not been completed to date. The connections from the highway to the lake via Forest Service bike routes were completed. The highway portion has been included as it is considered to provide good recreational opportunities for campers in the Diamond Lake area to visit Crater Lake. (Revised 8/13/97)
227. The Bicycle Travel Association was instrumental in establishing in 1976 the TransAmerica Bicycle Trail from Astoria, Oregon, to Yorktown, Virginia. This 4,250 mile train is the longest recreational train in the world. An integral part of this trail is referred to as the Pacific Alternate, a 100.7 mile trail from Winchester Bay to Eugene. This alternate route is also included in this Plan as Bikeway Route #8. (Revised 8/13/97)
228. The State Comprehensive Outdoor Recreation Plan 1977 (SCORP) published by the State Parks Department, indicates that by 1990 Douglas County will have a need for 44 miles of bikeways. This projection is significantly lower than the mileage included in this Plan. The 1995 SCORP has divided the state into 12 regions, Douglas County is located in Region 6 (Coastal) and Region 9. Region 6 contains 10 miles of bicycle trails with a level of use at 468,740. Region 9 Contains 146 miles of bicycle trails with a level of use at 1,073,070. The Plan projects an increase in use from 1987-2000 of 7% for Region 6 and 71% for Region 9. (Revised 8/13/97)
229. The SCORP projections are qualified by the State Plan as having a "low level of reliability". These

projections are countered by the results of local meetings conducted by the State which indicated bike trails to be a high priority.

IMPLEMENTATION

Responsible Agencies

230. The responsibility for improvement and maintenance of the bikeways designated by this Plan lies with those agencies which have jurisdiction over the right-of-ways on which the bikeways are located. A breakdown of the mileage for which each agency is responsible is as follows: (Revised 8/13/97)

County	278.6 miles
State	340.0 miles
Forest Service	38.1 miles
Bureau of Land Management	21.9 miles

231. The Federal government is not statutorily required to take land use actions consistent with County plans and policies. However, it is likely that Federal participation in development of these bikeways under Federal jurisdiction will occur. The bikeways identified in the National Forest will meet the needs of the recreational cyclists, as identified in this Plan.

Guidelines for Construction Priorities

232. Priorities for improvement of bikeway facilities were determined through several modes of public input including questionnaires, staff discussions and guests attending committee meetings. Information was also obtained from other agencies involved in bikeway planning and design, from literature on the subject of bikeways, and from existing bikeway trail systems manuals and descriptions.

233. Numerous considerations are to be used in prioritizing bikeways for construction including the following:

- a. Timely use of available county bicycle funds in cooperation with other agencies proposing to construct bikeways which fall within the jurisdiction of both agencies.
- b. Bikeways which presently receive a high level of use and those bikeways which, upon improvement, are anticipated to receive a high level of use over those which presently receive or are anticipated to receive lower levels of use.
- c. Distribution of available funds throughout the County consistent with other considerations.
- d. Timing consistent with roadway improvements. If a designated bikeway may be improved as part of scheduled improvements to a roadway at a cost significantly less than the cost of bikeway improvements if installed independently, improvements of this bikeway should be a high priority.

Funding Sources

234. Funding for improvements of bikeways is available from various sources at the Federal and State levels in addition to County financing.

235. In 1971 the Oregon Legislature adopted the "Bicycle Bill" which requires that not less than one per

cent of the funds received each year by any county from the State Highway Fund shall be expended to establish footpaths and bicycle trails along newly constructed, reconstructed, or relocated highways.

Bikeway Design

236. In Douglas County, bikeways are divided into four distinct classifications which have been determined necessary to provide the overall bikeway facilities required to fulfill the needs and potential users in this County, commensurate with monies available for these facilities. These bikeways are classified as follows:

Class I: A separate trail for joint use of bicyclists and pedestrians. It may be entirely independent of other transportation facilities.

Class II: A bikeway that is adjacent to the travel lane of motorized traffic, but provides a physically separated through lane for bicycles and pedestrians.

Class III: A bikeway that shares the roadway with motor vehicles. Class III routes are designated by signing, striping, and other visual markings. A Bicycle Lane is a Class III Bikeway.

Class IIIs: A Class III bikeway which is signed only. A Bicycle Route is a Class IIIs Bikeway.

237. Separate Class I bicycle paths on their own right-of-way along a street or freeway are the ideal bicycle facility.

238. The minimum widths of bike paths should be at least 10 feet, and consideration should be given to even wider cross sections to provide ample space to allow riding abreast and sharing with joggers and pedestrians.

239. A commonly used Class II bikeway treatment involves the adaptation of new or existing sidewalks for bike use by constructing curb cuts at intersections.

240. Some early bikeways used sidewalks for both pedestrian and bicyclists. While in rare instances this type of facility may be necessary or desirable for use by small children, in most cases it should be avoided. (Revised 8/13/97)

241. Sidewalks are not suited for cycling for several reasons:

- Cyclist face conflicts with pedestrians;
- There may be conflicts with utility poles sign posts, benches, etc.
- Bicyclists face conflicts at driveways, alleys and intersections
- Bicyclists are put into awkward situations at intersections where they cannot safely act like a vehicle but are not in the pedestrian flow either, which creates confusion for other road users. Cyclists are safer when they are allowed to function as roadway vehicle operators, rather than as pedestrians. (Revised 8/13/97)

242. Where constraints do not allow full-width walkways and bikeways, solutions should be sought to accommodate both modes (e.g. narrowing travel lanes or reducing on-street parking). In some urban situations, preference may be given to accommodating pedestrians. Sidewalks should not be signed for bicycle use - the choice should be left to the users. (Revised 8/13/97)

243. Striping Class III bike lanes on the street adds legitimacy and credence to the cyclists' presence on the road and defines a physical area for cycle riding.

244. Bike lane striping is a visual reminder to both cyclist and motorist which reinforces cyclist obedience to the rules of the road, encourages more predictable behavior while stimulating motorist consciousness relative to the presence of cyclists.
245. It is intended that all proposed Class III bikeways be ultimately improved to their full designated standards, which would include signing, lane striping, and stenciling of symbols and word messages on the pavement.
246. In order to allow safe and practical phase development of Class III bikeways, they must not be signed as Class IIIs bikeways until all the criteria for this latter class has been met.
247. A Class IIIs Bikeway is a treatment whereby certain streets in the street network are designated as Bike Routes, and bikes share the roadway with autos, but without bike lanes.
248. Properly used, however, the signed bike route is a very effective tool to provide specific designated linkage within the framework of the Bikeway Plan along streets of low volume which, because of their location, serve a cyclist's purpose.

Design Standards

249. The design of bikeway improvements in Douglas County shall, in general, conform to standards set forth in the American Association of State Highway and Transportation Officials' Guide for Development of New Bicycle Facilities, dated October 3, 1991. (Revised 8/13/97)
250. These standards are intended to provide appropriate guidance for the design and construction of bikeways within the right-of-way of streets and roads under the maintenance jurisdiction of public agencies within the County. They shall also apply as minimum requirements to all new development in Douglas County where bikeway facilities are proposed or required by the governing authority.

Bikeway Operation and Maintenance

251. Roads and highways with bicycle traffic often require a higher level of maintenance than other highways.
252. Neglected maintenance will render a bicycle facility unrideable, and the facility will become a liability rather than an asset.
253. Once the system envisioned by this Bikeway Master Plan is fully implemented, most, if not all, of the bikeway revenues from State gasoline tax will be spent on operation and maintenance of the system.

BICYCLE SAFETY EDUCATION

254. An organized bicycle safety education program to broaden the rider's knowledge and skill is badly needed in Douglas County.
255. The existing bicycle programs in Douglas County are primarily taught by law enforcement officers at the invitation of area schools.
256. The majority of parents consider a bicycle a toy for their child. This concept needs to be changed to recognition of the bicycle as a means of transportation.
257. Reaching parents can be achieved through school handouts and child education.

258. Riders need to become familiar with their equipment. Properly functioning equipment will promote better bicycling.
259. Use of the bike path sign along designated bikeways will increase public awareness particularly operators of motor vehicles, of the possibility of bicyclists in the area.
260. Law enforcement is a necessary component of bicycle safety. Stricter enforcement can limit both intentional and unintentional infractions. As with any law, lack of enforcement leads to a general disregard of the law. Local police officers should be willing to enforce the motor vehicle code with bicyclists and motorists. (Revised 8/13/97)
261. At this point, the court system seems adequate to handle the violations. The County's size and decentralized nature discourages a bicycle court concept.
262. A comprehensive bikeway safety education program should be developed as a means of promoting safe bicycling in Douglas County.

BICYCLE LAWS AND LEGISLATION

Laws

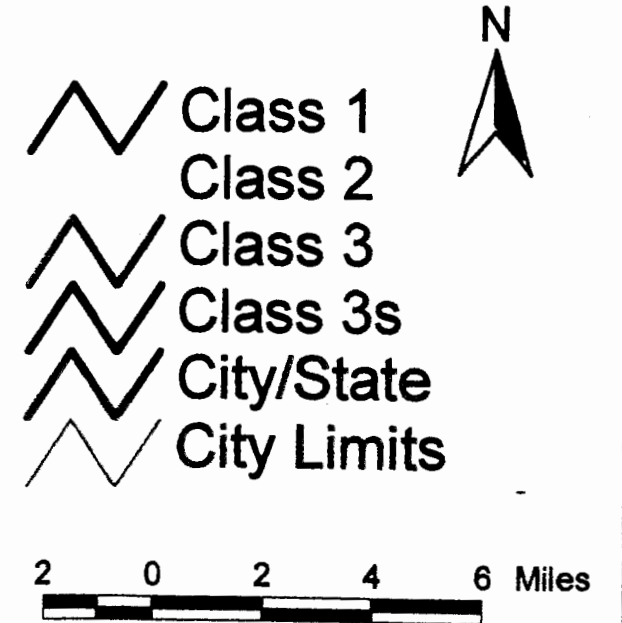
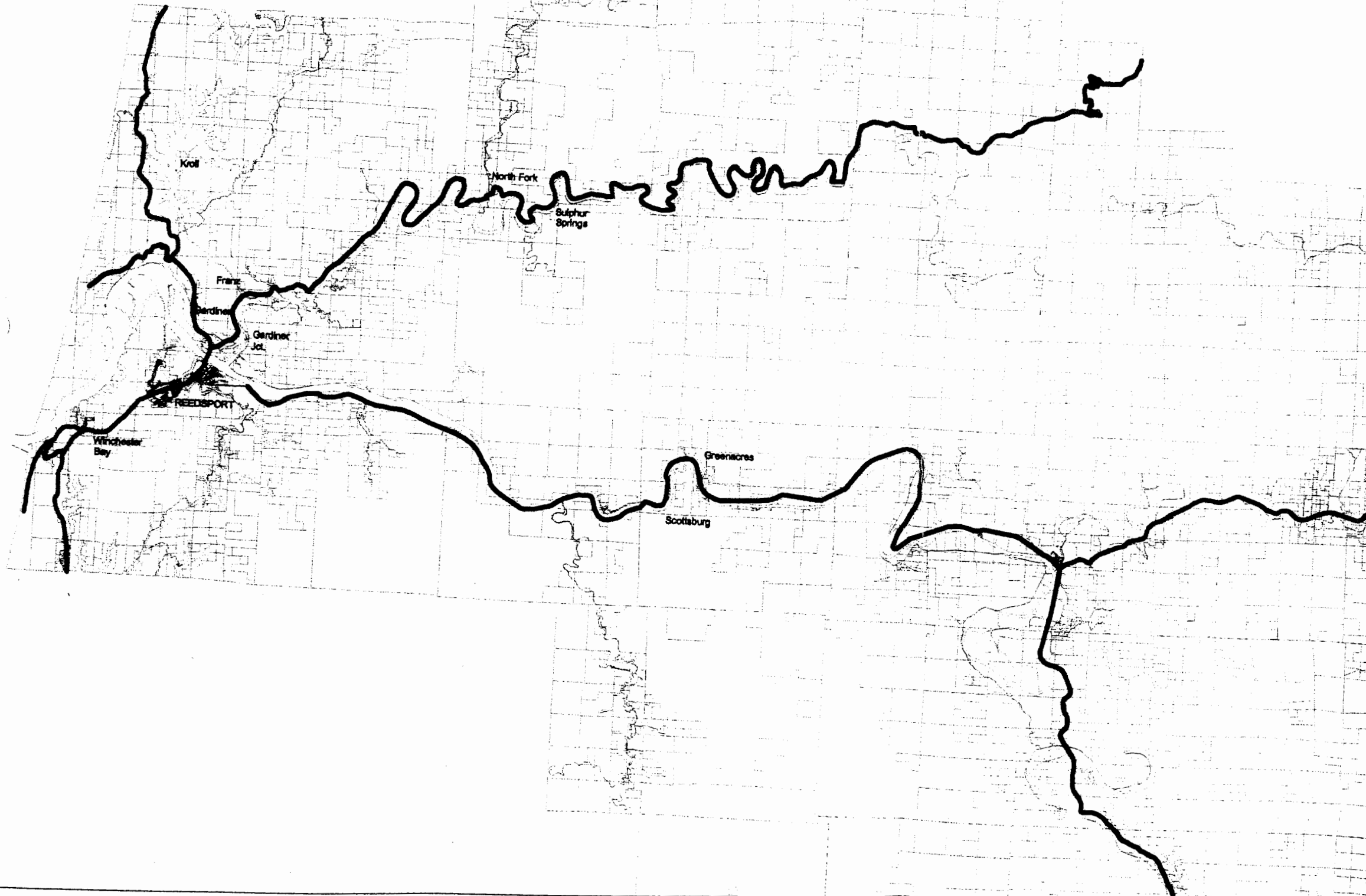
263. Douglas County utilizes the Oregon Revised Statutes in its regulation of bicycles and their use in the County. No additional regulation has been adopted by the County which further addresses this topic.
264. Bicyclists must know and obey the rules of the road except for those which cannot apply to bicycles.
265. Bicyclists have the same rights and duties as drivers of motor vehicles.
266. There are additional rules which apply to bicyclists.

Legislation

267. Both the Federal Government and State of Oregon during the past 10 to 15 years have recognized the significance of bicycling by enacting various Bills and other legislative rules relating to this activity.
268. The Oregon Recreational Trails System Act of 1971 established a state trails system for hiking, horseback riding, and bicycling.
269. In 1971 the Oregon Legislature enacted the "Bicycle Bill" which requires that bikeways or footpaths be established as part of all highway projects except where the establishment of such facilities would be contrary to public safety, disproportionate in cost to the need in probable use, or where sparsity of population, other available ways, or other factors indicate an absence of any need or probable use.

Transportation Element Map A

Bikeway Classes



Douglas County
Planning Department
Room 106
Justice Building
Courthouse
Roseburg, OR 97470
541-440-4289



June 1, 2001

Transportation Element Map B

Bikeway Classes

Class 1
Class 2
Class 3
Class 3s
City/State
City Limits

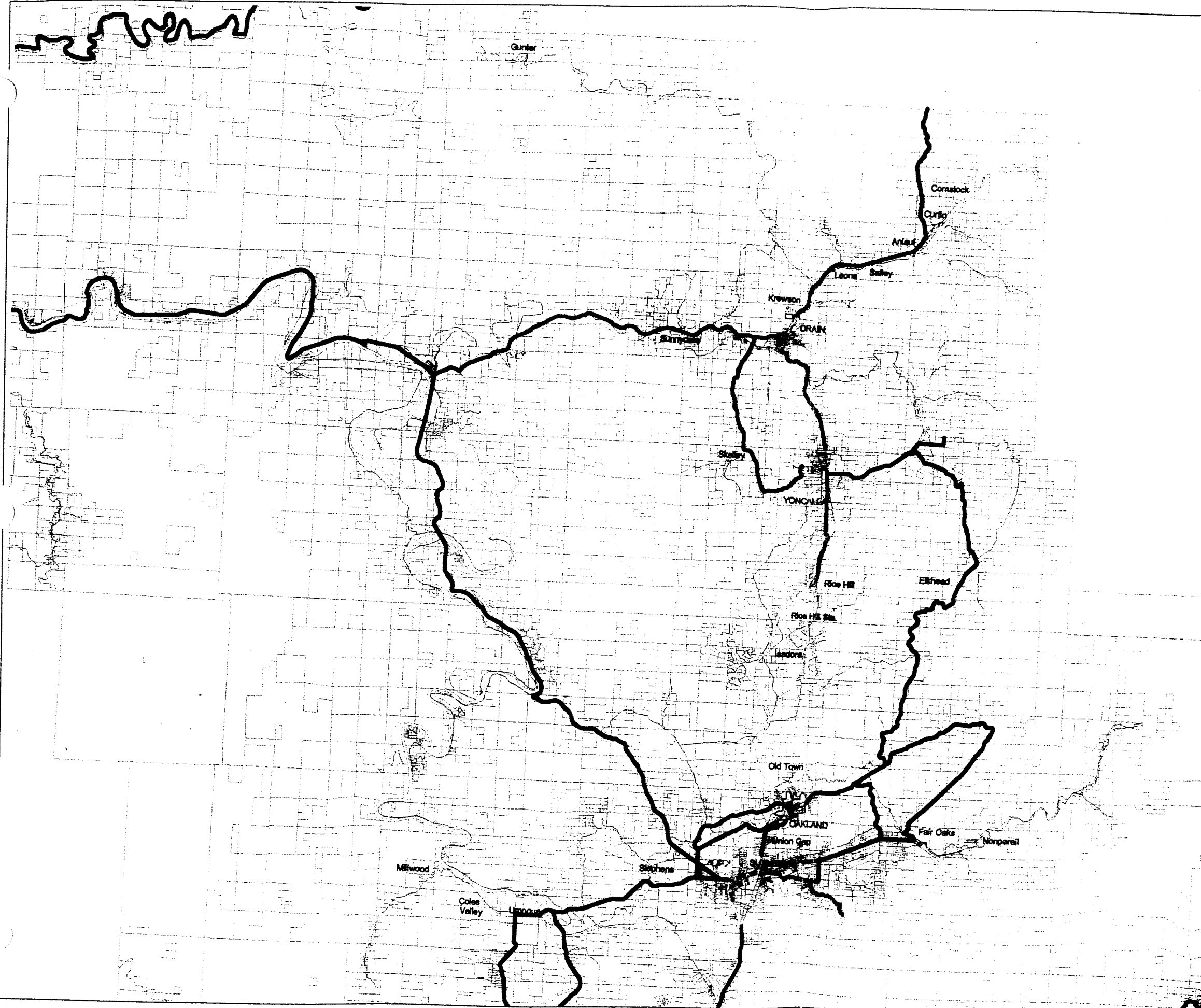
2 0 2 4 6 Miles

The legend shows five line styles for bikeway classes: Class 1 (a simple zigzag), Class 2 (a double zigzag), Class 3 (a triple zigzag), Class 3s (a quadruple zigzag), City/State (a thick solid line), and City Limits (a thin solid line). A north arrow is located to the right of the legend. Below the legend is a scale bar marked from 0 to 6 miles.

Douglas County
Planning Department
Room 106
Justice Building
Courthouse
Roseburg, OR 97470
541-440-4289

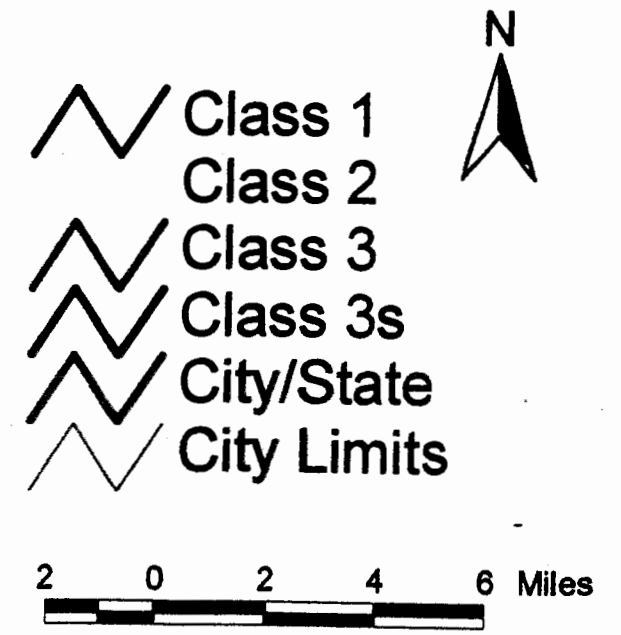


June 1, 2001



Transportation Element Map C

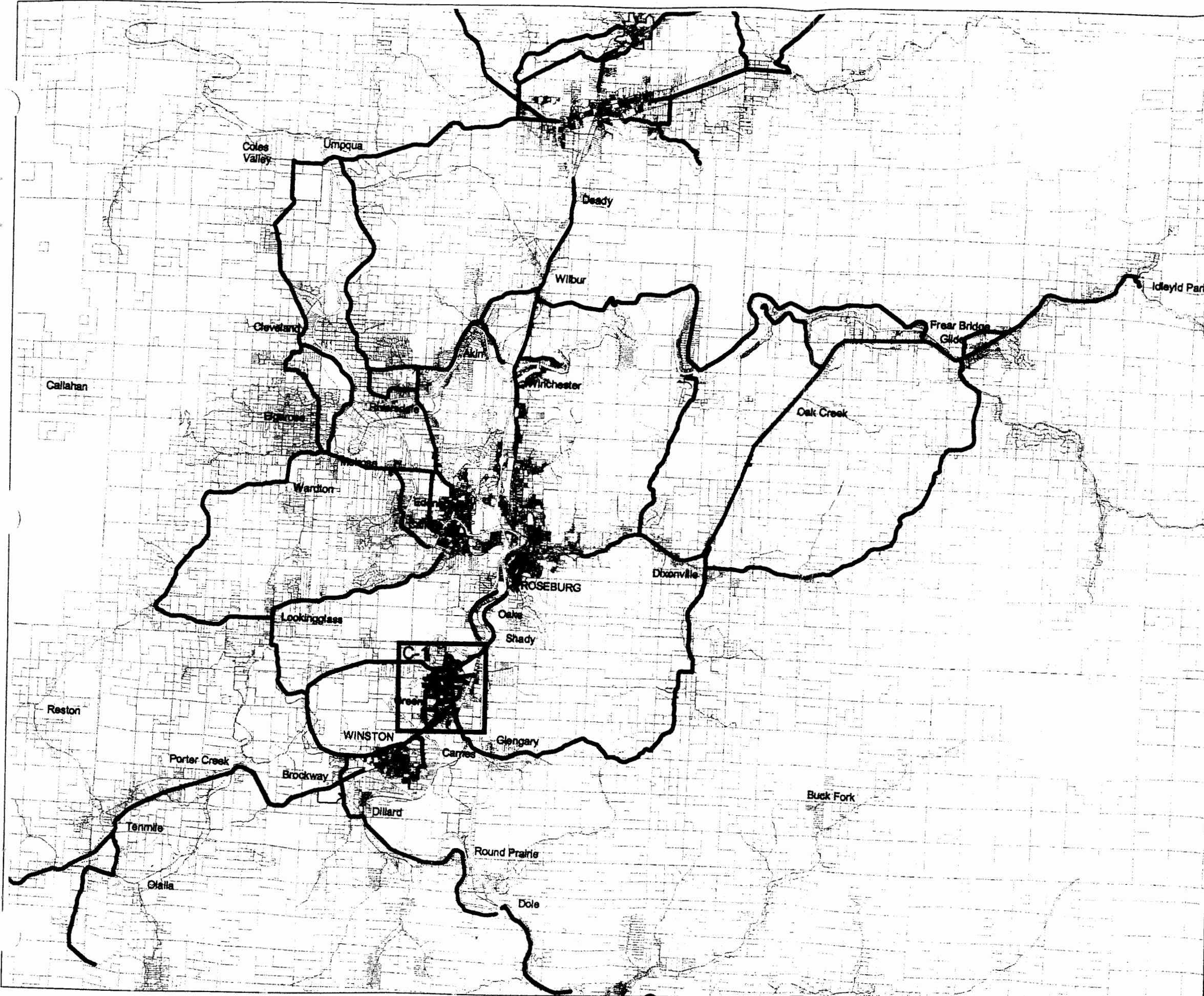
Bikeway Classes



Douglas County
Planning Department
Room 106
Justice Building
Courthouse
Roseburg, OR 97470
541-440-4289

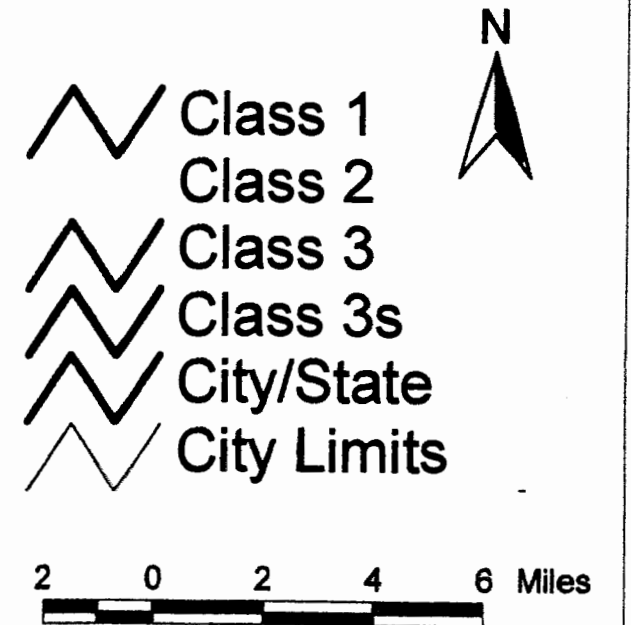


June 1, 2001



Transportation Element Green (C-1)

Bikeway Classes




Douglas County
Planning Department
Room 106
Justice Building
Courthouse
Roseburg, OR 97470
541-440-4289










