Cottage Grove Transportation System Plan

August 1998

Prepared by
Lane Council of Governments
125 East 8th Avenue
Eugene, OR 97401

Ordinance No. PA 1114
Exhibit A

Cottage Grove Transportation System Plan

This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. TGM grants rely on federal Intermodal Surface Transportation Efficiency Act and Oregon Lottery funds.

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Executive Summary

Background

The Cottage Grove Transportation System Plan (TSP) establishes transportation goals and objectives for the Cottage Grove area. The TSP addresses all forms or modes of transportation, primarily focusing on automobile, public transportation, bicycle and pedestrian. The TSP also identifies future facilities and services for the various modes which will be needed to meet the expected increase in travel demand through the year 2015.

The Cottage Grove Transportation System Plan (TSP) is the guiding transportation policy document. It serves as a framework for the development of the future transportation system. Refinement plans will supplement the plan with more detail and specific information on issues, policies, and project locations. These refinement plans and policies should be consistent with the TSP.

The City of Cottage Grove is the designated agency responsible for most transportation planning within the UGB. Lane County administers zoning and land use regulations in unincorporated areas within the UGB. Lane Council of Governments has been contracted to assist the City in this planning effort. This study was conducted in compliance with state legislation requiring local jurisdictions to produce a Transportation System Plan (TSP) as part of their overall Comprehensive Plan. Accordingly, this document provides the City of Cottage Grove with those necessary recommendations for incorporation into the Comprehensive Plan.

State Transportation Planning Rule

Comprehensive planning is a positive tool for looking ahead into the future and facilitating the organized growth of an area. The Department of Land Conservation & Development's (DLCD) *Goal 12: Transportation Planning Rule*, reflects this philosophy in requiring cities in Oregon to develop a comprehensive transportation plan. Specifically, Goal 12 reads:

> **OAR 660-12-015 Preparation and Coordination of Transportation System Plans**
> *(3) Cities and counties shall prepare, adopt and amend local TSPs [transportation system plans] for lands within their planning jurisdiction in compliance w/ this division.*
> *(a) Local TSPs shall establish a system of transportation facilities and services adequate to meet identified local transportation needs and shall be consistent with regional TSPs and adopted elements of the state TSP.*
> *(b) Where the regional TSP or elements of the state TSP have not been adopted, the city or county shall coordinate the preparation of the*

local TSP with the regional transportation planning body and ODOT to assure that regional and state transportation needs are accommodated.

(4) Cities and counties shall adopt regional and local TSPs required by this division as part of their comprehensive plans. Transportation financing programs required by OAR 660-12-040 may be adopted as a supporting document to the comprehensive plan.

The inclusion of proposed projects and actions in this plan does not obligate or imply obligations of funds by any jurisdiction for project level planning or construction. However, the inclusion of proposed projects and actions does serve as an opportunity for the projects to be included, if appropriate, in documents such as the State Transportation Improvement Program (STIP). Such inclusion is not automatic. It is incumbent on the state, county, city, and general public to take action to encourage and support inclusion into the STIP at the appropriate time. Projects included in the STIP are required to have funds available so the number of projects which can be included are constrained by funding levels.

The Study Area

The City of Cottage Grove lies at the southern end of the Willamette Valley in a primarily north-south flatland corridor that is approximately two miles long and one-half mile wide. The Coast Fork of the Willamette River, which flows through the western side of the city, meets the Row River forming the city's eastern boundary, just north of the city. Silk Creek and Bennett Creek are two other prominent drainage features that enter the Coast Fork from the west. The hillsides of Cottage Grove are part of the foothills of the Coast Range. These hillsides range in elevation from 650 - 1200 feet and form a heavily vegetated ridgeline that provides a visual boundary for the city.

For purposes of transportation planning, there are effectively two areas of interest. The primary focus of the study is the Cottage Grove Urban Growth Boundary (UGB); the city's planning jurisdiction. But demands on the Cottage Grove transportation system do not end at the UGB. There are employers and residents adjacent to the UGB that directly affect the transportation system needs of Cottage Grove. For the purpose of incorporating this data into the transportation analysis, the study area includes a broader area adjacent to the UGB. *Appendix B: Technical Supplement* describes the study area in more detail and includes a map of the transportation analysis zones (TAZs) considered in the analysis (Figure B-1). Figure 1, *Location Map* shows the general vicinity, including the UGB. This can be compared to Figure B-1, *Tracts, TAZs, and UGB* for the location of the UGB relative to the TAZs.

Plan Assumptions

The Cottage Grove TSP base year is 1992. This base year was selected based on the most current and available dwelling unit and employment data; the foundation for the

transportation model. The assumed 1992 number of dwelling units available in the study area is 4,686. The assumed 1992 employment is 3,253.

The TSP projections, or forecasts required by Goal 12, are out at least 20 years from the base year. The projection or planning horizon for the Cottage Grove TSP is the year 2015. The dwelling unit projection for 2015 is 6,382 with an annual average growth rate of 1.56%. This growth rate is consistent with the growth rate of Lane County and the State. The 2015 projection for employment yields an expected total employment of 7,344, with an annual average growth rate of 2.5%. The existing percentage of Cottage Grove employment to all of Lane County is 3.6%. By the year 2015, that percentage is expected to increase to 4.4%. The dwelling unit and employment projections are consistent with the City's adopted Comprehensive Plan.

The new dwelling units and employment derived from projections are distributed within the existing UGB based on planned development and vacant land. *Appendix B: Technical Supplement* describes the methodology in more detail.

The Preferred Transportation System Plan

The *Preferred Transportation System Plan* consists of recommended future project lists for each mode. Included in the Preferred Transportation System Plan are the *Preferred Street System Alternative*, the *Public Transportation System Plan*, the *Bikeway System Plan*, and the *Pedestrian System Plan*. Air and Rail Services are addressed, however, no future project lists are included. The *Financing Program* lists the existing revenue sources and estimates the total cost of the Plan Alternatives, and potential sources of funding.

The Preferred Street System Plan

The Preferred Street System Alternative is a compilation of safety projects, capacity expansion projects, new roads, and new interchange facilities. The most significant projects identified in the Street Plan are listed below:

- intersection improvements along Highway 99;
- intersection improvements along Main Street;
- new major collector on Blue Sky Drive north of Sweet Lane;
- new major collector on R Street south of Jason Lee;
- new major collector on R Street north of Main Street;
- new minor arterial loop around the south and western portion of the city;
- interchange reconstruction at I-5 and Cottage Grove Connector/Row River Road (Exit 174)
- new collector on "M" Street north to Bennett Creek Road
- completion of Gateway/Beltline Loop to Bennett Creek Road

The Public Transportation System Plan

The Public Transportation System Plan consists of an intra- as well as inter-city system. This system should meet the transportation community needs within and around the Cottage Grove area. The development of the system is pending the outcome of two projects currently underway: the Lane Transit District pilot project, and the Community Transportation Fund Intra-City Transit Feasibility Study. The public transportation plan would also continue to provide special transportation needs through South Lane Wheels.

The Bikeway System Plan

The proposed bikeway projects that support the Bikeway System Plan are listed in the *Financing Program*. The Bikeway System Plan was derived from the existing Bikeway Master Plan for the City of Cottage Grove, 1993. The bicycle projects are recommended for construction and are subject to public and agency participation, as well as the likelihood of funding. Funding is discussed further in the *Financing Program* of this plan. The major consideration in developing the project list is to identify and link the significant routes and areas. The following routes and locations were identified as being of significant importance:

- Row River Road to the BMX Track and Dorena Reservoir;
- London Road to Cottage Grove Reservoir;
- Downtown Core Areas;
- Schools, Parks, Shopping, and Employment Centers;
- North and East Regional Parks; and
- Highway 99 to Saginaw/Creswell

The Pedestrian System Plan

The Pedestrian System Plan has identified the areas where there are deficiencies in the sidewalk system. These deficiencies are considered to be where there is either no sidewalk or a portion of a sidewalk on one side of the street. New sidewalks should also be considered off-street where applicable to facilitate walking between significant activity areas. However, no specific off-street projects have been identified.

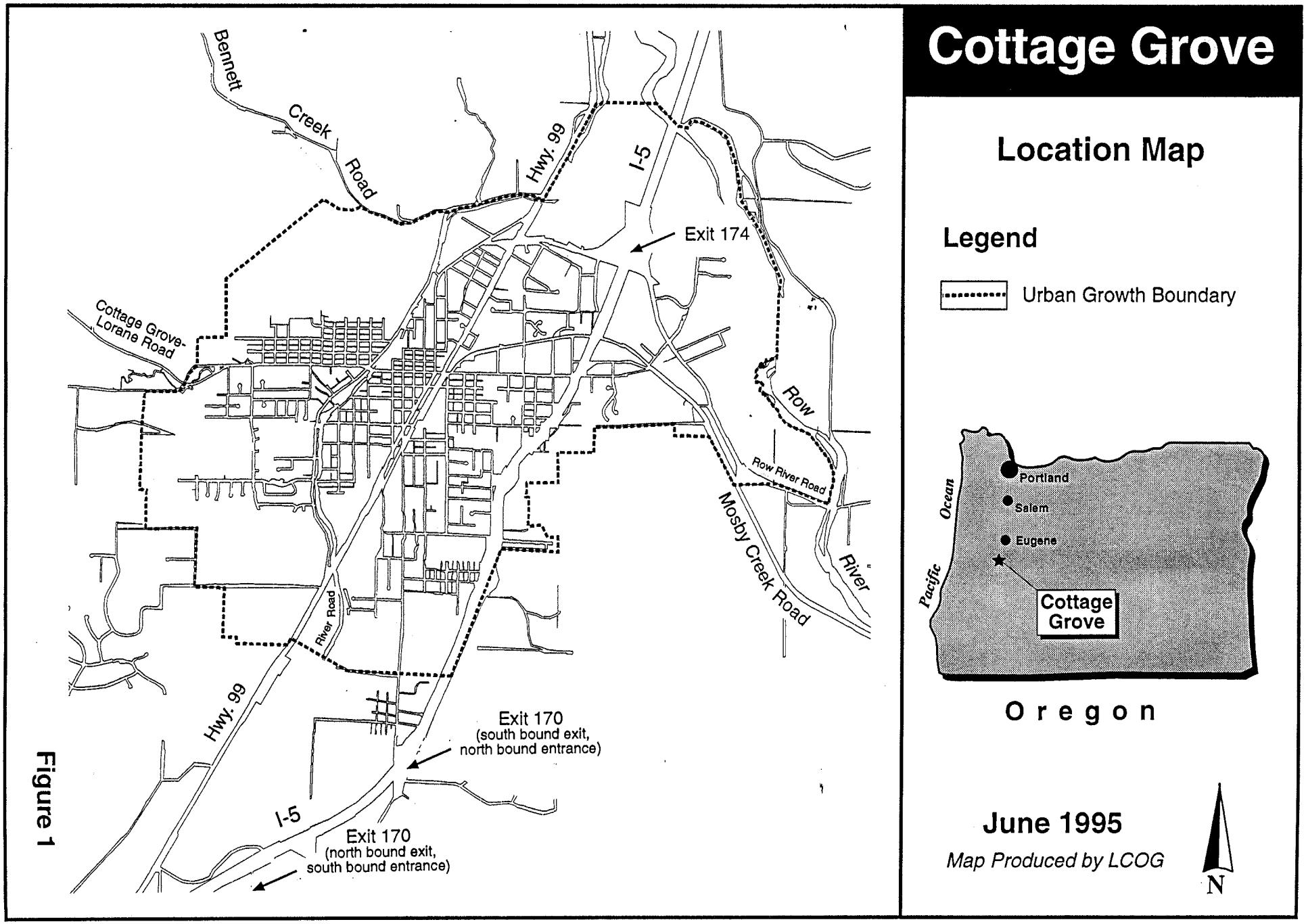
Cottage Grove
Location Map
Legend
Urban Growth Boundary
Bennett Creek Road
Hwy. 99
I-5
Exit 174
Cottage Grove-Lorane Road
Row
Row River Road
Mosby Creek Road
River
River Road
Hwy. 99
Exit 170
(south bound exit, north bound entrance)
I-5
Exit 170
(north bound exit, south bound entrance)
Portland
Salem
Eugene
Cottage Grove
Pacific Ocean
Oregon
June 1995
Map Produced by LCOG
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Figure 1

Chapter I
Goals, Objectives, and Policies

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Goals, Objectives and Policies

Consistency with Other Plans

As required by state law, the Cottage Grove TSP has been developed in accordance with the statewide transportation planning rule, Goal 12. This goal provides the standards and content of the TSP. The complete Transportation Planning Rule can be found in Appendix C. According to Goal 12 the TSP must be consistent with other governmental plans and agencies. Specifically, Goal 12 reads:

> **OAR 660-12-015 Preparation and Coordination of Transportation System Plans**
> *(3) Cities and counties shall prepare, adopt and amend local TSPs [transportation system plans] for lands within their planning jurisdiction in compliance w/ this division.*
>
> *(a) Local TSPs shall establish a system of transportation facilities and services adequate to meet identified local transportation needs and shall be consistent with regional TSPs and adopted elements of the state TSP.*
>
> *(5) The preparation of TSPs shall be coordinated with affected state and federal agencies, local governments, special districts, and private providers of transportation services.*

The following plans were reviewed and considered throughout the development of the Cottage Grove TSP:

- Inter-Modal Surface Transportation Efficiency Act of 1991
- Americans with Disabilities Act (ADA) of 1990
- Oregon Transportation Plan (OTP)
- Transportation Planning Rule (TPR), OAR Chapter 660, Division 12
- Lane County Transportation Plan & Master Road Plan, 1980
- Cottage Grove Comprehensive Land Use Plan, 1981
- Cottage Grove Transportation Safety Study, 1982
- Airport Master Plan, 1988
- Residential Lands Needs Analysis and Buildable Lands Inventory, 1991
- Cottage Grove Visioning Project, 1992
- Bikeway Master Plan, 1993
- Transportation Analysis for Cottage Grove Wal-Mart, 1993
- Cottage Grove Connector Traffic Study, 1994
- System Development Ordinance, July 1994

Goals and Objectives

The goals and objectives are general guidelines used for the development of the Plan Alternatives. These goals and objectives have been developed through a consensus building process working with the city council-appointed Technical Advisory Committee on Transportation. They reflect the general attitudes of the community with respect to transportation and are consistent with the Vision Statements that were developed through the Cottage Grove Visioning Project in 1992.

Goals

Goal 1: Enhance the Cottage Grove area's quality of life and competitive economic advantage by providing a transportation system that is:

- Accessible,
- Balanced,
- Most efficient,
- Environmentally responsible,
- Financially stable,
- Interconnected, and
- Safe.

Goal 2: Develop a cost-effective transportation system that meets the needs of passengers and freight, and that serves the existing and future arrangement of land uses to the consensus of all jurisdictions involved.

Goal 3: Develop a cost-effective transportation system plan that is based on informed citizen input, and professional and technical analysis.

Objectives

Objective 1: Provide an accessible transportation system for all potential users and to all areas of the community.

Objective 2: Provide a balanced transportation system that gives people realistic choices or options to driving alone in an automobile, and satisfies transportation needs in the area.

Objective 3: Provide an efficient transportation system for pedestrians, bicyclists, public transit users, and automobile users, and for the movement of goods and the provision of services.

Objective 4: Provide an environmentally responsible transportation system.

Objective 5: Ensure a financially stable and cost-effective transportation system.

Objective 6: Provide an inter-modal, interconnected regional transportation system which ensures ease of transfer between modes of travel and appropriate access to all areas of the region, state and nation.

Objective 7: Provide a safe transportation system.

Objective 8: Design and develop an integrated transportation and land use system that integrates housing, shopping and jobs and helps implement statewide transportation goals, statewide administrative rules and the Cottage Grove Comprehensive Land Use Plan.

Objective 9: Make full use of existing roadways by reducing demand during peak use periods and increasing operational efficiency.

Objective 10: Develop a transportation system that supports the increased use of alternatives to the single-occupant automobile such as walking, biking, and using public transit.

Objective 11: Develop a plan that is feasible, acceptable and that minimizes administrative costs.

Policies

These policy statements should be consistent with the goals and objectives while setting guidelines for implementing the Transportation System Plan.

Local and regional transportation policies and strategies must be consistent with the policies of the Oregon Transportation Plan, LCDC Goal 12 – Transportation. These state-adopted policies call for local governments to do the following:

- Reduce reliance on the single-occupant vehicle.
- Encourage alternatives to the auto, including bicycling, walking and, where feasible, public transit.
- Manage existing transportation facilities and services efficiently.
- Coordinate local transit services with interurban services.
- Coordinate land uses with the transportation facilities and services.
- Make the transportation system accessible to all potential users, including the transportation disadvantaged.

Other statewide policies are reflected in the TSP Performance Standards outlined in ODOT's *Transportation System Planning Guidelines.* Some of these include:

- Providing a good network of streets
- Transportation safety
- Efficient transportation management
- Safe and convenient walking and bicycling
- Minimizing adverse economic, social, environmental, and energy consequences
- Minimizing conflicts between modes

Transportation and Land Use Planning Integration Policies

1. Consider the impact of all land use decisions on the existing and planned transportation facilities.

2. Protect the function of existing and planned transportation systems as identified in the Street Plan, the Bicycle Plan, and the Pedestrian Plan through application of appropriate land use regulations.

3. Consider the potential to establish or maintain accessways, paths, or trails prior to the vacation of any public easement or right-of-way.

4. Require the dedication of additional street right-of-way at the time of land development or land division to ensure adequate street widths, in accordance with adopted city street plans.

5. Prohibit land development from encroaching on setbacks required for potential street expansion.

Street and Roadway Policies

1. Develop a street network that accommodates the safe and efficient movement of emergency service vehicles.

2. Develop a street network that meets the needs of pedestrians and cyclists.

3. Develop a street network that provides connections to and from activity centers such as schools, commercial areas, parks, and employment centers.

4. Develop a local street layout that encourages efficient lot layout.

5. Design streets that minimize impacts to topography and natural resources, such as streams, wetlands, and wildlife corridors.

6. Develop a street system and infrastructure that, where appropriate, conveys and treats stormwater runoff.

7. Consider the following primary criteria in evaluating and prioritizing street improvement projects within the existing street system:

    a) Average Daily Traffic (ADT): extent to which the street is used on a daily basis.

    b) Physical condition of the street's riding surface including sidewalks, curbs and gutters.

    c) Street geometrics: extent to which the physical design of the facility efficiently accommodates its level of use, including the extent to which the project addresses safety problems.

    d) Capacity/congestion (Level of Service): extent to which the project addresses existing capacity or decreases congestion.

8. Consider the following secondary criteria in evaluating and prioritizing street improvement projects within the existing street system:

    a) Physical community development trends: extent to which the project complements or supports the emerging land use pattern.

    b) Economic development potential: extent to which the project relieves congestion and provides land use access to under-utilized and undeveloped urban lands.

c) Linkage: extent to which the project forms key linkages to provide a transportation system with connectivity among modes within urban areas.

d) Multi-modal contribution: extent to which the project accommodates multiple modes and promotes the use of alternative modes.

e) Ability of the project to be constructed within the time frame being addressed.

f) Level of community interest and support.

g) Funding commitment or availability.

Public Transportation and Demand Management Policies

1. Support provision of basic mobility service for the elderly and people with special needs.

2. Integrate the results of the Intra-City Public Transportation Feasibility Study with the results of the pilot Inter-City LTD service to Eugene-Springfield, and if feasible, practical, and desirable, develop a cost effective accessible transit program that meets the needs of all potential and identified users.

3. If feasible and appropriate, incorporate the recommendations of the Intra-City Public Transportation Feasibility Study and the Intra-City pilot LTD service into the City's public transportation policies.

4. Encourage demand management programs, such as carpooling and park-and-ride facilities, to reduce single-occupancy auto trips to and from Eugene-Springfield.

Bikeway and Pedestrian Policies

1. Ensure consistency with the policies in the most current Bikeway Master Plan. The existing Bikeway Master Plan (1993), includes the following policies:

   a) Encourage bicycling by actively pursuing the goals and using the criteria established within the Bikeway Master Plan.

   b) Maintain existing bikeways and assure funds are allocated to continue maintenance of new facilities.

   c) When improving designated routes, anticipated usage, safety, and construction costs shall be the primary considerations. Safe transportation of vehicles on streets is a higher priority than storage of

vehicles on streets.

d) Assure facilities satisfy the utilitarian and recreational needs of city residents and visiting bicyclists.

e) Emphasize roadway bikeways, due to the construction and maintenance costs of separated paths. Always consider bikeways in future roadway projects.

f) Assist appropriate agencies with the development of safety and education programs.

g) Establish a Cottage Grove Bicycle Advisory Committee *(established in 1994)*.

3. Plan and develop a network of streets, accessways, and other improvements, including bikeways, sidewalks, and safe street crossings to promote safe and convenient bicycle and pedestrian circulation within the community.

4. Where practical and feasible, connect bikeways and pedestrian accessways with local and regional travel routes.

5. Consider, and if feasible, integrate existing accessways, such as user trails established by school children, into the transportation system.

6. Require bicycle and pedestrian accessways in areas of new development.

7. Foster the design and construction of bikeways and pedestrian accessways to minimize potential conflicts between transportation modes.

8. When feasible and practical, maintain bikeways and pedestrian accessways (including sidewalks) at the same priority as motor vehicle facilities.

9. When feasible, practical, and desirable develop a pedestrian network by focusing on direct, convenient, and safe pedestrian travel within and between residential areas, schools, parks, and shopping and working areas within the urban area.

10. Design new streets to meet the needs of pedestrians and encourage walking as a transportation mode.

11. When feasible and practical develop and initiate a city-wide sidewalk maintenance/improvement program.

12. Develop a downtown streetscape enhancement program to install curb extensions, crosswalk pavers, benches, pedestrian-scaled lighting, and bicycle

parking racks where feasible, practical and desirable.

13. Require sidewalks on both sides of collector and arterial streets within the urban area.

14. Install sidewalks and/or pedestrian trails of suitable surfacing on all future local streets, where feasible, practical, and desirable. Sidewalks/pedestrian trails may be installed on or off-street to facilitate walking between significant activity areas.

15. Require provision of bicycle parking facilities with new commercial and industrial development, and residential subdivisions.

16. Require adequate bicycle parking in schools, parks, existing shopping and working areas, and other destination areas to encourage increased use of bicycles.

17. Foster the development of off-street pedestrian sidewalks/trails connecting residential areas, schools, parks, and shopping and working areas where feasible, practical and desirable.

Air Service Policies

The airport is recognized as an important transportation facility. Its operation, free from conflicting land uses, is in the best interests of the citizens of the City. Consistent with the Airport Master Plan (1988), the air policies are as follows:

1. Incompatible land uses should be prohibited on the lands adjacent to the airport.

2. The function of existing or planned general use airports shall be protected through the application of appropriate land use designations to assure future land uses are compatible with continued operation of the airport.

3. Land uses around the airport should be required to provide an environment that will not be adversely affected by noise and safety problems and will be compatible with the airport and its operations.

4. The airport runway approach zones shall be protected from development that could conflict with aircraft approach safety, or threaten surrounding development.

Rail Freight Service Policies

1. Consider adequate rail freight access for planned and existing development in the zoning of adjacent property.

The City of Cottage Grove supports the Rail Freight Plan of 1994. The state's plan has the following policies:

2. Increase economic opportunities for the State by having a viable and competitive rail system.

3. Strengthen the retention of local rail service where feasible.

4. Protect abandoned rail rights-of-way for alternative or future use.

5. Integrate rail freight considerations into the State's land use planning process.

Chapter II
Existing Conditions

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Existing Conditions

The development of the Cottage Grove Transportation System Plan began with an assessment of the existing transportation conditions within the urban growth boundary (UGB). This chapter provides a summary of the existing transportation conditions within the UGB.

Street System

The street system provides the basic transportation network used for the movement of people and goods within the community. The street system is used by nearly all the travel modes including pedestrians, bicycles, automobiles, paratransit, public and private transit, and the local and inter-regional trucking industry as well as public and private utilities. Highway 99 and the surrounding street system serve as the primary means of mobility within the Cottage Grove UGB.

Functional Classification

Within the UGB, there are approximately 40 lane miles of streets classified as collector level and above. The functional classification of streets is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. Basic to this process is the recognition that individual roads and streets do not serve travel independently. Rather, most travel involves movement through a network of roads. The functional classification defines the nature of the channelization process by defining the part that any particular road or street should play in serving the flow of trips through a street system. Typically, local streets have the lowest classification. They generally have lower volumes of traffic and/or lower travel speeds. These local streets feed into the collector streets. The collector streets in turn feed into the arterial streets. Finally, the arterials feed into the freeways which carry the largest traffic volumes with the highest travel speeds. Figure 2, *Existing Functional Classification and Major Facilities,* displays the existing highway, arterial, and collector street system for the City of Cottage Grove (note: roads not categorized on map are considered *local* streets).

Jurisdiction

ODOT, Lane County, and the City of Cottage Grove operate and maintain the existing street system within the study area. Within the study area, ODOT operates and maintains Interstate-5, Highway 99, and the Cottage Grove Connector. In addition to roads, and sections of roads, outside the city limits, Lane County maintains sections of Row River Road, Bennett Creek Road, Lorane Highway, and Mosby Creek Road. The City of Cottage Grove operates and maintains approximately 40 miles of roadways.

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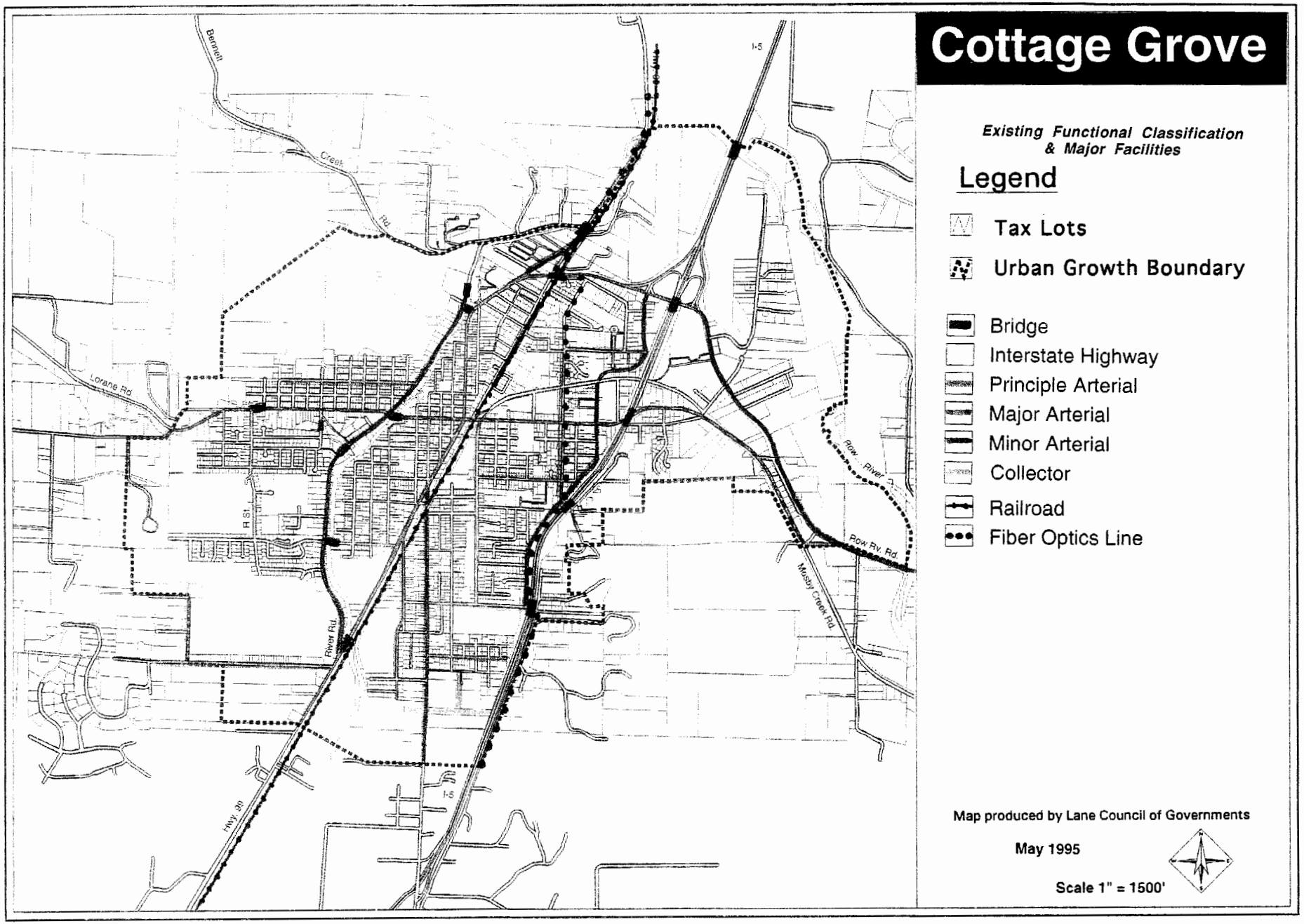
Cottage Grove
Existing Functional Classification & Major Facilities
Legend
Tax Lots
Urban Growth Boundary
Bridge
Interstate Highway
Principle Arterial
Major Arterial
Minor Arterial
Collector
Railroad
Fiber Optics Line
Bennett
Creek
Rd.
I-5
Lorane Rd.
R St.
River Rd.
Row River Rd.
Mosby Creek Rd.
Hwy. 99
Map produced by Lane Council of Governments
May 1995
Scale 1" = 1500'

Figure 2

Table 1. Street System Inventory

Street Segment	North or West Intersections	South or East Intersections	Distance (miles)	# of lanes	Right-of-Way	Level of Service	Traffic Count	Road Condition	Functional Class	Juris-diction	Bike Lane	Side-walks
4th St	Hwy 99	Filmore Ave	0.37	2	50'	good		good	Collector	City		
4th St	Filmore Ave	Grant Ave	0.18	2	50'	good		good	Collector	City		
6th St	Main St	Washington	0.12	2	50'	good		fair	Collector	City		Yes
6th St	Washington	Hwy 99	0.12	2	60'	good		fair	Collector	City		Yes
6th St	Hwy 99	Quincy Ave	0.10	2	57'	good	4,100	good	Mnr Arterial	City		Yes
6th St	Quincy Ave	Taylor Ave	0.35	2	57'	good	3,600	good	Mnr Arterial	City		Yes
6th St	Taylor Ave	Filmore Ave	0.11	2	57'	good	2,400	good	Mnr Arterial	City		Yes
6th St	Filmore Ave	Lincoln Ave	0.08	2	57'	good	2,400	good	Mnr Arterial	City		
6th St	Lincoln Ave	Johnson Ave	0.05	2	57'	good	2,400	good	Mnr Arterial	City		
6th St	Johnson Ave	Cleveland Ave	0.38	2		good	3,000	fair	Mnr Arterial	LC		
10th St	Main St	Quincy Ave	0.37	2	60'	good	5,100	fair	Collector	City		
10th St	Quincy Ave	Taylor Ave	0.35	2	60'	good	7,000	fair	Collector	City		Yes
16th St	Harvey Lane	Main Street	0.28	2	50'	good	7,000	good	Collector	City		
16th St	Main Street	Gateway Blvd	0.30	2	50'	good	200	fair	Collector	City		Yes
Birch Ave	P St	O St	0.05		60'	good		fair	Collector	City		
Birch Ave	O St	M St	0.05		60'	good	900	fair	Collector	City		
Birch Ave	M St	River Rd	0.34	2	60'	good	900	fair	Collector	City		Yes
Blue Sky Drive	N of Harrison	S of Harrison	0.20	2	65'	good		good	Collector	City		
Cott Grove Cnctr	Hwy 99	Gateway Blvd	0.48	2	100'	good	9,500		Prin Arterial	ODOT		
Cott Grove Cnctr	Gateway Blvd	I-5 NB Ramp	0.15	2	100'	fair	10,300		Prin Arterial	ODOT		
Gateway Blvd	Cott Grove Cnctr	Harvey Rd	0.23	4	65'	good	6,900	good	Mnr Arterial	City		Yes
Gateway Blvd	Harvey Rd	Roberts Lane	0.16	4	60'	good	5,700	good	Mnr Arterial	City		
Gateway Blvd	Roberts Lane	Main Street	0.26	4	60'	good	5,700	good	Mnr Arterial	City		Yes
Gateway Blvd	Main Street	14th St	0.48	2	50'	good		good	Mnr Arterial	City		
Gateway Blvd	14th St	Taylor Ave	0.24	2	50'	good	2,600	good	Mnr Arterial	City		
Grant Ave	4th St	6th St	0.12	2	50'	good		good	Collector	City		
Harrison Ave	R St	River Rd	0.28	2	65'	good		good	Collector	City		Yes
Harrison Ave	River Rd	1st St	0.10	2	50'	good	2,200	good	Collector	City	Yes	Yes
Harrison Ave	1st St	2nd St	0.06	2	50'	good		good	Collector	City		
Harrison Ave	2nd St	Hwy 99	0.10	2	50'	good		good	Collector	City		
Harvey Rd	16th St	19th St	0.23	2	50'	good	1,200	fair	Collector	City		
Harvey Rd	19th St	Gateway Blvd	0.07	2	50'	good	1,200	fair	Collector	City		
Hwy 99	UGB	River Rd (N)	0.45	2	60'	good	2,400		Collector	ODOT		
Hwy 99	River Rd (N)	Cottage Grove	0.28	2	60'	good			Mnr Arterial	ODOT		
Hwy 99	Cott Grove Cnctr	Woodson Pl	0.26	4	60'	good	9,500		Prin Arterial	ODOT		
Hwy 99	Woodson Pl	Gibbs Ave	0.32	3	50'	good	7,100		Prin Arterial	ODOT		

Street Segment	North or West Intersections	South or East Intersections	Distance (miles)	# of lanes	Right-of-Way	Level of Service	Traffic Count	Road Condition	Functional Class	Juris-diction	Bike Lane	Side-walks
Hwy 99	Gibbs Ave	Main St	0.09	3	50'	good	7,100		Prin Arterial	ODOT		
Hwy 99	Main St	6th St	0.28	4	80'	good	9,900		Prin Arterial	ODOT		Yes
Hwy 99	6th St	Harrison Ave	0.27	4	80'	good	7,000		Prin Arterial	ODOT		Yes
Hwy 99	Harrison Ave	River Rd (S)	0.49	2	60'	good	4,500		Prin Arterial	ODOT		
Hwy 99	River Rd (S)	UGB/Cleveland St	0.31	2	60'	good	4,400		Prin Arterial	ODOT		
I-5	N study boundary	Cottage Grove		4		good	29,200		Freeway	ODOT		
I-5	Cott Grove Cnctr	6th St/London Rd		4		good	22,000		Freeway	ODOT		
I-5	6th St/London Rd	Martin Creek		4		good	18,000		Freeway	ODOT		
Johnson Ave	6th St	11th St	0.18		25'	good		fair	Collector	City		
Madison Ave	10th St	13th St	0.20		50'	good	300	good	Collector	City		Yes
Madison Ave	13th St	16th St	0.14		50'	good		good	Collector	City		Yes
Main Street	Lorane Rd/UGB	City Limit	0.37	2	45'	good		good	Mnr Arterial	City		
Main Street	City limit	M St	0.24	2	60'	good		good	Mnr Arterial	City		Yes
Main Street	M St	River Rd	0.22	2	60'	good	1,100	good	Mnr Arterial	City		Yes
Main Street	River Rd	6th St	0.16	2	65'	good		good	Mnr Arterial	City		Yes
Main Street	6th St	9th St	0.14	2	65'	good		poor	Mnr Arterial	City		Yes
Main Street	9th St	10 St	0.05	2	65'	good		good	Mnr Arterial	City		Yes
Main Street	10 St	12th St	0.16	2	55'	good	9,000	good	Mnr Arterial	City	Yes	Yes
Main Street	12th St	16th St	0.21	2	55'	good		good	Mnr Arterial	City	Yes	Yes
Main Street	16th St	I-5	0.21	2	55'	good		fair	Mnr Arterial	City	Yes	Yes
Mosby Creek	Thornton Rd	Currin Connector	0.26	2	40'	good	3,400	good	Mnr Arterial	City		
Mosby Creek	Currin Connector	UGB	0.38	2	40'	good	2,800	fair	Mnr Arterial	LC		
R St	Main St	Bryant Ave	0.13	2	55'	good		good	Collector	City		
R St	Bryant Ave	Harrison Ave	0.38	2	60'	good	200	good	Collector	City		Yes
River Road	Woodson	Main Street	0.51	2	60'	good	4,000	good	Mnr Arterial	City		
River Road	Main Street	Bryant Ave	0.27	2	60'	good	2,600	good	Mnr Arterial	City		
River Road	Bryant Ave	Harrison Ave	0.34	2	60'	good	1,500	good	Mnr Arterial	City		
River Road	Harrison Ave	Jason Lee Ave	0.06	2	60'	good	1,000	good	Mnr Arterial	City		
River Road	Jason Lee Ave	Hwy 99 (S)	0.34	2	50'	good	800	good	Mnr Arterial	LC		
Row River Rd	NB I-5 Ramp	Thornton Ln	0.35	2	100'	good			Mnr Arterial	City		
Row River Rd	Thornton Ln	Currin Connector	0.34	2	80'	good	4,300	good	Mnr Arterial	City		
Row River Rd	Currin Connector	UGB	0.33	2	80'	good	3,200	good	Mnr Arterial	City		
Row River Conn 2	Mosby Creek Rd	Row River Rd	0.13			good	100	fair	Collector	LC		Yes
Sweet Lane	Blue Sky Dr	Hwy 99	0.58	2	40'	good	1,200	good	Collector	City		
Taylor Ave	4th St	6th St	0.09	2	50'	good		good	Collector	City		Yes
Taylor Ave	6th St	10th St	0.19	2	50'	good	3,000	fair	Collector	City		Yes
Taylor Ave	10th St	I-5	0.22	2	50'	good	2,000	poor	Collector	City		
Thornton Rd	Mosby Creek Rd	Row River Rd	0.14	2	50'	good	1,300	good	Collector	City		
Whiteaker Ave	I-5	Thornton Rd	0.25	2	50'	good		good	Mnr Arterial	City		Yes

Street Inventory

These streets have also been inventoried and a summary of this inventory is presented in Table 1. The following street characteristics are summarized:

- description of the street segment;
- distance of street segment in miles;
- total number of travel lanes;
- right-of-way of street, measured in feet;
- level of service (good, fair or poor);
- approximate average daily traffic flow;
- street condition (good, fair, or poor);
- functional classification;
- jurisdiction responsible for street;
- bike lanes; and
- sidewalks.

Accident Locations

Table 2 contains a listing of critical accident locations within the UGB. Critical accident locations are those intersections where the City of Cottage Grove have the highest number of incidents or reports filed. This information is used by public works staff for identifying where needed safety improvements should be made.

