return to the home page of Grants Pass
" Where The Rogue River Runs "

Master Transportation Plan

Chapters	Description
Chapter 1 (802kb)	Introduction
Chapter 2 (1853kb)	Transportation Today & Tomorrow
Chapter 3 (451kb)	Goals & Policies
Chapter 4 (891kb)	Roadway Element
Chapter 5 (594kb)	Nonmotorized Element
Chapter 6 (227kb)	Other Transportation Modes
Chapter 7 (911kb)	Managing Transportation
Chapter 8 (811kb)	Financing the Plan
Appendices	**Description**
Appendix A (1085kb)	Transportation Planning Rule
Appendix B (196kb)	Roadway Descriptions
Appendix C (2196kb)	Alternatives Considered
Appendix D (2134kb)	Residential Traffic Management
Appendix E (805kb)	Environmental Documentation
Appendix F (1048kb)	Street Improvement Program
Appendix G (1355kb)	Existing Plans & Policies

Grants Pass Urban Area Master Transportation Plan

Adopted
December 1997

Revised by Ordinance 5022
September 25, 2000

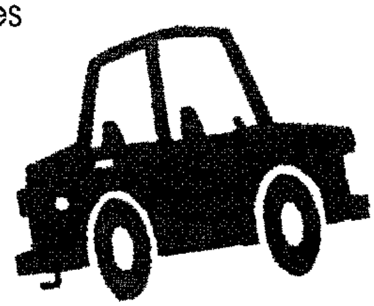
Grants Pass Urban Area

Master Transportation Plan

Mission Statement

The Grants Pass Area Master Transportation Plan has been developed to meet the current and future transportation needs of the Grants Pass Urban Area in ways that:

- Enable the safe, convenient, and efficient movement of people and goods
- Preserve the quality of life, area amenities, local neighborhoods and the natural environment
- Provide for a complete transportation system that allows for choices of travel by walking, bicycle, public transit, and private vehicles
- Ensure the wise use of public and private investments in transportation facilities and services



Key Contributors to the Plan

Management Team

City of Grants Pass

Barton Brierley, AICP
James E. Huber, AICP
Laurel Samson
David Wright, P.E.

Josephine County

Robert Wiegand, P.E.
Robert Hart

Oregon Department of Transportation

Donald C. Galligan, Jr., AICP
Terry Cole
David Boyd

Rogue Valley Council of Governments

Paula Brown
Kevin Wallace
Jon Deason
Maria Harris

Transportation Public Advisory Committee

Herman Baertschiger, Jr.
Mike Becker
Linda Gorham
David Hines
Jim Moffat
Midge Renton
Dennis Schmitke
Henry Stach
Donnett Thomas
Richard Ward

Floren Baldridge
Joe Cook
Larry Helton
Bob Hyatt
Duane Peterson
Pat Rezak
Kelly Shane
Steve Swearingen
Bambi Towers
Laticia White

Consulting Team

KJS Associates, Inc.