June 1, 2001

Transportation Element Map D

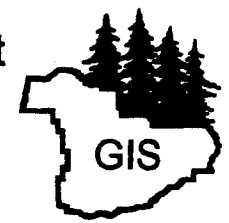
Bikeway Classes



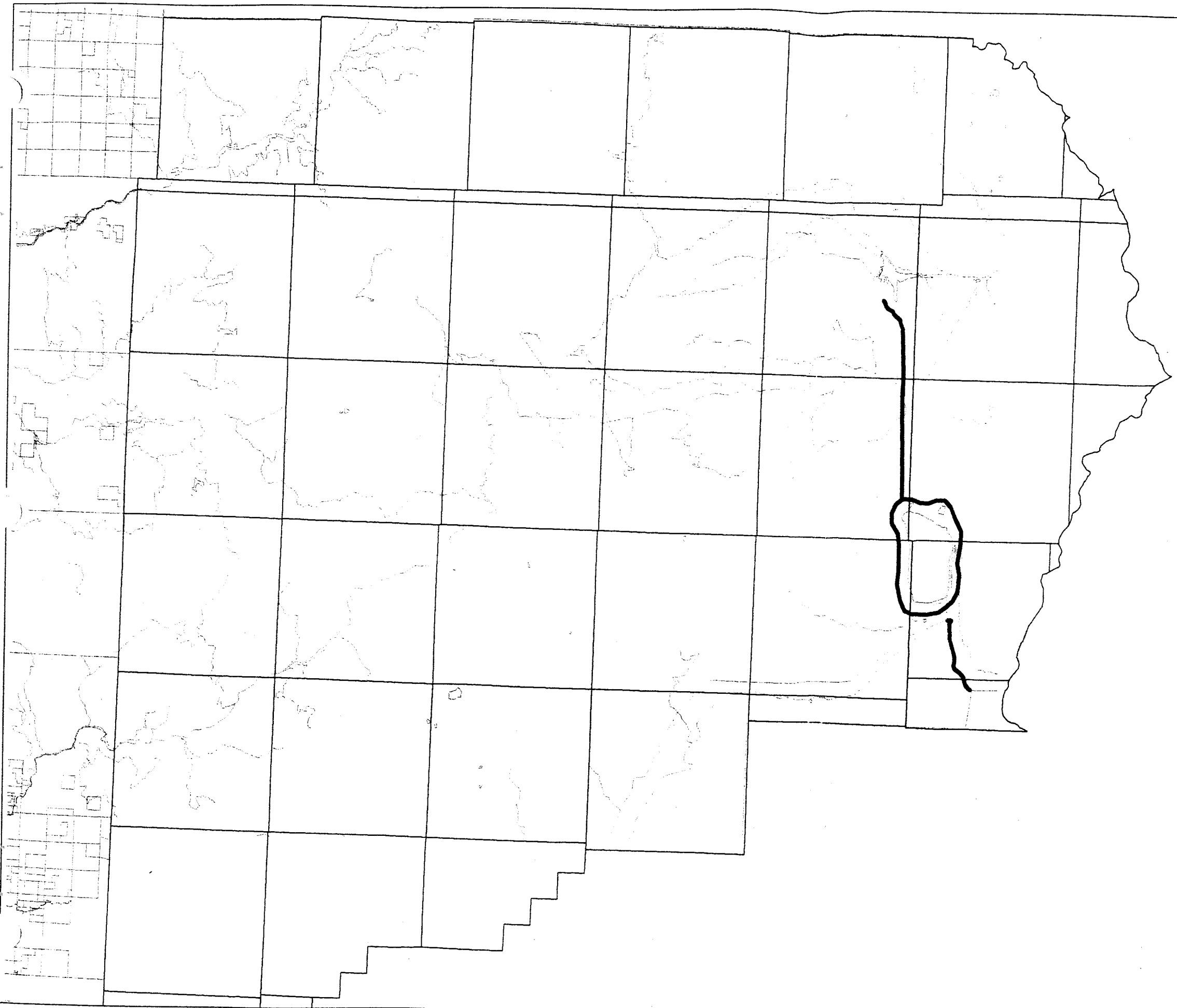
-  Class 1
-  Class 2
-  Class 3
-  Class 3s
-  City/State
-  City Limits



Douglas County
Planning Department
Room 106
Justice Building
Courthouse
Roseburg, OR 97470
541-440-4289

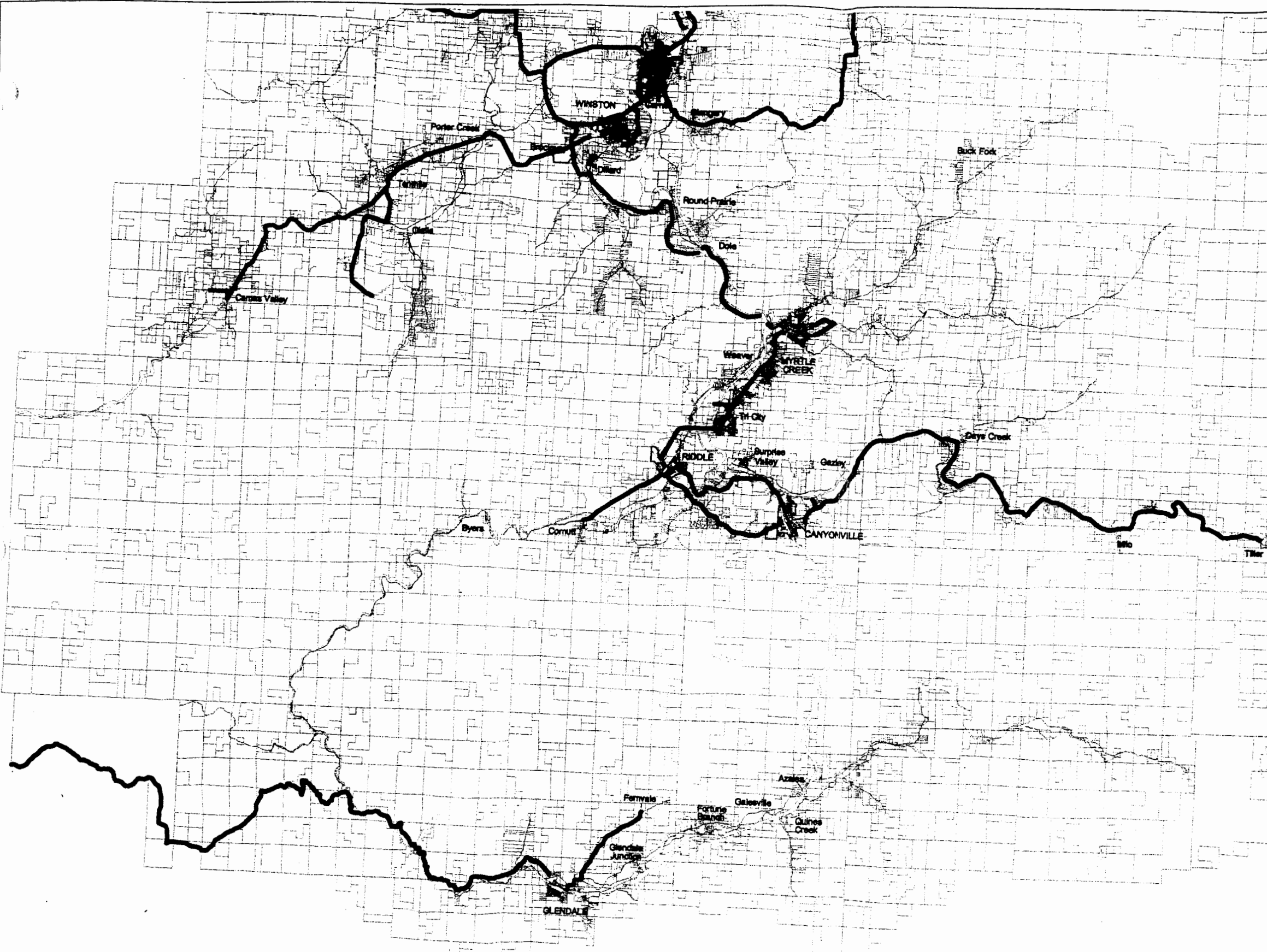
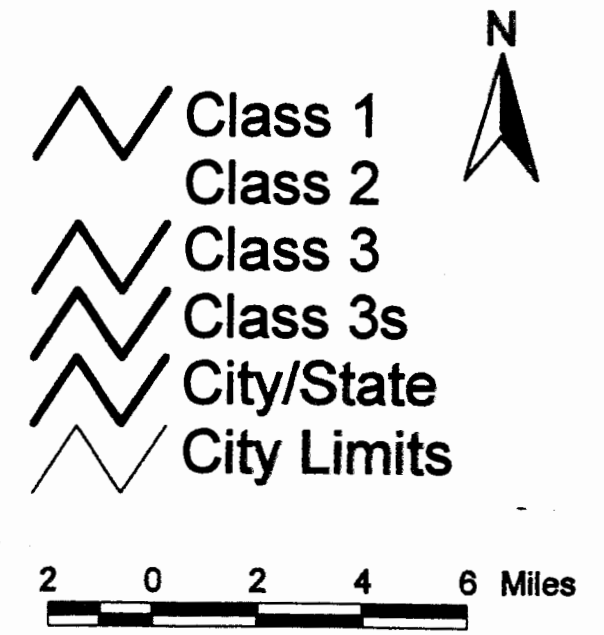


June 1, 2001



Transportation Element Map E

Bikeway Classes

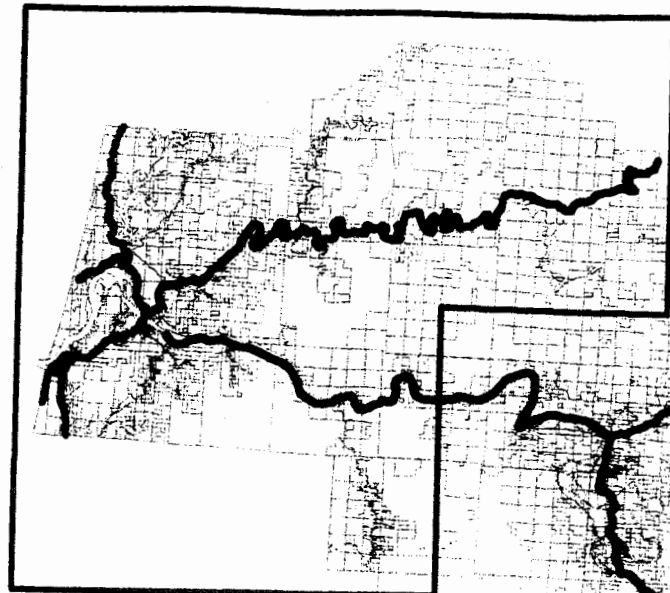


Douglas County
Planning Department
Room 106
Justice Building
Courthouse
Roseburg, OR 97470
541-440-4289

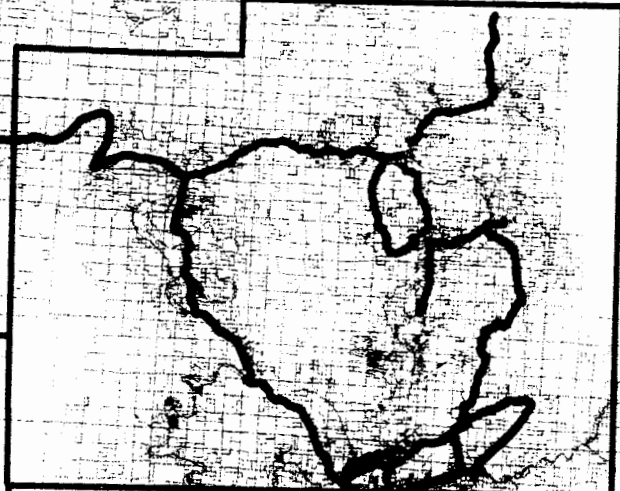


June 1, 2001

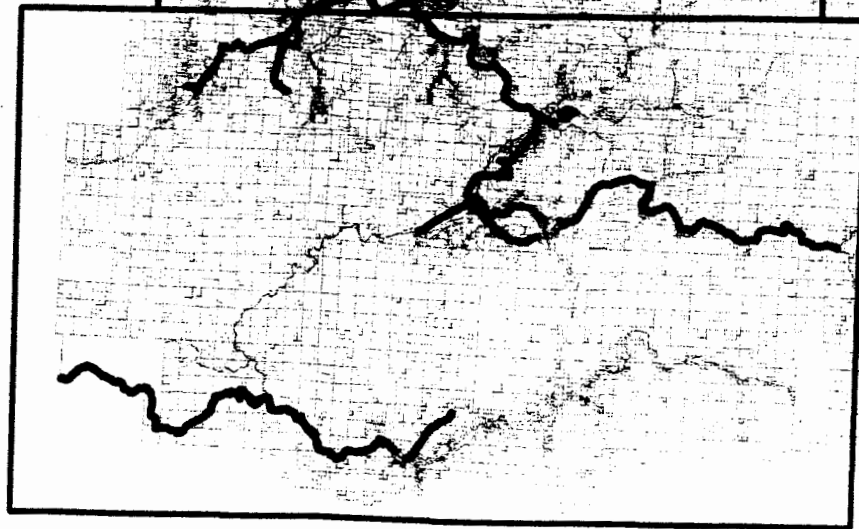
A



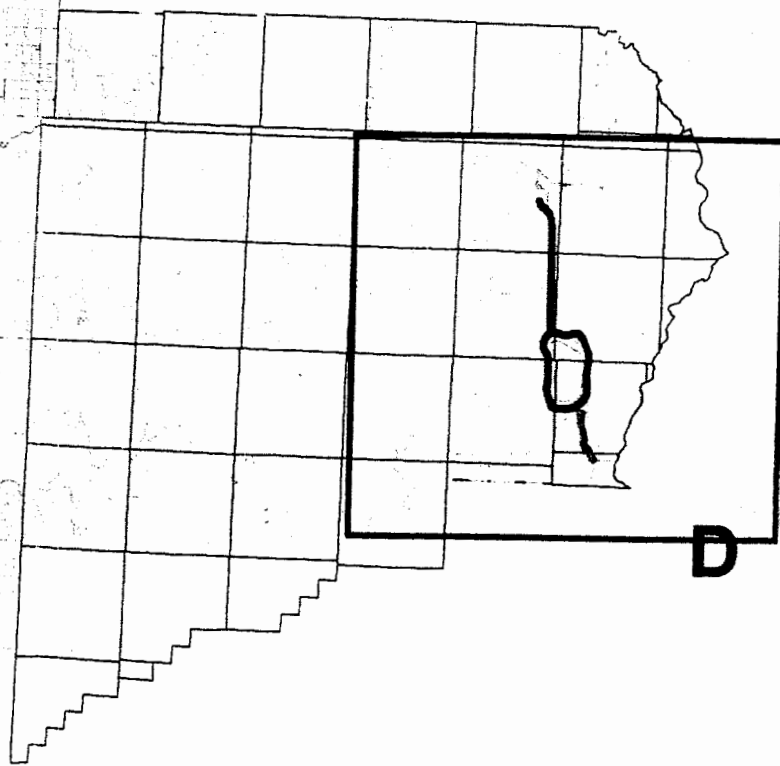
B



C



E





D

Transportation Element Index

Bikeway Classes

 Bike index.shp

 Class 1
 Class 2

 Class 3
 Class 3s

 City/State



Douglas County
 Planning Department
 Room 106
 Justice Building
 Courthouse
 Roseburg, OR 97470
 541-440-4289



June 1, 2001

Douglas County Transportation System Plan Completion Project

Section 3: Sidewalks



Section Three

ISSUE TWO: SIDEWALK REQUIREMENTS

From the LUBA decision - Fifth Assignment of Errors:

Petitioner's Argument

Reasonably direct routes for bicycle and pedestrian travel in urban and rural communities not provided in the TSP. A narrow geographic scope is not acceptable. Current sidewalk regulations do not meet OAR requirements.

Douglas County's Response

Bicycle and pedestrian travel is addressed as part of Issue One. Sidewalks are currently mandated along arterials, collectors and most local streets in Douglas County urban areas as required in OAR 660-012-045(3)(b)(B). See below for supporting evidence.

Relevant OAR Provisions

OAR 660-012-045 States, in relevant part:

(3) Local governments shall adopt land use or subdivision regulations **for urban areas and rural communities** as set forth below. The purposes of this section are to provide for safe and convenient pedestrian, bicycle and vehicular circulation consistent with access management standards and the function of affected streets, to ensure that new development provides on-site streets and accessways that provide reasonably direct routes for pedestrian and bicycle travel in areas where pedestrian and bicycle travel is likely if connections are provided, and which avoids wherever possible levels of automobile traffic which might interfere with or discourage pedestrian or bicycle travel.

(b) On-site facilities shall be provided which accommodate safe and convenient pedestrian and bicycle access from within new subdivisions, multi-family developments, planned developments, shopping centers, and commercial districts to adjacent residential areas and transit stops, and to neighborhood activity centers within one-half mile of the development. Single-family residential developments shall generally include streets and accessways. Pedestrian circulation through parking lots should generally be provided in the form of accessways.

(B) Bikeways shall be required along arterials and major collectors. Sidewalks shall be required along arterials, collectors and most local streets in urban areas, except that sidewalks are not required along controlled access roadways, such as freeways

Sidewalks

OAR 660-012-045 and OAR 660-12-045(3)(b)(B) assert that bikeways are required along arterials and major collectors and that sidewalks are required along arterials, collectors and most local streets in urban and rural communities. Douglas County has reviewed its sidewalk requirements on a planning area wide basis and offers a breakdown of these requirements from a resource to rural to urban perspective.

- **Resource lands** comprise the majority of land in Douglas County. The following table was taken from the Douglas County Comprehensive Plan. It shows the allocation of land by type in Douglas County. Two percent of the land is either urban or committed. On the other hand, 98% of the land is considered resource. Resource zoned land has an 80 acre minimum parcel size. Also significant is that Federal, State, and local governments own approximately 54% of the land area in Douglas County. These lands are primarily National and State forests. According to the cited OAR's, sidewalks are not required in resource areas. *Sidewalks are not required for 98% of Douglas County's area.*

<u>TYPE</u>		<u>ACRES</u>	<u>PERCENT OF COUNTY TOTAL</u>
URBAN	City UGB's	22,915	
	County UUA's	<u>6,585</u>	
	Subtotal	29,500	1%
COMMITTED	Residential	31,550	
	Other	<u>4,690</u>	
	Subtotal	36,240	1%
EXCEPTION	Residential	750	
	Other	<u>1,035</u>	
	Subtotal	1,785	*
NONEXCEPTION		3,190	*
INDUSTRIAL RESERVE		460	*
TOTAL NONRESOURCE		71,175	2%
<hr/>			
TIMBERLANDS	TR Zone	2,429,630	75%
FARM FOREST TRANSITIONAL			
	FF Zone	398,725	
	AW Zone	<u>14,920</u>	
	Subtotal	413,645	13%
AGRICULTURE	FG Zone	262,135	
	FC Zone	<u>34,810</u>	
	Subtotal	296,945	9%

COASTAL RESOURCE	28,965	1%
TOTAL RESOURCE	3,169,185	98%

TOTAL ACRES IN DOUGLASCOUNTY 3,240,360 100%

* Less than one-tenth of one percent

- **Rural Service Centers** are nodes of commercial or industrial land uses that serve surrounding rural inhabitants and those traveling through. Specifically defined in the OAR 660-22-010(8) as:

"Rural Service Center" is an unincorporated community consisting primarily of commercial or industrial uses providing goods and services to the surrounding rural area or to persons traveling through the area, but which also includes some permanent residential dwellings.

Actual number of dwellings within their boundaries is low. Rural Service Centers do not serve densely populated areas, in fact Rural Service Centers contain only 0.5% of the County's population. This is shown in the table below. They are rural in nature and serve a vehicle dependent public. Pedestrian traffic to and within a Rural Service Center is quite limited due to their large lot sizes and limited destination points. Douglas County has nine Rural Service Centers. **According to the definition of the Rural Service Center and OAR 660-012-045, sidewalks are not mandated in these areas due to their rural nature.**

Rural Service Center	Acreage	Parcels	Dwellings	Residents
Dry Creek	78	7	15	40
Fortune Branch	92	28	29	76
Jackson Creek	31	6	6	16
Nonpareil	55	32	32	86
North Fork	26	3	20	49
North Umpqua Village	58	42	15	40
Oak Valley	179	29	56	151
Steamboat	22	2	29	78
Umpqua	2	1	1	<10
Total	543	150	203	546
Percent of Total Population	0.5%			

- **Rural Communities** are pockets of rural housing with large parcels and a public building within its boundaries, specifically defined in OAR660-22-010 (7) as:

"Rural Community" is an unincorporated community which consists primarily of permanent residential dwellings but also has at least two other land uses that provide commercial, industrial, or public uses (including but not limited to schools, churches, grange halls, post offices) to the community, the surrounding rural area, or to persons traveling through the area.

Sixteen Rural Communities are scattered throughout the County. See the tables below, "Summary of Public Buildings in Rural Communities" and "Summary of Public Facilities in Rural Communities." Within most, walking is not practical, as the distance

from dwellings to the end destination public building is greater than residents are willing to walk. As the inventory shows, the number of public places to visit within with Rural Communities is minimal.

Summary of Public Buildings in Rural Communities

Rural Community	Church	Grange	Comm. Hall	Elem. School	High School	Park
Azalea	1					
Camas Valley	1	1		1	1	
Clarks Branch						
Curtin		1				1
Days Creek	1			1	1	
Dixonville	1			1		1
Glendale Junction						
Lookingglass	1	1		1		
Melrose	1	1				
Milo	1			1	1	
Quines Creek	1	1				
Rice Hill						
Riversdale	1	1				
Scottsburg/Wells Creek			1	1		
Tenmile/Porter Creek	2			1		
Tiller						

Summary of Public Facilities in Rural Communities

Rural Community	Water	Fire Station	Post Office	Poll Place	Emergency Shelter
Azalea		1	97410	1	
Camas Valley		1	97416	1	1
Clarks Branch	1	1			
Curtin		1	97428		
Days Creek		1	97429	1	1
Dixonville	1	1		1	1
Glendale Junction					
Lookingglass	1	1		1	1
Melrose	1	1		2	1
Milo		1			1
Quines Creek					
Rice Hill		1			
Riversdale	1	1		1	
Scottsburg/Wells Creek		1	97473	1	
Tenmile/Porter Creek		1	97481	1	1
Tiller		1	97484	1	1

Furthermore, the Rural Communities in Douglas County have a low dwelling per acre ratio, as shown in the table below. Camas Valley has the greatest density of acres per parcel with a ratio of 2.4. The minimum parcel size possible within a Rural Community is two acres therefore the density within these communities cannot be less than one dwelling per two acres. Melrose does have a limited amount of one acre minimum but this parcel size is no longer available for rezoning.

<u>Rural Community</u>	<u>Acreage</u>	<u>Parcels</u>	<u>Dwellings</u>	<u>Residents</u>
Azalea	239	35	28	73
Camas Valley	254	85	105	288
Clarks Branch	388	87	57	168
Curtin	141	37	36	96
Days Creek	172	84	75	196
Dixonville	688	107	103	255
Glendale Junction	205	36	46	120
Lookingglass	624	121	101	280
Melrose	584	130	116	302
Milo	210	74	73	191
Quines Creek	67	16	19	50
Rice Hill	163	28	3	8
Riversdale	843	377	275	682
Scottsburg/Wells Creek	464	266	17	416
Tenmile/Porter Creek	839	187	17	469
Tiller	213	27	55	144
Total	6,094	1,697	1,126	3,738
Percent of Total Population	3.7%			

While LCDC argued that the Rural Communities definition includes all “developed areas” outside urban growth boundaries, the defined Rural Communities in Douglas County, with low population density and great distance from dwellings to public buildings, are still rural in nature. Not only are they rural but, as shown in the table above, the 16 Rural Communities contain only 3.7% of the County’s population. **Review of the Rural Communities in Douglas County show that these Rural Communities are not mandated to build sidewalks.**

- Douglas County has seven **Urban Unincorporated Areas (UUA’s)**: Dillard, Gardiner, Glide, Green, Shady, Tri City and Winchester Bay (shown in the table below). Each is unique. The TSP and the Comprehensive Plan have findings and policies to address all seven UUA’s in general. They also have addressed special planning issues in Tri City, Green, Glide and Gardiner individually.

<u>Urban Unincorporated Area</u>	<u>Population</u>	<u>Percent of County Population</u>
Dillard	Unavailable	*
Gardiner	271	.1%
Glide	2,142	2%
Green	6,902	7%
Shady	Unavailable	*
Tri City	3,060	3%
Winchester Bay	702	.7%
Total Population	13,077	Total Percent 13.7%

Green is the only UUA experiencing rapid growth. Its population has exceeded 6,000 and growth is not slowing. Development in Green is still occurring. Due to its (and the lands within UGB’s) more urban nature, sidewalks have been addressed in these areas.

Section 3.35.060(1) of the LUDO states:

The installation of public sidewalks as part of new subdivisions, multi-family developments, planned developments and within commercial districts shall occur, as described below, within the UUA of Green and UGB's as implemented through the UGMA. If UGMA supplemental standards exist, which address public sidewalks, those standards shall apply. Public sidewalks shall not be required for existing developments.

Of the six remaining UUA's, Glide, Tri City, and Winchester Bay have specific findings regarding sidewalks and/or bicycle and pedestrian needs.

Glide

Finding for Bicycle and Pedestrian Transportation:

Within the urban service area there is an improved bikeway facility. That facility (about ½ mile in length) is in the central Glide area adjacent to Highway 138 and is used primarily for bicycling and walking. Additional bikeway facilities, paralleling Highway 138, are needed.

Winchester Bay

Findings for Bicycle and Pedestrian Transportation:

The recreational nature and small size of Winchester Bay is conducive to pedestrian and bicycle transportation.