Table 2. Critical Accident Locations and Number of Accidents Reported

Intersection Description	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985	Total	10 Yr Avg
Connector Rd/Gateway Blvd	2	1	3	10	9	6	7	16	4	2	60	6
Main Street/Gateway Blvd	3	8	3	2	5	7	3		4	7	42	4.2
Main Street/5th Street	4	5	2	7	3	4	4	4	2	3	38	3.8
Main Street/6th Street	2	2	2	3	4	5	5	4	1	1	29	2.9
Highway 99/Quincy	1	3		2	2	3	7	1	6	2	27	2.7
Main Street/River Rd	1	2	1	3	3	3	2	6			21	2.1
Main Street/Highway 99				1	5	1	5	2	2	3	19	1.9
Hwy 99/Adams	2		2	3	1	1	3	1	2	1	16	1.6
Hwy 99/Cnnctr-Row River Rd	1	3	1		2	2	1	1	2	2	15	1.5
Row River Rd/Thornton Ln	1	1	1	1	2		4		4	2	16	1.6
Main Street/10th Street			1	3	1	3	2	2	1	2	15	1.5
Highway 99/6th Street		1	1	3	2	2	1	2	1	1	14	1.4
Main Street/16th Street	2	1		1		1	2	2			9	0.9
J St/Chestnut					3		1	1			5	0.5
Main Street/9th Street		2			1		1			1	5	0.5
Highway 99/Geer St							4				4	0.4

Level of Service

Capacity needs and analyses are determined through traffic forecasting and modeling. The traffic forecasting model, EMME/2 was used for the analysis of the street system within the Cottage Grove UGB. One indicator that measures the effectiveness of the street system is the volume to capacity ratio. This ratio gives the level of service (LOS) of the system. The 1992 average daily traffic flow is compared with the daily carrying capacity of the street or compared with the flow of traffic an intersection can handle. Figure 3a, *1992 Estimated Average Daily Traffic Flow*, displays the existing traffic count.

Three general levels of service are used in evaluating how efficiently the street is operating. The categories of good, fair and poor are directly related to the volume/capacity ratio. A street with a good LOS typically carries vehicles at 70% or lower of full street capacity (little or no congestion system-wide). A street with fair LOS carries 70 - 85% of the street capacity (some congested streets system-wide). Finally, a poor LOS means a street carries 85 - 100% of its capacity (significant congestion system-wide). Both good and fair LOS are considered acceptable.

Overall, the street system in the study area, is currently operating with good LOS. See Figure 4a, *1992 Level of Service*, for LOS throughout the study area. A potential trouble spot includes the Cottage Grove Connector between the on- and off-ramps to I-5. See *Appendix A: Level of Service Definitions* for a description of LOS characteristics.

Public Transportation

"All areas, regardless of location or size, require some sort of public transportation just to meet the basic mobility needs of elderly, disabled, youth, or those people who do not drive (ODOT's *Transportation System Planning Guidelines*, 1995)." Limited transportation service is available to elderly and people with special needs in the Cottage Grove area through South Lane Wheels, a non-profit agency, and through the coordination of volunteers by the Department of Human Resources Volunteer Services and LCOG's Outreach Program.

Existing public transportation services are limited within the Cottage Grove area. Below are the descriptions of existing service for paratransit,[1] intra-city and inter-city public transportation. Public transportation includes transportation available to the public, whether a public or private enterprise.

[1] Paratransit, as used in this context, refers to transportation services designed to provide service to individuals with special needs unable to use traditional modes of public transportation or without private transportation options. Paratransit is generally demand-response, pre-scheduled service operating door-to-door.

Paratransit

South Lane Wheels is the existing paratransit provider for all of south Lane County. Their service area includes the cities of Cottage Grove and Creswell as well as Dorena, Culp Creek, London, Saginaw, and Lorane. South Lane Wheels provides pre-scheduled, door-through-door rides for the elderly and disabled public who do not have their own means of transportation. Rides are primarily within the local area with the exception of some rides to and from Eugene for individuals using wheelchairs. Table 3 lists some key characteristics of the type of service they provide.

Almost all of South Lane Wheels' operational funding is specially designated for the provision of transportation to the elderly and disabled. Most of their service capacity, therefore, is designated for such riders. South Lane Wheels occasionally has space for other riders, and the general public, and has developed contractual agreements that allow them to serve different segments of the population. Also, South Lane Wheels vehicles have been used to provide shuttle service during special community events, like Bohemia Days, or the Saturday Shuttle, scheduled November 30 through December 21, 1996, and sponsored by the Cottage Grove Chamber of Commerce, Wal-Mart and the Downtown Association.

Table 3. South Lane Wheels Service Inventory

	Fiscal Year					Average
	91-92	92-93	93-94	94-95	95-96	per year
Number of Persons Served						
Elderly	447	436	396	395	370	**409**
Developmentally Disabled	28	24	26	19	19	**23**
Mentally & Emotionally Disabled	23	25	23	71	87	**46**
Physically Disabled	19	6	10	16	15	**13**
Other	121	93	108	114	115	**110**
TOTAL	**638**	**584**	**563**	**615**	**606**	**601**
Number of Rides by Trip Purpose[1]						
Medical	1,525	1,768	1,321	1,487	1,611	**1,542**
Social Services	2,811	2,377	2,228	1,890	2,168	**2,295**
Recreation/Therapy	1,417	1,438	1,238	2,492	3,613	**2,040**
Work & School	128	232	709	539	484	**418**
Grocery Shopping	707	665	820	1,351	1,469	**1,002**
Recreation/Personal	3,888	3,631	3,416	2,634	2,622	**3,238**
Escorts/Attendants & Guests	316	408	340	567	712	**469**
General Public	0	0	0	56	56	**22**
TOTAL	**10,792**	**10,519**	**10,072**	**11,016**	**12,735**	**11,027**
# of ride refusals	**110**	**105**	**107**	**103**	**150**	**115**

Source: Lane Council of Governments Special Transportation Fund budget reports.
[1]One way rides counted. For example, a trip to the doctors office and back home = 2 trips.

South Lane Wheels currently has seven wheelchair accessible vehicles in operation; five in Cottage Grove and one in Creswell. Office hours are 8:00 a.m. to 5:00 p.m. Monday through Friday with limited pre-arranged group service on Saturday and Sunday. Rides are provided from 8:30 a.m. until 4:30 p.m. There are no appointments taken after 2:00 p.m. South Lane Wheels operates a special Saturday service for South Lane Mental Health and provides service to and from local churches on Sunday. One new vehicle will be purchased in FY96-97 to replace an old vehicle that is now out of service.

In addition to South Lane Wheels, volunteers using their own vehicles provide rides for medical appointments through the LCOG Outreach program. The Department of Human Services also coordinates a volunteer program through Volunteer Services.

Intra-City Transportation

Currently, there is no existing intra-city public transportation other than paratransit service. Although the taxi companies in Eugene-Springfield will serve the area, there are none based in Cottage Grove. A study is currently underway that will determine the feasibility of an intra-city system.

Inter-City Transportation

Greyhound provides inter-city service from Cottage Grove to other cities. There are 6 daily Greyhound buses that stop in Cottage Grove, 3 northbound buses and 3 southbound buses. There is not an official Greyhound Terminal; instead, the Canton Market sells Greyhound tickets and the buses stop in their parking lot. The cost ($5-6 each way) and schedule of the Greyhound service does not make commuting for work or school outside Cottage Grove a practical option.

Lane Transit District (LTD) provides carpooling assistance to people commuting within their service area. A prospective carpooler can call LTD and have their name added to an interested parties list. If people have a similar schedule and points of origin and destination, they can call each other and decide if they'd like to carpool together. In 1996, there were thirteen applications processed for people interested in carpooling from Cottage Grove; twelve were traveling to Eugene, and one to Salem.

Trial LTD bus service between Cottage Grove and Eugene began in September 1997 as part of a pilot demonstration project approved by voters. There are six runs on weekdays: two morning runs that arrive in Eugene before 8 a.m.; a late morning run; an early afternoon run; and two runs that return to Cottage Grove after 6 p.m. There are also two runs on Saturday: one in the morning and one in the evening.

The first quarterly report of the LTD service indicates that ridership is the third highest of any of LTD's rural routes. Buses average 37 riders per trip weekdays and 33 riders on the weekend. Commuting to work makes up 44% of the trips, and 24% are commuting

to school. The major complaints LTD has received deal with overloaded buses. At this point in time, the pilot project appears to be a success.

There is no passenger train service through Cottage Grove. The passenger route heads east out of Springfield and goes through Oakridge. The nearest Amtrak station is in downtown Eugene.

The typical cost for a taxi between Cottage Grove and Eugene-Springfield is $35 each way.

Bikeways

Bicycling is a fast growing physical fitness activity. It has also been proven to be an effective alternate mode of transportation. Planning at the state and local level encourages the development of bicycle facilities. The City of Cottage Grove has an adopted bikeway plan, the *Bikeway Master Plan*, 1993. This plan is the source for much of the following. The existing and proposed bike routes and paths can be found on Figure 5, *Existing and Proposed Bikeways.*

On-Street Bike Routes

Currently there are four roads that are specifically striped for bikeways. A short stretch of Harrison Avenue between River Road and 1st Street, Main Street between Gateway Street and 10th Street, North and South River Road, and Gateway Boulevard are the only marked bike lanes currently in service.

Off-Street Bike Paths

Two separated path systems receive pedestrian and bicycle traffic. The North Regional Park is 1.9 miles long winding through the riparian area of the park. It then continues along Row River bordering Middlefield Village Golf Course to Thornton Lane. This bike path can be accessed at the north end of Douglas Street and at Thornton Lane. The East Regional Path is approximately 0.5 miles long and follows Row River to just south of the Davidson Industrial Park. This bike path can be accessed from the park entrance on Row River Road about 1.5 miles south of the city limits.

The City recently received a grant to develop a multi-use plan for the Oregon Pacific and Eastern (OP&E) abandoned railroad right-of-way. It is envisioned that the corridor would be designed for recreational and commercial uses; pedestrian, bike, and trolley cars would have access to the corridor route and vendors would be allowed at specific locations along the corridor.

Bicycle Parking

Bicycle parking structures are currently limited in the UGB. There are two structures; one at Wal-Mart and another at the Gateway Shopping Center.

Accident Statistics

Table 4 lists the traffic accidents involving bicycles. Very few trends emerge regarding specific locations except that approximately 3/4 of the accidents were located at street or driveway intersections.

Table 4. Bicycle Accident Summary

Reported Cause	Bicyclists at Fault (%)	Motorists at Fault (%)	% of Total
Intersection and Driveway Accidents:			
No Yield of Right-of-Way	21%	11%	32%
Improper Turn	11%	17%	28%
Ran Stop Sign	6%		6%
Ran Traffic Signal	6%		6%
Sub-total	**44%**	**28%**	**72%**
Accidents at Other Locations:			
Improper Lane Change	11%		11%
Other	11%	6%	17%
Sub-total	**22%**	**6%**	**28%**
GRAND TOTAL	**66%**	**34%**	**100%**

Source: Bikeway Master Plan, 1993

Pedestrian System

The pedestrian system consists primarily of the sidewalk system in urban areas. The pedestrian system includes recreational paths through parks as well. The pedestrian system is versatile in that it can traverse a variety of surfaces, streets and roads as well as a variety of terrain. Every trip made begins and ends with a pedestrian trip, yet this portion of the trip and this mode of travel is often left out of planning. Figure 6, *Sidewalks*, identifies the sidewalk system in the UGB.

The City recently received a grant to develop a multi-use plan for the OP&E abandoned railroad right-of-way. See previous section for description of project.

Air and Rail Services

The air and rail services make up a small part of the transportation system. Although these systems traditionally are not considered as a major means of moving people, they are useful and efficient in moving goods and freight.

Air Service

There is one general aviation airport in Cottage Grove. An extension of the runway to the north, as well as a new parallel taxiway along the west side of the runway, were recently constructed. The Oregon Department of Transportation (ODOT) Division of Aeronautics operates and maintains the airport. In 1993, the Aeronautics Division

reported approximately 11,800 private and commercial trips from the airport. The last airport traffic count was in 1986 with 11,150 trips for the year. The next airport traffic count is scheduled for 1997. According to the on-site fixed-based operator, there are 50 based aircraft that account for approximately 20,000 trips per year.

The existing airfield facilities consist of one active runway and an east-west taxiway with lighting and navigational aids. A terminal area includes the office of Cottage Grove Aviation, the fixed-base operator. One hangar is used for aircraft maintenance and repair, and inspection service is to the southeast of the airport office. There is also a T-hangar south of the maintenance hangar. More aircraft hangars are north of the east-west taxiway, west of the terminal area. This area contains permanent tie-down locations as well as grass tie-downs. The refueling facility is adjacent to the terminal. It dispenses 80 and 100-octane aviation gasoline to aircraft, with one 10,000-gallon storage tank for each grade of gasoline. Jet fuel is not available.

Rail Freight Service

The Oregon Pacific and Eastern (OP&E) recently abandoned their track lines in Cottage Grove. There is one operational railroad line in the study area. Southern Pacific was operating the Siskiyou Line in the Cottage Grove area until 1994 when RailTex purchased it, and the Coos Bay Line. The Siskiyou was renamed Central Oregon & Pacific Railroad (COPR). Up until that point, SP accounted for almost 12 million tons of freight. SP's originating tonnage accounted for 7.7 million tons. This is down 27% from 1986 levels. This was attributable to the staggering drop in originating lumber and wood product movements. However, SP's terminating tonnage rose almost 70% from 1986 accounting for over 4 million tons. This is due to the growth in transporting other commodities, especially chemicals and coal. Other commodities that continue to grow in rail freight tonnage include farm products, other chemical and allied products, pulp and paper products, and food and kindred products.

COPR's Siskiyou Line, a major branch line, runs through Cottage Grove on its way from Eugene to the Rogue Valley. COPR's plan for the line indicates their desire to reestablish the movement of wood chips. Most of the traffic would represent intraline movements and would not be subject to Southern Pacific rates, equipment or switching. Much of the loss of rail traffic to trucks can be attributed to the fact that Class I railroads are reluctant to commit their equipment to movements of less than 1,000. Recognizing that this policy drives traffic to trucks, RailTex purchased or leased equipment and dedicated it to short haul/short turnaround service.

The operating plan calls for three locomotives operating between Eugene and Medford. The northbound train will leave Medford at 8:00 p.m. and arrive in Roseburg at 6:40 a.m. Another locomotive and crew will depart at 7:00 a.m. and arrive in Springfield Junction at 1:30 p.m. The southbound train will leave Eugene at 12:01 a.m., arrive in Roseburg at 7:30 a.m., change equipment and crew and leave soon after. It will arrive in Medford at 5:45 p.m. Switches between Springfield and Drain are for industry pulling and spotting, with additional traffic picked up in Cottage Grove.

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Chapter III
Transportation Needs and Issues

Chapter III
Transportation System Needs and Issues

City staff, service providers, public meetings, and review of existing documents identified needs and issues related to the transportation system in the Cottage Grove area.

Streets

The inventories, public process, and review of existing documents helped identify the various street needs. The needs are categorized into three groups: 1) Safety Needs, 2) Operations & Maintenance Needs, and 3) Capacity Needs.

Safety Needs

The City of Cottage Grove is responsible for addressing these types of needs within the city limits. Lane County is responsible for addressing these types of projects on any county roads outside of the city limits and within the urban growth boundary, and streets inside the city limits that are under county jurisdiction. Similarly, the Oregon Department of Transportation (ODOT) is responsible for addressing these types of needs on the state facilities. The types of projects include any reconstruction projects, intersection channelization projects, and other site specific safety projects.

The safety needs project prioritization is determined by public works staff through engineering analysis and as funds are available. A complete list of projects can be found in Table 7, *Street Plan Project List* in Chapter V.

Operations & Maintenance Needs

Figure 7, *Condition of Roads*, shows the existing condition of roads in the UGB. This indicates where some of the operations and maintenance needs are. These types of projects include upgrade to urban standards, pot-hole repair and pavement overlay projects.

Capacity Needs

Other street needs are categorized as new roads or capacity expansion projects on existing roads. These types of projects increase the community's accessibility to other areas and improve general mobility. The following sections describe general design standards for streets based on functional classification and capacity needs.

Design Standards

New roads have been proposed to connect isolated areas to larger activity areas, and to provide the system user with more options for path choice. Ideally, new roads

incorporate design standards that promote all modes of transportation including bicycling and walking as well as meeting the multiple needs of travelers (goods movement, shopping, work, etc).

It is the City's current policy to emphasize the connectivity of streets, bikeways, pedestrian sidewalks, and off-street pathways in subdivisions and major commercial and industrial developments. Connectivity within and between the various street systems is a necessity within the urban community and is a major design consideration as new developments are subjected to the City's design review process prior to being approved for construction. Bike lanes and pedestrian sidewalks are required on all collector and arterial streets within the City. All local residential streets must include sidewalks and serve as shared roadways with bicyclists. Connectivity to similar or higher order streets is emphasized. Off-street bikeways and pedestrian paths are usually more difficult to connect in an efficient or direct manner due to difficulty in securing the necessary easements and the presence of environmental constraints, e.g., wetlands, steep grades. However, all reasonable attempts at developing connectivity between these travel ways is emphasized when development proposals and specific plans are presented for consideration.

Arterial Street Standards

There are two primary classifications of urban arterial street: minor arterial and major arterial. There are many similarities between major and minor arterial. One significant difference between the two is freeways and expressways are classified as major arterials. Because these types of arterials require separate design standards, they are not included in the following descriptions.

Arterial streets primarily function to serve a high degree of vehicular traffic. However, in practice they do provide limited land access. This functional nature of arterial streets is most efficient with limited parking and limited direct land access (driveway access) to improve traffic capacity for through vehicles.

Typical design elements in Cottage Grove that constitute an arterial street are sidewalk and planting buffer areas, parking lanes, bicycle lanes, traffic lanes, left turn lanes, and raised median areas.

Collector Street Standards

Collector streets can be found in residential, commercial and industrial areas. The primary function of the collector street is to assemble traffic from the interior of the area and deliver it to the closest perimeter arterial. Collectors provide the connection between arterials and local streets for circulation as well as increased access to adjacent property. Collector streets typically must deal with overflow parking that can not be accommodated on the local streets. There are frequently more pedestrians walking along the collector street which necessitates an adequate sidewalk and more separation from traffic than is found on a local street. The collector street should be designed to standards intermediate between the local and arterial streets and its appearance should convey this meaning.

Typical design elements that constitute a Cottage Grove collector street are 5-foot wide sidewalks and possible planting buffer areas, parking lanes, bicycle lanes, traffic lanes, left turn lanes, and possible raised median areas.

Local Street Standards

The primary function of the local street in Cottage Grove is to provide access to properties fronting the street. However, local streets also provide circulation and options to using higher functional classes of streets. Local streets can be the connected network in a nodal development. Traffic volumes are typically low and on-street parking demand can vary. The design and appearance should include relatively narrow widths, short lengths, and alignments that encourage slow traffic speeds; this should be balanced with the need for emergency vehicle access. If a street is greater than 150 feet in length, there needs to be 20 feet of unobstructed roadway. If the length is less than 150 feet, the emergency vehicles can back out of the street.

The typical design elements found in a Cottage Grove local street right-of-way are sidewalk and planting buffer areas, parking lanes and traffic lanes. Bicycle lanes may or may not be striped on a local street but the street design should allow for the safe sharing of the street with other motorized traffic.

Street Issues

Jobs/Housing Balance: Currently there is a large percentage of Cottage Grove residents that get on the freeway each day to commute to jobs outside the city. Whether this trend continues, or more jobs are created in the Cottage Grove area, would have differing impacts on the transportation system.

Industrial Development: If the city is successful in replacing lost timber jobs with new jobs in the city, there will be increasing pressure on the existing street system. The City is currently planning the construction of a city-owned flexible industrial building at its industrial park in the southwest section of the UGB. At the same time, Weyerhaeuser has been successfully diversifying and upgrading its facility just south of the UGB and has been adding employees after years of job losses. This too will add to the demands on the existing street system in the southern section of the study area. In the short-range, the City may propose a UGB expansion to the Oregon Department of Land Conservation and Development (DLCD). The UGB expansion, as currently envisioned by the City, would occur in a southerly direction to include the industrial area in and around the Weyerhaeuser Company Lumber plant. If the UGB expansion is submitted and approved by DLCD, a refinement/facility plan that addresses the Exit 170 interchanges is recommended.

Access to State Highways: The Oregon Department of Transportation is developing new policies for access management on state highways. Access Management is defined as balancing access to developed land while ensuring movement of traffic in a safe and efficient manner. The State has regulatory authority to grant access to State roads, and State access management laws apply to these roads.

Public Transportation

The identification of needs included: discussions with staff and consultation with the public; results of the LTD/Cottage Grove/Creswell Feasibility Study; service provider networking; the United Way Needs Assessment; and input from the local Services Coordinating Council, a committee set up by South Lane Wheels with representation from social service providers in the area. One of the group's goals is to identify transportation needs for their services.

Paratransit Needs and Issues

Paratransit needs are difficult to quantify. There is an accepted perspective that all social service providers have a growing number of clients with limited resources.

Funding: South Lane Wheels receives funds from a variety of sources. Almost a third of their budget is provided by assistance from the State of Oregon through the Special Transportation Fund (STF). This funding source has been declining over the years due to the reduction in the amount of cigarette tax collected. The STF monies are collected by the state and allocated based on Lane County's population. There is awareness that the fund is declining and that new sources of revenue are needed.

Service Constraints: It is the lack of operating funds that limit the length of the service day and the number of rides which can be taken on a single day. If more funds were available for operations as well as for additional vehicles, South Lane Wheels would operate longer hours and be able to accommodate ride demand at peak hours. Some of the ride refusals are for trips to the Eugene-Springfield area. Because of limited resources, South Lane Wheels now takes people who are in wheelchairs and for medical appointments only to the Eugene-Springfield area. It does coordinate with two other governmental agencies that provide rides to Eugene-Springfield, but those rides are limited to clients of the two agencies and exclude the general public.

Unmet Demand: South Lane Wheels turns down over 100 rides per year. Last year, FY96, South Lane Wheels turned down 150 rides (see Table 3). These are ride requests for service within the established service area and during their hours of operation that cannot be accommodated. These refusals represent a portion of the unmet demand for paratransit service. South Lane Wheels has a continual need for replacement vehicles to maintain the current level of service, as well as additional vehicles to meet the increasing demand.

Intra-City Transportation Needs and Issues

Determine Needs: The population for Cottage Grove is 7,745 (1995 estimate). ODOT's *Transportation System Planning Guidelines*, 1995, indicate that in general, communities with populations under 10,000 have difficulty supporting a fixed route transit system and are best suited to demand responsive transit service. The City of Cottage Grove recently received a grant through ODOT's Community Transportation

Program that will allow them to conduct a feasibility study of an intra-community public transportation system. The project findings will not be available in time for inclusion in this document. The results of that study will help the City focus its efforts regarding intra-city transportation.

Viability of Taxi Service: Private taxi service has not been established in Cottage Grove. Presumably, if such a business would be economically viable, the service would already exist.

Planning Support: Based on comments at public hearings and local grass roots efforts, there is acknowledgment that public transportation systems in Cottage Grove have not been receiving the same amount of planning efforts and funding levels as the automobile systems. The community has expressed interest in studying public transportation options.

Inter-City Transportation Needs and Issues

Survey Results: Lane Transit District (LTD), and the cities of Cottage Grove and Creswell commissioned a feasibility study for implementing LTD service. The study, conducted by Mar%Stat Market Research and Analysis in June 1995, surveyed a sample of Cottage Grove and Creswell residents to determine if the need exists for commuter service to the Eugene/Springfield Metropolitan Area. The results of the study indicated that of the households surveyed in Cottage Grove,

- almost 69% of the households surveyed had adult members that commute to work outside the community,
- 78% of those who commute to work outside the community, commute to Eugene/Springfield; this represents 54% of the households surveyed,
- 92% of the non-work related travel outside the community had a Eugene/Springfield destination,
- 76% felt that having public transport between home and Eugene/Springfield was at least *somewhat important,* and
- 73% were at least *somewhat willing* to ride and pay for public transport to Eugene/Springfield.

The study indicates a demand for LTD service to the Eugene-Springfield area; particularly for commuting to work. Cottage Grove voters approved a pilot project for LTD service that began in September 1997

Carpooling: The carpooling service through LTD has had limited participation. Perhaps broader advertising of the program would increase participation.

Limited Options: As a private transit provider, Greyhound's future service decisions are based on expected profit margins. A high percentage of residents commute to work in Eugene-Springfield; but given the cost and schedule of Greyhound service, it is not a practical option for commuters.

Demand Management: A relatively large proportion of city residents commute to the Eugene-Springfield metropolitan area for work and college. This may indicate a need for demand management programs such as carpooling, park-and-ride, or commuter buses.

Public Support: Despite the outcome of the feasibility study for LTD service, in May of 1996 the public voted down a request for funding a pilot project to test the viability of LTD bus service to and from Cottage Grove. The vote was very close however, with 761 in favor and 797 against. The measure was scheduled for a vote through mail-in ballot in March of 1997 and passed this time around. Although the measure passed, the level of support represented in the voting outcome was not strong.

Pilot Bus Project: The first quarterly report of ridership revealed that the service is popular with residents under 21 years old and those commuting to the Eugene area for work. The ridership is the third highest of any of LTD's rural routes. Buses average 37 riders per trip weekdays and 33 riders on the weekend.

The pilot project is scheduled to run for up to 18 months. At the conclusion of the project, the City Council may either invite LTD to permanently establish a transportation district, refer the issue to voters, or turn down the project and leave it up to supporters to gather signatures and refer the issue to the voters through an initiative. The service is expected to be supported by payroll taxes. For this reason, it will be important to garner the support of local business owners and area residents."

Bikeways

A needs assessment is an important tool in long-range planning. It identifies what will be needed and facilitates the planning effort. The bicycle needs assessment was conducted via survey, as part of the development of the Bikeway map and the Bikeway Master Plan.

Bicycling Community Survey Results

According to the survey, the following categories were identified in order of general acceptability (high to low):

Touring: The survey was conducted during the winter season, therefore comments by the touring cyclists were limited. Those who participated in the survey rated the community as average for touring.

Law Enforcement: Cyclists and law enforcement personnel are aware that rules of the road are frequently not obeyed. The participants rated the community as average.

Recreational Use: Existing bikeways are available, but getting to them is not convenient or enjoyable.

Safety Education: The respondents agreed the community needs improvement in safety education.

Commuting: Generally rated poor by most bicyclists. Places of employment are most readily accessible by motorized vehicles on streets lacking continuous adequate shoulder width for bicycle travel. Streets most frequently mentioned as deficient were Highway 99, downtown Main Street and Gateway Boulevard.

Routes in General: According to the survey, this category appears to have the most significant deficiency of all. The lack of continuity in types of bikeways and the absence of links between them are the major reasons why routes are rated poor. The experienced bicyclists surveyed are more accepting of these deficiencies where there is adequate width along the right hand travel lane for a motorized vehicle and bicycle to occupy at the same time. Striping bike lanes would benefit both roadway users by clearly defining the space to be used by each.

Bicycle Awareness: According to the survey, this category was rated poor, indicating the need for increased awareness. Bicycling has proven effective as an alternate mode of transportation in many cities throughout the country, yet the general feeling emanating from public input is that local acceptance is minimal.

Existing Route Selection

Factors used for route selection were identified from the survey. These factors were taken into consideration in developing the proposed bikeway map (shown in Figure 5). They are as follows:

Avoid Traffic Conflicts: An overwhelming majority of respondents indicated this was very important when selecting a route. Bicyclists surveyed generally tend to avoid routes that have too many conflicts with cross traffic. The recreational users surveyed placed higher emphasis on this factor than the other bicyclists surveyed.

General Safety: All respondents have concerns to minimize danger and increase safety.

Scenic Attractiveness: The recreational and touring cyclists rated this more important than other bicyclists. Recreational and touring cyclists may choose routes based only on this factor where other bicyclists may not consider this factor while traveling around the community.

Minimize Stops and Delays: All system users, including motorized users, select arterials and collectors for the same reasons, less delay.

Avoid Hills: Topography around the community is fairly consistent, respondents considered this factor to be of only average importance.

Directness: This factor was not a significant concern by the recreational user. This factor is similar to minimizing stops and delays, all system users prefer a more direct route. Again the major streets are often utilized.

Bikeway Issues

The following system deficiencies listed have been found to be areas that are in need of greatest improvement:

Lack of Facilities: This is by far the most commonly identified deficiency. The main deficiency is a shortage of streets and roads with adequate shoulder width or dedicated lanes and not enough bicycle paths. With the completion of the OPE right-of-way trail, there will be more bicyclists coming into Cottage Grove from other areas. Lack of adequate bicycle parking downtown makes it difficult for people to bike into town and shop or eat.

Continuity and Linking: The system is deficient in linking routes with state highways, as well as other significant travel corridors. Without continuity, routes will not be used to their full potential.

Community and Motorist Awareness: A general perception felt by all bicyclists in the survey is that there is a need for improvement in awareness so that 1) the benefit of cycling as an alternative mode of transportation will be proven; 2) drivers understand that bicycles and motor vehicles have equal rights to use the roadway; and 3) the potential of the area for cycling can be realized and advertised as such.

Education: Currently, there are few programs on education or related activities on traffic safety and regulations for young bicyclists.

Enforcement: There is a limited program for law enforcement or citing cyclists.

Miscellaneous Hazards: The respondents identified heavy traffic, catch basin covers, parked cars and opening of car doors, puddles due to poor drainage, bridges, and dogs as hazards cyclists can encounter.

Pedestrian System

Figure 6, *Sidewalks*, also identifies areas throughout the UGB where the streets have inadequate pedestrian facilities. For purposes of this study, pedestrian facilities are limited to sidewalks.

Pedestrian System Needs and Issues

Most of the areas with inadequate sidewalk facilities are in older neighborhoods and along streets that are in need of upgrading to urban standards.

Connectivity: Highways and waterways pose a challenge to the connectivity of the pedestrian system. Even if there were sidewalks on all roads people may be discouraged by the lack of connectivity.

Policy versus Practice: Title 12 of the City's municipal code places the responsibility for sidewalks on the abutting property owners. If the property owner refuses or neglects to construct, improve, or repair any sidewalk within the time prescribed by the order of the city council, after having been duly notified by the City Engineer, the sidewalk work may be done by the city and the expense of the improvement would become a lien on the property. If the city council does not stray from this policy, the sidewalks in town could be repaired or constructed in this manner. This, however, has not been done consistently over the years and could lead to public relation problems. To bring all roads up to urban standard sidewalks would cost an estimated $5.5 million (see Table 10).

Air and Rail Service, Water and Pipeline

Only the air and rail systems are included in the needs assessment. The major gas pipelines are outside the study area and the waterways are unnavigable. The needs for the air and rail systems were taken from existing plans.

Air Service Needs and Issues

According to the Cottage Grove State Airport Master Plan of 1988, specific needs were identified and continue to be unmet needs at the Cottage Grove Airport.

Electrical Power Lines: Power lines traverse the west end of the east-west taxiway. These are marked with two red spheres. These power lines are a potential hazard to aircraft. These lines also serve as obstructions to any helicopter operations.

FAA Standards: The east-west taxiway width and clearances from adjacent hangars, currently do not meet FAA standards and are a limiting factor for future growth.

Rail Freight Service Needs and Issues

Access to Industrial Sites: There are some industrial sites without adequate access to rail lines. Rail freight service is critical to Oregon's economy: over 40% of the goods produced in Oregon are shipped across and out of state by rail. Rail freight traffic in the State of Oregon for 1992 totaled 53.8 million tons. This is equivalent to 1.4 million truck loads. Of the total 19.4 million tons were terminated in the state, 14.4 million tons originated in the state, 1.8 million tons both originated and terminated in the state, and 18.2 million tons passed through the state.

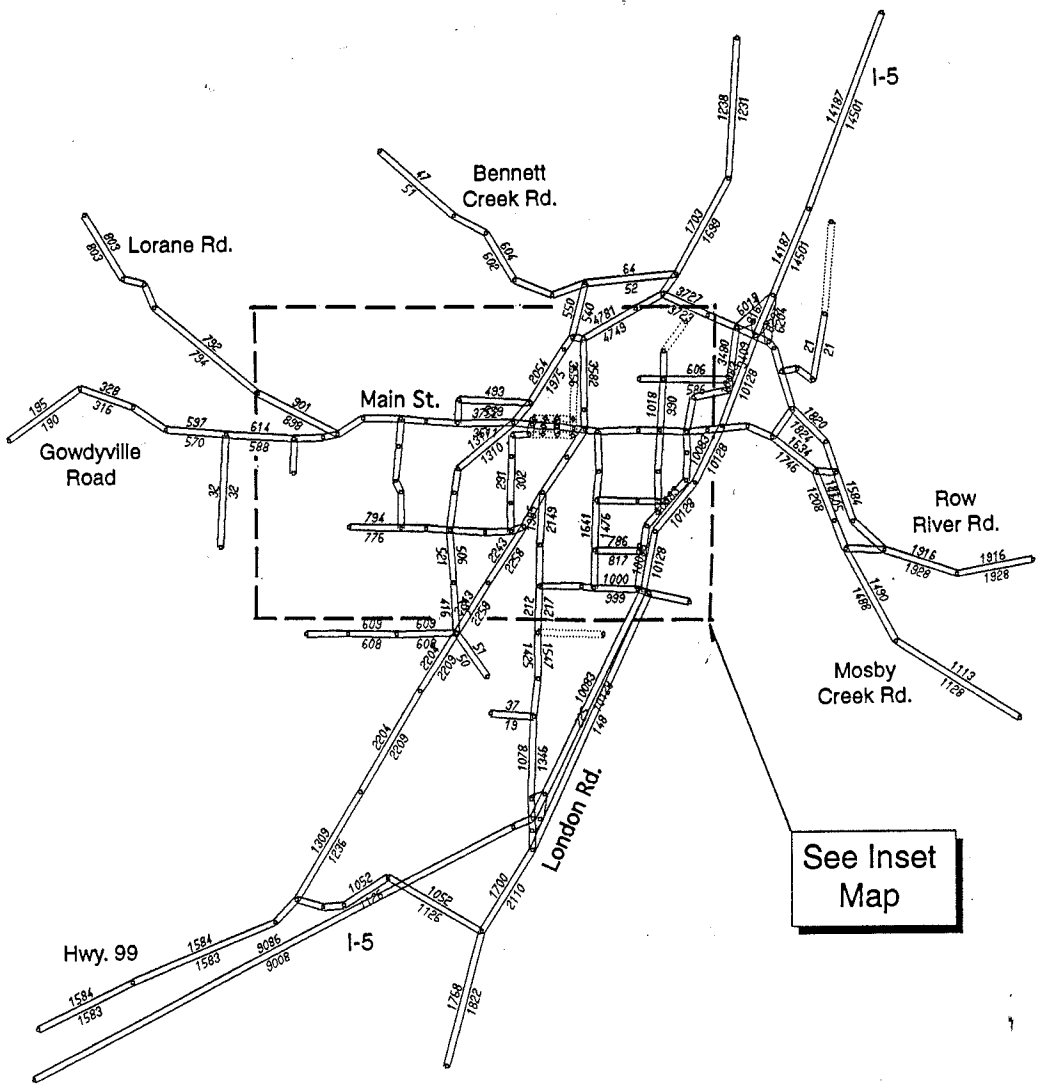
Funding: The 1994 Oregon Rail Freight Plan identifies general statewide needs. The rail plan projects that freight rail use will grow at 2.5% per year (same as the trucking industry). At that rate, freight rail traffic would grow by 60% in 20 years. This creates a

need for funding sources. Currently, funding is available from the Federal Rail Agency for certain rail projects. The funds are limited to $15-17 million nationwide, down from $100 million a decade ago.

Terrain: In Cottage Grove, the Siskiyou Line of SP carried between one and five million gross tons of product annually. One significant factor that limits the use of the Siskiyou Line is that the rail lines traverse rugged terrain with steep grades and curves. This limits the speed of the train as well as the type of box cars and equipment it can haul.