Karen Jones Savage

ECONorthwest

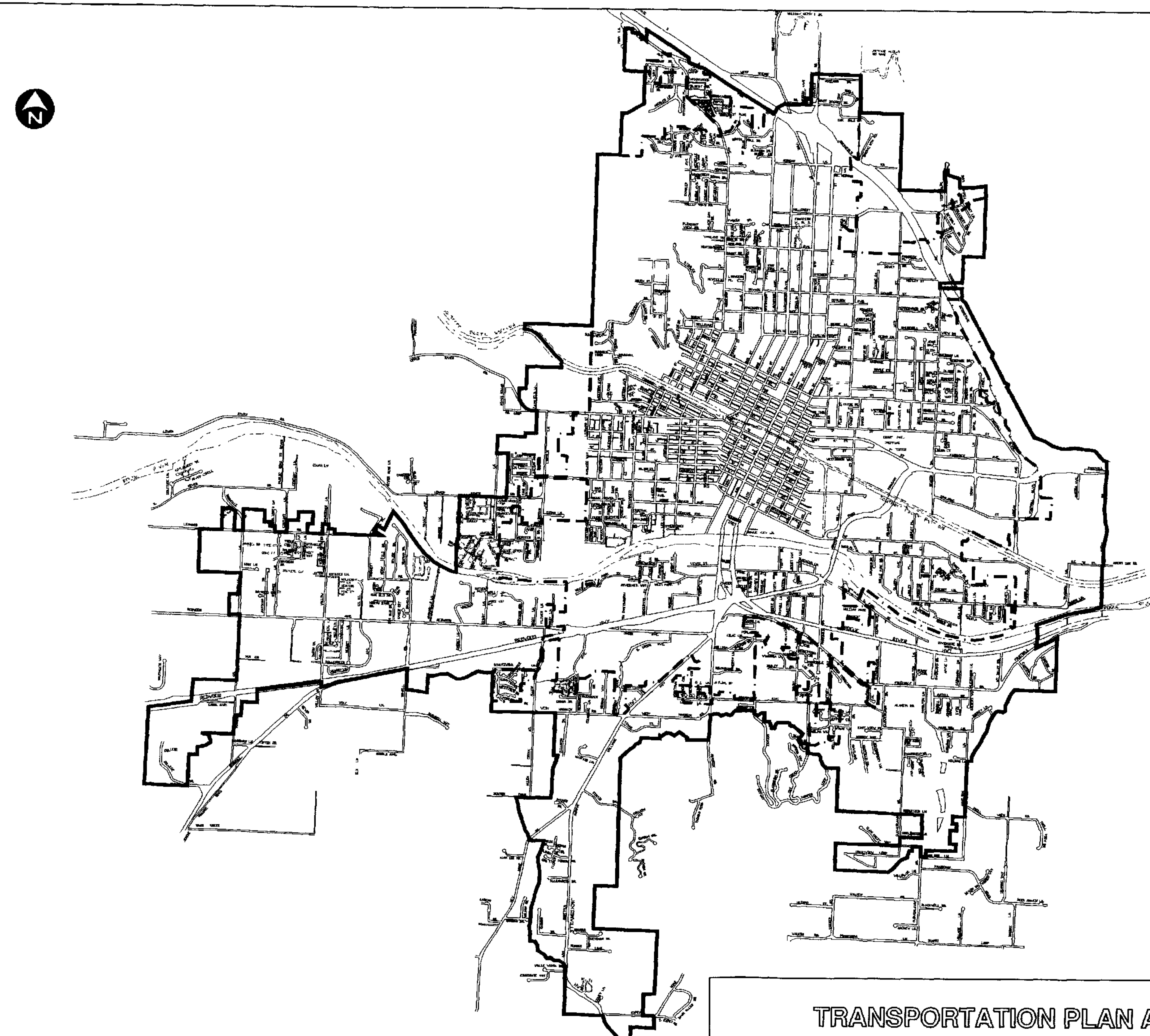
Terry Moore
Wes Reynolds, AICP

CH2M Hill

David Parisi

Jeanne Lawson Associates

Jamie Damon



Legend	
——	Urban Growth Boundary
— — —	City Limits

TRANSPORTATION PLAN AREA

Figure 1-1

Grants Pass Urban Area Transportation Plan

1. INTRODUCTION TO THE GRANTS PASS URBAN AREA MASTER TRANSPORTATION PLAN

This chapter provides an introduction to *the Grants Pass Urban Area Master Transportation Plan (MTP).* It includes a brief description of the planning area, information about why the plan was done, how it was done and who was involved, a summary of the contents and organization of the plan document, and a summary of how the plan complies with the requirements of Oregon's "Transportation Planning Rule."

A View of the Grants Pass Urban Area

Grants Pass, the county seat for Josephine County, is the hub of a large geographic area and the transportation system serving that area. The city (and its immediately surrounding area) contains more than half of the county's population, and is a major service, financial and retail center for people in the County and throughout the Rogue Valley. Grants Pass is located along Interstate 5 at the junction of I-5 and the Redwood Highway, which links I-5 with the Pacific Coast and the heavily traveled US 101 corridor. Figure 1-1 shows the Study Area Boundary, the city limits for Grants Pass and the Grants Pass Urban Area Boundary.

Until the recession of the late 1980's this area experienced rapid population growth. Many of the people who moved to the area in the late 1970's and early 80's were retirees, drawn by the area's livability, recreational opportunities, mild climate and relatively low cost of living. Business and employment opportunities also drew new people into the area during this period.

The Rogue River, which runs through town, offers numerous scenic and recreational opportunities and is known as one of America's finest white water rivers. The Rogue offers excellent fishing opportunities year round, in addition to jet boats, rafting, hiking and backpacking. Grants Pass is near the Siskiyou National Forest, and the lands to the west of town are mostly forested. The combination of resources attracts large numbers of tourists to the area.