AND

A bicycle land exists along Highway 101 to accommodate the recreational bicyclists along the Oregon Coast.

Tri City

A Street Improvement Test Project was developed for Tri City in 2003. Through this project, the County will build six designated streets in Tri City. Alternative street standards were approved for local streets accessory to one of these six streets. This project was designed to enhance the quality of the roads in Tri City. Sidewalks are required as a part of the alternative street standard for local streets with 800-1500 Average Daily Traffic (ADT) The alternate standard is:

Right-of-way:	50'
Roadbed:	28'
Travel way:	12'
Shoulder:	2'
Sidewalk:	none required up to 800 ADT sidewalk on one side for 800 to 1500 ADT

This is a test project that, if successful, may have the potential to be implemented throughout the County.

The remaining three UUA's: Dillard, Shady, and Gardiner have similar characteristics. They are small communities with little current development and growth. Dillard does not have a sewer system and is, therefore, stymied for growth. Sidewalk requirements in these UUA's, as well as in the other four, are met through:

SECTION 3.35.080 Internal Pedestrian Circulation

Prior to issuance of a building or placement permit for new office parks and commercial developments located within Urban Unincorporated Areas (UUA's) and Urban Growth Boundaries (UGB's) where this ordinance is applicable, the plot plan which accompanies the application for a building permit shall demonstrate internal circulation is being provided through clustering of buildings, construction of accessways, walkways and similar techniques.

- Nine of the 12 cities in Douglas County have complete jurisdiction over **their Urban Growth Boundaries (UGB's)**: Canyonville, Drain, Elkton, Glendale, Oakland, Reedsport, Riddle, Winston and Yoncalla. The County has an agreement with each City termed an Urban Growth Management Agreement (UGMA). The UGMA asserts jurisdiction of land within the urban growth area.

To use Canyonville/Douglas County as an example of the UGMA,

1. Intent of Agreement

- 1.3. The City shall have jurisdiction, within the UGA, to implement the City Plan using City implementing Ordinances.
- 1.4. The County adopts, and incorporates by reference, the current (current as of the date of this agreement) City Comprehensive Plan, as it applies to the UGA, and the current City implement ordinances (or codes) and authorizes the City to administer those ordinances or codes within the UGA as provided for in this agreement.

Furthermore:

10. Standards for Construction of New Streets

- 10.1.1 All new streets within the UGB, which are part of a new land division or planned development, shall be constructed to City standards.
- 10.1.2 The City and County will maintain coordinated urban street construction standards for new streets that are not part of a land division or planned development.
- 10.1.3 All new streets within the UGB that are not part of a land division or planned development shall be constructed to coordinated urban street construction standards. The coordinated standards would apply County construction standards which would be coordinated to allow for other amenities for improvements the City may require in the future.

Streets in these nine UGB's are within City jurisdiction and not accountable by the County.

The County has jurisdiction of land within the Myrtle Creek, Roseburg and Sutherlin UGB's.

That portion of Myrtle Creek's UGB within County jurisdiction is primarily Tri City. This document has already discussed Tri City.

That portion of Roseburg's UGB within County jurisdiction is primarily to the north. It incorporates Winchester, the Umpqua Community College and County Parks and Recreation Department facilities. New local streets in this area are built to County standards. Per the Roseburg/Douglas County UGMA (Sub Area 2 is County Jurisdiction):

9.1. Standards for Construction of New Streets

9.1.3. All new streets with in the UGB are not part of a land division or planned development shall be constructed to coordinated urban street construction standards. The coordinated standards would apply County construction standards which would be coordinated to allow for other amenities or improvements the City may require in the future.

9.1.4. All new streets within Jurisdictional Sub Area No. 2 shall be constructed to urban street construction standards.

Roads in the Roseburg UGB are built to a City approved urban standard so that the City can upgrade if needed.

That portion of the Sutherlin UGB within County Jurisdiction is primarily what is known as Union Gap. Union Gap has characteristics similar to a Rural Service Community. This document has already discussed Rural Service Communities, due to their rural nature sidewalks are not mandated here.

SUMMARY

ISSUE TWO: SIDEWALK REQUIREMENTS

From the LUBA decision - Fifth Assignment of Errors:

Petitioner's Argument

Reasonably direct routes for bicycle and pedestrian travel in urban and rural communities not provided in the TSP. A narrow geographic scope is not acceptable. Current sidewalk regulations do not meet OAR requirements.

Douglas County's Response

- Bicycle and pedestrian travel is addressed as part of Issue One.
- Douglas County is approximately 98% resource and sidewalks are not mandatory in these areas
- Douglas County is approximately 2% urban, about half of this urban area lies within city limits or UGB's and are subject to an urban level of planning.
- The majority of the remaining 1% of Douglas County's urban areas are within Urban Unincorporated Areas and Section 3.35.060(1) of the LUDO adequately addresses sidewalks in these areas.
- Sidewalk provisions exist for the UUA's of Tri City and Green
- That portion of the 1% of the urban areas are rural communities with a minimum of two acre lots for which sidewalks are not mandated.

Douglas County Transportation System Plan Completion Project

Section 4: Street Standards



Section Four

ISSUE THREE: STREET STANDARDS

From the LUBA decision - Sixth Assignment of Errors:

Petitioner's Argument

Compliance with standards for minimized paved width and total right-of-way of local streets and accessways not reached.

Douglas County's Response

Douglas County has, in two areas, provided standards for a reduced paved width and total right-of-way width for local streets and accessways. Consideration of the County standards reveals that the current street standards are consistent with the operational needs of the facility. Furthermore, current standards accommodate pedestrian and bicycle circulation. See below for supporting evidence.

Relevant OAR Provisions

OAR 660-12-045(7) states:

Local governments shall establish standards for local streets and accessways that minimize pavement width and total right-of-way consistent with the operational needs of the facility. The intent of this requirement is that local governments consider and reduce excessive standards for local streets and accessways in order to reduce the cost of construction, provide for more efficient use of urban land, provide for emergency vehicle access while discouraging inappropriate traffic volumes and speeds, and which accommodate convenient pedestrian and bicycle circulation. Notwithstanding subsection (1) or (3) of this section, local street standards adopted to meet this requirement need not be adopted as land use regulations.

Street Standards

The intent of OAR 660-12-045(7) is for local governments to "consider and reduce excessive standards for local streets and accessways." Douglas County used this opportunity to do so and made the determinations that:

- Reduced standards are approved for the Glide UUA;
- Reduced standards are approved for in Tri City as a *Street Improvement Test Project*;
- City standards apply for all of the new streets within 9 of the 12 Cities' UGB's;
- Tri City comprises most of the Myrtle Creek UGB in County jurisdiction;
- Roads in County jurisdiction of the Roseburg UGB are built to an acceptable urban standard;
- Most of Sutherlin's UGB is within City jurisdiction, that outside of is considered Union Gap, roads are built to County standard;
- Current street standards for the rest of the planning area are, "consistent with the operational needs of the facility."

Glide

A standard reduced from the County's standard exists for the UUA of Glide. Findings and policies as set forth show that a reduced standard was necessary for Glide in order for the UUA to aspire to the Comprehensive Plan.

Findings from the TSP specifically for Glide regarding reduced road standards:

78. A number of the platted streets in the core area of Glide, including Pike, Park, Abbott and West Estella have rights of way that are 50 feet wide. As properties on both sides of these streets have been divided to the maximum density permitted by the Comprehensive Plan and no further property division is possible, the only means of acquiring the additional right of way needed to meet County standards would be through voluntary dedication or condemnation by the County.
79. Due to the suburban and rural densities planned for Glide, the required installation of urban streets as a condition of property division may have the effect of discouraging property division. As a means of facilitating realization of the Comprehensive Plan for this area, the County should consider relaxation of street improvement standards within the Glide UUA. Utilization of the County's rural public roadway standards would seem appropriate in that unique setting. For major and minor collector streets, 42 and 34 foot roadbeds should, respectively, be used. For local streets, 28 foot roadbeds and 56 foot rights of way should be considered adequate. (Revised 8/13/97)

Objective and Policies from the TSP specifically for Glide regarding reduced road standards:

OBJECTIVE: To recognize and address the specific circulation problems which exist in the Glide area.

POLICIES:

1. In recognition of the suburban and rural land use designations in the Glide area and the accompanying low traffic volumes generated, the County shall adopt street standards for this area which are appropriate to its unique land use pattern.
2. In the cases of Pike, Abbott, Park and West Estella Streets located within the Glide core area, the standard for incorporation of streets into the County maintenance system should be lessened to accept the 50 foot rights-of-way which presently exist if proper safety and maintenance can be achieved.

A reduced road standard is in place for Glide to enable the UUA to achieve its Comprehensive Plan.

Tri City

Tri City offers a planning challenge. Highway 99 bisects the UUA. Roads extending from the Highway to the east have been built well below County standards, with reduced right-of-way and paved surface width and without curbs, gutters and sidewalks. The roads extend to the east and offer little north/south circulation. Furthermore the roads are in poor condition. The condition of the roads stymied growth and development in the area as development cannot be approved on substandard roads. Improving the roads would come at a much higher cost than developers would be willing to pay.

In an effort to enhance mobility, improve the urban setting, and facilitate and stimulate new urban development, Douglas County implemented a Street Improvement Test Project for six streets in Tri City as detailed below in the Comprehensive Plan:

7. Street Improvement Test Project: Douglas County shall initiate a street improvement test project in Tri City with the overall purpose of enhancing mobility, improving the urban setting, and facilitating and stimulating new urban development. Subject to budget approval, the County will construct six streets in Tri City, with the public expenditure being reimbursed by developers as they create new lots or parcels accessing one of the six identified streets. Under this policy, the County will construct the following six streets in the following order of priority. Each street construction project shall begin at Old Pacific Highway and end at the planned minor collector which runs parallel to, and east of, Old Pacific Highway.

Highest priority for development: Klimback Street
Gael Lane

Medium development priority: Woodcrest Drive
Meadow Lane
Aker Drive
Celestial Way

- a. Construction Plan: Streets constructed under this test project shall be designed and funded by Douglas County, with right-of-way acquisition and completion of construction for each street to occur within 10 years from the date this policy is adopted (all six streets to be completely constructed by December 17, 2013), subject to budget approval. The budgeting, design, right-of-way acquisition, contracting and construction of each road shall be under the authority of the County Engineer.

- 1) Street alignments shall be in accordance with the Tri City Circulation Plan.
- 2) Sidewalks shall be required for each minor collector street (all but Celestial Way).
- 3) If severe constraints are encountered in the design or right-of-way acquisition phases, the County Engineer has the authority to remove a street (or streets) from further consideration or work under this Street Improvement Test Project.

- b. Reimbursement Plan: This Street Improvement Test Project is designed to recover a portion of the public cost for development of the six identified streets. Individuals or businesses who receive approval through the development review process for a subdivision, partition, or planned development that will gain access from one of the six identified streets, shall reimburse Douglas County for the cost of improving 12 feet of roadway for each lot or parcel created.

- 1) To further stimulate and encourage new development, the private reimbursement shall be paid at 80% of the public cost. The public cost for each constructed street shall be calculated by the County Engineer, and shall include all costs including design work, right-of-way acquisition, and construction.

8. Alternate standards for new local streets: New local streets which will have direct access onto one of the six streets identified in the Street Improvement Test Project or which will access any County maintained collector street in Tri City, may be constructed using

alternate street standards as long as the new local street will be privately maintained by a homeowners association or similar entity. To be eligible for the alternate street standards, the new local street must be in the Tri City urban area, and have direct access to a collector street that is currently in the County maintenance system, or have direct access to one of the six streets planned for construction under the Street Improvement Test Project.

- a. A developer may choose to receive the benefits of being accepted into the County Maintenance System. To be accepted into the County Maintenance System, new local streets shall be constructed in conformance with the design standards for urban local streets.
- b. Local streets that accommodate more than 1500 ADT do not qualify for the alternate street standards and must be constructed in conformance with the design standards for urban local streets.
- c. Alternate local street standards: The following alternate standards shall be the minimum requirement for development of new local streets that will be maintained by a qualifying homeowners association or other similar private entity.

Right-of-way:	50'
Roadbed:	28'
Travel way:	12'
Shoulder:	2'
Sidewalk:	none required up to 800 ADT sidewalk on one side for 800 to 1500 ADT

The Street Improvement Test Project in Tri City allows for a reduced street standard for local roads accessing one of the six streets reconstructed to County standards by the County. Local roads built to the alternate standard will not be accepted into the County road system but must, instead, be maintained by a homeowner's association or similar private entity. This is a Test Project that, if successful, may be considered for a wider area in Douglas County.

Urban Growth Boundaries

As dictated in the Urban Growth Management Agreements between the Cities and the County, nine of the twelve cities in Douglas County have complete jurisdiction over the land within their UGB's. Canyonville, Drain, Elkton, Glendale, Oakland, Reedsport, Riddle, Winston and Yoncalla have jurisdiction over land use actions and street standards.

To use Canyonville/Douglas County as an example of the UGMA,

1. Intent of Agreement

- 1.4. The City shall have jurisdiction, within the UGA, to implement the City Plan using City implementing Ordinances.
- 1.4. The County adopts, and incorporates by reference, the current (current as of the date of this agreement) City Comprehensive Plan, as it applies to the UGA, and the current City implement ordinances (or codes) and authorizes the City to administer those ordinances or codes within the UGA as provided for in this agreement.

Furthermore:

11. Standards for Construction of New Streets

- 11.1.1 All new streets within the UGB, which are part of a new land division or planned development, shall be constructed to City standards.
- 11.1.2 The City and County will maintain coordinated urban street construction standards for new streets that are not part of a land division or planned development.
- 11.1.3 All new streets within the UGB that are not part of a land division or planned development shall be constructed to coordinated urban street construction standards. The coordinated standards would apply County construction standards which would be coordinated to allow for other amenities for improvements the City may require in the future.

Roads built within the UGB's of Canyonville, Drain, Elkton, Glendale, Oakland, Reedsport, Riddle, Winston, and Yoncalla are built to city standards.

Roseburg

That portion of Roseburg's UGB within County jurisdiction is primarily to the north. It incorporates Winchester, the Umpqua Community College and County Parks and Recreation Department facilities. New local streets in this area are built to County standards. Per the Roseburg/Douglas County UGMA (Sub Area 2 is County Jurisdiction):

9.1. Standards for Construction of New Streets

- 9.1.4. All new streets with in the UGB are not part of a land division or planned development shall be constructed to coordinated urban street construction standards. The coordinated standards would apply County construction standards which would be coordinated to allow for other amenities or improvements the City may require in the future.
- 9.1.4. All new streets within Jurisdictional Sub Area No. 2 shall be constructed to urban street construction standards.

Roads in the Roseburg UGB are built to a City approved urban standard.

Myrtle Creek

The majority of land within Myrtle Creek's UGB in County jurisdiction is Tri City. Tri City has a Street Improvement Test Project that was detailed above. Through the Test Project, a reduced street standard is being attempted.

Sutherlin

The majority of land within Sutherlin's UGB is in the city's jurisdiction. That land within the UGB and in County jurisdiction is considered Union Gap. The street standard for Union Gap is to the County standard.

Douglas County

Through this study, a review of County urban and rural street standards has been conducted. Current standards were established when the LUDO was adopted in 1980. The standards were developed to meet County needs. For over 20 years they have guided the creation of a consistent and functional road network that well serves Douglas County residents and visitors. The current urban and rural street standards, as detailed in the LUDO, are provided as an appendix to this section.

Douglas County is a rural County with heavy industry. Timber harvesting and production is the prominent industry. Over 25 percent of wage and salary workers claim jobs in the timber and wood products industry. It employs more workers, produces a greater payroll, and supports a greater number of businesses than any other single industry in the County (A Place Called Douglas County). The County government depends on revenue from harvested public timber to maintain County highways and to provide partial support to schools.

The County road system is one of the finest in the State of Oregon. Historically, many of the roads were built to haul logs from the mountains to the mills. The roads are still fulfilling this need. The roads also provide access to thousands of acres of forested federal and state lands open to the public and to the rural communities throughout Douglas County. The lumber and wood products industry requires large, heavy trucks and machinery. Adequate roads have been built and must continue to be built to meet the industry's needs.

Road width must provide for the safety of both the truck driver and oncoming traffic. The standards, approved by DLCD, were developed and adopted with the LUDO in 1980. The economic and industrial base of the County was recognized and road standards were created to accommodate this base. Review of rural and urban street standards have provided evidence that the current standards still meet the needs of the County. While the lumber and wood products industry is not thriving as it was in the 1980's, it is still a dominant force in the County. Logging trucks are still common on county roads. County residents even drive their rigs down local roads to and from work. Current County standards meet the needs of Douglas County residents as they provide a safe mode of transportation and accommodate both the lumber and wood products industry and those automobiles, bicyclists, and pedestrians sharing the road with the lumber and wood products vehicles.

As the County road standards have been established for over 20 years, the Public Works' equipment is designed to build and maintain the roads to these standards. The County would not be able to build or maintain roads built to a narrower standard without a significant cost burden. In times of budget constraints, demanding new equipment be purchased is impractical and unfeasible.

In compliance with OAR660-12-0045(7), local street and accessway standards have been reviewed. This report determines that:

- The pavement width and total right-of-way are "consistent with the operational needs of the facility."

- Reducing the standards would lead to unsafe transportation conditions for:
 - Large logging trucks
 - Pedestrians
 - Bicyclists
 - Vehicles sharing the roads
- It would create a significant cost burden for Douglas County as it would be forced to purchase new and costly equipment to accommodate narrower roads.
- Reductions would undermine the efficiency of a well developed roadway system.

Furthermore, OAR660-12-0045(7) mandates that street standards are reviewed:

...in order to reduce the cost of construction, provide for more efficient use of urban land, provide for emergency vehicle access while discouraging inappropriate traffic volumes and speeds, and which accommodate convenient pedestrian and bicycle circulation...

In response,

1. Cost to the County to purchase new equipment needed to accommodate a reduced street width would far outweigh benefits created by a reduction in the cost of construction.
2. Land within Douglas County jurisdiction does not experience the high level of urban density that would benefit from a reduced street standard. Its land use is more suburban in nature and is better served by a wider street.
3. Emergency vehicles are allowed sufficient access onto local roads and accessways
4. Traffic calming devices can be used to discourage inappropriate traffic volumes and speeds.
5. Pedestrian and bicycle circulation is actually benefited by the current street standards as the paved width allows for both vehicle and alternate forms of travel.

SUMMARY

ISSUE THREE: STREET STANDARDS

From the LUBA decision - Sixth Assignment of Errors:

Petitioner's Argument

Compliance with standards for minimized paved width and total right-of-way of local streets and accessways not reached.

Douglas County's Response

- Reduced standards are approved for the Glide UUA;
- Reduced standards are approved for in Tri City as a *Street Improvement Test Project*;
- City standards apply for all of the new streets within 9 of the 12 Cities' UGB's;
- Tri City comprises most of the Myrtle Creek UGB in County jurisdiction;
- Roads in County jurisdiction of the Roseburg UGB are built to an acceptable urban standard;
- Most of Sutherlin's UGB is within City jurisdiction, that outside of is considered Union Gap, roads are built to County standard;
- Review of local street and accessway standards show that the current standards are:
 - "...consistent with the operational needs of the facility."
 - Reasonable as they to provide safe transportation conditions for all users;
 - Necessary to avoid a significant cost burden due to new and costly equipment to accommodate narrower roads.
 - Beneficial to maintain the efficiency of a well developed roadway system.



**GREEN
TRANSPORTATION
SYSTEM PLAN**

**DOUGLAS COUNTY
PLANNING DEPARTMENT**

Room 106, Justice Building
Courthouse
Roseburg, OR 97470

(541)440-4289

July 19, 2001

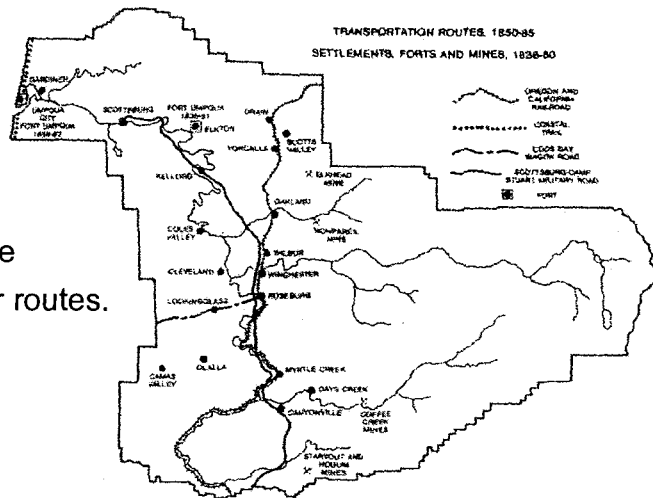
00166

**B
A
C
K
G
R
O
U
N
D**

Background

Green is located along and is bisected by I-5, southwest of Roseburg and northeast of Winston along the State Hwy. 42 corridor. The central location along two principal transportation routes has historically provided advantages for this area.

The Willamette Valley-California route was discovered in 1827 and brought the first settlers to the agricultural area in the center of Douglas County. Subsequent roadways were constructed along this route. The Goodrich (Territorial) Highway was constructed in 1850 through the northern portion of the County. Scottsburg-Camp Stuart Military Wagon Road (Hooker Road) was completed in 1855 and served the area from Scottsburg to Camp Stuart. In the early 1900's, Highway 99 was constructed as a north/south route in the state and followed the historical pioneer routes. From 1955 to 1973, I-5 was constructed as a continuous four lane highway following a similar alignment as Highway 99.



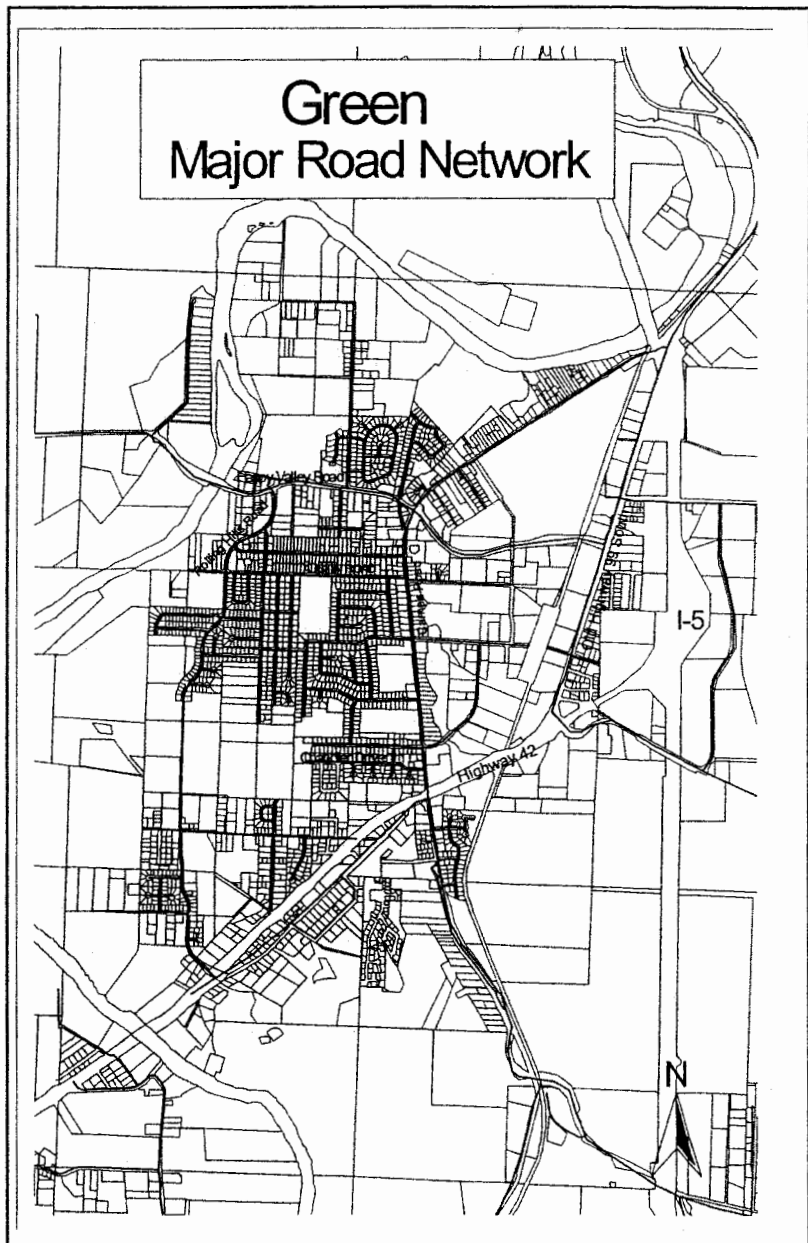
Coos Bay Wagon Road began as a military road and construction was completed in 1873. The construction of State Hwy. 42 began in the 1900's and generally followed the Coos Bay Wagon Road Route. The final paving of this route was completed in the 1930's.

Many factors have shaped the development in Green: the South Umpqua River, Roberts Creek, topography and state highways. Other man made factors shaping development include rail routes and built lands. These physical obstructions have allowed only two east/west routes for the eastern area of Green: Speedway Road and Grant Smith Road. The primary type of development in eastern Green is industrial. Access from I-5 to east and west Green is provided by Exit 119 and 120.

State Hwy. 42 is an east/west route that bisects the southern portion of Green. This route extends west from I-5 toward Winston and onward to the coast. A portion of this route from I-5 to Winston City Limits is designated in the Oregon Highway Plan as an expressway. Existing development, with direct access or shared access, along State Hwy. 42 may conflict with the recently adopted expressway designation. The Oregon Department of Transportation (ODOT) has suggested the development of a frontage road to remove the potential of traffic hazards. To date, ODOT has not investigated the frontage road location, road design, needed right-of-way and analysis of construction costs.

