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Yamhill County Transportation System Plan

1. Introduction

Yamhill County is a rural county located in the northwest part of the Willamette Valley and is bounded by the Willamette River on the east and the coast range on the west. Yamhill County population has more than doubled over the past 54 year period. The population of the County is estimated at 72,800 (1994 estimate) with 70% of the population living in incorporated areas. Its 718 square miles include 10 incorporated cities, with McMinnville and Newberg both over 10,000 in population. The road system consists of a combination of quiet rural routes, city streets, and busy state highways. The existing State Highway System connects with the State Capitol in Salem, the Portland Metropolitan Area, and the Oregon Coast. Yamhill County is served by state highways 99W and 18 corridors to Portland and Lincoln City, Highway 47 to the north, Highway 219 to Salem and Hillsboro, and Highway 99W and 221 to the south. These highways also bring thousands of tourists each year through Yamhill County on their way to the Oregon Coast. Yamhill County attractions include two colleges; a destination resort; a proposed aeronautic museum; numerous state, city, and county parks; two monasteries; National Register Historic Landmarks; Wheatland Ferry crossing the Willamette River; numerous vineyards and wineries; and large natural recreation areas under the National Forest Service and Bureau of Land Management. Yamhill County is also the location of a Federal Correction Facility. Located in the Mid-Willamette Valley, Yamhill County abounds with produce and agricultural products.

Yamhill County Transportation System Plan (TSP) examines both short and long-term transportation needs. In the short term, the study identifies and provides solutions to immediate safety and congestion problems. For the future, the study looks at 20-year horizon, 50-year horizon and how to best move people and goods efficiently throughout the County. The transportation needs for the cities of McMinnville and Newberg have been established in their recently published Transportation System Plans. Planning for roadways in the Urban Reserve Areas for Newberg and McMinnville is covered by their Transportation System Plans.

The purpose of the TSP is to develop a transportation system that meets the needs of the residents of Yamhill County, and regional and state needs. This plan provides a balanced transportation system that includes automobile, bicycle, rail, transit, air, walking and pipelines. It addresses a coordinated network of transportation facilities by including the major components of a roadway plan, a public transportation plan, a bicycle/pedestrian plan, and an air/rail/water/ and pipeline plan. It reflects existing land use plans, policies and regulations that affect the transportation system and includes a plan on how to finance future projects.

The Yamhill County Transportation System Plan is intended to:

Provide a multimodal interconnectivity between Yamhill County and neighboring counties and cities

Maintain a positive livability for Yamhill County residents

Accommodate growth as it occurs

This TSP is also intended to meet the goals and objectives of the State of Oregon and Statewide Planning Goal 12 (The Transportation Planning Rule) OAR 660-12. This rule requires ODOT, the cities and counties of Oregon to cooperate and to develop balanced transportation systems.

parcel in
Yamhill County

Note: work in
progress to
allow viewing
of GIS maps



Two important aspects of this rule are:

It ties land use to transportation

It mandates that transportation planning reduce reliance on any one mode of transportation.

Furthermore, this TSP is intended to meet the objectives of the Oregon Transportation Plan. The need to integrate all modes of transportation is recognized in the 1992 Oregon Transportation Plan.

The Oregon Transportation Plan envisions a transportation system that moves people and goods in a way that provides for livability and economic prosperity for all Oregonians. The system provides Oregonians and visitors with access to goods, services, jobs, and recreation, while providing Oregon industry access to national and international resources and markets. To most effectively meet the state's needs, the transportation system takes advantage of the inherent efficiencies of each transportation mode and encourages interconnection between modes.

The Oregon Transportation Plan (OTP) must be implemented through integrated state, regional, and local planning and the private sector if it is to guide Oregon's transportation future effectively. The OTP leads this process by identifying in general terms the statewide transportation system and the minimum levels of service which should be achieved. Future planning activities will provide the details of the transportation system to be developed over time in accordance with the OTP and other laws, regulations and policies.

The elements of integrated transportation planning and system management statewide will include:

Modal and multimodal plans developed by ODOT and other state agencies.

System management developed by ODOT and other state agencies.

Metropolitan area plans developed through Metropolitan

Transportation Planning Organization (MPO) planning processes in conformity with state and federal laws, plans, policies, and rules.

Plans developed by local governments and special districts.

County and city transportation planning shall be consistent with the OTP, the Land Conservation and Development Commission (LCDC) Transportation Planning Rule, the State Implementation Plan under the Clean Air Act Amendments, and the regional transportation system plan.

In general, the Transportation System Plan should provide the following:

Transportation facility goals and policies;

Goals, policies, and procedures concerning improvement and development of transportation facilities;

Goals, policies, and procedures concerning relationships between land use and transportation facilities;

A list of transportation projects concerning improvements of roadways, intersections, and bridges in the County;

A list of State projects that are part of the State Transportation Improvement Program (TIP) and projects that the County would like to see included in future TIPs;

Feasibility studies that the County would like to see accomplished during the planning period;

New programs the County wishes to institute during the planning period;

Projects, ideas, improvements and innovations that the County supports.

Chapter 2 will provide background information and an inventory of the existing Transportation System as well as deficient transportation facilities in the County. Chapter 3 will provide a Transportation forecast for Yamhill County including population, employment, and traffic. Chapter 4 will address the transportation needs of the County based on the outcome of the forecasts and inventory analysis and the concerns of a wide spectrum of Yamhill County citizens. The transportation system plan is then outlined in Chapter 5 with recommended goals and policies, as well as a list of proposed transportation projects; and finally a transportation finance plan is addressed in Chapter 6.

2. Inventory And Background 2.1 Existing Plans, Policies, Standards and Laws

The evaluation of current plans and policies forms the basis of Yamhill County Transportation System Plan (TSP). In addition to reviewing the comprehensive plans of all ten incorporated cities in Yamhill County the following plans were reviewed prior to developing the County's TSP:

2.1.1 COUNTY COMPREHENSIVE PLAN

Yamhill County adopted a Comprehensive Plan in 1974 following a major planning effort to chart the future for the community and follow through with a strong commitment to implementation. The 1974 Plan directs the bulk of urban development to existing urban centers and calls for the preservation of highly productive farm and forest land. The 1974 Plan also provides for rural residential development in limited areas.

The 1974 Plan was visionary in anticipating the linkage of transportation and land use. Included in the Plan is a thoughtful discussion of issues which are as meaningful and relevant in 1995 as they were in 1974:

Because a high priority is placed on mobility, large commitments in money and land have been made to provide transportation which is fast, efficient and safe.

The present system is heavily dominated by roads, reflecting a dependence on automobiles and trucks. The willingness to make additional large commitments to this pattern of transportation is being tempered by a growing awareness of its increasing costs.

Commuting to work in Portland and Salem has been made more convenient for residents in the northeast and southern parts of the County. This has resulted in pressure to convert farm and forest lands to urban

and rural residential uses.

It is now apparent that systems which encourage heavy reliance on the automobile also encourage energy waste, air pollution, and the consumption of large amounts of land. Possibilities of improved mass transit, including bus and rail service to move both goods and people, should be explored. Attractive and convenient pedestrian and bicycle paths should be integrated into the open space network and provide a useful transportation function as well.

Whatever the optimum design of the transportation system may include, it cannot be achieved at the local level alone.

The dominant feature of the road network on the Plan Map is the Highway 99W-18 major arterial crossing the County. It serves local and inter-city traffic, commuter traffic oriented to the Portland metropolitan area, and tourist and weekend vacation traffic between Portland and the Coast, as well as providing direct access to abutting properties throughout much of its length.

Need for an additional bridge crossing of the Willamette River should be tempered by the values and goals of present residents regarding the County's prospective function as an enlarged bedroom community to the Portland and Salem metropolitan areas. Improved access to the County will inevitably accelerate urbanization.

Cooperation between Yamhill County and the State Highway Division is needed to better serve programmed urban development as provided by the Plan, while preventing compromises elsewhere in the massive public investments already made and yet to be made in the arterial highway system.

Bicycle and pedestrian ways as an element of the transportation system are generally most appropriately found in urban areas or between closely situated urban areas such as Sheridan and Willamina.

The lack of safe and convenient bicycle and pedestrian facilities is a deterrent to increased use, and the County must look ahead to the increasing demand for alternatives modes of transportation to the automobile.

The Comprehensive Plan was updated in June 1979 to address the requirements of the statewide planning goals. The Land Conservation and Development Commission (LCDC) acknowledged that the Yamhill County Comprehensive Plan complied with the statewide goals in June of 1980.

Yamhill County has been involved in the "periodic review process" and update of the Comprehensive Plan for almost ten years. Local governments are required to address changes in local conditions and goals, rules and statutes adopted since acknowledgment during periodic review. However, Yamhill County has not been required to address the Transportation Planning Rule as a part of their current periodic review tasks.

Besides addressing the requirements of the Transportation Planning Rule, this Transportation System Plan is intended to:

Provide a multimodal interconnectivity between Yamhill County and neighboring counties and cities

Maintain a positive livability for Yamhill County residents

Accommodate growth as it occurs

Yamhill County will work with the State and the cities in all matters that relate to the transportation system in

the County.

2.1.2 COUNTY ROAD MANAGEMENT PLAN

Yamhill County Road Management Plan, developed in 1992, presents a management plan for the maintenance and capital improvement of the road system under the jurisdiction of Yamhill County. The plan provides:

a policy and procedural framework for programming future maintenance and capital improvement activities;

a monitoring system to better organize road and expenditure data including a new

roadway functional classification ;

potential financing mechanisms to increase the level of maintenance and

capital improvements on the County Road System.

2.1.3 COUNTY BIKEWAY MASTER PLAN

Yamhill County Bikeway Master Plan was developed in 1993 by the Yamhill County Bikeway Task Force to address the specific needs of bicyclists and pedestrians. It promotes bicycling in Yamhill County and outlines the tasks and responsibilities of involved agencies. The Yamhill County Bikeway Task Force was formed in 1991 to respond to the goals and objectives outlined by the State of Oregon as mandated by Statewide Planning Goal 12 (Transportation) and OAR 660-12. A list of improvement projects for the County Bikeway System was identified in the Plan.

2.1.4 County Comprehensive Land Use Plan, Revised Goals and

Policies

This revision to Yamhill County Comprehensive Plan was completed in 1993. This document was intended to bring the Land Use Plan adopted by Yamhill County Comprehensive Plan in 1974 into compliance with Land Conservation and Development Commission (LCDC) goals. The plan incorporates Goal and Policy amendments through March 1993. The Plan provides goals and policies in regard to among other things:

Urban Growth and Change and Economic Development,

Transportation

2.1.5 City of McMinnville Transportation Master Plan

This plan provides a comprehensive analysis of the transportation system within McMinnville. It examines the existing conditions for all transportation modes within the city. Future transportation needs were identified

for the next 20 years based on the long-range impacts of local and regional growth on the transportation system in the McMinnville urban area. Roadway improvements recommended in the plan include:

1. A beltline-type facility extending across the South Yamhill River. The exact location of the beltline is still under investigation as part of the McMinnville Refinement Study.
2. The 1st Street/2nd Street Couplet is modified as follows at its east termini. First Street would continue eastbound one way and intersect with Highway 18 Spur. The westbound couplet would be made by connecting 3rd Street to 2nd Street between Johnson Street and Irvine Street.
3. A new interchange at Highway 18 north of Durham Lane was proposed to connect with Hill Road and projected residential growth in the western portion of the City. The interchange would provide an alternative to the widening and extension of Old Sheridan Road.
4. Widening Highway 99W from the Adams/Baker Couplet to Old Sheridan Road.
5. Constructing Three Mile Lane frontage road to provide access and circulation to the industrial area near the McMinnville Airport and immediately south of Highway 18. Closing Cruickshank has been proposed as one of the options to be considered in year 2003 as part of the construction of the frontage road system.

The plan also identifies the implementation program and construction costs, and it sets forth a funding strategy for the improvements.

2.1.6 McMinnville Municipal Airport Master Plan Update

This Plan provides an updated inventory of the Airport facilities and off- and on-Airport land use. It provides operations forecasts and demand/capacity analysis of air side facilities at the Airport. The plan proposes improvements for the facilities and a financial plan for the implementation of these improvements. It addresses the use of property and areas surrounding the Airport and related environmental issues. The plan was published in 1989.

2.1.7 City of Newberg Transportation System Plan

This plan provides a comprehensive analysis of the transportation system within Newberg. It examines the existing conditions for all transportation modes within the city. Future transportation needs were identified in the plan based on the long-range impacts of local and regional growth on the transportation system in the Newberg urban area. The plan recommends a Newberg-Dundee by-pass and identifies several alternatives for a future east/west minor arterial in the north Newberg urban area. A list of roadway capacity improvement projects that involve County roads include:

1. Main Street between Illinois and Mountainview

2. Springbrook Road from Crestview Drive South to Highway 219
3. Chehalem Drive between Highway 240 and Bell Road
4. Fernwood Street between Springbrook and City limits
5. Columbia Street between Chehalem Drive and College Street
6. Wynooski Road from 12th Street to 4th Street.

The costs assessed to Yamhill County total at about \$3.0 Million. These costs include the full cost of reconstructing Chehalem Drive, less the cost of adjacent land use, plus 40 percent of the costs of construction or reconstruction of various collector streets. The plan was completed in June 1994.

2.1.8 STATEWIDE PLANS

In addition, the following plans were reviewed:

Oregon Transportation Plan, 1992

Oregon Rail Passenger Policy and Plan, 1992

Oregon Rail Freight Plan, 1994

Oregon Highway Plan, 1991

Oregon Bicycle and Pedestrian Plan, 1991

2.1.9 REGIONAL PLANS

Population growth estimates in the Willamette Valley for the next 20 years compelled ODOT to establish the Valley Policy Advisory Committee on Transportation (V-PACT). The goal of this committee is to develop a transportation strategy for the Willamette Valley as a whole that is consistent with the visions, goals, policies and system elements of the Oregon Transportation Plan, including the development of a high speed rail system within the Valley. V-PACT is considering three different scenarios for the future of transportation in the Valley. The base case scenario would extend the pace and character of current activities into the future. The moderate commitment scenario assumes cooperative efforts among local jurisdictions and state agencies to achieve the visions contained in the state transportation plan. It would include increased maintenance and improvements on the state's highway system along with an increase in public transportation. The high commitment scenario would include high speed rail, interurban passenger rail between Portland, Newberg, McMinnville and Salem, intercity bus services, implementation of the Intelligent Vehicle Highway System for portions of Interstate-5 and increased fees to pay for the improvements. A Draft Willamette Valley Transportation Strategy has been released but not adopted yet.

Highway 18/99W corridor study is also underway where recommendations regarding the Dundee-Newberg bypass as well as access management, level of service, and improvements along the corridor will take place.

2.2 Overview Of Existing Transportation System And Current Needs

2.2.1 ROADWAY SYSTEM CONDITION

2.2.1.1 Road System Configuration

Yamhill County has 684.5 miles of roadways under its road maintenance jurisdiction. Most of these roads are located in the eastern portion of the County where most of the population is located. In the western portion of the County, numerous roads (totaling 473.85 miles) are under the jurisdiction of either the U.S. Bureau of Land Management, National Forest Service, the Oregon State Forestry Division or the Oregon State Parks Division. In the ten incorporated cities within the County (McMinnville, Newberg, Yamhill, Dayton, Lafayette, Dundee, Carlton, Amity, Sheridan, and Willamina) most public roads (174.45 miles) are under municipal jurisdiction. Another 148.93 miles are on the state highway system.

Yamhill County has adopted the proposed changes to the 1986 roadway functional classification suggested in the 1992 County Road Management Plan (see Figure 1). The functional classification describes how the public road system should operate -- grouping roads having similar characteristics of providing mobility and/or land access. Six classifications for roads in rural areas and four within urban areas have been established. The basic characteristics of each classification are presented in Table 1. The classifications range from arterials which primarily accommodate through traffic, to collectors which handle both through traffic and access to abutting property, to local roads which are primarily used to access property. In addition, resource roads classification has been applied to local roads with average daily traffic of 500 or more. There are only two designated urban areas within the County: McMinnville and Newberg. In these communities, the road system has been classified based on the urban definitions. In all other areas of the County, the rural classification is applicable. Local access roads are not maintained by the County.

Table 2 provides a breakdown in mileage of the County Road System by functional classification compared to the mileage of other jurisdictions in the County. Ninety nine percent (663.49 miles) of the County Road System is in the designated rural area. Of the rural system, 30% of the mileage (202.42 miles) is on designated collectors with the remainder (461.07 miles) designated as local roads. In the designated urban areas, 51% (4.88 miles) of the county roads are minor arterials, 22% (2.06 miles) are collectors, and 27% (2.61 miles) are local and resource roads. Table 3 identifies the major and minor collectors on the County Road System. Most of the designated arterials in the County -- including all principal arterials -- are on the state highway system. The designated principal arterials in the County are: 1) State Highway 99W (OR 99W) between the Washington County Line and OR 18 east of McMinnville, 2) the OR 18 bypass of McMinnville and its extension to the Polk County Line, 3) OR 99W in McMinnville between OR 47 on the east side of town and OR 18 on the west side of town, 4) OR 219 from Wilsonville Road to Henry Road in Newberg vicinity. OR 47, OR 221, OR 240, OR 233, the rest of OR 219 and the Lafayette Highway are designated as minor arterials.

FIGURE 1.0 TABLE 1 ROAD FUNCTIONAL CLASSIFICATION CHARACTERISTICS`

RURAL

Principal Arterial:

* Trip length and travel density characteristics representative of substantial statewide or interstate travel; and

* Penetrates urban boundaries, or comes within 10 miles of the center of an urban area of 25,000 population or greater, and are within 20 minutes travel time (off-peak periods) of the center of the area via a minor arterial roadway.

Minor Arterial:

* Links cities, larger towns, and other major traffic generators, providing interregional and intercounty service; and

* Spaced at distances so that all developed areas are within reasonable distance of an arterial highway, and

- * Provides service to corridors with trip length and travel density greater than those predominately served by rural collector or local systems.

Major Collector:

- * Provides service to any county seat not on an arterial route, and to the larger towns not served by higher classified roads. Other traffic generators of equivalent county importance, such as schools, county parks, and important agricultural areas, would also be served by this classification

- * Connects these places with nearby larger towns or cities, or with routes of higher classification;

- * Serves the more important intra-county travel corridors.

Minor Collector:

- * Spaced at intervals to collect traffic from local roads and provide all developed areas a reasonable distance from a collector road; and

- * Provides service to the remaining smaller communities; and

- * Links locally important traffic generators with rural destinations.

Resource Roads:

- * Traffic volumes of 500 vehicles/day or greater;

- * Primarily provides access to adjacent land; and

- * Accommodates travel over short distances as compared to collectors or arterials.

Local:

- * Primarily provides access to adjacent land; and

- * Accommodates travel over short distances as compared to collectors or arterials. TABLE 1 (Cont.)

URBAN

Principal Arterial:

- * Serves the major activity centers in a metropolitan area, and also serves the highest traffic corridors and satisfies the longest trip desires; and

- * Carries the major portion of trips entering and leaving the urban area, as well as the majority of through traffic desiring to bypass the city.

Minor Arterial:

- * Provides service to trips of moderate length at a somewhat lower level of travel mobility than major arterials; and

- * Distributes travel to geographic areas smaller than those served by principal arterials, while not penetrating specific neighborhoods; and

* Spacing varies from 1/8 to 1/2 mile in downtown areas, to 2 to 3 miles in areas outside downtown.

Collector:

* Provides both land access and traffic circulation within residential neighborhoods, commercial, and industrial areas; and

* Distributes trips from arterials through these areas to their final destination, and conversely, collects traffic from local streets and channels it onto arterials.

Local:

* Provides access to adjacent land and access to higher classified roads; and

* Provides lowest level of travel mobility including no bus routes.

* Carries less than 1,200 vehicles/day.

TABLE 2 YAMHILL COUNTY ROAD MILEAGE BY FUNCTIONAL CLASSIFICATION

Principal Minor Major Minor Urban Resource

JURISDICTION Arterial Arterial Collector Collector Collector & Local Total

Rural :

City 0 0 2.23 0.26 - 0 2.49

ounty 0 0 99.07 103.35 - 472.57 663.49

BLM 0 0 8.44 10.80 - 392.76 412.00

National Forest 0 0 0 0 54.00 54.00

Public Roads 0 0 0 0 - 49.52 49.52

State Forest 0 0 0 7.10 - 0 7.10

State Highway 25.41 80.75 36.60 0 - 0 142.76

State Park 0 0 0 0 - 0.75 0.75

Rural Total 25.41 80.75 146.34 121.51 - 958.101 1332.11

Urban :

City 0.57 10.15 - - 13.22 157.41 174.45

County 0 4.88 - - 2.06 2.61 9.55

State Highway 18.87 1.71 - - 0 0 20.58

Urban Total 19.44 16.74 - - 15.28 160.02 211.48

Total 44.85 97.49 146.34 121.51 15.28 1118.12 1543.59

County Total 0 4.88 99.07 103.35 2.06 475.18 670.43 TABLE 3 DESIGNATED COLLECTORS ON COUNTY ROAD SYSTEM`

ROAD TYPE/NAME SEGMENT

Major Collector:

Grand Ronde Rd. Polk County Line to Hwy. 22

Ft. Hill Rd. Polk County Line to Willamina Creek Rd.

Willamina Creek Rd. Hwy. 18 Business to Coast Creek Rd.

Mill Creek Rd. Hwy. 18 to Begin County Jurisdiction

Ballston Rd. Hwy. 18 to Polk County Line

Gopher Valley Rd. Hwy. 18 to Thomson Hill Rd.