Cottage Grove

1992 Estimated Average Daily Traffic Flow



Legend

- Street
- 10128 — Average Number of Weekday Trips

June 1995

Map Produced by LCOG

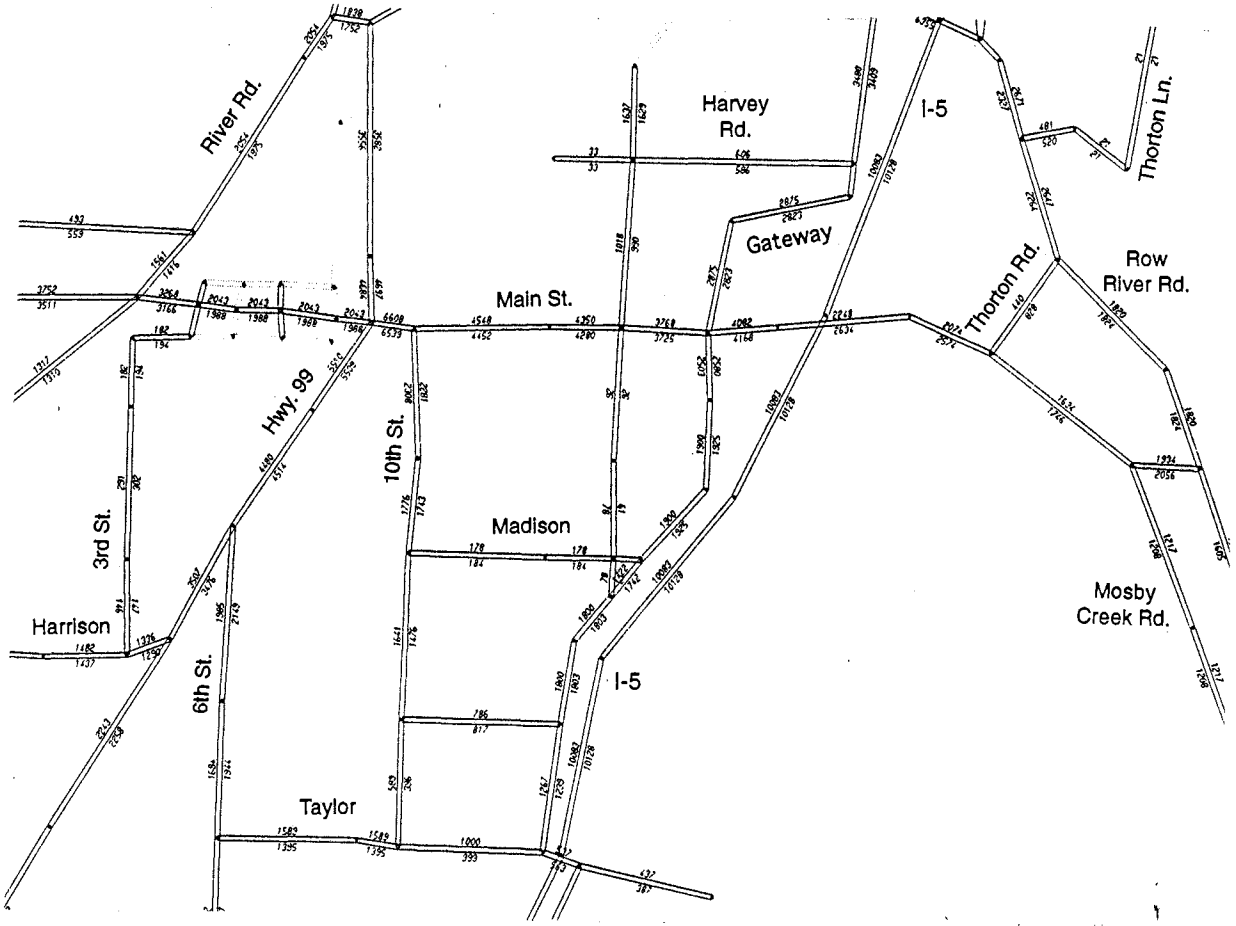
N

Figure 3a

Cottage Grove

1992 Estimated Average Daily Traffic Flow

Inset Map



Legend

Street

10128 — Average Number of Weekday Trips

June 1995

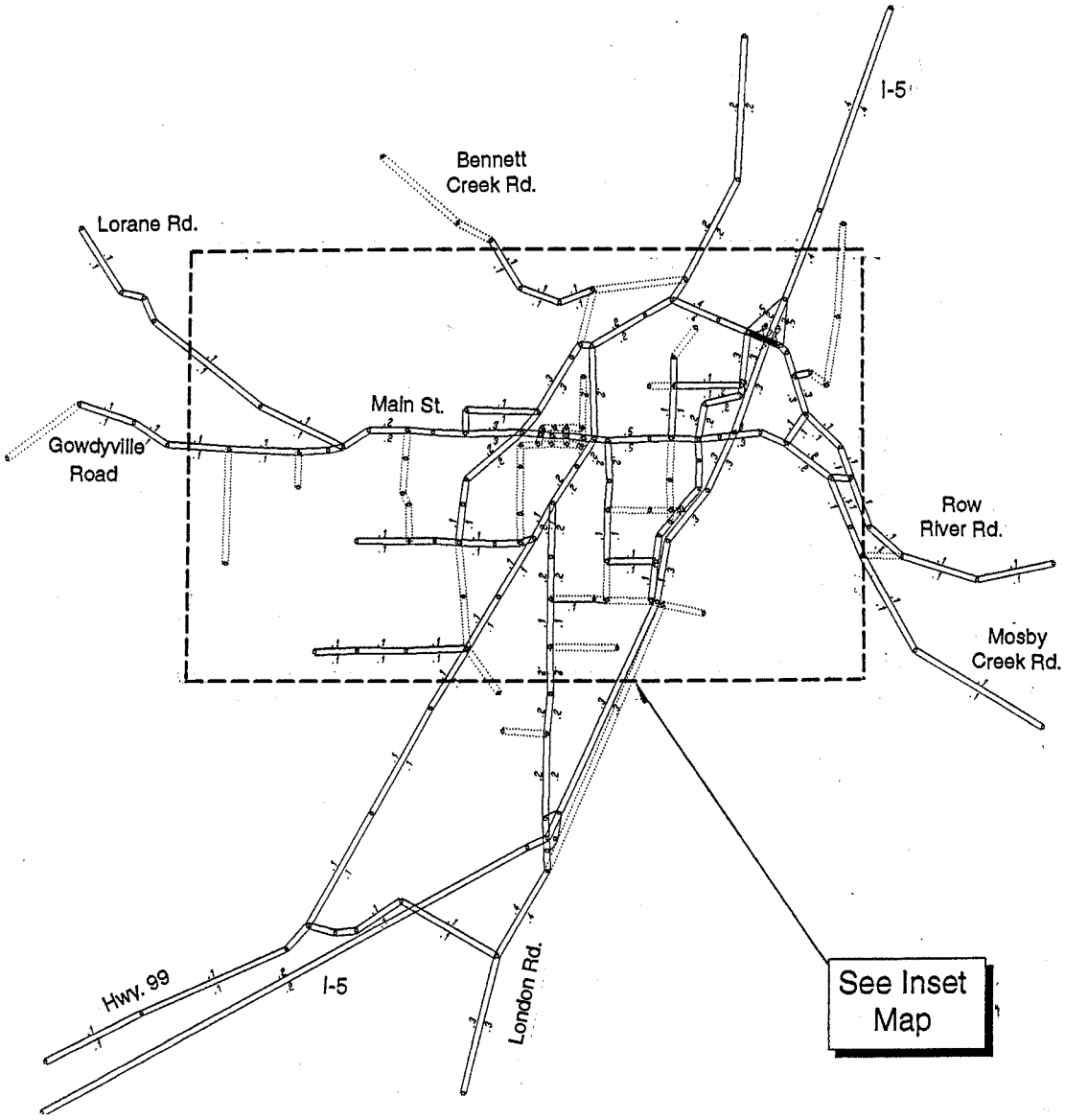
Map Produced by LCOG

N

Figure 3b

Cottage Grove

1992 Level of Service



Legend

- .2 — Volume to Capacity Ratio
- Street - Good Level of Service
- Street - Fair Level of Service

June 1995

Map Produced by LCOG

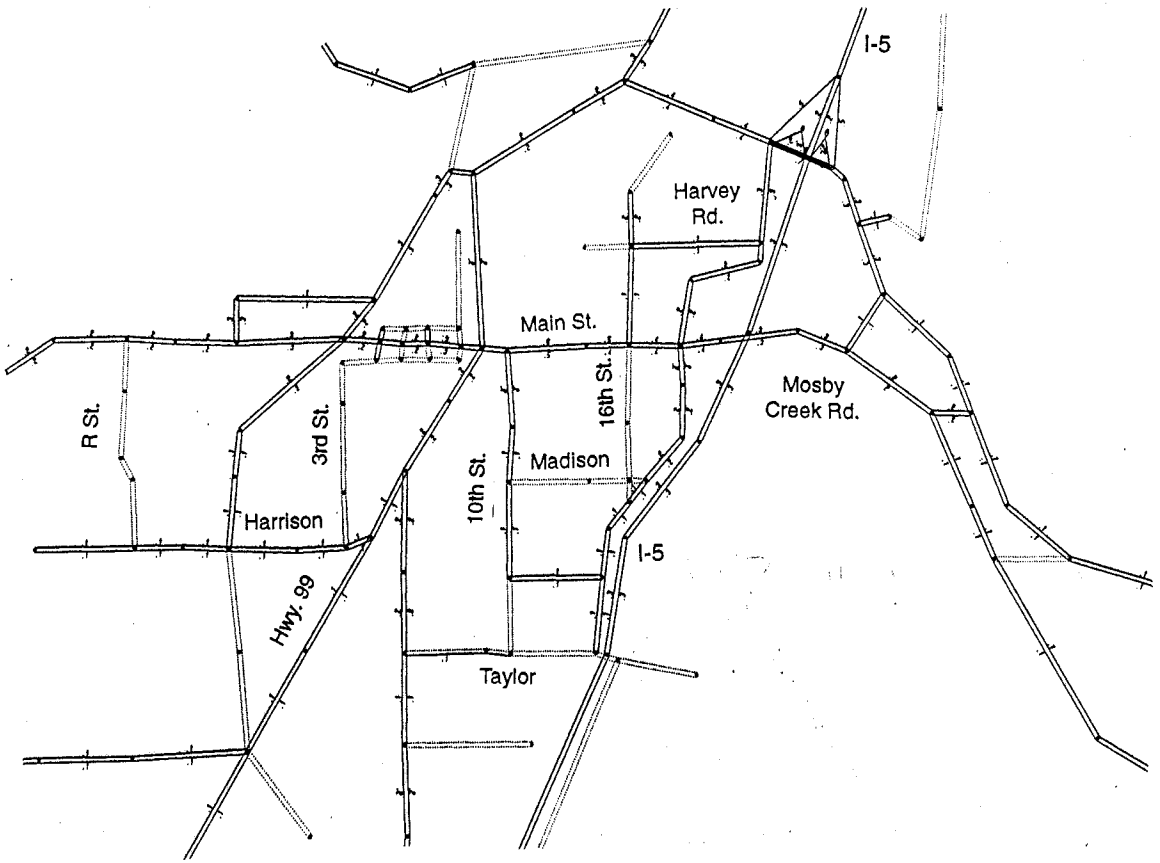
N

Figure 4a

Cottage Grove

1992 Level of Service

Inset Map



Legend

- 2 — Volume to Capacity Ratio
- Street - Good Level of Service
- Street - Fair Level of Service

June 1995

Map Produced by LCOG

N

Figure 4b

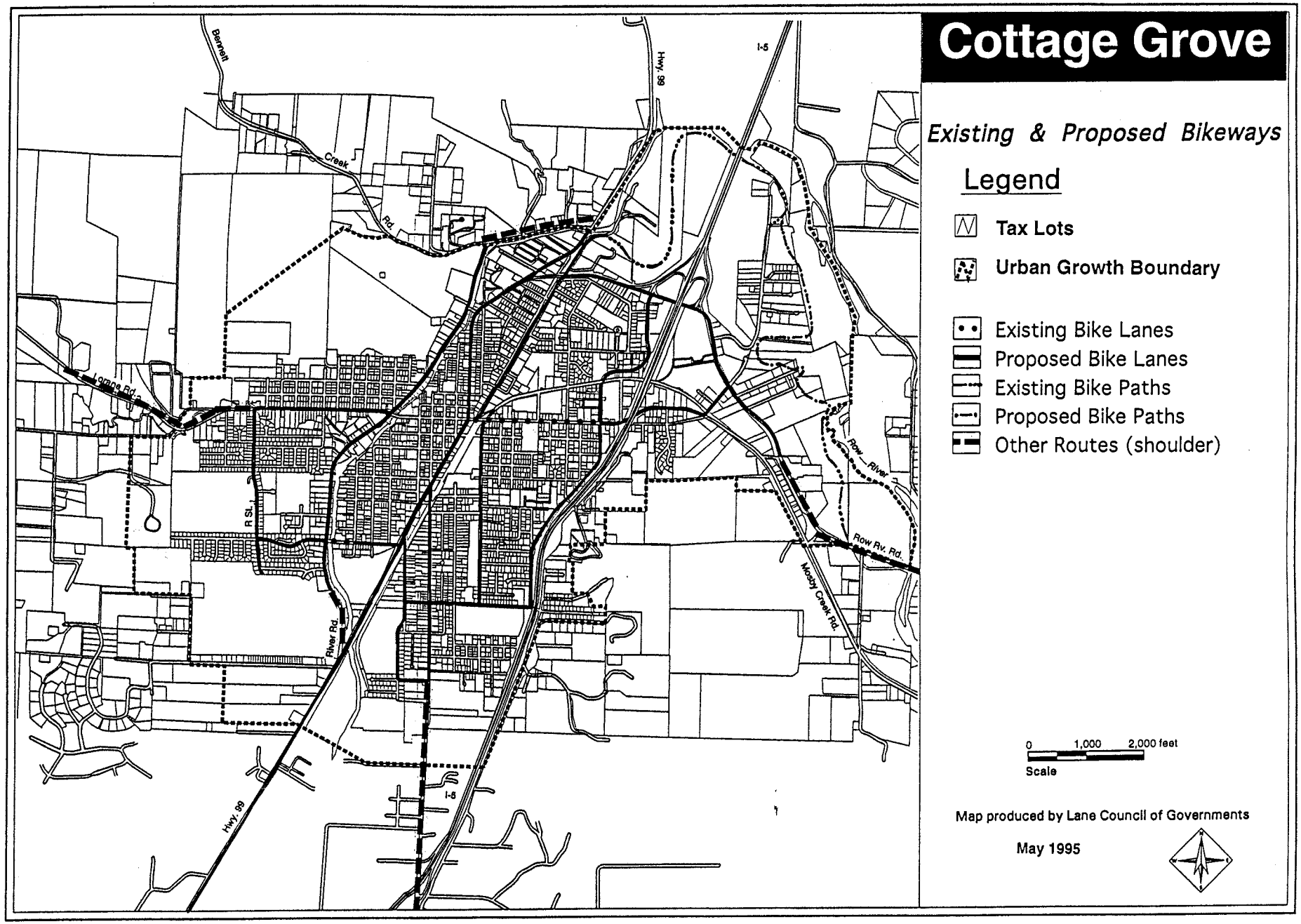

Cottage Grove
Existing & Proposed Bikeways
Legend
Tax Lots
Urban Growth Boundary
Existing Bike Lanes
Proposed Bike Lanes
Existing Bike Paths
Proposed Bike Paths
Other Routes (shoulder)
0 1,000 2,000 feet
Scale
Map produced by Lane Council of Governments
May 1995
Bennett
Creek
Rd.
Hwy. 99
I-5
Lorane Rd.
R St.
River Rd.
Row River
Row Rv. Rd.
Mosby Creek Rd.
Hwy. 99
I-5

Figure 5

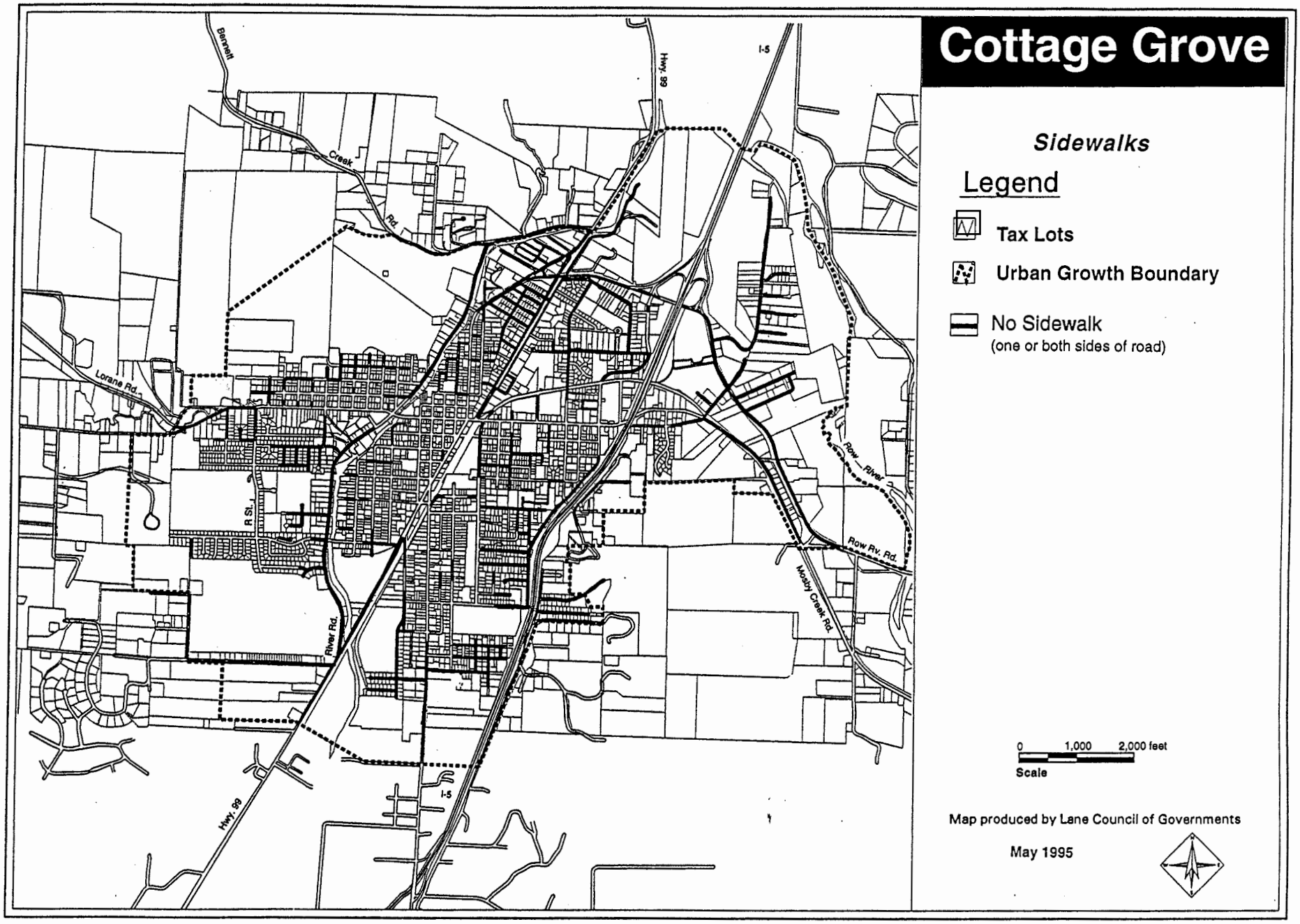

Cottage Grove
Sidewalks
Legend
Tax Lots
Urban Growth Boundary
No Sidewalk
(one or both sides of road)
0 1,000 2,000 feet
Scale
Map produced by Lane Council of Governments
May 1995
Bennett
Creek
Rd.
Hwy 99
I-5
Lorane Rd.
R.R.
River Rd.
Row River
Row Rv. Rd.
Mosby Creek Rd.
Hwy. 99
I-5

Figure 6

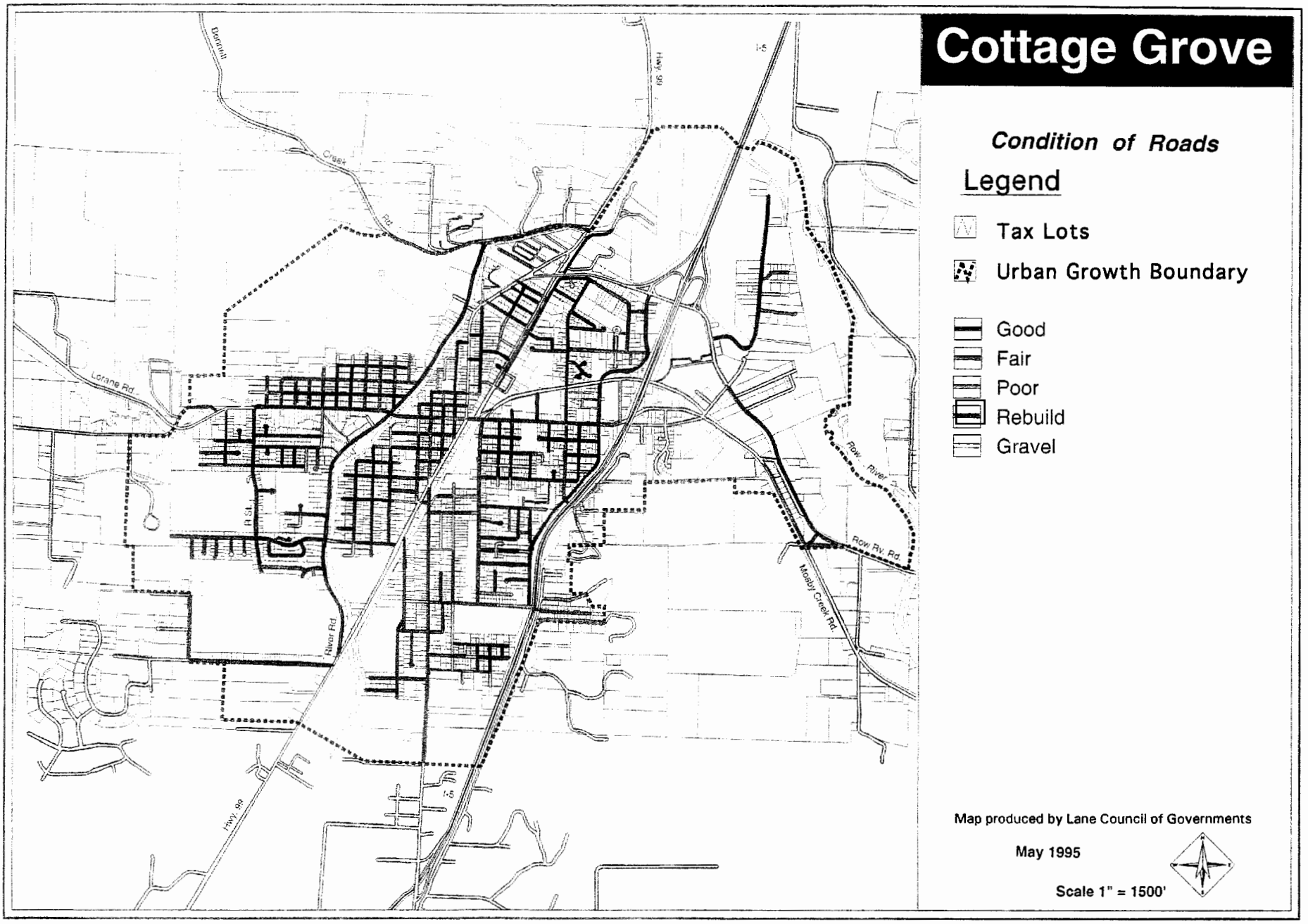

Cottage Grove
Condition of Roads
Legend
Tax Lots
Urban Growth Boundary
Good
Fair
Poor
Rebuild
Gravel
Map produced by Lane Council of Governments
May 1995
Scale 1" = 1500'
Barnhill
Creek
Rd.
Hwy. 99
I-5
Lorane Rd.
R.R.
Row River
Row. Rv. Rd.
Mosby Creek Rd.
Rivor Rd.
Hwy. 99
I-5

Figure 7

Chapter IV
Plan Alternatives

Chapter IV
Plan Alternatives

This chapter addresses both site-specific improvements and system-wide enhancements. The project list, cost estimates and potential funding sources are included in *Chapter V: Financing Program.* Projects were considered in terms of short-range (0-10 years), medium-range (11-15), and long-range (16-25).

Alternatives Considered

Although the existing transportation system for the city is likely to be adequate to serve expected transportation demands projected out to the year 2015, selected improvements that would increase the safety, access, and efficiency of the system have been identified and analyzed. A description of the alternatives considered by the Technical Advisory Committee (TAC) is included in *Appendix B: Technical Supplement.*

The street system was the main component of the plan alternatives considered by the TAC. The alternative modes were considered as supplements to the street system alternatives.

Through a consensus building process, a *Preferred Street System Alternative* was chosen by the TAC. The Preferred Street System Alternative includes projects in the 1982 Cottage Grove Transportation Safety Study and the 1994 System Development Ordinance, as well as interchange improvements. It is intended to improve system safety, access, and efficiency. It assumes continued development pressure.

The *Preferred Transportation System Plan* includes the Preferred Street System Alternative, as well as improvements to Public Transportation, Bikeway, and Pedestrian systems, and Air and Rail Freight services.

A *No-Build Alternative* was also considered. It assumes no changes to the existing transportation system except committed improvements or services, and those associated with new developments.

The No-Build Alternative

The Street System

The No-Build Alternative is the basis for determining any system wide street deficiencies. The No-Build Alternative considers the population and employment projections, projected out to the year 2015, on the existing street network. This is useful in showing where the future growth will occur and how the street system may or may not be impacted. See Figure 8a for the 2015 No-Build Average Daily Traffic Flow. The methodology is explained in more detail in *Appendix B: Technical Supplement.*

Under the No-Build Alternative, a significant amount of future growth occurs on the Cottage Grove Connector between Highway 99 and Thornton Lane, on River Road south of Harrison Avenue and on Bennett Creek Road west of River Road. The growth on River Road and Bennett Creek Road is due primarily to their proximity to existing vacant lands within the City's UGB. There is little opportunity for significant residential growth in adjacent rural areas not within the UGB.

Although there is high growth in these selected areas, analysis on a system-wide level has shown that the existing facilities have adequate capacity to meet future growth. One exception is on the Cottage Grove Connector between the I-5 off ramp and the I-5 on ramp. This street segment is shown to have a volume/capacity ratio of 0.8 (that segment operates at 80% of its full capacity); or a fair Level of Service (LOS). Both good and fair LOS are considered acceptable. See Figure 9a for the 2015 No-Build LOS.

Alternative Modes

The No-Build Alternative for Public Transportation, Bikeway, and Pedestrian systems, and Air and Rail Freight services includes:

- The ongoing Intra-City Public Transportation Feasibility Study,
- The LTD pilot service project,
- Multi-Use Rail Corridor Study
- Existing paratransit service, including planned vehicle purchases,
- Existing bikeway facilities and sidewalks, and
- Existing air and rail freight services.

The Preferred Transportation System Plan

Street System Plan

The Preferred Street System Alternative is a mixture of safety, operational and new road projects. Although the analysis has demonstrated the system will operate at acceptable levels of service in the future with no further changes to the street system, the Street System Plan improves the efficiency of the system and provides greater access to areas where future growth will occur. Figure 10, *Planned Roadways,* shows general travel corridors envisioned for the new streets. Figures 11a and 12a show the estimated 2015 Average Weekday Traffic Flow and the 2015 Level of Service, respectively.

The Street System Plan includes various intersection improvements in the short- and mid-range, new streets in the mid- and long-range, interchange reconstruction at Exit 174 in the mid-range, and significant progress toward completion of a belt line that will improve circulation, and improve access to vacant land in the long-range planning horizon.

Public Transportation System Plan

The public transportation plan consists of an intra- as well as inter-city system. This system should meet the transportation community needs within and around the Cottage Grove area.

It is recommended that the conclusions of the ongoing Lane Transit District (LTD) pilot project and the Intra-City Public Transportation Feasibility Study be considered for possible amendments to the TSP as they become available. For example, if the LTD pilot project is determined to be viable, a funding mechanism for long-term inter-city bus service between Cottage Grove, Creswell, and Eugene-Springfield would be investigated. The LTD service would also open up opportunities for inter-modal linkages, such as bus stops at park-and-ride lots and at the Amtrak station in Eugene.

Special transportation needs would continue to be served through South Lane Wheels. There is currently significant unmet demand for paratransit service in the Cottage Grove area. In order to expand services to address this need, it is recommended that additional funding support be identified. New and replacement vehicles are listed in Table 8.

Bikeway System Plan

Figure 5 displays the proposed bikeway projects that support the Bikeway System Plan. The bicycle projects are recommended for construction and are subject to public and agency participation, as well as the likelihood of funding. Funding is discussed further in the *Financing Program* of this plan. Table 9 lists the projects, in order of priority according to the 1993 Bikeway Master Plan, with a brief project description.

The major consideration in developing the project list is to identify and link the significant routes and areas. The following routes and locations were identified as being of significant importance:

- Row River Road to the BMX Track and Dorena Reservoir (County jurisdiction);
- London Road to Cottage Grove Reservoir (County jurisdiction);
- Downtown Core Areas;
- Schools, Parks, Shopping, and Employment Centers;
- North and East Regional Parks; and
- Highway 99 to Saginaw/Creswell (County jurisdiction)

Integral to the implementation of the Bikeway System Plan is the provision of bicycle parking structures at bike trip destinations, such as schools, parks, shopping, and employment centers.

The Bicycle Advisory Committee has been charged with the development of a viable bicycle plan for the Central Business District (CBD). The plan for the CBD must be sensitive to the needs of the business community. Needs include on-street parking and zones for loading, unloading and deliveries.

The City received a grant from the U.S. Forest Service to develop a multi-use corridor design plan and project feasibility study for the abandoned OP&E railroad right-of-way. The study will be conducted in the Fall of 1997. The study area will be from the downtown corridor trailhead at Main and 10th Streets and easterly to Mosby Creek. It is envisioned that the corridor would be designed for recreational and commercial uses; pedestrian, bike, and trolley cars would have access to the corridor route and vendors would be allowed at specific locations along the corridor. The trail, when built, will connect to the existing biking and hiking trail along the Row River to Dorena Lake and Culp Creek. The existing trail is along a continuation of the abandoned OP&E line.

Pedestrian System Plan

Figure 6, *Sidewalks,* has identified the areas where there are deficiencies in the sidewalk system. These deficiencies are considered to be where there is either no sidewalk, or only a portion of a sidewalk, on one side of the street. New pedestrian trails or paths should also be considered off-street where applicable to facilitate walking between significant activity areas. These may not necessarily follow or parallel street patterns. The abandoned OP&E railroad corridor is a potential site for an off-street trail. Improved subdivision connectivity also should be addressed.

A list of streets in need of sidewalks, and an estimated cost per upgrade, is included in the Table 10, *Sidewalk Project List* in Chapter V. It is recommended that a sidewalk repair and maintenance program be developed.

Air Service and Rail Freight Plan

Air Service Plan

The Air Service Plan, consistent with the Airport Master Plan (1988), lists specific recommendations. They are as follows:

- Adopt the Airport Master Plan and initiate the development of the recommended improvements in a timely manner.
- Purchase additional land and aviation easements to safeguard the alternative of lengthening the runway to the north and allow adequate area to increase the number of hangars and tie-downs that will accommodate the expected growth. (no need has been determined)
- Construct a new parallel taxiway along the west side of the runway to improve operating characteristics and safety for users of the airport. (completed)
- Extend the runway to the north by 190 feet to maximize its runway length, based on terrain and FAA standards (completed).
- Provide for the continued and orderly expansion of the general aviation facilities at the airport to provide for and foster future aviation demand. This expansion should follow the staged development plan, yet be accomplished within the constraints of economic planning.
- Remove or relocate the power lines that cross over the east-west taxiway to increase the safe utilization of the west side facilities.

- Request funding assistance under FAA and other federal funding programs for all eligible capital improvements.
- Through the appropriate governmental jurisdictions, accomplish the required permitting for airport development.
- Expand the width of the east-west taxiway along the south side to accommodate larger transient aircraft and create a safer spacing between the taxiway and hangars.
- The development of a nonprecision instrument approach through the installation of new NDB transmitter (in progress).
- Revise appropriate lease policies to ensure the maximum possible financial return from airport operations consistent with a policy of promoting aviation and economically healthy entities on the airport, while working toward a more financially sound airport operation.

Rail Freight Plan

The Rail Freight Plan encourages the addition of spurs to the west side along Highway 99 to access industrial property.

The Rail Freight Plan also supports the state's Rail Freight Plan of 1994. The state's plan has the following funding recommendations:

- That the Legislature capitalize the Oregon Rail Rehabilitation Fund in the amount of $10 million for the period of 1995-99.
- That the Legislature create a railroad revolving loan fund to be capitalized in the amount of $15 million.
- That the Legislature give the Oregon Department of Transportation (ODOT) the authority to issue revenue bonds up to 75% of the total project cost for rail freight projects sponsored by local units of government. Debt service would be paid by the local governments.
- That the Legislature give ODOT the authority to issue up to $20 million/biennium in revenue bonds to purchase rail freight equipment.
- That the Legislature establish a state rail freight advisory committee to provide policy direction to the state on rail freight issues.

In addition, it is recommended that adequate rail freight access for planned and existing industrial development be considered into the zoning of adjacent property.

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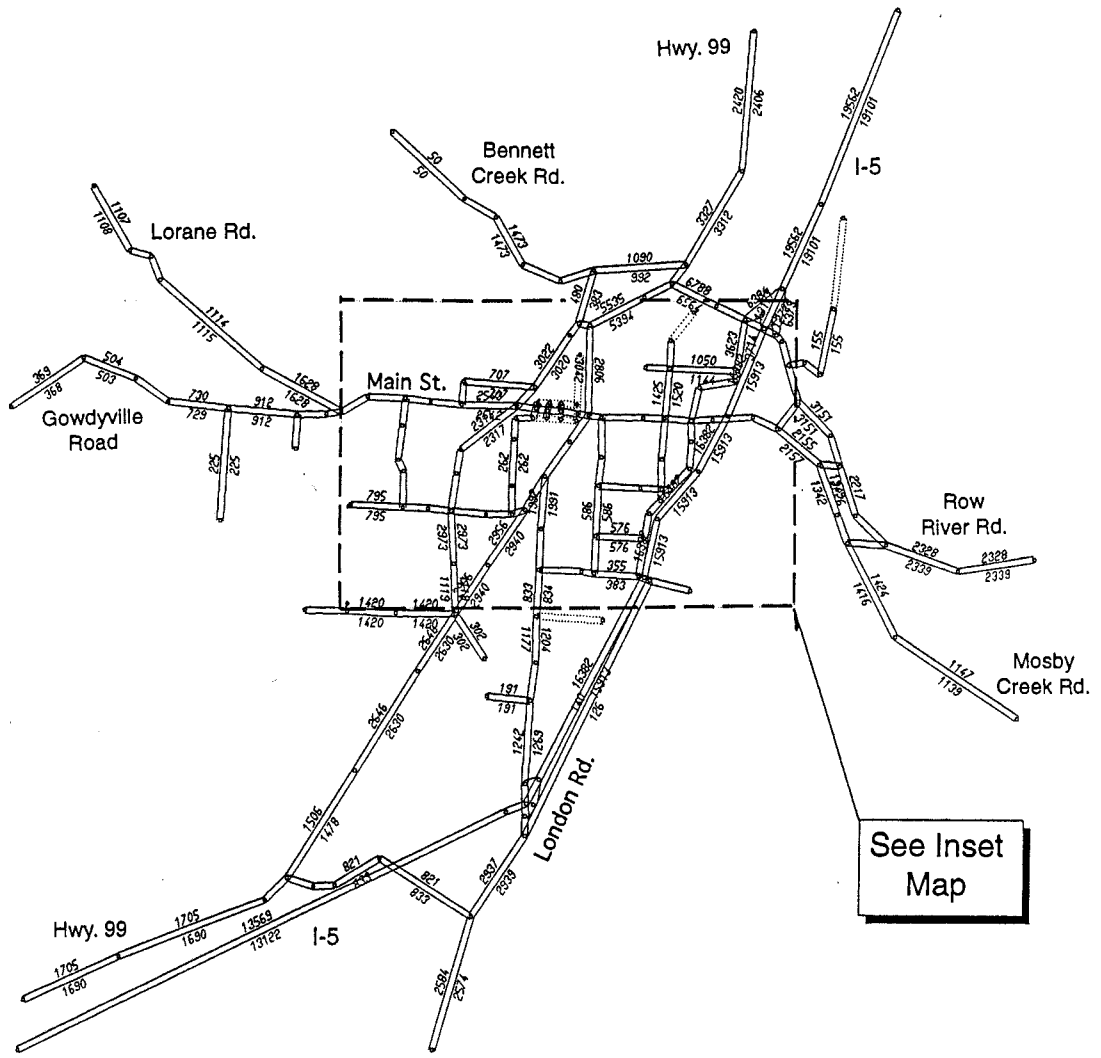


Figure 8a

Cottage Grove

2015 No-Build Average Weekday Traffic Flow

Legend

Street

10128 Average Number of Weekday Trips

June 1995

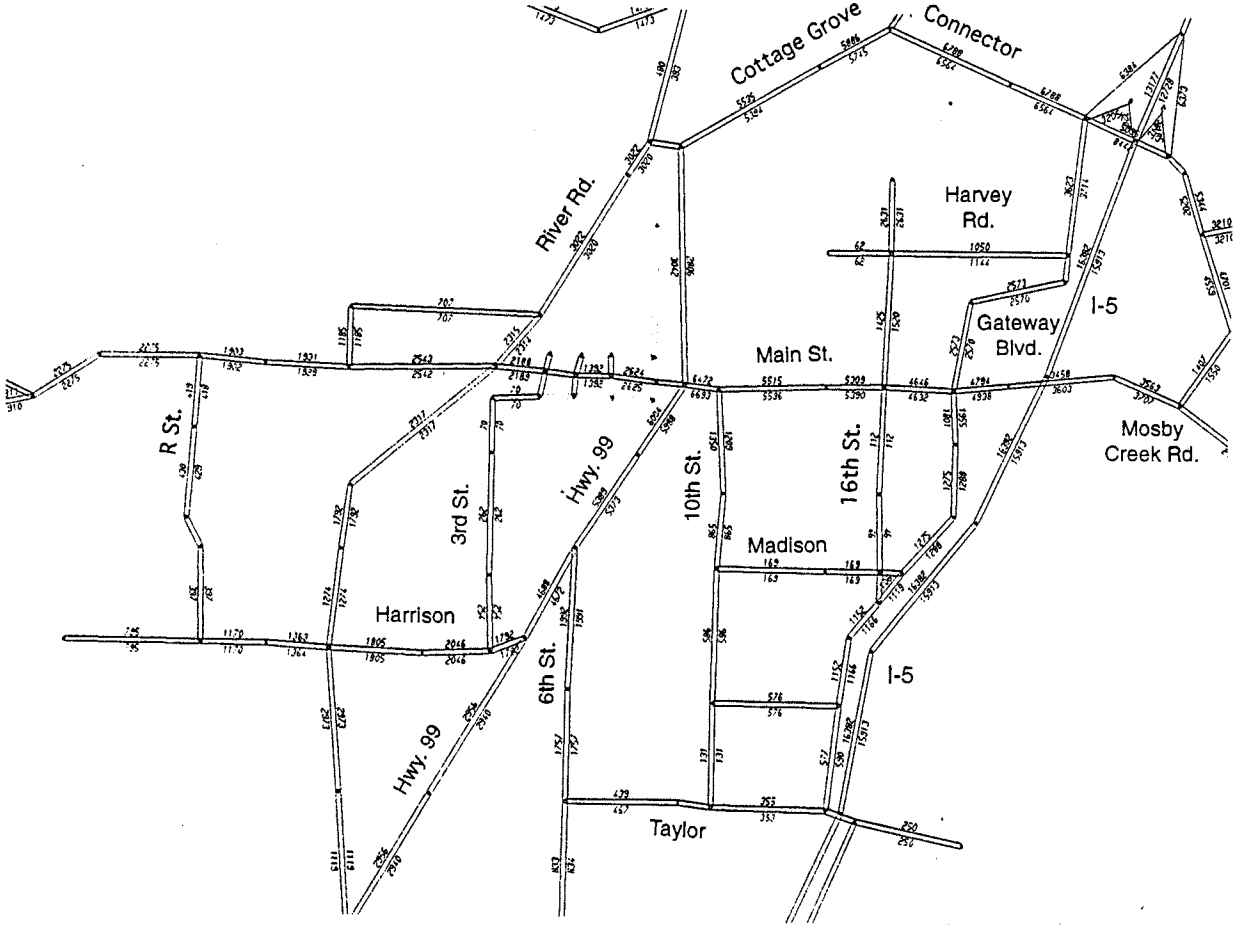
Map Produced by LCOG

N

Cottage Grove

2015 No-Build Average Weekday Traffic Flow

Inset Map



Legend

Street

10128 — Average Number of Weekday Trips

June 1995

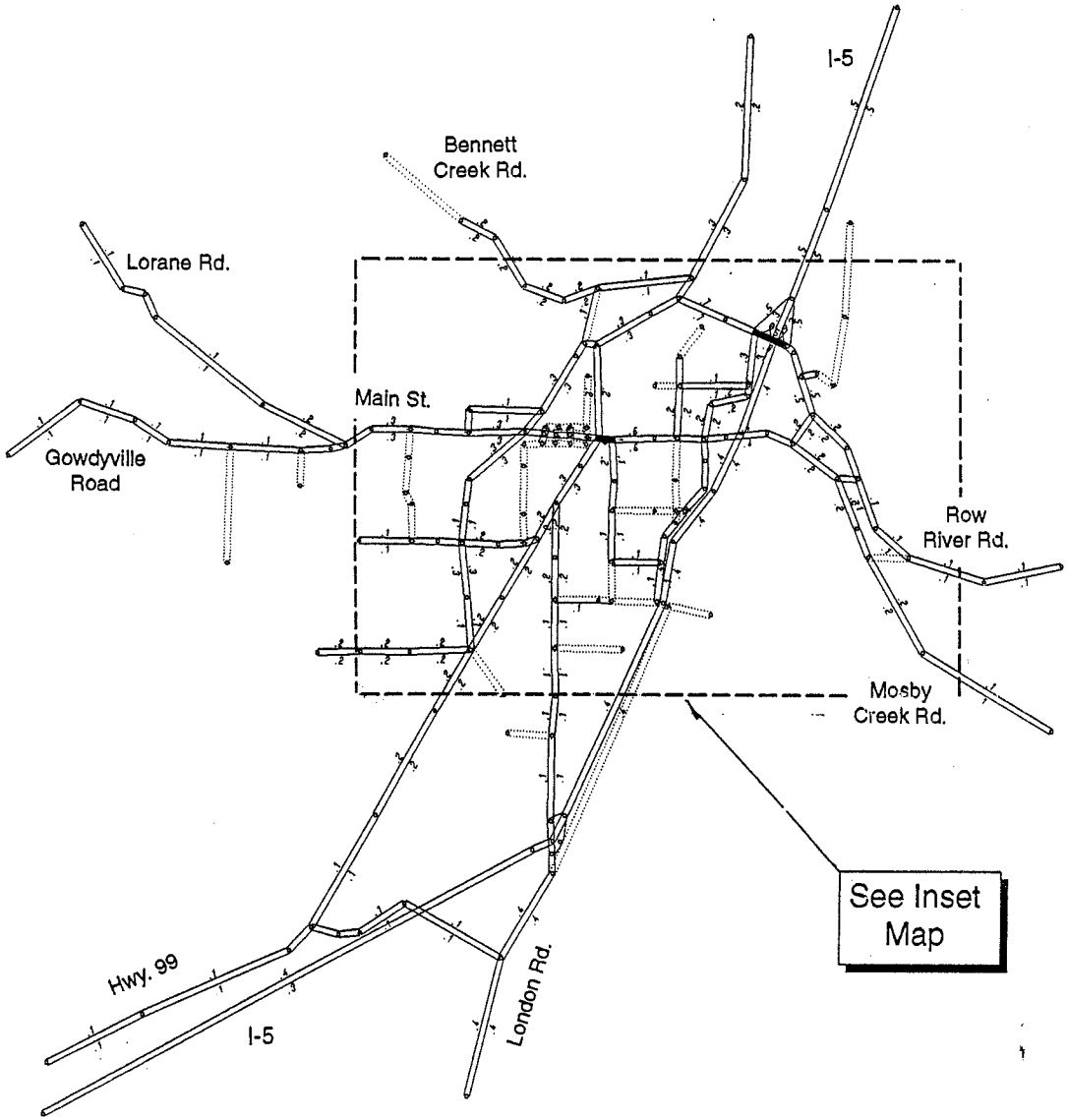
Map Produced by LCOG

N

Figure 8b

Cottage Grove

2015 No-Build Level of Service



Legend

- .2 — Volume to Capacity Ratio
- Street - Good Level of Service
- Street - Fair Level of Service