The northern interior of Green is served from State Hwy. 42 via Old Highway 99S, Carnes Road and Rolling Hills Road. The southern interior of Green is served from State Hwy. 42 via Roberts Creek Road and Grange Road.

The County has designed the Green Urban Unincorporated Area (UUA) road network to address topographical and physical constraints. To the north, Happy Valley extends west from the I-5 Corridor (via Old Hwy. 99) to the Lookingglass Valley. This valley has connections north to the rural communities of



Lookingglass and Melrose. An alternate route to the City of Winston is available via Happy Valley Road to Lookingglass Road.

Three main east/west routes extend from Carnes Road to Rolling Hills Road: Happy Valley Road, Austin Road and Chandler Drive (via Melody Lane). Developers have built portions of Chandler Drive and Melody Lane. The remaining portions of these roads have not been constructed. As future development occurs, the connection to Rolling Hills Road via Melody Lane will be finished.

The network is completed by five main north/south routes. The first route is Old Highway 99 South providing access north to the City of Roseburg and south to State Hwy. 42. The second route is Carnes Road, this route serves northern Green and extends south to State Hwy. 42. A third route Roberts Creek Road extends south of State Hwy. 42 then northeast to Dixonville. The fourth route is Rolling Hills Road, beginning at Happy Valley Road to the north and extending to the south to State Hwy. 42. Portions of this route are not completed. As development occurs, the full north/south route will be finished. The final route is Ingram Road, beginning at Speedway Road to the north and extending to the south to Grant Smith Road.

The natural constraints effecting the Green UUA are water ways and topography. The South Umpqua River extends along Green's northern and western borders. The presence of the South Umpqua River flood plain along the western border of Green was addressed in the Comprehensive Plan by means of decreasing density. Completion of flood plain mitigation measures (using fill to bring sites above 100 year flood plain), allows for an increase in density.

Southwestern Green has three small hills near Rolling Hills Road and Linnell Avenue. These hills have some challenging slopes and are close to each other. This rolling topography has influenced the development of this area. These physical and natural constraints also limit the locations of an intra-community transportation network.

**B
U
I
L
D
A
B
L
E

L
A
N
D**

Buildable Lands

The analysis of buildable lands must consider many items: zoning, road access, water, sewage disposal, utilities, topography and natural hazards. To create the Buildable Land Base Map, the County GIS system proved to be a valuable tool.

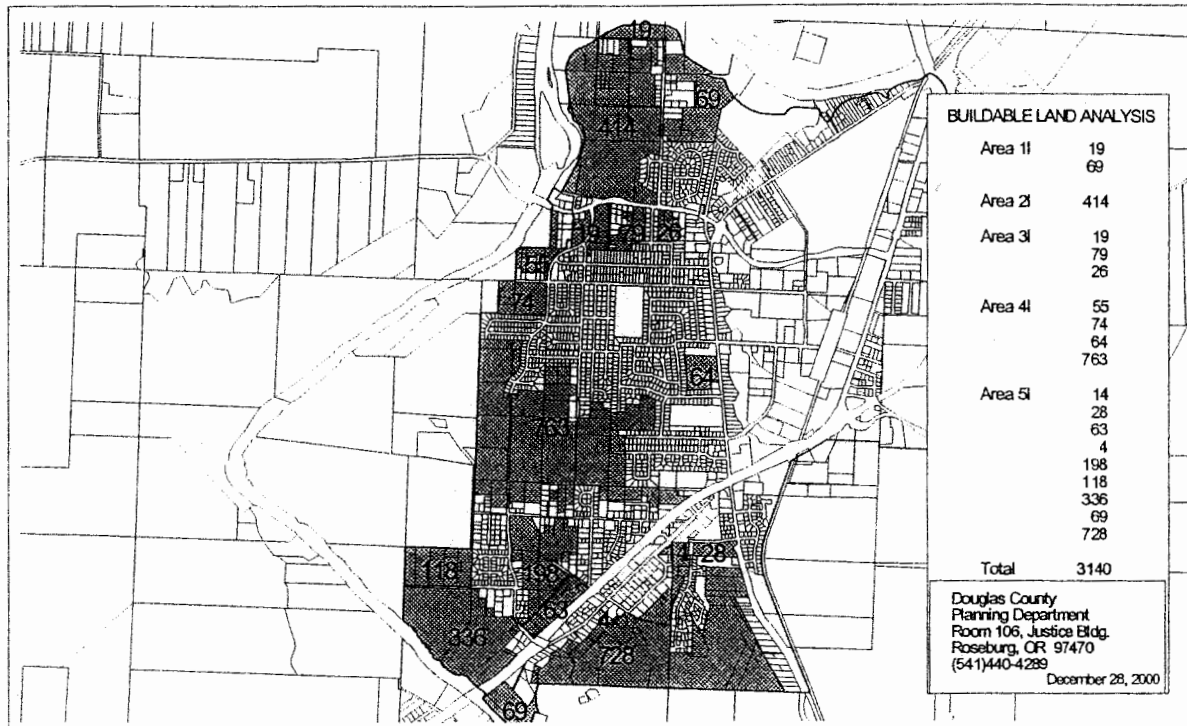
The Tax Assessor Real Property Table database and digitized parcel maps are the backbone of the GIS System. This database provides information on land and building valuation, lot size and lot location. Our analysis of buildable lands uses the data set containing acreage and valuation and joins this data to the electronic parcel maps and zoning information. The result is site specific data that may be compared to parcel and zoning information.

To begin this project, we needed to identify which properties were developed. The GIS system uses mathematical questions to obtain answers. They call these questions queries. We wanted to identify parcels, less than one acre, where the building value was greater than the land value. A query was completed to parse data from the larger data set. The resulting map portrayed the expected results with one exception: people living in low value homes. We expanded the query to add all parcels less than one acre where the Assessor market value of the buildings more than \$10,000. This addition appeared to give us the results we were expecting.

An additional method was used to assure an accurate buildable land analysis: the SITUS addressing system. This system contains information to identify the location and the addressing data for each lot. This data was introduced to our GIS mapping project as an overlay. An overlay is a map layer that overlays directly onto the parcel data. The addressing overlay provided the information necessary to identify parcels with a verified address. This address data confirmed in many instances, that a dwelling was on a lot that was not identified in the original query. The address overlay was combined with the query data (land value & building value) overlay and provided a complete existing built lands inventory for Green.

The next step taken was to calculate the amount of buildable land available. An additional overlay was created containing Sub-areas with pockets of buildable land and

similar topography. The following information outlines the constraints placed upon buildable land (applying topographic and hazard constraints) and how the total dwellings at buildout were calculated (estimated the total number of dwellings, considering zone density).



Most of the existing and developed lots in Green were created at an urban density (seven units or greater per acre). The under developed lots were evaluated using the Plan density to project building potential. To complete this process, the newly created overlay was inserted using sub-areas to show lots that are vacant or under developed.

Once identified, building constraints, (such as land for roads, utilities and open-space), were placed on each Sub-area. A factor of 25% was removed from each Sub-area to address the infrastructure needed to serve each lot (roads, utilities, open space etc.).

On steep slopes, one may question how and where an applicant can develop a lot. To address this issue the impact of topography was also considered. The Green UUA has sloped hills, but the majority of the topography is flat or gentle slopes and easily

developable. In sloping areas, many variables effect how and where an applicant can develop an individual lot. This topographical impact was calculated using a method that addressed topography by increasing the reduction factor: removing 30% rather than the normal 25% from each Sub-area.

This reduction factor reduces the total acreage available to develop and thus allows fewer lots (within the Sub-area) to be developed. This reduction removes significant slope from consideration for development. The lessor sloped area will have the flexibility provided in each zone to design building placement on an individual lot.

The area remaining after removing the reduction factors (i.e. building or hazard) was considered the buildable area for an individual Sub-area. Each sub-area's total acreage was multiplied by the applicable plan density (i.e. 7 units per acre). The result of this calculation is the number of units buildable within each Sub-area. A map showing the Sub-area and lot numbers demonstrates the future density of the area. All Sub-areas were totaled to project the number of potential building units in Green.

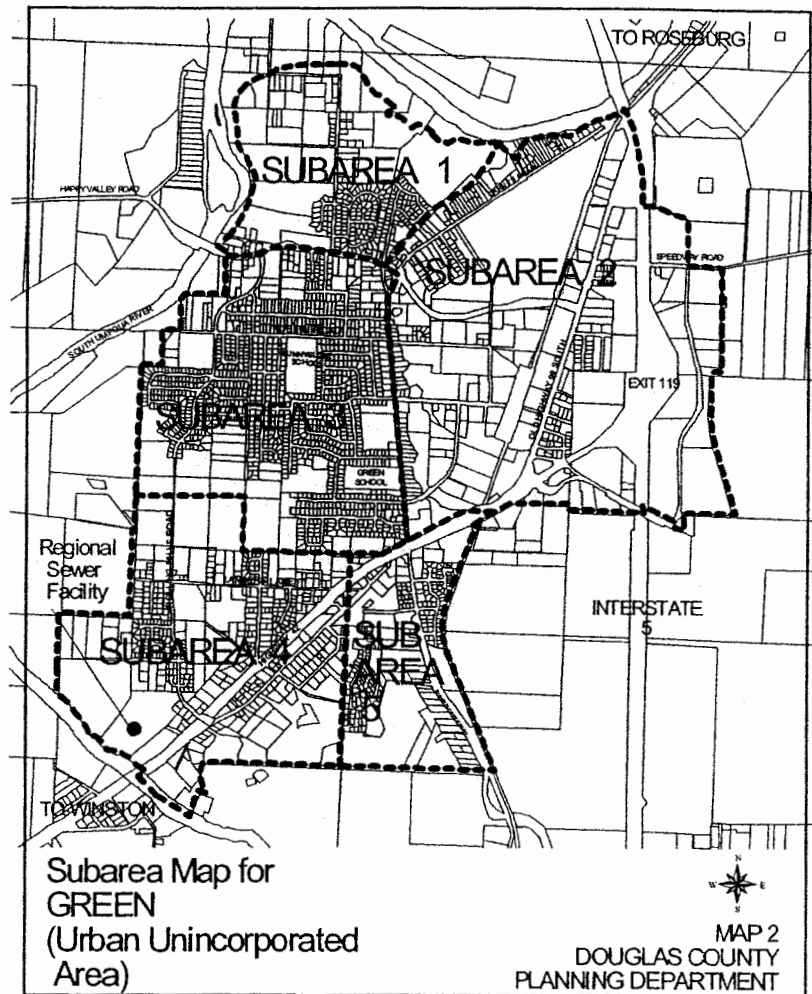
SANITARY SEWER SERVICE

Sewer service is provided by the Green Sanitary District. Service is provided in Sub-areas 1, 2, 3, 4, and that portion of Sub-area 5 which is located in Section 11 of Range 6W, Township 28S. A regional sewer facility serving the Green and Winston areas was completed in 1980. The location of this facility is in Sub-area 4 along the east side of the South Umpqua River, north of the Winston Bridge.

The new regional facility has a design capacity of 3.5 million gallons per day (mgd). Present treatment averages 0.8 mgd during the summer and 1.3 mgd during the winter months.

The high treatment volume during the winter is attributed largely to inflow and infiltration problems. An agreement between Green Sanitary District and the City of Winston stipulates that upon reaching 85% capacity of the new facility, planning will begin for the second facility, expanding treatment capacity by 100%. In 1997 the original system reached 85% capacity.

The Green Sanitary District and the City of Winston are currently working on an expansion of the system in accordance with the agreement. The agreement further



stipulates that the remaining 15% plant capacity will be divided in a manner proportionate to the cumulative contributions of capital made by parties, unless other agreements are made. The initial sizing of sewer lines for the new regional facility has included carrying capacity for the second phase of the facility.

WATER SERVICE

The Green UUA is served by Roberts Creek Water District. The water source for Roberts Creek Water District is predominantly the South Umpqua River. As the water district continues to grow, additional water rights will be considered for district needs.

The Roberts Creek Water District Master Plan update provided an analysis to the year 2020. As an additional means to alleviate potential water shortage problems affecting Roberts Creek Water District during low river flow periods, an intertie system was constructed to pipe an additional 1 million gallons/day from the City of Roseburg to Roberts Creek and Winston-Dillard Water Districts. The intertie is used only during periods of water shortage.

The intake and treatment facilities for the water district are located on the South Umpqua River, northeast of the Winston Bridge. After treatment, the water is contained in three storage tanks with a combined holding capacity of 2,750,000 gallons. A 500,000 gallon tank is located above the Shady Oaks Motel, outside the Green UUA. A 250,000 gallon tank is located in Sub-area 5, in the Roberts Creek Road area northwest of the freeway overpass. The third tank with a capacity of 2,000,000 gallons is located above the intake facility in Sub-area 4 by the water treatment plant. To meet anticipated demands in the year 2020, a total storage volume of 5,500,000 gallons would be required.

Population and water demand estimates were developed for the District at saturation (maximum capacity) development. At saturation, the estimated population is 9,838. The anticipated average day usage is 1.81 million gallons per day (mgd). The anticipated maximum month water demand is 2.83 mgd and the anticipated maximum day demand is 3.66 mgd. Any significant changes in growth will impact the timing of proposed improvements in the Roberts Creek Water District Master Plan.

FIRE PROTECTION

The Green UUA is within Douglas County Fire District #2. Fire protection from Fire District #2 is provided through manpower and equipment from a local station located at the corner of Carnes Road and Green Avenue in Sub-area 3. Additional support comes from backup units located in Winston, Roseburg, and Garden Valley.

The Insurance Service Office of Oregon (ISO) sets the insurance rates for areas based on the degree of fire protection available. ISO has given a Class 4 rating to those areas of Fire District #2 that are within a five mile radius of a station and within 1,000 feet of a hydrant. Areas within five miles of a station but without hydrants have received a Class 8 rating. With increases in capital expenditures and manpower, Fire District #2 will be able to provide the same level of service to the Green UUA as growth continues.

STORM DRAINAGE

Existing storm water runoff is presently handled by a combination of storm drainage channels, open ditches, uncontrolled and natural runoff. In addition, the Public Works Department reviews proposed drainage plans for land partitions and subdivisions in Green, at the request of the Planning Department. The Public Works Department reviews projects in the Austin Road area, against a drainage document called the "Green Area Drainage Basin Study" which was published in November 1987 by Donald A. Bentz Surveyor, Incorporated. The Public Works Department is extending the drainage along Austin Road to the South Umpqua River. This extension will include existing drainage in the area and the new Rolling Hills Road extension.

As urban development continues within the Green UUA, the amount of storm water displaced by paved streets and houses increases. The development of an overall storm drainage pattern prior to continued development would help alleviate most potential problems created by storm water runoff.

**P
O
P
U
L
A
T
I
O
N**

Population

At 2,315 acres, the Green District is the largest urban unincorporated areas in Douglas County. In 1990, the census population total for the Green Census Designated Place (CDP) was 5,076. The Green District is also the most populated urban unincorporated area. The May 1979 Green Comprehensive Plan Population Element described the growth of Green as follows:

“The Green PAC has experienced rapid growth since 1970. The average growth rate for the Green PAC from 1970 - 1977 is approximately 7.0%. The growth rate for Douglas County for the same period is 3.7% per year. The high growth rate for the Green PAC is attributed to a number of factors such as the availability of support services (sewer and water), the availability of relatively inexpensive developable land, and the proximity to major employment centers.” (17)

Over the past twenty years, this area has been growing consistently. The Federal Census population of the Green CDP for the years 1960-1990 was 2,193, 3,897 and 5,076 respectively. The average growth rate during this period is 4.4%. The private sector must develop additional dwelling units to meet the need created from increased growth. Over the past decade, landowners have developed many areas into manufactured home parks or created numerous subdivisions and partitions to increase the number of available dwelling units.

The year 2000 census revealed the population for Green CDP is 6,174. This population increase provides an annual growth rate of 2.2%. If Green incorporated, it would be the third largest city in Douglas County.

As a result of this buildable land analysis we have identified that 3,140 additional dwelling units may be built in Green. This total (3,140) multiplied by the median family size (2.6) reveals the population growth in Green at buildout will be an additional 8,164 people. The year 2000 Census, provided the base number for calculating the total population at buildout. The Green CDP has a population of 6,174 (2000 Census), plus an increase in population of 8,164 people at build out of Green UUA would total 14,338 people.

Using this example, the additional 8,164 people was calculated by multiplying the 3,140 units at buildout times a median household size of 2.6. Over a fifty year period, the annual number of units created would be 63 units. Thus, the buildable land supply is a fifty year build out scenario. This fifty year build out scenario equates to a annual population growth rate of 2.6%.

Green Population at Buildout (Using 2000 Census Estimate)			
Population of Green 2000 Census			6,174
Area	Dwellings	Median Household	Population
Area 1	19	2.6	49
	69	2.6	179
Area 2	414	2.6	1,076
	19	2.6	49
Area 3	79	2.6	205
	26	2.6	68
Area 4	55	2.6	143
	74	2.6	192
	64	2.6	166
	763	2.6	1,984
Area 5	14	2.6	36
	28	2.6	73
	63	2.6	164
	4	2.6	10
	198	2.6	515
	118	2.6	307
	336	2.6	874
	69	2.6	179
	728	2.6	1,893
	SUB-TOTAL 3140	2.6	8,164
TOTAL			14,338

**S
T
A
T
E

H
I
G
H
W
A
Y
S**

State Highways

The Highway 38/42 Corridor Plans recognize Highway 42 as a freight route. On May 11, 2000, the Oregon Transportation commission amended the Oregon Highway plan to designate a section of Highway 42 from Lookingglass Road to I-5 as an expressway. Additional information on the freight route or expressway designation may be found in the Oregon Highway Plan and Highway 42 Corridor Plan.

State Highways Interchanges

The Green Transportation Network includes two state highways: State Hwy. 42 and Interstate 5. These routes serve tens of thousands of vehicular trips each day.

I-5/Highway 42 Interchange (MP 119)

Year 2000 average daily traffic volumes on I-5 south of Highway 42 are 27,800. The traffic increases to 40,800 vehicles per day north of the interchange. Much of this traffic is generated from Highway 42 that comes from the west and ends at this interchange. Old Hwy. 99S comes from the north, parallels I-5, and ends at Highway 42. The average daily traffic volume on Highway 42 at I-5 is 18,000. The average daily traffic volume on Highway 42 at Old Hwy. 99S is 21,000. The daily traffic volume on Old Hwy. 99S at the junction of Highway 42 is 6,800 vehicles per day.

An investigation of detailed 5-year crash data revealed 18 collisions in the stretch of I-5 between MP 119.00 and MP 120.30. The crash figure includes six sideswipes, five fixed-object strikings (pole and protective barrier), two rear-end collisions and five miscellaneous types. Fourteen collisions occurred in the southbound direction. The probable cause of fixed-object strikings may be due to the existence of narrow shoulders and median on the mainline.

The crash data in the period 1995-1997 reveals 13 collisions on the one-mile stretch of Highway 42 between MP 76.20 and MP 77.20. The crash figure includes four turning movements, four rear-end collisions, two fixed-object strikings, two sideswipes, and one non-collision. There was one fatality at the junction of Highway 42 and Old Hwy 99S (MP 76.22).

I-5/Old Hwy. 99S Interchange (MP 120)

The I-5/Old Hwy 99S interchange serves surrounding industrial and low-density residential development west of the interchange, and an undeveloped area east of the interchange. The Old Hwy. 99S interchange provides access to I-5 from the Shady Urban Unincorporated Area located on the southern outskirts of the City of Roseburg. Built in the mid 1950s, the interchange has a configuration of a half-folded diamond on the west and a directional northbound leg on the east. Also, there are two private access points connecting to the northbound exit ramp. The crossroad, Old Hwy. 99S, is a two-lane facility with no center left-turn lane.

The stop sign-controlled left-turn movement from the southbound off-ramp onto Old Hwy. 99S currently operates with a volume-to-capacity ratio of 2.58, indicating long delays and a capacity deficiency exists. The V/C ratio compares the existing ADT against the road capacity. A V/C ratio greater than 1.0 indicates that there are inadequate gaps on Old Hwy. 99S for drivers to turn left from the SB ramp. In the future, this turning movement will get more difficult and vehicles will stack and back-up onto I-5. Year 2000 average daily traffic volumes on I-5 near Old Hwy. 99S are 38,400.

An investigation of detailed 5-year crash data revealed 24 collisions in the stretch of I-5 between MP 119.80 and MP 121.20. The collision figure included 17 crashes in the northbound direction with seven rear-end collisions and six sideswipes, and seven crashes in the southbound direction with three rear-end collisions.

In this stretch of Old Hwy. 99S between MP 20.20 and MP 21.60, the collision rate is fairly high: 42 accidents with 20 rear-end collisions and 15 turning movements. Currently, the undesirable access management and non-existence of a center left-turn lane affect the interchange operation.

The Green Transportation System Plan will be completed in the summer of 2001. The County coordinated with ODOT in the corridor planning process to assure consistency with the County Plan. The analysis and findings for Exit 120 are identified in the State Transportation Plan's modal and multi-modal (corridor) plans.

ODOT expects to complete a refinement plan for Exit 120 this biennium. The lack of a refinement plan for Exit 120 will not invalidate the assumptions in this TSP. The

refinement plan is expected to identify a solution to capacity and other problems on Exit 120. ODOT has the refinement plan in their budget and should complete the project over the next three years.

State Highways Intersections

Highway 42 at Rolling Hills Road: The intersection at Rolling Hills Road is influenced by development occurring on the north side of Hwy. 42. As additional development occurs, more pressure will be exerted on this intersection, as well as those at Jackie Way and Landers Avenue to the east. The intersection currently operates within acceptable V/C standards, but is expected to fall below acceptable V/C by the year 2020. Adding a signal at the intersection would allow the intersection to operate at a V/C of 0.76 in 2020.

Douglas County and ODOT have both expressed interest in completing Rolling Hills Road north to Happy Valley Road. Douglas County and ODOT agree that a local connection between Landers and Rolling Hills (including Jackie Way, Harmony Lane, Melody Lane, Heatherwood Ave.) would provide an alternative to Hwy. 42 and benefit the circulation pattern in the area. Both ODOT and Douglas County agree that the closure of some public access and private driveways together with the construction of a frontage road would enhance local circulation and Highway 42.

Highway 42 at Carnes Road and Roberts Creek Road: Kelly's Corner, the intersection of Carnes Road and Roberts Creek Road with Hwy. 42, is one of the busiest in ODOT Region 3. Average Daily Traffic reached more than 21,000 vehicles in 1999 and is expected to climb to more than 31,000 ADT by 2020. The intersection currently operates at a V/C ratio of 0.76—beyond acceptable limits—and is expected to operate at a V/C ratio of 0.89 by the year 2020.

On State Hwy. 42, the ODOT Crash Analysis Unit identified a total of 35 accidents at the intersection of Carnes and Hwy 42 between 1997 and 1999. The intersection is a high accident location and is the only location appearing in the top ten percent of all ODOT Region 3 Safety Priority Improvement Sites.

A number of improvements designed to address capacity and safety problems have been identified, including the addition of right turn lanes on Hwy. 42 in both directions

and from Roberts Creek Road; widening of the local legs; moving the signal poles and highway signs away from the intersection; and rephasing the signals. The addition of turn lanes would decrease the queues on the local legs, thereby requiring shorter signal time for these movements. This change should shorten the queues on the Hwy. 42 legs and may reduce the number of rear-end accidents. The estimated cost of these improvements is \$750,000. With these changes, the intersection would function at a V/C of 0.79, still beyond acceptable performance standards, but better than with no improvements.

Highway 42 at Old Highway 99 S and Grant Smith Road: ODOT and Douglas County have recently relocated the Grant Smith Road intersection to the west to align with the signal at Old Hwy. 99, creating a four-legged signalized intersection.

**R
O
A
D

I
N
V
E
N
T
O
R
Y**

Background

From the past, we learn road development was directly connected to the need for military routes, the ensuing growth of resource extraction and development of related industries. The Background section provided a short summary of the development of pioneer and military routes starting in the 1820's. Water level routes provided the easiest grade for wagon routes and early automobiles and also provided the backbone for transportation routes in the County.

The 1969 Douglas County Arterial Roadway Plan stated:

“Extension of paved roads from the Interstate-5 Highway through the agricultural core between population center and into the rich timbered lands of Douglas County has been extensive in the past ten years [1955-1965].” (4)

This plan also described the intent of the [1955-1965] Douglas County Board of Commissioners related to road development.

“It has been the policy of the Douglas County Board of Commissioners in past years to place major emphasis on development of roads to serve the timber and wood products industries from which is derived the major portion of county revenues. As long as the principal source of revenue remains with the harvesting and processing of timber, road development is expected to continue serving the most basic industry.

The road network, providing access to the timbered areas for harvest, is becoming more complete. Consequently, more emphasis is being placed on the improvement of roads near and through urban areas where the wood products industries are being continually more concentrated.” (8)

This 1969 Douglas County Arterial Roadway plan identified the construction standards for a high standard two lane arterial. The roadbed consisted of two twelve foot paved travel lanes and ten foot shoulders consisting of an all weather surface in a 100 foot right of way. A low standard two lane arterial roadbed consisted of two twelve foot paved travel lanes and eight foot shoulders consisting of an all weather surface in an 80 foot right of way. The important point to learn from the past is the Douglas County Road network was developed to serve timber resources and related industries. The initial construction standards did not include sidewalks or bicycle lanes.

The May 1979 Green Comprehensive Plan Transportation Element provided additional information on the development of the road network in Green.