Dejong Rd. Polk County Line to Christensen Rd.

Christensen Rd. Dejong Rd. to Hwy. 18

Bellevue Hwy./Amity Rd. Hwy. 18 to Hwy. 233

Wheatland Rd. All

Fairview Rd. All

Grand Island Rd. Hwy. 221 to Lower Island Rd.

Palmer Creek Rd. All

Cruickshank Rd. All

String Town Rd. Hwy. 233 to Lafayette Hwy.

Old Sheridan Rd. All

Hill Road South Peavine Rd. to Redmond Hill Rd.

Hill Road South Peavine Rd. to Fox Ridge Rd.

Baker Creek Rd. Power House Hill Rd. to Hill Road South

Meadow Lake Rd. All

West Side Rd. All

Moore's Valley Rd. West Side Rd. to Hwy. 47

Pike Rd. Tupper Rd. to Olive St.

Hendricks Rd. All

Abbey Rd. All

Kuehne Rd. All

Ribbon Ridge Rd. Hwy. 240 to North Valley Rd.

Flett Rd./North Valley Rd./Bell Rd. Hwy. 47 to Zimri Dr.

Spring Hill Road All

Tangen Rd. All

Wilsonville Rd. Hwy 219 to County Line

Red Hills Rd. Sunnycrest Rd. to Hwy. 240

Sunnycrest Rd. Red Hills Rd. to Hwy. 99W

Fox Farm Rd. All

Chehalem Dr. Cullen Rd. to North Valley Rd.

Hopewell Rd. County Rd to Lafayette Hwy

Gopher Valley Rd. Hwy 18 to Thompson Hill Rd.

West Valley Hwy (18 Business) All

TABLE 3 (Cont.)

Minor Collector:

Coast Creek Rd. Gilbert Creek Rd. to Willamina Creek Rd.

Gilbert Creek Rd. All

Gopher Valley Rd. Thompson Hill Rd to Peavine Rd.

Peavine Rd. Gopher Valley Rd. to Old Sheridan Rd

Panther Creek Rd. Von Rd. to Meadow Lake Rd.

Moores Valley Rd. Meadow Lake Rd. to West Side Rd.

Fairdale Rd. All

Old Moores Valley Rd. Moores Valley Rd. to Fairdale Rd.

Old Railroad Grade Rd. Fairdale Rd. to Fairchild Creek Rd.

Mineral Springs Rd. . All

Broadmead Rd. All

Briedwell Rd./River Bend Rd. All

Whiteson Rd. Hwy. 99W to Hwy. 233

Worden Hill Rd. All

Red Hills Rd. Worden Hill Rd. to Sunnycrest Rd.

Quarry Rd. All

Leander Dr. All

Bald Peak Rd. Washin. County Line to Hwy 219.

N. Springbrook Rd. Crestview Dr. to Bell Rd.

Aspen Way Mountainview Dr. to Bell Rd.

Bell Rd. Zimri Dr to Clackamas County Line

Mountain Top Rd. Hwy 219 to Bell Rd.

Turner Creek Rd. Tupper Rd. to end of County jurisdiction

Rock Creek Rd. Hwy 18 Bus. to Buck Hollow Rd.

Buck Hollow Rd. Rock Creek Rd. to Willamina Creek Rd.

Booth Bend Rd. East of Davis Street

Mountain View Dr. Villa Road to N. Springbrook Rd

Wynooski Rd Highway 219 to CR 146

Corral Creek Hwy 99 to Fernwood Rd.

Renne Rd All

Fairchild Creek Rd. Fairdale Rd to Tillamook Co. Line

Bald Mtn. Rd. Gilbert Cr. Rd to Tillamook Co. Line

Von Rd/White Rd. All

Oak Ridge Rd. Fairdale Rd to Westside Rd.

TABLE 3 (Cont.)

Resource Road:

Red Prairie Road Mill Creek Road to County Line

Muddy Valley Road Hwy 18 to Latham Road

Pheasant Hill Road Baker Creek Road to Orchard View Road

Cypress Lane Old Sheridan Road to end of jurisdiction

Olive Street Moores Valley Road to Pike Road

Olson Road Hwy 47 to Road 3006

Riverside Drive Lafayette Avenue to end of jurisdiction

Starr Quarry Road Walnut Hill Road to Amity-Dayton Hwy

Loop Road Three Mile Lane to Reid Lane

Spring Hill Road Flett Road to County Line

Fletcher Road Lafayette Hwy to Ash Street

Alderman Road Lafayette Hwy to Webfoot Road

Dopp Road Hwy 240 to North Valley Road

Mallard Ln./Dorsey Rd. Wallace Road to End of Dorsey Road

Chehalem Drive Bald Peak Road to North Valley Road

Main Street/Crater Lane Start County jurisdiction to end Crater Ln.

Dayton Avenue Hwy 99W to end of jurisdiction

11th Street Wynooski Road to end of jurisdiction

Fernwood Road St. Paul Hwy to Corral Cr./Renne Rd.

Zimri Drive Mountain View Dr. to Bell Road

Crest View Drive Mountain View Dr. to Springbrook Road

Springbrook Road Mountain View Dr. to Bell Road

2.2.1.2 Traffic Volumes

The County has obtained 24 hour traffic counts at certain locations on the County Road System for several years. These counts were analyzed to identify those road segments with higher traffic volumes. Table 4 identifies those county roads with the highest traffic volumes based on the most recent count data (1993-1994). The road with the highest traffic volume, Westside Road south of CR 217, has 6,542 vehicles a day. Traffic volumes are fairly low on the County Road System as it primarily serves rural areas. Figure 2 shows County roads with ADT volumes greater than 1500 vehicles/day. About 15% of the County road system has traffic volumes over 1,000 vehicles a day.

On the State Highways serving the County, Highway 18 ADT volumes range from 5,000 at the Polk-Yamhill County line to a peak of 12,000 just east of McMinnville Spur in the City of McMinnville. ADT volumes on Highway 99W range from 4900 at Yamhill-Polk County line to a peak of 33,000 on the downtown couplet through Newberg. A dramatic change in traffic volumes on Highway 99W occurs at its intersection with Highway 18. Highway 219 ADT volumes range from 1,700 at Washington-Yamhill County line to a peak of 7,400 just east of 99W.

Traffic volumes on minor arterials range broadly from below 1000 to 9000 ADT. Highway 47 varies from 5700 ADT at Gaston to 4400 at the junction with 99W, On Highway 99W south of McMinnville ADT volumes of 4900 at the Polk County boundary increases to 8600 at the southern city limits of McMinnville. Highway 221 and the McMinnville-Hopewell Road carry approximately 3000 ADT at the northern city limit of Dayton decreasing to 2500 at the Polk County boundary. Highway 240 leading east from Yamhill has ADT volumes of 1800 at the east city limits increasing to 8600 just south of Illinois Street in Newberg. The old Sheridan-Willamina highway, known as 18 Business, carries volumes of 3500 to 6600 vehicles per day, from city limits to city limits. Highway 233 highest volume was 3,500 occurring just north of Three Mile Lane. All ADT volumes on state highways are obtained from ODOT 1993 Traffic Volume Tables.

2.2.1.3 Fire Districts

Twelve fire districts provide fire protection within the County. Ten of the districts are associated with local communities (Amity, Carlton, Dayton, Lafayette, Dundee, McMinnville, Newberg, Sheridan, Willamina, and Yamhill). The U.S. Forest Service has two fire districts in the western portion of the County (Forest Grove and Western Oregon Districts) which overlap with the Willamina, Sheridan, McMinnville, Carlton, Yamhill, and Gaston Fire Districts. None of the fire stations are located on county roads.

2.2.1.4 Accident Experience

Accident records for the County Road System over a three year period from 1991 to 1993 were analyzed to identify high accident locations. The Safety Priority Index System (SPIS) is a method used by ODOT to identify high accident locations. An accident and County street database were obtained from the Accident Data Unit at ODOT. A total of 415 accidents on the

TABLE 4 HIGHER VOLUME COUNTY ROADS

Road	Road No.	Segment	ADT
Westside Rd	MR21	S OF 217	6542
Williamina Creek Rd	MR10	BTWN CR404 & CITY LIMITS	4915
Westside Rd	MR21	S OF 223	4806
Cruickshank Rd-Stringtown Rd.	MR32	BTWN HWY233 & CR464	4780
Willsonville - Springbrook Road	MR5	BTWN 99W AND CR 46	4685
Westside Rd	MR21	S OF 2	4148
Cruickshank Rd-Stringtown Rd.	MR32	NW OF AIRPORT RD	4018
Lafayette Hwy	MR18	S OF CITY LIMITS	3941
Westside Rd	MR21	N OF 217	3919
Westside Rd	MR21	S OF 218	3822
Westside Rd	MR21	N OF 218	3796
Willsonville - Springbrook Road	MR5	S OF CR 46 ON MR 5	3594
Westside Rd	MR21	N OF 223	3503
Lafayette Hwy	MR18	N OF 90	3407
Baker Creek Rd	MR9	BTWN MR 21 AND MR 35	3230
Willsonville - Springbrook Road	MR5	E OF ST HWY 219	3039
Cruickshank Rd-Stringtown Rd.	MR32	BTWN HWY154 & HWY233	2868
Baker Creek Rd	MR9	BTWN MR 35 AND CR 220	2682
Baker Creek Rd	MR9	BTWN CR 220 AND CR 226	2617
Lafayette Hwy	MR18	BTWN CR 90 AND CR 192	2424
Muddy Valley Rd-Masonville-Old Sheridan Rd	MR19	BTWN HWY 18 AND CR 435	2389
Webfoot-Hopewell	MR6	BTWN CR460 & CNTY LINE	2267
Meadow Lake Rd	MR2	BTWN CARLTON AND 21	2261
Willsonville - Springbrook Road	MR5	BTWN CR 148 AND CR 48	2247
Wynooski Road-Sandoz Rd	CR47	BTWN CITY LMT & CR147	2245
Mountain View Dr.	CR58	BTWN CR59 & CITY LMTS	2231
Webfoot-Hopewell	MR6	AT HOPEWELL STORE	2209
Wynooski Road	CR150	BETWN HWY 219 & 47	2161
Webfoot-Hopewell	MR6	BTWN CR 560 AND CR 460	2148
Webfoot-Hopewell	MR6	BTWN CR 572 AND CR 459	2134
Webfoot-Hopewell	MR6	BTWN CR 459 AND CR 560	2117
Crestview Dr.	CR59	W OF SPRINGBK AVE	2009
North Valley Rd-Bell Rd	CR62	BTWN CR 57 & CR 56	1936
Baker Creek Rd	MR9	BTWN CR 226 AND CR 227	1933
Willsonville - Springbrook Road	MR5	BTWN CR 48 AND CR 45	1925

Willsonville - Springbrook Road	MR5	BTWN CR 40 & CNTY LINE	1906
Hendricks Rd-Mineral Springs Rd	CR204	BTWN CITY LMTS & CR 205	1895
Abbey Rd - Kuehne Rd.	MR11	BTWN MR 1 AND CR 97	1893
North Valley Rd-Bell Rd	CR62	BTWN HWY219 & CR64	1880
Willsonville - Springbrook Road	MR5	JUST S OF CR 45	1872
North Valley Rd-Bell Rd	CR62	BTWN CR 57 & CR 64	1849
Hill Road South	MR35	N OF WEST 2ND	1847
Willsonville - Springbrook Road	MR5	W OF 40	1782
Lafayette Hwy	MR18	BTWN HWY 18 & CR 91	1779
Hendricks Rd	CR204	BTWN CR 205 & MR 1	1738
Abbey Rd - Kuehne Rd.	MR11	BTWN CR 97 AND HWY 240	1738
Willsonville - Springbrook Road	MR5	MIDWAY B/T 40 & 45	1731
N. Valley Road-Flett Rd.-Spring Hill Rd - Tangen Rd	MR4	BRDG @ MI. 9.6 W OF INT W/CR116	1647
N. Valley Road-Flett Rd.-Spring Hill Rd - Tangen Rd	MR4	S OF CR 116	1611
Sourgrass Road	CR401	EAST END	1590
N. Valley Road-Flett Rd.-Spring Hill Rd - Tangen Rd	MR4	E OF CR 273	1590
Fletcher Rd	CR90	BTWN MR 18 & CR 89	1587
N. Valley Road-Flett Rd.-Spring Hill Rd - Tangen Rd	MR4	W OF CR 273	1559
Ballston Rd	MR24	JUST S. OF INT W/HWY18	1545
Dayton Avenue	CR119	B/T 179 & OSH 99W	1526
Ballston Rd	MR24	BTWN HWY18 & CITY LIMITS	1510

FIGURE 2

system during this period were reported. This included 10 fatal, 184 injury, and 221 property damage only accidents. Table 5 identifies the ten highest accident locations based on the highest SPIS values. The Priority Index has three parameters; they are accident frequency, the accident rate, and accident severity. These together make up the total SPIS value. The SPIS method helps in identifying the locations where safety money can be spent most beneficially. Figure 3 shows the location of these accidents. TABLE 5 HIGH ACCIDENT LOCATIONS ON COUNTY ROAD SYSTEM

County Road No.	Street	Mile Point	ADT	SPIS
4	North Valley Rd.	2.21	1059	61.62
14	Moore's Valley Rd.	7.59	850	53.11
10	Willamina Creek	2.89	1553	51.22
14	Moore's Valley Rd.	1.53	850	45.72
14	Moore's Valley Rd.	1.17	850	45.33
32	Stringtown Rd.	2.68	2496	44.81

2	Meadow Lake Rd.	3.92	868	44.59
2	Meadow Lake Rd.	.34	868	44.00
18	Lafayette Hwy	1.10	3562	43.89
62	North Valley Rd.	.64	1618	42.75
24	Ballston Rd.	.03	1050	42.47
21	Westside Rd.	.45	3478	42.40
5	Wilsonville Rd	4.15	3373	42.18

2.2.1.5 Pavement Type/Condition:

About 55% of the County Road System is paved (379.6 miles), while the remainder (304.9 miles) has a gravel or dirt surface. A higher percentage of the collector system is paved (84% or 165.4 miles) than the local road system (44% or 214.2 miles). Collector road segments which are not paved are shown in Table 6:

TABLE 6 UNPAVED COUNTY COLLECTOR ROADS

Roadway Section	Length (miles)	ADT range
Gopher Valley Rd. - north of Thompson Mill Rd.	5.90	12-282
Peavine Rd. - Gopher Valley Rd. to Power House Hill Rd.	4.65	50-218
Moores Valley Rd. - Old Moores Rd. to west of Puddy Gulch Rd.	2.90	45-170
Worden Hill Rd. - Hwy. 240 to Fairview Dr.	2.15	224-341
Red Hills Rd. - Fairview Dr. to Sunnycrest Rd.	1.76	160-266

FIGURE 3.0 ACCIDENT LOCATIONS

Pavement Condition

The County's current Pavement Management Plan estimates the Pavement Condition Index (PCI) for Yamhill County Road Network for 1995-1999 period with and without treatment scenarios. A PCI of 100 indicates an excellent pavement conditions. The current pavement condition of the paved section of the County roads is shown in Table 7. These estimates are based on 10% sampling of the pavement condition on County roads and are subject to change as more inspections take place. Over 67% of the paved county roads (257 miles) have excellent condition. 23% have good condition (87.3 miles) , 6.3% (23.9 miles) have fair to poor condition, and only 3 % (11.4 miles) have poor condition. The current PCI for the road network is estimated at 69. A PCI of 83 was estimated for 1995 after the treatment is applied.

TABLE 7 PAVEMENT CONDITION

% of Network Area in Condition Category*	Total**
Excellent (PCI 70-100)	67.7
Good (PCI 50-70)	22.9
Fair to Poor (PCI 25-50)	6.3
Bad (PCI 0-25)	3.1

* State Highways are not included

** estimates are based on 10% sampling of the road network and are subject to change as more inspections take place.

2.2.1.6 Roadway Width/R-O-W Deficiencies

The current Yamhill County Road Standards are shown below. The Public Road Standards adopted by the County identify a minimum right-of-way width of 60 feet with travel lane widths ranging from 18 to 32 feet. The maximum sustained grade allowed is 10% while the maximum intermittent grade is 15% for 200 feet. The County's adopted private road standards are also shown below.

PUBLIC ROAD STANDARDS

R/W width: 60 ft. minimum standard

Travel width: 18 to 32 ft. - variable under certain conditions

Grades:

Maximum sustained: 10%

Maximum intermittent: 15% for 200 ft.

Minimum Vertical Clearance: 18 ft.

Rock Depth: 6" of 1 1/2"- 0 (or 2"- 0 rock)

Pavement: By permit from the Public Works Department

Dedication of Public Roads: must be accepted by the Yamhill County Board of

Commissioners

PRIVATE ROAD STANDARDS

(No more than 3 parcels may be served by private easement)

Easement Width: 30 ft. minimum

Travel Width: 12 ft. minimum

Rock Depth: 6" of 1 1/2"- 0 (or 2"- 0 rock)

Grades:

Maximum sustained: 10%

Maximum intermittent: 15% for 200 ft.

Minimum Vertical Clearance: 14 ft.

Pavement: Not Required

TURNOUTS

If a road is over 400 ft. long, a turnout 10 ft. wide by 30 ft. long must be constructed every 800 ft. or less as directed by the County.

TURNAROUNDS

If a road is over 400 ft. long, and has only one entrance onto a public road, a circular 60 foot diameter turnaround must be provided, with variances as allowed by the County Engineer.

INSPECTIONS

Fire department officials, with the local Rural Fire Protection District or the nearest City, will do any necessary inspections under a county-wide agreement.

In the American Association of State Highway Officials' (AASHTO) A Policy on the Geometric Design of Highways (1990), the recommended minimum traveled way and shoulder widths for local, collector, and arterial roads are identified (see Table 9). For collectors and arterials, the width accounts for traffic volume (either average daily traffic or design hour volume) and roadway design speed. When compared to the AASHTO criteria, 16% (31.4 miles) of the Yamhill County arterial/collector system has deficient traveled way width, 16% (31.6 miles) has deficient shoulder width, and 32% (63 miles) has deficient combined width.

Oregon state law requires that all new county roadways have a minimum 60 foot wide right-of-way. Forty three percent (297.22 miles) of the Yamhill County Road System does not meet this requirement. Four percent (27.5 miles) has between 50-59 feet of right-of-way, 38% (263.08 miles) between 40 and 49 feet, and 1% (6.64 miles) less than 40 feet. Table 8 lists roadways (all of local functional classification) that have less than a 40 foot right-of-way:

TABLE 8 ROADWAYS WITH RIGHT-OF-WAY WIDTH LESS THAN 40 FEET

Sourgrass Rd	Hagey Rd
Spirit Mt. Rd.	Hirters Ln.
Blackburn Rd.	Modaffari Rd.
Three Trees Ln.	Lawson Ln.

TABLE 9 AASHTO PAVEMENT WIDTH STANDARDS

ARTERIAL Travel Way Width (ft.)

Design ADT	ADT	DHV		
Speed Under 400	and DHV	DHV Over		
(mph) 400	Over 100-200	200-400	400	
50	22	24	24	24

60 24 24 24 24 24

70 24 24 24 24 24 Usable Shoulder Width (ft.) (Each Side of Pavement) (1)

All

Speeds 4 6 6 8 10

COLLECTOR Travel Way Width (ft.)

Design ADT ADT DHV

Speed Under 400 and DHV DHV Over

(mph) 400 Over 100-200 200-400 400

20 20 20 20 22 24

30 20 20 20 22 24

40 20 22 22 22 24

50 20 22 22 24 24

60 22 22 22 24 24

70 22 22 22 24 24 Graded Shoulder Width (ft.) (Each Side of Pavement)

All

Speeds 2 (2) 4 6 8 8

LOCAL

Travel Way Shoulder

Type Width (ft.) (3) Width (ft.)

Primary Access Roads (2 lanes) 22-24 2-4

Circulation Roads (2 lanes) 20-22 2-4

Area Roads (2 lanes) 18-20 0-2

Area Roads (1 lane) (4) 12 0-1

1 Usable shoulders on arterials should be paved

2 Minimum width of 4 ft. if roadside barrier is utilized

3 Widening on the inside of sharp curves should be provided

4 Road widths of greater than 14 ft. should not be used because of the tendency for drivers to use facility as

a 2-lane road.

2.2.1.7 Bridge Condition

Every other year, ODOT conducts an appraisal of the structural condition and functional adequacy of all bridges on the County Road System. This condition survey is summarized in a bridge log prepared on a mainframe-based system, which also includes all relevant design data including type of structure, bridge length, number of spans, roadway and bridge width, and horizontal and vertical clearances. The condition survey rates each bridge with a score of 0 to 100. 0 representing the worst and 100 representing the best condition. This score is called the "Sufficiency Rating". The sufficiency rating is comprised of the total of 0 to 10 scores for ten evaluation categories including deck, superstructure, substructure, retaining wall condition, channel protection, deck and approach geometry, clearances, and safe load capacity. Rating of 4 or less on the condition of the bridge deck, or superstructure, or substructure, or culvert and retaining walls qualifies the bridge as 'structurally deficient'. Rating of 3 or less for deck geometry, or underclearances, or approach roadway alignment qualifies the bridge as 'functionally obsolete'. The latest survey indicated that there are 33 deficient bridges on the Yamhill County Road System out of the total 136 bridges. Thirty four percent of these 33 bridges are structurally deficient. Table 11 identifies those bridges while Figure 4 shows their location. Table 10 shows the bridges with restrictive load limits on the County roads.