The economy in the County is based on timber and wood products, manufacturing, agriculture and tourism. Although historically a timber-based economy, the area has actively worked to diversify the local economy, and has fared better than many other northwest communities that were dependent on timber. Over the last decade, efforts by local business and community leaders to bring a better economic balance and diversity to the area have paid off. Josephine County now has over 20 high tech firms (over half of which have relocated from California), along with new manufacturing, retail, and other businesses.

The local economy is also dependent on the freeway and Redwood Highway tourist traffic that supports restaurant, motel, retail, service and other tourist related businesses centered near the two interchanges with I-5. In the long term, Grants Pass will continue to be the trade and financial center of the County, and the timber and tourist related industries will continue to be important parts of the local economy. Population is likely to continue to grow as new residents are attracted to the area.

The continued growth and diversification of the entire Rogue Valley, along with the state's efforts to promote tourism and other economic growth, will help the area's long term economic health. However, this growth, along with changes in travel needs, will result in increased travel demand. This will place greater demands on the area's transportation system and finances.

Why the Grants Pass Urban Area Master Transportation Plan (MTP) Was Prepared

The MTP will provide a long range "blueprint" for the development of the Grants Pass urban area transportation system to meet the changing transportation needs of the area. The last transportation plan for the community was completed in 1981. Since that time there have been many changes in the area, its economy, local transportation conditions and needs. After the economic downturn of the 1980's, the Grants Pass area has begun growing again. New businesses, residents, and visitors contribute to increased needs for improved transportation facilities and services. Concerns about traffic congestion, travel safety, and the wise investment of resources in the area's transportation system all contributed to the desire to update the transportation plan.

In addition, there have been significant changes in state and federal requirements related to the planning and provision of transportation. Transportation plans, which formerly consisted of road building programs, must now consider transit, transportation systems management, ridesharing and other forms of travel demand management, provisions for travel by non-motorized transportation modes, and the relationship between land development and transportation needs.

The State of Oregon (through the "Transportation Planning Rule") now requires that local areas prepare transportation plans that are directly linked with local land use plans. The federal Intermodal Surface Transportation Efficiency Act (ISTEA) imposes new planning rules and requires multimodal strategies to address transportation problems in the most efficient and cost effective manner. The federal Clean Air Act (CAA) provides yet another incentive to revise transportation strategies to encourage the use of efficient travel modes (e.g., carpooling, transit, bicycling and walking), encourage the reduction in use of the single occupant vehicle, and encourage the reduction of the total vehicle miles traveled (VMT) in the area.

This type of legislation was enacted to try to avoid some of the problems caused by suburban sprawl. Low density land development results in less efficient use of land and the public infrastructure (e.g., water systems, sewers and other utilities, and roads) built to support it. Careful integration of land use and transportation decisions and investments will ensure better use of limited resources and a better return on public investments in community services and facilities.

How the Plan Was Prepared and Who Was Involved

The City of Grants Pass, Josephine County, the Oregon Department of Transportation (ODOT), and the Rogue Valley Council of Governments (RVCOG), worked together to develop this plan. Representatives from each of these agencies formed the Management Team for the Plan. The Management Team worked closely with the community to identify community needs and priorities, and to develop a plan that responds to the community's input. A Transportation Public Advisory Committee was actively involved throughout the development of the plan to provide information and guidance; the Committee included representatives from area neighborhoods, the business community, and special transportation interests such as public transit and bicyclists. Several public meetings were held during the development of the Plan to discuss various aspects of the plan with the larger community; a project newsletter was widely distributed, and project staff met with members of the community to discuss various issues during the plan development.

Work began on this plan in December, 1993, with an initial identification of transportation problems and issues, collection of available data and information about the transportation system, organization of the Management Team and the Transportation Public Advisory Committee (TPAC), and development of the project's work plan and schedule. The work was organized into four major phases, each of which concluded with a major product or report. These phases included:

Phase I - Laying the Foundation - The purpose of Phase I was to complete a "strategic assessment" of the current transportation situation in the Grants Pass Urban Area. This phase included: reviewing existing plans and policies of the participating agencies, summarizing existing data and information, documenting federal, state and local planning requirements, designing the community involvement process and other key tasks, and identifying transportation issues in the study area.

Phase II - Building the Plan Framework - Phase II included the development of the planning tools, information and procedures needed to complete the Plan. Specific tasks in this phase included: collecting and analyzing additional data, developing the travel demand forecasting model (Figure 1-2), inventorying and analyzing the operation of the current transportation system, and identifying current and future transportation needs for the area.