“The road and street network necessary to accommodate the automobile, (the major mode of local and long distance transportation) has long dominated urban land use and the rural landscape. It is important that provisions for an adequate street and road network be an integral part of planning for future growth. This may necessitate improving certain existing roads and streets to accommodate increased traffic volumes and improve circulation patterns within the Green PAC area. It also means that new streets should be planned and located in a predetermined manner compatible with the existing street network. For these reasons, it is important to examine the function, condition and adequacy of the present street system in the Green PAC area.” (31)

The Green Plan recognized the auto-dependant nature of the County in the construction of roads and worked toward completing a network to improve circulation patterns. The Findings contained in this element provided additional history regarding road development. Road improvements were primarily centered around the need to widen and pave many of the local roads in Green. One deficiency noted was the circulation pattern within the Green PAC. The February 1969 Arterial Roadways Plan identified the Green PAC (area) road network evolved as a result of continuing development with little consideration of any overall circulation pattern. The Plan Policies recognized that priority should be given to construction of sidewalks and walkways to those areas most frequently used by pedestrians. The areas around Green and Sunnyslope schools and Carnes Road were identified as key routes.

Today, the economy of Green is still dependent on resource extraction, resource related industries and the recently developed trans-shipment facilities. The percent of developed residential areas has increased. The Green road network is designed to serve this area with a system containing two principal highways, one arterial, four major collectors, twelve minor collectors, four necessary locals and numerous local streets. This road network, identified in the Comprehensive Plan Transportation Element for the Green UUA does not identify when the road was constructed and what standards existed at that time.

Standards

Many of these routes were constructed during 1970's. During this period the road standards were different than the current standards. The following table defines the road standards (from the 1972 Subdivision Ordinance), for the creation of lots, parcels or units of land. This table does not discuss sidewalks, but it is important to note that sidewalks were not required.

1972 Subdivision Ordinance - Road Standards				Not Current Standards
Lots, Parcels or Units of Land	Responsibility for road or street	Minimum Required Street or Road Construction Standard	Minimum Width of Dedication	Road Surface
Size of 7,500 to 10,000 sq.ft. or lot frontage averaging less than 150 ft.	County	Standard Class IIIC	60'	34'
Size of 10,000 sq.ft. to 2.5 acres	County	Class IV with asphalt-concrete pavement	60'	24'
Size of 2.5 acres to 10 acres	County	Class IV with Oil Mat	60'	22'
Size greater than 10 acres	County	Class IV with Oil Mat	60'	22'

The current design standards for urban roadways are defined in the following table.

DESIGN STANDARDS FOR URBAN ROADWAYS¹

Functional Classification

DESIGN FEATURES	PRINCIPAL HIGHWAY	ARTERIAL	COLLECTOR	LOCAL STREET
Minimum right-of-way Width ²	102'	102'	60' - 84'	56'
Travel Lane Width	12'	12'	12'	12'
Shoulder Width	10'	10'	8'	6'
Left Turn Lane Width ³	14'	14'	14'	--
Recommended Number of Travel Lanes	4	4	2 - 4	2
Sidewalk Width	6'	6'	6'	5'
Median Width	14'	2' - 14'	--	--

¹ Standards will vary according to terrain and usage.

² Minimum right-of-way may be increased by the Public Works Director in all instances where necessary to obtain one half the required right-of-way from the centerline of an existing road.

³ Where turn lanes are required, right-of-way and roadbed width must be increased.

The current standard for the construction of sidewalks is found in the Land Use and Development Ordinance Section 4.400 - Subsection 1. Improvement Requirements: Sub b. Sidewalks shall be constructed in dedicated pedestrian ways and along streets where determined necessary by the Approving Authority for pedestrian safety.

The Green UUA is a densely populated area. An inventory of the Green UUA reveals that no sidewalks exist in Green. To assure the completion of a quality pedestrian network in the Green UUA, the following road classifications will require sidewalks at the time of development: Arterials, Major Collectors, and Minor Collectors.

It is important to facilitate the construction of sidewalks along Minor Collectors that serve high traffic areas of Green. Douglas County's classification of major and minor collectors differs from the classification of collector, found in the Transportation Planning Rule (TPR). The County major collector classification designation is similar to the TPR collector designation. The County minor collector designation identifies high use local roads that deliver traffic to major collectors or arterials.

Improvements for development in the Green UUA will now require the following:

- As new subdivisions are constructed along minor collectors, major collectors or arterials, sidewalks will be required.
- As new dwellings are constructed or placed in existing subdivisions lots along collectors or above, the property owner will be required to complete a waiver of remonstrance to the creation of a Local Improvement District for future road improvements.
- In some areas where topography does not facilitate pedestrian flow, sidewalks may be required on only one side of the road. The Douglas County Public Works Department may complete sidewalk sections to fill in gaps and complete a continuous sidewalk for that block.
- As minor collector roads or above are reconstructed upgrades will include the construction of sidewalks along both sides of the road. Where topography does not allow, sidewalks may be constructed on only one side of the road.

The purpose of these new standards are to begin constructing sidewalks along major routes where safety factors are most prevalent.

Road Inventory

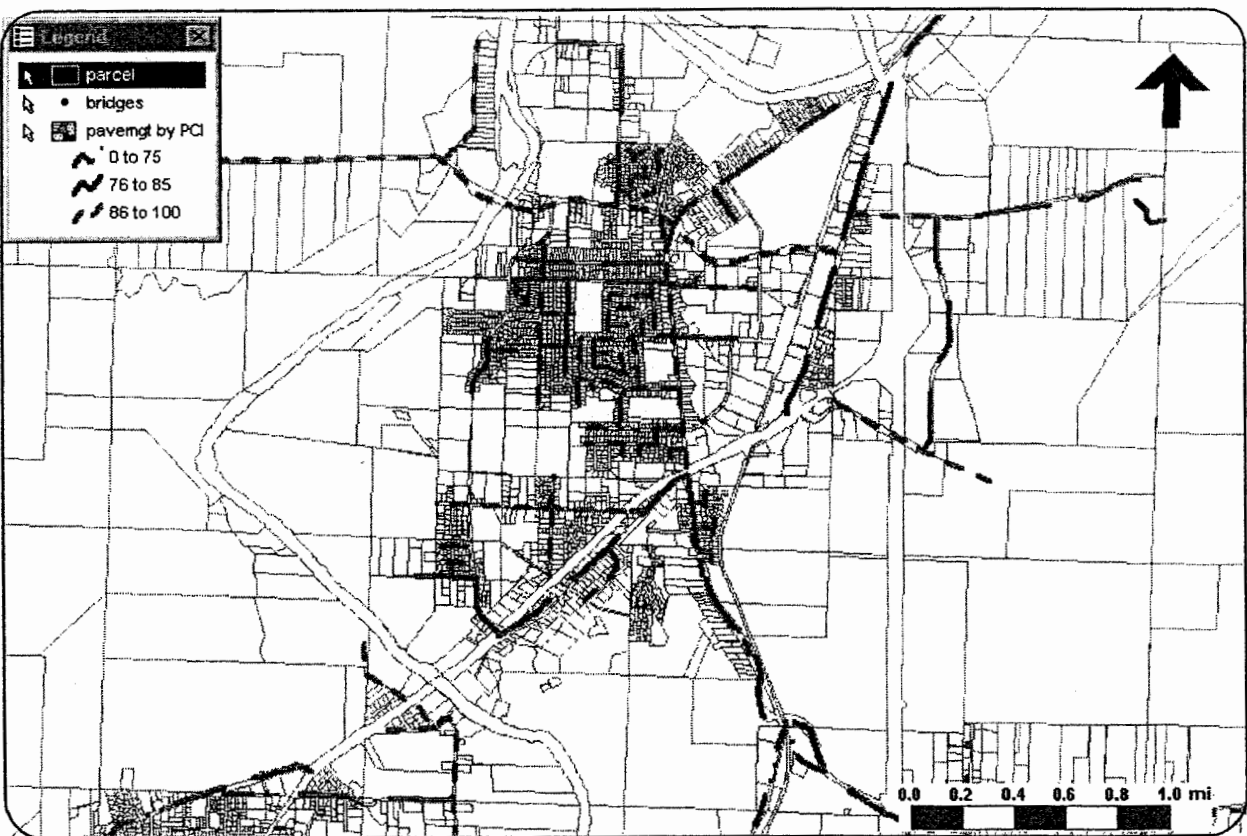
An inventory of the existing system was completed using the Comprehensive Plan Maps and text and tabular road data from two GIS computer databases: Integrated Road Information System and Arcview shape files containing parcel specific data.

The results of the collected data on the existing network was compared to the design standards for road facilities found in the Comprehensive Plan. The Road Inventory and Evaluation table inventory each route in the road and bicycle network. This inventory was used to evaluate two questions: does the constructed road meet minimum roadbed standards and is the route being used above or below the capacity listed in the Comprehensive Plan. From these questions, existing deficiencies were identified.

Pavement Conditions

The Pavement Condition Index ranks the quality of the road on a 0 to 100 scale. A road in good condition is ranked from 86 to 100. A road in fair condition is ranked from 76 to 85. A road in poor condition ranks 0 to 75. The majority of the roads in Green are ranked in the good and fair ranking. The local routes in poor condition are Balboa Avenue, Hanna Street, Santa Rosa Court, Georginna Drive, Green Siding Road, Linnell Avenue and Landers Lane.

There are currently no sidewalks in the Green UUA. Type I bikeways are located on a separated trail and is designed for the joint use by pedestrians and bicyclists. A Type I bikeway is located adjacent to Highway 42 from Carnes Road to Lookingglass Road. Douglas County has not inventoried this route in the Integrated Road Information

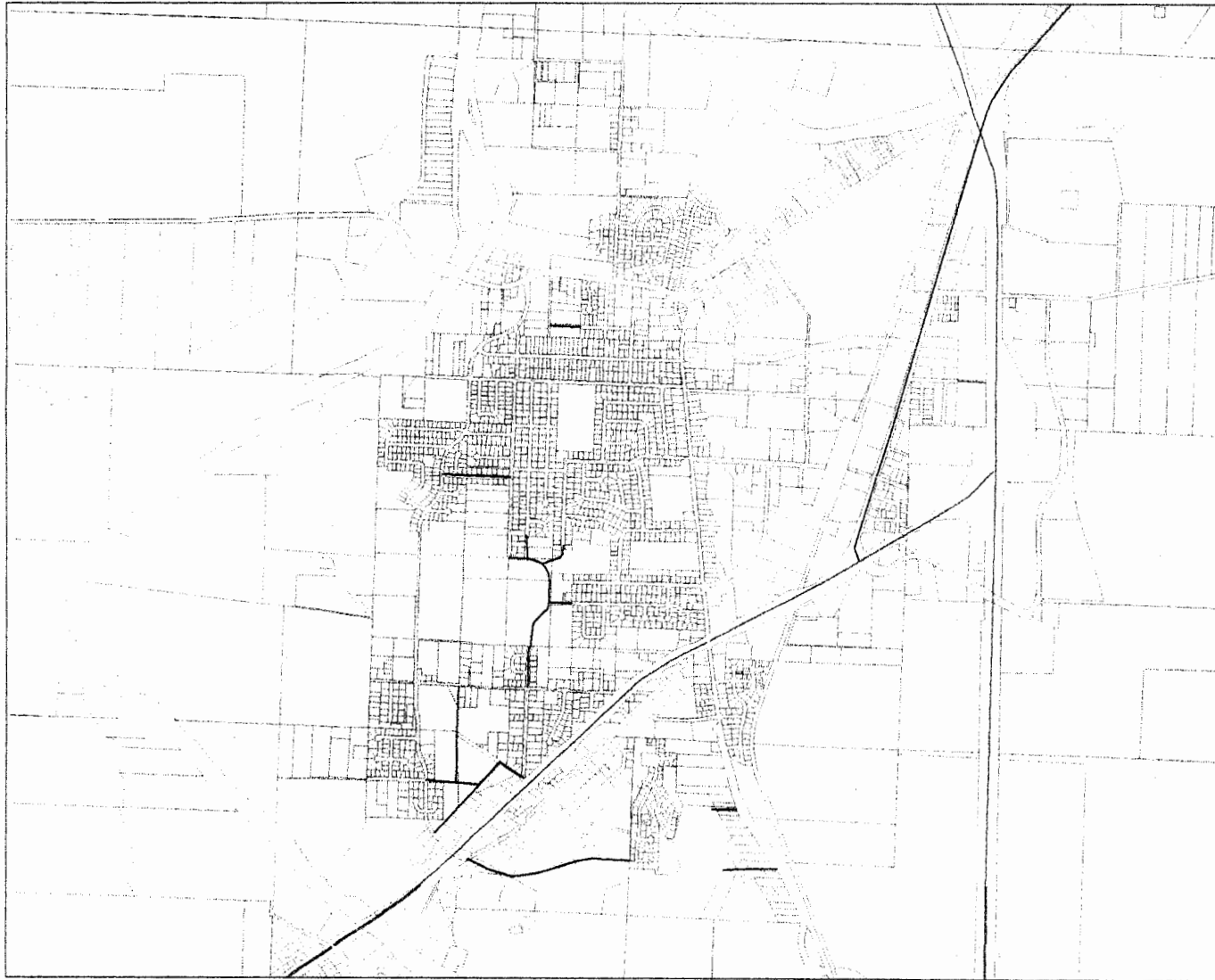


System database. Other bikeways are located on the paved portion of the road shoulder (Type IIIs) or on an identified bikeway (Type III). Since these bikeways share the shoulder, the pavement conditions are the same for the bikeway as the roadway they share. The shoulder width of Bikeway Routes is found on the Road Inventory and Evaluation table and the Existing Bikeway and Proposed Bikeway tables.

The Bikeway Routes in poor condition are Linnell Avenue and Georginna Drive.






The Road Inventory and Evaluation table compiled data for county routes identified in the Green Transportation Network. These routes include differing classifications such as Principal Highway (PH) , Arterial (ART), Major Collector (MAC), Minor Collector (MIC) and Necessary Local (NL). Seven local roads under consideration as bicycle routes, also had data compiled. Other local roads constructed in the Green UUA and not identified in the transportation network were not included. The County GIS system assisted in the evaluation of these routes. The length of each route was measured and recorded for each road classification identified in the Plan. Local streets that are identified in the Bicycle and Pedestrian Section were also included.

State Hwy. 42 ADT - Winston City Limits to Interstate 5		
M.P.	Location	ADT
74.47	On South Umpqua River bridge, 0.03 mile north of Winston City Limits	19400
75.71	0.01 mile southwest of S.W. Carnes Road (Kelly's Corner)	21300
76.02	0.03 mile southwest of Oakland Shady Highway (Old Hwy 99S)	21200
76.40	0.25 mile southwest of Pacific Highway (I-5)	17600



Transportation Element Green (C-1)

Major State & County Roadway Systems

-  Principal Highway
-  Arterial
-  Major Collector
-  Minor Collector
-  Necessary Local



Douglas County
Planning Department
Room 106
Justice Building
Courthouse
Roseburg, OR 97470
541-440-4289



June 5, 2001

00193

Road Inventory and Capacity Evaluation

	Built	Minimum Road bed	LUDO Standard	Pavement Width	Lanes	Lane Width	Turn Lane	Paved Shoulder	ADT	Class	Capacity
Austin Road E	P	40	Below	34	2	12	0	5	992	MIC	BELOW
Austin Road W	P	40	Below	26	2	12	0	1	2633	MIC	BELOW
Beech Street	P	36	Below	32	2	12	0	4	237	Local	BELOW
Cannon Ave	P	36	Below	34	2	12	0	5	233	Local	BELOW
Carnes Road N	P	40	Exceed	40	2	12	0	8	3489	MIC	BELOW
Carnes Road S	P	70	Below	60	2	12	0	18	7129	MAC	BELOW
Chandler Road	C	40	Below	32	2	12	0	4	1369	MIC	BELOW
Circle Drive	P	36	Below	32	2	12	0	4	1369	NLC	BELOW
Coronado Drive	P	36	Below	32	2	12	0	4	743	Local	BELOW
Delmar Drive	P	36	Below	32	2	12	0	4	1387	Local	BELOW
Depriest Street	P	36	Below	34	2	12	0	5		NLC	Unknown
Dodson View Drive	P	40	Below	20	2	12	0	0	93	MIC	BELOW
Georginna Drive	C	36	Below	33	2	12	0	4.5	780	NLC	BELOW
Grange Road	P	36	Below	24	2	12	0	0	349	Local	BELOW
Grant Smith Road	C	40	Exceed	40	2	12	0	8	1053	MIC	BELOW
Green Siding Road E	P	40	Exceed	40	2	12	0	8	1085	MIC	BELOW
Green Siding Road W	P	40	Below	34	2	12	0	5	1369	MIC	BELOW
Happy Valley Road E	C	40	Exceed	48	2	12	0	12	636	MAC	BELOW
Happy Valley Road W	P	40	Below	26	2	12	0	1	1982	MAC	BELOW
Hermosa Way	P	36	Below	32	2	12	0	4		Local	Unknown
Hwy 99 S.	P	70	Below	54	3	12	12	3	15000	ART	BELOW
Landers Lane	P	40	Below	32	2	10	0	6	803	MIC	BELOW
Linnell Ave	P	36	Below	32	2	12	0	4	445	Local	BELOW
Little Valley Road	P	40	Below	22	2	12	0	0	926	MIC	BELOW
Melody Lane	P	36	Below	21	2	12	0	0	387	NLC	BELOW
Roberts Creek Road	P	40	Exceed	40	2	12	0	8	7950	MAC	BELOW
Rolling Hills Road	C	40	Exceed	42	2	12	0	9	780	MAC	BELOW
Stella Street	P	40	Below	34	2	12	0	5	544	MIC	BELOW

NOTE: "P" stands for Prior Construction Standards, "C" stands for Current Construction Standards

Of the twenty-eight roads inventoried, only five roads (Rolling Hills Road met standards but a portion of this route has not been constructed), met the current minimum road standards for the current road classification. These routes were removed from the inventory. In the remaining twenty three routes, seven were constructed to meet minimum road standards at the time of their construction. These seven routes were analyzed by comparing the past minimum road bed standard to the existing paving width. The remaining eleven routes were pre-existing and were not constructed to meet the standard of the 1955-present time frame.

Next, these routes were analyzed by considering the minimum roadbed, right of way and volume/capacity (V/C) ratio for each road classification. If the existing roadbed exceeded the minimum roadbed, the route was considered to exceed the standard. If not, the roadbed was listed as below standard. The same process was followed for ROW width. The volume to capacity analysis calculated the existing volume to the capacity stated in the Comprehensive Plan. This ratio was compared with the V/C ratio for each road classification.

It is important to note that the v/c ratio's are general measures used for review of roadway capacity. The Public Works Engineering Department shall have the final determination of roadway capacity issues.

Classification	V/C Urban	V/C Rural
Principal Highway ⁴	0.70	0.70
Arterial	0.85	0.80
Major Collector	0.90	0.85
Minor Collector	0.95	0.90
Necessary Local	0.95	0.90

⁴ODOT has more than one v/c standard within the Douglas County. Contact ODOT to determine the v/c standard applicable to a specific site.

Road Network Analysis

	Built	Min Rdbed	Pv_ Width	Dif	RoadStd	Min_ ROW	ROW	ROW STD	ADT	V/C	Class	Capacity
Austin Road E	P	40	34	6	Exceed	60	70	Exceed	992	19.8%	MIC	BELOW
Austin Road W	P	40	26	14	Below	60	60	Exceed	2633	52.7%	MIC	BELOW
Beech Street	P	36	32	4	Below	56	60	Exceed	237	15.8%	Local	BELOW
Cannon Ave	P	36	34	2	Exceed	56	60	Exceed	233	15.5%	Local	BELOW
Carnes Road S	P	70	60	10	Exceed	74	70	Below	7129	71.3%	MAC	BELOW
Chandler Road	P	40	32	8	Below	60	60	Exceed	1369	27.4%	MIC	BELOW
Circle Drive	C	36	32	4	Below	56	60	Exceed	1369	91.3%	NLC	BELOW
Coronado Drive	P	36	32	4	Below	56	60	Exceed	743	49.5%	Local	BELOW
Delmar Drive	P	36	32	4	Below	56	60	Exceed	1387	92.5%	Local	BELOW
Depriest Street	P	36	34	2	Exceed	56	56	Exceed		0.0%	NLC	BELOW
Dodson View Drive	P	40	20	20	Below	60	40	Below	93	1.9%	MIC	BELOW
Georginna Drive	P	36	33	3	Below	56	60	Exceed	780	52.0%	NLC	BELOW
Grange Road	C	36	24	12	Below	56	60	Exceed	349	23.3%	Local	BELOW
Green Siding Road W	P	40	34	6	Exceed	60	60	Exceed	1369	27.4%	MIC	BELOW
Happy Valley Road W	C	40	26	14	Below	74	90	Exceed	1982	19.8%	MAC	BELOW
Hermosa Way	P	36	32	4	Below	56	60	Exceed		0.0%	Local	BELOW
Hwy 99 S.	P	70	54	16	Exceed	102	100	Below	15000	50.0%	ART	BELOW
Landers Lane	C	40	32	8	Below	60	40	Below	803	16.1%	MIC	BELOW
Linnell Ave	P	36	32	4	Below	56	60	Exceed	445	29.7%	Local	BELOW
Little Valley Road	P	40	22	18	Below	60	40	Below	926	18.5%	MIC	BELOW
Melody Lane	P	36	21	15	Below	56	60	Exceed	387	25.8%	NLC	BELOW
Roberts Creek Road	P	40	40	0	Exceed	74	60	Below	1992	19.9%	MAC	BELOW
Stella Street	P	40	34	6	Exceed	60	60	Exceed	544	10.9%	MIC	BELOW

NOTE: "P" stands for Prior Construction Standards, "C" stands for Current Construction Standards

Needs Analysis

The Public Works Department conducted a review of road standards to find out if these standards are adequate. The Public Works Department found that the current standards are adequate. Douglas County does not need a smaller road standard because 90% of the roads in the county are rural roads. The County Road Department has specific sized equipment to maintain the existing roads.

The County's consideration of alternate street standards, evaluated (the) cost of construction, cost of road maintenance, efficient use of urban land, emergency vehicle access, truck traffic, farm equipment traffic, traffic volumes and speeds, pedestrian and bicycle circulation and found that no excessive standards for local streets and accessways exist. The County has established standards for local streets and accessways that minimize pavement width and total right-of-way consistent with the operational needs of the facility.

The roads constructed near standards are acceptable and maintained by the Department. Roads that are below standards either serve limited areas or will be improved as development reaches the area. Some road that were below standards were operational for vehicle traffic but did not serve bicycle or pedestrian needs. The Public Works Department has determined that new road standards are not needed.

Using current standards, eight roads (of the 23 roads considered) had roadbed deficiencies of ten feet or above, five roads had roadbed deficiencies six foot to ten feet, and ten roads had roadbed deficiencies equal to five foot or less. Where capacity issues do not exist, construction of additional roadbed will not be required. Instead, developers sign an agreement of non-remonstrance against the creation of a local improvement district. This non-remonstrance agreement will be used when improvements are deemed necessary for a specific public road and a local improvement district is proposed as a means to fund the improvement.

Four of the six roads with ROW deficiencies (Dodson View, Landers Lane, Little Valley, and Roberts Creek Roads), may require additional right-of-way when each area is developed. Where capacity issues do not exist and construction of additional roadbed will not be required, the Planning Department requires developers of a subdivision to sign an "offer to sell" a portion of their property for addition ROW for future road improvement needs.

Only two local roads (Delmar Drive and Circle Drive) are nearing designed capacity limits. Delmar Drive is in a developed area with no available undeveloped or underdeveloped land. Circle Drive is also in a developed area. Additional development is possible at the southern end of Circle Drive. This area, when developed, will be an

end destination with the best access provided by Chandler Drive. No improvements are required to address road capacity and mobility issues for these routes.

Analysis of Future Needs

Traffic volume forecasting methodologies were not used for the estimation of future traffic volumes. Twenty year historical traffic volume data is required to complete a twenty year forecast. The needed information to completed this analysis was not available.

	Classification	Present ADT	Capacity
Little Valley Road	MIC	928	19%
Happy Valley	MAC	3511	35%
Rolling Hills	MAC	780	8%
Jackie	MIC	134	3%
Roberts Creek	MAC	1992	20%
Carnes South	MAC	7129	71%
Old Hwy. 99	ART	12300	41%

The Public Works Department identifies and monitors problem areas that include the operation of roads and intersections. As problem areas are identified, they are monitored to collect data. The data is reviewed and the appropriate changes are made.

Based on the existing function of routes in the Green circulation plan and coordination with the Public Works Department, the following findings are made.

Little Valley Road is the primary route for most development north of Happy Valley Road between Carnes and the South Umpqua River. As development occurs in this area longer que times are anticipated on Little Valley at the intersection with Happy Valley. A right turn lane will reduce the queuing length. This intersection should be monitored to evaluate the number and types of accidents.

Happy Valley Road is an important through street in Green. This route provides connections to Old Hwy. 99 S, Carnes Road and Rolling Hills Road. As the northern portion of the Green area develops, the speed of traffic will be an issue. A potential

exists for increased accidents near the un-signalized intersections with Little Valley and Rolling Hills.

Rolling Hills Road, when completed will function as a north/south route. Additional ADT is possible as traffic from adjacent neighborhoods use this route for a faster access onto Hwy. 42.

Jackie Lane serves as one of the roads linking Melody Drive to Rolling Hills Road. As development occurs in this area, improvements to Jackie Lane and Harmony Drive will be completed. Since this route serves a small area and is not anticipated to be near capacity at buildout, no improvements are proposed.

Roberts Creek Road serves the residential area of southwest Green. This route is not anticipated to reach capacity at build out (year 2050). One issue on this route is the queuing time at the intersection with Hwy. 42. The Public Works Department will continue to coordinate with ODOT on their future improvements to the intersection of Hwy. 42 at Roberts Creek Road.

Carnes Road is the primary route connecting Hwy. 42 to the Green area. This route serves two community centers and is an important link to Happy Valley Road. Issues effecting Carnes Road are accidents, queuing time at Hwy. 42 and the intersection with Happy Valley Road.