June 1995

Map Produced by LCOG

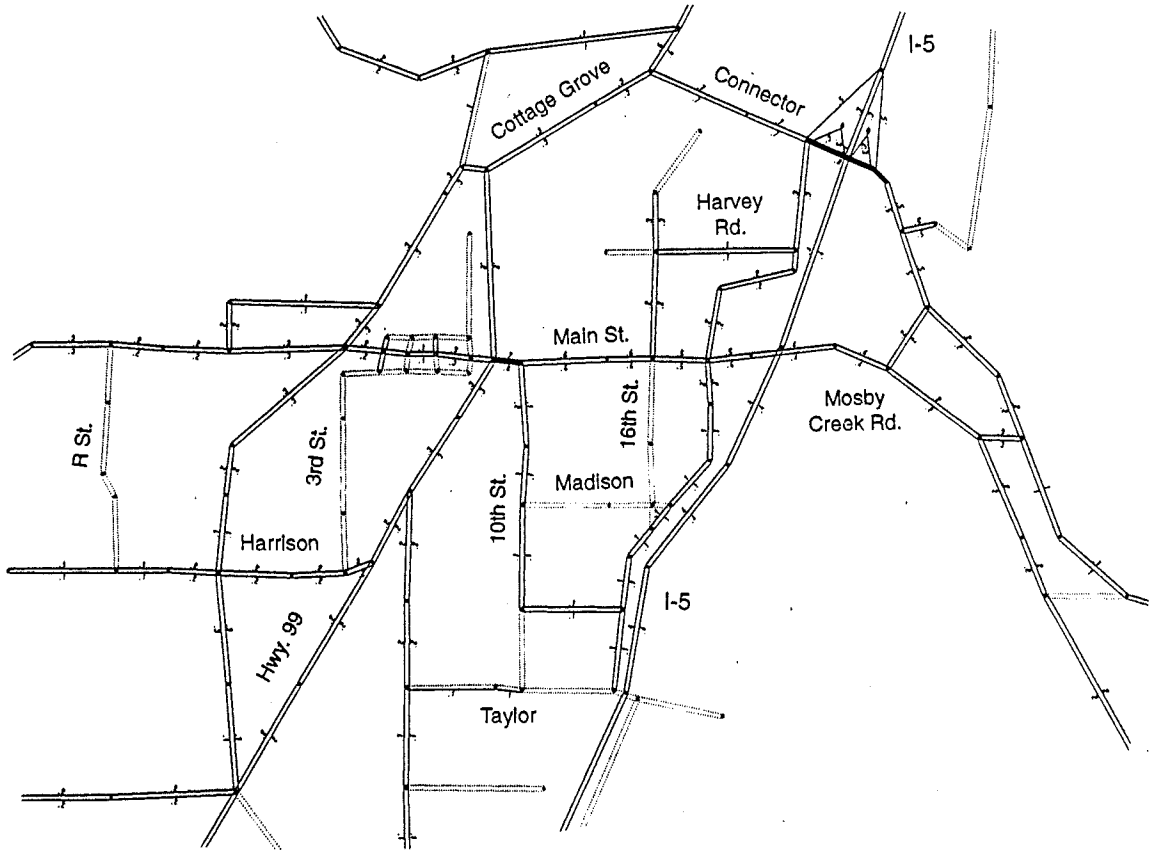
N

Figure 9a

Cottage Grove

2015 No-Build Level of Service

Inset Map



Legend

- .2 — Volume to Capacity Ratio
- Street - Good Level of Service
- Street - Fair Level of Service

June 1995

Map Produced by LCOG

N

Figure 9b

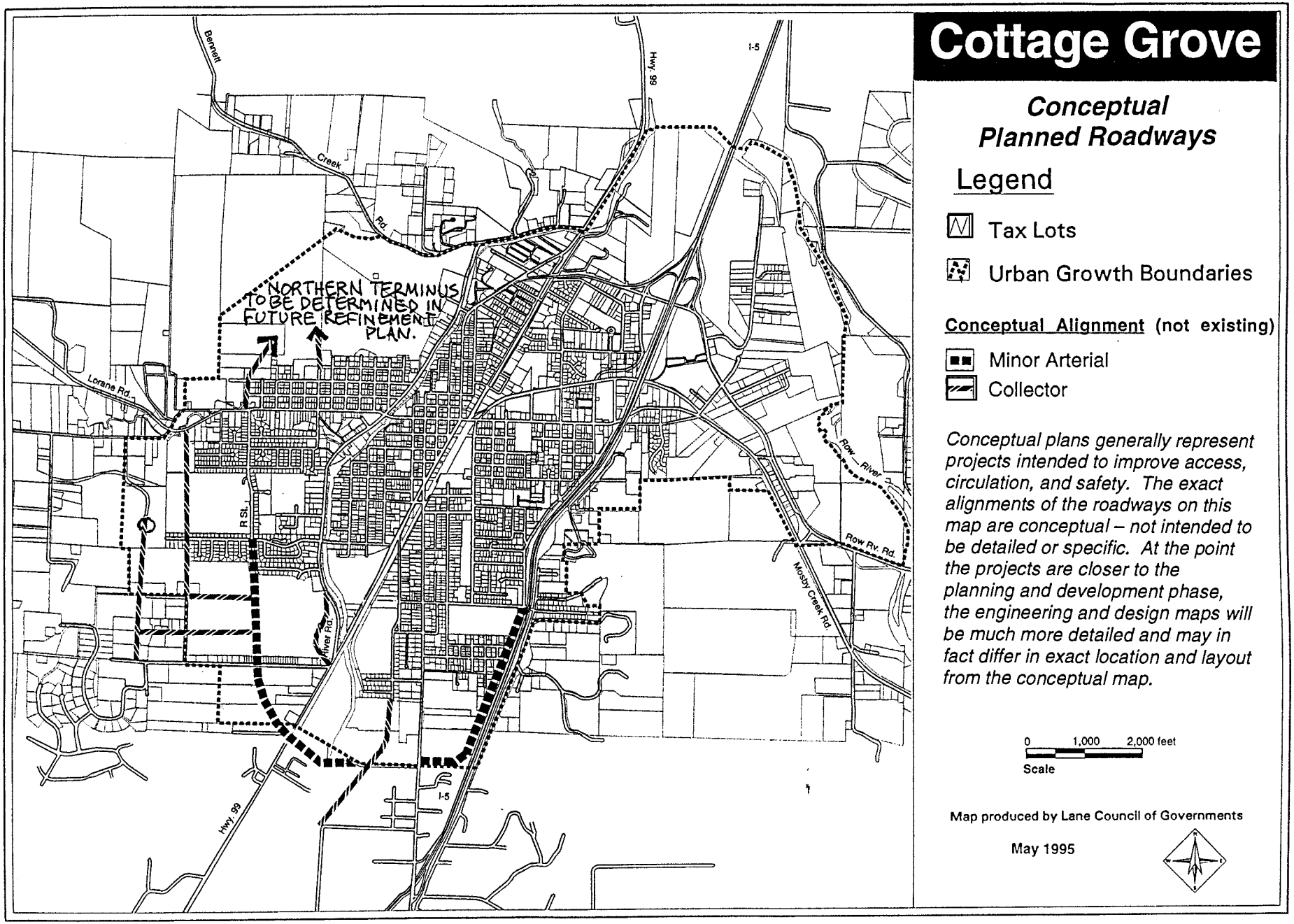
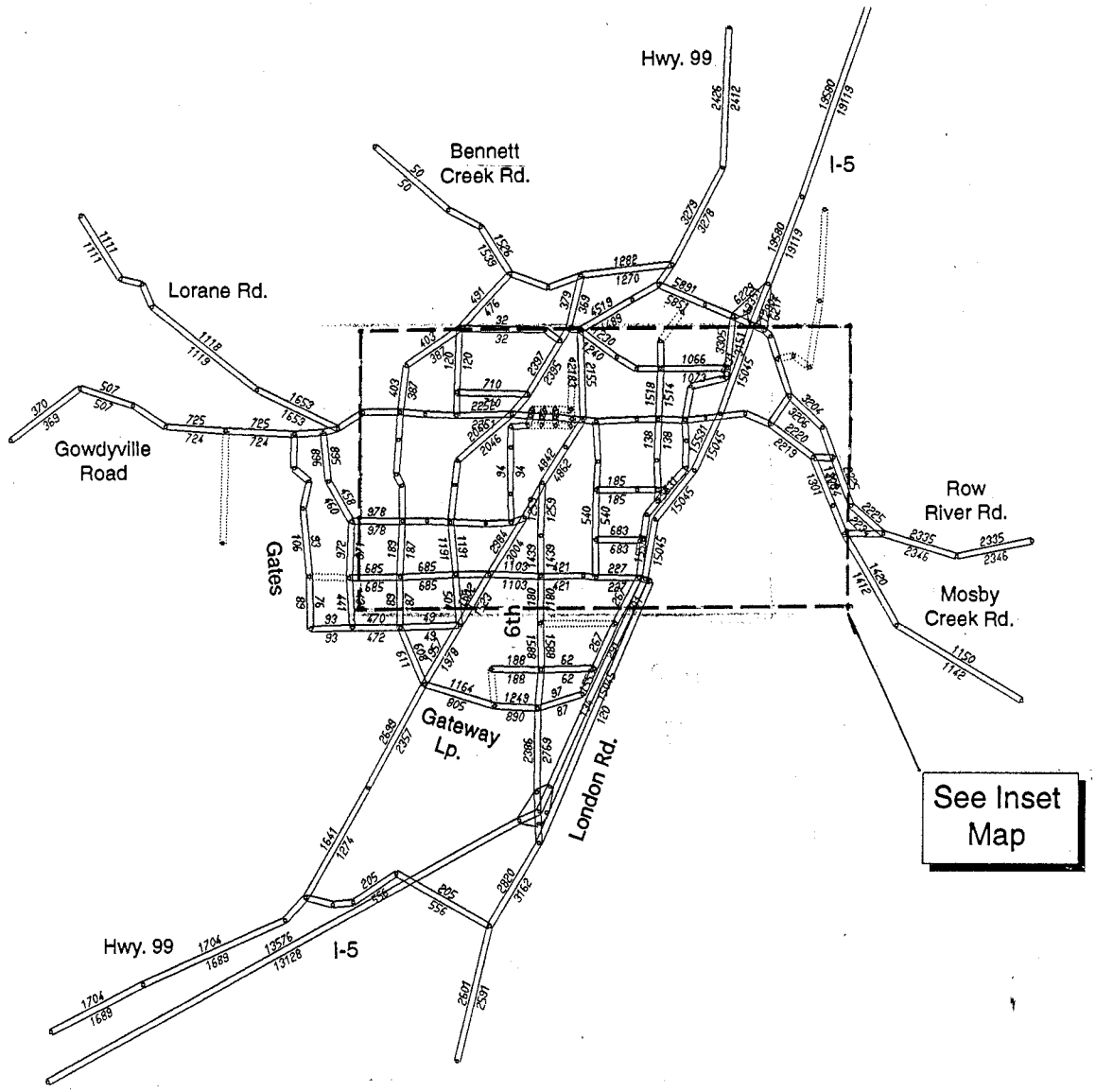

Cottage Grove
Conceptual
Planned Roadways
Legend
Tax Lots
Urban Growth Boundaries
Conceptual Alignment (not existing)
Minor Arterial
Collector
Conceptual plans generally represent projects intended to improve access, circulation, and safety. The exact alignments of the roadways on this map are conceptual – not intended to be detailed or specific. At the point the projects are closer to the planning and development phase, the engineering and design maps will be much more detailed and may in fact differ in exact location and layout from the conceptual map.
0 1,000 2,000 feet
Scale
Map produced by Lane Council of Governments
May 1995
NORTHERN TERMINUS TO BE DETERMINED IN FUTURE REFINEMENT PLAN.
Bennett
Creek
Rd.
Hwy. 99
I-5
Lorane Rd.
R St.
River Rd.
Row River
Row Rv. Rd.
Mosby Creek Rd.
Hwy. 99
I-5

Figure 10

Cottage Grove

2015 Build Average Weekday Traffic Flow



Legend

Street

10128 — Average Number of Weekday Trips

June 1995

Map Produced by LCOG

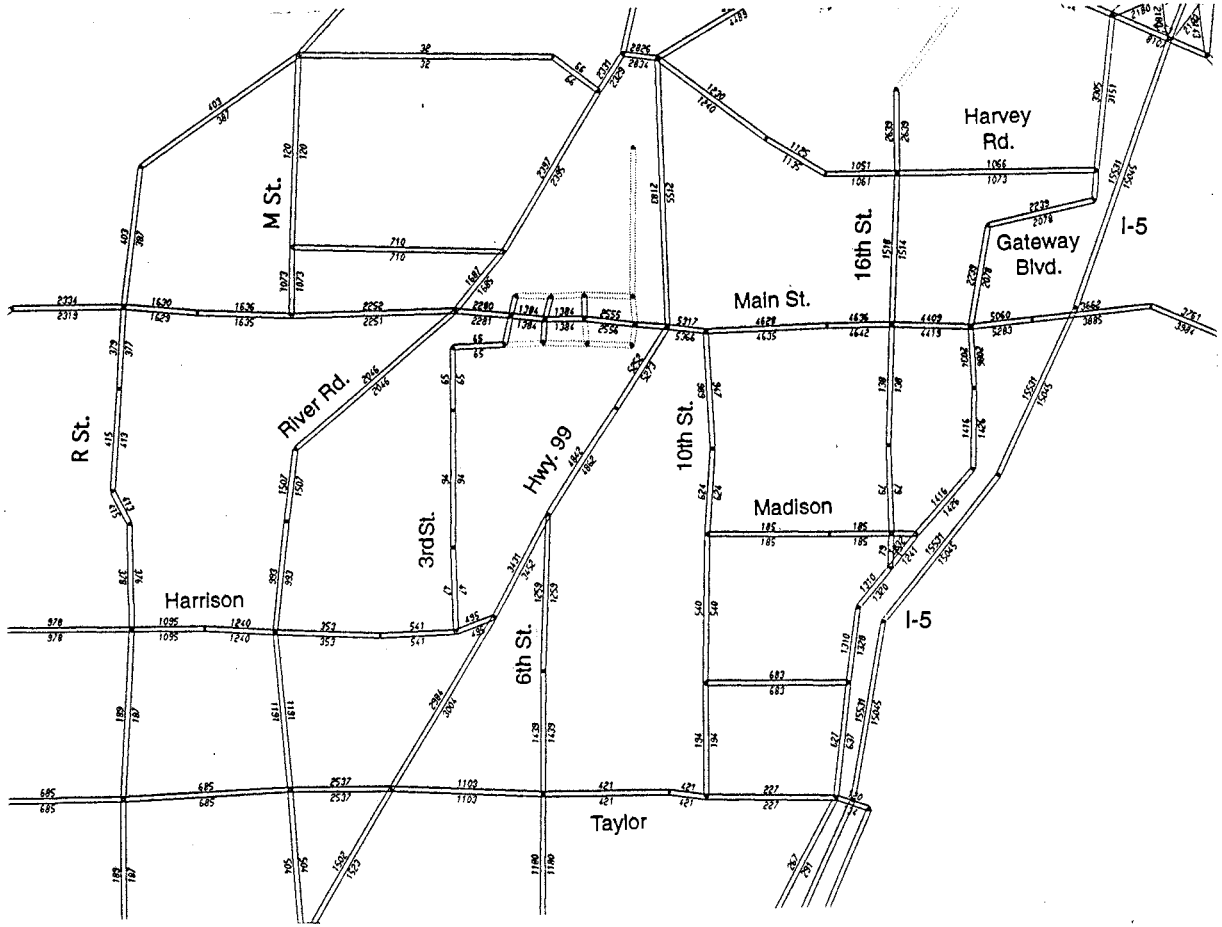
N

Figure 11a

Cottage Grove

2015 Build Average Weekday Traffic Flow

Inset Map



Legend

Street

10128 — Average Number of Weekday Trips

June 1995

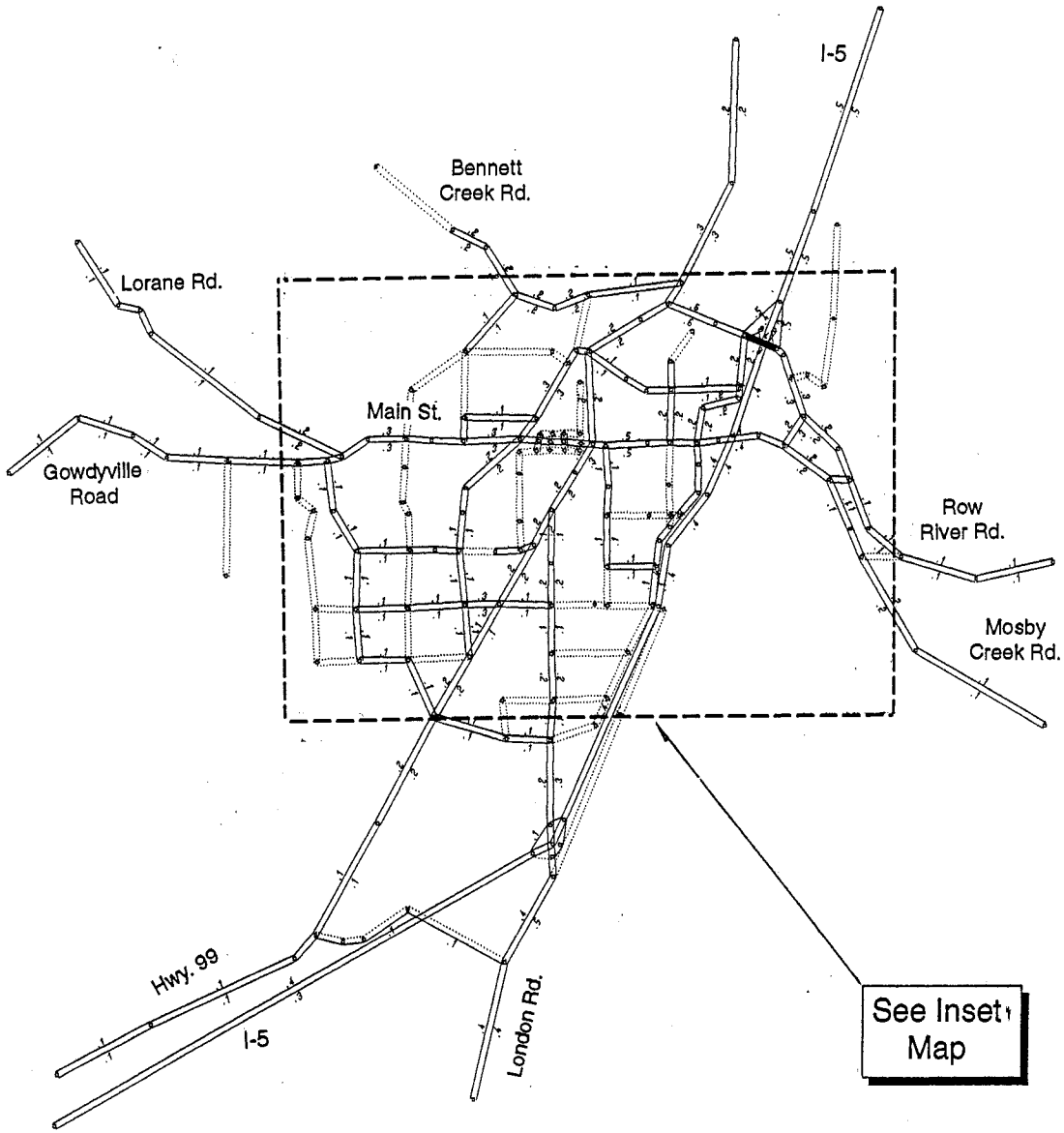
Map Produced by LCOG

N

Figure 11b

Cottage Grove

2015 Build Level of Service



Legend

- .2 — Volume to Capacity Ratio
- Street - Good Level of Service
- Street - Fair Level of Service

June 1995

Map Produced by LCOG

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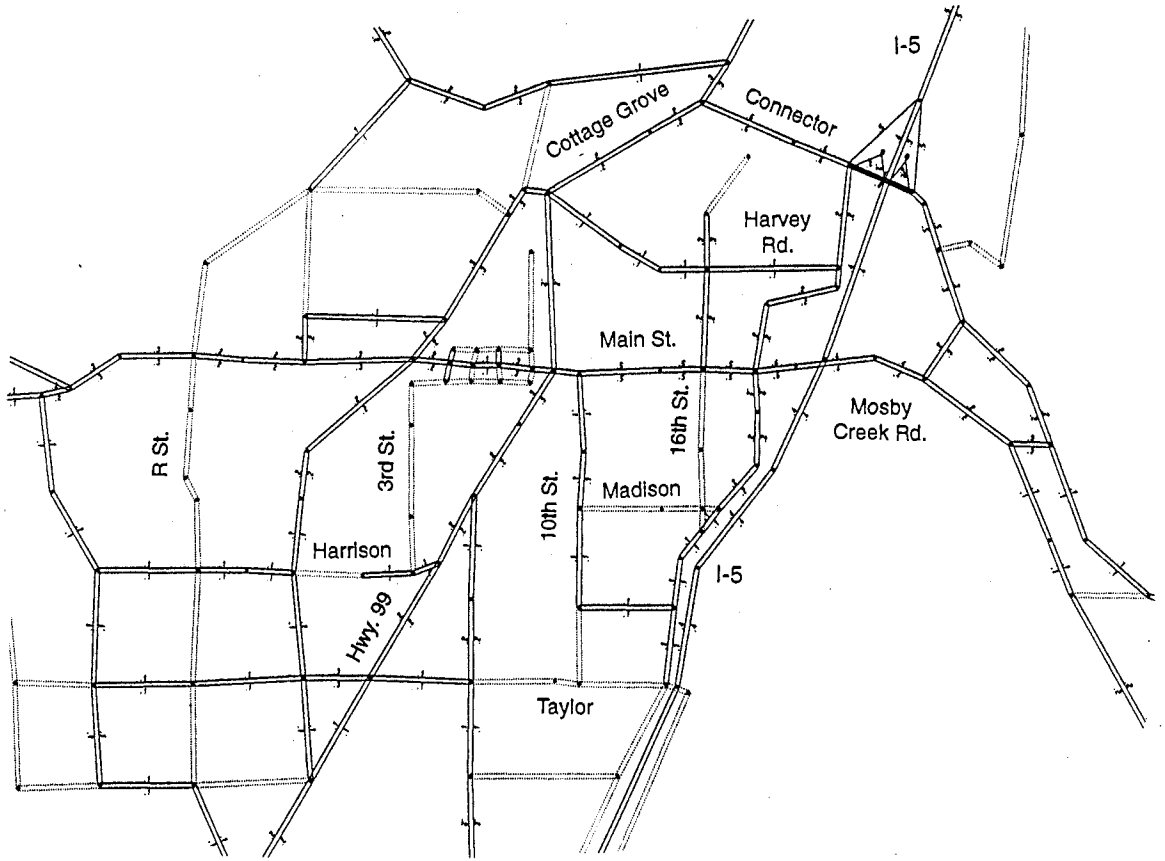
Figure 12a

Cottage Grove

2015 Build Level of Service

Inset Map



Legend

- .2 — Volume to Capacity Ratio
- Street - Good Level of Service
- Street - Fair Level of Service

June 1995

Map Produced by LCOG

N

Figure 12b

Chapter V
Financing Program

Chapter V
Financing Program

The City of Cottage Grove has conducted a thorough inventory of the existing transportation system and an analysis of future demands on the system. Although the present street system is expected to meet the needs of the community through the horizon year of 2015, site-specific problems have created persistent safety and efficiency concerns. In addition, alternative modes, such as pedestrian, bicycle, and public transportation, will warrant additional facilities and services to safely accommodate future demand. In response, the City of Cottage Grove has evaluated alternatives and opportunities to enhance the transportation system and has identified a series of capital improvements as part of the Preferred Transportation System Plan. This chapter summarizes the Plan Alternative cost estimates, and potential funding sources.

Plan Alternative Cost Estimates

Cost estimates were generated for streets, public transportation, and bicycle and pedestrian facilities. These estimates were made based on generic assumptions; no adjustments were made for site-specific conditions such as topographical constraints, existing pavement widths, and right-of-way acquisitions. The projects and cost estimates are listed in Tables 8-11 at the end of this chapter. Table 11 is a summary of plan alternatives and costs.

Existing Source of Funds

Financing for transportation system improvements comes from a variety of sources. Below is a description of the sources of funds used to finance the various transportation systems within the Cottage Grove urban growth boundary, as well as potential sources of funding for projects in the *Preferred Plan Alternative*.

A more detailed description of the funding sources is covered in the next section of this chapter.

Roadway Funding

Roadway funds are the easiest to identify. Typically, these funds are specifically designated for capital projects within or along a street right-of-way. The type of projects roadway funds are used for range from annual operations and maintenance projects to one time large scale capacity expanding projects.

State/County Roads

State and county roads are operated and maintained by the respective jurisdiction. However, if the city wanted to pursue a project in the short-term, that was not a high

priority for the county or state, the city would need to identify alternative funding sources.

City Roads

Table 5 summarizes the transportation revenues in Cottage Grove for fiscal years 93/94 to the proposed 97/98 budget. State and county sources contributed the majority of new funds each year.

Table 5. Street Fund Summary

Revenue Sources	FY97/98 Proposed	FY96/97 Actual	FY95/96 Actual	FY94/95 Actual	FY93/94 Actual
Cash Carryover	538,688	675,873	414,884	149,754	170,978
Intergovernmental Revenues	631,373	785,521	743,207	656,399	615,067
State Highway Fund	365,562	360,000	352,936	345,367	339,079
Lane County	197,453	356,331	365,271	277,551	275,988
Federal Aid Urban Exchange $	35,498	40,090	0	33,481	0
NRP (Bikepath Link)	32,860	3,100	0	0	0
Dept of Justice Grant	0	26,000	25,000	0	0
Charges for Services	0	0	1,708	92,136	2,991
Interest Income	20,000	27,000	34,830	29,907	7,441
Misc. and Other Sources	500	500	2,871	1,717	598
Transfers from Assessment Fund	245,910	14,483	0	0	0
Sale of Property	180,000	0	0	0	0
TOTAL	**1,616,471**	**1,503,377**	**1,197,500**	**929,913**	**797,075**

Abutting/Affected Property Owners: The majority of local streets are paid for by abutting or affected property owners. This is not covered in the city's budget process and is not, therefore, included in Table 5.

System Development Charges (SDC): Any improvement in excess of the local street requirements, is paid for by SDCs. These revenues are used to construct transportation projects needed to service new development.

County Road Fund: Street maintenance has been partially funded by the county road fund. Revenues from Lane County come primarily from the Urban Transition Program that has been allocating about $4.0 million annually to be divided among all cities in the county based on their percentage of total county road miles.

Funding Alternative Modes

Funds for alternative modes projects have historically been less than that for automobile projects. In Oregon, auto-related fees (vehicle registration, gas tax) are not permitted to be used on alternative modes projects.

Public Transportation

Mass Public Transportation Funding: Currently there is pilot mass transit service between Cottage Grove and the Eugene-Springfield area, funded in part by Community

Transportation Program funds. The City of Cottage Grove recently received a $36,000 grant through ODOT's Community Transportation Program that will allow them to conduct a feasibility study of an intra-community public transportation system.

Paratransit Funding: South Lane Wheels receives funds from a variety of sources. Table 6, shows these different sources. Almost a third of their budget is provided by assistance from the State of Oregon through the Special Transportation Fund (STF). This funding source has been declining over the years due to the reduction in the amount of cigarette tax collected. The STF monies are collected by the state and allocated based on Lane County's population. Lane Transit District is the designated "governing body" for the STF program. In association with LTD, the Lane Council of Governments distributes funds to areas within Lane County that are outside the LTD's service boundaries using a formula that considers elderly population, number of people with low incomes and service history. There is awareness that the fund is declining and that new sources of revenue are needed.

In addition to Special Transportation Fund monies, South Lane Wheels receives some funding from the cities of Cottage Grove and Creswell, United Way, Medicaid, local fund raisers, advertising on the sides of their vehicles, and contracts with other service providers in the area.

Table 6. South Lane Wheels Funding Sources

Revenue:		
Special Transportation Fund		30,375
STF Income (fares)		9,000
	sub-total	*$39,375*
Department of Human Resources		18,300
Special Contracts/Grants		12,750
United Way		9,305
Community Support		18,850
Miscellaneous		420
	sub-total	*$59,625*
TOTAL CASH REVENUE		**$99,000**

Source: Lane Council of Governments Special Transportation Fund budget report for fiscal year 95-96.

Bikeway and Pedestrian Funding

Unlike the roadway funds, there are a limited number of funding resources available for bikeway improvements. The total cost of proposed bikeway improvements is significantly higher than the local share of Bicycle Funds available, even if bikeway funds are allowed to accumulate for several years. For this reason, a bicycle funding strategy for improvements should emphasize alternate sources, consolidation with other street and maintenance projects, and cost effective improvements such as street striping.

Bicycle Fund: State law mandates that of the State Highway Fund monies that are allocated each year to cities and counties, no less than one percent is to be used for

the capital improvement of bicycle routes and footpaths. In fiscal year 1997, approximately $3,700 was used by Cottage Grove.

Intermodal Surface Transportation Efficiency Act Enhancement Funds: Funding for transportation enhancement activities is provided under the Surface Transportation Program (STP) of the ISTEA. These enhancement activities include the provision of facilities for pedestrians and bicycles. Ten percent of each state's share of STP funds are to be set aside for transportation enhancements. These funds are dispersed through ODOT's regional offices. $35,500 came to Cottage Grove in fiscal year 1998. It will be used for street maintenance and construction.

US Forest Service Rural Community Assistance: The Forest Service recently granted $40,000 for a Multi-Use Corridor Design and Feasibility Study for the abandoned OPE right-of-way. It will be connected with the 13-mile between Culp Creek and Mosby Creek that runs along Dorena Reservoir and the Row River. The trail is on the right-of-way of a former logging-related rail spur. The paving cost about $300,000 and was paid largely by the US Forest Service.

Airport Funding

No state general fund revenues are used for aviation funding. All are funded by user fees, which include aviation fuel taxes, aircraft registrations, airport licensing fees, leases and agreements on state-owned airports, and pilot registration fees, and by Federal Aviation Administration funding.

Rail Freight Funding

In recent years, about $250,000 in federal aid monies for safety at railroad crossings has come to Cottage Grove. The crossing at Main and 10th Streets was upgraded in 1990.

Description of Potential Funding Sources

According to Table 11 the total amount of transportation projects is over $50 million. These projects will be constructed, and services provided, as the funds become available through the sources discussed in this section.

Federal Funding Sources

Some federal funding programs are administered by the state. These programs are listed under the *Federal Funding Sources* section.

Intermodal Surface Transportation Efficiency Act (ISTEA): Funding through the ISTEA Act is targeted to improvements which demonstrate beneficial impacts toward implementing a region's transportation system plan, enhance the multi-modal nature of the transportation system, and meet local land use, economic, and environmental goals. Funding categories created by ISTEA are intended to provide an area with more discretion in allocating federal transportation funds to projects from highway

improvements to transit improvements, management systems, and non-vehicular modes such as bicycle and pedestrian improvements. The ISTEA funding programs include: National Highway System, Surface Transportation Program, Interstate Program, and National Scenic Byways Program.

- *Potential Uses*: The federal legislation authorizing ISTEA terminates in November 1997. A new federal funding package is currently under development, but there is uncertainty about continuation of, and/or funding levels for, some existing programs.

  National Highway System (NHS): Provides funding for a variety of activities on any highway currently designated as a principal arterial. In Cottage Grove, these would include Interstate-5 and Highway 99, and a portion of the Cottage Grove Connector.
  - *Potential Uses*: Exit 174 upgrade including the Connector Road/Highway 99 intersection, adding lanes to Connector Road

  Surface Transportation Program (STP): The project must be included in the State Transportation Improvement Program to receive STP funds. This is the most flexible of the funding programs and can fund improvements on any highway except those with a functional classification of local street or rural minor collector. These roads are now collectively referred to as Federal-aid routes. Transit capital improvement projects are also eligible for funding through this category.
  - *Potential Uses*: Each eligible city is suballocated a portion of the State's STP funds. The project sponsor must request inclusion of the project in the annual Transportation Improvement Program.

    Transportation Enhancement Program: The state is required to set aside a portion of its STP monies for projects that will enhance the cultural and environmental values of the state's transportation system. Projects need to demonstrate a link to the intermodal transportation system. It funds enhancements including mitigation of water pollution due to highway runoff, landscaping or other scenic beautification, bicycle/pedestrian projects, historic preservation, acquisition of scenic easements and scenic or historic sites, archaeological planning and research, and preservation of abandoned railway corridors.
    - *Potential Uses*: Bicycle/pedestrian projects, development of the multiple-mode recreational corridor along the abandoned OP&E railway corridor.

Highway Enhancement System (HES): This Federal Highway Administration program provides funding for safety improvements on public roads. Projects need to be included in the Regional Transportation Plan.

- *Potential Uses*: Highway 99 at various intersections, adding lanes to Connector Road, and for improvements to the Gateway Boulevard/Connector Rd intersection and the Connector Road/Highway 99 intersection.

Highway Bridge Replacement and Rehabilitation Program (HBRR): Provides funding for the replacement and rehabilitation of structures regardless of functional classification. A portion of the HBRR Program is allocated for the improvement of

structures under the jurisdiction of cities and counties. Bridges under local jurisdiction are added to the program based on a selection process agreed upon by ODOT, the League of Oregon Cities, and the Association of Oregon Counties. A technical ranking system, based on sufficiency rating, cost factor, and the load capacity is applied to proposed projects, and those ranking highest statewide receive top priority funding.

- *Potential Uses*: Railroad overpass on Connector Road, I-5 overpass at Connector Road, Woodson Bridge at Highway 99, and Highway 99 Bridge at the Coast Fork of the Willamette.

Timber Receipts: The U.S. Forest Service and Bureau of Land Management share revenue from timber receipts with counties in Oregon. The share of forest revenues is no longer directly tied to the level of timber harvests. The USFS revenues have permitted Lane County to make significant capital improvements to its road system.

- *Potential Uses*: Although the level of funds from this source is expected to continue declining, it is likely to remain as a viable road fund source for the short-term.

Community Development Block Grants (CDBG): CDBGs are administered by the Department of Housing and Urban Development and accessed through the state.

- *Potential Uses*: Although CDBG funds could be used for transportation projects in eligible area cities, including Cottage Grove, have traditionally used these funds for other types of infrastructure projects.

US Forest Service: The USFS Rural Community Assistance Programs are aimed at assisting rural timber-dependent communities. A variety of community and economic development activities are eligible for funding. The Forest Service has funded pedestrian/bike projects that have a tourism/economic development connection. The Greenwaters pedestrian/bike bridge in Oakridge, and the abandoned OPE Rails to Trails project in Cottage Grove are examples of projects recently funded.

- *Potential Uses*: Completion of the Row River bike trail along the abandoned OPE spur line.