Phase III - Testing the Options - Work in Phase III concentrated on the development and evaluation of potential transportation improvements to address the needs identified in Phase II. A range of transportation improvements were considered to address traffic congestion, safety, "missing links" in the transportation system, travel demand management, and transportation system management.

Phase IV - Completing the Plan - In Phase IV the draft and final versions of the MTP were completed, along with necessary documentation and environmental analysis of the proposed improvements.

Figure 1-2: Travel Demand Forecasting Model

The Gravity Model

There are two basic components of a traffic model:

- Transportation Network - Arterial and Collector Streets, Geometry, Function, Transportation Analysis Zones (TAZ)
- Land Use Data - Dwelling Units and Employment

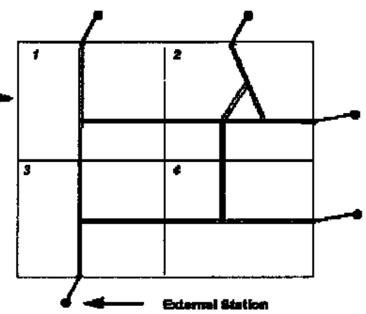
Current Inventories and Forecasts are Developed by TAZ

- Productions: Dwelling Units - Single Family, Apartments, etc.
- Attractions: Employment - Retail, Industrial, Service, etc.

The model assigns trips to roadways, and evaluates travel:

- Within each zone
- Between zones
- Between this system and the "outside"

Large establishments with numerous employees (ie. Fred Meyer) have more weight, and attract more trips than smaller businesses with fewer employees.



Trip distribution is influenced by:

- Distance
- Friction (Traffic Signals, Speed, Access)
- Intervening Opportunities

Uses of the Gravity Model:

- Evaluation of future road construction projects, from the addition of a new traffic signal to the construction of new roads
- Identify the impact of future development on the transportation system.
- Air quality emissions analysis.

What a travel forecasting model can do:

- Indicate trends for traffic growth
- Serve as a tool for evaluating system alternatives

What a travel forecasting model cannot do:

- Precisely replicate all traffic counts
- Project with certainty the exact future traffic for individual roads

Summary of the Master Transportation Plan

The Master Transportation Plan covers the various topics required under state legislation for the transportation plan. The technical data used to prepare this plan are in separate documents. The Transportation Plan is divided into eight chapters which cover the various topics required under state legislation; these are described below.

Chapter 1: Introduction to the Grants Pass Urban Area Master Transportation Plan includes background information about the Grants Pass Urban Area, the development of the transportation plan, and a summary of how the plan complies with the requirements of Oregon's Transportation Planning Rule.

Chapter 2: Transportation Today and Tomorrow in the Grants Pass Urban Area includes a description of the existing transportation system and its utilization, a summary of projected growth in employment and population in the study area, forecasts of future travel demand, and a summary of current and future transportation needs and deficiencies.

Chapter 3: Goals and Policies includes the goals and policies for the Master Transportation Plan. These goals and policies are organized around seven major themes or cornerstones of the plan.

Chapter 4: Roadway Element includes a map identifying the new functional classifications for the roadways in the study area, descriptions of the planned transportation improvements, and street design guidelines for the study area.

Chapter 5: Non-Motorized Element describes the improvements planned to serve bicyclists and pedestrians in the study area.

Chapter 6: Other Transportation Modes describes the public transit services available in the area, along with information about air service, intercity rail and bus utilities.

Chapter 7: Managing Transportation includes information about managing transportation demand to foster more efficient travel modes, and managing the transportation system (through access management strategies and other system management techniques) to ensure the efficient use of transportation facilities and services.

Chapter 8: Financing the Plan includes an assessment of costs to implement the plan, a summary of financial resources, and financing strategies to implement the plan.

How the Master Transportation Plan Will be Used

The MTP will provide guidance for a variety of decisions that public agencies and private developers will make. It includes a specific set of transportation system improvements that need to be implemented to serve current and anticipated transportation needs in the Grants Pass Urban Area. As funds become available, the City, County and State will implement the planned improvements. The MTP also provides a good basis to coordinate the actions of different public agencies to address transportation needs in the most efficient and cost effective way.