Old Hwy. 99 connects the Green area from Hwy. 42 to the City of Roseburg. The increased ADT on this route is expected from Happy Valley to the City of Roseburg or from Hwy. 42 to Happy Valley.

Based on this brief analysis, the following projects should be evaluated by the year 2020:

Happy Valley Road at Carnes Road: The intersection should be monitored to promote traffic flow on Happy Valley and allow a continuous right turn onto Carnes. If delays begin, the Public Works Department will evaluate the need for improvements.

Little Valley Road at Happy Valley Road: Monte Way should be completed as an alternate route connecting Little Valley Road to Carnes Road. This connection will reduce average daily traffic on Little Valley Road. A left turn lane on Little Valley is suggested to reduce queuing time.

Jackie Road at State Hwy. 42: When road improvements are completed to create the frontage road along Highway 42, local traffic will have this alternative to access Rolling Hills Road. The Rolling Hills intersection is better suited for turning movements onto Hwy. 42.

Carnes Road at State Hwy. 42: Based on the future function of this route, consider re-classifying Carnes Road from Green Siding to Hwy. 42 as an arterial. Continue to coordinate with ODOT on their future improvements to the intersection of Hwy. 42 at Carnes Road.

Intersections

The Oregon Department of Transportation completed capacity analysis information for various intersections within the Green UUA. Manual PM peak hour traffic counts at the intersections of Old Highway 99/Speedway Road, Old Highway 99/Happy Valley Road, Happy Valley Road/Carnes Road, Happy Valley Road/Rolling Hills Road were completed in June 2001. Highway Capacity Manual software for unsignalized intersections and SIGCAP for signalized intersections were used to determine both the 2001 and 2020 volume to capacity ratios at these intersections. For the 2020 numbers it was assumed that traffic on these roadways would increase proportionally with the population. Based upon the analysis, the following results were obtained.

Location	2001	2020
Old Highway 99/Speedway Road	0.22	0.96
Old Highway 99/Happy Valley Road	0.57	0.78
Happy Valley Road/Carnes Road	0.42	0.76
Happy Valley Road/Rolling Hills Road	0.12	0.55

With the exception of Old Highway 99/Speedway Road, all intersections are expected to operate within the County volume to capacity standards for the year 2020.

In the long range (2011-2020) the Old Highway 99/Speedway Road intersection will require signalization with an interconnect to the Happy Valley signal and the addition of a left turn lane onto Old Highway 99. Using a 90 second signal length for a signalized intersection, the volume to capacity ratio is expected to be 0.82, within the County Standard of 0.85 at this intersection.

Bridges

The Green Road Network is served by eight bridges on the county network and two bridges on the state network. Four bridges are located on Major Collectors (Carnes Road, Happy Valley Road and Roberts Creek Road) and four Bridges are located on Minor Collectors (Green Siding Road, Austin Road and Industrial Drive). The Green Transportation System Plan identifies an un-named collector traveling north of Rex Street on Carnes Road. This route will connect with Monte Way and continuing west to

Little Valley Road. The completion of this new minor collector will require the construction of a new bridge over Roberts Creek.

This plan does not anticipate the construction of new bridges, except for the one bridge discussed above. At the time of expansion of the Winston Urban Growth Boundary and Green Urban Unincorporated Boundary toward the South Umpqua River, the need for a third bridge over the South Umpqua River (along the Green UUA) should be considered.

**A
C
C
I
D
E
N
T

A
N
A
L
Y
S
I
S**

Accident Analysis

One consideration in reviewing a road network is to assure a safe bicycle and walking environment exists. A safe environment is affected by many factors: design standards, road maintenance, compliance with rules of the road and drivers/bicyclist's experience.

Most bicycle crashes do not involve collisions with motor vehicles; they usually involve falls or collisions with stationary objects, other cyclists and pedestrians⁵. All reported pedestrian crashes are the result of a collision with a motor vehicle. Most pedestrian crashes are the result of an attempt to cross the roadway; fewer occur as pedestrians walk along a roadway.

A second consideration is the safety of the route for all modes of transportation using accident data. To evaluate the safety of the route, accident data was obtained from Douglas County Public Works Department and the ODOT Crash Analysis and Reporting Unit. Vehicle crashes include those coded for county roads and state highways. Legally reportable crashes are those involving death, bodily injury or damage to any one person's property in excess of \$500 up to and including 8/31/97 and \$1,000 or more after 8/31/97.

The accidents are identified by the mile post (MP) where the event occurred, the accident ID number, date & time, the number of vehicles involved, the number of injuries and any fatalities.

Road	MP	ID	Date	Time	#Vehicle	Injury	Death
Austin Road	0.12	1871	11/05/99	3P	1	0	0
	0.25	2325	12/15/99	8A	1	0	0
	0.48	717E	03/16/95	10A	1	1	0
	0.6	1089	07/10/97	2P	2	0	0
Accident Rate							2.8
Beech Street	0.02	319	03/13/97	8P	2	0	0
	999.9 9	244	02/07/97	2P	2	0	0
Accident Rate							NA
Carnes Road	13.3	1495	09/10/99	11A	2	1	0

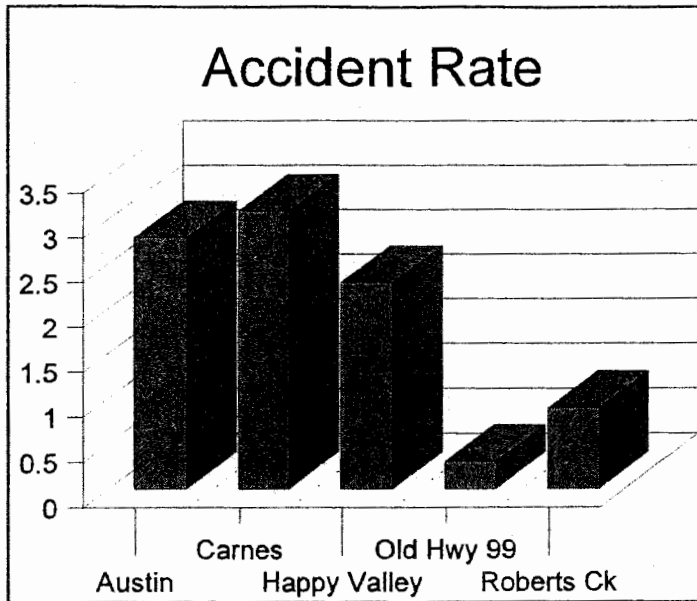
⁵ "Oregon Bicycle and Pedestrian Plan", Part IV: Chapter 1 (Page 185).

Road	MP	ID	Date	Time	#Vehicle	Injury	Death
	13.39	1546	10/09/97	5P	2	0	0
	13.4	71B9	05/22/94	2P	2	0	0
	13.55	11711	11/17/98	10P	2	0	0
	13.63	11B51	03/19/99	3P	2	1	0
	13.7	273	02/19/97	8A	1	0	0
	13.65	1313B	10/31/99	2P	2	1	0
	13.76	13106	09/18/99	1A	1	0	0
	13.85	97AD	11/28/97	8P	1	0	0
	13.9	716C	02/07/95	7P	1	1	0
	13.96	699	05/14/98	8P	2	1	0
	13.97	236	02/06/97	10A	2	1	0
	13.59	472	03/19/99	3P	2	1	0
	14.04	228	02/03/97	11A	2	1	0
	14.15	1558	09/30/99	5P	2	1	0
	14.2	2134	12/29/99	3P	2	1	0
	14.28	716B	11/01/94	1A	1	0	0
	99.99	1473	09/06/99	8P	1	0	0
Accident Rate							3.1
Castle Ave.	0	97CA	11/06/97	6A	1	0	0
	0.46	730B	05/31/94	4P	1	0	0
Accident Rate							NA
Circle Drive	0.01	97CE	08/08/97	7P	2	1	0
	0.14	136	01/29/98	6P	2	0	0
Accident Rate							N/A
Del Mar Drive	0.1	1535	09/23/99	6P	2	0	0

Road	MP	ID	Date	Time	#Vehicle	Injury	Death	
	0.15	1776	11/28/97	12P	2	4	0	
	0.2	81868	10/31/98	1P	2	0	0	
	0.27	97CD	11/28/97	12P	2	4	0	
	0.32	C761	07/16/98	8P	2	1	0	
Accident Rate							NA	
Depriest Street	0.09	2413	12/26/98	11P	2	0	0	
Accident Rate							NA	
Green Siding Road	0	70FD	06/15/95	9P	1	0	0	
	0.1	7148	04/02/96	4P	1	1	0	
Accident Rate							1.5	
Happy Valley	0	954	06/23/99	6A	2	1	0	
	0.12	13171	11/14/99	1A	1	0	1	
	0.35	1757	11/14/99	12A	1	0	1	
	0.41	1532	09/22/99	3P	2	0	0	
	0.5	285	02/12/99	7P	1	0	0	
	0.6	717A	10/08/96	4P	1	0	0	
	0.7	1654	10/26/97	2P	1	1	0	
	0.77	175	01/31/97	4P	1	0	0	
Accident Rate							2.3	
Harmony Drive	0.38	97D2	12/02/97	7P	1	0	0	
Accident Rate							NA	
Jackie Street	0.3	2081	12/14/99	2P	2	0	0	
Accident Rate							N/A	
Lance Street	0.29	7300	02/09/95	1000	1	0	0	
Accident Rate							N/A	

Road	MP	ID	Date	Time	#Vehicle	Injury	Death	
Linnell Ave	0	72EA	11/11/96	12A	1	0	0	
							Accident Rate	N/A
Old Hwy. 99S	0	F813	07/25/98	2P	1	0	0	
	18.32	13109	12/18/98	11A	1	0	0	
	18.38	11724	09/12/98	12A	1	1	0	
	18.7	13108	09/29/99	5A	1	1	0	
	19	12FC5	12/23/97	5P	1	1	0	
	19.38	12FC7	07/18/97	6P	1	1	0	
	19.4	13107	09/09/99	2A	1	0	0	
	19.41	12FC9	02/02/98	11A	1	1	0	
	19.5	12FD	08/10/96	1A	1	1	0	
							Accident Rate	0.30
Roberts Creek Road	12.52	1288	08/07/99	3A	1	0	0	
	12.35	2389	12/23/98	2P	1	0	0	
	13.06	71B5	04/19/94	1P	2	1	0	
	13.24	655	05/02/98	4P	2	1	0	
	13.3	12FDF	09/09/99	12P	1	1	0	
	13.31	C777	05/02/98	4P	1	0	0	
	13.33	C769	06/20/98	7P	1	0	0	
	13.34	1431	09/02/97	3P	1	2	0	
							Accident Rate	0.9
Stella Street	0.16	12FB6	07/27/99	10P	1	0	0	
							Accident Rate	NA

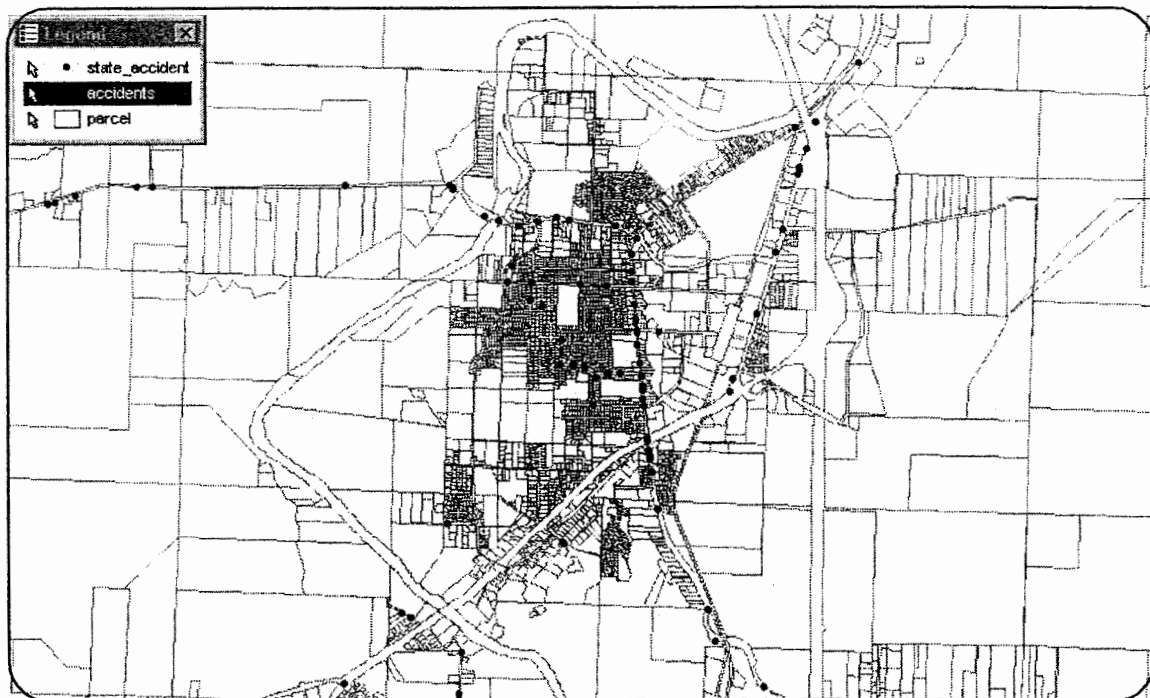
In completing this exercise, roads under a half mile in length and those with low ADT were not calculated. When calculated, these roads provide a misleading accident rate results.



As shown, Carnes Road has the highest accident rate. Carnes Road is the major north south route in Green. Austin Road had the second highest accident rate. This route is the route providing access to Sunnyslope School in Green. Happy Valley Road is the primary east west route providing access in Green. This route had the third highest accident rate.

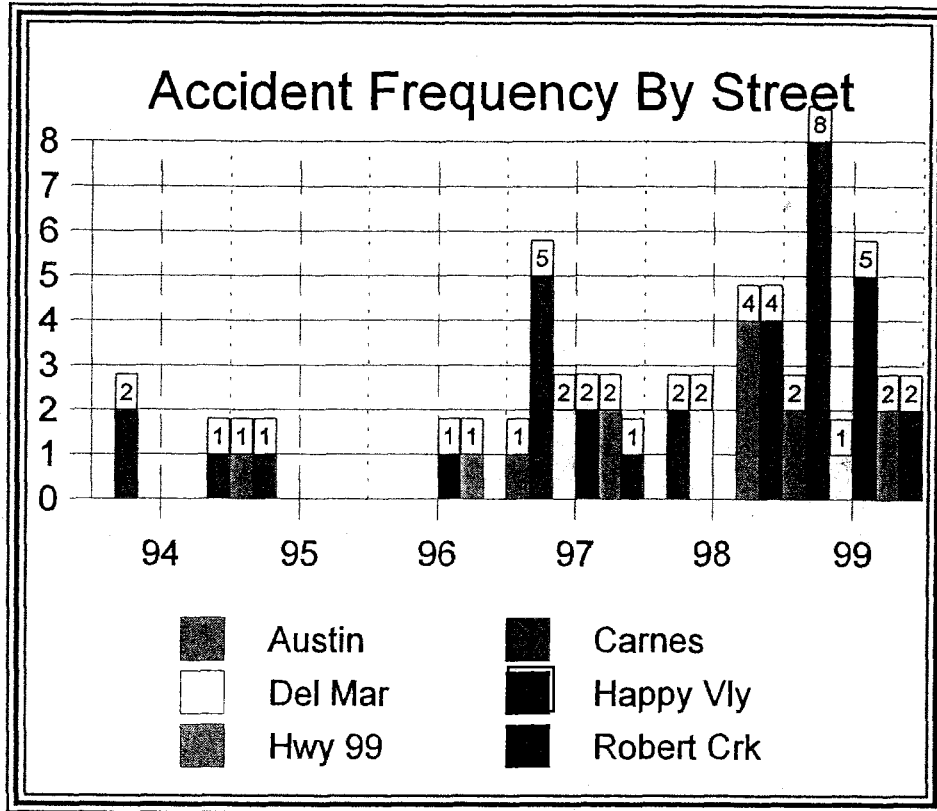
The outcome of this analysis verified common expectations: more accidents occur on the heavily traveled routes. All of the routes identified with four or more

accidents during the 1994-1999 data collection period, except Del Mar Road are minor collectors or above. (Happy Valley Road, Carnes Road, Roberts Creek Road, Austin Road, and Old Hwy 99 S). The following GIS map contains the accident data points for Green and identifies the routes containing most accidents.



There are many factors to consider when conducting accident analysis. Some of these factors are road design, sight distance, illumination, weather and road conditions. Other contributing factors such as speed or the driving under the influence of intoxicants and the age of the driver also are considered.

The accident data evaluated in this plan considered accident frequency, the average daily traffic and the proximity of community centers. The goal of this analysis is to identify the routes that have a high accident frequency, with high ADT and are close to congested areas (community centers).



Name	Community Classification	ADT	94-99	Rte	Accid. Rate	Bike & Ped Center
Austin Road	MIC	2633	4	Yes	2.8	Sunnyslope
Carnes Road	MAC	7129	8	Yes	3.1	Green/Shop
Del Mar Road	Local	1387	5	Yes	NA	Green
Happy Valley Road	MAC	1982	8	Yes	2.3	-
Old Hwy 99 S	ART	15000	9	Yes	0.3	-
Roberts Creek Road	MIC	1992	8	Yes	0.9	-

As identified above, Carnes Road has the highest accident frequency. One of the eight accidents occurring on Carnes Road involved pedestrians or bicyclists.

Carnes Road is below the designed roadbed width and does not have sidewalks. The pavement condition index is in the good range. As expected from a major collector, this route has a high average daily traffic. Pedestrian safety becomes an issue because of the potential of high pedestrian use, the number of pedestrian involved accidents and the lack of sidewalks.

In addition, Carnes Road contains two of the three community centers in Green: Green Elementary and a shopping center. This area is more likely to have pedestrian traffic. The central location of Carnes Road and the Class IIIs bicycle route designation along the entire length of Carnes Road promotes a higher level of bicycle traffic.

This route is a major collector. Major collectors provide for the connection of major residential and activity centers. Such roads primarily accommodate through traffic and channel traffic from local and minor collectors onto streets of higher classification.

The above factors identify safety and road construction deficiencies exist on Carnes Road. This route is centrally located with higher level of use. To address pedestrian safety issues, this route is identified as a high priority for the construction of sidewalks.

**B
I
C
Y
C
L
E
&
P
E
D
E
S
T
R
I
A
N**

Bicycle and Pedestrian

The history of transportation development in unincorporated Douglas County has clearly identified the dependence on the automobile as a means of transportation. Resource based communities have developed over time along the major routes in the county.

The Oregon Bicycle and Pedestrian (OBP) Plan suggested that "Most bicycling and walking occurs on existing roadway systems for several reasons: it is already in place; it serves all destinations; and safety is improved when cyclists and walkers are visible to motorists and obey the same traffic laws and control devices."⁶

The OBP Plan describes four principles of bikeway and walkway planning: accommodating bicyclists and pedestrians on arterial and collector streets; providing appropriate facilities; creating and maintaining a system of closely spaced, interconnected local streets; and overcoming barriers such as freeway crossings, intersections, rivers and canyons.⁷

The OBP Plan addresses the potential for commuting via walking or bicycling. The OBP Plan states:

"Rural highways and county roads are considered suitable for cycling if they have paved shoulders or relatively low traffic volumes. State highways and county roads provide good opportunities for long distance touring and shorter recreational rides. Closer to cities these roads serve as commuter routes into the urban area from outlying residential areas."⁸

and

"Many county roads link rural destinations. The more populated counties of Oregon construct many of their roads with paved shoulders. County roads with low traffic volumes serve bicyclists well as shared roadways."⁹

In Green, the Bicycle and Pedestrian Route system accommodates bicyclists and pedestrians on all arterial streets, collector streets and necessary locals. Most of these arterials and collectors were built prior to the adoption of the Comprehensive Plan.

No sidewalks exist in the Green area. The facilities deemed necessary for pedestrian and bicycle needs were paved or have hard packed shoulders. The cost to upgrade all routes to full ROW, roadbed and sidewalks is substantial. Existing routes can be

⁶"Oregon Bicycle and Pedestrian Plan", Part I: Chapter 2 (Page 49).

⁷"Oregon Bicycle and Pedestrian Plan", Part I: Chapter 2 (Page 49).

⁸ "Oregon Bicycle and Pedestrian Plan", Part I: Chapter 3 - A.2 (Page 17).

⁹ "Oregon Bicycle and Pedestrian Plan", Part I: Chapter 3 - A.3 (Page 17).

improved in the interim via multi-use paths on the shoulder of roadways for use by pedestrians and bicyclists. This upgrade will provide the appropriate interim facilities needed for these users.

The transportation system network is a planned and maintained system of closely spaced, interconnected local streets. Where topography allows, the street network consists of a grid pattern with few large blocks. Sloped areas tend to have a larger block size and more cul-de-sac's. This network is designed to overcome physical and man-made barriers. Access is provided across I-5 to Green's eastern industrial area via the Speedway Road underpass and Grant Smith Road.

Winston, Green and Roseburg are urban areas. Short distances (typically under three miles), are most easily made by bicycle or walking. The trip distances from Green and Winston to Roseburg is greater than three miles. In addition, the rivers, highway and rail lines may discourage people from commuting via walking or bicycling. A separated path begins in Green and travels west over the South Umpqua River to the City of Winston. This multi-purpose path from Winston to Green has made alternate mode commuting possible between these communities.

Within Green, opportunities for bicycle transportation may be improved with painted bicycle routes and some shoulder improvement projects. The mitigation methods for walking require differing standards (signed versus unsigned route) based upon the intensity of use on each route.

Over time, residents of Green have used shoulders and bicycle paths to walk to and from short distance destinations. The use of shoulders and bicycle paths is an acceptable alternative for urban areas when shoulders are wide enough to serve pedestrian and bicycle traffic.¹⁰ As the density of Green increases, the change in design should consider the use of sidewalks as a standard for this urban area. The County recognized and addressed the need to provide a safe location for citizens to walk in heavily used areas. New bicycle routes are suggested to serve pedestrian needs in less traveled routes. The updated roads network outlines the extension of existing routes.

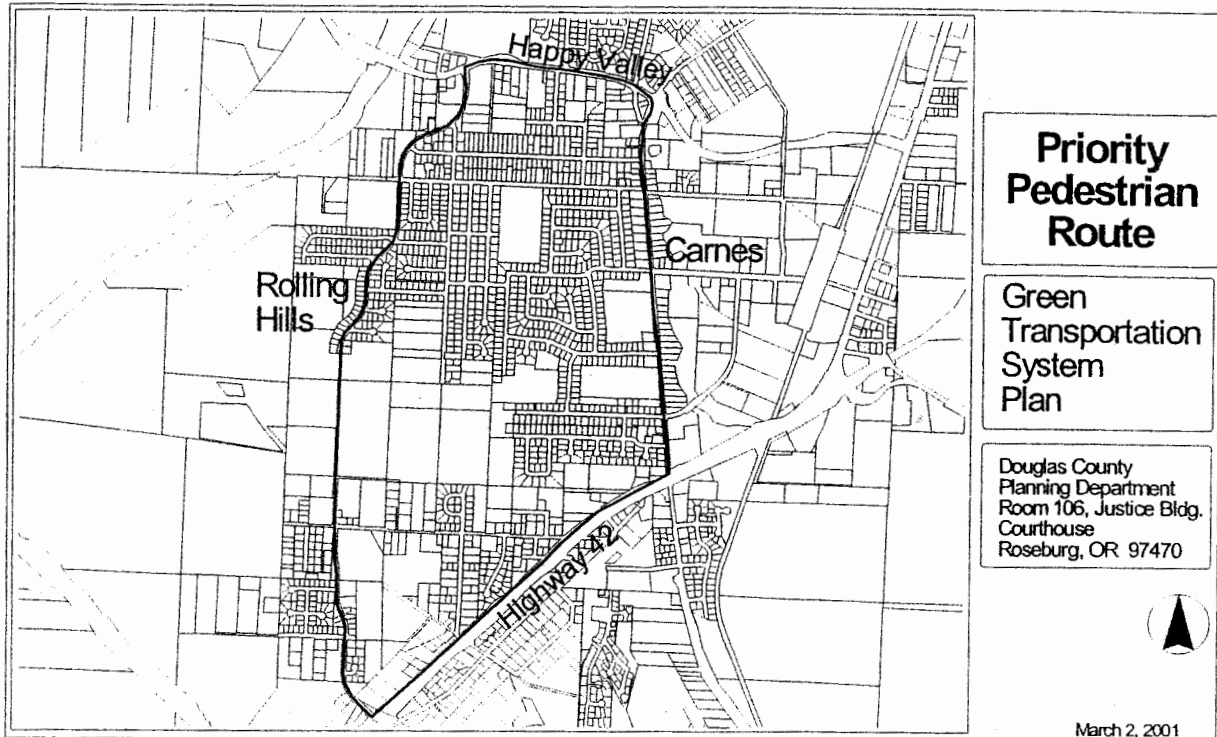
	Built	Existing Bicycle Routes				ADT	Class
		Minimum Road bed	LUDO Standard	Pavement Width	Paved Shoulder		
Carnes Road N	P	40	Exceed	40	8	3489	III
Carnes Road S	P	70	Exceed	60	18	7129	III
Happy Valley Road E	C	40	Exceed	48	12	636	III's
Happy Valley Road W	P	40	Below	26	12	1982	III's
Hwy 99 S.	P	70	Exceed	54	3	15000	III
Roberts Creek Road	P	40	Exceed	40	8	7950	III's
State Hwy. 42	P						I

¹⁰ "Oregon Bicycle and Pedestrian Plan", Part II: Chapter 4 (Page 91).