TABLE 10 BRIDGES WITH RESTRICTIVE LOAD LIMITS

Bridge No.	Bridge Name	Roadway Name	Road No.	Load Limit (TONS)
11567	Poverty Bend	Poverty Bend	224	12
11703	Grenfell	Edward Grenfell Park	218	10
11629	Patty Bridge	Patty Lane	454	40
11794	Grand Island	Grand Island	474	15
11501	Deer Creek	Deer Creek Park	N/A	10
11547	Willamina Falls	Peavine	430	10
11605	Rex Brown	Rex Brown	331	16
11711	Sunny Crest	Sunny Crest	30	26
11774	Tindle Creek	Tindle Creek	406	13
11677	Bayley	Bayley	100	12

TABLE 11 DEFICIENT BRIDGES ON COUNTY ROAD SYSTEM (Based on 1994 ODOT database)

No.	RIVERS/CREEK	LOCATION	ADT	SUFF. RATING	TYPE OF DEFICIENCY
1	North Yamhill River	W of Yamhill on 244	530	48.9	Structural
2	Willamina River	W of Sheridan on 430	570	34.3	Structural
3	Haskins Creek	W of Yamhill on 245	550	62.9	Structural
4	Panther Creek	W of Carlton on 331	570	28.5	Structural
5	Haskins Creek	W of Yamhill on 237	512	57.5	Structural
6	Ash Swale	SE Amity on 454	570	62.9	Structural
7	Chehalem Creek	0090 W of 99W	570	13.6	Structural
8	Willamina River	N Willamina on 410	550	54.7	Structural
9	Palmer Creek	SO Dayton on 6	550	50.7	Structural
10	Yamhill River	010 MI N Yamhill-Polk Ln	520	54.3	Structural
11	Mosquito Creek	On Grand Island	512	51.0	Structural

12	Mosquitto Creek	On Grand Island	570	47.8	Structural
13	Cozine Creek	SW on 19	761	69.0	Functional
14	Yamhill River	In Sheridan	6700	52.2	Functional
15	Yamhill River	E of Lafayette	2933	56.0	Functional
16	Baker Creek	EDW Grenfell Co Park	140	69.6	Functional
17	Turner Creek	003 Mi SE Pike	1211	74.6	Functional
18	Baker Creek	021 Mi W McMinnville	2036	69.4	Functional
19	Baker Creek	W of McMinnville on 284	140	77.9	Functional
20	Haskins Creek	W of Yamhill on 235	114	77.9	Functional
21	N Yamhill River	001 Mi W Carlton	2177	73.7	Functional
22	N Yamhill River	NW McMinnville on 218	155	28.8	Functional
23	Baker Creek	007 Mi N McMinnville	3137	77.8	Functional
24	Panther Creek	021 Mi N McMinnville	3137	66.0	Functional
25	Cozine Creek	0264 Mi SO MR9 Jct	634	76.0	Functional
26	Coast Creek	062 Mi N Willamina	1150	78.0	Functional
27	Willamina River	N Willamina on 406	100	43.0	Functional
28	Small Creek	On Grand Island	161	77.9	Functional
29	Baker Creek	W of McMinnville on 285	140	77.9	Functional
30	Small Stream	SE Shdn on Loganberry	150	77.9	Functional
31	Deer Creek	N on Gopher on 421	155	77.7	Functional
32	Deer Creek	N on Gopher	200	77.6	Functional
33	Deer Creek	N on Gopher on 422	90	80.5	Functional

FIGURE 4.0

2.2.2 BIKE ROUTES

There currently are only 3 designated bike routes or lanes on the County Road System. They are Baker Creek Road easterly of Hill Road South; Dayton Avenue connecting Newberg and Dundee; and Hill Road South. AASHTO's Guide for Development of New Bicycle Facilities (1991) and the Oregon Bicycle and Pedestrian Plan state that the minimum width for an on-street bike lane should be four feet with a shoulder section and five feet with a curbed section. Only two segments on the Yamhill County collector road system have adequate width currently to accommodate bike lanes: Briedwell Rd. and Baker Creek Rd. East of Orchard View Rd.

2.2.3 PUBLIC TRANSPORTATION

Due to the rural nature of Yamhill County, there is an overwhelming dependency on the automobile. The bulk of long-distance travel by County residents occurs in job commuting to the Portland or Salem areas. Existing public transportation system include the Greyhound Bus Lines, and Public Transportation Services provided by Yamhill County Community Action Program (YCAP) and the Chehalem Valley Senior Citizens Council (CVSCC). The nearest passenger rail services is Amtrak, operating out of Portland and Salem. Figure 5 shows current Transit Service routes.

Greyhound bus lines operate daily in the County. Two buses leave McMinnville daily to Portland, and includes an early morning and an evening schedule.

The Yamhill County Community Action Program (YCAP) operates YAMCO within the City of McMinnville at one hour headway, and connects McMinnville, Dayton, Lafayette, Carlton, Yamhill by a single round trip a day three days a week. In addition, YCAP operates a daily service from McMinnville to Dayton and Lafayette several times a day during weekdays. It also operates a daily service from Sheridan to Willamina several times a day during weekdays. Three days a week YCAP runs service from McMinnville to Sheridan several times a day. YAMCO ridership increased from 34,967 in 1986 to 41,354 riders in 1989.

The Chehalem Valley Senior Citizens Council (CVSCC) provides service in the Newberg/Dundee area. It operates the 'Town Flyer' on a fixed route within the city of Newberg at one hour headways between 9:30 AM and 3:30 PM, Monday through Saturday. CVSCC also operate the PM routes for LINK Public Bus, an intercity commuter service along the State Highway 99W corridor between the cities of McMinnville, Lafayette, Dundee, Newberg, and Sherwood. The AM routes are operated by YCAP. The service connects with TRI-MET service in Sherwood and allows Yamhill County commuters to access the greater metropolitan Portland area daily during the early hours and late evening. Three days a week the service is shortened in the middle of the day to accommodate passengers between Newberg and McMinnville only. Aside from the Town Flyer, CVSCC offers the special needs Dial-a-Ride service for the transportation impaired. This dial-a-ride demand response curb-to-curb service is offered by advance reservation throughout the Newberg and Dundee Area Monday through Friday between 8:00 AM and 5:00 PM. In addition, the Oregon Trail Chapter of the American Red Cross provides Yamhill County residents with door-to-door service during weekdays for medical and therapy appointments in the Portland Area.

FIGURE 5.0

Funding for the YAMCO in 1994 consisted of:

County Levy \$61,000

City of McMinnville \$12,000

ODOT \$21,000

Special Transportation Funds \$47,700

Senior & Disabled Transportation

Funds \$15,000

Fairbox Revenues \$27,000

Similar funding sources are available for transit services provided by CVSCC in the Newberg/Dundee area.

It is appropriate to note here that no park-and-ride facilities exist in Yamhill County.

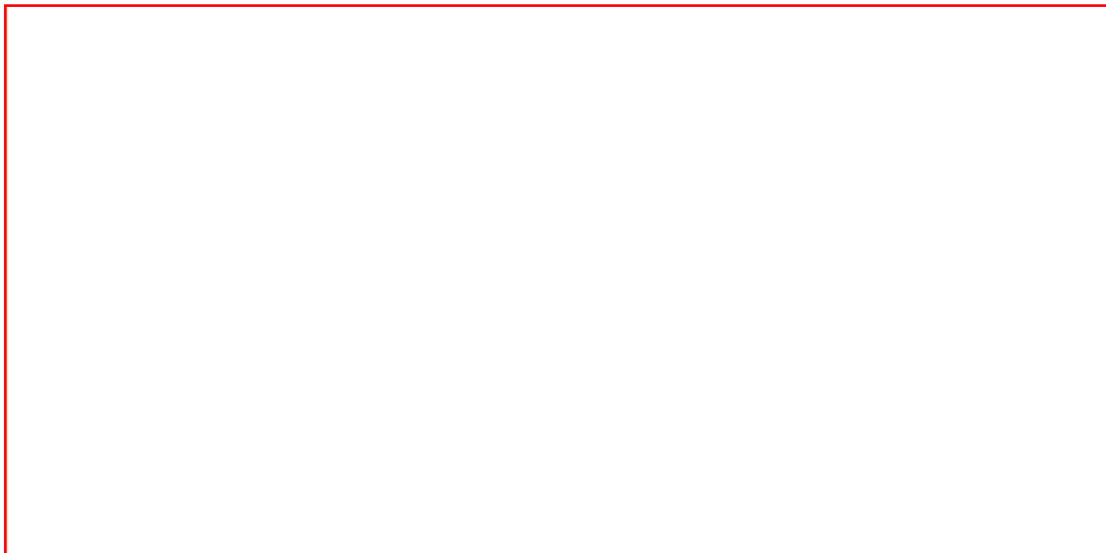
2.2.4 FREIGHT RAIL TRANSPORTATION

Railroads play a vital role in the movement of goods in and out of the State. Rail transportation in Yamhill County is provided by Willamette & Pacific Railroad. The Railroad serves movements in and out of the County. It connects Newberg, Dundee, Lafayette, McMinnville, and Whiteson where it branches to serve Amity, and the Southern part of the State (Salem, Albany and through trackage rights to Eugene). The other branch serves Winch, Sheridan, Shipely and Willamina. Willamette & Pacific Railroad also extends to the northern part of the state through trackage rights where it stops at Brooklyn in Multnomah County (see Figure 6).

The railroad has an important impact on the economic base of Yamhill County as well as the State. All cities within the County have access to rail except for Yamhill and Carlton. Most industries seeking property look for sites that are served by rail. Railroad transportation tends to be more energy efficient than trucks. It can handle large volume, low-value, and bulky commodities more efficiently than truck transport. This is basically what is noticed from the Willamette & Pacific Railroad 1994 annual carload and commodity figures as shown in Figure 7. A total of 17,833 car loads were transported during that year. Willamette & Pacific 182 route miles plus 59 miles of trackage rights makes it the fourth largest rail road in Oregon. Figure 8 compares Yamhill County Rail Traffic Generation to other counties in Oregon. Yamhill County generates the following principal commodities: lumber/wood products, paper, and steel/rolling mill products.

FIGURE 6.0

FIGURE 7.0



2.2.5 AIR TRANSPORTATION

Regional and international commercial air service for passengers and freight is provided at the Portland International Airport. In Yamhill County, the McMinnville Municipal Airport also provides limited local

commercial service and private aircraft use. It serves as corporate headquarters for Evergreen Aviation, Inc. The Airport is located approximately at the center of Yamhill County in the northwestern Willamette Valley. The Airport is owned and operated by the City of McMinnville.

2.2.6 WATER-BORNE TRANSPORTATION

Historically, the Willamette River has been used for the shipment of timber and other bulk goods. Current use of the Willamette River is limited to barge shipment of sand and gravel. Recreational boating on the Willamette River is popular year-round.

FIGURE 8.0

2.3 Existing Land Use, Population and Employment

2.3.1 LAND USE

There are five major land use zoning categories for unincorporated property in Yamhill County. The categories include Exclusive Farm Use (EFU) (40 acre minimum size for new parcels), combined Farm/Forestry use (FF) (10 and 20 acre minimum size for new parcels), and very low density residential. The ten acre farm/forestry zone is also eligible for rural residential development. The breakdown of area for each type of zone is as follows:

Exclusive forestry use (40 acre minimum) -- 154.7 square miles

Exclusive farm use (40 acre minimum) -- 240.6 square miles

Combined farm/forestry use (20 acre minimum) -- 175 square miles

Combined farm/forestry use (10 acre minimum) -- 18.8 square miles

Low-density residential -- 12.5 square miles

In addition, the Federal Bureau of Land Management (BLM) lands make about 107.8 square miles. Most property in the County (59%) is in designated farm use. Figure 9 shows the Potential Exception Area Growth in the County. Note that the figure shows the maximum growth that could occur given that all the dynamics needed to accommodate that growth will be available (such as water lines, sewer connections, access, availability of land for sale). This growth is highly improbable to occur within the next twenty years due to the involved costs; however, this worst case scenario is used to examine the adequacy of the transportation system in the County to accommodate growth in the future. Potential Exception Areas are lands outside cities boundaries but are allowed to be developed to rural densities. Exception growth area lands make about 19,216 acres where 16,500 acres are within Urban Growth Boundaries. The Figure shows the location of each Exception Area, the number of lots available in each, and the percentage of lots developed. About 57% of the total lots are developed. It has been the standard for Yamhill County to default the lands in the unincorporated areas within the cities' urban growth boundaries to the cities.

2.3.2 POPULATION

The Portland State University (PSU) Center for Population Research and Census estimates population for each city and county in Oregon. The population estimates for 1994 for Yamhill County and the incorporated cities are shown in Table 12. The historical growth rates were calculated based on the 1940 to 1990 census data. These long-term average rates reflect smoothing out of high and low growth decades.

Total county population has more than doubled over the past 54 (1940-1994) year time period. Figure 10

shows the population for each of the cities in Yamhill County since 1940 as obtained from PSU Center for Population Research. The percentage of total county population residing in incorporated areas has shifted significantly over the past 54 years. In 1940, 56 percent of the total county population resided in unincorporated areas. By 1994, that percentage has dropped to only 30%. This is attributed partly to the annexation of unincorporated areas by the surrounding cities.

FIGURE 9

FIGURE 10

TABLE 12 POPULATION OF YAMHILL COUNTY

Jurisdiction/Year	1994 Population Estimates
Amity	1,195
Carlton	1,345
Dayton	1,675
Dundee	2,135
Lafayette	1,370
McMinnville	20,995
Newberg	14,700
Sheridan	4,615
Willamina	1,755
Yamhill City	905
<i>Yamhill County (includes cities)</i>	<i>72,800</i>

Figure 11 shows the population of incorporated and unincorporated areas within the County. The total percentage of the population that is less than 19 years and more than 65 years is estimated to be about 44% as shown in Table 13. TABLE 13 AGING CHARACTERISTICS OF YAMHILL COUNTY POPULATION

Year	% Population 19 or less	% Population 65 or more
1990	31.7	13.2
1995	31.8	12.5
2000	31.4	11.9
2005	30.4	11.5
2010	30.4	11.8

Source: Provisional Projections of the Population of Oregon and its Counties 1990-2010. Center for Population Research

and Census. Portland State University, July 1993

2.3.3 EMPLOYMENT AND TRIP PATTERNS

Employment in Yamhill County for 1993-1994 was obtained from PSU Center for Population Research. Employment is broken down by Type and City as shown in Table 14. Total employment for the County is estimated to be 33,570 for April 1994 (Source: Yamhill County Planning Department). Employment in cities

was estimated to be 67% of total employment in the County. The unemployment was estimated at 4.6 % (1,630). County retail employment is estimated for 1994 to be 4,800 and non retail of 28,770 (assuming 14.3% of the employment is retail as obtained from the County economic profile for 1986-1993)

Figure 11.0

TABLE 14 YAMHILL COUNTY EMPLOYMENT

Employment	Amity	Carlton	Dayton	Dundee	Lafayette	McMinn	Newberg	Sheridan	Willamina	Yamhill
Fin.-Ins.-R.E	4	6	10	1	0	615	185	23	14	7
Construction	14	23	84	24	15	466	291	38	19	51
Government	13	7	8	12	5	822	103	22	15	6
Manufacturing	35	141	142	105	51	2165	2124	297	431	65
Mining	0	0	33	7	0	53	0	4	0	0
Miscellaneous	5	0	0	0	0	7	6	0	1	2
Primary Agri.	122	60	1064	81	20	261	261	89	0	230
Retail Trade	20	67	25	65	21	2524	1342	112	139	103
Services	206	24	122	30	7	2876	2074	353	153	210
Transportation	2	58	15	0	0	451	133	27	27	6
Wholesale	31	53	24	44	5	245	156	14	13	2
Total	452	439	1527	369	135	10485	6675	979	812	682

(source: PSU Center)

Yamhill County employment figures for the past 12 years are depicted in Figure 12 (Source: Oregon Employment Department).



FIGURE 12

Work trip patterns were analyzed using the 1990 Census completed by the U.S. Bureau of the Census. From the analysis, Washington County tops the list of employment destinations for Yamhill residents. About 4000 daily work trips are destined to Washington County. Popular destinations in Washington County include Hillsboro, Tigard, Tualatin, Forest Grove, Beaverton and Sherwood. About the same percentage of people commute to Salem from McMinnville as to Portland. About 20% of Newberg work trips are destined to Portland.

Commuting patterns from Yamhill County to counties of employment are shown in Table 15. Table 16 shows commuting patterns from counties of residence to Yamhill County. Commuting patterns from the cities of McMinnville and Newberg to other cities are shown in Table 17 and 18, while Tables 19 and 20 show commuting patterns from cities of residence to McMinnville and Newberg respectively. These patterns are depicted graphically in Figures 13 through 18 respectively.

TABLE 15 Commuting Patterns from Yamhill County to Counties of Residence

RESIDENCE	WORKPLACE	TRIPS
Yamhill County	Yamhill County	17853
Yamhill County	Washington County	3934
Yamhill County	Multnomah County	1996
Yamhill County	Marion County	1149
Yamhill County	Clackamas County	742
Yamhill County	Polk County	476
Yamhill County	Lincoln County	120
Yamhill County	Tillamook County	93
Yamhill County	Clark County	86
Yamhill County	Benton County	71

TABLE 16 Commuting Patterns from Counties of Residence to Yamhill County

WORKPLACE	RESIDENCE	TRIPS
Yamhill County	Yamhill County	17853
Yamhill County	Polk County	1120
Yamhill County	Washington County	941
Yamhill County	Marion County	889
Yamhill County	Clackamas County	467
Yamhill County	Multnomah County	346
Yamhill County	Tillamook County	83
Yamhill County	Benton County	50
Yamhill County	Linn County	25
Yamhill County	Columbia County	24

TABLE 17 Commuting Patterns from the City of McMinnville to Cities of Employment

RESIDENCE	WORKPLACE	TRIPS
McMinnville	McMinnville	4922
McMinnville	Remainder of Oregon	1175
McMinnville	Newberg	313
McMinnville	Portland	193
McMinnville	Salem	186
McMinnville	Sheridan	104
McMinnville	Tigard	87
McMinnville	Hillsboro	83
McMinnville	Beaverton	78
McMinnville	Tualatin	56
McMinnville	Cornelius	26

TABLE 18 Commuting Patterns from Cities of Residence to McMinnville

WORKPLACE	RESIDENCE	TRIPS
McMinnville	McMinnville	4922
McMinnville	Remainder of Oregon	2963
McMinnville	Salem	210
McMinnville	Newberg	195
McMinnville	Sheridan	179
McMinnville	Portland	128
McMinnville	Tigard	50
McMinnville	Dallas	38
McMinnville	Wilsonville	31
McMinnville	Corvallis	29
McMinnville	Keizer	29

TABLE 19 Commuting Patterns from the City of Newberg to Cities of Employment

RESIDENCE	WORKPLACE	TRIPS
Newberg	Newberg	2519
Newberg	Remainder of Oregon	864
Newberg	Portland	676
Newberg	Tigard	349
Newberg	McMinnville	195
Newberg	Tualatin	182
Newberg	Beaverton	163
Newberg	Salem	160
Newberg	Lake Oswego	150
Newberg	Hillsboro	113
Newberg	Sherwood	67

TABLE 20 Commuting Patterns from Cities of Residence to Newberg

WORKPLACE	RESIDENCE	TRIPS
Newberg	Newberg	2519
Newberg	Remainder of Oregon	2110
Newberg	McMinnville	313
Newberg	Tigard	116
Newberg	Portland	91

Newberg	Salem	84
Newberg	Lake Oswego City	47
Newberg	Tualatin	47
Newberg	Sherwood	42
Newberg	Wilsonville	41
Newberg	Aloha CDP	37

Figure 13 Figure 14 Figure 15 Figure 16 Figure 17 Figure 18 3. Transportation Forecast 3.1 General Background

Transportation modeling is used to estimate future automobile traffic and transit ridership for the purpose of efficient and comprehensive planning of tomorrow's infrastructure. Transportation modeling is a four-step process including trip generation, trip distribution, mode split, and traffic assignment. The accuracy of its predictions depends heavily on the quality of its input data. Input data includes socioeconomic data (i.e., census and employment data) for the present and growth estimates and land use information for the future. The transportation model is then developed to replicate the relationship between the socioeconomic data and travel patterns. It is calibrated using information gathered through traffic counts throughout the study area. In order to estimate future traffic, the calibrated model is then applied to the expected socioeconomic conditions. The model used maximum growth population and employment projections to investigate the adequacy of the transportation system.

Trip Generation

The trip generation analysis has as its goal the development of functional relationships between trip end volumes, and the land use and socioeconomic characteristics of units from which they originate or are destined. There are two different kinds of trip ends: trip productions and trip attractions. Trip productions usually are defined as the total number of trips with home end in a zone, while trip attractions usually are defined as the total number of trips with the non-home end (e.g. working place) in a zone. Various techniques are available for the trip generation analysis including, but not limited to land area trip rate analysis ("ITE Trip Generation Manual"), cross-classification analysis, and multiple regression analysis.

Trip Distribution

Trip distribution is the analysis of trip interchanges to determine the travel patterns of the travel generated in the study area. The trip distribution analysis distributes the trip productions to the possible attractions quantified during the trip generation analysis. Three different techniques have been developed to accomplish this task: growth factor technique, gravity model, and opportunity model. The most widely used trip distribution technique is the gravity model. This model relates the attractiveness of each zone to the productivity of another zone by the spatial impedance (i.e., travel time, travel distance or travel cost) between both zones.

Mode Split

During the mode split process, all trips are allocated to the available transportation modes. Usually, this analysis is only performed in urban areas with fixed-route transit operation and a significant proportion of transit patronage.