Land and Water Conservation Fund: Funds are derived under Public Law 88-578 from the National Park Service, Department of the Interior. Grants are available for the acquisition of land and the development of public outdoor recreation facilities. Grants are limited to 50% of the total project cost. The cities and counties are responsible for the remaining project cost. Bicycle/pedestrian paths have been funded under this program in instances where they have been shown as needed in connection with outdoor recreation activities.

- *Potential Uses*: Development of the multiple-mode recreational corridor, East Regional Park recreational improvements, Off-road bike/pedestrian trails, and Silk Creek City Park upgrade.

Local Rail Freight Assistance (LRFA): Rail freight improvement projects compete nationally for scarce federal LRFA program funds that must be matched by state, local or private sources. LRFA provides grants to rehabilitate low density branch and short line railroads, allowing them to provide cost effective rail freight service to communities.

- *Potential Uses*: Central Oregon & Pacific Railroad line through town, spur lines to industrial park.

Federal Aviation Administration (FAA): FAA funding exists to assist about half of Oregon's airports. This funding is available on a 90% federal - 10% local basis. Non-commercial airports must compete for available funds.

- *Potential Uses*: Cottage Grove State Airport upgrades the existing system as needed.

State Funding Sources

Oregon Department of Transportation (ODOT)

Statewide Transportation Improvement Program: ODOT allocates state and federal funding for transportation projects in the Statewide Transportation Improvement Program (STIP). The STIP is a staged, multi-year, statewide, intermodal program of transportation projects. The STIP is not a funding source, rather it is a project prioritization and scheduling document developed through various planning processes involving local and regional governments and transportation agencies. Aeronautics, rail, public transit, bicycle/pedestrian and highway projects are included. Public meetings are held throughout the state prior to adoption by the Oregon Transportation Commission (OTC). The adopted STIP lists projects by ODOT's regions. These regional offices are responsible for administration and disbursement of the funds. Cottage Grove is in ODOT's Region 2.

- *Potential Uses*: Martin Creek interchange, Exit 174 widening, and improvements at Connector

State Highway Fund: The State of Oregon, collects gas tax revenues, vehicle registration fees, and weight mile taxes on freight carriers. ODOT, through the Department of Revenue, receives these revenues and disperses a portion of them to individual cities based on their percent of statewide population. The Oregon constitution limits the use of these funds to capital roadway projects. ODOT uses their allocation for maintenance and to fund capital projects in the STIP.

- *Potential Uses*: All local street upgrades, maintenance, and construction of new streets as applicable; and the city beltline arterial.

  Bicycle Fund: State law mandates that of the State Highway Fund be allocated each year to cities and counties, no less than one percent is to be used for the capital improvement of bicycle routes and footpaths.
  - *Potential Uses*: Implementation of the Bikeway System Plan.

Access Management Program: Approximately $500,000 is set aside each year to address access management issues, including the evaluation of existing approach roads to state highways. Over the years, many approach roads have become unsafe due to higher speeds and increased traffic volumes. The program will identify those locations, determine necessary mitigation, prioritize improvements, and correct problems.

- *Potential Uses*: Connector at Highway 99, Gateway and Connector

Local Government Fund Exchange: This program helps local governments make the most effective use of limited transportation funding. To reduce their administrative burden, local governments can agree to develop their projects with state funds, which are easier to administer, while the state uses the local governments' federal funds for state projects.

- *Potential Uses*: This program will continue to be used by the city to allow flexibility in maintaining the city's street system.

Community Transportation Program (CTP): The CTP provides money to fund public and special needs transportation in small cities and communities throughout the state. The program is financed by a combination of state, federal, and local matching funds. The program is a unified project application, review and selection process for discretionary funds. These funds are made available under the Federal Transit Act, Elderly Persons with Disabilities Program, the Non-Urbanized Area Formula Program, and the Special Transportation Fund.

- *Potential Uses*: To enhance South Lane Wheels service to the elderly and disabled.

Special Transportation Fund (STF): The STF monies are collected through the state and distributed based on a formula that considers the elderly population in poverty. The monies that come into Lane County are then allocated to the rural districts based on population and service needs according to the STF Advisory Committee.

- *Potential Uses*: Although this fund has been declining, it is expected to continue as an important source of paratransit funding.

Rail Freight Program: Although ODOT does not own or operate any rail lines, the ODOT Rail Freight Program assists in the rehabilitation of publicly and privately-owned rail lines through planning and the administration of federal and state funded programs.

- *Potential Uses*: Central Oregon & Pacific Railroad Line through town, spur lines to industrial park.

State Rail Rehabilitation Fund: The fund was established by the state legislature to be used for rail line acquisition, track rehabilitation, improvement of rail properties, planning, or any other method of reducing the costs of lost rail service. However, this program has never received an allocation of funds.

- *Potential Uses*: None at present.

Bikeway-Walkway Local Grant Program: The Oregon Bicycle and Pedestrian Program has funding available for two types of grants: (1) construction projects on local streets or roads, and (2) bicycle maps. Grant recipients will be selected by the Oregon Bicycle and Pedestrian Advisory Committee. At least $800,000 is allocated annually to this program. The state contribution will be limited o 80% of the total cost, up to $100,000. Special consideration will be given to projects that (a) consider the needs of

school children, the elderly, the disabled, transit users, and others not well served by the current transportation system; or (b) show innovation.

- *Potential Uses:* Safety improvements to bike/pedestrian crossings near schools or retirement homes; removing existing barriers to cycling/walking; safety improvements to bikeways.

Bikeway-Walkway State Highway Program: A new grant program makes funds available for improvements on state highways in urban areas. $1.6 million is allocated to this grant program (FY98). Examples of eligible projects include: completing short missing sections of sidewalks; ADA upgrades; crossing improvements; intersection improvements; minor widening for bike lanes or shoulders.

- *Potential Uses:* Bikeway improvements to the Cottage Grove Connector, Highway 99, Interstate 5 listed in the Bikeway System Plan Project List (Table 9); sidewalk improvements along Highway 99; various crossing improvements.

Oregon Economic Development Department (OEDD)

Special Public Works Funds (SPWF): The State of Oregon, through lottery proceeds passed through the OEDD, has provided grants and loans to local government to construct, improve and repair public infrastructure in support of local economic development and job creation. The application of this funding source for transportation improvements is limited. Funds for rail projects are also available through the OEDD. Projects must compete with other public works projects submitted by local and state agencies. As of 1996, OEDD had administered approximately $4.5 million in lottery funds to develop three rail projects.

- *Potential Uses*: Spur lines into the industrial park.

Immediate Opportunity Fund: ODOT funds the Immediate Opportunity Fund through an annual $5 million allotment from the State Motor Vehicle Fund. OEDD administers the fund. The funds are set aside to provide OEDD the opportunity to respond quickly to transportation improvements that demonstrate a significant benefit to economic development and job creation. The program has been expanded recently to include alternate modes that reduce VMT, and for new technologies that improve commerce or safety. The maximum amount available for a single project is $500,000.

- *Potential Uses*: A key factor in determining eligibility for funds is whether an immediate commitment of funds is required to influence the location, relocation, or retention of a firm in Oregon. Funding is reserved for cases where and actual transportation problem exists, and where a location decision hinges on immediate commitment of road construction resources.

Local Funding Sources

Lane County Road Fund

A set of funds collected from the county's share of the state gas tax and federal timber receipts. Under the Lane County Road Partnership Agreement, these funds are divided between the Eugene-Springfield Metropolitan Area, other cities in Lane County, and rural areas in Lane County based on a percentage of lane miles.

Potential Uses: All local streets for restoration, upgrades, and new streets.

Economic Development Assistance Program (EDAP)
EDAP is funded through the county road fund. Funds may be used to improve the marketability of "for sale" industrial properties or to improve access to existing industrial businesses. The goal of EDAP is to create family wage jobs which directly benefit local communities. The future of this funding source is in question due to the county's diminishing share of federal timber receipts.

- *Potential Uses*: Development of future industrial streets.

Payroll Tax
LTD typically funds their services through a payroll tax. If Cottage Grove decides to become part of the LTD after the pilot phase is complete, a portion of their service will be funded by local payroll taxes.

- *Potential Uses*: LTD has the authority to tax payrolls within its service boundary. The funds would not be available for anything but LTD service.

System Development Charges
System Development Charges (SDCs) are collected as vacant parcels of land are developed or as redevelopment occurs. These charges are based on the development's impact to the user system. The system in this instance is the transportation system. Transportation SDCs are based on the land use type, the size of the development (number of dwelling units or number of acres), the number of trips per unit of development (derived from the Institute Transportation Engineers Manual), and the fee/trip rate. These funds may also be used for financing alternative modes projects.

- *Potential Uses*: This will continue to be a reliable funding source for capacity enhancing projects.

Debt Financing

General Obligation Bonds: Bonds are sold by the municipal government to fund public infrastructure and other improvements, and are repaid with property tax revenue. Voters must approve general obligation bond sales. These bonds fall outside the limitations of Ballot Measure 5.

- *Potential Uses*: Infrastructure maintenance and development.

Revenue Bonds: Bonds sold by the city and repaid with revenue from an enterprise fund which has a steady revenue stream such as a water or sewer fund. The bonds are typically sold to fund improvements in the system which is producing the revenue.

Potential Uses: They are a common means to fund large high cost capital improvements which have a long useful life.

User Fees
In general, the users pay based on their use of, or impact on, the system.

Local Gas Tax: The City or county could implement a local gas tax, in addition to the existing revenues from the state gas tax. Several cities and counties in Oregon have a local gas tax. Given the current anti-tax atmosphere, it may be difficult to get voter approval on a local gas tax.

- *Potential Uses*: All infrastructure.

Local Vehicle Registration Fee: Counties can implement a local vehicle registration fee. A portion of the County fee would be allocated to cities in Lane County. The fee would provide a stable and reasonable funding source, but is unlikely to receive local support.

- *Potential Uses*: Traffic safety projects and street infrastructure.

Street Utility Fee: Similar to a water or sewer utility fee, a fee would be assessed in the city for use of streets. Implementing a street utility fee would require voter approval and political support would likely be low.

- *Potential Uses*: Street maintenance and beautification.

Bicycle License Fee: The city could implement a local bicycle registration fee program. At the time the bicycle is registered, informational material could be made available about bicycle safety and rules of the road.

Potential Uses: Bicycle parking structures, safety improvements on existing bikeways.

Special Assessments

Assessments pay for on-site or adjacent public improvements. The property owners who directly benefit from the improvements are those that pay.

Local Improvement District: The directly benefiting property owners are assessed a fee for streets or other transportation improvements.

- *Potential Uses*: All local streets needing restoration and upgrading.

Table 7. Street System Plan Project List

No Build Alternative

Projects	Respon-sible Party	Project Limits	Project Description (and Purpose)	Estimated Cost
Short Range Projects:				
Adams Ave/5th St	1,3	Intersection	Various Improvements (A)	$3,260
Currin Connector	1	Mosby Creek to Row River Rd	Reconstruction (A)	$24,310
Main St/Lane	1	Intersection	Redesign & Access Mgmt. (A,C)	$100,000
Mosby Creek Road	1	Thornton Lane to Currin Connector	Upgrade to Urban Standards (C,E,F)	$161,000
S River Rd	4	Hwy 99 to Jason Lee (city limits)	Upgrade to Urban Standards & Realign Intersect w/ Hwy 99 (C,E,F)	$660,000
			TOTAL for No-Build Projects:	***$948,570***

Preferred Street System Alternative *(in addition to the No-Build projects)*

Projects	Respon-sible Party	Project Limits	Project Description (and Purpose)	Estimated Cost
Short Range Projects:				
N Douglas Street	1	Ostrander St to Wastewater	Widening to Urban Standards (C)	$150,000
N Regional Park	1	Entrance to N Regional Park on	Install Signal (A,D)	$150,000
			Sub-total for Short Range Projects:	***$300,000***
Medium Range Projects:				
Hwy 99/S 4th	1,2	Intersection	Various Improvements (A)	$150,000
Hwy 99/7th & Jefferson	1,2	Intersection	Various Improvements (A)	$18,745
Hwy 99/Gibbs	1,2	Intersection	Various Improvements (A)	$4,700
Hwy 99/Quincy & 5th St	1,2	Intersection & Momoc Avenue	Various Improvements, Street Closure & Paving	$144,092
Hwy 99/Whiteaker Ave	1,2	Intersection	Various Improvements (A,C)	$3,600
I-5/174 Exit	1,2	Interchange	Interchange Reconstruction[1,3] (A,C,D,F)	$9,000,000
Lord Ave/11th St	1	Intersection	Various Improvements (A,C)	$3,749
Madison Ave/6th St @ Hwy 99	1,2	Intersection	Various Improvements & Street Closure (A,C)	$11,573
Main St/7th St	1	Intersection	Various Improvements (A,C)	$22,000
Main St/8th St	1	Intersection	Various Improvements (A,C)	$7,661
Main St/Hwy 99 (9th St)	1,2	Intersection	Various Improvements (A,C)	$47,433
Row River Rd	1,4	Thornton Rd S to Row River	Upgrade to Urban Standards (C,E,F)	$900,000
N River Rd	4	Hwy 99 to Bennet Creek Road	Upgrade to Urban Standards (C,E,F)	$430,000
			Sub-total for Medium Range Projects:	***$10,743,553***

Long Range Projects:				
Bennet Creek Road	3,4	N River Rd to UGB	Widen, Upgrade Guardrail (C,E)	$265,000
Blue Sky Drive	1,3	Harrison to Gowdyville	New Collector (D)	$303,920
Blue Sky Drive	1,3	Harrison to S End	Widen Existing Roadway (C,E)	$21,120
Blue Sky Drive	1,3	Taylor to S End	New Collector (C,D)	$94,320
Blue Sky Drive	1,3	Taylor to Sweet Lane	Widen Existing Roadway (C,E)	$116,960
Cleveland Ave	1,3	S 6th to West End	Widen Existing Roadway (C,D,E)	$146,200
Cleveland Ave	1,3	W. End to R/6th to Gateway	New Collector (D)	$393,000
Eastview Rd	1,3	Gates Rd to River Rd	New Collector (D)	$524,000
Garfield Ave	1,3	S 2nd/4th to Gateway	New Collector	$314,400
Gates Road	1,3	Gowdyville to Sweet Lane	New Collector (D,F)	$387,760
Gateway Blvd	1,3	Taylor to Cleveland	New Minor Arterial (D,F)	$484,700
Harvey	1,3	Gateway to Woodson	[Widen Existing Roadway] (C,E)	$105,600
Hastings Lane	3	Cleveland to N End	New Collector	$209,600
Hwy 99	1,2	Woodson to Main	Widen Existing Roadway(C,E)	$87,400
Lincoln Ave	1,3	S 6th to Gateway	New Collector (D)	$196,500
M St	1,3	Main to Birch	Widen Existing Roadway (C,E,F)	$30,800
M St	1,3	Birch St to Bennett Creek Road	New Collector (D,F)	$209,600
Main St	1,3	River to Whiteaker	Widen Existing Roadway (C,E,F)	$59,800
Mosby Creek Rd	1	Currin Connector to Row River	Upgrade to Urban Standards (C,F)	$390,000
R Street	1,3	Jason Lee to Cleveland	New Collector (D,F)	$838,400
R Street	1	Main St to Jason Lee	Widen Existing Roadway (C,E,F)	$85,800
R Street	1,3	Main to Bennett Ck	New Collector (D,F)	$314,400
Row River Rd	1,2,4	Airport to I-5	Widen Existing Roadway (C,E,F)	$165,600
S 2nd St/4th St	1,3	Garfield to Cleveland	New Collector	$115,280
S 9th St	1,3	Johnson to Garfield	New Collector	$136,240
Sweet Lane	1,3	Hwy 99 to Blue Sky Drive	Upgrade to Urban Standards (C,E,F)	$570,000
Taylor Ave	1	4th St to I-5	Widen Existing Roadway (C,E,F)	$163,200
Taylor Ave	1,3	4th to 1st	New Collector (F)	$681,200
Taylor Ave	1,3	River to Gates	New Collector (D,F)	$497,800
Thornton Rd	1	Row River to Mosby Creek	Widen Existing Roadway (C,E)	$40,000
Various Locations	1	Throughout the City	New Signals (A)	$500,000
			Sub-total for Long Range Projects:	***$8,448,600***
			Sub-total for Preferred Alternative Projects:	***$19,492,153***
			TOTAL Including the No-Build Projects:	***$20,440,723***

Responsible Party: 1=City; 2=ODOT; 3=Abutting Property Owners; 4=Lane County

Proposed Purpose: A=Safety; B=Maintenance; C=Upgrade; D=Extension of collector/arterial system to serve urbanizable lands; E=Capacity deficiency; F=System efficiency

[1] The Oregon Department of Transportation has no commitment or plans to fulfill these projects. The I-5/174 Exit Interchange is listed in Reconnaissance in the ODOT Statewide Transportation Improvement Program for 1995-1998. ODOT is only committed to further study of the interchange.

[2] Cost assumptions do not include right-of-way acquisition or frontage road realignments that may be required.

[3] Assumes the city is responsible for road widening and improvements to the N Regional Park area. Cost assumptions include bridge reconstruction and ramp alignments only. This is still in negotiations (7/31/96).

Table 8. Public Transportation System Plan Project List

Intra-City Transportation

	Projects	Cost	Source of Funds
Awarded (1996-97)	City of Cottage Grove: Planning and Feasibility Study	$48,000	$36,000 ODOT-CT grant; $12,000 local match

Inter-City Transportation

	Projects	Cost	Source of Funds
In Process (1996-97)	LTD Pilot	$92,771	City General Fund
Proposed	LTD Service	$92,800	$0.006 x annual payroll

Paratransit

	Projects	Cost	Source of Funds
Awarded (1996-97)	South Lane Wheels: Replacement Vehicle	$57,325	$48,520 ODOT-CT* grant; $12,130 local match
Proposed (1998-99)	South Lane Wheels: Replacement Vehicle	$63,206	$50,565 ODOT-CT grant; $12,641 local match
	South Lane Wheels: New Vehicle	$63,206	$50,565 ODOT-CT grant; $12,641 local match
(2000-01)	South Lane Wheels: New Vehicle	$69,685	$55,748 ODOT-CT grant; $13,937 local match

* *Community Transportation Grants through ODOT's Public Transit Section*

Table 9. Bikeway System Plan Project List

Route Name	*Proposed Improvement*	*Estimated Cost*
Existing Facilities:		
East Main St, east of Hwy 99	Restripe to 3 lanes w/ bike lanes	$613
East Regional Park Path	Repair damage along river	$8,221
Proposed Facilities (in order of priority):		
North Regional to East Park path connection	Construct separate path adjoining the airport property to connect both regional parks	$149,270
North/South River Rd	Prohibit parking as necessary and restripe w/ bike lanes	$715
Gateway Blvd, Main St to Taylor Ave	Restripe w/ bike lanes	$1,003
Hwy 99	Prohibit parking as necessary and restripe or widen w/ bike lanes	$4,013
South R St	Prohibit parking as necessary and restripe w/ bike lanes	$818
West Harrison, Hwy 99 to River Rd	Prohibit parking as necessary and restripe w/ bike lanes	$211
West Harrison, River Rd to R St	Stripe w/ bike lane between existing parking lan and travel lane	$356
North River Rd, north of Bennett Creek	Widen and provide bike lanes or improve greenway path to accommodate cyclists	$44,000
Cottage Grove Connector	Provide widening as needed and stripe w/ bike lanes	$756
Row River Rd	Upgrade to urban standards w/ bike lanes	$79,200
East Whiteaker Ave, Main St to Thornton Lane	Prohibit parking as necessary and restripe w/ bike lanes	$515
Thornton Rd, Whiteaker Ave to Row River Rd	Prohibit parking as necessary and restripe w/ bike lanes	$198
South 10th St, Taylor Ave to Main St	Prohibit parking as necessary and restripe w/ bike lanes[1]	$911
South River Rd, south of C.L.	Provide for shoulder bikeways or upgrade to urban standards w/ bike lanes	$28,600
West Main St, west of River Rd	Prohibit parking as necessary and restripe w/ bike lanes	$396
Gateway Blvd, Main St to Cottage Grove Connector	Restripe w/ bike lanes	$845
Hillside Dr, Taylor Ave south	Provide shoulder bikeways	$120,000
South 4th and Grant Ave	Widen portions of South 4th St, prohibit parking as necessary and restripe w/ bike lanes	$170,232
Taylor Ave, South 4th St to Hillside Dr	Prohibit parking as necessary and restripe w/ bike lanes, widen as required	$660
Lane, Villard/Douglas	Improve streets,[2] stripe with bike lanes	$1,762,122
Central Business District	Bicycle Plan for CBD	NA
Interstate 5	Provide access to both north and south bound traffic at London Rd interchange	NA
Latham Rd	Provide shoulder bikeways	$104,000
Cottage Grove/Lorane Highway	Provide shoulder bikeways	$86,900
	TOTAL COST	$2,564,556
	15% Contingency	$384,683
	Projected TOTAL COST	**$2,949,239**

[1]South 10th St between Madison Ave and Main St will continue to provide on-street parking until traffic volumes represent a safety problem for cyclists, bike lane striping will withheld from this section.

[2]Improve Lane St from Main St to Villard, Villard St from 10th St to Douglas Ave, Douglas Ave from Villard to North Regional Park.

Table 10. Sidewalk Project List

Street Name	Sides w/o Walks	Total Linear Feet	$/Linear Foot	Linear Feet Needing Curbs and Gutters	Cost/ Curbs and Gutters	Total Cost per Street
"I" Street	2	550	17.5	550	6050	$15,675
"J" Street	1	330	17.5	0	0	$5,775
"K" Street	2	550	17.5	550	6050	$15,675
"L" Street	alt	880	17.5	550	6050	$21,450
"M" Street	alt	1870	17.5	990	10890	$43,615
"N" Street	alt	1100	17.5	880	9680	$28,930
"O" Street	alt	660	17.5	0	0	$11,550
"P" Street	2	550	17.5	0	0	$9,625
"Q" Street	2	1210	17.5	1210	13310	$34,485
"R" Street	1	605	17.5	0	0	$10,588
"S" Street	1	385	17.5	0	0	$6,738
3rd Street	alt	660	28	660	7260	$25,740
4th Street	alt	1100	17.5	1100	12100	$31,350
6th Street	1	770	17.5	0	0	$13,475
7th Street	1	330	17.5	0	0	$5,775
8th Street	1	495	17.5	0	0	$8,663
10th Street	alt	2255	17.5	0	0	$39,463
11th Street	alt	1650	17.5	1210	13310	$42,185
12th Street	alt	1925	17.5	990	10890	$44,578
13th Street	alt	1265	17.5	0	0	$22,138
14th Street	alt	1320	17.5	660	7260	$30,360
15th Street	alt	440	17.5	0	0	$7,700
15th Street	alt	275	28	0	0	$7,700
16th Street	alt	3300	17.5	0	0	$57,750
19th Street	1	3190	17.5	0	0	$55,825
19th Street	1	770	28	2420	26620	$48,180
Adams	1	605	17.5	550	6050	$16,638
Anthony	2	1045	17.5	0	0	$18,288
Ash	alt	1100	17.5	0	0	$19,250
Bennett Creek Road	2	4400	17.5	4400	48400	$125,400
Birch	alt	495	17.5	0	0	$8,663
Blair	alt	330	17.5	0	0	$5,775
Blue Sky Drive	2	4400	17.5	2420	26620	$103,620
Bryant Avenue	alt	3080	17.5	0	0	$53,900
Cambria	2	2640	17.5	2640	29040	$75,240
Chamberlain	2	935	28	0	0	$26,180
Cherry Court	2	1100	17.5	1100	12100	$31,350
Chestnut	alt	1265	17.5	0	0	$22,138
Clark Ave	2	1375	17.5	0	0	$24,063
Cooper	2	2200	17.5	0	0	$38,500
Cottage Grove Connector	2	5280	28	5280	58080	$205,920
Douglas	2	1980	17.5	1980	21780	$56,430
Douglas	2	2970	28	2970	32670	$115,830

....continued

Street Name	Sides w/o Walks	Total Linear Feet	$/Linear Foot	Linear Feet Needing Curbs and Gutters	Cost/ Curbs and Gutters	Total Cost per Street
Dublin Lane	2	1100	17.5	0	0	$19,250
Foster	2	1100	17.5	1100	12100	$31,350
Gateway	1	1375	28	0	0	$38,500
Gateway	1	3575	17.5	0	0	$62,563
Geer	2	1100	28	0	0	$30,800
Gibbs	alt	770	17.5	0	0	$13,475
Girard Avenue	2	1540	17.5	1540	16940	$43,890
Gowdyville	2	3795	17.5	3795	41745	$108,158
Grant	2	660	17.5	0	0	$11,550
Grover	alt	880	17.5	770	8470	$23,870
Harrison	alt	2640	17.5	770	8470	$54,670
Harrison Court	2	385	17.5	0	0	$6,738
Harvey	2	4345	17.5	0	0	$76,038
Hays	2	1100	17.5	0	0	$19,250
Hillside Drive	1	385	17.5	0	0	$6,738
Hudson Ave	2	1100	17.5	1100	12100	$31,350
Highway 99	2	4620	28	4620	50820	$180,180
Jackson	2	660	17.5	660	7260	$18,810
Jason Lee & Whitman Blvd	2	1375	17.5	0	0	$24,063
Jefferson	alt	743	17.5	0	0	$13,003
Johnson	2	2255	17.5	0	0	$39,463
Landess	1	770	17.5	770	8470	$21,945
Lane	2	585	17.5	585	6435	$16,673
Lane	2	825	28	825	9075	$32,175
Lincoln	2	1980	17.5	1980	21780	$56,430
Lloyd Ave	2	1155	17.5	1155	12705	$32,918
London Rd	2	8140	17.5	8140	89540	$231,990
Lord	2	1430	17.5	0	0	$25,025
Madison	alt	935	17.5	935	10285	$26,648
Main St	alt	1870	17.5	0	0	$32,725
Monroe	alt	1100	17.5	1100	12100	$31,350
Mosby Creek Rd	1	3245	17.5	3425	37675	$94,463
Mosby Creek Rd	1	3245	28	3425	37675	$128,535
Ostrander	2	2585	17.5	1100	12100	$57,338
Palmer	1	825	17.5	0	0	$14,438
Parks Rd	2	2750	17.5	0	0	$48,125
Pennoyer	2	2475	17.5	0	0	$43,313
Polk	1	330	17.5	0	0	$5,775
Quincy	alt	2200	17.5	770	8470	$46,970
Reservoir Rd	1	825	17.5	825	9075	$23,513
River Rd	alt	15235	17.5	0	0	$266,613
Row River Rd	1	6050	17.5	6050	66550	$172,425
Row River Rd	alt	5225	28	5225	57475	$203,775

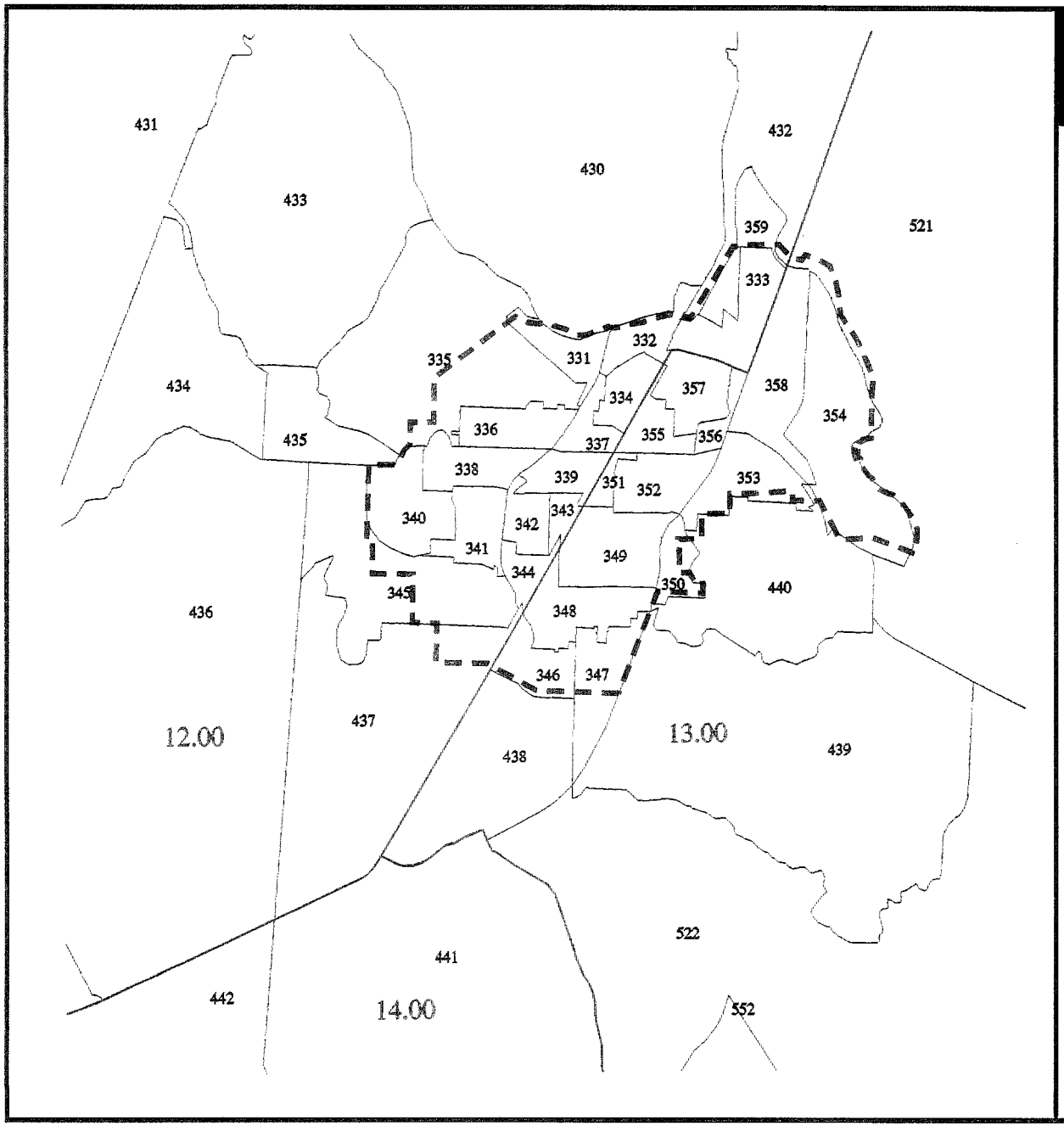
....continued

Street Name	Sides w/o Walks	Total Linear Feet	$/Linear Foot	Linear Feet Needing Curbs and Gutters	Cost/ Curbs and Gutters	Total Cost per Street
Shield Cemetery	2	660	17.5	660	7260	$18,810
Sweet Lane	2	5940	17.5	5940	65340	$169,290
Taylor	alt	2750	17.5	0	0	$48,125
Thornton	2	7700	17.5	7700	84700	$219,450
Trailer Park	2	5225	17.5	5225	57475	$148,913
Tyler	2	2090	17.5	550	6050	$42,625
VanBuren	1	330	17.5	0	0	$5,775
Villard	2	825	17.5	550	6050	$20,488
Vincent	2	825	17.5	825	9075	$23,513
Whetham	2	1125	17.5	1125	12375	$32,063
Withycombe	1	935	17.5	0	0	$16,363
Wood	2	440	17.5	440	4840	$12,540
				TOTAL ESTIMATED COST		$4,816,983
				15% Contingency		$722,547
				Projected TOTAL COST		**$5,539,530**

Table 11. Summary of Plan Alternatives and Estimated Costs

	Estimated Cost	Expected Funding Source
No Build Alternative		
Street Projects	$948,570	various sources
Public Transportation Projects		
LTD Pilot Service	*$92,771*	*City*
Intra-City Service Feasibility Study	*$48,000*	*ODOT-CT*
Existing Paratransit Service	*$105,325*	*ODOT-CT*
Bikeway and Pedestrian Projects		
Multi-Use Rail Corridor Study	*$40,000*	*USFS*
Sidewalks in New Development	*undetermined*	*property owners*
TOTAL	**$1,234,666**	
Preferred Alternative (in addition to No-Build)		
Street Projects	$19,492,153	various sources
Public Transportation Projects		
Expanded LTD Service	$92,800	local payroll
Implement Recommendations from Feasibility Study	undetermined	undetermined
Additional Vehicle Purchases	$196,097	ODOT-CT
Bikeway Projects		
Implement Bicycle Plan	$2,949,239	ISTEA, Bike Fund
Pedestrian Projects		
Implement Pedestrian Plan	$5,539,530	property owners
TOTAL	**$28,269,819**	

Note: Projects listed in *italics* are currently underway.
ISTEA: Intermodal Surface Transportation Efficiency Act
LTD: Lane Transit District
ODOT-CT: Oregon Department of Transportation – Community Transportation program
USFS: US Forest Service Rural Community Assistance Program



Cottage Grove

Tracts, TAZ's, and UGB

Legend

1990 Census Tracts

Urban Growth Boundary

Transportation Analysis Zones

June 1995

Map Produced by LCOG

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Figure B-1

Appendix A
Level of Service Definitions

Appendix A: Level of Service (LOS) Definitions

Level of Service Characteristics by Highway Type

Level of Service	*Urban and Sub-Urban Arterials*	*Controlled Access Highways*
A	Average over all travel speed of 30 mph or more. Free flowing with volume/capacity ratio of 0.60. Load factor at intersections near the limit of the 0.0 range. Peak-hour factor at about 0.70.	Free flow. Operating speeds at or greater than 60 mph. Service volume of 1400 passenger cars per hour on 2-lanes one direction. Each additional lane serves volumes of 1000 vehicles per hour (vph) lane.
B	Average over all speeds drop due to intersection delay and inter-vehicular conflicts, but remain at 25 mph or above. Delay is not unreasonable. Volumes at 0.70 of capacity and peak-hour factor approximately 0.80. Load factor at intersections approximately 0.1.	Higher speed range of stable flow. Operating speed at or greater than 55 mph. Service volume on 2-lanes in one direction not greater than 2000 passenger vehicles per hour. Each additional lane above two in one direction can serve 1500 vph.
C	Service volumes about 0.80 of capacity. Average overall travel speeds of 20 mph. Operating conditions at most intersection approximate load factor of 0.3. Peak hour factor approximately 0.85. Traffic flow still stable with acceptable delays.	Operation still stable but becoming more critical. Operating speed of 50 mph and service flow on two-lanes in one direction at 75% of capacity or not more than 5 minute flow rate of 3000 passenger cars per hour. Under ideal conditions each additional lane above two in one direction would serve 1800 vph.
D	Beginning to tax capabilities of street section. Approaching unstable flow. Service volumes approach 0.90 of capacity. Average over-all speeds down to 15 mph. Delays at intersections may become extensive with some cars waiting two or more cycles. Peak hour factor approximately 0.90; load factor of 0.7.	Lower speed range of stable flow. Operation approaches instability and is susceptible to changing conditions. Operating speeds approx. 40 mph and service flow rates at 90% of capacity. Peak 5 min. flow under ideal conditions cannot exceed 3600 vph for 2-lanes, 1 direction; 1800 vph each added lane.
E	Service volumes at capacity. Average over-all traffic variable but in area of 15 mph. Unstable flow. Continuous back-up on approaches to intersections. Load factor at intersection in range between 0.7 and 1.0. Peak hour factor likely to be 0.95.	Unstable flow. Over-all operating speeds of 30-35 mph. Volumes at capacity or about 2000 vph lane under ideal conditions. Traffic flow metered by design constructions and bottlenecks. But long back-ups do not normally develop upstream.
F	Forced flow. Average over-all traffic speed below 15 mph. All intersections handling traffic in excess of capacity with storage distributed throughout the section. Vehicular back-ups extend back from signalized intersections through unsignalized intersections.	Forced flow. Freeway acts as storage for vehicles backed-up from downstream bottleneck. Operating speeds range from near 30 mph to stop-and-go operation.

NOTE: These definitions were taken from the Cottage Grove Transportation Safety Study (1982).

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Appendix B
Technical Supplement

Appendix B: Technical Supplement

This technical report is a supplement to the Transportation System Plan (TSP). It outlines the analysis that went into the development of the TSP. The technical report contains 7 sections:

- Policy Review
- System Inventories
- Dwelling Unit/Employment Projections
- Model Development
- Alternative Scenarios and Evaluation
- Financial Assessment

Policy Review

The Land Conservation and Development Commission's Goal 12: *Transportation Planning Rule* requires consistency and coordination with other governmental plans and agencies. Specifically, Goal 12 reads:

OAR 660-12-015 Preparation and Coordination of Transportation System Plans

(3) Cities and counties shall prepare, adopt and amend local TSPs for lands within their planning jurisdiction in compliance with this division.

(a) Local TSPs shall establish a system of transportation facilities and services adequate to meet identified local transportation needs and shall be consistent with regional TSPs and adopted elements of the state TSP.

(b) Where the regional TSP or elements of the state TSP have not been adopted, the city or county shall coordinate the preparation of the local TSP with the regional transportation planning body and ODOT to assure that regional and state transportation needs are accommodated.

(4) Cities and counties shall adopt regional and local TSPs required by this division as part of their comprehensive plans. Transportation financing programs required by OAR 660-12-040 may be adopted as a supporting document to the comprehensive plan.

(5) The preparation of TSPs shall be coordinated with affected state and federal agencies, local governments, special districts, and private providers of transportation services.

Study/Plan Review

Related studies and plans were reviewed and summarized for consistency and coordination of the Cottage Grove TSP. The following studies and plans were reviewed:

- Inter-Modal Surface Transportation Efficiency Act of 1991
- Americans with Disabilities Act (ADA) of 1990
- Oregon Transportation Plan (OTP)
- Transportation Planning Rule (TPR), OAR Chapter 660, Division 12
- Cottage Grove Comprehensive Land Use Plan, 1981
- Cottage Grove Transportation Safety Study, 1982
- Residential Lands Needs Analysis and Buildable Lands Inventory, 1991
- Cottage Grove Visioning Project, 1992
- Bikeway Master Plan, 1993
- Transportation Analysis for Cottage Grove Wal-Mart, 1993
- Cottage Grove Connector Traffic Study, 1994
- System Development Ordinance, 1994

Federal Policies

The Inter-Modal Surface Transportation Efficiency Act (ISTEA) of 1991

On December 18, 1991, former President George Bush signed the Inter-Modal Surface Transportation Efficiency Act of 1991 providing authorizations for highways, highway safety, and mass transportation for the next 6 years. The purpose of the Act is clearly enunciated in its statement of policy:

> *"to develop a National Inter-modal transportation system that is economically efficient, environmentally sound, provides the foundation for the Nation to compete in the global economy and will move people and goods in an energy efficient manner."*

The Americans with Disabilities Act (ADA) of 1990

ADA requires that mass transit providers with fixed routes also provide paratransit services (for example, dial-a-ride service) to clients with disabilities. Typically, these clients are unable to use the fixed route transit system. Other requirements of ADA include:

- acquisition of accessible vehicles by private and public entities
- complementary paratransit service by public entities operating a fixed route system
- nondiscriminatory accessible transportation service

State Policies

Oregon Transportation Plan (OTP)

The OTP is part of an on-going transportation planning process within the Oregon Department of Transportation (ODOT) to provide for integration of existing and future

detailed modal and multi-modal plans. It is a means of enhancing coordination and cooperation between the various transportation modes, state and federal agencies, regional and local governments, and private industries.