		Planned Bicycle Routes		Paved	Class
		Minimum	Pavement	Shoulder	
		Road bed	Width		
Portland Avenue				?	III
Fairgrounds-Green		NA	NA	NA	I

Proposed Bicycle Routes							
	Built	Minimum	LUDO	Pavement	Paved	ADT	Class
		Road bed	Standard	Width	Shoulder		
Austin Road E	P	40	Exceed	34	5	992	III's
Austin Road W	P	40	Below	26	1	2633	III's
Cannon Ave	P	36	Exceed	34	5	233	III's
Chandler Road	C	40	Below	32	4	1369	III's
Coronado Drive	P	36	Below	32	4	743	III's
Delmar Drive	P	36	Below	32	4	1387	III's
Depriest Street	P	36	Exceed	34	5		III's
Georginna Drive	C	36	Below	33	4.5	780	III's
Grange Road	P	36	Below	24	0	349	III's
Green Siding Road E	P	40	Exceed	40	8	1085	III's
Green Siding Road W	P	40	Exceed	34	4	1369	III's
Hermosa Way	P	36	Below	32	4		III's
Landers Lane	P	40	Below	32	6	803	III's
Little Valley Road	P	40	Below	22	0	926	III's
Melody Lane	P	36	Below	21	0	387	III's
Rolling Hills Road	C	40	Exceed	42	9	780	III's
Stella Street	P	40	Exceed	34	5	544	III's

To this point we have examined existing bicycle and pedestrian network, extension of existing routes and proposed new routes to better serve the Green area. It is important to facilitate the construction of sidewalks along Minor Collectors and above that serve high traffic areas in Green. The following priority pedestrian route map identifies the key routes targeted for improvements.



Previous sections described new requirements for the construction of sidewalks in the Green UUA.

As new subdivisions are constructed along major collectors and minor collectors or arterials, sidewalks will be required. When houses are placed in existing subdivisions along collectors or above a waiver of remonstrance to the creation of a Local Improvement District will be required. In some areas where topography does not facilitate pedestrian flow, sidewalks may be required on only one side of the road.

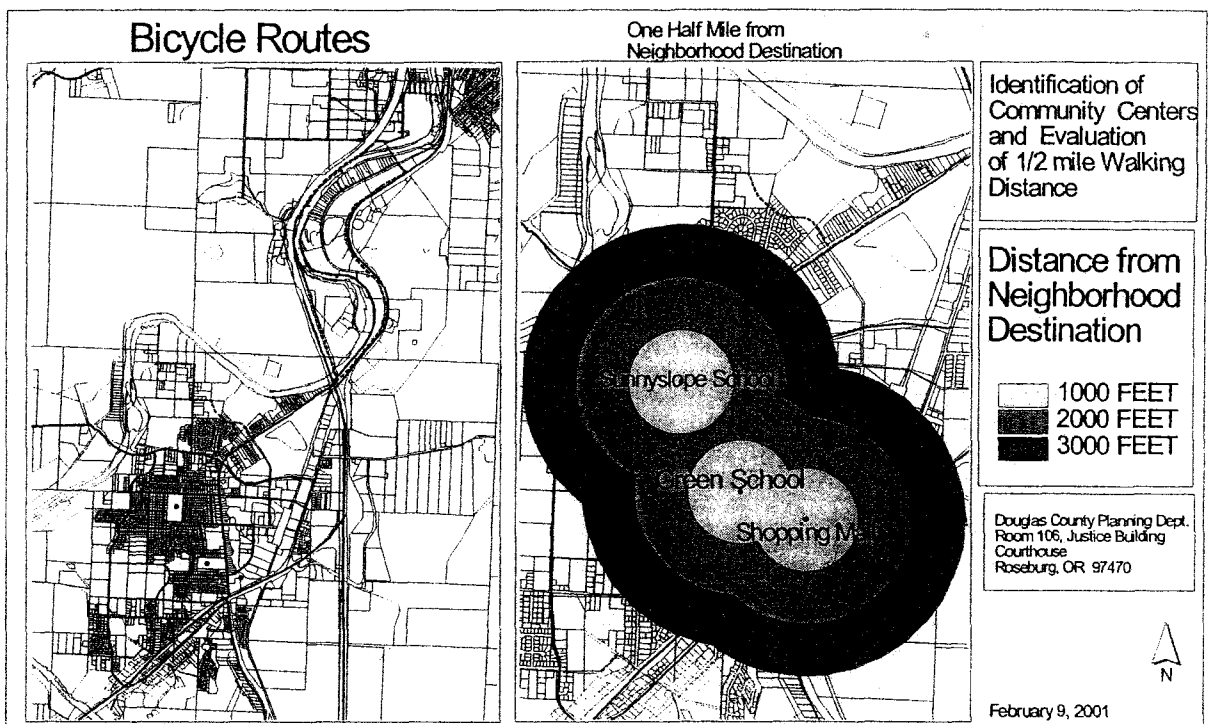
The Douglas County Public Works Department may choose to complete sidewalk sections to fill in gaps and complete a continuous sidewalk for that block. As roads are reconstructed upgrades will include the construction of sidewalks along both sides or one side (where applicable).

The goal of these new standards and the priority pedestrian route is to address the need for sidewalks in Green.

The bicycle network was updated to add new routes. The Green UUA bicycle and pedestrian routes were digitized for addition into the Green Transportation System Plan. The Oregon Transportation Planning Rule requires

“On-site facilities shall be provided which accommodate safe and convenient pedestrian and bicycle access from within new subdivisions, multi-family developments, planned developments, shopping centers, and commercial districts to adjacent residential areas and transit stops, and to neighborhood activity centers within one-half mile of the development. Single family residential developments shall generally include streets and accessways. Pedestrian circulation through parking lots should generally be provided in the form of accessways.”

The following map identifies the one half mile area from community centers.



The OBP Plan determined “Arterials and collectors can be made more bicycle and pedestrian friendly by: Including bikeways and walkways when roads are built or reconstructed; renovating roads with bikeways and walkways; improving pedestrian crossing opportunities; and improving and better maintaining existing but inadequate facilities.”¹¹ This analysis includes improvements for extension of existing Plan routes, extension of existing necessary locals and new necessary local routes proposed to address identified deficiencies in the circulation network. From these proposed new routes and improvements, costs were evaluated.

The new routes and improvements coincide with road improvements. Therefore, the evaluation of the bicycle and pedestrian routes is found in the “Improvements and Constraints” section.

¹¹ “Oregon Bicycle and Pedestrian Plan”, Part I: Chapter 2 (Page 51).

I
M
P
R
O
V
E
M
E
N
T
S
&
C
O
N
S
T
R
A
I
N
T
S

The schedule of Proposed Improvements & Financial Constraints

In the previous sections we have reviewed the road and bicycle network. In each section improvements were identified to address existing deficiencies and proposed road extensions.

One method to complete proposed improvement is through a local improvement district. A local improvement district may be formed under ORS 371.605 to 371.660 or the Douglas County Local Assessment Ordinance to improve a local access road to County Road standards. This process is not considered a capitol improvement process.

On the following page, the "Existing Routes Needing Improvements" table identifies the deficiency of each route identified in the Green Transportation System Plan. The cost of obtaining Right of Way has many known and unknown variables and thus is difficult to estimate. Right-of-way cost can be significant, but this analysis will not consider that cost in the estimate of financial constraints.

Graphic Information Software was utilized to measure routes segments containing deficiencies with roadbed width. The route segment measurements were entered into the table and a cost factor applied to estimate the improvement costs. Projects will be prioritized by considering the proximity to neighborhood centers, safety factors and route classification.

The Douglas County Public Works Department provided a table titled "Minimum Estimated Road Construction Costs for Ultimate Improvements". This table provided individual cost estimates for grade, base, pavement, curbs, walk, drainage and identified total cost per foot and per mile. The next section will consider the construction cost of improving identified routes for ultimate improvements and evaluate the financial constraints to completing these projects. The estimated road construction costs for ultimate improvements not include engineering.

MINIMUM ESTIMATED ROAD CONSTRUCTION COSTS FOR ULTIMATE IMPROVEMENTS (URBAN AREAS)

CLASS	MIN. TC	GRADE*	BASE**	PAVE**	CURB	WALK	DRAINAGE	\$/FT TOTAL	\$/MILE TOTAL
LOCAL	4.5	10	33	18	16	-	30	107	565,000
MINOR COLLECTOR	5.0	15	45	26	16	-	30	132	695,000
MINOR COLLECTOR/WALK	5.0	20	45	26	16	26	30	163	860,000
MAJOR COLLECTOR (2 LANE)	7.0	22	54	26	16	26	30	174	920,000
MAJOR COLLECTOR (4 LANE)	7.0	25	84	53	16	26	31	235	1,240,000
ARTERIAL (2' MEDIAN)	9.0	35	129	60	16	26	31	297	1,570,000
ARTERIAL (14' MEDIAN)	9.0	40	143	70	16	26	32	327	1,725,000
PRINCIPAL HIGHWAY	10.0	45	159	70	16	26	32	348	1,835,000

* Assumes minimum grading and includes miscellaneous items associated with road construction

** Structural section estimates are based on an average R-Value of 5, non-expansive soils and minimum acceptable traffic coefficients.

2-26-99
rd-cosbu vkt

Existing Routes Needing Improvements

	MinRdbed	Pv_Width	Deficiency	Length	Cost
Austin Road E	40	34	-6	3125	\$509,375
Austin Road W	40	26	-14	3870	\$630,810
Beech Street	36	32	-4	790	\$84,530
Cannon Ave	36	34	-2	625	\$66,875
Carnes Road S	70	60	-10	5025	\$874,350
Chandler Road	40	32	-8	2140	\$228,980
Circle Drive	36	32	-4	1440	\$154,080
Coronado Drive	36	32	-4	1050	\$112,350
Delmar Drive	36	32	-4	1100	\$117,700
Depriest Street	36	34	-2	350	\$37,450
Dodson View Drive	40	30	-10	2850	\$464,550
Georginna Drive	36	33	-3	1000	\$107,000
Grange Road	36	24	-12	4960	\$530,720
Green Siding Road W	40	34	-6	2850	\$464,550
Happy Valley Road W	40	26	-14	3600	\$626,400
Hermosa Way	36	32	-4	1050	\$112,350
Hwy 99 S.	70	54	-16	6100	\$1,994,700
Landers Lane	40	32	-8	3811	\$621,193
Linnell Ave	36	32	-4	2060	\$220,420
Little Valley Road	40	22	-18	1961	\$319,643
Melody Lane	36	21	-15	1375	\$147,125
Roberts Creek Road	74	40	-34	3800	\$661,200
Stella Street	40	34	-6	3440	\$560,720
					\$9,647,071

NOTE: The above estimates are for the construction costs for ultimate improvements. The cost may be less if the project does not require sidewalks (only shoulder paving).

Funded planned routes (portions unbuilt)

Projected Construction 11-20 Years

Extend Rolling Hills Road north to Landers Lane	MIC	853 ft.	\$139,039
---	-----	---------	-----------

Planned routes that are unfunded and unbuilt

<u>ROUTE</u>	<u>Classification</u>	<u>Length</u>	<u>Cost</u>
Extension of Monte Way east to Carnes Road and West to Little Valley Road	MIC	2210 ft.	\$360,230
Un-named platted road from (north) Carnes Road to south to Happy Valley Road	MIC	1812 ft.	\$295,356
Un-named road east of Industrial Drive from Green Siding to Happy Valley Road	MIC	2191 ft.	\$357,133
Extension of Edna Ave to Krohn Lane	NL	442 ft.	\$47,294
Extension of Austin Road to Hwy. 99	MIC	589 ft.	\$96,007
Extension of Rolling Hills Road from Silverado Court to Landers Lane	MIC	2262 ft.	\$368,706
Extension of Melody Lane from Armande Loop	NL	1980 ft.	\$211,860
Extension of Melody Lane past Stella then Rolling Hills Road to UUA boundary	MIC	2084 ft.	\$339,692
Extension of Depriest Street to Melody Lane	NL	1095 ft.	\$117,165
Extension of Circle Drive to Melody Lane	NL	338 ft.	\$36,166
Extension of Chandler Street to Melody Lane	NL	412 ft.	\$44,084
Un-named street from Landers Lane to the extension of Harmony Drive	NL	1479 ft.	\$158,253
Extension of Harmony Drive to Jackie Street	NL	644 ft.	\$68,908
Extension of Jackie Street from Rolling Hills Road to extension of Harmony Drive	NL	1010 ft.	\$108,070

<u>ROUTE</u>	<u>Classification</u>	<u>Length</u>	<u>Cost</u>
Un-named road west from Dodson View Road to Grange Road	MIC	4,864 ft.	\$792,832
Total			\$3,401,756

Planned routes that are unfunded and unbuilt will have the following capacities: Arterials 30,000 adt, Major Collectors 10,000 adt and Minor Collectors 5,000 adt. The planned volume to capacity ratio's for each road classification in Douglas County will apply.

Projects that are unfunded and unbuilt

Traffic Signal at Old Highway 99/Speedway Road		\$250,000
Traffic Signal at Rolling Hills Road at State Hwy. 42		\$2,700,000
Upgrade traffic signal at Kelly's Corner		\$700,000
Total		\$3,650,000

Combined cost estimates

Existing Routes needing improvements	\$9,647,071
Funded Planned Routes	\$139,039
Unfunded Unbuilt Routes	\$3,401,756
Projects Unfunded and Unbuilt	\$3,650,000
Grand Total	\$16,837,866

Existing Bicycle Routes requiring improvement

Route	Classification	Each Shoulder	Needed Improvement	
● Little Valley Road from Happy Valley to Littlebrook	IIIs	0	8	2945 ft.
● Green Siding Road from Rolling Hills Road to Carnes Road	IIIs	5	3	4087 ft.
● Stella Street from Happy Valley to Melody Lane	IIIs	5	3	2684 ft.
● Austin Road from Carnes Road to Happy Valley Road	IIIs	2	6	3210 ft.
● Chandler Road from Carnes to Melody Land	IIIs	4	2	2130 ft.
● Georginna Drive from Stella to Rolling Hills	IIIs	4	2	1020 ft.
● Hermosa Way	IIIs	4	2	1135 ft.
● Coronado Drive	IIIs	4	2	1090 ft.
● Delmar Drive from Carnes Road to Beech Street	IIIs	4	2	1560 ft.
● Beech Street from Linnell to Delmar	IIIs	4	2	831 ft.

Unfunded unbuilt planned bicycle routes.

<u>ROUTE</u>	<u>CLASS.</u>	<u>APPLICABLE SECTION</u>
● Rolling Hills Road from Happy Valley Road to Hwy. 42	IIIs	9518 ft.
● Melody Lane from Rolling Hills to Landers Lane	IIIs	3460 ft.
● Landers Lane from Carnes Road to Rolling Hills Road	IIIs	4400 ft.

The cost estimates for bicycle routes improvements are included in the road improvement tables. As these routes are scheduled for improvement to County standards, the bicycle route requirements will be met for Class IIIs routes. A proposal under consideration is to improve these routes from Class IIIs to Class III routes. This requires the painting of bicycle route signs on the pavement; identifying the bicycle routes. The analysis of this additional costs was not evaluated. The primary cost is the painting of bicycle route symbols and lines on one side of the street. The painting of bicycle routes will clearly define each routes location for the user. An added benefit of painted bicycle routes is no parking is permitted on that side of the street.

Road and Bicycle/Pedestrian Routes Conclusions

Road

This document has reviewed the critical role regional highways play in the transportation needs for the Green area. State transportation system, specifically, Interstate 5 and Hwy. 42 are integral links that have evolved over the years.

Access to Green is provided by four routes; the two state highways, Old Highway 99S and Happy Valley Road. The natural and man-made constraints establish Green as an island, the access to outside areas is primarily auto dependent. Two exceptions to this statement exists, a grade separated bike path and Happy Valley Road bicycle route both connect Green to Winston.

Within Green, automobile needs are served by a road matrix of twenty-eight routes. Only five of these routes meet road standards identified in the Land Use and Development Ordinance (LUDO). Twelve of the remaining twenty-two routes that failed to meet standards were built to standards at the time they were constructed, The ten remaining routes were pre-existing and do not have the required minimum road bed. These roads adequately serve vehicular traffic but lack the road bed or sidewalks to serve pedestrian needs.

The cost to improve these routes was identified in the Green road network analysis and exceeded nine million dollars. The cost to extend existing routes and proposed routes identified in the Green road network analysis exceeds seven million dollars. The combined cost of all improvements is approximately seventeen million dollars.

Over the past six years, the Public Works Department has invested ten - fifteen million dollars for the extension of Rolling Hills Road, the improvements on Happy Valley Road and the Happy Valley Road bridge. Future availability of funds for the Green road network will be limited.

The Public Works Department annual budget of approximately twenty million dollars, allocates sixteen million dollars for the county road system: eleven million of the sixteen million available is used for maintenance and five million of sixteen million available is used for engineering. The Public Works Department is using all of its resources to maintain the existing system. Limited funds are available for new projects. Proposed route extensions will be funded from other sources. One such source is private developers. A development project requires road access. The construction of roads to serve vacant areas are the responsibility of the developer. Public funds may not be used to complete these improvements.

A financial reasonableness test considers whether the projects proposed can be constructed in the study timeline. The Green TSP is a twenty year plan. For purpose of the financial reasonableness test the Public Works Department budget will be

considered fixed over the next twenty years. Five percent of this budget will be applied to the Green UUA road needs.

Years	Public Works Budget	Green Portion (5%)	20 Year Total
20	16,000,000	800,000	16,000,000

The county transportation system plan supports urban and rural development by providing the types and levels of transportation facilities and services appropriate to serve the land uses identified in the acknowledged comprehensive plan.

The extra funds required to bring the identified routes up to a minimum standard and extend proposed routes (\$16,587,866) is currently not available in the Public Works Department annual budget. For these projects to be addressed by the end of the study period, five percent of the Public Works Budget available for road maintenance each year would have to be applied to Green. Without this five percent allocation, these identified route improvements are financially constrained.

Bicycle and Pedestrian

Bicycle and Pedestrian needs are served by a network of fourteen routes: ten existing and four unbuilt. The existing Comprehensive Plan identifies the pedestrian and bicycle network as Class IIIs routes. Class IIIs routes are located on the paved portion of the shoulder. A review of the road inventory found that all ten existing road routes have substandard shoulders. The maintenance or extension of these routes is a function of the road network. The inventory shows that the low difference is two feet and the highest difference is eight feet. Carnes Road has been identified as a high priority for improvements that include sidewalks. As development occurs along Carnes road sidewalks should be required. As described in the road network conclusion, the public funded bicycle route projects are financially constrained.

**T
R
A
N
S
I
T**

Transit

PUBLIC TRANSPORTATION FACILITIES

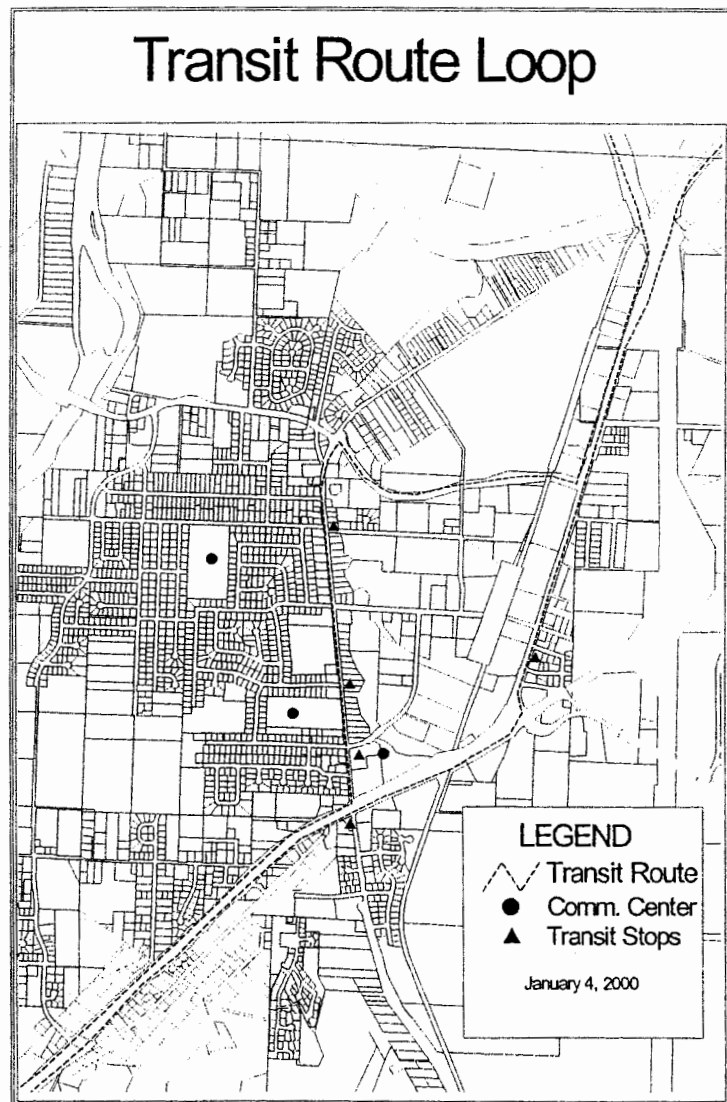
Transit service specific to the Green UUA does not exist. Transit providers outside the area have included the Green UUA within their service boundaries.

Umpqua Regional Transit, operated by Umpqua Regional Council of Governments (URCOG), assumed responsibility for Douglas County's Special Transportation program and public loop transit demonstration project in July 1996. All of the elements of the STP have been transferred including operations and funding. The Council of Governments is pursuing strategies to increase general ridership on the "fixed loop" portion of the public system.

The Umpqua Regional Transit program, serving Douglas County, is no longer a demonstration project. The Council of Governments, Douglas County and ODOT completed a transitional funding package through the year 2001. The program adopted a new name, Umpqua Transit. This year, the "transitional system" designation and funding will end. Next year, the system must be self supporting by fares, advertising, grants and donations.

URCOG has received grant funds to conduct a five year plan. The goal of this plan is to update the 1992 plan and consider implementation options and efficiency. The planning process will review the public transit system, special transportation needs and "dial a ride" systems.

The existing public system has three routes. The Purple Route loops from Roseburg to Winston. This route has twenty three stops and takes approximately seventy five minutes to complete. The Red Route loops



within the Roseburg Area. This route has twenty five stops and takes sixty two minutes to complete. The Blue Route loops from Roseburg to Oakland. This route has eighteen stops and takes approximately one hundred minutes to complete.

Bus Service

Greyhound Lines, Inc. operates buses along two north-south corridors through Douglas County. Along the I-5/Old Highway 99 corridor, Greyhound operates four buses per day - two northbound and two southbound. All of these buses stop in Roseburg.

In addition to scheduled bus service chartered bus service is provided in the County by Greyhound Lines, Inc., Trailways Lines, Inc. and other smaller charter companies.

Taxi Service

Taxi service is available to central Douglas County by a company based in Roseburg.

Special Needs Transportation

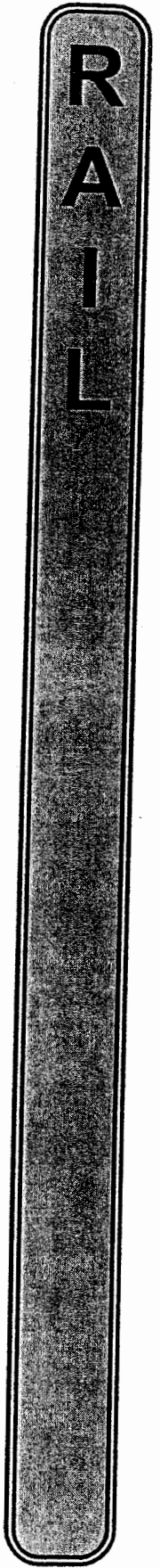
Special needs transportation is available to seniors in Douglas County. Care facilities throughout the county provide transportation access to resident seniors using vans or buses. Many cities have volunteer Dial-A-Ride programs which provide seniors transportation access to shopping, medical care and local services. Transportation access is provided to the mid portion of the I-5 corridor in Douglas County by Seven Feathers Casino in Canyonville.

Minimum Level of Service

The Oregon Transportation Plan has defined a minimum level of service for the Roseburg Market area to have at least three minimum intermodal (Ex. taxi, bus, transit, train, air) round trip connections to Portland available per day via intercity passenger modes. The minimum of three intermodal methods to connect to Portland are: ① "Umpqua Regional Transit" to Roseburg, bus to Eugene for connection by bus to Portland, ② Taxi to Roseburg, bus to Eugene for connection by air to Portland, ③ Bus to Eugene, connect to passenger rail to Portland. Historically, the commercial vendors (bus and air) have met market demand for service. The existing level of service complies with the pre-defined minimum.

Summary

Volunteer systems have adequately served transit service in rural Douglas County. These providers are encouraged to increase service and provide mobility to additional areas within the County. Transit service in urban Douglas County is a developmental stage. Before transit services can expand and serve additional areas, it must obtain stable funding to maintain existing services.



Rail

Railroads are an important part of the Douglas County freight transportation system. This system carries local goods to markets across the country and delivers goods needed in the County from markets elsewhere. There is no passenger rail service available in Douglas County. AmTrak has developed a service that buses customers to Eugene to make their train connection to Portland. The return trip from Portland is entirely by bus. This service is provided daily.

Rail service to the County is provided by the Central Oregon Pacific Railroad. Central Oregon Pacific operates two branch lines which run through the County - one line on the coast and the other through the central valley. Central Oregon Pacific Railroad (COPR) is a wholly owned subsidiary of RailTex Inc. COPR is the operator of the local branch line which provides rail support. The rail service is deemed important to the region and provides a lower cost option for freight shipments.

The shipment of goods to and from the County by rail totals 1,214,000 tons. In 1992, Central Oregon Pacific Railroad traffic originating and terminating in Oregon was lumber or wood products, fiberboard, paperboard or pulp board. The total originating and terminating tonnage in Douglas County is 3.6 percent of the state total.