Traffic Assignment

Traffic assignment is the analysis of the route taken by a trip maker. The trip assignment analysis assigns all trips made in the study area to a specific route of streets or transit route. Traffic assignment can be accomplished in a variety of ways; however, the underlying assumption for all of them is that every road user chooses the shortest path (shortest travel time) to reach his destination. The most widely used technique is the all-or-nothing assignment, where all traffic between two zones is assigned to the shortest route between both zones. With congestion causing delays and therefore influencing the shortest path decision, another technique (capacity-restraint assignment) becomes more appropriate. The capacity-restraint assignment is an iterative process of traffic assignment during which travel times are always recalculated with the actual volume/capacity ratio.

Transportation Modeling for Yamhill County

A Level-2 (or "cumulative") analysis technique for traffic forecast for Yamhill County was used. This technique, similar to the potential development impact analysis, is less detailed than a complete transportation model. It basically estimates future traffic volumes by adding traffic generated by future development to the existing base traffic. This technique is very efficient for analyzing traffic impacts from general overall growth; however it does not allow for a combined, comprehensive impact analysis of various developments throughout the study area. On the other hand, the development of a detailed transportation model (i.e., small zones, all streets included, several different trip purposes analyzed) is very time consuming and data intensive, and only worthwhile if it is maintained and updated over the time. In order to benefit from the potential of a computerized transportation model without at the same time exceeding financial and time budget constraints, a STEP-ONE model was developed. The difference between a STEP-ONE model and a regular, detailed transportation model is that it utilizes a larger scale zone system and only focuses on the major road network.

QRSII software was used for the development of the model for Yamhill County. The County was divided into 30 zones as illustrated in Figure 19. Highways and only major County roads are used for the street network. The zones numbered 301 through 310 were selected based on the Zone Census Tract Map for 1990. These zones were further subdivided to reflect the locations of future developments and exception growth areas around the cities. Exception growth areas are the primary areas outside the cities where rural development will be allowed to take place in the future. Figure 6 shows the location of these areas and the percentage developed. Once these zones were identified population, dwelling units, and employment (retail and non-retail) forecasts for each zone were estimated. The following sections will shed some light on the population and employment forecast methods used.

FIGURE 19

3.2 Population And Employment Forecast

Growth in Yamhill County is most heavily influenced by spillover from the Portland metropolitan area. The northeast section of the County has been absorbing the largest part of this growth pressure and will continue to do so in the future. In addition, due to a strong policy to attract additional industry into the city, McMinnville is also experiencing rapid population growth.

3.2.1 POPULATION FORECAST

The Portland State University (PSU) Center for Population Research estimates population for each city and county in Oregon. The population estimates for 2014 for Yamhill County are shown in Table 21. The population in the County was distributed between incorporated and unincorporated areas, and was further distributed among the exceptional growth areas and other areas as shown in Table 22. TABLE 21

PROJECTED POPULATION OF YAMHILL COUNTY

Jurisdiction	Historical Growth Factors (1940 to 1994)	2014 Projections
Amity	1.95%	1,757
Carlton	1.00%	1,642
Dayton	2.72%	2,862
Dundee	5.76%	6,522
Lafayette	2.70%	2,334
McMinnville	3.01%	37,970
Newberg	3.75%	30,656
Sheridan	2.87%	8,122
Willamina	1.79%	2,502
Yamhill City	2.38%	1,448
Yamhill County (excluding cities)	1.20 %*	21,160
<i>Yamhill County (includes cities)</i>	<i>2.40%</i>	<i>116,975</i>

* not used in the analysis

For Yamhill County, the most current County Economic Profile (1993) provides population, employment, and building permits figures from 1983 to 1993. The ratio of dwelling units to population was calculated for the County and was found to be about 0.35 for the past four years, or in other words 2.85 persons per dwelling unit. The 1990 Census data provides data (i.e. population, housing units) for each of the cities in the County and the census tract zones. By subtracting the population of the cities from the tract zones the population of the unincorporated areas was estimated. The population of the exception growth areas within the unincorporated areas was found by multiplying the number of dwelling units, (which is provided by the planning department in the County) by the population-dwelling unit ratio. The data shows an increase of about 38 dwelling units per year for the exception growth areas in the County. The dwelling units were projected based on that rate and population figures were then estimated. TABLE 22 POPULATION OF YAMHILL COUNTY BY AREA

Population/Year	1990 (1)	1994	2014
Cities within County	44488	50690	95815
Unincorporated Area (2)	21063	22110	21160
<i>Exception Growth</i>	<i>4994 (3)</i>	<i>5429 (3)</i>	<i>7600 (3)</i>
<i>Areas</i>			
<i>Out of Exception</i>	16069	16681	13560
<i>Growth Areas</i>			
County Total	65551	72800	116975

(1): 1990 data was obtained from Census Tract Data.

(2): Unincorporated = Total County Population - Cities within County Population

(3): These figures were estimated based on the number of dwelling units in the exception growth area multiplied by

Population/Dwelling Unit ratio for the county which is found based on the past 5 years to be about 2.85.

The Dwelling Units estimates were obtained for the cities (when available) from the 1990 PDIA (Potential Development Impact Analysis). Based on the assumption that the Dwelling Unit/Population ratio remains constant the dwelling units projections were estimated for 1994 and 2014 as long as they do not exceed the maximum build out. For McMinnville this information was extrapolated from the McMinnville Transportation Master Plan. Table 23 shows 1994 and 2014 estimates of dwelling units for the cities in Yamhill County.

TABLE 23 YAMHILL COUNTY DWELLING UNITS

Dwelling Units/Year	1990(1)	1994	2014
Amity	412	466	685
Carlton	471	538	657
Dayton	498	637	1088
Dundee	533	704	1837
Lafayette	463	479	653
McMinnville	6778	8740	15166
Newberg	4673	5880	12306
Sheridan	1045	1846	2442
Willamina	634	878	1251
Yamhill City	264	380	608
Exception Growth Areas	1748 (2)	1900 (3)	2660 (3)
Non-Exception Growth Areas	5675	5707	4639
<i>Yamhill County</i>	<i>23194</i>	<i>28156</i>	<i>43992</i>

(1) Source: 1990 Census Data

(2) Source: Yamhill County Planning Department

(3) Source: this estimates were based on linear extrapolation from (1981-1990) exception growth dwelling unit data obtained from the County Planning Department (rate of 38 d.u. /year was used)

Population and dwelling unit estimates for the *different zones* in the county (*besides cities*) were obtained by adding the estimates for the exception growth areas and the non-exception growth areas. The non-exception growth areas estimates were obtained by assuming the distribution for the population and dwelling units in the 1990 census tracts zones remains constant over the years. The 1994 estimates for the population and dwelling units for the exception growth areas were distributed based on the 1990 number of dwelling units in each exception growth area in each zone. The 2014 estimates were distributed based on the percentage of vacant lots in each zone. It is anticipated as the cities grow larger the population of the unincorporated areas will decrease. This is why one could see decrease in the 2014 population and dwelling units for some of the zones. These zones usually do not contain any cities or exception growth areas. Table 24 shows the 1994 and 2014 population, dwelling units, and employment for each zone.

3.2.2 EMPLOYMENT FORECAST

The employment forecast for Yamhill County was based on the assumption that all cities in Yamhill County (except for Newberg and McMinnville) will continue to have the same employment/population ratio. This is to say that current trends will stay the same for the small cities in the County. Furthermore, current retail to non retail ratios were assumed to remain constant. For Newberg and McMinnville, employment projections

provided in their recent Transportation System Plans were extrapolated for year 2014. For Newberg retail and non-retail employment was assumed to remain constant and current proportions were used. Employment forecasts for Yamhill county was projected for year 2014 based on the average growth rate in employment for the past 8 years (1986-1993). Retail employment was found by using the average percentage of Retail employment to the total employment for the past 8 years. The average growth rate for the total employment was found to be 3.7% and the average percentage of retail employment to the total employment was found to be 14.3%. Based on these ratios, the total employment for year 2014 is estimated to be 69,427. Retail employment of 9,928 and Non Retail of 59,499 are estimated. The distribution of employment over the different zones outside the cities followed the distribution of the population. Table 25 shows the projected employment for the cities in Yamhill County. TABLE 25 EMPLOYMENT FORECAST FOR CITIES IN YAMHILL COUNTY (employment was aggregated to retail and non retail due to data limitations)

2014 Employment Projections	1994 Employment/ Population	Total Employment	Retail	Non-Retail
Amity	.38	668	30	638
Carlton	.33	542	83	459
Dayton	.91	2604	43	2561
Dundee	.17	1108	195	913
Lafayette	.1	233	36	197
McMinnville	TSP extrap	17180	5914	12015
Newberg	TSP extrap	12068	2413	9665
Sheridan	.21	1706	195	1511
Willamina	.46	1151	197	954
Yamhill City	.75	1086	164	922

TABLE 24 3.3 Traffic Forecast

3.3.1 MODEL FORECAST

In order to benefit from the potential of a computerized transportation model without at the same time exceeding financial and time budget constraints, a STEP-ONE model was developed. The difference between a STEP-ONE model and a regular, detailed transportation model is that it utilizes a larger scale zone system and only focuses on the major road network. It basically estimates future traffic volumes by adding traffic generated by future development to the existing base traffic. This technique is very efficient for analyzing traffic impacts from individual developments; however it does not allow for a combined, comprehensive impact analysis of various developments throughout the study area.

The external stations affecting the study area were identified as part of the model. Through trips were estimated from major external stations such as Hwy 99W and Hwy 18. Using the ADT counts and the estimated through (external-external) trips, the remaining external-internal and internal-external trips were calculated. It was assumed that for most external-external trips that the NHB (non-home based trips) are negligible. For all other trips the recommended parameters from the NCHRP Report 187 Quick-Response Urban Travel Estimation Techniques and Transferable Parameters were used to distribute them among the different types (Home-based Work, Home based Non-Work, and None Home based). In addition a 2% yearly increase in traffic for the eastern part of the County was used to project volumes at the external stations for year 2014. For the western part less growth is expected and a 1.5% was used. This assumption was based on the fact that the Northeastern part of the County will be more affected from the spillover from the Portland Metropolitan Area.

The model successfully replicated the traffic trends on the state highways within the County. Three screen lines (as shown in Figure 20) were used to test the calibration of the model. Modeled and observed ADT volumes at the screen lines are compared in Table 26. Traffic flow trends estimated by the model were

consistent with the latest 1994 ODOT traffic flow map (see Figure 21 and 22). Since not all County roads were included in the model some of the county roads had a higher predicted ADTs, as expected when they serve other roads volumes. However, that is not expected to change the final conclusions from the model. Comparison of observed and modeled volumes at the selected screen lines for the County roads are shown in Figure 23. The model was considered calibrated when an average percent difference of 10% between the modeled and observed volumes at the screen lines for the state highways was achieved. The model was used to predict traffic volumes on the County Road System given the new socioeconomic data forecasted. The projected volumes on County-owned roads are expected to be well under capacity assuming a capacity of 9600 vehicles/day and will operate at level of service of D or better. The highest volumes are expected to occur on Wilsonville Road near Newberg and Westside Road near McMinnville.

FIGURE 20 Model Screen lines

FIGURE 21 Model 1994 State Highway Volumes

FIGURE 22 ODOT 1993-94 Volumes

FIGURE 23 Modeled County Road Volumes

Level of Service is defined by a range of designations --A to F. Level of Service A is completely unimpeded traffic flow while F is heavily congested. Level of Service D on two lane rural highways shows near unstable traffic flow conditions, where passing becomes extremely difficult with high demand. Platoon sizes of 5 to 10 cars become common during peak hours and although speeds of 50 mph are still possible, roadway distractions and turning vehicles cause major interruptions to the traffic stream. More detailed description of level of services is provided on page 83 of this plan.

TABLE 26 MODEL CALIBRATION FOR YAMHILL COUNTY

Station	Highway	Location Description	1994 ADT (Observed)	1994 ADT (Modeled)	Percentage Difference
1	Bellevue Hwy	East City Limits of Amity	1734	1628	6.1%
2	Lafayette Hwy	South of Palmer Creek Rd.	2958	3034	-2.6%
3	Hwy 221	Southeast of ORE 233	2550	2060	19%
4	Hwy 219	Yamhill-Marion County Line	6528	7094	-8.7%
5	Hwy 99W	Yamhill-Washington County Line	27540	27800	-0.9%
6	Hwy 99W	Newberg West City Limits	21420	24882	-16.2%
7	Hwy 240	Just West of Red Hills Rd	4284	3606	15.8%
8	Hwy 47	At Grove Orchard	3366	3498	-3.9%
9	Hwy 47	Just North of ORE 240	4488	3762	16.2%
10	Hwy 240	East of ORE 47	2040	2124	-4%
11	Hwy 47	Carlton South City Limits	3672	4424	-20.4%

12	Hwy 99W	East of Lafayette Ave	21420	17828	16.8%
13	Hwy 18	East of McMinnville Spur	12240	14798	-20.9%
14	Hwy 233	East of Whiteson Road	1122	604	46%

Ave. 3%

Traffic flow projections on State highways as obtained from the model are displayed on Figure 24. The volumes are consistent with ODOT projections as discussed in the next section.

3.3.2 ODOT TRAFFIC FORECAST FOR STATE HIGHWAYS

Traffic and Capacity projection for the State Highways passing through Yamhill County for year 2012 were obtained from the Oregon Department of Transportation. Growth factors were derived from the 1992 Traffic Volume Tables and a linear model was used to project the 20 year volumes. The traffic and capacity projections are shown in Figure 25. The 2012 capacities were computed using the new 1992 Highway Capacity Manual. Freeway, multilane, and two-lane highway procedures were used. For the analysis, it was assumed that truck percentages, directional distributions, and geometrics remain the same in 2012. On multi-lane highways an average value of access points per mile was used based on the 1993-1994 videologs. It was assumed that the number of accesses remained constant. Free-flow speeds for multi-lane highways were assumed to have a starting value equal to the speed limit. This value was reduced by geometric constraints such as median, lane, shoulder width and number of accesses. The projections shows several locations on state highways such as Highway 99W between McMinnville and Newberg with LOS E or less.

FIGURE 24 2015 State Highway Volumes (QRSII Model)

FIGURE 25 2012 ODOT Capacity analysis of State Highways in Yamhill County

4. Transportation Needs 4.1 Transportation Facility Deficiencies

The overview of the existing transportation system covered in Section 2.1 identified current transportation needs of the County. Deficient bridges, accident locations, pavement condition, insufficient roadway widths, transit services and other elements of the transportation system were examined in that section.

On the other hand, the transportation and travel demand modeling undertaken as part of this plan (section 3.3) has shown that Yamhill County Transportation Road system for the next 20 year is basically in place. Due to the rural nature of Yamhill County, anticipated development will be on a rural scale and no capacity problems are anticipated on the County-owned transportation system. However, high traffic volumes are projected on State-owned Highways 99W and 18 as more growth hits Newberg and the McMinnville Area and several County roadways are expected to experience spillovers from congestion on Highway 99W.

4.2 Community Participation

As a continuation of Yamhill County policy of involving the public in planning process, the Yamhill County Transportation System Plan study team held two Open Houses on Tuesday, October 25, 1994 in the Yamhill County Public Works Conference Room and a final Open House on Tuesday August 21, 1995. Attendees from throughout the county came to the meetings. Approximately 85 concerned citizens, community leaders, and jurisdictional representatives attended the three meetings. Study team members from Yamhill County, ODOT, and the consulting team were present to individually discuss the transportation ideas, issues and concerns of the community. Transportation needs were identified during these meetings. Community

concerns raised during these public hearings can be divided into traffic congestion issues, safety issues, and long range needs. Although many of these concerns fall outside the County jurisdiction they were added to provide a flavor of the transportation issues being raised. Only highlighted (*italics*) concerns fall under the County jurisdiction.

4.2.1 TRAFFIC CONGESTION ISSUES

The Community identified these locations as the most congested:

Dundee-Lafayette congestion

Highway 99W through Dundee and Newberg-bottleneck;

Highway 18 between Sheridan and McMinnville;

Wheatland Ferry.

4.2.2 SAFETY ISSUES

Many locations within the County on State Highways and city streets were identified as the most dangerous. Design, as well as access problems are the causes. The following list identifies these locations.

McDougall Corner: Highway 99W to Hwy 18 cut-off, and Golf course turn-off;

Highway through Carlton- truck and pedestrian concerns;

First St. pedestrian crossing in McMinnville;

Rex Hill Winery Access from 99W;

Old Sheridan Highway and Highway 18 intersection;

Royal Ann Drive does not meet county standards (fire danger);

Highway 47 as it enter and exit Carlton;

Intersection of Main Street and Highway 47 in Carlton;

Highway 240 curve near Worden Hill Road;

Highway 240 as it enters Newberg;

Intersection of Hwy 219 North of Newberg and Terrace Drive, schools; and senior center;

Intersection of Hwy 99, Hwy 18 and Old Sheridan Rd on Western McMinnville

Westside Road from Baker Creek to Donnely Lane north of McMinnville, speed control

needed;

Entrance of Corral Creek Road on 99W;

Entrance on Hwy 18 from Laube Orchards Winery;

Lafayette Avenue and Highway 99W;

Highway 18 at Junction with Rail Road by Boise Cascade in Willamina;

Trucks pulling out from Boise Cascade Mill in Willamina;

Old Sheridan Road to 99W in the City of McMinnville;

Road from St. Paul to the Smurfit mill;

Intersection of 99W/233 need better marking;

Highway 240 is narrow and not safe for heavy traffic;

Hill Road has high bicycle volume and no shoulder, --Bikeways are being built currently--

Intersection of 18 and 99W in west McMinnville.

4.2.3 COMMUNITY LONG RANGE NEEDS

The community also identified the following long range needs.

Extension of I-205 to 99W;

By Pass of Newberg;

Access to I-5;

Willamette River Bridge;

Bus line or Train for Portland Commuters;

McMinnville-Newberg-Portland Bus Line;

Public Transportation between small towns (e.g. Carlton, Yamhill) and McMinnville;

More regular east/west bus connection;

Bike Path between Sheridan and Willamina.

Another Access to Portland.

Rail access between McMinnville and Portland.

Mass transit to Portland without the involvement of Metro.

Carpooling to Portland and Salem.

In addition the following needs were identified:

Widen Roads to absorb trucking and flourish distribution industry;

Improve and widen shoulders.

Provide Signal Preemption for police and fire trucks.

Pavement of more gravel roads.

Use the abandoned railroad tracks between Yamhill and McMinnville for pedestrians,

cyclists, and horses.

Several comments were also received regarding anticipated tourist traffic generated by the proposed Grand Ronde Gaming Casino, and the Evergreen Air Venture Museum (Spruce Goose) in McMinnville. It is anticipated that traffic generated by these facilities will be added to the State highways as opposed to County roads.

In addition, Crestview Drive proposed reclassification as a minor arterial by the city of Newberg raised many public concerns.

The study team also consulted with a technical advisory committee and conducted stakeholders interviews that included 19 agencies and organizations. 300 copies of three newsletters were mailed throughout the course of the study.

The following section of the transportation system plan will address issues raised in the public open house meetings.

5. Transportation System Plan

Yamhill County is required by the Oregon Transportation Planning Rule (TPR) (Goal 12) to adopt standards and policies in its Transportation System Plan that encourage multi-modal travel and reduced reliance on the single-occupant automobile. The Rule also requires Yamhill County to set standards and policies to promote and enhance pedestrian, bicycle, and transit travel. This plan provides recommendations to meet the requirements of the TPR and benefit Yamhill County residents.

Yamhill County acknowledged Comprehensive Plan includes a general goal and policy framework to address Transportation. However, the increased importance of linking land use and Transportation requires expansion of these goals and polices. This Plan contains brief background descriptions of facilities and issues followed by a complete list of proposed transportation goals and policies that cover the following areas:

Coordination and Implementation of the Transportation System Plan

Collector/Arterial Street Plan including policies that cover the Road Network,

Access Management/Functional Classification/Roadway Standards, Pavement

Management, Roadway Level of Service, Roadway Capacity, Bridges, and

Facility/Safety Improvements

Public Transportation Plan

Bicycle Plan

Air/Rail/Water/Pipeline Plan

The Plan finally makes recommendations regarding Transportation Projects that will be needed in the next 20 years. This list was determined based on:

Applying capacity analysis on the County roadway network

Analyzing accident data provided by the State on the County roadway network

Results of the County and State bridge inspection program

Expert knowledge of the County Public Works Department

Efforts to enhance other modes of transportation.

Public input and participation.

The purpose of this plan is to help guide, plan, and coordinate development of the transportation system over the next 20 years.

5.1 Coordination And Implementation Of The Transportation Plan

Yamhill County is seeking a vital, ongoing transportation planning process that will meet the needs of the County and its residents. The following goals and policies are intended to assist in the implementation of the transportation system plan.

Goals

1.1 It is the goal of Yamhill County to encourage an efficient, safe, convenient and economic transportation and communication system, including road, rail, waterways, public transit, air, pipeline, and pedestrian and bicycle facilities. Yamhill County transportation system shall be designed to serve the existing and projected needs of urban and rural areas within the County and the system shall emphasize connections between different modes of transportation to reduce reliance on the single occupancy automobile.

1.2 It is the goal of Yamhill County to have a vital, ongoing transportation planning process and a transportation plan that meets the needs of the County and its residents. The transportation plans and facilities of Yamhill County shall be coordinated with the plans

and facilities of incorporated cities within Yamhill County, the larger region, and the State of Oregon.

1.3 It is the goal of Yamhill County to:

- a. identify local, regional, and State transportation needs
- b. develop a transportation plan that will address these needs
- c. review and update the plan periodically
- d. have continuing coordination with relevant agencies and jurisdictions
- e. have continuing public input.