ORS 184.618(1) requires state agencies to use the OTP *"to guide and coordinate transportation activities...."* It does not give the Transportation Commission the authority to impose OTP goals, policies, and performance guidelines on other agencies than state agencies. The OTP operates in the legal context of the State Agency Coordination Program (OAR 731-15) and the LCDC Transportation Planning Rule (OAR 660-12) from which it derives additional requirements and authority.

Transportation Planning Rule (TPR) OAR Chapter 660, Division 12

The Transportation Planning Rule is intended to encourage reduced reliance on the automobile by requiring cities to plan for other modes of transportation, including public transportation and pedestrian and bicycle routes. The rule is also intended to assure that the planned transportation system supports a pattern of travel and land use in urban areas which will avoid the air pollution, traffic and livability problems faced by other areas of the country.

The TPR requires that local governments over 2,500 in population prepare and adopt a Transportation System Plan (TSP). The rule does not mandate targets for local governments outside of Metropolitan Planning Organization (MPO) areas with less than 25,000 people.

The TSP must contain the following elements:

- determination of transportation needs;
- road plan for a network of arterials and collectors;
- public transportation plan, which
  - describes public transportation services for the transportation disadvantaged and identifies service inadequacies.
  - describes inter-city bus and passenger rail service and identifies the location of terminals;
- bicycle and pedestrian plan;
- air, rail, water and pipeline transportation plan;
- policies and regulations for implementing the TSP; and,
- transportation financing program.

The road plan, public transportation plan and bike and pedestrian plans shall contain:

- an inventory and general assessment of existing and committed transportation facilities;
- a description of the type or functional classification of planned facilities and services and their planned capacities and levels of service;
- a description of the location of planned facilities, services and major improvements; and,
- the identification of the provider of each transportation facility or service.

In addition, land use and subdivision ordinance amendments should be adopted to protect transportation facilities for their identified functions (e.g., access control measures) and require bicycle parking facilities and facilities for safe, convenient, and direct pedestrian and bicycle access within and between residential, commercial, employment and institutional areas.

The complete text of the Transportation Planning Rule is in Appendix C.

Local Policies

Cottage Grove Comprehensive Land Use Plan, February 6, 1981

General Objectives:

1) Provide for a safe and efficient transportation system to serve existing and future arrangement of land uses considering all modes of transportation.

2) Promote a transportation system that minimizes the impact of traffic noise, land consumption and pollution.

3) Ensure that consideration be given to safe and convenient bicycle and pedestrian movement.

4) Encourage local community oriented public transit to allow transportation disadvantaged to have access to employment, health care and other social services.

5) Encourage continued improvements to facilities and services at the Cottage Grove Airport.

Gateway Boulevard Area Policies:

1) Maintain Gateway Boulevard and its southerly extension functions as an alternate transportation route into and through Cottage Grove by assuring the efficient movement of traffic through sound land use policy.

2) Preserve the area east of Gateway and north of Harvey Lane for the expansion of Tourist Commercial development.

3) Maintain the area west of Gateway Boulevard as a buffer from the Tourist Commercial activities and Interstate on the east.

4) Limit access to the maximum extent feasible along all of Gateway Boulevard and its southerly extension and particularly between the O.P.& E. tracks and Harvey Lane.

5) Assure that development of community shopping east of Gateway and south of the O.P.& E. tracks occurs in an orderly manner through a planned development or phasing program.

6) Prohibit commercial development east of and off of 19th Street until acceptable access to Main Street or Gateway is provided.

7) Require developments that overload existing utilities and/or require additional traffic control to participate financially in providing extra capacity to the development site.

8) Sell City-owned parcels along Gateway, except those designated for open space, to adjacent owners and control access on those parcels through reserve strips or deed restrictions.

Cottage Grove Transportation Safety Study, June 1982

The purpose of this study was to improve transportation safety in Cottage Grove by minimizing vehicle, pedestrian, bicycle and railroad accidents, improve traffic flow and circulation, improve roadway, bicycle and pedestrian conditions, and minimize railroad-highway conflicts.

The study made several recommendations including project specific long-term capital improvements; updated functional classification categories, policies and design standards; and changes to street standards and policies for arterials, major collectors, minor collectors, local roads and residential streets, traffic control standards, and parking standards and policies.

Residential Land Needs Analysis and Buildable Lands Inventory, 1991

The intent of this study is to project future residential housing needs as a part of the Comprehensive Plan Periodic Review process. The study is to determine if enough buildable lands exists within the Urban Growth Boundary to sustain the projected population.

The study found the projected population to be 13,020 and a projected need of 1,696 additional dwelling units.

Cottage Grove Visioning Project, 1992

The Cottage Grove Visioning Project establishes high-priority projects that addresses either problems or opportunities facing Cottage Grove's future. Five primary issues have been identified and addressed. They are:

- How will we make a living?
- How big to we want to be?
- What services do we want?
- What do we want to do with our leisure time?
- What do we want to preserve?

The result of the Visioning Project is a set of mission statements with goals and project statements for each issue question identified. With respect to transportation, goals and projects have been identified. Under the Preservation issue, the goal *to retain views of undeveloped natural beauty and open spaces* and the project statement *to expand the area's system of greenways, bike paths, and hiking trails.* The Services issue goal of *providing basic and essential services* includes the project statement *to identify funding opportunities for preserving public funding for basic services such as police, fire, water quality, medical and emergency health, streets, mental health, education, and library programs.* The Services transportation goal includes the project statement *to support efforts to provide public transportation access to Eugene* and *to identify opportunities to use school buses for public transportation needs.*

Bikeway Master Plan, 1992

The primary purpose of the Bikeway Master Plan is that is be used as a planning tool. There exists a significant effort within Cottage Grove to provide guidance for future bikeway improvements and to enable the City to be eligible for funding of specific projects and programs.

The overall goals of the plan are:

- provide guidelines to develop bikeway systems;
- establish criteria for a safe and convenient bicycling environment;
- encourage and support education and safety programs for all ages; and
- establish priorities.

Transportation Analysis for Cottage Grove Wal-Mart, 1993

This report covers the traffic engineering on the construction of a 155,500 square foot commercial retail development located on the northwest corner of Row River Road and Thornton Road. Field observations conducted as a result of the report found existing conditions to be that while left turns at the intersection operate at a low level of service, traffic manages to move into and out of the freeway ramps with little trouble. Also, field observations found existing conditions to have adequate gaps in traffic along Row River Road that allows vehicles to make the turns onto the freeway safely.

This study states that the proposed Wal-Mart development can be developed with minimal impacts to the surrounding street system if the following improvements are made:

- improve Row River Road with a one half street improvement that provides a continuous left turn lane, two travel lanes (one in each directions) and one bicycle lane; and
- ODOT review and improve the unsignalized I-5 north bound ramp intersection with Row River Road.

Since the time this study was done, the improvements have been completed.

Cottage Grove Connector Traffic Study, 1994

The purpose of this report is to analyze the outstanding traffic engineering issues that remain regarding the North Regional Park development proposed by the City of Cottage Grove and its impacts on the proposed improvement of the Cottage Grove Connector by the Oregon Department of Transportation (ODOT). In particular, the study addresses the outstanding issues listed in the "Memorandum of Understanding" between the City and ODOT:

- assesses the trip generation thresholds which would allow a full unsignalized and a full signalized access to the North Regional Park while providing safe and efficient system operation over a minimum 10 year period;
- assesses the minimum spacing between Gateway Boulevard and the entrance to the North Regional Park needed to accommodate a traffic signal;
- evaluates the merits of limiting traffic movements at the North Regional Park access intersection including their effects on allowable trip generation, intersection spacing, and traffic signal operation;
- evaluates the weave characteristics of a westbound right-turn-only lane and lane configurations created by a left-turn option exiting the North Regional Park;
- evaluates the traffic-signal progression (including a potential signalized access at the North Regional Park) between Highway 99 and the Northbound I-5 ramps; and
- makes recommendations for the optimum location and design of the North Regional Park access intersection as indicated by the analysis.

System Development Ordinance, 1994

This report has been prepared to provide a basis for the adoption of updated System Development Charges (SDCs). It presents a schedule of recommended SDCs based on the findings of a study analyzing the relationship between anticipated development and the City's capital improvement needs.

The systems addressed by the Ordinance include:

- Water, supply, treatment and distribution;
- Waste water collection, transmission, treatment and disposal;
- Drainage and flood control;
- Transportation; and
- Parks and recreation.

System Inventories

The Land Conservation and Development Commission's *Goal 12: Transportation Planning Rule* requires a series of inventories for inclusion in the transportation system plan. Goal 12 specifically reads:

> **OAR 660-12-020 Elements of Transportation System Plan**
>
> *(3) Each element identified in subsection (2)(b)-(d) (road, public transportation, bicycle, and pedestrian) shall contain:*

(a) *An inventory and general assessment of existing and committed transportation facilities and services by function, type, capacity and condition.*

The system inventories included with the Cottage Grove TSP are as follows:

- Street Inventory
- Bike Way Inventory
- Pedestrian Inventory
- Public Transportation Services Inventory
- Air, Rail, Water and Pipeline Inventory
- Natural Constraints Inventory
- Land Use Inventory

This section of the report documents the sources of the inventories and lists the products that were developed.

Inventory Methodology

The following are descriptions, by individual systems, of how the inventories were conducted. A significant amount of the inventories were conducted via aerial photos (1992, WAC Corporation) and in consultation with Public Works Public Works staff. The Oregon Department of Transportation's (ODOT) "Draft Transportation System Planning Guidelines," December 1993, was also used as a guide for the methodology.

Street Inventory

The ODOT guidelines list several tasks to be completed as part of the street inventory. These tasks include:

- identification of the number of travel lanes on each improved right-of-way;
- measuring the travel lane and right-of-way widths;
- counting traffic volumes on major streets and counting turning movements at key intersections;
- calculating the level of service on all collectors and arterials;
- identifying areas with high accident rates and determining roadway, driver, and vehicle related circumstances that contributed to the accidents, identifying road features design and condition and street geometry problems;
- assessing the condition of existing pavement;
- identifying and mapping the functional classification of the streets for the entire jurisdictional area; and
- identifying which jurisdiction is responsible for each facility or portions of a facility.

The number of lanes and street right of way widths for collector streets and above were obtained from the aerial photos and Cottage Grove's Public Works 50' scale maps. The identification of roadway maintenance responsibility for collector level and above roadways was logged in a spreadsheet.

The facility locations were located via a windshield survey and confirmed by Public Works staff. Facilities include roadways, existing bikeways, signalized intersections, bridge structures, railroads, the airport and a fiber optics line. These were mapped in Figure 2, *Existing Functional Classification and Major Facilities.*

Roadway and intersection count data were collected from Public Works staff, the Lane County 1992 Traffic Counts book, and ODOT's 1992 Traffic Volume Table. These were inputted into the EMME/2 traffic forecasting model and created a synthesized traffic flow map, Figure 3a, *1992 Estimated Average Daily Traffic Flow.*

The level of service (LOS) was determined using EMME/2 software. From the traffic flow map, the volume to capacity ratios were calculated. ODOT's transportation modeling peak hour lane capacities were used (factored up to daily capacities). The Institute of Transportation Engineers (ITE) guidelines for fixed lane LOS standards were used for determining levels of A, B, C, D, E and F. The LOS levels were aggregated into good, fair and poor. The volume/capacity ratio ranges for LOS are: LOS A = 0-0.6, B = 0.61-0.7, C = 0.71-0.84, D = 0.85-0.94 and E = >0.94. The 1992 LOS can be found in Figure 4a, *1992 Level of Service.*

The condition of the roadway (excluding ODOT facilities) can be found in Figure 7, *Condition of Roads.* The information used was the current paving status obtained from Public Works Public Works staff and Lane County Public Works staff.

The functional classifications of the roadways were initially obtained from the 1982 Cottage Grove Traffic Safety Study and the ODOT 1992 Functional Classification Map. These classifications were reviewed by Public Works staff of the City and Lane County using the US DOT/FHWA's "Highway Functional Classification: Concepts, Criteria and Procedures". The street classifications can be found in Figure 2, *Existing Functional Classification and Major Facilities.*

A complete table of the street inventory can be found in Table 1, *Street System Inventory.*

The number of accidents for the highest intersections was tallied for the years 1985 - 1994. They can be found in Table 2, *Critical Accident Locations and Number of Accidents Reported.*

Bikeway Inventory

The identification of the existing and proposed bikeway system within the city limits of Cottage Grove was taken from the 1993 City of Cottage Grove Bikeway Master Plan and can be found in Figure 5, *Existing and Proposed Bikeways.*

Pedestrian System Inventory

The sidewalk system was inventoried via a windshield survey and through consultation with Public Works staff. The areas where there was no sidewalk or only a sidewalk on one side can be found in Figure 6, *Sidewalks.*

Public Transportation Services Inventory

At the time the inventory was done, there was no public mass transit service in Cottage Grove. Lane Transit District (LTD) completed a needs assessment study of the Cottage Grove-Creswell area. This study showed there is interest among the citizens in public transportation. The 400 household survey showed that 72% of the residents are in favor of implementing commuter bus service between their community and the Eugene-Springfield area. Another study by the City of Cottage Grove is scheduled to begin in FY 1997 on the feasibility of an intra-city system.

South Lane Wheels provides service for the elderly and disabled community in Cottage Grove. South Lane Wheels obtains funding through a special transportation fund grand administered through Lane Council of Governments (LCOG). Historical data from 1992 to 1996 was gathered from LCOG. Historical data prior to 1992 is available, although, not in an immediate accessible format and was not used. South Lane Wheels revenue sources can be found in Table 6, *South Lane Wheels Funding Sources.*

Air, Rail, Water and Pipeline Inventory

There is one municipal airport in Cottage Grove. The Oregon Department of Transportation (ODOT) Division of Aeronautics operates and maintains the airport. In 1993 they reported approximately 11,800 private and commercial trips from the airport. The previous airport traffic count was in 1986 with 11,150 trips. The next airport traffic count is scheduled for 1997.

There is one operational railroad line running through the city. The ODOT 1994 Oregon Rail Freight Plan was used as the source of information for the railroad in Cottage Grove. Central & Oregon Pacific Railroad runs one major branch line, the Siskiyou Line, through Cottage Grove on its way from Eugene to the Rogue Valley. There is currently no rail passenger service.

The Willamette River runs through the TSP study area, however, it is not used for transportation purposes.

There are no pipelines within the study area. One natural gas pipeline runs just north of the study area, and another just to the west. There is one existing fiber optics line that runs parallel to Highway 99.

This information can be found in Figure 2, *Existing Functional Classification and Major Facilities.*

Constraints Inventory

The constraints inventories were broken out into two sub-divisions. The first is an environmental constraints inventory that includes wetlands and significant natural areas. The second is a cultural constraints inventory that includes historic buildings and areas, cemeteries, parks and schools.

Environmental Constraints: The environmental constraints inventory was conducted by comparing existing map sources and the aerial photos. No actual field checks were conducted. The National Wetlands Inventory, the "Wetlands Delineation of the Cottage Grove Industrial Site" (prepared by Scoles Associate, 1994 for the City of Cottage Grove) and the "City and Its Hillsides" (1977) were used.

According to the "Fish and Wildlife Habitat Inventory Background Paper" conducted for the Comprehensive Plan, there are no known Threatened/Endangered species within the TSP study area.

Cultural Constraints: The City has not developed a formalized parks plan, but has inventoried and identified sites for maintenance purposes.

In the 1976 report to the Historical Preservation Advisory Committee, nine historical structures were identified. An Historic Preservation overlay zones was created for historic sites. Also, an Historic District overlay has been applied to the downtown commercial district. There are approximately 30 properties with /HP overlay zoning, plus about 60 lots in the downtown district.

The natural constraints inventories can be found in *Figure B-2: Natural Constraints.*

Land Use Inventory

The land use inventory was derived from the 1991 Land Use map that was updated for periodic review. The existing land uses can be found in *Figure B-3: Existing Land Use.*

The vacant and underutilized land inventory was conducted by comparing the aerial photos with future comprehensive plan designations. These are found in *Figure B-4: Vacant and Underutilized Land.*

Cottage Grove staff reviewed the two maps. Development that has occurred since 1991 is not likely to be reflected in Land Use and Vacant Land maps.

Results

The following maps were produced as a result of conducting the inventories:

Functional Roadway Classification and Major Facilities

- Sidewalks
- Existing and Proposed Bikeways
- Condition of Roads
- Existing Land Uses
- Vacant and Underutilized Lands
- Natural Constraints

The first four maps can be found in the main document.

The inventories were used to help identify deficiencies and needs for the needs assessment phase of the work program. The street inventory was used as the database for the development of the traffic forecasting model. The street characteristics were the inputs to the network model. The land use information was used in the dwelling unit and employment projections.

Dwelling Unit and Employment Projections

The Land Conservation and Development *Commission's Goal 12: Transportation Planning Rule* requires that the determination of transportation needs is based on current population and employment projections. Specifically, Goal 12 reads:

> **OAR 660-12-030 Determination of Transportation Needs**
> *(3) Within urban growth boundaries, the determination of local and regional transportation needs shall be based upon:*
> *(a) Population and employment forecasts and distributions which are consistent with the acknowledged comprehensive plan, including those policies which implement Goal 14, including Goal 14's requirement to encourage urban development on urban lands prior to conversion of urbanizable lands. Forecasts and distributions shall be for 20 years and, if desired, for longer periods.*
> *(b) Measures adopted pursuant to 660-12-045 to encourage reduced reliance on the automobile.*

The dwelling unit and employment projections fulfill the Goal 12 population and employment forecast and distribution requirement for the assessment of Cottage Grove transportation needs.

Dwelling Unit Methodology

Employment and dwelling units were both projected out to 2015. Number of dwelling units was projected instead of population to be consistent with the traffic forecasting model. The population used for the dwelling unit projection was derived from the 1991 Cottage Grove Residential Lands Needs Analysis and Buildable Lands Inventory, a report that was part of the periodic review of the City's adopted Comprehensive Plan. The projected population used was 13,020. It was assumed that the buildout population projection, set for 2010 in the Residential Lands Needs Analysis and Buildable Lands Inventory, would not be reached until 2015 because the population rate has not been as high as originally projected.

The basic methodology for forecasting dwelling units consists of an inventory of vacant land by plan designation followed by an allocation of expected dwelling units to those vacant lands.

To determine the number of units to be allocated, the number of dwelling units projected in the Cottage Grove Residential Lands Needs Analysis and Buildable Lands Inventory (1990 - 2010) was used as a base. From the base number of dwelling units projected, the existing dwelling units (base year 1992, Lane County address library) were subtracted out. The total number of new dwelling units to be allocated is 1696 (see Table B-1 and Table B-5).

Table B-1 presents data for dwelling units in the Transportation Analysis Zones (TAZs), or study area, both inside and outside the City's UGB. The City's currently adopted Comprehensive Plan projects a population of 13,020. If the projected dwelling units inside the UGB (5,090) are multiplied by the expected occupancy rate (.96) and average household size (2.66) – both numbers are taken from the adopted comprehensive plan – it results in a projected population of roughly 13,000. The dwelling unit forecast is consistent with the Comprehensive Plan; indeed the forecast itself (5,090 units) comes from the adopted Comprehensive Plan.

Table B-1. Dwelling Unit Forecast[1]

	Base Year (1992)			Forecast[2] (2015)	Future Total[3] (2015)		
	Inside UGB	Outside UGB	TOTAL	Inside UGB	Inside UGB	Outside UGB	TOTAL
Single	2,501	935	3,436	808	3,309	935	4,244
Duplex	191	6	197	114	305	6	311
Multi	418	15	433	346	764	15	779
Mobile	284	336	620	428	712	336	1,048
TOTAL	**3,394**	**1,292**	**4,686**	**1,696**	**5,090**	**1,292**	**6,382**

[1] *The data are presented for dwelling units in the TAZs, or study area, both inside and outside the City's UGB.*

[2] *Projections were taken from the 1991 Residential Lands Needs Analysis and Building Lands Inventory – part of the City's periodic review of their Comprehensive Plan. The analysis was based on 1990 population projections.*

[3] *Projected new dwelling units were allocated inside the UGB only.*

(Note: Only the number of dwelling units forecasted was taken from the 1991 Residential Lands Needs Analysis. The total number of base year dwelling units and total number of projected dwelling units differs from the Residential Lands Needs Analysis because the study area used for purposes of the TSP is larger than the study area used for the Residential Needs Analysis.)

In order to tally the number of vacant acres, data were obtained from 3 maps showing the existing land use, vacant lands, and transportation analysis zones (TAZs) for the study area. Existing land use conditions and vacant lands were determined by using the appropriate map as an overlay to a map outlining the TAZ boundaries (visual clarity

was enhanced by the use of a light table). To determine the acreage of the lands, a transparent grid was created as an overlay to the maps. Squares of the grid covering a selected area were then added to determine size. Each square of the grid (approximately 3/8 inch) represented 1 acre, appropriate to the scale of the maps which were 1 inch = 550 feet. This method was used due to the fact that there was not a current GIS database available for Cottage Grove.

A few cases were discovered where the present land use was less intense than the zoning would allow. For example, an area zoned medium-density residential was occupied by a low-density residential use. In these cases, adjustments were made to the totals of the appropriate land use categories to more accurately reflect the land use of a full buildout scenario. Some differences may exist between present land use conditions and zoning within a residential area (i.e. from lower use residential to a higher use residential), but this could not accurately be determined due to insufficient data.

Dwelling Unit Allocation

To determine the mix of dwelling units to allocate to each type of land (low-, medium-, and high-density residential), the assumption was made that the percent mix of structure type by plan designation would be similar to that experienced in the Eugene-Springfield metro area (see Table B-2). The dwelling units were then evenly allocated to each TAZ based on the number of vacant acres of each type of land available in that TAZ.

Table B-2. Plan Designation by Residential Structure Type

	Low Density	Medium Density	High Density
Single Family	65%	0%	0%
Duplex	8%	3%	0%
Multi-Family	3%	77%	45%
Mobile Home	24%	19%	55%
TOTAL	**100%**	**100%**	**100%**

Employment Methodology

The employment projections were based on Lane Council of Government's projections for the Lane County employment. The historical Cottage Grove employment as a percent of Lane County employment was used in projecting employment for Cottage Grove.

To develop Cottage Grove projections a historical comparison of Cottage Grove employment from 1978 to 1992 to Lane County employment in three sectors: "Service," "Retail," and "Other" was made. (Note: "Retail" is retail trade; "Service" includes service, education, and finance, insurance and real estate; "Other" includes all

manufacturing, mining, construction, transportation communication and utilities, wholesale, trade and government; these sectors are defined for the transportation model). The growth in Cottage Grove employment relative to Lane County is based on the historical trends in those sectors.

The base year employment for the study area was 3,626. The total amount of projected employment (base year plus new employees) in the Cottage Grove study area for the year 2015 is estimated at 7,344 (see Table B-6).

Note: In June of 1997, a discrepancy in the employment data was discovered. There were 373 Weyerhaeuser employees that should have been included in TAZ 438. Instead, they were showing up in the Springfield TAZ where their company headquarters is located. Table B-6 was corrected to include these employees. While the total employees in 2015 did not change, the number of projected new employees was lowered by 373 industrial employees. The corrected employment figures had an insignificant impact on the traffic volumes and Level of Service, therefore the maps were not updated.

Employment Allocation

Once projections were developed, information regarding expected future development was obtained. As a result, this allocation assumes that by 2015 a theme park will be developed in the North Regional Park area (transportation analysis zone (TAZ) 333, west of I-5 to 99, north of connector). It was assumed this theme park will have 290 retail employees, 200 service employees, and 165 employees in other industries for a total of 655 employees. It was also assumed that Wal-Mart would be constructed (in TAZ 358, east of I-5, towards Thornton Lane) and would result in 210 retail employees, 155 service employees, and 130 employees in other sectors (see "Other" definition in above paragraph) for a total of 495 new employees by 2015. Finally, it was assumed that by 2015 new middle and high schools, a library, and a satellite Lane Community College campus will be developed near Bohemia school (TAZ 345, southeast Cottage Grove, west of 99, north of Sweet Lane). This area contains all vacant public land and therefore receives the expected growth in government and education employment as well as some service employment for a total of 282 service employees (including education), and 197 employees in other non-retail industries (which includes government) or 479 employees in all.

For the remainder of the study area, each type of employment was then allocated according to the amount and the type of vacant land available in each TAZ. The mix of land used for each type of employment is indicated in Table B-3. Since 35% of service employment is education, that percentage of service employment has been allocated to public land. Similarly, since 12% of "other" employment is currently government employment, that percent of other employment has been allocated to public land (see Table B-3). The distribution of employment among commercial and industrial land is assumed to be similar to the current distribution in the Eugene-Springfield metro area since no current data for Cottage Grove are available.

Table B-3. Distribution of Employment (Service, Retail, Other) by Plan Designation (Commercial, Industrial, Public)

	Service	Retail	Other
Commercial	55%	92%	18%
Industrial	10%	8%	70%
Public	35%	0%	12%
TOTAL	100%	100%	100%

Projection Results

The projections were used as inputs for trip generation purposes in the transportation forecasting model. According to the "Cottage Grove Residential Lands Needs Analysis and Buildable Lands Inventory (1990 - 2010)," the average desired densities for residential development are 5, 6.5, 13, and 5 units per acre for single-family, duplex, multi-family, and mobile home, respectively. Using these densities, it is estimated that 234, 22, and 4 acres of low-, medium-, and high-density land is needed to accommodate the dwelling units expected by 2015. The total number of dwelling units projected for 2015 is 6,382 (see Table B-5). Based on our inventory, there will not be a shortage in any of the three types of residential land, as it indicates that 351, 90, and 61 acres of land are available (see Table B-4).

Table B-4. Land required for expected residential development

	Acres Needed	Vacant Acres	Remaining Acres
Low	234	351	117
Medium	22	90	68
High	4	61	57
TOTAL	260	502	242

The employment projection methodology yields an expected total study area employment of 7,344 by the year 2015 (see Table B-6), or an annual average rate of growth of 3.1% over the projection period. In 1992 the Cottage Grove study area accounted for 3.3% of total Lane County employment; by 2015 that number is projected to increase to 4.4%.

The employment allocation methodology yields an average of 22.6 employees per vacant acre of commercial land (27 employees per vacant acre excluding Wal-Mart and the theme park), 17 employees per vacant acre of industrial land, and 12 employees per vacant acre of public land. While a density of 27 employees per acre is higher than most current development in Cottage Grove, it could be combined with less-dense existing employment.

Table B-5. Cottage Grove Existing and Future Dwelling Units by TAZ

	EXISTING (1992)					FORECASTED (in addition to existing)					TOTAL FUTURE (2015)				
TAZ #	Single Family	Duplex	Multi-Family	Mobile Home	TOTAL	Single Family	Duplex	Multi-Family	Mobile Home	TOTAL	Single Family	Duplex	Multi-Family	Mobile Home	TOTAL
INSIDE UGB															
331	9	0	15	2	26	0	1	17	4	21	9	1	32	6	47
332	10	0	38	138	186	0	1	12	3	16	10	1	50	141	202
333	8	0	0	0	8	0	0	0	0	0	8	0	0	0	8
334	156	16	6	2	180	2	0	0	1	3	158	16	6	3	183
336	220	4	16	1	241	10	1	0	4	15	230	5	16	5	256
337	51	0	22	0	73	0	0	0	0	0	51	0	22	0	73
338	257	11	63	1	332	5	1	2	5	13	262	12	65	6	345
339	90	0	73	0	163	0	0	0	0	0	90	0	73	0	163
340	63	14	0	0	77	92	12	17	51	172	155	26	17	51	249
341	168	12	0	0	180	38	5	2	14	59	206	17	2	14	239
342	122	10	0	0	132	2	0	0	1	4	124	10	0	1	136
343	44	2	0	0	46	0	0	0	0	0	44	2	0	0	46
344	10	2	0	0	12	5	1	0	2	7	15	3	0	2	19
346	14	2	0	0	16	39	10	124	56	229	53	12	124	56	245
348	165	28	10	2	205	10	1	0	4	16	175	29	10	6	221
349	370	25	37	6	438	5	1	0	2	7	375	26	37	8	445
350	43	0	0	3	46	12	2	17	9	40	55	2	17	12	86
351	14	2	0	0	16	0	0	0	0	0	14	2	0	0	16
352	206	23	23	18	270	5	1	0	2	7	211	24	23	20	277
353	62	10	7	3	82	49	8	32	25	114	111	18	39	28	196
354	61	0	1	8	70	9	1	0	3	13	70	1	1	11	83
355	44	2	79	0	125	0	0	7	2	9	44	2	86	2	134
356	11	0	0	0	11	0	0	0	0	0	11	0	0	0	11
357	162	13	23	21	219	5	2	20	7	34	167	15	43	28	253
358	20	0	5	32	57	21	3	1	8	32	41	3	6	40	89
359	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARTIALLY INSIDE UGB															
335	37	0	0	6	43	357	46	38	148	589	394	46	38	154	632
345	85	4	8	7	104	67	9	3	25	104	152	13	11	32	208
347	42	11	0	6	59	39	6	50	41	136	81	17	50	47	195
437	125	0	0	16	141	37	5	2	14	58	162	5	2	30	199
OUTSIDE UGB															
430	212	6	1	66	285	0	0	0	0	0	212	6	1	66	285
432	30	0	0	11	41	0	0	0	0	0	30	0	0	11	41
433	18	0	0	6	24	0	0	0	0	0	18	0	0	6	24
434	41	0	0	6	47	0	0	0	0	0	41	0	0	6	47
435	30	0	0	6	36	0	0	0	0	0	30	0	0	6	36
436	78	0	0	39	117	0	0	0	0	0	78	0	0	39	117
438	55	0	6	3	64	0	0	0	0	0	55	0	6	3	64
439	100	0	0	29	129	0	0	0	0	0	100	0	0	29	129
440	13	0	0	6	19	0	0	0	0	0	13	0	0	6	19
441	131	0	0	31	162	0	0	0	0	0	131	0	0	31	162
522	59	0	0	145	204	0	0	0	0	0	59	0	0	145	204
TOT	**3436**	**197**	**433**	**620**	**4686**	**808**	**114**	**346**	**428**	**1696**	**4244**	**311**	**779**	**1048**	**6382**

Table B-6. Cottage Grove Existing and Future Employment by TAZ

	EXISTING (1992)				FORECASTED (in addition to existing)				TOTAL FUTURE (2015)			
TAZ #	Service	Retail	Other	Total	Service	Retail	Other	Total	Service	Retail	Other	Total
INSIDE UGB												
331	17	21	1	39	0	0	0	0	17	21	1	39
332	24	107	18	149	25	26	13	64	49	133	31	213
333	0	45	0	45	200	290	165	655	200	335	165	700
334	16	5	18	39	28	28	14	70	44	33	32	109
336	344	10	0	354	0	0	0	0	344	10	0	354
337	75	112	106	293	0	0	0	0	75	112	106	293
338	22	0	16	38	0	0	0	0	22	0	16	38
339	178	118	33	329	0	0	0	0	178	118	33	329
340	87	0	3	90	0	0	0	0	87	0	3	90
341	2	0	3	5	0	0	0	0	2	0	3	5
342	0	0	4	4	0	0	0	0	0	0	4	4
343	10	36	6	52	10	10	5	26	20	46	11	78
344	16	1	0	17	225	230	113	568	241	231	113	585
346	0	0	0	0	0	0	0	0	0	0	0	0
348	332	0	0	332	0	0	0	0	332	0	0	332
349	1	0	15	16	0	0	0	0	1	0	15	16
350	0	0	0	0	0	0	0	0	0	0	0	0
351	133	17	12	162	0	0	0	0	133	17	12	162
352	22	25	62	109	5	5	3	13	27	30	65	122
353	1	0	114	115	2	1	27	31	3	1	141	146
354	7	71	61	139	41	21	466	528	48	92	527	667
355	12	9	47	68	24	21	79	124	36	30	126	192
356	38	174	8	220	38	39	19	96	76	213	27	316
357	13	60	1	74	96	98	48	242	109	158	49	316
358	108	3	21	132	155	210	130	495	263	213	151	627
359	0	0	0	0	4	2	42	48	4	2	42	48
PARTIALLY INSIDE UGB												
335	2	0	0	2	0	0	0	0	2	0	0	2
345	2	0	0	2	282	0	152	434	284	0	152	436
347	1	0	1	2	0	0	0	0	1	0	1	2
437	2	5	85	92	25	13	287	325	27	18	372	417
OUTSIDE UGB												
430	1	25	44	70	0	0	0	0	1	25	44	70
432	0	0	168	168	0	0	0	0	0	0	168	168
433	0	0	0	0	0	0	0	0	0	0	0	0
434	1	0	0	1	0	0	0	0	1	0	0	1
435	0	0	7	7	0	0	0	0	0	0	7	7
436	2	0	6	8	0	0	0	0	2	0	6	8
438	0	0	374	374	0	0	0	0	0	0	374	374
439	4	0	19	23	0	0	0	0	4	0	19	23
440	0	0	0	0	0	0	0	0	0	0	0	0
441	31	0	11	42	0	0	0	0	31	0	11	42
552	12	0	2	14	0	0	0	0	12	0	2	14
TOTAL	**1516**	**844**	**1266**	**3626**	**1161**	**993**	**1563**	**3718**	**2677**	**1837**	**2829**	**7344**

Determination of Transportation Needs

The Land Conservation and Development Commission's *Goal 12: Transportation Planning Rule* requires technical analysis of transportation needs. More specifically, Goal 12 reads:

> **OAR 660-12-030 Determination of Transportation Needs**
> *(3) Within urban growth boundaries, the determination of local and regional transportation needs shall be based upon:*
> *(a) Population and employment forecasts and distributions which are consistent with the acknowledged comprehensive plan, including those policies which implement Goal 14, including Goal 14's requirement to encourage urban development on urban lands prior to conversion of urbanizable lands. Forecasts and distributions shall be for 20 years and, if desired, for longer periods.*

The need for new roads, or for upgrading existing roads, is determined by comparing the capacity of the existing transportation system with the projected future travel demand. Where demand is expected to exceed capacity, new or upgraded roadway projects are proposed. To enable this comparison of transportation supply and anticipated demand, LCOG has synthesized a four-step computerized travel forecasting model for the Cottage Grove Area. The four-step process includes:

Trip Generation, which estimates total person-trips produced by the region's households or attracted to the region's employment, shopping, social, and recreational opportunities;

Trip Distribution, which matches origin and destination of trips, based on the estimated area-wide distribution of trip impedances (travel times);

Auto Occupancy / Mode Choice, which converts person-trips to automobile trips; and

Network Assignment, which estimates the travel route for each trip, based on roadway capacity and congested travel times.

In addition, *External Trips* represent a significant portion of Cottage Grove area travel. These consist of Internal-External trips that begin in Cottage Grove and end elsewhere, External-Internal trips that begin elsewhere and end in Cottage Grove, and Through-Trips that pass through the area.

Zone Structure and Model Network

The Cottage Grove area has been divided into 41 transportation analysis zones (TAZs) for land use forecasts and travel demand analysis. An additional 9 TAZs represent points at which traffic enters and exits the region along County and State roads. The Cottage Grove internal zone system is shown in Figure B-1.

The computer model roadway network consists of all freeway segments, principal arterials, minor arterials, and collector streets in the Cottage Grove urban area. Network link data, including lanes, posted speeds, intersection data, and base year traffic counts were obtained by LCOG staff, with the assistance of the City of Cottage Grove Engineering Department. The network is shown in Figure 3a. Default capacity values are shown below in Table B-7.

Table B-7. Roadway Capacity Values (VPHPL)

Type	Functional Classification	One Lane	Multiple Lanes
1	Freeways (Limited Access Principal Arterials)	1700	1700
2	Principal Arterials - Signal Spacing > 1/2 mi	1100	900
3	Principal Arterials - Signal Spacing < 1/2 mi	900	900
4	Minor Arterials	900	800
5	Major Collectors	800	600
6	Minor Collectors	600	500
7	Local Streets	500	400
8	Ramps - No Control	1700	
	Controlled On Ramp	1100	
	Controlled Off Ramp	900	
9	Centroid Connectors	Unlimited	Unlimited

VPHPL: Vehicles per hour per lane

Travel Behavior Data

Recent travel behavior data were not generally available for the Cottage Grove area. The 1990 Census Journey-to-Work provided limited information about the home-to work trip rates, external travel patterns, and mode choice, but internal work travel patterns were not discernible due to Census geocoding limitations. Consequently, trip rates, trip purpose distributions, travel time functions, and auto occupancy rates developed from survey data in other small urban areas were used in the Cottage Grove model. These parameters have been compiled by the National Cooperative Highway Research Program (NCHRP), and published in a 1993 document.

In 1971, the Oregon Department of Transportation conducted an Origin-Destination study of traffic entering, leaving, and traveling through the Cottage Grove area. Since that time, the number of these "external" trips has increased, especially those trips using Interstate 5. However, the study still provides useful information on external travel patterns, so portions of the 1971 ODOT study are incorporated into the External Travel model.

Trip Generation

Trip generation involves estimating the number of person trips a given study area will generate. The population and employment projections are direct inputs to the trip generation model. The results, person-trips, are then inputted into the traffic

forecasting model to estimate the number of vehicle trips and traffic volumes for a given scenario.

The trip generation model is based on dwelling units and utilizes the following average weekday production parameters:

Average Weekday Motorized Person Trip Productions

Type	Vacancy Rate	Vehicle Trips	Per Trip	Home-Based Work%	Home-Based Other%	Non-Home-Based%
Single Family Res	5.0%	10.06	11.426	20%	57%	23%
Duplex Res	5.0%	5.86	6.656	20%	57%	23%
Multi-Family Res	5.0%	6.47	7.349	20%	57%	23%
Mobile Home	5.0%	4.81	5.463	20%	57%	23%

And the following average weekday attraction parameters:

Average Weekday Motorized Person-Trip Attractions

Attractions	Home-Based Work	Home-Based Other	Non-Home-Based
Retail Employment		9	4.1
Service Employment		1.7	1.2
Other Employment		0.5	0.5
Total Employment	1.7		
Total Dwelling Units		0.9	0.5

Commercial Vehicle trip ends are estimated to equal .34 times the other Non-home-based trip ends. Production trip ends serve as control totals for all trip purposes.