The Federal Railroad Administration categorizes rail lines according to the gross tonnage carried by a given line in a given year. By this system the two Southern Pacific lines in Douglas County are both classified as "A" Branch lines carrying between 1 and 5 million gross tons per year.

Serious car shortages from time to time have helped erode the railroads' share of freight shipments in Oregon. Also, recent growth in the west and south and the fact that a larger share of the lumber and plywood markets is being met by production in the southeastern states brings the markets for western wood products closer to home where there is more reliance on trucks.

The railroads are more energy-efficient than trucks over the same routes, although trucks can achieve much wider area coverage and greater flexibility because the highway network is so much more extensive than the railway network.

Projections in the OTP establish rail freight growth at 2.5 percent per year (the same as for truck). At this rate, rail traffic would grow by 50 percent in 20 years. The difficulty in predicting freight movements is that so many outside factors influence traffic movements.

Originating traffic in lumber and wood products, is cyclical due to changes in production and demand associated with construction activities. Assuming the trends described in the Oregon Transportation Plan continue and commodity movements not mentioned, grow at an average rate (forecasted in the OTP) of 2.5 percent annually; total

originating and terminating rail tonnage would be 4.3 million short tons in the year 2000. This represents a 27 percent increase over 1992.

The Greater Roseburg Area Transportation Study supported relocating the rail switching yards from downtown Roseburg to Green. Until this project is completed, the use of Dillard rail spurs should continue. Central Oregon Pacific Railroad is encouraged to complete a detailed study to determine the economic, environmental and transportation related impacts and benefits of relocating the switching yard to Green or to another location outside Roseburg.

More substantial increases in demand for rail service depend on changes from current trends in both commodities and mode choice. Developing trans-shipment distribution points (road to rail) can increase utilization of rail. However, the decrease in harvesting of natural resources (timber) will reduce the utilization of rail. The opportunity for Douglas County is to take advantage of transportation infrastructure.

**A
I
R**

Air

There are only three airports in close proximity to the Green UUA: Roseburg Municipal Airport, Felts Field and Roseburg-Lookingglass Airpark.

Roseburg Regional Airport

The Roseburg Municipal Airport is located on a 184 acre site in the northern portion of the city between the I-5 Freeway and Central Oregon Pacific Railway line. This facility has a 4,600 foot long 100 foot wide asphalt runway with medium intensity lighting system that includes medium intensity taxiway lighting. Fuel sales, instruction, aircraft sales and rental, and air taxi service are available. A total of 108 general aviation aircraft were based at the airport in 1994. Annual operations in 1994 totaled 30,794 including both based and itinerant use.

In 1994, the Roseburg Airport Commission authorized the development of an Airport Master Plan which would analyze the existing facility, project future needs and evaluate various alternatives. Analysis conducted in the course of the Master Plan study confirmed that the airport's present location, particularly its weather and topography, limits the airport's potential for development and restricts aircraft operations into and out of Roseburg. The mountainous terrain surrounding the area obstructs air navigation even during visual (good weather) flying conditions. During adverse weather, the terrain limits aircraft operations even further.

Over a year's time, the airport is closed at least eight percent of the time because of weather restrictions. To increase the amount of time the airport is open would require a more sophisticated instrument landing system. However, such a system is not feasible because the surrounding terrain would not accommodate the necessary clear approach paths based on current Federal development standards.

The Greater Roseburg Area Transportation Study recommended the airport obtain a Differential Global Positioning System and limit land uses adjacent to the airport to reduce conflicts. Eugene provides direct or connector service to most major domestic airports. Roseburg Regional Airport has updated their master plan and may provide commuter service if a carrier is interested.

The City of Roseburg retained W&H Pacific Inc and Scudder and Associates to prepare the Master Plan for the Roseburg Regional Airport in August 1994¹². The study concluded that the potential benefits obtainable from any other site in Douglas County are considered insignificant compared to the costs and social impacts which would result from the development of another site, and therefore, it was recommended that the City of Roseburg adopt the philosophy that the existing Roseburg Municipal Airport

¹²W&H Pacific Inc, Roseburg Regional Airport Master Plan Update 1995 - 2014, January 1996

is the best site to serve and continue to serve the public need for aviation services in Douglas County¹³.

The Roseburg Regional Airport Master Plan projects that in the year 2014 there will be 150 aircraft based at that facility and that annual operations for that year will total 45,884¹⁴. The airport has the capacity for up to 230,000 annual operations, more than double the number of projected operations. Facility improvements are itemized by Oregon Aeronautics System Plan and the Airport Master Plan as being required to accommodate the projected increased activity including tie-downs, hangars, expansion of aprons and removal of obstructions.

Felt Field

Felt Field is the only privately owned public use airport in the County. It is located on a 76 acre site one-half mile west of Roseburg and adjacent to the South Umpqua River. The facility includes a 2,375 foot long turf runway with no lighting. Only fuel service is available at the site. In 1991, seventeen aircraft were based at the airport and annual operations in 1979 totaled 3,700. There are no records for the number of operations occurring at the airfield in 1996.

No master plan has been prepared for Felt Field. The OASP projects that by the year 2000 the number of based aircraft at the airport will total 32 planes and the number of operations will reach 5,900. The annual capacity of this facility is calculated by OASP to be 60,000.

Roseburg Lookingglass Airpark

The privately owned and operated airpark is located 9 miles southwest of Roseburg. The facility consists of a 2,600 by 90 foot asphalt and dirt runway. Three aircraft are based at the airfield and no services are available. The airfield is used predominantly by the owners. There are no records for the number of operations occurring at the airfield in 1996. The OASP does not project any increase in annual operations in the future.

¹³City of Roseburg, Roseburg Urban Area Comprehensive Plan, Technical Support Document, March, 1982.

¹⁴Roseburg Regional Airport Master Plan Update, p.3-24.

**P
I
P
E
L
I
N
E**

Pipeline Transportation

From 1991-96, six transportation studies were conducted in Douglas County. All transportation modes were reviewed and these studies found that existing pipelines capacities, with the exception of water, are adequate to meet demand within the study period.

In the Reedsport area, the water supply system is in potential jeopardy of being contaminated due to its close proximity of US 101, a hazardous material route. ODOT has mitigated this issue by widening US 101, placing shoulder barriers between the northbound lanes and the lake, and constructing retention barriers to collect spills and runoff from the highway before it reaches the lake.

The studies encouraged all cities to work with the various service providers to identify service patterns and utility corridors that make the most sense at the time a need is identified.

The future location of pipeline and other networks in Sutherlin were proposed along the north south railroad line which may provide a possible right-of-way for shared use as a fiber optic line. There were no existing pipelines facilities found along the Hwy. 38 or 42 corridors. However, portions of the State Hwy. 42 facility contains fiber optic trunk lines.

Industries along the Hwy. 42 corridor have expressed interest in the development of a natural gas pipeline from the existing Grants Pass lateral west of Roseburg to the coast. Preliminary investigations indicate that such a utility, accommodated within the existing Bonneville Power Administration electric transmission line clearing, may be viable and may be a catalyst to economic development in the area.

Pipelines are the predominant means of transporting gaseous and liquid fuels. Among the advantages of this form of transportation are its low operating cost and relatively small labor requirement. The cost of pipeline transportation is approximately one cent per ton-mile, comparable to that of barge shipment and less than half the cost of rail. Since the initial investment typically represents about two-thirds of the total cost, once in place, pipelines are relatively immune to inflationary pressures. Pipelines are less sensitive to grade and routes are frequently more direct than railroads or highways. Pipeline drawbacks include its high initial investment, one-way flow of one or a limited variety of products, and a low transport speed of about five miles per hour.

Facilities

The Northwest Pipeline Corporation operates a natural gas transmission line in central Douglas County. This company brings natural gas into the Pacific Northwest from Canada and the Rocky Mountain region. Its transmission line through Douglas County consists of a 10 inch pipeline extending from the Willamette Valley generally following the I-5 corridor south into Josephine County (see Map 4). Gas from this line is distributed to consumers in the County except Elkton, Drain, Yoncalla and Glendale.

No gas or oil transmission or distribution facilities are located in the coastal portion of the County.

Users

W.P. Natural Gas serves approximately 11,120 customers in Douglas County including 9,300± residential users and 1,820± commercial and industrial users. Although the number of residential users far exceeds commercial and industrial users, the amount of gas consumed by commercial and industrial uses approximately equals residential consumption. Before it was shut down, the largest consumer of natural gas in southwest Oregon was Glenbrook Nickel which used approximately 8 million therms per year, one-tenth of W.P. Natural Gas's sales in Oregon.

Over the period from 1972 and 1982 the amount of gas sold in Oregon decreased from approximately one billion therms to 680 million therms, a decrease of 32 percent. The decrease experienced by C.P. National (now W.P. Natural Gas) was consistent with that experienced by the State overall. Discussions with local C.P. National (now W.P. Natural Gas) representatives indicate that, in Douglas County, sales have increased since 1982 with commercial and industrial sales increasing by 10 percent over the period. Residential use, however, continues to decline due primarily to energy conservation practices and increased use of wood for heating.

Plans and Projections

A discussion of the development and expansion of the pipeline system in Oregon can be found in A Survey of Energy Pipelines in Oregon. This study concludes that the existing pipelines in the State have sufficient capacity to meet the State's needs at least to 1999¹⁵.

The Oregon Transportation Plan provides a minimum level of service for pipelines. In order to make alternative fuel widely available to the transportation uses and to support regional economic development opportunities, adequate natural gas should be available every 100 to 150 miles on major interstate/statewide transportation corridors throughout the state when economically feasible. The pipeline system within Douglas County exceeds the standards of the Oregon Transportation Plan.

¹⁵Hirsch, Fred, A Survey of Energy Pipelines in Oregon, Oregon Department of Transportation, Salem, Oregon, 1979, p. 63.

**A
L
T
E
R
N
A
T
I
V
E
S**

Transportation System Alternatives

The previous sections of this plan review existing facilities or services and discuss improvements or new facilities and services, including different modes or combinations of modes that could reasonably meet identified transportation needs. The transportation system was found to support urban and rural development by providing types and levels of transportation facilities and services appropriate to serve the land uses identified in the acknowledged comprehensive plan.

The Comprehensive Plan and Transportation Element are consistent with state and federal standards for protection of air, land and water quality including the State Implementation Plan under the Federal Clean Air Act and the State Water Quality Management Plan. The transportation system plan was designed to minimize adverse economic, social, environmental and energy consequences.

The transportation system plan recognizes the Oregon Transportation Plan including modal and multi-modal plans efforts to minimize conflicts and facilitate connections between modes of transportation. The County transportation system plan currently has a principal reliance on the automobile. Efforts are underway in the county to maintain a fixed loop transit system that will reduce principal reliance on the automobile.

The review of road systems has discussed Transportation System Management Measures such as traffic signal improvements and access management. The section on Transit identified Demand Management actions such as transit, bus and dial-a-ride services which are designed to change travel behavior in order to improve performance of transportation facilities and to reduce need for additional road capacity. The review of road improvements has proposed that some improvements are financially constrained in lieu of a no-build system alternative.

The Transportation Planning Rule states

“Where existing and committed transportation facilities and services have adequate capacity to support the land uses in the acknowledged comprehensive plan, the local government shall not be required to evaluate alternatives as provided in this section.”

The needs identified in the Green Transportation System Plan are identified in the improvements and constraints section. Based upon the improvements proposed and the expansion of the existing system as areas develop, the existing system has adequate capacity to support the land uses in the acknowledged comprehensive plan. An evaluation of alternatives was not completed.

**A
P
P
E
N
D
I
X**

The Oregon Department of Transportation provided the following information and was considered in the development of the Green Transportation System Plan “State Highway” section. Douglas County has not adopted the following data, policies and standards. We provide the appendix as a reference to the information incorporated into the Green TSP.

State Highways Interchanges

The Green Transportation Network includes two state highways: State Hwy. 42 and Interstate 5. These routes serve tens of thousands of vehicular trips each day. Within the Green area are two interchanges and connections to county roads.

Coos Bay-Roseburg Hwy Interchange (MP 119)

GEOMETRIC CONDITIONS: The existing geometric design of the Coos Bay-Roseburg interchange does not meet some of today's updated design guidelines. The detailed geometric deficiency assessment found:

- Substandard horizontal curve elements on ramps
- Substandard vertical curve element on the northbound exit ramp
- Inadequate ramp acceleration/deceleration lengths
- Substandard vertical clearance
- Substandard median and shoulder widths.

OPERATIONAL CONDITIONS: Year 2000 average daily traffic volumes on I-5 south of Coos Bay-Roseburg Highway are 27,800. The traffic increases to 40,800 vehicles per day north of the interchange. Much of this traffic is generated from Coos Bay-Roseburg Highway (OR99) that comes from the west and ends at this interchange. The Oakland-Shady Highway comes from the north, parallels I-5, and ends at Coos Bay-Roseburg Highway. The average daily traffic volume on Coos Bay-Roseburg Highway at I-5 is 18,000 and at Oakland-Shady Highway the level is 21,000. The daily traffic volume on Oakland-Shady Highway at the junction of Coos Bay-Roseburg Highway is 6,800 vehicles per day. The on and off-ramps are free-flowing to and from Coos Bay-Roseburg Highway.

The vertical clearance of the Coos Bay-Roseburg overpass on Interstate 5 is currently deficient but is expected to be remedied by ODOT in 2001 as part of the Garden Valley to Roberts Creek Mountain paving project. This project will lower the Interstate 5 mainline approximately 1 meter under the structure in order to attain the necessary bridge clearance.

SAFETY CONDITIONS

An investigation of detailed 5-year crash data revealed 18 collisions in the stretch of I-5 between MP 119.00 and MP 120.30. The crash figure includes six sideswipes, five fixed-object strikings (pole and protective barrier), two rear-end collisions and five miscellaneous types. Fourteen collisions occurred in the southbound direction. The probable cause of fixed-object strikings may be due to the existence of narrow shoulders and median on the mainline. This segment did not contain any SPIS Top Ten Percent sites for years 1995 through 1997.

The following information was provided by ODOT from the following source: TPAU; I-5 State of the Interstate Report 2000

The crash data in the period 1995-1997 reveals 13 collisions on the one-mile stretch of Highway 35 between MP 76.20 and MP 77.20. The crash figure includes four turning movements, four rear-end collisions, two fixed-object strikings, two sideswipes, and one non-collision. There was one fatality at the junction of Highway 35 and Highway 234 (MP 76.22).

Oakland-Shady Hwy Interchange (MP 120)

INTERCHANGE DESCRIPTION

The Oakland-Shady interchange serves surrounding limited industrial and low-density residential development west of the interchange, and an undeveloped area east of the interchange. The surrounding terrain is relatively rolling. The Oakland-Shady interchange provides access to I-5 from the rural community located on the southern outskirts of the City of Roseburg. Built in the mid 1950s, the interchange has a configuration of a half-folded diamond on the west and a directional northbound leg on the east. Also, there are two private access points connecting to the northbound exit ramp. The crossroad, Highway 234 (Old Highway 99S), is a two-lane facility with no center left-turn lane.

GEOMETRIC CONDITIONS: The existing geometric design of the Oakland-Shady interchange does not meet some of today's updated design guidelines. The detailed geometric deficiency assessment found:

- Substandard horizontal curve elements on the mainline and exit
- ramps.
- Inadequate ramp deceleration length.
- Substandard sight distance.
- Substandard vertical clearance
- Substandard median and shoulder widths.

OPERATIONAL CONDITIONS: Year 2000 average daily traffic volumes on I-5 near Oakland-Shady Highway are 38,400.

The stop sign-controlled left-turn movement from the southbound off-ramp onto Oakland-Shady Highway currently operates with a volume-to-capacity ratio of 2.38, indicating long delays. A V/C ratio greater than 1.0 indicates that there are inadequate gaps on the Oakland -Shady Highway for drivers to turn left from the SB ramp. In the future, this turning movement will get more difficult and vehicles will stack and back-up onto I-5. Due to the shortness of the southbound ramp, a signal is not advised. The length of the ramp does not permit enough distance for vehicles to decelerate before reaching the back of the queue that would be formed by vehicles being stopped at a signal.

SAFETY CONDITIONS: An investigation of detailed 5-year crash data revealed 24 collisions in the stretch of I-5 between MP 119.80 and MP 121.20. There were no SPIS

The following information was provided by ODOT from the following source: TPAU; I-5 State of the Interstate Report 2000

Top Ten Percent sites within this segment for years 1995 through 1997. The collision figure included 17 crashes in the northbound direction with seven rear-end collisions and six sideswipes, and seven crashes in the southbound direction with three rear-end collisions. A field check on the interchange geometry is recommended for possible correlation with this collision trend.

In this stretch of Highway 234 between MP 20.20 and MP 21.60, the collision rate is fairly high: 42 accidents with 20 rear-end collisions and 15 turning movements. Currently, the undesirable access management and non-existence of a center left-turn lane affect the interchange operation. A field investigation is highly recommended for probable cause of this high collision figure.

State Highways Intersections

14.3.1.6 Rolling Hills Road, Green UUA

The intersection at Rolling Hills Road is influenced by development occurring on the north side of OR 42. As additional development occurs, more pressure will be exerted on this intersection, as well as those at Jackie Way and Landers Avenue to the east. The intersection currently operates within acceptable V/C standards, but is expected to fall below acceptable V/C by the year 2020. Adding a signal at the intersection would allow the intersection to operate at a V/C of 0.76 in 2020.

Douglas County and ODOT have both expressed interest in creating connections between Rolling Hills Road and Happy Valley Road to the north, improving the local connection between Landers and Rolling Hills (including Jackie Way, Harmony Lane, Melody Lane, Heatherwood Ave., and some private accesses), and closing all but the Rolling Hills and Landers Ave. intersections. These improvements would improve both the operation of Rolling Hills Road and safety along the highway by closing some accesses. The intersection would likely meet signal warrants at that time, although a warrant analysis will have to be conducted and approved by the State Traffic Engineer. Figure 15.2 shows existing and potential street connections in the area.

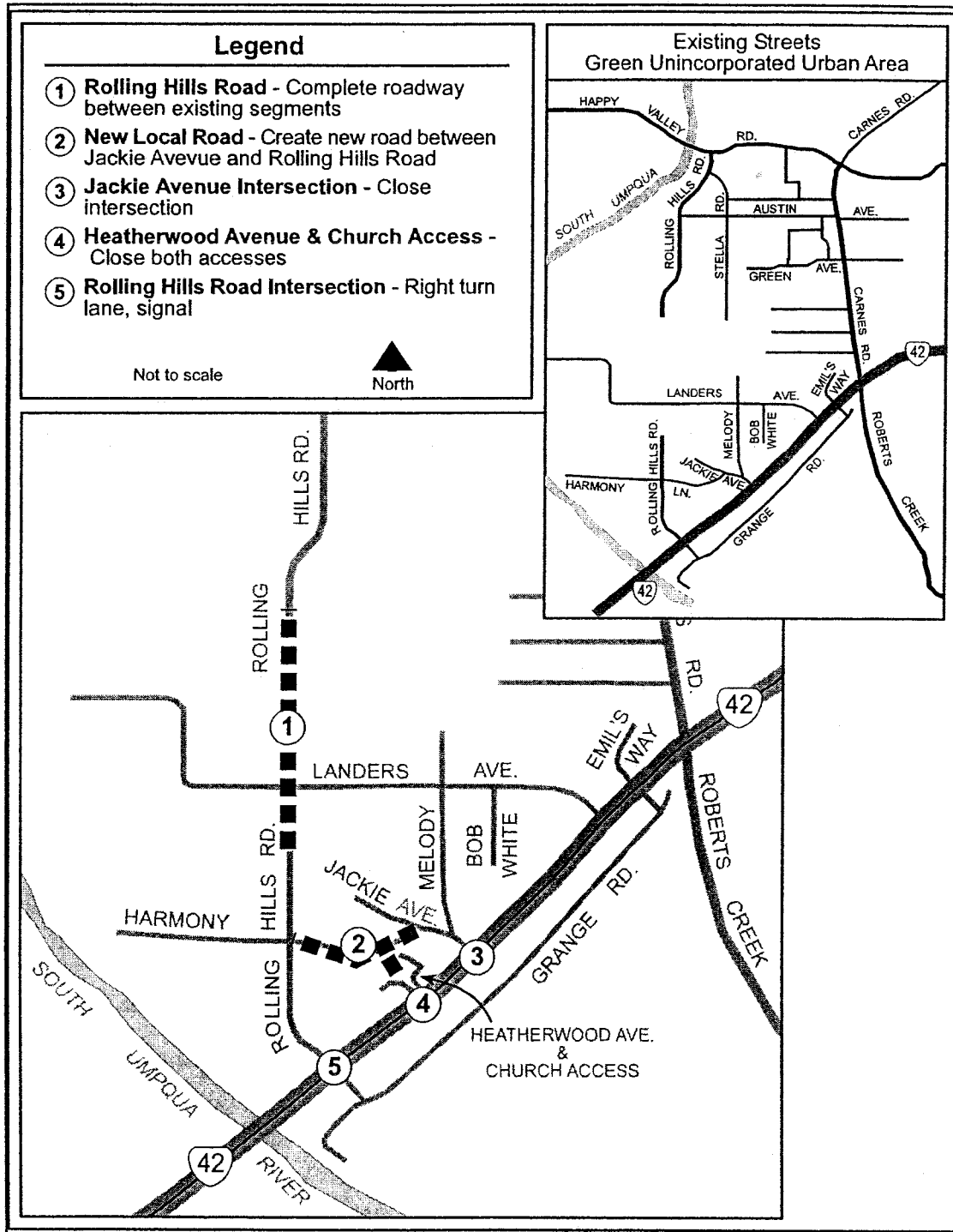
An additional factor in the operation of the intersection will be development on the south side of OR 42, and perhaps more importantly, any changes that are necessary to the Grange Road access located near Kelly's Corner (see Kelly's Corner discussion below). Currently, however, no plans are in place for changes on the south side of OR 42 and the analysis assumes this will continue into the future.

The following information was provided by ODOT from the document: Region 3 Planning, 2000

Figure 15.2

Existing and Potential Street Connections Near Rolling Hills Road

Source: Region 3 Planning, 2000



14.3.1.7 Kelly's Corner, Green UUA

The following information was provided by ODOT from the document: Region 3 Planning, 2000

Kelly's Corner, the intersection of Carnes Road and Roberts Creek Road with OR 42, is one of the busiest in ODOT Region 3. Average Daily Traffic reached more than 21,000 vehicles in 1999 and is expected to climb to more than 31,000 ADT by 2020. The intersection currently operates at a V/C ratio of 0.76—beyond acceptable limits—and is expected to operate at a V/C ratio of 0.89 by the year 2020. The intersection is a high accident location and is the only location on OR 42 or OR 38 appearing in the top ten percent of all ODOT Region 3 Safety Priority Improvement Sites. (See Chapter 15 for more information.)

A number of improvements designed to address capacity and safety problems have been identified, including the addition of right turn lanes on OR 42 in both directions and from Roberts Creek Road; widening of the local legs; moving the signal poles and highway signs away from the intersection; and rephasing the signals. The addition of turn lanes would decrease the queues on the local legs, thereby requiring shorter signal time for these movements. This change should shorten the queues on the OR 42 legs and may reduce the number of rear-end accidents.

With these changes, the intersection would function at a V/C of 0.79, still beyond acceptable performance standards, but better than with no improvements. Better access control to the properties on the north and south of the intersection may also contribute to better operation of the intersection and should be included in projects designed to improve safety and capacity of the intersection. Additionally, the intersection should be paved with concrete rather than asphalt. However, the local approaches are lower than the highway grade and would also have to be raised to allow paving with concrete. This would also have the benefit of improving sight lines and the ability to enter the intersection from Carnes and Roberts Creek Roads.

14.3.1.8 Grant Smith Road

ODOT and Douglas County have recently relocated the Grant Smith Road intersection to the west to align with the signal at old OR 99, creating a four-legged signalized intersection. The intersection is expected to operate at V/C ratios of 0.58 in 2000 and 0.68 in 2020—both within acceptable V/C standards. If the land in the vicinity of the intersection and between the intersection and the I-5 interchange (Exit 119) develops as commercial property, the intersection will likely fail before the year 2020, reaching a V/C ratio higher than 1.00, even with the current improvements in place. Such land use changes will likely have to be accompanied by improvements to mitigate degradation of the intersection.

The following information was provided by ODOT from the document: Region 3 Planning, 2000

Intersection Capacity on OR 42			
Location	Existing V/C 2000	Expected V/C 2020	
Rolling Hills Road/Grange Road			
Existing Configuration	0.18	0.78	
Carnes Road/Roberts Creek Road			
Existing Configuration	0.67	0.89	
With Turn and Widening Improvements		0.79	
Old Highway 99/Grants Smith Road			
Existing Configuration - Limited Development *	0.57	0.68	
Full Commercial Development near intersection **	0.98 (2003)	1.00 (2018)	
Source: TPAU; OR 42 Corridor Plan			

* ODOT and Douglas County have recently relocated the Grant Smith Road intersection to the west to align with the signal at old OR 99, creating a four-legged signalized intersection. The intersection is expected to operate at V/C ratios of 0.58 in 2000 and 0.68 in 2020—both within acceptable V/C standards.

** If the land in the vicinity of the intersection and between the intersection and the I-5 interchange (Exit 119) develops as commercial property, the intersection will likely fail before the year 2020, reaching a V/C ratio higher than 1.00, even with the current improvements in place. Such land use changes will likely have to be accompanied by improvements to mitigate degradation of the intersection.

Interchange Capacity on I-5 in Green		
Location	Existing V/C 2000	Expected V/C 2020
Exit 120		
SB off ramp @ Old Highway 99	> 1.00	> 1.00
Source: TPAU; I-5 State of the Interstate Report 2000		