Policies

1.1 It is the policy of Yamhill County to:

a. continue to coordinate transportation planning with local, regional, and State plans by reviewing any changes to Yamhill County cities transportation plans, regional transportation plans, the Oregon Transportation Plan and ODOT's Transportation Improvement Plan

- b. continue public and interagency involvement in the transportation process
- c. continue to coordinate transportation planning with the cities of Yamhill County.

1.2 It is the policy of Yamhill County to notify ODOT concerning:

- a. all proposals that would require access to a state highway
- b. any land use or development within 500 feet of a state highway or public use airport within the County.

1.3 It is the policy of Yamhill County to protect approved or proposed transportation project sites through:

- a. access control measures
- b. review of future large development and transportation projects that significantly affect the County's transportation system
- c. the imposition of conditions on large development and transportation projects that

significantly affect the County's transportation system.

1.4 It is the policy of Yamhill County to coordinate local plans and land use decisions with the Oregon Transportation Plan and the 1991 Highway Plan. These plans provide ODOT policies and performance standards for statewide highways within Yamhill County. The statewide plans also provide the framework for access management on state facilities to protect the capacity and function of the highways.

1.5 The lead agency for transportation project review shall be:

- a. Yamhill County for facilities outside the UGBs
- b. The affected city for facilities within the UGBs
- c. The State of Oregon, Yamhill County, and affected cities on projects involving state-owned facilities.

1.6 Transportation Projects

1.6.a. Transportation projects that are permitted outright

A transportation project may be allowed without further review if it is permitted outright. If a transportation project is permitted outright, the Board of Commissioners may summarily adopt the project onto the Transportation Project List. There is no need for a comprehensive plan text amendment or a conditional use permit. However, access management review is required for any project where access is an issue including those projects which are approved outright. The following transportation projects are approved outright:

- 1) operation, maintenance, and repair of existing transportation facilities
- 2) dedication of right-of-way
- 3) surfacing, minor alignment or widening of an existing street
- 4) reconstruction or modification of roads and highways where no removal or displacement of building occurs and no new land parcels are created
- 5) construction of climbing and passing lanes within existing right-of-ways
- 6) improvement of existing road and highway related facilities such as maintenance yards, weigh stations, stockpile sites within existing right-of ways
- 7) temporary improvements in association with construction projects such as temporary roads and detours that will be abandoned and restored to the original condition

when no longer needed
- 8) transportation system management measures, including medians which limit or

prevent turning movements, but not including the creation of travel lanes or median turn lanes

9) roads and bridges on farm or forest lands for the purpose of managing their uses

10) replacement of bridges

11) construction of bikeways, footpaths, and recreation trails

12) construction of railroad spurs under 1/4 mile in length

13) construction of transit stops within existing right-of-ways

14) construction of pipelines.

1.6.b. Transportation projects that require a conditional use permit.

If a transportation project requires a conditional use permit and that permit is approved, the Board of Commissioners may then adopt the project as part of the Transportation Project List. There is no need for a comprehensive plan text amendment. A transportation project needs a conditional use permit if it involves one of the following:

1) construction of a new road and extensions of an existing road which does not

constitute a major new construction or a major realignment and which either

enhances local traffic flow, reduces private access to state highways or reduces local

traffic on state highways, and has limited intersections and private accesses onto

farm and forest lands so as to be consistent with rural uses and densities

2) construction of additional travel lanes and median turning lanes, but not resulting in

the creation of new land parcels

3) construction of additional passing lanes and climbing lanes, requiring the acquisition of new right-of-way, but not resulting in the creation of new land parcels

4) construction or improvement of road and highway facilities, such as maintenance

yards, where new right-of-way or additional property is required but not resulting

in the creation of new land parcels

5) construction of railroad spurs over 1/4 mile in length

6) construction of transit stops requiring the acquisition of new right-of-way but not

resulting in the creation of new land parcels.

1.6.c. Transportation projects that require a plan text amendment

The projects listed below require a plan text amendment and a conditional use permit when they occur in development zones. When a project is proposed in a resource zone then a plan text amendment and an exception are required.

- 1) a road or highway that requires major new construction, i.e. construction that requires a new right-of-way in excess of 120 feet in width and 1,320 feet in length and which is not replacing an existing road or highway
- 2) a road or highway that requires a major realignment, i.e. replacement of an existing road segment where the center line of the roadway shifts outside the existing right-of-way for a distance of 1/2 mile or more
- 3) construction of a new rail line, excluding spurs
- 4) construction of a new transit facility
- 5) construction of high speed rail line or conversion of an existing line to high speed rail
- 6) improvements that will change the functional classification of a roadway

Any other project not listed will be handled at the discretion of the director of Public Works department.

1.7 Transportation or development projects that require a plan text amendment or a conditional use permit may be required to fulfill conditions or implement mitigation measures before approval is granted. Mitigation and conditions may include, but are not restricted to:

- 1) improvement of surrounding roads
 - 2) limits on level of development
 - 3) revision of development placement
 - 4) addition or redesign of access
 - 5) addition of traffic management devices such as traffic signals, medians, or signage
- and/or
- 6) improvements that lessen transportation impacts.

Yamhill County recognizes that land use designations have a significant impact on the transportation system and alterations shall be completed with consideration to traffic impacts on the County road system.

1.8 Where a proposed transportation facility is identified in the County Transportation System

Plan and will require the preparation of the Environmental Impact Statement (EIS), the

findings of compliance with applicable statewide planning goals and acknowledged

comprehensive plan polices and land use regulations shall be coordinated with the

preparation of the EIS.

5.2 Collector/Arterial Street Plan

5.2.1 COUNTY ROAD NETWORK

The Road network that will serve the County for the next 20 years is basically in place. Due to the rural nature of Yamhill County, anticipated development will be on a rural scale. No significant impacts are foreseen on the County-owned transportation system from upcoming development projects. Road maintenance, repair and improvement, however, should be aggressively pursued in order not to place the network in jeopardy. Pedestrian/bicycle and transit modes of transportation requires wider, smoother, and better roadways. These improvements also benefit automobile and truck traffic by making the roads safer and more efficient to use. The County views that the main purpose of the County-owned network is to move people and goods as efficient as possible between incorporated areas in the County and not as a means of increasing urban scale development in unincorporated areas. The County recognizes the importance of having a natural and smooth transition of jurisdiction for County roadways within urban growth boundaries to their respective city jurisdictions as the cities grow.

Goals And Policies

1. It is the goal of Yamhill County to encourage the establishment of a transportation system supportive of a geographically distributed and diversified industrial economy for the county including coordination will all cities transportation plans.

2. It is the policy of Yamhill County to:

a. consider the road network to be the most important and valuable component of the transportation system

b. consider the maintenance and repair of the road network to be vital to the continued health of the County's transportation system

3. It is the policy of the County to not add mileage to the system unless:

a. it can be shown that the County can financially absorb the additional maintenance requirements

b. the condition of the road proposed for acceptance into the system compares

favorable with county road standards

c. an accrued benefit can be shown to the county's economic growth

d. an overall increase in efficiency in the county road network can be demonstrated.

4. It is the policy of Yamhill County that all transportation decisions will be made in consideration of land use impacts including but not limited to adjacent land use patterns, both existing and planned, and their designated uses and densities.

5. It is the policy of Yamhill County to consider roadway function, classification, and capacity as a criterion for plan map amendments and zone changes. This will assure that proposed land uses do not exceed the planned capacity of the transportation system.

5.2.2 ACCESS MANAGEMENT/FUNCTIONAL CLASSIFICATION/ ROADWAY

STANDARDS

Roads accommodate two types of travel -- local access traffic and through traffic. Arterials are intended for through movement of traffic while local roads are designed to give access to abutting property. Collectors provide equal service to both functions. Historically, the state and local governments corrected many congestion problems by constructing new bypasses or major street improvements. However, such solutions are expensive and are increasingly becoming not feasible with current funding levels.

Unmanaged arterials can become overused for short distance trips and local access to property. Land use changes along these arterials results in increased trip generation and traffic conflicts as businesses may desire to locate on heavily traveled arterials. Lack of adequate access management and insufficient coordination of land use development, property division and access review can contribute to the deterioration of both the arterial and collector road network. Traffic signals, new road approaches and driveways can decrease speed and capacity and increase both congestion and hazards.

Access management includes the control of vehicular access to major roadways. Partial access control, which is often found on major arterials and highways, is provided by limiting or prohibiting driveway access, left turn movements and cross traffic at intersections. These limits increase the capacity of an arterial to carry through traffic at desired speeds without requiring additional lanes. Coordination, planning and proper policies can help avoid these problems and costly solutions.

In addition, further coordination is needed between the County and cities in Yamhill County regarding functional classification of County roadways within cities limits and urban growth boundaries. Currently, the County maintains roadways within cities limits presenting an additional financial responsibility on the County. The lack of funds to upgrade these roadways to cities standards has been a major factor in deciding when the transition of the jurisdiction take place. Strengthening and revising Urban Growth Management agreements with cities may be an effective arena from which to pursue tight coordination on this important issue.

Several roadways in the McMinnville UGB have different functional classification than the County. These roadways are:

McMinnville

These roadways are classified as minor arterials by the City of McMinnville.

Westside Road North of McMinnville (county major collector)

Baker Creek Road West of McMinnville (county major collector)

Hill Road bordering McMinnville west side (county major collector)

Peavine Road and Old Sheridan Road Southwest of McMinnville (county minor collector)

Newberg

The Newberg Transportation System Plan is proposing the following changes in functional classification designations of County roadways within the urban growth boundaries of the city for the following roadways:

Mountainview Drive between College Street and Aspen Way is proposed to be

classified as a minor arterial (a county minor collector)

Crestview Drive is proposed to be extended to 99W and classified as minor arterial when the Newberg bypass is built. (a county local road)

Benjamin Road is proposed to be classified as a minor collector (a county local road)

In addition the following roadways are recommended to be transferred to their respective city jurisdiction:

McMinnville

Baker Creek Road (portion within city limits)

Old Sheridan Hwy (from Cypress Ln. to Highway 99W)

Daniels Street All

West Side Road (from city limits to Burnett Road)

Burnett Road (from city limits north to West Side Road)

Newberg

Crestview Drive (from Aspen Way to city limits East)

Newall/Hadley Road. All

Aspen Way (from Mountainview Dr. to Crestview Dr.)

Henry Road (from Hwy 219 to end)

Crater Lane (from Lynn Dr. to end)

2nd Street (from Springbrook Rd. to Everest St.)

Everst Street (from Hwy 219 to cemetery)

Main Street (from Lynn Dr. to north of illinois St.)

The following policy statements outline the County's policy in regard to roadway access management and functional classification:

Goals And Policies

1. It is the goal of Yamhill County to have a system of access management adequate to protect the quality and function of the arterial and collector system
2. It is the policy of Yamhill County to designate access and land uses appropriate to the function of a given road
3. It is the policy of Yamhill County that any approved access be adequate for emergency service provision
4. It is the policy of Yamhill County to coordinate the County Transportation System Plan with the transportation plans of the ten incorporated cities within Yamhill County.

The County will emphasize continuity in the classification of roads and appropriate design standards for roadways which link urban areas with rural areas outside Urban Growth Boundaries. At the time of UGB amendment Yamhill County and the City involved shall agree on classification and design standards of all County Roads within the proposed UGB

area prior to finalization of the amendment.

5. County policy will encourage the expeditious transfer of jurisdiction of roadways to incorporated cities in conjunction with annexation. It is the policy of Yamhill County that developers of property who propose annexation and who have frontage on a road that does not meet city road standards shall have the primary responsibility for upgrading the road to city standards. Roads shall be upgraded at the time of annexation, or the developer shall sign an agreement with the city to upgrade the road, at the time of development. Transfer of jurisdiction shall require the approval of both the County and the City, in accordance with the provisions in Oregon Revised Statutes 373.270.

6. It is the policy of Yamhill County to require the transfer, or an agreement to transfer with specific time lines and milestones as part of the agreement, of jurisdiction of County roadways within urban growth boundaries to their respective cities at the time of annexation.

7. It is the policy of Yamhill County to require new development to:

- a. Provide a frontage setback requirement of 70 feet from the public right-of-way centerline of all designated arterials and collectors within the County.
- b. Minimize direct access points onto arterial and collector right-of-ways by encouraging the utilization of common driveways.

8. It is the policy of Yamhill County that access requests onto county-owned arterials for new minor or major partitions, subdivisions, and commercial and industrial development be processed with the following access management classification system in mind: public road access spaced at no less than every 1/2 mile; driveways spaced at no less than 500 feet; traffic signal spaced at no less than 1/2 mile, and no median control. If either safety or environmental factors or the unavailability of adequate distance between access points requires placing accesses at lesser intervals then the best alternative placement will be chosen. On road segments that are already severely impacted by numerous access points or on road segments which abut exception areas, adherence to the above standards may be either unreasonable or counterproductive to exception area infilling. In such cases, these standards may be relaxed to accommodate the aforementioned special conditions.

9. It is the policy of Yamhill County that all new roads are built to the following standards for Public and Private Roads under the County jurisdiction.

PUBLIC ROAD STANDARDS

R/W width: 60 ft. minimum standard

Traveled Way Width: 18 to 32 ft. - variable under certain conditions

Grades:

Maximum sustained: 10%

Maximum intermittent: 15% for 200 ft.

Minimum Vertical Clearance: 18 ft.

Rock Depth: 6" of 1 1/2"- 0 (or 2"- 0 rock)

Pavement: By permit from the Public Works Department

Dedication of Public Roads: must be accepted by the Yamhill County Board of Commissioners

PRIVATE ROAD STANDARDS

(No more than 3 parcels may be served by private easement)

Easement Width: 30 ft. minimum

Traveled Way Width: 12 ft. minimum

Rock Depth: 6" of 1 1/2"- 0 (or 2"- 0 rock)

Grades:

Maximum sustained: 10%

Maximum intermittent: 15% for 200 ft.

Minimum Vertical Clearance: 14 ft.

Pavement: Not Required

TURNOUTS

If a road is over 400 ft. long, a turnout 10 ft. wide by 30 ft. long must be constructed every 800 ft. or less as directed by the County.

TURNAROUNDS

If a road is over 400 ft. long, and has only one entrance onto a public road, a circular 60 foot diameter turnaround must be provided, with variances as allowed by the County Engineer.

INSPECTIONS

Fire department officials, with the local Rural Fire Protection District or the nearest City, will do any necessary inspections under a county-wide agreement.

5.2.3 PAVEMENT MANAGEMENT

There are four types of road ownership in Yamhill County. A State road is a public roadway owned, maintained and improved by the State of Oregon. A County road is a public roadway which has been accepted by the Board of Commissioners as a County road and for which the County will be responsible for improvements and maintenance. A local access road is a road which has been dedicated to the public. Ownership has been formally accepted by the County, but without responsibility, obligation, or agreement for improvement or maintenance. A local access road is either a driveway, privately owned access road, easement of road access, or a privately maintained road necessitated by land subdivision created for the specific purpose of providing road access from a parcel to a local access road or county road.

Yamhill County is currently using the Bay Area MTC software as a pavement management system to prioritize the maintenance and rehabilitation of the pavement in the County subject to budget constraints. This system will meet the requirement of the Intermodal Surface Transportation Efficiency Act (ISTEA) to implement a pavement management system for federal-aid highways.

Pavement management is the orderly scheduling of pavement repairs and improvements to meet serviceability goals and provide safe, comfortable and economical transportation while striving to achieve the best possible value from available funds. Routine maintenance activities are carried out on a daily basis. Road sections requiring more extensive work are prioritized and then selected for improvements based on an annual subjective visual evaluation of pavement condition.

Local road standards need to evolve over time as a given road services more traffic. A dirt road may be sufficient for access to an individual property; however, as other properties begin to use that road for access it may no longer be adequate. At a certain point the owners of properties utilizing the road for access need to participate in the improvement of the road.

Reconstruction and pavement of about 15.5 miles of gravel roads all of local classification will be triggered in response to growth in the following Exception Growth Areas:

Chehalem Mountain,

Wilsonville Earlwood/ Parreit Mt.,

Baker Creek, and

Willamina.

The reconstruction and pavement priority for the gravel roads in these areas shall be based on traffic counts, density of development, and road classification. Secondary criteria shall be zoning, whether the gravel road is on a school bus route, the cost per mile of reconstruction and pavement, and the availability of right-of-way. Higher priority will be given to roadways where neighborhood consensus is reached and the roadway right-of-way and/or expense is partly donated by the land owners abutting the road. A potential list of these roadways that will be triggered by exception area growth is provided in the Transportation Project List, Table 29 on page 126.

Goals And Policies

1. It is the goal of Yamhill County to maintain the County road network pavement in excellent to good condition
2. It is the policy of Yamhill County to continue to maintain and preserve the County road network through its program of paving, repairing, reconstruction, drainage clearance and vegetation control
3. It is the policy of Yamhill County that areas for the storage of materials and equipment for road maintenance and construction shall be allowed where this use is compatible with surrounding land uses
4. It is the policy of Yamhill County to give higher priority of maintenance to correct safety-related problems
5. It is the policy of Yamhill County to reconstruct, maintain, and pave gravel roads based on three main criteria and five secondary ones; Main criteria are density, traffic count and

road classification. Secondary criteria are: preservation of jobs and enhancing the economic vitality of the area, zoning, whether the gravel road is on a school bus route, the cost per mile of reconstruction and pavement, and the availability of right-of-way. Higher priority will be given to roadways where neighborhood consensus is reached and the roadway right-of-way and/or expense is partly donated by the land owners abutting the road.

5.2.4 LEVEL OF SERVICE

Levels of service describe service quality on two lane highways as determined by average travel speed, percent of time that all vehicles are delayed while traveling in platoons due to the inability to pass, and roadway capacity utilization. Table 27 shows the maximum annual average daily traffic allowed for various levels of service on roadways on level terrain and percentage of the average daily traffic occurring in the peak-hour (K-Factor).

Level of Service is defined by a range of designations --A to F. Level of Service A is completely unimpeded traffic flow while F is heavily congested. Levels of service D or better are expected on most County roads for the next 20 years given that population growth does not exceed projections. Level of Service D on two lane rural highways shows near unstable traffic flow conditions, where passing becomes extremely difficult with high demand. Platoon sizes of 5 to 10 cars become common and although speeds of 50 mph are still possible, roadway distractions and turning vehicles cause major interruptions to the traffic stream. Yamhill County will monitor LOS deterioration during peak hours on County roadways with special consideration given to Wilsonville Road, West side Road, and Lafayette Highway between OR99W and OR18 in the next 20 years.

TABLE 27 MAXIMUM ANNUAL AVERAGE DAILY TRAFFIC ALLOWED FOR VARIOUS LEVELS OF SERVICE

K-Factor	LEVEL OF SERVICE				
	A	B	C	D	E
	Average Daily Traffic				
	Volumes for Level Terrain				
0.10	2,400	4,800	7,900	13,500	22,900
0.11	2,200	4,400	7,200	12,200	20,800
0.12	2,000	4,000	6,600	11,200	19,000
0.13	1,900	3,700	6,100	10,400	17,600
0.14	1,700	3,400	5,700	9,600	16,300
0.15	1,600	3,200	5,300	9,000	15,200

Goals And Policies

1. It is the goal of Yamhill County to maintain level of service D or better during the peak hour throughout the County-owned arterial and collector system over the next twenty years
2. It is the policy of Yamhill County to establish a system to monitor traffic volumes on all County arterials and collectors. The County will periodically examine its traffic volumes to pinpoint deterioration in level of service

5.2.5 CAPACITY

Traffic volumes on the County road system were predicted using the calibrated QRSII model developed. The traffic volumes are expected to be well under capacity assuming a conservative capacity of 9,600 vehicle/day for a two-lane highway. The only roads in the County with very high projected traffic volumes are State Facilities particularly Highway 18 and 99W. These highways are under State responsibility for maintenance and improvements.

Goals And Policies

1. It is the goal of Yamhill County to maintain the current arterial and collector system in the County and prevent degradation of that system
2. It is the policy of Yamhill County to monitor all County arterials and collectors to help in the determination of when road improvement projects are necessary
3. The County will continue to work with the State, the City of Newberg, and the City of Dundee on alternatives for routing Highway 99W through or around Newberg and Dundee

5.2.6 BRIDGES

Yamhill County owns 136 bridges. Inspection of these bridges is provided under a contract administered by ODOT-Bridge Section. Routine repairs are made by the County maintenance force. Thirty three bridges were found either structurally deficient or functionally obsolete.

Goals And Policies

1. It is the goal of Yamhill County to maintain a safe and efficient network of bridges
 2. It is the policy of Yamhill County to explore replacement of bridges when necessary.
- Otherwise, the County will follow standard maintenance and reconstruction procedures.

5.2.7 TRUCK/HAZARDOUS MATERIALS ROUTE

Yamhill County chooses not to designate any truck/hazardous materials routes. However, limitations on the maximum loads on bridges restrict certain routes from being used by heavy trucks. These bridges are listed in Table 9. Creation of hazardous materials routes requires a deeper understanding of the movement of these shipments than currently available.

Goals And Policies

1. It is the policy of Yamhill County to acquire information necessary to establish truck/hazardous materials routes in the County.

5.2.8 FACILITY/SAFETY IMPROVEMENTS

Safety Improvements

A list of 10 highest accident SPIS locations was prepared based on the 1991-1993 accident database on the county road system. Each intersection was examined through a site visit and the geometric or signage problems were noted. In addition, several other intersections recommended by the County that could potentially cause accidents were checked during the site visit. Recommendations for these location are provided in the Project List subsection of this Plan on page 107.