External Travel

The 1971 O-D survey forms the basis for part of the External Travel model. External traffic volumes have been factored up from 1971 to 1992 levels. The distribution of through trips between external stations is also consistent with the 1971 survey, but factored to current traffic levels. Between 1992 and 2015, a 2% annual growth rate is assumed for State and County roads entering and leaving Cottage Grove. Approximately 45% of the 1992 external travel is through-traffic, increasing to 54% in 2015.

The allocation of trip purposes at the external cordon stations is based on NCHRP data, adjusted in the base year so that aggregate external trip totals by purpose approximate the 1971 survey data. For the 1992 model base year, Cottage Grove is a net exporter of workers due to the imbalance between local housing and jobs. For the 2015 forecast year, the proportion of external Home Base Work productions is increased and the proportion of attractions is correspondingly decreased since the land use forecasts show local employment increasing at a higher rate than population. Cottage Grove then becomes a net importer of workers. Similarly, major retail, cultural, and recreational facilities planned for the 2015 forecast year would attract more people from

outside Cottage Grove, and fewer local residents would have to leave the area for these activities. The distribution of external trip purposes are adjusted to reflect these changes.

Trip Distribution

The distribution of person-trips, or the matching of production and attraction trip ends, is done by means of a gravity model, using a function of automobile travel time as the impedance measure between zones. Gamma-type travel time functions are used in the Cottage Grove model, with parameters for each purpose obtained from NCHRP data. This model is implemented in the EMME/2 travel forecasting software package. All internal trips and all external trips that begin or end within Cottage Grove are distributed by means of the gravity model.

For the distribution of through-trips, LCOG converted the 1971 survey through-trips into an EMME/2 matrix. The matrix was then rebalanced to the newly estimated 1992 and forecasted 2015 through-trip ends. This has the effect of maintaining a distribution very close to the survey data of 1971, but with through-trip traffic volumes at 1992 levels.

Auto Occupancy/Mode Choice

The current modeling exercise conservatively assumes no public transportation services (other than S. Lane Wheels) for the year 2015, so that all motorized trips travel by auto, truck, or motorcycle. Auto occupancies, or the average number of persons per vehicle, are assumed to be comparable to those found in earlier studies in the Eugene-Springfield area. Assumed occupancy rates are as follows:

Home-Based Work	1.07
Home-Based Other	1.35
Non-Home-Based	1.20

Network Assignment

Network assignment is the final step in the modeling process where the vehicle trips are loaded onto the street network. Network assignment results are shown in Figure 3a, *1992 Estimated Average Daily Traffic Flow*, Figure 8a, *2015 No-Build Average Weekday Traffic Flow*, and Figure 11a, *2015 Build Average Weekday Traffic Flow.*

Alternative Scenarios and Evaluation

The Land Conservation and Development Commission's Goal 12: Transportation requires the development and evaluation of alternatives to be included in the TSP. Goal 12 specifically reads:

OAR 660-12-035 Evaluation and Selection of Transportation System Alternatives

(1) The TSP shall be based upon evaluation of potential impacts of system alternatives that can reasonably be expected to meet the identified transportation needs in a safe manner and at a reasonable cost with available technology. The following shall be evaluated as components of system alternatives:
(a) Improvements to existing facilities or services;
(b) New facilities and services, including different modes or combinations of modes that could reasonable meet identified transportation needs;
(c) Transportation system management measures;
(d) Transportation demand management measures; and
(e) A no-build system alternative required by the National Environmental Policy Act of 1969 or other laws.

A total of 5 street plan alternatives were developed and evaluated for the Cottage Grove TSP. This section describes the 5 street plan alternatives, the alternative modes component, and the methodology used for evaluating them.

The five street alternatives were:

A. No-Build;
B. Safety Study Alternative;
C. Safety Study and Exit 174 (I-5/Cottage Grove Connector) Interchange Improvements;
D. Safety Study, Exit 174 and Exit 170-London Rd/S 6th Street Interchange Improvements; and
E. Safety Study, Exit 174 and Exit 170-London Rd/S 6th Street Interchange and Exit 170-Martin Creek Interchange Improvements.

Alternative A: No-Build

The No-Build Alternative is required by the Transportation Planning Rule for compliance with the National Environmental Policy Act. The no-build alternative typically consists of the existing transportation system in the plan horizon year (with all the planning assumptions). The development of the subsequent alternatives use the no-build alternative as a benchmark to develop projects that addresses issues that were identified.

For purposes of this study, the No-Build Alternative included of the population and employment projections, projected out to the year 2015, on the existing street network.

Alternative B: Safety Study

The Safety Study Alternative consisted of operational and maintenance improvements and new roads for purposes of increasing accessibility to vacant lands. The 1982

Cottage Grove Transportation Safety Study and the 1994 System Development Ordinance were used to derive the project list.

Alternative C: Safety Study and Exit 174 (I-5/Cottage Grove Connector) Interchange Improvements

A progression of improvements was developed as the alternatives were developed with each alternative building on the previous alternative. This alternative consisted of all the projects in the Safety Study alternative plus interchange improvements at the 174 exit (I-5/Cottage Grove Connector). The interchange improvements consisted of providing direct access to the North Regional Park area from the Cottage Grove Connector.

Alternative D: Safety Study, Exit 174 and Exit 170-London Rd/S 6th Street Interchange Improvements

This alternative consisted of the projects described in the two previous alternatives plus a full interchange at the London Road/South 6th Street interchange of Exit 170. Currently both the London Road/South 6th Street and the Martin Creek interchanges are half interchanges, and together they serve as a full interchange. The Martin Creek interchange is approximately 5 miles south of the London Road/South 6th Street interchange. Although reconstruction of the Exit 170-London Road/South 6th interchange was part of the Preferred Alternative selected by the Transportation Advisory Committee, it is not appropriate to include it the TSP because it is outside the urban growth boundary of the City of Cottage Grove. The project in not, therefore, included in the Street System Plan Project List (Table 7). If the UGB expansion envisioned by the City is submitted and approved by DLCD, a refinement/facility plan that addresses the Exit 170 interchanges is recommended.

Alternative E: Safety Study, Exit 174 and Exit 170-London Rd/S 6th Street Interchange and Martin Creek Interchange Improvements

This alternative consisted of the projects described in the previous alternatives plus a full interchange at Martin Creek interchange of Exit 170.

Alternative Modes Component

The Alternative Modes component was developed as a separate component from the street alternatives. The Alternatives Modes component includes public transportation, bicycle, and pedestrian. This component was designed to be added on to any of the street alternatives.

Public Transportation System

At the time of this study, there was no public transportation servicing the Cottage Grove area. South Lane Wheels provides door through door transportation service for eligible citizens.

Lane Transit District conducted a needs assessment study of the Cottage Grove-Creswell area to determine the interest in and potential use of transit service. More specifically, transit service between the Eugene-Springfield Metropolitan area and the Cottage Grove-Creswell area. This study of 400 households from Cottage Grove and Creswell reports that 72% of the total sample indicated they were in favor of implementing commuter bus service between their community and the Eugene-Springfield metropolitan area.

The TAC also identified transit as a needed component of the transportation system. At the time the Alternatives Modes component was being developed, the results of the LTD study were not available for review. However, the TAC felt strongly that transit would be welcomed and indicated that some type of intra- and inter-city transit system be developed based on further study as part of the Alternative Modes component. South Lane Wheels is included in the transit component as continuing to provide special transportation.

Bikeway System

The bicycle information was derived from the 1993 Bikeway Master Plan. The Master Plan developed a project list with emphasis on identifying and linking the significant routes and areas. Routes and locations identified as being of significant importance include:

- Row River Road to the BMX Track and Dorena Reservoir;
- London Road to Cottage Grove Reservoir;
- Downtown Core Areas;
- Schools, Parks, Shopping, and Employment Centers;
- North and East Regional Parks; and
- Highway 99 to Saginaw/Creswell.

A complete list of the bicycle projects can be found in Table 9, *Bikeway System Plan Project List.*

Pedestrian System

The pedestrian element contains an inventory of the sidewalks. This inventory identifies the areas where sidewalks are lacking or non-existent. No specific pedestrian or sidewalk projects were identified. In general this element supports and encourages the continuation of the development of the pedestrian system.

Evaluation Methodology

Evaluating the alternatives is one of the most important steps in the development of a transportation system plan. It is during this part of the planning process that the goals and objectives, the inventory of data, the modeling and preparation of alternatives are brought together.

The evaluation of the alternatives for the Cottage Grove TSP occurred simultaneously on two levels. The two levels of evaluation were the technical level and the policy level.

The process of evaluation involved placing a value on the advantages of each alternative in order to decide on the best course of action for the community, choosing by advantage. The basic steps that were followed include:

a) Determining the advantages of each alternative;
b) Deciding on the relative value or importance of each advantage;
c) Choosing the preferred alternative, the one with the greatest total importance of advantages.

A Technical Advisory Committee (TAC) on transportation appointed by the city council used this method through consensus building in ranking the alternatives.

Technical Analysis

The EMME/2 traffic forecasting model was used for the technical evaluation. The model assisted with quantitative analysis. This included determining the projected traffic volumes, calculating the estimated level of service, calculating total vehicle miles traveled, and calculating vehicle hours of delay. (Note: For more detailed information on the development of the EMME/2 model, refer to the *Cottage Grove Travel Forecasting Model* section of this report.)

Policy Level Analysis

The policy level analysis consisted of quantitative analysis by the TAC. The TAC was responsible for establishing the goals and objectives that were the basis for developing the performance measures for evaluation. The goals and objectives can be found in Chapter 1: *Goals, Objectives and Policies.*

The performance measures were established by staff and are directly related to the Goals and Objectives as developed by the TAC. They are listed below:

I. Accessibility
   - A. To commercial and retail services
   - B. To other residential areas
   - C. To industrial development
   - D. To vacant parcels

II. Fundability

III. System Performance Measures
   - A. Level of service/volume to capacity ration
   - B. Average weekday vehicle miles traveled
   - C. Average weekday vehicle hours of travel

IV. Accident Rates

V. Air Quality

VI. Barriers to Implementation
   - A. Time required to Implement

The performance measures were placed in a matrix with the alternatives and ranked according to the value of the highest performance measure. Through consensus building the TAC worked through each of the performance measures. An example of the worksheet can be found at the end of this appendix.

Key Findings

Both the qualitative and quantitative analysis was used for the ranking of the performance measures.

The *Preferred Street System Alternative* is Alternative D (Safety Study, Exit 174 and Exit 170-London Road/South 6th Interchange Improvements). This alternative contains a mix of safety, operational and new road projects. The technical analysis shown in Figure 11a, *2015 Build Average Weekday Traffic Flow* and Figure 12a, *2015 Level of Service,* indicates that the envisioned roadway network is sufficient to carry the forecasted traffic volumes with good levels of service. The only exception is the Cottage Grove Connector between the I-5 off ramp and the I-5 on ramp, where the volume to capacity ratio was calculated to be 0.8 (fair, approaching poor).

Although reconstruction of the Exit 170-London Road/South 6th interchange was part of the Preferred Alternative selected by the Transportation Advisory Committee, it is not appropriate to include it the TSP because it is outside the urban growth boundary of the City of Cottage Grove. The project in not, therefore, included in the Street System Plan Project List (Table 7). If the UGB expansion envisioned by the City is submitted and approved by DLCD, a refinement/facility plan that addresses the Exit 170 interchanges is recommended.

Table B-11 lists the results of the quantitative analysis for the alternatives.

Table B-11. Data Calculations for Street System Alternatives

System Performance Measures	Alternative A	Alternative B	Alternative C	Alternative D *preferred*	Alternative E
Average Speed	Min=15 Max=54 Avg=34	Min=15 Max=54 Avg=35	Min=15 Max=54 Avg=35	Min=15 Max=55 Avg=36	likely to have similar speeds as Alt. D
Level of Service (based on Volume to Capacity ratio)	LOS A-C 535 links in A 6 links in B 2 links in C	LOS A-C 616 links in A 2 links in B 1 link in C	LOS A & C 615 links in A 1 link in C	LOS A & C 620 links in A 1 link in C	likely to have similar LOS as Alt. D
Average Weekday Vehicle Hours of Travel	3,670 VHT	3,463 VHT	3,455 VHT	3,452 VHT	likely to have similar VHT as Alt D
Average Weekday Vehicle Miles of Travel	150,084 VMT	143,888 VMT	143,072 VMT	140,666 VMT	likely to have similar VMT as Alt D

Note: Volume to Capacity Ranges: A=0-.6, B=.61-.70, C=.71-.84, D=.85-.94, E=>.94 (FHWA)

Appendix A lists a table of the volume to capacity ratios with the accepted level of service classification as published in "Design of Urban Streets" by the Federal Highways Administration. These guidelines were used in determining the levels of service for the Cottage Grove transportation system.

The total and average scores as calculated by the TAC for the policy level evaluation for the alternatives are listed below in Table B-12.

Table B-12. Scoring Results for the TSP Alternatives

Performance Measures	Alt A	Alt B	Alt C	Alt D *preferred*	Alt E
Accessibility:					
to vacant parcels	0	180	175	245	245
to commercial and retail services	0	240	260	360	285
to industrial development	0	205	255	310	260
to other residential areas	0	225	290	340	280
Fundability	0	270	250	195	240
Accident Rates	0	105	140	175	125
System Performance Measures:					
average speed	0	0	0	0	0
LOS/volume to capacity ratio	0	145	215	255	230
vehicle hours of travel	0	115	160	185	158
vehicle miles traveled	0	120	195	225	178
Air Quality	0	30	50	80	60
Barriers to Implementation	0	25	16	17	26
Total Score	**0**	**1,660**	**2,006**	**2,387**	**2,087**
Average Score	**0**	**415**	**501.5**	**597**	**522**
Maximum Score	**0**	**480**	**523**	**620**	**605**
Minimum Score	**0**	**330**	**465**	**555**	**280**

Alternative A = No-Build Alternative; Alternative B = Safety Study Alternative; Alternative C = Alt B plus Exit 174 Improvements; Alternative D = Alt C plus Exit 170-London Rd/S 6th St Interchange Improvements; and Alternative E = Alt D plus Exit 170-Martin Creek Interchange Improvements.

Financial Assessment

The Land Conservation and Development Commission's *Goal 12: Transportation Planning Rule* requires a transportation financing program to be included in the TSP. Goal 12 specifically reads:

> **660-12-040 Transportation Financing Program**
> *(1) For areas within an urban growth boundary containing a population greater than 2,500 persons, the TSP shall include a transportation financing program.*
> *(2) A transportation financing program shall include:*

(a) *A list of planned transportation facilities and major improvements;*
(b) *A general estimate of the timing for planned transportation facilities and major improvements;*
(c) *Determination of rough cost estimates for the transportation facilities and major improvements identified in the TSP.*

This section of the report discusses the financing program as outlined in Chapter 5: *Financing Program.*

Funding Sources

Existing funding sources were identified through an inter-jurisdictional team. The team consisted of staff from the City of Cottage Grove, Lane County Public Works and LCOG. The following existing funding sources were identified:

- Statewide Transportation Improvement Program
- Lane County Road Fund
- State Gas Tax
- System Development Charges
- Para-Transit Funding
- Bikeway Funding

These are discussed in more detail in Chapter 5: *Financing Program.*

Plan Project Lists

The Street Plan Project list was derived from the 1982 Traffic Safety Study and the 1994 System Development Ordinance. Project cost estimates have been updated to reflect current dollars. The project list was organized by project construction timing. Project timing is broken out into Short, Medium and Long Range categories.

An inter-jurisdictional staff team worked together on the development of the Street Plan project list. Staff included members from the City of Cottage Grove, Lane County Public Works, ODOT and LCOG.

A complete Street System Plan Project List can be found in Table 7, *Street System Plan Project List.* The Preferred Street System Alternative projects total over $25 million.

The cost estimates in the *Bikeway Plan Project List* were done by City staff. Further analysis is needed by Cottage Grove staff to complete the cost estimates. A complete project list can be found in Table 9, *Bikeway System Plan Project List.*

The estimates in the *Sidewalk Project List* were calculated by City staff.

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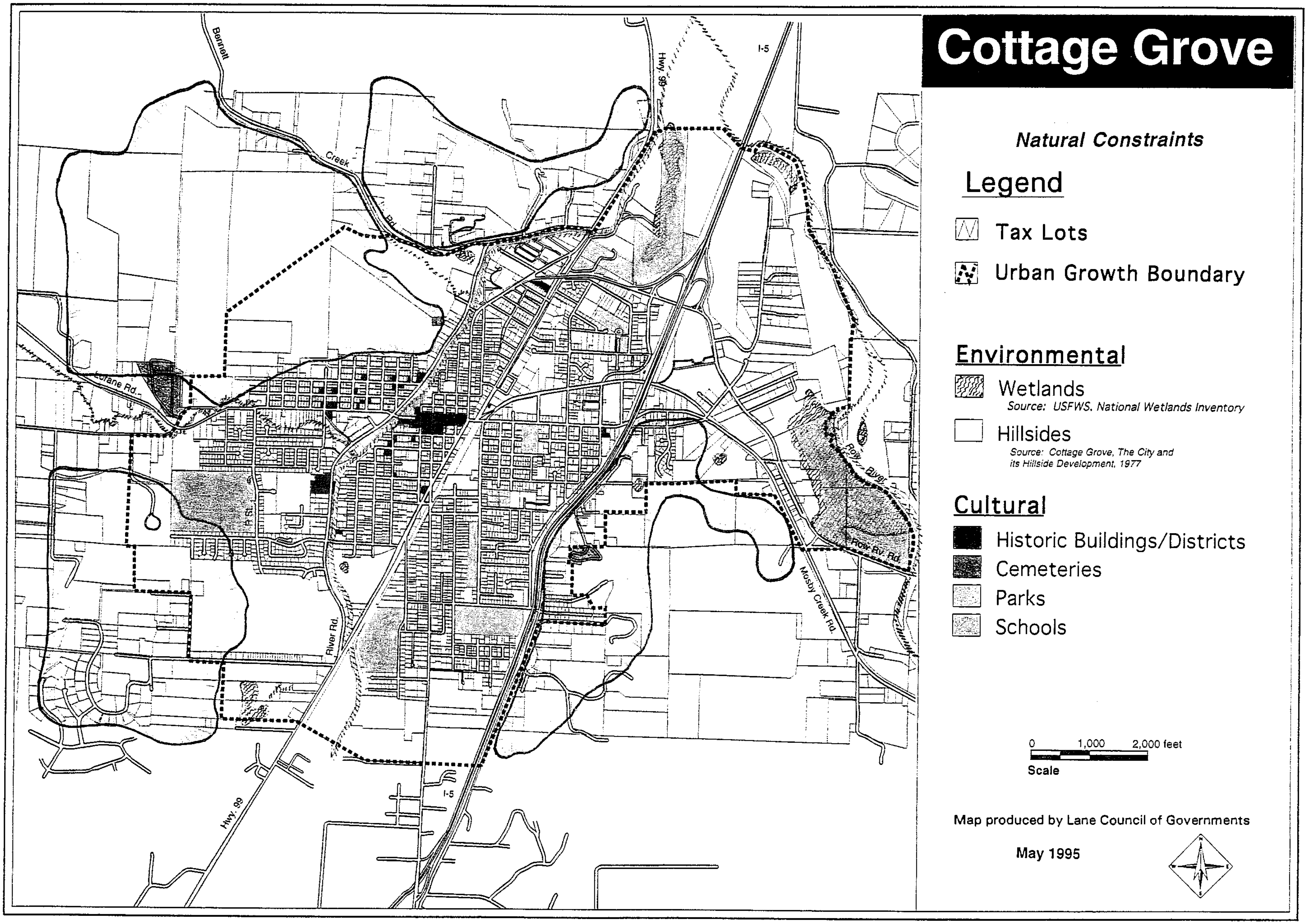
Cottage Grove
Natural Constraints
Legend
Tax Lots
Urban Growth Boundary
Environmental
Wetlands
Source: USFWS, National Wetlands Inventory
Hillsides
Source: Cottage Grove, The City and its Hillside Development, 1977
Cultural
Historic Buildings/Districts
Cemeteries
Parks
Schools
0 1,000 2,000 feet
Scale
Map produced by Lane Council of Governments
May 1995
Bennett
Creek
Hwy. 99
I-5
Crane Rd.
River Rd.
Mosby Creek Rd.
Row River
Row Rv. Rd.

Figure B-2

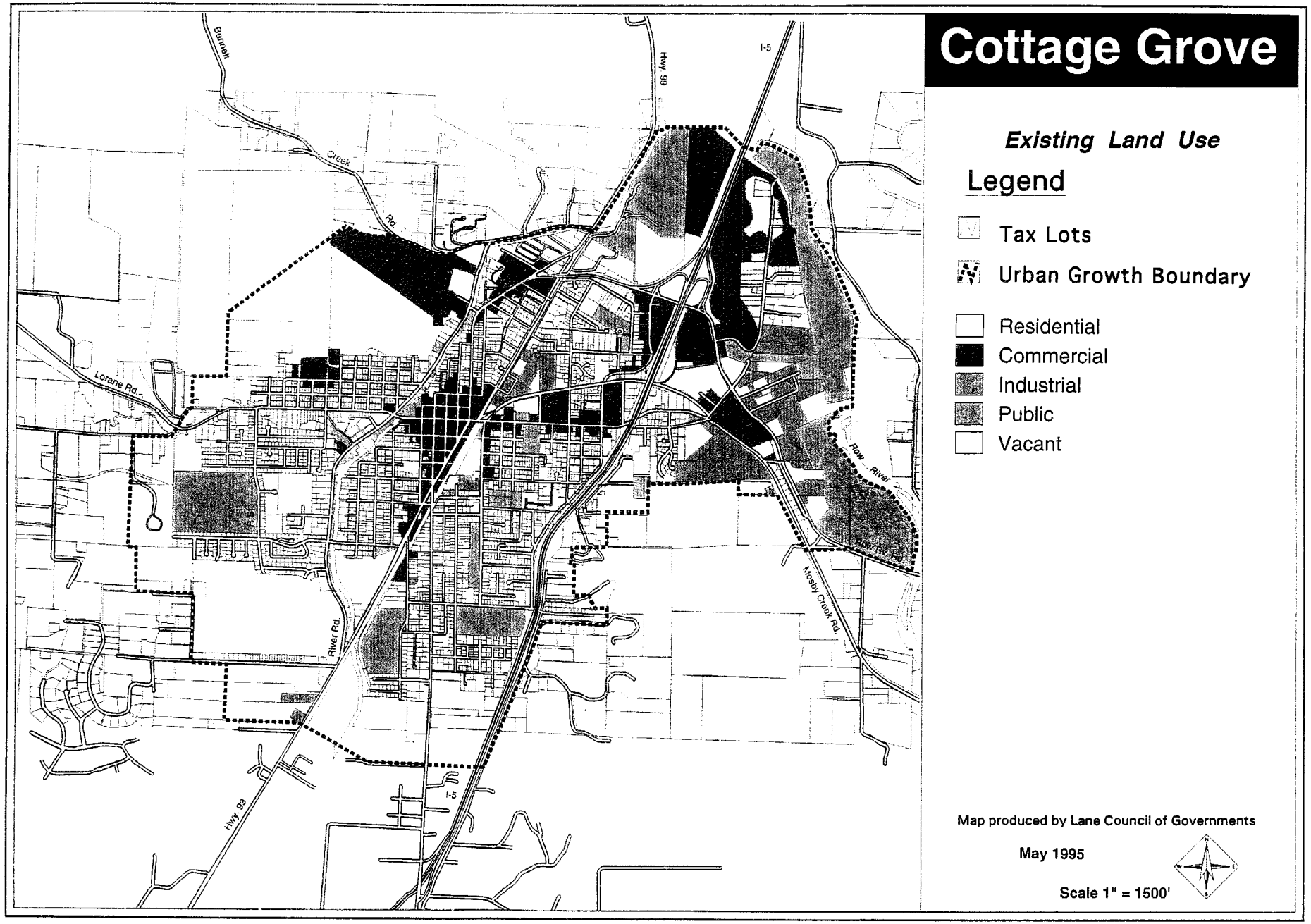
Cottage Grove
Existing Land Use
Legend
Tax Lots
Urban Growth Boundary
Residential
Commercial
Industrial
Public
Vacant
Bannuit
Creek
Rd.
Hwy 99
I-5
Lorane Rd.
R.R.
River Rd.
Row River
Row River Rd.
Mosby Creek Rd.
Hwy. 99
I-5
Map produced by Lane Council of Governments
May 1995
Scale 1" = 1500'

Figure B-3

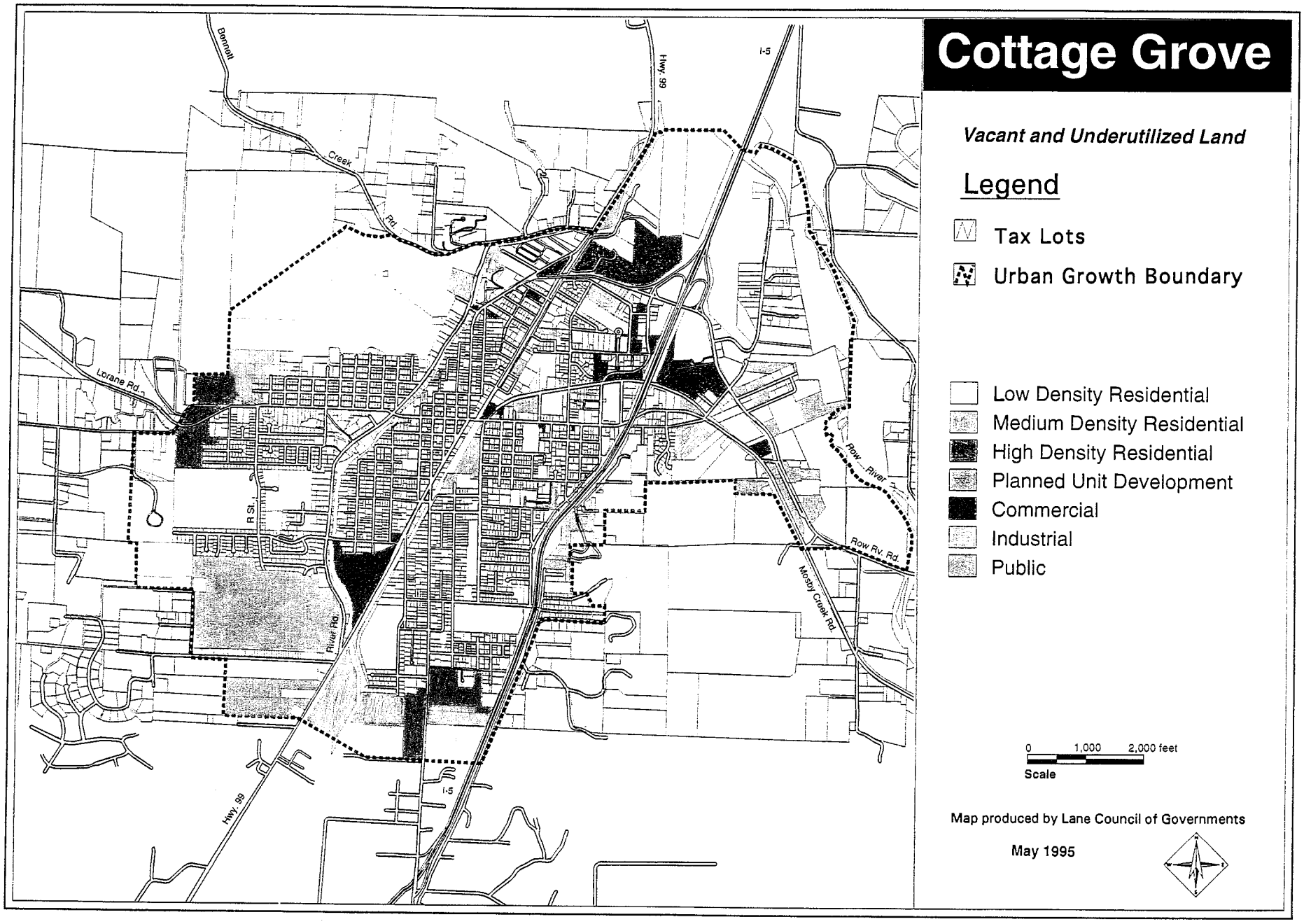
Cottage Grove
Vacant and Underutilized Land
Legend
Tax Lots
Urban Growth Boundary
Low Density Residential
Medium Density Residential
High Density Residential
Planned Unit Development
Commercial
Industrial
Public
Bonnell
Creek
Rd
Hwy 99
I-5
Lorane Rd.
R St.
River Rd.
Row River
Row Rv. Rd.
Mosby Creek Rd.
Hwy. 99
I-5
0 1,000 2,000 feet
Scale
Map produced by Lane Council of Governments
May 1995

Figure B-4

Appendix C
Goal 12: Transportation Planning Rule

DIVISION 12

660-12-000 Purpose

The purpose of this division is to implement Statewide Planning Goal 12 (Transportation). It is also the purpose of this division to explain how local governments and state agencies responsible for transportation planning demonstrate compliance with other statewide planning goals and to identify how transportation facilities are provided on rural lands consistent with the goals. The division sets requirements for coordination among affected levels of government for preparation, adoption, refinement, implementation and amendment of transportation system plans. Transportation system plans adopted pursuant to this division fulfill the requirements for public facilities planning required under ORS 197.712(2)(e), Goal 11 and OAR Chapter 660, Division 11, as they relate to transportation facilities. Through measures designed to reduce reliance on the automobile, the rule is also intended to asure that the planned transportation system supports a pattern of travel and land use in urban areas which will avoid the air pollution, traffic and livability problems faced by other areas of the country. The rules in this Division are not intended to make local government determinations "land use decisions" under ORS 197.015(10). The rules recognize, however, that, under existing statutory and case law, many determinations relating to the adoption and implementation of transportation plans will be land use decisions.

660-12-005 Definitions

For the purposes of this division, the definitions in ORS 197.015, the Statewide Planning Goals and OAR Chapter 660 shall apply. In addition the definitions listed below shall apply.

(1) **Access Management**: means measures regulating access to streets, roads and highways from public roads and private driveways. Measures may include but are not limited to restrictions on the siting of interchanges, restrictions on the type and amount of access to roadways, and use of physical controls, such as signals and channelization including raised medians, to reduce impacts of approach road traffic on the main facility.

(2) **Accessway**: means a walkway that provides pedestrian and or bicycle passage either between streets or from a street to a building or other destination such as a school, park, or transit stop. Accessways generally include a walkway and additional land on either side of the walkway, often in the form of an easement or right-of-way, to provide clearance and separation between the walkway and adjacent uses. Accessways through parking lots are generally physically separated from adjacent vehicle parking or parallel vehicle traffic by curbs or similar devices and include landscaping, trees and lighting. Where accessways cross driveways, they are generally raised, paved or marked in a manner which provides convenient access for pedestrians.

(3) **Affected local government**: means a city, county or metropolitan service district that is directly impacted by a proposed transportation facility or improvement.

(4) **At or near a major transit stop**: "At" means a parcel or ownership which is adjacent to or includes a major transit stop generally including portions of such parcels or ownerships that are within 200 feet of a transit stop. "Near" generally means a parcel or ownership that is within 300 feet of a major transit stop. The term "generally" is intended to allow local governments through their plans and ordinances to adopt more specific definitions of these terms considering local needs and circumstances consistent with the overall objective and requirement to provide convenient pedestrian access to transit.

(5) **Committed Transportation Facilities**: means those proposed transportation facilities and improvements which are consistent with the acknowledged comprehensive plan and have approved funding for construction in a public facilities plan or the Six-Year Highway or Transportation Improvement Program.

(6) **Demand Management**: means actions which are designed to change travel behavior in order to improve performance of transportation facilities and to reduce need for additional road capacity. Methods may include but are not limited to the use of alternative modes, ride-sharing and vanpool programs, and trip-reduction ordinance.

(7) **Local Street Standards**: include but are not limited to standards for right-of-way, pavement width, travel lanes, parking lanes, curb turning radius, and accessways.

(8) **Major**: means, in general, those facilities or developments which, considering the size of the urban or rural area and the range of size, capacity or service level of similar facilities or developments in the area, are either larger than average, serve more than neighborhood needs or have significant land use or traffic impacts on more than the immediate neighborhood.

"**Major**" as it modifies transit corridors, stops, transfer stations and new transportation facilities means those facilities which are most important to the functioning of the system or which provide a high level, volume or frequency of service.

"**Major**" as it modifies industrial, institutional and retail development means such developments which are larger than average, serve more than neighborhood needs or which have traffic impacts on more than the immediate neighborhood.

Application of the term "major" will vary from area to area depending upon the scale of transportation improvements, transit facilities and development which occur in the area. A facility considered to be major in a smaller or less densely developed area may, because of the relative significance and impact of the facility or development, not be considered a major facility in a larger or more densely developed area with larger or more intense development or facilities.

(9) "**Major transit stop**" means:

(a) Existing and planned light rail stations and transit transfer stations, except for temporary facilities,

(b) Other planned stops designated as major transit stops in a transportation system plan and existing stops which:

(A) Have or are planned for an above average frequency of scheduled, fixed-route service when compared to region wide service. In urban areas of 1,000,000 or more population major transit stops are generally located along routes that have or are planned for 20 minute service during the peak hour; and

(B) Are located in a transit oriented development or within 1/4 mile of an area planned and zoned for:

(i) medium or high density residential development; or,

(ii) intensive commercial or institutional uses within 1/4 mile of (i); or

(iii) uses likely to generate a relatively high level of transit ridership.

(10) **Metropolitan Planning Organization (MPO)**: an organization located within the State of Oregon and designated by the Governor to coordinate transportation planning in an urbanized area of the state including such designations made subsequent to the adoption of this rule. The Longview-Kelso-Rainier MPO is not considered an MPO for the purposes of this rule.

(11) **ODOT**: means the Oregon Department of Transportation.

(12) **Parking spaces**: means on and off street spaces designated for automobile parking in areas planned for industrial, commercial, institutional or public uses. The following are not considered parking spaces for the purposes of 660-12-045(5)(c): park and ride lots, handicapped parking, and parking spaces for carpools and vanpools.

(13) **Pedestrian connection**: means a continuous, unobstructed, reasonably direct route between two points that is intended and suitable for pedestrian use. Pedestrian connections include but are not limited to sidewalks, walkways, accessways, stairways and pedestrian bridges. On developed parcels, pedestrian connections are generally hard surfaced. In parks and natural areas, pedestrian connections may be soft-surfaced pathways. On undeveloped parcels and parcels intended for redevelopment, pedestrian connections may also include rights of way or easements for future pedestrian improvements.

(14) Pedestrian district: means a comprehensive plan designation or implementing land use regulations, such as an overlay zone, that establish requirements to provide a safe and convenient pedestrian environment in an area planned for a mix of uses likely to support a relatively high level of pedestrian activity. Such areas include but are not limited to:

(a) Lands planned for a mix of commercial or institutional uses near lands planned for medium to high density housing, or,

(b) Areas with a concentration of employment and retail activity, and;

(c) Which have or could develop a network of streets and accessways which provide convenient pedestrian circulations.

(15) Pedestrian plaza: means a small semi-enclosed area usually adjoining a sidewalk or a transit stop which provides a place for pedestrians to sit, stand or rest. They are usually paved with concrete, pavers, bricks or similar material and include seating, pedestrian scale lighting and similar pedestrian improvements. Low walls or planters and landscaping are usually provided to create a semi-enclosed space and to buffer and separate the plaza from adjoining parking lots and vehicle maneuvering areas. Plazas are generally located at a transit stop, building entrance or an intersection and connect directly to adjacent sidewalks, walkways, transit stops and buildings. A plaza including 150-250 square feet would be considered "small".

(16) Pedestrian scale: means site and building design elements that are dimensionally less than those intended to accommodate automobile traffic, flow and buffering. Examples include ornamental lighting of limited height; bricks, pavers or other modules of paving with small dimensions; a variety of planting and landscaping materials; arcades or awnings that reduce the height of walls; and signage and signpost details that can only be perceived from a short distance.

(17) Planning Period: means the twenty year period beginning with the date of adoption of a TSP to meet the requirements of this rule.

(18) Preliminary Design: means an engineering design which specifies in detail the location and alignment of a planned transportation facility or improvement.

(19) Reasonably direct: means either a route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for likely users.

(20) Refinement Plan: an amendment to the transportation system plan, which resolves, at a systems level, determinations on function, mode or general location which were deferred during transportation system planning because detailed information needed to make those determinations could not reasonably be obtained during that process.

(21) Roads: means streets, roads and highways.

(22) Transit-oriented development (TOD): means a mix of residential, retail and office uses and a supporting network of roads, bicycle and pedestrian ways focused on a major transit stop designed to support a high level of transit use. The key features of transit oriented development include:

(a) a mixed use center at the transit stop, oriented principally to transit riders and pedestrian and bicycle travel from the surrounding area;

(b) high density of residential development proximate to the transit stop sufficient to support transit operation and neighborhood commercial uses within the TOD.

(c) a network of roads, and bicycle and pedestrian paths to support high levels of pedestrian access within the TOD and high levels of transit use.

(23) Transportation facilities: means any physical facility that moves or assists in the movement of people and goods including facilities identified in 660-12-020 but excluding electricity, sewage and water systems.

(24) Transportation system management measures: means techniques for increasing the efficiency, safety, capacity or level of service of a transportation facility without increasing its size. Examples include, but are not limited to, traffic signal improvements, traffic control devices including installing medians and parking removal, channelization, access management, ramp metering, and restriping for high occupancy vehicle (HOV) lanes.

(25) Transportation Needs: means estimates of the movement of people and goods consistent with acknowledged comprehensive plan and the requirements of this rule. Needs are typically based on projections of future travel demand resulting from a continuation of current trends as modified by policy objectives, including those expressed in Goal 12 and this rule, especially those for avoiding principal reliance on any one mode of transportation.

(26) Transportation Needs, Local: means needs for movement of people and goods within communities and portions of counties and the need to provide access to local destinations.

(27) Transportation Needs, Regional: means needs for movement of people and goods between and through communities and accessibility to regional destinations within a metropolitan area, county or associated group of counties.

(28) Transportation Needs, State: means needs for movement of people and goods between and through regions of the state and between the state and other states.

(29) Transportation Project Development: means implementing the transportation system plan (TSP) by determining the precise location, alignment, and preliminary design of improvements included in the TSP based on site-specific engineering and environmental studies.

(30) Transportation Service: means a service for moving people and goods, such as intercity bus service and passenger rail service.

(31) Transportation System Plan (TSP): means a plan for one or more transportation facilities that are planned, developed, operated and maintained in a coordinated manner to supply continuity of movement between modes, and within and between geographic and jurisdictional areas.

(32) Urban Area: means lands within an urban growth boundary or two or more contiguous urban growth boundaries.