Road Widening

Yamhill County Land Division Ordinance has outlined the policy of Yamhill County regarding road widening. Yamhill County encourages road widening of substandard width roads in all areas, zones and plan designations where deemed necessary to provide for an adequate means of access, transportation, walkways, maintenance and the placement of utilities. The widening shall be sufficient to bring a full road up to a minimum right-of-way width of 60 feet, or a half road up to a minimum right-of-way width of 30 feet. Mandatory widening of substandard roads and/or the dedication of right-of-way will be required in any of the circumstances outlined in Yamhill County, Land Division Ordinance 6.015 and summarized below:

If the road is located in or bounds an area designated for any use other than

"agriculture large holding" or "forestry"; or

If the road is designated in this plan or any other future plan adopted by the

Board, dealing with the classification or projection of roads as a major, minor, arterial or collector status.

If a subdivision or partition is being proposed, in each case the widening shall be

required only along those sides of the existing road bounding the lots of parcels

being created; or

If the engineer, on inspection of the proposed subdivision, deems that the public

safety requires widening or that additional right-of-way is necessary to provide for

adequate drainage or the installation of utilities anticipated by development of the subdivision or partition.

All future reconstruction projects, new road construction, or shoulder widening shall be according to County roadway standards outlined in Chapter 2.

Goals And Policies

1. It is the goal of Yamhill County to maintain a safe and efficient network of roads
2. It is the policy of Yamhill County to develop and update an inventory of safety-deficient

facilities on the County road network and correct these facilities as soon as funds allow. 5.3 Public Transportation Plan

5.3.1 SPECIAL TRANSIT SERVICES

The existing YAMCO transit system serves the elderly and handicapped as well as the general public. A marketing program is needed to increase the awareness and ridership on the transit system. It is also recommended that a market assessment is conducted in the future to determine the demand for transit commuter service between Newberg and McMinnville, and from Newberg and McMinnville to the Portland and Salem downtown Areas.

Yamhill County, the city of McMinnville and Newberg, and the Oregon Department of Transportation shall work to investigate the possibilities for a local transit district with funding base that include state and federal resources for capital and operating expenses. Provisions of commuter service operations inside Tri-Met service district shall be provided in a mutual policy agreement between the established local transit district (if feasible) and Tri-Met. Transit service operations can be provided either by the transit district or contracted through private service operators with all services in accordance with the 1990 Americans with Disabilities Act.

Until such district is established, if feasible, the Yamhill County Community Action Program (YCAP) and The Chehalem Valley Senior Citizens Council (CVSCC) will continue their services in Yamhill County with the available scarce revenues. Improvements envisioned by YCAP are outlined in the Transportation Project List subsection of this Plan on page 127.

5.3.2 INTERCITY BUS AND PASSENGER RAIL

The Oregon Rail Passenger Policy and Plan was adopted by the Oregon Transportation Commission on November 1992. It provides a comprehensive long-range plan for railroad passenger service in Oregon in coordination with the Oregon Transportation Plan. The plan identifies future long-range high speed rail passenger service between Eugene and the greater Portland Area along the Southern Pacific Rail Road valley line.

As an alternative, the plan investigated long-range interurban electric rail service between Portland and Eugene along current Willamette and Pacific line through Newberg and McMinnville to capitalize on short-trip riders. The initial phase of the State long-range interurban electric rail plan option called for single-track, electric service between McMinnville and Tualatin with transfer connection to "MAX" light rail service through either Tigard or Lake Oswego. The plan is dependent on the Portland/Vancouver Regional Transportation Plan for LRT ("MAX") connections into downtown Portland. Total capital cost of providing electric rail service was estimated at nearly \$115 million, and annual operating costs were estimated at \$9.6 million. Electric rail service between McMinnville and Tualatin was estimated to range between \$18 and \$32 per rider.

The Plan recommends that interurban rail service between McMinnville and Portland be considered in

greater detail as part of the on-going Willamette Valley Transportation planning process sponsored by ODOT. The Plan recommends that interurban electric rail service be evaluated against intercity bus service, while considering impacts on land use and economic development.

The Yamhill County Transportation System Plan recommends that the County participates with the State of Oregon and all other affected jurisdictions in the investigation of future interurban rail passenger service between Eugene and Portland. In addition, it recommends establishing more frequent commuter bus service between all incorporated cities in the County.

The County shall also, in corporation with cities, investigate the development of a basic, self-help rideshare program. Interested individuals will input their information into a dedicated computer located at commonly used location, such as the community center or library. At the same location, they can review or print a carpool availability listing.

Goals And Policies

1. It is the goal of Yamhill County to enhance intermodal connectivity throughout the transportation system.
2. Yamhill County, in cooperation with the cities of the County, and in consultation with the Mid Willamette Valley Council of Governments, the Oregon Department of Transportation, and private companies providing transit services, will continue to investigate public transit possibilities, including bus and rail, and if economically feasible, will seek such services as are found to be safe, efficient, and convenient in serving the transportation needs of the residents of the County.
3. It is the policy of Yamhill County to identify the needs of the transportation disadvantaged and attempt to fill those needs.
4. It is the policy of Yamhill County to encourage programs, such as van or car pooling, to increase vehicle occupancy and reduce unnecessary passenger car travel.
5. It is the policy of Yamhill County to evaluate the need for Park-and-Ride facilities when realigning County roadways before selling surplus right-of-way.

5.4 Bikeway Plan

Future bicycle and sidewalk improvements identified in conjunction with roadway improvements are intended to provide bicyclists with a safe, convenient, and aesthetic bicycle system that is integrated with other forms of transportation. The objectives identified in the Yamhill County Bikeway Master Plan are:

Development of a bicycle facility plan that meets the identified needs of cyclists and fosters the growth of bicycle travel throughout the regional transportation system.

Development of a map for the public that describes opportunities for bicycling in

Yamhill County.

Providing uniform bicycle route signs, markings, and design standards that meet state and national requirements.

Establishing priorities for facility designation, new construction, and maintenance of the existing system. Each priority is based on need, opportunity, and resource availability.

Evaluating the plan annually to determine how well objectives are being met.

Encourage and support education and safety programs for all ages, improve riding skills, encourage observance of traffic laws, increase awareness of cyclists and pedestrian rights, and monitor and analyze bicycle accident data to determine safety problems.

The plan identifies among other things policies, classification of bikeways, construction and maintenance guidelines, and suggested route improvement to achieve these objectives . In addition, the plan provides continuity with the bikeways planned by McMinnville and Newberg.

The plan adopted standards and design guidelines for bicycle facilities set by AASHTO manual Guide for the Development of Bicycle Facilities 1991 and the 1992 Oregon Bicycle Master Plan . All traffic devices used in conjunction with bicycle routes will be required to conform to the national Manual on Uniform Traffic Control Devices .

A list of suggested improvements on the Yamhill County Road System to accommodate bikeways is provided in the Transportation Project List of this Plan on page 94. Completion of these projects will considerably enhance the network of bikeways allowing cyclists to travel throughout the county.

Goals And Policies

1. It is the goal of Yamhill County to provide and maintain a safe, convenient, and aesthetic bicycle system that is integrated with other forms of transportation.

2. It is the goal of Yamhill County to encourage and support education and safety programs for all ages, improve riding skills, encourage observance of traffic laws, increase awareness of cyclists and pedestrian rights, and monitor and analyze bicycle accident data to determine safety problem areas.

3. Yamhill County will coordinate local plans for pedestrian and bicycle facilities with the 1994 Oregon Bicycle and Pedestrian Plan. The statewide plan provides a framework for a local bicycle route system and design standards

4. It is the policy of Yamhill County to provide bikeways on arterials and major collectors that are located within an urban growth boundary and such other locations that provide access within and between residential subdivisions, schools, shopping centers and industrial parks when financially feasible.

5.5 Air/Rail/Water/Pipeline Plan

Air Transportation Plan

For the Air Service, the McMinnville Municipal Airport Master Plan provides forecasts of aviation activity, capacity and plans for the future together with a development program. The County zoning ordinance provides for an Airport Overlay (AO) zone. AO zone was established to prevent air space obstructions near public use airports and to ensure compatibility between the Airport use and surrounding land uses.

In addition to the McMinnville Airport, an airport site selection study was conducted for the City of Newberg and finalized in 1990. The study recommended that the City of Newberg not to purchase Sportsman Airpark or pursue development of a new airport facility at the time of the report.

Policies

1. Yamhill County is committed through its zoning ordinance and transportation plan to protect the McMinnville Municipal Airport as a vital county-wide transportation facility and efforts will be made to regulate land use in the environs of the airport to prevent the erection of further airport hazards and obstructions, at the same time preventing any residential encroachment upon critical noise contours without informed consent.
2. The status and proposed location or expansion of all airport facilities shall be specifically designated in a plan map, as amended, and, if under county jurisdiction, will be accorded a planned -unit designation in the zoning ordinance, in order to assure a compatible association of airport growth with surrounding urban development.

Freight Rail Transportation Plan

It is recommended that effort to be made to maintain the existing rail service and expand it in the County. Currently, plans to ship freight north through Newberg to the Southern Pacific's Brooklyn rail yard are being considered. Willamette and Pacific (W&P) plans to ship commodities daily from/to Newberg and McMinnville through Eugene instead of Portland.

In addition, ODOT's 1994 Oregon Freight Rail Plan states that shipments on the Willamina Branch are weight limited to 240,000 per four-axle rail car, and track conditions limit train operating speed. A benefit/cost (B/C) evaluation of this line for eligibility for federal rehabilitation and improvement assistance shows the Willamina Branch to have the third highest B/C ratio of the eight rehabilitation projects considered eligible in Oregon.

Policies

- 1. Yamhill County does not support further rail abandonment or diminishment of service.*
- 2. Yamhill County supports improvement of rail line conditions to retain railroads as effective freight carriers in Yamhill County.*
- 2. Yamhill County will pursue, whenever possible, conversion of abandoned rail lines through the federal "Rails to Trails" program and seek to integrate these abandoned lines into the County's trail/bikeway system.*

Water Transportation Plan

The Yamhill County Transportation System Plan recognizes water-borne transportation as an important mode for the movement of goods and recreation, and recommends that future use of the Willamette River be preserved as a transportation system resource, especially for the shipment of large and heavy, bulk commodities.

Policies

- 1. Yamhill County supports the dredging of the Yamhill River throughout its entire length as it borders Yamhill County not only for the movement of goods but also for recreational activities.*

Pipeline Transportation Plan

Current pipeline transportation in and through Yamhill County includes transmission lines for electricity, cable television, telephone service, water, sewer, and natural gas. The Yamhill County Transportation System Plan encourages continued use of these pipelines to move goods throughout the County.

5.6 Yamhill County Transportation Project List

A list of expected transportation projects over the next twenty years is provided below. The list has been compiled based on:

- 1) Analyzing accident data provided by the State on the County roadway network
- 2) Results of the County and State bridge inspection program
- 3) Expert knowledge of the County Public Works Department
- 4) Applying capacity analysis on the County roadway network
- 5) Efforts to enhance other modes of transportation.

Roadway improvement projects listed below include:

Bikeways (Figure 26)

Intersections

Bridges

Pavement improvement projects including:

Pavement maintenance and rehabilitation projects

Pavement of collector gravel roads

Pavement of local gravel roads

The list also includes public transportation improvement projects and short term projects listed in the 1994 Transportation Improvement Plan published by the Oregon Department of Transportation.

Other projects that are of major concern to the County are listed finally including the Dundee-Newberg bypass, McDougall Corner, Wheatland Ferry, and east-west minor arterial in north Newberg.

At least once a year, Yamhill County will review identified transportation projects and, if necessary, add, delete, and/or reprioritize them to accommodate new conditions.

FIGURE 26

A. Yamhill County Bikeway System Suggested Improvements PRIORITY LIST "A"

WESTSIDE ROAD PHASE I

Vicinity McMinnville Area

Section Baker Creek Road to Donnelly Lane

Length 1.4 miles

Alignment

Horizontal Generally straight with an assortment of flat and moderately sharp curves

Vertical Mostly flat with an occasional valley

Traffic Volume 3,400 vehicles per day

Traffic Speeds 35 mph to 55 mph

Surface Paved - Excellent Condition

Width 22 feet wide (11 feet per each travel lane)

Shoulders Rock and earth shoulders

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each travel lane

Estimated Cost \$236,966 (1995 Dollars)

NORTH VALLEY ROAD/BELL ROAD PHASE I

Vicinity Newberg Area

Section Aspen Way to Tangen Road

Length 2.05 miles

Alignment

Horizontal Mostly straight with an occasional sharp or moderately sharp curve

Vertical Generally flat with a limited number of severe grade changes

Traffic Volume 1,600 vehicles per day

Traffic Speeds 45 mph to 60 mph

Surface Paved - Fair Condition on Bell Road and Good Condition on North Valley Road

Width 20 feet wide (10 feet per each travel lane)

Shoulders No shoulders along some sections, rock and earth shoulders along the remaining sections

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each travel lane.

Estimated Cost \$418,176 (1995 Dollars)

HILL ROAD - SOUTH PHASE I A

Vicinity McMinnville Area

Section Tamarack St. to Wallace Rd.

Length 1.03 miles

Alignment

Horizontal Straight sections with two sharp curves

Vertical Predominately flat with one steep hill

Traffic Volume 1,300 vehicles per day

Traffic Speeds 20 mph to 60 mph

Surface Paved - Good Condition

Width 20 feet (10 feet per each travel lane)

Shoulders Rock and earth shoulders at various widths

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each travel lane.

Estimated Cost \$200,376 (1995 Dollars)

HILL ROAD - SOUTH PHASE I B

Vicinity McMinnville Area

Section Wallace Rd. to Baker Creek Rd.

Length 0.6 miles

Alignment

Horizontal Straight sections with two sharp curves

Vertical flat

Traffic Volume 1,600 vehicles per day

Traffic Speeds 40 mph to 60 mph

Surface Paved - Good Condition

Width 20 feet (10 feet per each travel lane)

Shoulders Earth shoulders at various widths

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each travel lane.

Estimated Cost \$130,000 (1995 Dollars)

WHEATLAND ROAD

Vicinity Southeast corner of Yamhill County

Section State Highway No. 221 to Wheatland Ferry

Length 1.1 miles

Alignment

Horizontal Straight sections with three flat curves

Vertical Flat on each end with a steep hill in the middle section

Traffic Volume 770 Vehicles per day

Traffic Speeds 45 mph to 65 mph

Surface Paved - Fair condition

Width 19 feet wide (9.5 feet per each travel lane)

Shoulders Earth shoulders

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each travel lane.

Estimated Cost \$156,816 (1995 Dollars)

CHEHALEM DRIVE

Vicinity Newberg Area

Section State Highway 240 to North Valley Road

Length 1.5 miles

Alignment

Horizontal Straight

Vertical Mostly flat with an occasional shallow valley

Traffic Volume 730 vehicles per day

Traffic Speed 25 mph to 55 mph

Surface Paved - Good Condition

Width 17 feet to 20 feet wide

Shoulders Earth shoulders

Recommended Action Increase the width of the road surface to insure all sections of the road are twenty (20) feet wide. Construct a six (6) foot wide paved shoulder contiguous to each travel lane.

Estimated Cost \$267,447 (assuming a unit cost per mile of \$178,300)

PRIORITY LIST "B"

ABBHEY ROAD/KUEHNE ROAD

Vicinity Lafayette Area

Section State Highway 99W to State Highway No. 240

Length 5.85 miles

Alignment

Horizontal Mostly straight with an occasional sharp curve

Vertical Many grade changes with some steep hills

Traffic Volume 1,500 vehicles per day

Traffic Speeds 45 mph to 65 mph

Surface Paved - Good Condition (Abbey Road); Fair Condition (Kuehne Road)

Width 20 feet wide (10 feet per travel lane)

Shoulders Narrow earth and rock shoulders

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each travel lane.

Estimated Cost \$1,071,576 (1995 Dollars)

HENDRICKS ROAD

Vicinity Carlton Area

Section Carlton city limits to Abbey Road

Length 3.5 miles

Alignment

Horizontal Predominately straight

Vertical Flat

Traffic Volume 1,700 vehicles per day

Traffic Speeds 50 mph to 70 mph

Surface Paved - Average to Excellent Condition

Width 20 feet wide (10 feet per each travel lane)

Shoulders Narrow rock and earth shoulders

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each travel lane.

Estimated Cost \$627,264 (1995 Dollars)

MEADOW LAKE ROAD

Vicinity Carlton Area

Section Carlton city limits to Shelton Road

Length 2.4 miles

Alignment

Horizontal Mostly straight with a few moderately sharp curves

Vertical Flat except for one hill west of Westside Road

Traffic Volume 3,300 vehicles per day

Traffic Speeds 50 mph to 60 mph

Surface Paved - Fair to Excellent Condition

Width 20 feet wide (10 feet per each travel lane)

Shoulders Narrow rock and earth shoulders

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each travel lane.

Estimated Cost \$367,804 (1995 Dollars)

NORTH VALLEY ROAD/SPRINGHILL ROAD/FLETT ROAD PHASE II

Vicinity Newberg Area/Yamhill Area

Section Tangen Road to State Hwy 47

Length 9.93 miles

Alignment

Horizontal Predominately straight with a few moderately sharp curves

Vertical Mostly flat with rolling hills and valleys

Traffic Volume 1,896 vehicles per day

Traffic Speeds 55 mph to 65 mph

Surface Paved - Excellent condition

Width 20 feet wide (10 feet per each travel lane)

Shoulders Some sections do not have shoulders; the remaining sections have narrow rock or earth shoulders.

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each travel lane.

Estimated Cost \$1,770,519 (assuming a unit cost per mile of \$178,300)

HILL ROAD - SOUTH PHASE II

Vicinity McMinnville Area

Section West Second Street to Peavine Road

Length 1.6 miles

Alignment

Horizontal Straight with two sharp curves

Vertical Flat

Traffic Volume 1,200 vehicles per day

Traffic Speeds 50 mph to 65 mph

Surface Paved - Fair to Good Condition

Width 20 feet wide (10 feet per travel lane)

Shoulders Earth and rock shoulders

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each travel lane.

Estimated Cost \$296,208 (1995 Dollars)

WESTSIDE ROAD PHASE II

Vicinity McMinnville/Carlton Area

Section Donnelly Lane to Meadow Lake Road

Length 3.49 miles

Alignment

Horizontal Generally straight

Vertical Mostly flat

Traffic Volume 5,601 vehicles per day

Traffic Speeds 55 mph to 65 mph

Surface Paved - Excellent Condition

Width 20 feet wide (10 feet per travel lane)

Shoulders Rock shoulders

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each travel lane.

Estimated Cost \$622,260 (assuming a unit cost per mile of \$178,300)

RIBBON RIDGE

Vicinity Newberg Area

Section State Hwy 240 to North Valley Road

Length 0.80 miles

Alignment

Horizontal Straight

Vertical Mostly flat

Traffic Volume 1,605 vehicles per day

Traffic Speeds 55 mph to 65 mph

Surface Paved - Good to Excellent Condition

Width 20 feet wide (10 feet per travel lane)

Shoulders Rock shoulders

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each travel lane.

Estimated Cost \$142,638 (assuming a unit cost per mile of \$178,300)

B. Suggested Bikeway Improvements On Yamhill County State Highways

State Highways comprise 150 miles of the interlocking routes forming the Yamhill County bikeway network. Improvements to these roads are the responsibility of the State. The Bikeway Task Force has designated these routes as essential to the overall plan, and encourages the State to add bicycle facilities to these roads during future construction, reconstruction, or relocation projects.

Yamhill County Public Works Staff recommends the following improvements to the State Highway system except where four foot or greater width shoulders already exist:

Hwy 99 W - PACIFIC HIGHWAY WEST NO. 1W

Section Washington County Line to Polk County Line

Length 27.6 miles

Traffic Volume Very heavy use

Traffic Speeds 50 mph to 70 mph

Shoulders Paved

Shoulder Width:

Less than 6 Feet 41%

6 Feet or Greater 59%

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each (outside) travel lane.

Estimated Cost \$992,250. (1995 Dollars - ODOT Funds)

Hwy 47. - TUALATIN VALLEY HIGHWAY NO. 29

Section Washington County Line to State Highway No. 99W

Length 15.9 miles

Traffic Volume Moderately heavy use

Traffic Speeds 45 mph to 65 mph

Shoulders Paved

Shoulder Width:

Less than 6 Feet 100%

6 Feet or Greater 0%

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each (outside) travel lane.

Estimated Cost \$2,094,750. (1995 Dollars - ODOT Funds)

Hwy. 22 - THREE RIVERS HIGHWAY NO. 32

Section Polk County Line to Tillamook County Line

Length 12.9 miles

Traffic Volume Light use

Traffic Speeds 40 mph to 55 mph

Shoulders Paved, very narrow

Shoulder Width:

Less than 6 Feet 100%

6 Feet or Greater 0%

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each (outside) travel lane.

Estimated Cost \$1,565,550. (1995 Dollars - ODOT Funds)

Hwy. 219 - HILLSBORO SILVERTON HIGHWAY NO. 140

Section Washington County Line to Marion County Line

Length 8.4 miles

Traffic volume Moderately heavy use

Traffic Speeds 30 mph to 65 mph

Shoulders Paved

Shoulder Width:

Less than 6 Feet 53%

6 Feet or Greater 47%

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each (outside) travel lane.

Estimated Cost \$815,850. (1995 Dollars - ODOT Funds)

Hwy. 221 - SALEM - DAYTON HIGHWAY NO. 150

Section State Highway No. 18 to Polk County Line

Length 10.97 miles

Traffic Volume Moderately heavy use

Traffic speeds 50 mph to 65 mph

Shoulders Paved

Shoulder Width:

Less than 6 Feet 95%

6 Feet or Greater 5%

Recommended Action Construct a 6 foot wide paved shoulder contiguous with each (outside) travel lane.

Estimated Cost \$1,378,125. (1995 Dollars - ODOT Funds)

Hwy. 18 - SALMON RIVER HIGHWAY NO. 39

Section State Highway 99W to Polk County Line

Length 22.9 miles

Traffic Volume Very heavy use

Traffic Speeds 50 mph to 70 mph

Shoulders Paved

Shoulder Width:

Less than 6 Feet 5%

6 Feet or Greater 95%

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each (outside) travel lane.

Estimated Cost \$154,350. (1995 Dollars - ODOT Funds)

Hwy. 240 - YAMHILL NEWBERG HIGHWAY NO. 151

Section State Highway 99W to State Highway No. 47

Length 11.55 miles

Traffic Volume Moderately heavy use

Traffic Speeds 45 mph to 65 mph

Shoulders Paved and rock

Shoulder Width:

Less than 6 Feet 100%

6 Feet or Greater 0%

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each (outside) travel lane.

Estimated Cost \$1,653,750. (1995 Dollars - ODOT Funds)

Hwy. 233 - AMITY DAYTON HIGHWAY NO. 155

Section State Highway No. 221 to State Highway 99W

Length 9.2 miles

Traffic volume Light use

Traffic Speeds 45 mph to 55 mph

Shoulders Paved and rock

Shoulder Width:

Less than 6 Feet 98%

6 Feet or Greater 2%

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each (outside) travel lane.

Estimated Cost \$1,190,700. (1995 Dollars - ODOT Funds)

LAFAYETTE HIGHWAY NO. 154

Section State Highway No. 18 to Bellview- Hopewell Hwy

Length 6.36 miles

Traffic Volume Moderately heavy use

Traffic Speeds 45 mph to 65 mph

Shoulders Rock

Shoulder Width:

Less than 6 Feet 100%

6 Feet or Greater 0%

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each (outside) travel lane.

Estimated Cost \$837,900. (1995 Dollars - ODOT Funds)

BELLVIEW-HOPEWELL HIGHWAY NO. 153

Section State Highway No. 18 to State Highway No. 150

Length 14.4 miles

Traffic Volume Light use

Traffic Speeds 45 mph to 55 mph

Shoulders Rock

Shoulder Width:

Less than 6 Feet 100%

6 Feet or Greater 0%

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each (outside) travel lane.

Estimated Cost \$1,907,325. (1995 Dollars - ODOT Funds)

McMINNVILLE HIGHWAY NO. 156

Section State Highway 99W to 3rd Street (McMinnville)

Length 1.71 miles

Traffic Volume Moderately heavy use

Traffic Speeds 25 mph to 45 mph

Shoulders Rock and earth

Shoulder Width:

Less than 6 Feet 100%

6 Feet or Greater 0%

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each (outside) travel lane.

Estimated Cost \$427,500. (1995 Dollars - ODOT)

WILLAMINA-SHERIDAN HIGHWAY NO. 157

Section State Highway No. 18 to Polk County Line

Length 6.5 miles

Traffic Volume Moderately heavy use

Traffic Speeds 25 mph to 65 mph

Shoulders Paved and rock

Shoulder Width:

Less than 6 Feet 91%

6 Feet or Greater 9%

Recommended Action Construct a 6 foot wide paved shoulder contiguous to each (outside) travel lane.

Estimated Cost \$771,750. (1995 Dollars - ODOT)

C. Yamhill County Intersection Improvement Projects

A list of 10 highest accident SPIS locations was prepared based on the 1991-1993 accident database on the county road system. Each intersection was examined through a site visit and the geometric or signage problems were noted. In addition, several other intersections recommended by the County were checked during the site visit. The following improvements are recommended at the following locations: (all signage improvements shall follow the Uniform Traffic Control Devices Manual (MUTCD). Cost estimates for these improvements are preliminary and subject to revision. These locations are shown in Figure 27

North Valley Road and Cullen Road

Problem: The current intersection has no signage making it difficult to notice the cross street especially at night

Recommended Action:

Provide a STOP sign on Cullen Rd as well as a Double Head Arrow

Sign (W1-7 in MUTCD) on North Valley Road.

Cost Estimate: \$1,000

Priority: within one year

Moores Valley Road and Oak Ridge Road

Problem: The combination of unfamiliarity with the road and the current intersection layout may cause Oak Ridge Road travelers to run the STOP sign.

Recommended Action:

Provide a warning sign (STOP AHEAD) on Oak Ridge

Cost Estimate: \$1,000

Priority: within one year

Moores Valley Road and Old Moores Valley Road

Problem: This intersection experienced 4 accidents in a three year period.

Intersection has no signage The low traffic volumes compels motorists to speed and assume full use of the road.

Recommended Action:

Provide STOP sign on the low volume road. The County shall consider redesigning the intersection into a four-leg intersection with proper signage in order to discourage people from speeding.

Cost Estimate: \$200,000

Priority: within one to five years

Stringtown Road and Dayton Highway (Hwy 233)

Problem: The current layout of the intersection with curved legs encourages unfamiliar drivers to speed thinking that there will be a merge area down the road; at the same time a STOP sign on a curve with insufficient sight distance makes it impossible for them to stop on-time at the stop sign causing rear-end accidents and angled accidents.

Recommended Action:

Temporarily, need to put STOP AHEAD sign with a flashing beacon in order to warn travelers well before reaching the intersection, and improve signage on Highway 233. Eventually, the intersection should be widened and modified to a T- intersection with a left turn storage on Dayton Highway, and separate right and left turns on Stringtown Rd.

Cost Estimate: \$250,000

Priority: within one to five years (coordinate with the McMinnville Three Mile Lane Corridor study)

Cruickshank Road and Dayton Highway (Hwy 233)

Problem: The current layout of the intersection with curved legs encourages unfamiliar drivers to speed at the same time a STOP sign on a curve with insufficient sight distance makes it impossible for them to stop on-time causing rear-end accidents and angled accidents. To make things worse, an old house is in the middle of the intersection blocking the view of the drivers.

Recommended Action:

Temporarily, need to put STOP AHEAD sign with a flashing beacon in order to warn travelers well before reaching the intersection, and better signage on Highway 233. Eventually, the intersection should be widened and modified to a T- intersection with a left turn storage on Dayton Highway, and left and right lanes on Cruickshank Road. Measures need to be taken to buy the right-of-way.

Cost Estimate: \$300,000

Priority: within one to five years (coordinate with the McMinnville Three

Mile Lane Corridor study)

Meadow Lake Road

Problem: Winding road with sharp curves could cause speeding vehicles to run off the road.

Recommended Action:

Provide at Mile Post 3.92 a curve warning sign (W1-2L in MUCTD)

Cost Estimate: \$1,000

Priority: within one year

Meadow Lake Road

Problem: Land slides on the road cause extreme hazard for the motorists.

Recommended Action:

Land slide stabilization is needed at M.P. 5.42

Cost Estimate: \$800,000

Priority: within one year

Westside Road

Problem: Winding road with sharp curves causing vehicles to run off the road.

Recommended Action:

High accident location at Mile Post 0.45, (Just north of McMinnville). A series of actions are needed which range from making the intersection sign clearer and speed enforcement. Remove parking area on shoulder to the east of the curve.

Cost Estimate: \$1,000

Priority: within one year

In addition, these improvements are recommended for the following intersections:

Old Sheridan Highway at Masonville Road

Problem: Intersection is too close to the intersection of Highway 18 and Masonville Road making it a

potential hazard for motorists pulling off highway 18 and Old Sheridan Highway into Masonville Road.

Recommended Action:

Need to relocate intersection by realigning old Sheridan highway

Cost Estimate: \$200,000

Priority: within five years

Mineral Springs and Gun Club

Problem: Insufficient warning for motorists on Gun Club is a potential hazard that may cause them to run the stop sign especially at night.

Recommended Action:

Need to put STOP AHEAD warning sign on Gun Club.

Cost Estimate: \$1,000

Priority: within one year

Grand Island and Upper Island Road

Problem: Lack of signage causes confusion among road users and right-of-way rule is not obeyed..

Recommended Action:

Need a YIELD sign on lower volume Road.

Cost Estimate: \$1,000

Priority: within one year

Maccabe Chapel and Masonville Road

Problem: The intersection of Maccabe Chapel and Masonville Road is blocked by long trees and brush, combined with a curvy road and lack of a warning sign.

Recommended Action

Provide INTERSECTION AHEAD warning sign on Masonville Road.

Cost Estimate: \$1,000

Priority: within one year

Corral Creek Road and OR99W

Problem: The intersection of OR99W and Corral Creek Road is narrow and at a steep grade making it hazardous to the unfamiliar motorist.

Recommended Action

Corral Creek Road has two closely spaced access points on highway 99W. It is recommended that the western access point be closed. The eastern access point shall be reconstructed to provide for a smooth grade transition.

Cost Estimate: \$100,000

Priority: Coordinate with the building of the by-pass.

Figure 27 Intersection improvements D. Yamhill County Bridge Improvements DEFICIENT BRIDGES ON COUNTY ROAD SYSTEM (Based on 1994 ODOT database, Costs are in thousands)

Identified deficiencies shall be corrected as funds allow. Priority should be given to bridges with higher ADT and lower sufficiency rating. Functionally obsolete bridges need to be widened while structurally deficient bridges need to be replaced (refer to Figure 4).

No.	RIVERS/CREEK	LOCATION	ADT	SUFF. RATING	EST. COST	TYPE OF DEFICIENCY
1	North Yamhill River	W of Yamhill on 244	530	48.9	682	Structural
2	Willamina River	W of Sheridan on 430	570	34.3	504?	Structural
3	Haskins Creek	W of Yamhill on 245	550	62.9	214	Structural
4	Panther Creek	W of Carlton on 331	570	28.5	313	Structural
5	Haskins Creek	W of Yamhill on 237	512	57.5	419	Structural
6	Ash Swale	SE Amity on 454	570	62.9	717	Structural
7	Chehalem Creek	0090 W of 99W	570	13.6	722	Structural
8	Willamina River	N Willamina on 410	550	54.7	661	Structural
9	Palmer Creek	SO Dayton on 6	550	50.7	426	Structural
10	Yamhill River	010 MI N Yamhill-Polk Ln	520	54.3	3965	Structural
11	Mosquitto Creek	On Grand Island	512	51.0	512	Structural
12	Mosquitto Creek	On Grand Island	570	47.8	159	Structural

13	Cozine Creek	SW on 19	761	69.0	112	Functional
14	Yamhill River	In Sheridan	6700	52.2	1424	Functional
15	Yamhill River	E of Lafayette	2933	56.0	504?	Functional
16	Baker Creek	EDW Grenfell Co Park	140	69.6	82	Functional
17	Turner Creek	003 Mi SE Pike	1211	74.6	128	Functional
18	Baker Creek	021 Mi W McMinnville	2036	69.4	479	Functional
19	Baker Creek	W of McMinnville on 284	140	77.9	76	Functional
20	Haskins Creek	W of Yamhill on 235	114	77.9	85	Functional
21	N Yamhill River	001 Mi W Carlton	2177	73.7	1877	Functional
22	N Yamhill River	NW McMinnville on 218	155	28.8	362	Functional
23	Baker Creek	007 Mi N McMinnville	3137	77.8	397	Functional
24	Panther Creek	021 Mi N McMinnville	3137	66.0	474	Functional
25	Cozine Creek	0264 Mi SO MR9 Jct	634	76.0	69	Functional
26	Coast Creek	062 Mi N Willamina	1150	78.0	504?	Functional
27	Willamina River	N Willamina on 406	100	43.0	287	Functional
28	Small Creek	On Grand Island	161	77.9	85	Functional
29	Baker Creek	W of McMinnville on 285	140	77.9	74	Functional
30	Small Stream	SE Shdn on Loganberry	150	77.9	89	Functional
31	Deer Creek	N on Gopher on 421	155	77.7	89	Functional
32	Deer Creek	N on Gopher	200	77.6	82	Functional
33	Deer Creek	N on Gopher on 422	90	80.5	79	Functional

E. Yamhill County Pavement Improvement Projects

1. Pavement Maintenance and Rehabilitation

Pavement Improvement projects on the County road network, scheduled for the 1996-2000 period are shown in Table 28. These projects are listed in the Yamhill County's Pavement Management Plan with a yearly budget constraint of \$758,600. This list is subject to change based on the condition of the roadway at the time of implementation.

TABLE 28

2. Pavement of Gravel Collector Roads

The following collector roads are recommended for pavement. A total of 17.40 miles of roads are expected to cost about \$6.09 Million to pave using a unit cost of \$350,000 per mile.

Gopher Valley Rd. - north of Thompson Mill Rd. (5.90 miles)

ADT range 12-282

Peavine Rd. - Gopher Valley Rd. to Power House Hill Rd. (4.65 miles)

ADT range 50-218

Moore's Valley Rd. - Old Moore's Rd. to west of Puddy Gulch Rd. (2.90 miles)

ADT range 45-170

Worden Hill Rd. - Hwy. 240 to Fairview Dr. (2.15 miles)

ADT range 224-341

Red Hills Rd. - Fairview Dr. to Sunnycrest Rd. (1.76 miles)

ADT range 160-266

The reconstruction and pavement priority for these gravel roads in these areas shall be based on traffic counts, and density of development. Secondary criteria shall be preservation of jobs and enhancing the economic vitality of the area, zoning, whether the gravel road on a school bus route, the cost per mile of reconstruction and pavement, and the availability of right-of-way. The list can be updated (roads removed or added) depending on whether the growth materializes or not. The update to the list shall be done at the discretion of the public works director. Higher priority will be given to roadways where neighborhood consensus is reached and the roadway right-of-way and/or paving expense is partly donated by the land owners abutting the road.

3. Pavement of Gravel Local Roads

Reconstruction and pavement of 15.5 miles of gravel roads will be needed in response to growth in the following Exception Growth Areas: (exception growth area names are provided below)

Chehalem Mountain,,

Wilsonville Earlwood/ Parret Mt.,

Baker Creek, and

Willamina.

The reconstruction and pavement priority for these gravel roads in these areas shall be based on traffic counts, and density of development. Secondary criteria shall be preservation of jobs and enhancing the economic vitality of the area, zoning, whether the gravel road on a school bus route, the cost per mile of reconstruction and pavement, and the availability of right-of-way. The list can be updated (roads removed or added) depending on whether the growth materializes or not. The update to the list shall be done at the

discretion of the public works director. The cost to pave these roads is estimated to be about \$5.42 Million using a unit cost of \$350,000 per mile. Higher priority will be given to roadways where neighborhood consensus is reached and the roadway right-of-way and/or hard surfacing expense is partly donated by the land owners abutting the road.

These roadway sections are shown in the Table 29. Figure 28 shows local and collector county roads suggested for pavement overlays in the future as growth materializes.

TABLE 29 A LIST OF GRAVEL LOCAL ROADS TO BE PAVED TRIGGERED BY GROWTH

Exception	Road Name	Road Number	Estimated length to be paved	1993-1994 ADT range	Current No. of Dwelling Units	Projected Total No. Dwelling Units*
Growth	Area Name		(miles)			
	Willamina	Dent Rd	CR 3200/411	1.25	N/A	
		Allen Rd	CR 405	1.0	82-343	140
		Tindle Creek Rd	CR 406	2.0	40-90	321
	Baker	Berry Creek Rd	CR 228	2.0	295	
	Creek	Heaven Rd	CR 229	1.25	38-230	101
		Orchard View Rd	CR 327	1.0	447	255
		Willis Rd	CR 226	2.0	40-490	
	Chehalem	Holly Hill Rd	CR 108	1.0	33-340	
	Mountain	Bachelor Blvd	CR 105	1.0	22-221	164
		Finnigan Hill Rd	CR 107	1.5	76	268
	Wilsonville	Earlwood Rd	CR 40	1.0	101-283	56
	Earlwood/ Parret Mt.					127

* the estimates are based on the assumption that all dynamics for this growth will be available (worst case scenario)

Figure 28 Pavement Improvement F. Yamhill County Public Transportation Improvements

Yamhill County, in cooperation with the cities of the County, and in consultation with the MidWillamette Valley Council of Governments, the Oregon Department of Transportation, the Public Utility Commissioner, and private companies providing transit services, will continue to investigate public transit possibilities, including bus and rail, and if economically feasible, will seek such services as are found to be safe, efficient, and convenient in serving the transportation needs of the residents of the County.

The County shall also, in corporation with cities, investigate the possibilities of developing a basic, self-help ride share program, where interested individuals will input their information into a dedicated computer located at commonly used location, such as the community center or library. At the same location, they can review or print a carpool availability listing.

Until such study is completed YCAP is envisioning service expansions/improvements for the next 20 years provided below for informational use only:

County-wide:

1. Expand Ride Share, and Van Pool Service by installing signs on Highway 99W,

Highway 18, and the Lafayette Highway to Salem;

2. Install Automatic Vehicle Location System, and Central Computerized/Bilingual

Dispatch;

3. Install bike racks on all YCAP vehicles;

4. Provide bus maintenance facilities, computerized scheduling software and equipment, and drivers training program.

By City:

Amity:

A. Maintain

1. Dial-A-Ride services.

B. Expand

1. Twice daily commuter route to McMinnville.

Carlton/Yamhill:

A. Maintain

1. Dial-A-Ride services.

B. Expand

1. Twice daily commuter route to McMinnville.

2. Localized Dial-A-Ride services.

Dayton:

A. Maintain

1. Dial-A-Ride services

B. Expand

1. Monday through Friday, Mid-Afternoon and Mid-Morning, fixed route with deviations service to McMinnville/Newberg.

Lafayette:

A. Maintain

1. Dial-A-Ride services.
2. Commuter Service to McMinnville/Sherwood.

B. Expand

1. Monday and Friday, Mid-Afternoon and Mid-Morning, fixed route with deviations service to McMinnville/Newberg.

McMinnville:

A. Maintain

1. North/South fixed route service.
2. Dial-A-Ride service.
3. Commuter service to Sherwood and back via Lafayette, Dundee, Newberg

B. Expand

1. East/West fixed route service.
2. Dial-A-Ride service.
3. Evening service.
4. Saturday service.
5. Sunday service.
6. Twice daily commuter service to Salem.
7. Park-and-Ride Lots
 - a. West near Chemeketa.
 - b. East near Airport.
 - c. South near Bi-Mart.
 - d. North near Wal Mart.
8. Larger bus zone for transfers.
 - a. All of the existing parking spaces on the West side of the 300 block between 3rd and 4th Streets on Davis Street.
9. Provide earlier service.
10. Expand bus service along highway 18 to four round trips per day, with stops at the Willamette Valley Medical Center, Evergreen, Olde Stone Village, and the Tanger Factory Outlet.

Sheridan/Willamina:

A. Maintain

1. Dial-A-Ride services.

B. Expand

1. Twice daily commuter route to McMinnville.

Newberg:

In addition to maintaining the current service, the Chehalem Valley Senior Citizen Council (CVSCC) in Newberg is planning to provide bus maintenance facilities; install radios and automatic vehicle location systems on all buses; provide bus shelter, signs, and providing computerized scheduling system.

G. State Planned Improvements (1995-1998)

The following short term improvements were quoted in the Statewide Transportation Improvement Program (1995-1998) (published in December 1994). These improvements will be funded by ODOT. Figure 29 shows the locations of these improvements

Construction (County roads are in italics font)

OR-240 (Yamhill-Newberg Highway)

East Fork Chehalem Creek Bridge #2035, M.P. 10.8 - 11.0 ---Replace Bridge and

Slight Realignment. Cost estimate: \$1.98 M

Poverty Bend Road

North Yamhill River Bridge #11567 ---Replace Bridge.

Cost estimate: \$446,000

Sunnycrest Road

Chehalem Creek Bridge # 11717 ---Replace Bridge.

Cost estimate: \$541,000

Bellview-Hopewell Highway

South Yamhill River Green Bridge #1593 & Overflow Bridge , # 1732 --Replace

Bridges. Cost estimate: \$1.97 M

OR-99W

Edmunston St. - Salmon River Hwy (McMinnville) M.P. 38.1-39.0 ---Widen and

realign highway and add a bike lane. Cost estimate: \$6.08 M

Peavine Road

Willamina Falls Bridge #11547 ---Replace Bridge. Cost estimate: \$180,000

OR-99W

Everest St. - Main ST. (Newberg) M.P. 22.8-23.9 ---Construct a left turn lane and additional southbound lane, and reconstruct signals. Cost estimate: \$6.48 M

Development

OR-99W

Newberg Area Transportation EIS ---Final EIS in Federal F.Y. 2000

Figure 29 State Planned Improvements

H. Other Transportation Projects

1. NEWBERG-DUNDEE BYPASS

Traffic volumes on the County road system were predicted using the calibrated QRSII model developed. The traffic volumes on County-owned roads are expected to be well under capacity. However, high traffic volumes are expected on state highways 99W and 18. Motorists on Highway 99W will experience high levels of delays as they pass through Dundee and Newberg during peak hours if no capacity improvements on the highway are completed. The reconnaissance study completed by the Oregon Department of Transportation concluded that without improvements Highway 99W will experience unacceptable levels of service in the future (year 2000), and that because a high percentage of the trips on Highway 99W are through-trips in the Newberg/Dundee area (estimated at 29%) a bypass would be very effective.