(33) Urban fringe: means (a) Areas outside the urban growth boundary that are within 5 miles of the urban growth boundary of an MPO area; and (b) Areas outside the urban growth boundary within 2 miles of the urban growth boundary of an urban area containing a population greater than 25,000.

(34) Walkway: means a hard surfaced area intended and suitable for use by pedestrians, including sidewalks and surfaced portions of accessways.

660-12-010
Transportation Planning

(1) As described in this division, transportation planning shall be divided into two phases: transportation system planning and transportation project development. Transportation system planning establishes land use controls and a network of facilities and services to meet overall transportation needs. Transportation project development implements the TSP by determining the precise location, alignment, and preliminary design of improvements included in the TSP.

(2) It is not the purpose of this division to cause duplication of or to supplant existing applicable transportation plans and programs. Where all or part of an acknowledged comprehensive plan, TSP either of the local government or appropriate special district, capital improvement program, regional functional plan, or similar plan or combination of plans meets all or some of the requirements of this division, those plans or programs may be incorporated by reference into the TSP required by this division. Only those referenced portions of such documents shall be considered to be a part of the TSP and shall be subject to the administrative procedures of this division and ORS Chapter 197.

(3) It is not the purpose of this division to limit adoption or enforcement of measures to provide convenient bicycle and pedestrian circulation or convenient access to transit that are otherwise consistent with the requirements of this division.

660-12-015
Preparation and Coordination of Transportation System Plans

(1) ODOT shall prepare, adopt and amend a state TSP in accordance with ORS 184.618, its program for state agency coordination certified under ORS 197.180, and OAR 660-12-030, 035, 050, 065 and 070. The state TSP shall identify a system of transportation facilities and services adequate to meet identified state transportation needs.

(a) The state TSP shall include the state transportation policy plan, modal systems plans and transportation facility plans as set forth in OAR 731, Division 15.

(b) State transportation project plans shall be compatible with acknowledged comprehensive plans as provided for in OAR 731, Division 15. Disagreements between ODOT and affected local governments shall be resolved in the manner established in that division.

(2) MPOs and counties shall prepare and amend regional TSPs in compliance with this division. MPOs shall prepare regional TSPs for facilities of regional significance within their jurisdiction. Counties shall prepare regional TSPs for all other areas and facilities.

(a) Regional TSPs shall establish a system of transportation facilities and services adequate to meet identified regional transportation needs and shall be consistent with adopted elements of the state TSP.

(b) Where elements of the state TSP have not been adopted, the MPO or county shall coordinate the preparation of the regional TSP with ODOT to assure that state transportation needs are accommodated.

(c) Regional TSPs prepared by MPOs other than metropolitan service districts shall be adopted by the counties and cities within the jurisdiction of the MPO. Metropolitan service districts shall adopt a regional TSP for areas within their jurisdiction.

(d) Regional TSPs prepared by counties shall be adopted by the county.

(3) Cities and counties shall prepare, adopt and amend local TSPs for lands within their planning jurisdiction in compliance with this division.

(a) Local TSPs shall establish a system of transportation facilities and services adequate to meet identified local transportation needs and shall be consistent with regional TSPs and adopted elements of the state TSP.

(b) Where the regional TSP or elements of the state TSP have not been adopted, the city or county shall coordinate the preparation of the local TSP with the regional transportation planning body and ODOT to assure that regional and state transportation needs are accommodated.

(4) Cities and counties shall adopt regional and local TSPs required by this division as part of their comprehensive plans. Transportation financing programs required by OAR 660-12-040 may be adopted as a supporting document to the comprehensive plan.

(5) The preparation of TSPs shall be coordinated with affected state and federal agencies, local governments, special districts, and private providers of transportation services.

(6) Mass transit, transportation, airport and port districts shall participate in the development of TSPs for those transportation facilities and services they provide. These districts shall prepare and adopt plans for transportation facilities and services they provide. Such plans shall be consistent with and adequate to carry out relevant portions of applicable regional and local TSPs. Cooperative agreements executed under ORS 197.185(2) shall include the requirement that mass transit, transportation, airport and port districts adopt a plan consistent with the requirements of this section.

(7) Where conflicts are identified between proposed regional TSPs and acknowledged comprehensive plans, representatives of affected local governments shall meet to discuss means to resolve the conflicts. These may include:

(a) Changing the draft TSP to eliminate the conflicts; or

(b) Amending acknowledged comprehensive plan provisions to eliminate the conflicts;

For MPOs which are not metropolitan service districts, if conflicts persist between regional TSPs and acknowledged comprehensive plans after efforts to achieve compatibility, an affected local government may petition the Commission to resolve the dispute.

660-12-020 Elements of Transportation System Plans

(1) A TSP shall establish a coordinated network of transportation facilities adequate to serve state, regional and local transportation needs.

(2) The TSP shall include the following elements:

(a) A determination of transportation needs as provided in 660-12-030.

(b) A road plan for a system of arterials and collectors and standards for the layout of local streets and other important non-collector street connections. Functional classifications of roads in regional and local TSPs shall be consistent with functional classifications of roads in state and regional TSPs and shall provide for continuity between adjacent jurisdictions. The standards for the layout of local streets shall provide for safe and convenient bike and pedestrian circulation necessary to carry out OAR 660-12-045(3)(b). New connections to arterials and state highways shall be consistent with designated access management categories. The intent of this requirement is to provide guidance on the spacing of future extensions and connections along existing and future streets which are needed to provide reasonably direct routes for bicycle and pedestrian travel. The standards for the layout of local streets shall address:

(A) Extensions of existing streets;

(B) Connections to existing or planned streets, including arterials and collectors; and

(C) Connections to neighborhood destinations.

(c) A public transportation plan which:

(A) Describes public transportation services for the transportation disadvantaged and identifies service inadequacies.

(B) Describes intercity bus and passenger rail service and identifies the location of terminals.

(C) For areas within an urban growth boundary which have public transit service, identifies existing and planned transit trunk routes, exclusive transit ways, terminals and major transfer stations, major transit stops, and park-and-ride stations. Designation of stop or station locations may allow for minor adjustments in the location of stops to provide for efficient transit or traffic operation or to provide convenient pedestrian access to adjacent or nearby uses.

(D) For areas within an urban area containing a population greater than 25,000 persons, not currently served by transit, evaluates the feasibility of developing a public transit system at buildout. Where a transit system is determined to be feasible, the plan shall meet the requirements of subsection 2(c)(C) of this section.

(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.

(e) An air, rail, water and pipeline transportation plan which identifies where public use airports, mainline and branchline railroads and railroad facilities, port facilities, and major regional pipelines and terminals are located or planned within the planning area. For airports, the planning area shall include all areas within airport imaginary surfaces and other areas covered by state or federal regulations.

(f) For areas within an urban area containing a population greater than 25,000 persons a plan for transportation system management and demand management.

(g) A parking plan in MPO areas as provided in 660-12-045(5)(c).

(h) Policies and land use regulations for implementing the TSP as provided in 660-12-045.

(i) For areas within an urban growth boundary containing a population greater than 2500 persons, a transportation financing program as provided in 660-12-040.

(3) Each element identified in subsection (2)(b)-(d) of this section shall contain:

(a) An inventory and general assessment of existing and committed transportation facilities and services by function, type, capacity and condition.

(A) The transportation capacity analysis shall include information on:

(i) The capacities of existing and committed facilities;

(ii) The degree to which those capacities have been reached or surpassed on existing facilities; and,

(iii) The assumptions upon which these capacities are based.

(B) For state and regional facilities, the transportation capacity analysis shall be consistent with standards of facility performance considered acceptable by the affected state or regional transportation agency.

(C) The transportation facility condition analysis shall describe the general physical and operational condition of each transportation facility (e.g. very good, good, fair, poor, very poor).

(b) 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.

(c) 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.

(d) Identification of the provider of each transportation facility or service.

660-12-025. Complying with the Goals in Preparing Transportation System Plans; Refinement Plans

(1) Except as provided in subsection (3) of this section, adoption of a TSP shall constitute the land use decision regarding the need for transportation facilities, services and major improvements and their function, mode, and general location.

(2) Findings of compliance with applicable statewide planning goals and acknowledged comprehensive plan policies and land use regulations shall be developed in conjunction with the adoption of the TSP.

(3) A local government or MPO may defer decisions regarding function, general location and mode of a refinement plan if findings are adopted which:

(a) Identify the transportation need for which decisions regarding function, general location or mode are being deferred;

(b) Demonstrate why information required to make final determinations regarding function, general location, or mode cannot reasonably be made available within the time allowed for preparation of the TSP;

(c) Explain how deferral does not invalidate the assumptions upon which the TSP is based or preclude implementation of the remainder of the TSP;

(d) Describe the nature of the findings which will be needed to resolve issues deferred to a refinement plan; and

(e) Demonstrate that the refinement effort will be completed within three years or prior to initiation of the periodic review following adoption of the TSP.

(4) Where a Corridor Environmental Impact Statement (EIS) is prepared pursuant to the requirements of the National Environmental Policy Act of 1969, the development of the refinement plan shall be coordinated with the preparation of the Corridor EIS. The refinement plan shall be adopted prior to the issuance of the Final EIS.

660-12-030
Determination of Transportation Needs

(1) The TSP shall identify transportation needs relevant to the planning area and the scale of the transportation network being planned including:

(a) State, regional, and local transportation needs.

(b) Needs of the transportation disadvantaged.

(c) Needs for movement of goods and services to support industrial and commercial development planned for pursuant to OAR 660-09 and Goal 9 (Economic Development).

(2) Counties or MPOs preparing regional TSPs shall rely on the analysis of state transportation needs in adopted elements of the state TSP. Local governments preparing local TSPs shall rely on the analyses of state and regional transportation needs in adopted elements of the state TSP and adopted regional TSPs.

(3) Within urban growth boundaries, the determination of local and regional transportation needs shall be based upon:reasonably meet identified transportation needs;

(a) Population and employment forecasts and distributions which are consistent with the acknowledged comprehensive plan, including those policies which implement Goal 14, including Goal 14's requirement to encourage urban development on urban lands prior to conversion of urbanizable lands. Forecasts and distributions shall be for 20 years and, if desired, for longer periods.

(b) Measures adopted pursuant to 660-12-045 to encourage reduced reliance on the automobile.

(c) Transportation system management measures;

(d) Demand management measures; and

(e) A no-build system alternative required by the National Environmental Policy Act of 1969 or other laws.

(4) In MPO areas, calculation of local and regional transportation needs also shall be based upon accomplishment of the requirement in 660-12-035(4) to reduce reliance on the automobile.

660-12-035 Evaluation and Selection of Transportation System Alternatives

(1) The TSP shall be based upon evaluation of potential impacts of system alternatives that can reasonably be expected to meet the identified transportation needs in a safe manner and at a reasonable cost with available technology. The following shall be evaluated as components of system alternatives:

(a) Improvements to existing facilities or services;

(b) New facilities and services, including different modes or combinations of modes that could reasonably meet identified transportation needs;

(c) Transportation system management measures;

(d) Demand management measures; and

(e) A no-build system alternative required by the National Environmental Policy Act of 1969 or other laws.

(2) Local governments in MPO areas of larger than 1,000,000 population shall and other governments may also evaluate alternative land use designations, densities and design standards to meet local and regional transportation needs. Local governments preparing such a strategy shall consider:

(a) Increasing residential densities and establishing minimum residential densities within one quarter mile of transit lines, major regional employment areas and major regional retail shopping areas;

(b) Increasing densities (i.e. minimum floor area ratios) in new commercial office and retail developments;

(c) Designating lands for neighborhood shopping centers within convenient walking and cycling distance of residential areas;

(d) Designating land uses to provide a better balance between jobs and housing considering:

(A) The total number of jobs and total of number of housing units expected in the area or subarea;

(B) The availability of affordable housing in the area or subarea; and,

(C) Provision of housing opportunities in close proximity to employment areas.

(e) Establishing maximum parking limits for office and institutional developments consistent with 660-12-045(5)(c) which reduce the amount of parking available at such developments.

(3) The following standards shall be used to evaluate and select alternatives:

(a) The transportation system shall 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.

(b) The transportation system shall be 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;

(c) The transportation system shall minimize adverse economic, social, environmental and energy consequences.

(d) The transportation system shall minimize conflicts and facilitate connections between modes of transportation.

(e) The transportation system shall avoid principal reliance on any one mode of transportation and shall reduce principal reliance on the automobile. In MPO areas this shall be accomplished by selecting transportation alternatives which meet the requirements in 660-12-035(4).

(4) In MPO areas, regional and local TSPs shall be designed to achieve the following objectives for reducing automobile vehicle miles travelled (VMT) per capita for the MPO area:

(a) No increase within 10 years of adoption of a plan as required by OAR 660-12-055(1);

(b) A 10% reduction within 20 years of adoption of a plan as required by OAR 660-12-055(1); and,

(c) Through subsequent planning efforts, a 20% reduction within 30 years of adoption of a plan as required by OAR 660-12-055(1).

(5) Regional TSPs shall specify measurable objectives for each of the following and demonstrate how the combination selected will accomplish the objectives in subsection 4:

(a) An increase in the modal share of non-automobile trips (i.e. transit, bicycle, pedestrian); for example, a doubling of the modal share of non-automobile trips;

(b) An increase in average automobile occupancy (i.e. persons per vehicle) during; for example, an increase to an average of 1.5 persons per vehicle; and,

(c) Where appropriate, a decrease in the number or length of automobile vehicle trips per capita due to demand management programs, rearranging of land uses or other means.

(6) Regional and local TSPs shall include interim benchmarks to assure satisfactory progress towards meeting the requirements of this section at five year intervals over the planning period. MPOs and local governments shall evaluate progress in meeting interim benchmarks at five year intervals from adoption of the regional and local TSPs. Where interim benchmarks are not met, the relevant TSP shall be amended to include new or additional efforts adequate to meet the requirements of this section.

(7) The Commission shall, at five year intervals from the adoption of this rule, evaluate the results of efforts to achieve the reduction in VMT and the effectiveness of the standard in achieving the objective of reducing reliance on the automobile. This shall include evaluating the requirements for parking plans and a reduction in the number of parking spaces per capita.

(8) 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.

(9) Transportation uses or improvements listed in OAR 660-12-065(3(d) to (g) and (o) and located in an urban fringe may be included in a TSP only if the improvement project identified in the Transportation System Plan as described in section (11) of this rule, will not significantly reduce peak hour travel time for the route as determined pursuant to subsection (10) of this rule, or the jurisdiction determines that the following alternatives can not reasonably satisfy the purpose of the improvement project:

(a) Improvements to transportation facilities and services within the urban growth boundary;

(b) Transportation system management measures that do not significantly increase capacity; or

(c) Transportation demand management measures. The jurisdiction needs only to consider alternatives that are safe and effective, consistent with applicable standards and that can be implemented at a reasonable cost using available technology.

(10) An improvement project significantly reduces peak hour travel time when, based on recent data, the time to travel the route is reduced more than 15% during weekday peak hour conditions over the length of the route located within the urban fringe. For purposes of measuring travel time, a route shall be identified by the predominant traffic flows in the project area.

(11) A "transportation improvement project" described in subsection (9) of this rule:

(a) Is intended to solve all of the reasonably foreseeable transportation problems within a general geographic location, within the planning period; and

(b) Has utility as an independent transportation project.

660-12-040 Transportation Financing Program

(1) For areas within an urban growth boundary containing a population greater than 2,500 persons, the TSP shall include a transportation financing program.

(2) A transportation financing program shall include:

(a) A list of planned transportation facilities and major improvements;

(b) A general estimate of the timing for planned transportation facilities and major improvements.

(c) Determination of rough cost estimates for the transportation facilities and major improvements identified in the TSP.

(3) The determination of rough cost estimates is intended to provide an estimate of the fiscal requirements to support the land uses in the acknowledged comprehensive plan and allow jurisdictions to assess the adequacy of existing and possible alternative funding mechanisms. In addition to including rough cost estimates for each transportation facility and major improvement, the transportation financing plan shall include a discussion of the facility provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of each transportation facility and major improvement. These funding mechanisms may also be described in terms of general guidelines or local policies.

(4) Anticipated timing and financing provisions in the transportation financing program are not considered land use decisions as specified in ORS 197.712(2)(e) and, therefore, cannot be the basis of appeal under ORS 197.610(1) and (2) or ORS 197.835(4).

(5) The transportation financing program shall implement comprehensive plan policies which provide for phasing of major improvements to encourage infill and redevelopment of urban lands prior to facilities which would cause premature development of urbanizable areas or conversion of rural lands to urban uses.

660-12-045 Implementation of the Transportation System Plan

(1) Each local government shall amend its land use regulations to implement the TSP.

(a) The following transportation facilities, services and improvements need not be subject to land use regulations except as necessary to implement the TSP and, under ordinary circumstances do not have a significant impact on land use:

(A) Operation, maintenance, and repair of existing transportation facilities identified in the TSP, such as road, bicycle, pedestrian, port, airport and rail facilities, and major regional pipelines and terminals;

(B) Dedication of right-of-way, authorization of construction and the construction of facilities and improvements, where the improvements are consistent with clear and objective dimensional standards;

(C) Uses permitted outright under ORS 215.213(1)(m) through (p) and ORS 215.283(1)(k) through (n), consistent with the provisions of 660-12-065; and,

(D) Changes in the frequency of transit, rail and airport services.

(b) To the extent, if any, that a transportation facility, service or improvement concerns the application of a comprehensive plan provision or land use regulation, it may be allowed without further land use review if it is permitted outright or if it is subject to standards that do not require interpretation or the exercise of factual, policy or legal judgment.

(c) In the event that a transportation facility, service or improvement is determined to have a significant impact on land use or to concern the application of a comprehensive plan or land use regulation and to be subject to standards that require interpretation or the exercise of factual, policy or legal judgment, the local government shall provide a review and approval process that is consistent with 660-12-050. To facilitate implementation of the TSP, each local government shall amend its land use regulations to provide for consolidated review of land use decisions required to permit a transportation project.

(2) Local governments shall adopt land use or subdivision ordinance regulations, consistent with applicable federal and state requirements, to protect transportation facilities, corridors and sites for their identified functions. Such regulations shall include:

(a) Access control measures, for example, driveway and public road spacing, median control and signal spacing standards, which are consistent with the functional classification of roads and consistent with limiting development on rural lands to rural uses and densities;

(b) Standards to protect future operation of roads, transitways and major transit corridors;

(c) Measures to protect public use airports by controlling land uses within airport noise corridors and imaginary surfaces, and by limiting physical hazards to air navigation.

(d) A process for coordinated review of future land use decisions affecting transportation facilities, corridors or sites;

(e) A process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities, corridors or sites.

(f) Regulations to provide notice to public agencies providing transportation facilities and services, MPOs, and ODOT of:

(A) Land use applications that require public hearings;

(B) Subdivision and partition applications;

(C) Other applications which affect private access to roads; and

(D) Other applications within airport noise corridors and imaginary surfaces which affect airport operations.

(g) Regulations assuring that amendments to land use designations, densities, and design standards are consistent with the functions, capacities and levels of service of facilities identified in the TSP.

(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.

(a) Bicycle parking facilities as part of new multi-family residential developments of four units or more, new retail, office and institutional developments, and all transit transfer stations and park and ride lots.

(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.

(A) "Neighborhood activity centers" includes, but is not limited to, existing or planned schools, parks, shopping areas, transit stops or employment centers.

(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.

(C) Cul-de-sacs and other dead-end streets may be used as part of a development plan, consistent with the purposes set forth in this section.

(D) Local governments shall establish their own standards or criteria for providing streets and accessways consistent with the purposes of this section. Such measures may include but are not limited to: standards for spacing of streets or accessways; and standards for excessive out-of-direction travel.

(E) Streets and accessways need not be required where one or more of the following conditions exist:

(i) Physical or topographic conditions make a street or accessway connection impracticable. Such conditions include but are not limited to freeways, railroads, steep slopes, wetlands or other bodies of water where a connection could not reasonably be provided.

(ii) Buildings or other existing development on adjacent lands physically preclude a connection now or in the future considering the potential for redevelopment; or

(iii) Where streets or accessways would violate provisions of leases, easements, covenants, restrictions or other agreements existing as of May 1, 1995 which preclude a required street or accessway connection.

(c) Where off site road improvements are otherwise required as a condition of development approval, they shall include facilities accommodating convenient pedestrian and bicycle travel, including bicycle ways along arterials and major collectors.

(d) For purposes of subsection (b) "safe and convenient" means bicycle and pedestrian routes, facilities and improvements which:

(A) Are reasonably free from hazards, particularly types or levels of automobile traffic which would interfere with or discourage pedestrian or cycle travel for short trips.

(B) Provide a reasonably direct route of travel between destinations such as between a transit stop and a store; and,

(C) Meet travel needs of cyclists and pedestrians considering destination and length of trip; and considering that the optimum trip length of pedestrians is generally 1/4 to 1/2 mile.

(e) Internal pedestrian circulation within new office parks and commercial developments shall be provided through clustering of buildings, construction of accessways, walkways and similar techniques.

(4) To support transit in urban areas containing a population greater than 25,000, where the area is already served by a public transit system or where a determination has been made that a public transit system is feasible, local governments shall adopt land use and subdivision regulations as provided in (a)-(f) below.

(a) Transit routes and transit facilities shall be designed to support transit use through provision of bus stops, pullouts and shelters, optimum road geometrics, on-road parking restrictions and similar facilities, as appropriate.

(b) New retail, office and institutional buildings at or near major transit stops shall provide for convenient pedestrian access to transit through the measures listed in (A) and (B) below.

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

(B) Pedestrian connections to adjoining properties shall be provided except where such a connection is impracticable as provided for in OAR 660-12-045(3)(b)(E). Pedestrian connections shall connect the on site circulation system to existing or proposed streets, walkways, and driveways that abut the property. Where adjacent properties are undeveloped or have potential for redevelopment, streets, accessways and walkways on site shall be laid out or stubbed to allow for extension to the adjoining property.

(C) In addition to (A) and (B) above, on sites at major transit stops provide the following:

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

(ii) A reasonably direct pedestrian connection between the transit stop and building entrances on the site;

(iii) A transit passenger landing pad accessible to disabled persons;

(iv) An easement or dedication for a passenger shelter if requested by the transit provider; and,

(v) Lighting at the transit stop.

(c) Local governments may implement 4(b)(A) and (B) above through the designation of pedestrian districts and adoption of appropriate implementing measures regulating development within pedestrian districts. Pedestrian districts must comply with the requirement of 4(b)(C) above.

(d) Designated employee parking areas in new developments shall provide preferential parking for carpools and vanpools.

(e) Existing development shall be allowed to redevelop a portion of existing parking areas for transit oriented uses, including bus stops and pullouts, bus shelters, park and ride stations, transit oriented developments, and similar facilities, where appropriate.

(f) Road systems for new development shall be provided that can be adequately served by transit, including provision of pedestrian access to existing and identified future transit routes. This shall include, where appropriate, separate accessways to minimize travel distances.

(g) Along existing or planned transit routes, designation of types and densities of land uses adequate to support transit.

(5) In MPO areas, local governments shall adopt land use and subdivision regulations to reduce reliance on the automobile which:

(a) Allow transit oriented developments (TODs) on lands along transit routes;

(b) Implements a demand management program to meet the measurable standards set in the TSP in response to 660-12-035(4).

(c) Implements a parking plan which:

(A) Achieves a 10% reduction in the number of parking spaces per capita in the MPO area over the planning period. This may be accomplished through a combination of restrictions on development of new parking spaces and requirements that existing parking spaces be redeveloped to other uses;

(B) Aids in achieving the measurable standards set in the TSP in response to 660-12-035(4);

(C) Includes land use and subdivision regulations setting minimum and maximum parking requirements; and,

(D) Is consistent with demand management programs, transit-oriented development requirements and planned transit service.

(d) Require all major industrial, institutional, retail and office developments to provide either a transit stop on site or connection to a transit stop along a transit trunk route when the transit operator requires such an improvement.

(6) In developing a bicycle and pedestrian circulation plan as required by 660-12-020(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.

(7) 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. Not withstanding subsection (1) or (3) of this section, local street standards adopted to meet this requirement need not be adopted as land use regulations.

660-12-050 Transportation Project Development

(1) For projects identified by ODOT pursuant to OAR 731, Division 15, project development shall occur in the manner set forth in that Division.

(2) Regional TSPs shall provide for coordinated project development among affected local governments. The process shall include:

(a) Designation of a lead agency to prepare and coordinate project development;

(b) A process for citizen involvement, including public notice and hearing, if project development involves land use decision-making. The process shall include notice to affected transportation facility and service providers, MPOs, and ODOT.

(c) A process for developing and adopting findings of compliance with applicable statewide planning goals, if any. This shall include a process to allow amendments to acknowledged comprehensive plans where such amendments are necessary to accommodate the project;

(d) A process for developing and adopting findings of compliance with applicable acknowledged comprehensive plan policies and land use regulations of individual local governments, if any. This shall include a process to allow amendments to acknowledged comprehensive plans or land use regulations where such amendments are necessary to accommodate the project.

(3) Project development involves land use decision-making to the extent that issues of compliance with applicable requirements remain outstanding at the project development phase. Issues may include, but are not limited to, compliance with regulations protecting or regulating development within floodways and other hazard areas, identified Goal 5 resource areas, estuarine and coastal shoreland areas, and the Willamette River Greenway. Where project development involves land use decisionmaking, all unresolved issues of compliance with applicable acknowledged comprehensive plan policies and land use regulations shall be addressed and findings of compliance adopted prior to project approval. To the extent compliance has already been determined during transportation system planning, including adoption of a refinement plan, affected local governments may rely on and reference the earlier findings of compliance with applicable standards.

(4) Where an Environmental Impact Statement (EIS) is prepared pursuant to the National Environmental Policy Act of 1969, project development shall be coordinated with the preparation of the EIS. All unresolved issues of compliance with applicable acknowledged comprehensive plan policies and land use regulations shall be addressed and findings of compliance adopted prior to issuance of the Final EIS.

(5) If a local government decides not to build a project authorized by the TSP, it must evaluate whether the needs that the project would serve could otherwise be satisfied in a manner consistent with the TSP. If identified needs cannot be met consistent with the TSP, the local government shall initiate a plan amendment to change the TSP or the comprehensive plan to assure that there is an adequate transportation system to meet transportation needs.

(6) Transportation project development may be done concurrently with preparation of the TSP or a refinement plan.

660-12-055
Timing of Adoption and Update of Transportation System Plans; Exemptions

(1) MPOs shall complete regional TSPs for their planning areas by May 8, 1996. For those areas within an MPO, cities and counties shall adopt local TSPs and implementing measures within one year following completion of the regional TSP. Urban areas designated as MPOs subsequent to the adoption of this rule shall adopt TSPs in compliance with applicable requirements of this rule within three years of designation.

(2) For areas outside an MPO, cities and counties shall complete and adopt regional and local TSPs and implementing measures by May 8, 1997.

(3) Within two years of adoption of this rule affected cities and counties shall, for urban areas of 25,000 or more, adopt land use and subdivision ordinances or amendments required by 660-12-045(3),(4)(a)-(f) and (5)(d).

(4)(a) Affected cities and counties that either:

(A) Have acknowledged plans and land use regulations that comply with this rule as of May 8, 1995, may continue to apply those acknowledged plans and land use regulations, or

(B) Have plan and land use regulations adopted to comply with this rule as of April 12, 1995, may continue to apply the provisions of this rule as they existed as of April 12, 1995, and may continue to pursue acknowledgment of the adopted plans and land use regulations under those same rule provisions provided such adopted plans and land use regulations are acknowledged by April 12, 1996. Affected cities and counties that qualify and make this election under this subsection shall update their plans and land use regulations to comply with the 1995 amendments to section 660-12-045 as part of their transportation system plans.

(b) Affected cities and counties that do not have acknowledged plans and land use regulations as provided in (a) above, shall apply relevant sections of this rule to land use decisions and limited land use decisions until land use regulations complying with this amended rule have been adopted.

(5) Cities and counties shall update their TSPs and implementing measures as necessary to comply with this division at each periodic review subsequent to initial compliance with this division. This shall include a reevaluation of the land use designations, densities and design standards in the following circumstances:

(a) If the interim benchmarks established pursuant to 660-12-035(6) have not been achieved; or,
(b) If a refinement plan has not been adopted consistent with the requirements of 660-12-025(3).

(6) The director may grant a whole or partial exemption from the requirements of this division to cities under 2,500 population outside MPO areas and counties under 25,000 population. Eligible jurisdictions may, within five years following the adoption of this rule or at subsequent periodic reviews, request that the director approve an exemption from all or part of the requirements in this division until the jurisdiction's next periodic review.

(a) The director's decision to approve an exemption shall be based upon the following factors:

(A) Whether the existing and committed transportation system is generally adequate to meet likely transportation needs;

(B) Whether the new development or population growth is anticipated in the planning area over the next five years;

(C) Whether major new transportation facilities are proposed which would affect the planning areas;

(D) Whether deferral of planning requirements would conflict with accommodating state or regional transportation needs; and,

(E) Consultation with the Oregon Department of Transportation on the need for transportation planning in the area, including measures needed to protect existing transportation facilities.

(b) The director's decision to grant an exemption under this section is appealable to the Commission as provided in OAR 660-02-020 (Delegation of Authority Rule).

(7) Portions of TSPs and implementing measures adopted as part of comprehensive plans prior to the responsible jurisdiction's periodic review shall be reviewed pursuant to OAR 660, Division 18, Post Acknowledgement Procedures.

660-12-060 Plan and Land Use Regulation Amendments

(1) Amendments to functional plans, acknowledged comprehensive plans, and land use regulations which significantly affect a transportation facility shall assure that allowed land uses are consistent with the identified function, capacity, and level of service of the facility. This shall be accomplished by either:

(a) Limiting allowed land uses to be consistent with the planned function, capacity and level of service of the transportation facility;

(b) Amending the TSP to provide transportation facilities adequate to support the proposed land uses consistent with the requirements of this division; or,

(c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.

(2) A plan or land use regulation amendment significantly affects a transportation facility if it:

(a) Changes the functional classification of an existing or planned transportation facility;

(b) Changes standards implementing a functional classification system;

(c) Allows types or levels of land uses which would result in levels of travel or access which are inconsistent with the functional classification of a transportation facility; or

(d) Would reduce the level of service of the facility below the minimum acceptable level identified in the TSP.

(3) Determinations under subsections (1) and (2) of this section shall be coordinated with affected transportation facility and service providers and other affected local governments.

(4) The presence of a transportation facility or improvement shall not be a basis for an exception to allow residential, commercial, institutional or industrial development on rural lands under this division or OAR 660-04-022 and 028.

660-12-065 Transportation Improvements on Rural Lands

(Note:This section of the rule was completely replaced by new language as part of amendments adopted in March 1995. To save space the text of the unamended rule has not been included here.)

(1) This rule identifies transportation facilities, services and improvements which may be permitted on rural lands consistent with Goals 3, 4, 11 and 14 without a goal exception.

(2) For the purposes of this rule, the following definitions apply:

(a) "Access roads" means low volume public roads that principally provide access to property or as specified in an acknowledged comprehensive plan.

(b) "Collectors" means public roads that provide access to property and that collect and distribute traffic between access roads and arterials or as specified in an acknowledged comprehensive plan.

(c) "Arterials" means state highways and other public roads that principally provide service to through traffic between cities and towns, state highways and major destinations or as specified in an acknowledged comprehensive plan.

(d) "Accessory transportation improvements" means transportation improvements that are incidental to a land use to provide safe and efficient access to the use.

(e) "Channelization" means the separation or regulation of conflicting traffic movements into definite paths of travel by traffic islands or pavement markings to facilitate the safe and orderly movement of both vehicles and pedestrians. Examples include, but are not limited to, left turn refuges, right turn refuges including the construction of islands at intersections to separate traffic, and raised medians at driveways or intersections to permit only right turns. "Channelization" does not include continuous median turn lanes.

(f) "Realignment" means rebuilding an existing roadway on a new alignment where the new centerline shifts outside the existing right of way, and where the existing road surface is either removed, maintained as an access road or maintained as a connection between the realigned roadway and a road that intersects the original alignment. The realignment shall maintain the function of the existing road segment being realigned as specified in the acknowledged comprehensive plan.

(g) "New road" means a public road or road segment that is not a realignment of an existing road or road segment.

(3) The following transportation improvements are consistent with goals 3, 4, 11, and 14 subject to the requirements of this rule:

(a) Accessory transportation improvements for a use that is allowed or conditionally allowed by ORS 215.213, 215.283 or OAR 660-Division 6 (Forest Lands);

(b) Transportation improvements that are allowed or conditionally allowed by ORS 215.213, 215.283 or OAR 660-Division 6 (Forest Lands);

(c) Channelization not otherwise allowed under subsections (a) or (b) of this section;

(d) Realignment of roads not otherwise allowed under subsection (a) or (b) of this section;

(e) Replacement of an intersection with an interchange;

(f) Continuous median turn lane;

(g) New access roads and collectors within a built or committed exception area, or in other areas where the function of the road is to reduce local access to or local traffic on a state highway. These roads shall be limited to two travel lanes. Private access and intersections shall be limited to rural needs or to provide adequate emergency access.

(h) Bikeways, footpaths and recreation trails not otherwise allowed as a modification or part of an existing road;

(i) Park and ride lots;

(j) Railroad mainlines and branchlines;

(k) Pipelines;

(l) Navigation channels;

(m) Replacement of docks and other facilities without significantly increasing the capacity of those facilities;

(n) Expansions or alterations of public use airports that do not permit service to a larger class of airplanes; and

(o) Transportation facilities, services and improvements other than those listed in this rule that serve local travel needs. The travel capacity and level of service of facilities and improvements serving local travel needs shall be limited to that necessary to support rural land uses identified in the acknowledged comprehensive plan or to provide adequate emergency access.

(4) Accessory transportation improvements required as a condition of development listed in subsection (3)(a) of this rule shall be subject to the same procedures, standards and requirements applicable to the use to which they are accessory.

(5) For transportation uses or improvements listed in subsection (3)(d) to (g) and (o) of this rule within an exclusive farm use (EFU) or forest zone, a jurisdiction shall, in addition to demonstrating compliance with the requirements of ORS 215.296:

(a) Identify reasonable build design alternatives, such as alternative alignments, that are safe and can be constructed at a reasonable cost, not considering raw land costs, with available technology. Until adoption of a local TSP pursuant to the requirements of OAR 660-12-035, the jurisdiction shall consider design and operations alternatives within the project area that would not result in a substantial reduction in peak hour travel time for projects in the urban fringe that would significantly reduce peak hour travel time. A determination that a project will significantly reduce peak hour travel time is based on OAR 660-12-035(10). The jurisdiction need not consider alternatives that are inconsistent with applicable standards or not approved by a registered professional engineer.

(b) Assess the effects of the identified alternatives on farm and forest practices, considering impacts to farm and forest lands, structures and facilities, considering the effects of traffic on the movement of farm and forest vehicles and equipment and considering the effects of access to parcels created on farm and forest lands; and

(c) Select from the identified alternatives, the one, or combination of identified alternatives that has the least impact on lands in the immediate vicinity devoted to farm or forest use.

(6) Notwithstanding any other provision of this division, if a jurisdiction has not met the deadline for TSP adoption set forth in OAR 660-12-055, or any extension thereof, a transportation improvement that is listed in section (5) of this rule and that will significantly reduce peak hour travel time as provided in OAR 660-12-035(10) may be allowed in the urban fringe only if the jurisdiction applies either:

(a) the criteria applicable to a "reasons" exception provided in Goal 2 and OAR 660, Division 4; or

(b) the evaluation and selection criteria set forth in OAR 660-12-035.

660-12-070 Exceptions for Transportation Improvements on Rural Land

(1) Transportation facilities and improvements which do not meet the requirements of 660-12-065 require an exception to be sited on rural lands.

(2) Where an exception to Goals 3, 4, 11, or 14 is required, the exception shall be taken pursuant to ORS 197.732(1)(c), Goal 2, OAR 660, Division 4 and this division.

(3) An exception adopted as part of a TSP or refinement plan shall, at a minimum, decide need, mode, function and general location for the proposed facility or improvement.

(a) The general location shall be specified as a corridor within which the proposed facility or improvement is to be located, including the outer limits of the proposed location. Specific sites or areas within the corridor may be excluded from the exception to avoid or lessen likely adverse impacts.

(b) The size, design and capacity of the proposed facility or improvement shall be described generally, but in sufficient detail to allow a general understanding of the likely impacts of the proposed facility or improvement. Measures limiting the size, design or capacity may be specified in the description of the proposed use in order to simplify the analysis of the effects of the proposed use.

(c) The adopted exception shall include a process and standards to guide selection of the precise design and location within the corridor and consistent with the general description of the proposed facility or improvement. For example, where a general location or corridor crosses a river, the exception would specify that a bridge crossing would be built but would defer to project development decisions about precise location and design of the bridge within the selected corridor subject to requirements to minimize impacts on riparian vegetation, habitat values, etc.

(d) Land use regulations implementing the exception may include standards for specific mitigation measures to offset unavoidable environmental, economic, social or energy impacts of the proposed facility or improvement or the assure compatibility with adjacent uses.

(4) To address Goal 2, Part II(c)(1) the exception shall demonstrate that there is a transportation need identified consistent with the requirements of 660-12-030 which cannot reasonably be accommodated through one or a combination of the following measures not requiring an exception:

(a) Alternative modes of transportation;

(b) Traffic management measures; and

(c) Improvements to existing transportation facilities.

(5) To address Goal 2, Part II(c)(2), the exception shall demonstrate that non-exception locations cannot reasonably accommodate the proposed transportation improvement or facility.

(6) To determine the reasonableness of alternatives to an exception under subsections (4) and (5) of this section, cost, operational feasibility, economic dislocation and other relevant factors shall be addressed. The thresholds chosen to judge whether an alternative method or location cannot reasonably accommodate the proposed transportation need or facility must be justified in the exception.

(7) To address Goal 2, Part II(c)(3), the exception shall:

(a) Compare the economic, social, environmental and energy consequences of the proposed location and other alternative locations requiring exceptions.

(b) Determine whether the net adverse impacts associated with the proposed exception site are significantly more adverse than the net impacts from other locations which would also require an exception. A proposed exception location would fail to meet this requirement only if the affected local government concludes that the impacts associated with it are significantly more adverse than the other identified exception sites.

(c) The evaluation of the consequences of general locations or corridors need not be site-specific, but may be generalized consistent with the requirements of 660-12-070(3).

(8) To address Goal 2, Part II(c)(4), the exception shall:

(a) Describe the adverse effects that the proposed transportation improvement is likely to have on the surrounding rural lands and land uses, including increased traffic and pressure for nonfarm or highway oriented development on areas made more accessible by the transportation improvement.

(b) Adopt as part of the exception, facility design and land use measures which minimize accessibility of rural lands from the proposed transportation facility or improvement and support continued rural use of surrounding lands.

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