The study investigated a South by-pass that had a favorable local support since it does not go through many neighborhoods, a north by-pass, and improvement of the existing 99W. The proposed by-pass would probably be a nine mile extension of Highway 18, with two lanes in each direction. The highway would begin where Highway 18 ends north of Dayton, bypass Dundee and Newberg and hook back into Highway 99W just east of Newberg. ODOT is currently investigating in more detail, through environmental review process, the impacts of transportation improvement alternatives for travel through the Newberg and Dundee area. The exact location of the bypass will be determined in the Environmental Impact Statement and the public will have their opportunity to provide input on the optimum location through that process.

The congestion experienced in Dundee and Newberg is of major concern to the County as more motorists attempt to use County roads for local circulation and by-passing congestion on Highway 99W. These roads include:

Fulquartz Landing Road

Park Road

Edwards Drive

Dayton Avenue

Wynooski Road

Fernwood Road

Corral Creek Road

Discouraging through traffic from using these roadways is only possible by making these roads less attractive. "Traffic calming" techniques can be used to "calm" traffic speed and volumes in affected neighborhoods. Traffic control devices such as signs, signals/markings, and traffic management tools including curbs, circles, speed humps, medians and diverters are some of the methods employed to manage neighborhood traffic problems and influence the behavior of drivers. Close monitoring of volumes on the these roadways during peak hours will be needed, as delays reach unacceptable levels on Highway 99W.

The County fully supports the concept of the limited access Newberg-Dundee bypass as it relieves the cities' major arterial street and discourages the use of near-by County roads for local circulation. The by-pass will enhance the efficiency of the transportation system by minimizing the impacts of regional traffic on the local transportation system. It will minimize the use of local streets by regional traffic and provide alternative routes for it. Yamhill County has worked with the city of Newberg on land-use policies that will be implemented to control access and growth along the by-pass and prevent strip development. These policies were incorporated in the City of Newberg zoning ordinances.

The cost of the Dundee-Newberg bypass is estimated to exceed \$60 million. ODOT acknowledges that financing makes this project years way. However, current efforts have succeeded in passing a legislation to allow private participation in the development of public highways. Indications have shown that the *toll road* option is favorable among locals in the Newberg-Dundee-McMinnville area. Yamhill County recognizes the urgency of this project to be completed in the near future and will work with ODOT, the cities of Newberg and Dundee and citizens of the County to develop and adopt a refinement plan to determine the optimum location of the bypass, including connections to the existing road system, and to address requirements of the Transportation Planning Rule, zoning ordinance and Comprehensive Plan policies. The County will complete the refinement plan prior to its next periodic review. The deferral of decisions related to the Newberg-Dundee bypass shall not preclude implementation of the remainder of the Transportation Plan or invalidate the assumptions upon which the Transportation Plan is based.

2. WILLAMETTE RIVER BRIDGE

The high operating costs of the Wheatland Ferry continues to be a major concern to the County. The Wheatland Ferry currently provides access across the Willamette River to about 800 vehicles a day. A new bridge will essentially have an impact on the traffic assignment on the area's transportation system as it provides a new access to Salem and I-5. The bridge will affect not only Yamhill County but all other neighboring counties and cities road networks including state highways. Modeling of the transportation system in the affected area will be needed to find traffic impacts of building the bridge. It is recommended that a joint study headed by the State and between Polk, Yamhill, and Marion Counties and involved cities take place to explore the need and optimum location for the Willamette River Bridge. Federal participation to fund this study may be sought.

The new location should satisfy the following criteria:

Provide access to I-5 and Salem

Minimize disruption to existing communities

Consider existing land use patterns

Minimize impact on agricultural and farmland

Consider all issues that may induce growth

3. McDOUGALL CORNER

The intersection of Highway 99W and Highway 18 (better known as the McDougall Corner) has experienced a high number of fatal accidents. McDougall Corner stands out as the most dangerous intersection in the County. The County has worked in the past with ODOT to investigate possible ways of improving the intersection. ODOT and the County have agreed on improvements to the intersection and ODOT is currently soliciting bids to perform the required work. The changes to the roadway and signs, designed to improve the safety at the intersection of Highway 99W and Highway 18, include:

Eliminating the left turn lane from Highway 18 to Highway 99W.

Constructing new access for McDougall Road.

Constructing raised medians on both state highways.

Increasing illumination, restriping section and improving signage

and at Kreder Road

Establishing a left turn refuge on Highway 18 to give local drivers access to Kreder Road.

Restriping section and improving signage.

The improvements are designed to eliminate the confusion and potential for accidents at the intersection especially with the high percentage of through traffic on Highway 18 and 99W. The speed limit in the intersection is currently 45 mph.

Figure 30 shows planned improvements at the intersection.

Figure 30 McDougall Corner Planned Improvements

4. NORTH NEWBERG EAST-WEST MINOR ARTERIAL

As part of the Newberg Transportation plan, an open public workshop was held to provide a forum for public

participation, represented by Newberg's Citizen's Advisory Committee (CAC), in the assessment of the city-wide future transportation/land use system alternatives. It was agreed in the workshop that a major east/west minor arterial street in north Newberg was needed to provide local traffic access and circulation within a balanced transportation system. It was also agreed that the preferred alternative for Newberg's Transportation System Plan was the "Mountainview/Crestview Extension". However, a petition to stop the Crestview Drive Extension was presented by the Oxberg Neighborhood Residents in the Workshop. After reviewing the petition CAC decided to request from the City Staff and their consultant team to conduct additional study of more specific alternatives of an east/west minor arterial in the north Newberg area for improved local traffic circulation and access.

The study examined three alternatives:

- 1) Springbrook-only
- 2) Crestview/Mountainview Extension
- 3) Mountainview Extension.

These alternatives were compared based on:

Travel time between Highway 99W (at proposed Bypass interchange) and

Mountainview Drive at Springbrook Street

Average travel speed between Highway 99W (at proposed Bypass interchange) and

Mountainview Drive at Springbrook Street

Vehicle miles of travel (VMT)

Vehicle hours of travel (VHT)

Vehicle delay

Anticipated costs of roadway construction, and right-of-way acquisition.

Of the three alternatives, the Crestview/Mountainview Extension alternative was found to provide the greatest relief of traffic congestion on Springbrook Street and other collector streets in the immediate area. In terms of VHT, it had the lowest overall travel time. Total vehicle delay on Springbrook was found to be lowest under the Crestview/Mountainview alternative. This alternative was found to cost about \$3.07 million.

Discussions with the City of Newberg have indicated that Benjamin Road was also considered by the City as an alternate east/west connector. However, it was found that there will be too much misdirection of traffic to provide the relief needed from traffic going to the middle of the City and turning north.

It is recommended that the Oregon Department of Transportation, in cooperation with the City of Newberg and Yamhill County, and possibly as part of OR 99W corridor study, determine the optimum location of the east-west minor arterial connection with Highway 99W in consideration to the location of by-pass interchange. As part of this study, the City of Newberg and Yamhill County shall work together on setting the criteria for selecting the optimum alternative.

In addition, urban growth management agreements between the County and the cities in Yamhill County shall be strengthened to define the timelines, procedures, and responsibilities of involved parties in regard to management, planning, and annexation of roadways by the cities. Several roadways currently under County

jurisdiction are located within the Urban Reserve Area (URA) for the city of Newberg as shown in Figure 31.

Figure 31 Proposed Urban Reserve Area for the City of Newberg

5.7 Fifty -Year Horizon Transportation Planning

As part of Yamhill County ongoing transportation process, Yamhill County will continue to take a proactive role in planning for a transportation system that will accommodate growth as it occurs. The County is also determined to be involved in all transportation-related matters that will affect its transportation system. In many counties, high growth rates and insufficient planning have resulted in road capacity problems. One type of road capacity problem is created when structures are located in potential right-of-way, thereby restricting future road widening or lane addition opportunities. The need for removing or relocating structures to widen roads adds to the expense of road improvements. Another type of problem occurs when there are too many driveways located on a collector or arterial. Excessive access points onto higher speed roadways can create dangerous turning conditions, thereby necessitating the lowering of traveling speeds and resulting in lowered efficiencies. Consolidating access points that are established in poorly considered locations adds to the expense of future road improvements.

It is recommended that Yamhill County takes the following steps to permit the flexibility to meet changing needs. These steps include:

1. Providing 70-feet or wider setbacks from roadway centerlines of all arterial and collector streets. This will permit future roadway expansion without costly building removal.
2. Meeting the state-wide 60 foot or wider right-of-way width standard on all new roadways.
3. Providing extra width, where feasible, as part of major bridge reconstruction projects.
4. Requiring proposed accesses near major urban growth boundaries to demonstrate:
 - how the access will accommodate future neighboring urban-scale development
 - how the access will integrate and connect the future road network planned for the area
 - how the access coordinate with the community transportation plans.

Following these strategies will permit future residents of Yamhill County to have a greater range of options to meet transportation needs in the mid years of the twenty-first century.

In addition, as a continuation of Yamhill County policy to identify the needs for its local residents, Yamhill County is open to consider, on a shared-cost basis, hard surfacing of local roadways.

6. Transportation Finance Plan 6.1 Improvements Costs And Current Revenue Sources

Yamhill County is faced with the need to improve its transportation system in order to alleviate existing safety problems and enhance all modes of transportation in the County. This plan identifies a list of roadway improvement projects that included:

Roadway widening and/or shoulder construction to provide for bikeways

(35.25 miles at \$6.31 million)

Signage and/or geometric improvements on 13 intersections

(13 intersections at \$1.86 million)

Repair or replacement of 33 bridges

(33 bridges at \$16.65 million)

Pavement of collector and local gravel roads

(32.9 miles at \$11.51 million)

The estimated cost for all these improvements total to about \$36.33 million (*1995 Dollars*) over the next twenty years. This cost does not include bikeway improvements on 148.39 miles of State routes (estimated to cost about \$12,370,000, ODOT-funded), pavement maintenance and rehabilitation projects, the Wheatland Ferry operating and replacement costs, and feasibility studies to be conducted in the next 20 years. In addition, the \$3.0 Million County share of the expenses for roadway improvements on County roads identified in the Newberg Transportation System Plan is not included.

Several federal, state, and county funding sources have been available to varying degrees over the years. A major increase in revenues occurred in 1986 with the approval of the \$10 million County Road *Bond*. These funds were targeted for major capital improvements such as roadway reconstruction and pavement overlays (including administration and engineering costs). All other funding sources are allocated to the general road fund to cover regular administrative, engineering, and maintenance costs related to the road system. However, this bond will expire in 1996 and the only source of County funding will be comprised of roadway fees charged by the County for permits, maps, services, licenses, and sale or rental of equipment, materials and supplies.

For the past four years, the average State funding comprised about 67% of the County's Road Fund while federal funding averaged to about 10%. From 1992 to 1995, the County's Road Fund total revenues averaged at about \$4.54 million. Table 30 shows the revenues and expenditures for Yamhill County Road Fund. Over the years, most of the federal funding has been from timber sales on federal lands in the county. The funding from the state comes from different sources including vehicle registration fees, state gas tax, state lottery funds, and money from the federal Highway Bridge Replacement and Repair Program.

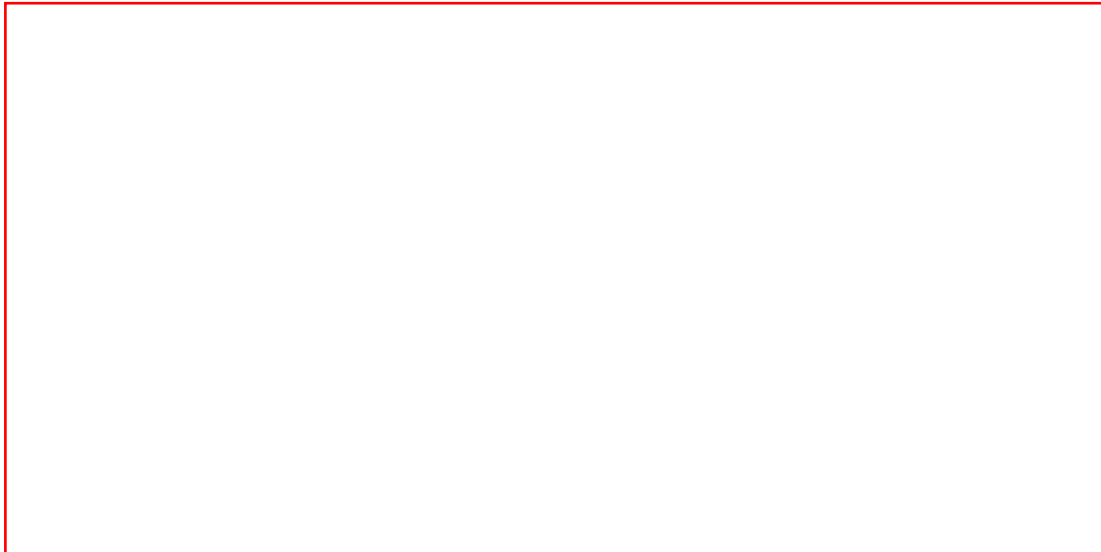
TABLE 30

YAMHILL COUNTY ROAD FUND
REVENUES AND EXPENDITURES

Revenues	1992	1993	1994	1995
Balances	557,636	953,142	611,613	272,072
Interest	39,444	28,927	2,694	12,912
Non-Departmental	21,570	50,764	50,780	27,329
Federal Shared	475,123	442,519	416,691	416,430
State Shared	2,765,500	2,938,070	3,153,525	3,296,940
Road Fees	292,067	644,079	350,543	445,102
Transfers	7,240	24,058	6,766	6,203
Totals	4,158,580	5,086,559	4,592,612	4,320,509
Audited Total	4,156,191	5,081,556	4,603,069	4,320,509

Expenditures	1992	1993	1994	1995
Personnel	1,221,821	1,447,528	1,705,352	1,826,040
Material & Services	1,896,834	2,664,171	2,132,374	1,901,303
Capital	128,944	328,182	524,101	125,461
Transfers	7,500	0	0	0
Totals	3,255,099	4,439,881	4,361,827	3,852,804
Audited Total	3,203,048	4,469,943	4,330,997	

REVENUE SOURCES FOR ROAD FUND (1992-1995)



Non-Departmental Revenues include revenues from the sale/rental of materials, supplies, and equipment.
 6.2 Revenue Options

The Transportation Planning Rule requires identifying credible financial options to implement the plan. To overcome potential shortfalls in existing revenue sources as a means to support roadway improvements the County may consider some of the available options for funding projects on the Transportation Project List.

State Gas Tax

The State of Oregon collects gas taxes, vehicle registration fees, overweight/ overheight fines and weight/ mile taxes and returns a portion of the revenue to cities and counties through an allocation formula. As of January 1, 1990, cities receive approximately 15.57 percent of the net revenues of the state highway fund; counties receive 24.38 percent and the state keeps 60.05 percent. The revenue share allocated to counties is then divided up among all incorporated cities based upon population. This revenue split varies from year to year as recent increases in the gas tax are allocated under a different formula than previous increases.

County Gas Tax

Significant revenues from such a tax could be generated which could be allocated to the County Road System. Neighboring Multnomah and Washington counties have such a tax. Multnomah County charges a \$0.03 per gallon fuel tax and receives about \$6 million in revenue each year. Washington County charges a \$0.01 per gallon fuel tax and receives about \$1.2 million in revenue each year. Both counties contract with the State Fuel Tax Branch to collect and administer the tax. Gasoline distributors who deliver in those

counties submit separate distribution reports along with their state report identifying how many gallons were delivered into each county. The state processes the county forms, calculates the county tax revenue, deducts the counties' share of administrative expense, and sends the counties their revenue. Multnomah County retains 53% of its fuel tax revenue for road improvements in the incorporated areas of the County, distributing the rest of the money to cities on a per capita basis.

Based on approximation of fuel sales in Yamhill County, our preliminary analysis shows that a 1 cent county fuel tax could generate up to \$111,132 per year as shown in Table 31.

Local Improvement Districts

Local Improvement Districts (LIDs) assess property owners in areas where capital improvements are required, including both road and utility improvements. LIDs typically have been applied to new industrial subdivision development but could be applied to existing developed areas through increases in property taxes or other assessments. Funds derived from these districts typically are used to service debt on bonds incurred to undertake the improvements. Costs are typically assessed based on road frontage or square footage of properties. LIDs are most appropriate for individual local street improvements.

TABLE 31

YAMHILL COUNTY ESTIMATED GAS TAX REVENUES

Yamhill County Population (1994)	72,800
Population of Yamhill County Cities (1994)	50,690
Population Outside Cities	22,110
Estimated Gallons of Fuel Sold Statewide in 1994	1,511,795,522
Estimated Gallons of Fuel Sold in Yamhill County in 1994*	36,591,532
Revenue Generated by 1 cent County Fuel Tax	\$111,132
Revenue Generated by 2 cent County Fuel Tax	\$222,264
Revenue Generated by 3 cent County Fuel Tax	\$333,395

* based on estimating the percentage of vehicles registered in County (about 2.42 %)

Traffic Impact Fees

Traffic impact fees have become increasingly popular in financing required road improvements associated with new development. Fees are assessed at the time of development approval. The amount is based on the estimated number of vehicle trips generated by the development. Different fees are associated with different land uses. In Oregon, the funds must be used for capital improvements and are not eligible for road maintenance. The revenue generating ability of traffic impact fees in Yamhill County may be limited due to rural land use (with limited potential for new development) along most of the County Road System.

Road User Fees

A road user fee would involve assessing a monthly or yearly fee to residences and non-residential uses for use of the County Road System. This would be similar to the regular water and sewer utility fees residents and businesses pay. Road user fees have already been instituted in the cities of Ashland and LaGrande in Oregon. In Ashland, the fee is \$1 per month per residence or business, while in LaGrande, a fee of \$2.50 per month per water meter is assessed. These fees are strictly used for road maintenance. A road user fee is intended to fund capital projects could be open to challenge if some road users benefit more than others from particular capital projects. Since the costs and benefits of road maintenance are more uniformly distributed, maintenance fits more easily into the utility fee concept. A \$1 fee imposed on dwelling units in the County (outside cities) would generate up to \$7,600 per year.

Full/Partial Private Contributions

Projects are sometimes paid for by private contributions. It is not uncommon to require a developer to build a road, to County standards, and then to deed the road to the County as a condition of development. This practice is used widely throughout the region.

System Development Charges

A system development charge is a means of requiring that new developments pay an equitable portion of the capital costs of improvements needed to accommodate growth. These charges to newly developed property can be used to recover past and/or future growth-related improvements. They may not recover improvements to serve existing users/residents. Therefore, while system development charges are relatively easy to implement and calculate, they will not be adequate for complete program funding. A County-wide SDC should be limited to *arterial* and perhaps a few *major collector* projects and will not be appropriate for the type of improvements where benefits are restricted to the residents near these improved roadways.

A district SDC may be used for lesser road classifications, and the fees may vary from district to district. For example, system development charges can be applied only to new developments within exception growth areas in the County where growth is expected to occur. Different exception growth areas will have different system development charges that will reflect projected growth in that area.

Because SDCs are received by new development, the revenue from these charges will vary with the level of development activity. Experiences have shown that unstable revenues from this source is a major disadvantage of this method.

However, public acceptance of system development charges is high because new development, rather than current residents, pay for the improvements. Usually only the development community opposes this funding alternative on the grounds that it makes new development unaffordable or it inhibits economic development of the County.

General Obligation Bonds

General obligation bonds are supported by a separate property tax levy specifically approved for the purposes of retiring the debt. When the bond issue is paid off completely, the levy is finished. The property tax levy is distributed equally according to assessed value of the voting district. They are generally used to make public improvements benefiting the entire population.

General obligation bonds are usually voter-approved bond issues. They are the least expensive borrowing mechanism available to municipalities.

6.3 Future Financing Scenarios

Six alternative financing scenarios for maintenance and improvement of the Yamhill County Road System have been identified based on the availability of past revenue sources and possible new financing mechanisms. Each scenario represents a basic financing concept with different specific financing mechanisms for maintenance versus capital improvements identified. These scenarios are described below:

1. **Minimal Investment** . This scenario represents a minimal investment to the County Road System in the future by funding both regular maintenance and capital improvements from those revenue sources traditionally used to finance the General Road Fund. This would include revenues from federal timber sales, state highway funds, and sales/rental of county property and services. No new county road bond or other new revenue sources would be applied. With this level of investment, all regular maintenance function could be fully funded.
2. **Current Revenues with New Bond Issue** . This scenario would package the traditional revenue sources with funds from a new county road bond. Similar to the existing situation, the traditional revenues would be used to finance the General Road Fund and the bond money used for capital projects. The extent of capital improvements would be dependent on the amount of the bond.
3. **New Bond Money with Added New Financing Mechanisms** . A new bond issue could be combined with one or more added new financing mechanisms to fund capital projects. This might include a new county gas tax, state lottery funds, or local improvement districts. Traditional revenue sources would be used to finance regular maintenance through the General Road fund.
4. **New Financing Mechanisms without Bond Issue** . New financing mechanisms without a bond issue could be used to finance capital projects through a county gas tax, lottery funds or improvement districts. All of these funds would go into the Capital Project Fund. Traditional revenue sources would be used to finance regular maintenance through the General Road Fund.
5. **New Financing Mechanisms with Private Contributions** . This scenario would use new financing mechanisms (without a bond issue) for capital projects, and finance maintenance through the general fund revenue sources supplemented by voluntary private contributions for certain maintenance functions.
6. **New Financing Mechanisms for both Maintenance and Capital Projects** . New financing mechanisms (without a bond issue) could be used for both capital projects and regular maintenance, with traditional general fund revenue sources also used for maintenance.

Possible added financing mechanisms which could be applied in any of the scenarios include: voluntary private contributions for capital projects, and a traffic impact fee assessed to new developments for roadway improvements.