In addition, the MTP provides guidance for private developers. As development occurs, transportation system improvements will be made in accordance with the long range transportation system plan, using a common set of design standards. The MTP provides advance information for developers to help in the design and financial planning for their developments. The City and County can use the MTP to ensure that there is consistency between land use and transportation decisions as the long range transportation system plan and Comprehensive Plan are carried out.

Compliance with Oregon's Transportation Planning Rule

In April 1991, the Oregon Land Conservation and Development Commission (LCDC), with the concurrence of the Oregon Department of Transportation (ODOT), adopted the Transportation Planning Rule (TPR) to implement the Statewide Planning Goal 12. The basic purpose of the TPR is *"to provide and encourage a safe, convenient and economic transportation system"* in Oregon. Underlying objectives of the TPR are to:

- Reduce the reliance of travelers on the private automobile,
- Encourage the use of other modes of travel,
- Get the maximum use out of transportation facilities and services through efficient transportation system management, and
- Reduce and manage the demand for travel through more efficient forms of development that reduce the need for travel and better integrate land use and transportation decisions.

The TPR requires local jurisdictions to prepare and adopt a Transportation Systems Plan by May 8, 1997 (Section 660-12-055 (2)). The Plan must identify transportation facilities and services adequate to meet identified state, regional and local transportation needs for the next 20 years. The TPR includes very specific requirements, along with recommendations for the preparation of these transportation plans. Requirements vary depending on the size of the community, whether the study area is part of a Metropolitan Planning Organization (MPO), and whether there is public transportation. The TPR requirements described below are for an urban area: (1) with population greater than 25,000, (2) that is not part of a Metropolitan Planning Organization, and (3) does not have a public transportation system.

Specific requirements for the Grants Pass Urban Area Transportation Plan are listed below in Table 1-1, along with a description of how this Plan complies with the requirements. A copy of the TPR is included in Appendix A of this plan; this copy includes amendments to the TPR adopted on September 11, 1995.

Table 1-1: Compliance with TPR Requirements

TPR Requirements/Recommendations	Grants Pass Urban Area MTP Compliance
660-12-015 Preparation and Coordination of a Transportation Systems Plan	
(3) Cities and counties shall prepare, adopt and amend local TSP's for lands within their planning jurisdiction in compliance with this division	Upon adoption by the City of Grants Pass and Josephine County this Transportation Plan will meet the requirements of this section.
(a) Local TSPs shall establish a system of transportation facilities and services adequate to meet identified local transportation needs and shall be consistent with regional TSPs and adopted elements of the state TSP (b) Where the regional TSP or element of the state TSP have not been adopted, the city or county shall coordinate the preparation of the local TSP with the regional transportation planning body and ODOT to assure that regional and state transportation needs are accommodated (4) Cities and counties shall adopt regional and local TSPs required by this division as part of their comprehensive plans... (5) The preparation of TSPs shall be coordinated with affected state and federal agencies, local governments, special districts, and private providers of transportation services	Local, regional and state transportation plans were reviewed as part of the development process for this transportation plan. (See Appendix G: Summary of Existing Plans and Policies.) The recommendations in this plan are consistent with the plans of other agencies. Upon its adoption, the Transportation Plan will be incorporated as the transportation element of the affected jurisdictions' comprehensive plans. This Plan was coordinated through a Project Management Team that included representatives from the City, County, ODOT, and Rogue Valley Council of Governments. In addition a Transportation Public Advisory Committee was established to help guide the development of the plan. This Committee included representatives of the community, including the current (private) provider of public transit services, and taxi service.

TPR Requirements/Recommendations	Grants Pass Urban Area MTP Compliance
660-12-020 Elements of Transportation Systems Plans	
(2) The TSP shall include the following elements: (a) A determination of transportation needs (b) A road plan for a (network) system of arterial and collectors and standards for the layout of local streets and other important non-collector street connections... consistent with ...state and regional TSP's...standards for the layout of local streets shall provide for safe and convenient bike and pedestrian circulation...new connections to arterial and state highways shall be consistent with designated access management categories... (c) A public transportation plan which: (A) describes public transportation services for the transportation disadvantaged and identifies service inadequacies, (B) describes intercity bus and passenger rail service...(C) for areas within an urban growth boundary which have public transit services, identifies existing and planned transit trunk routes... (d) A bicycle and pedestrian plan for a network of bicycle and pedestrian routes throughout the planning area...	This Plan includes a description of the existing transportation system for the Grants Pass Urban Area in Chapter 2, along with a determination of transportation needs and deficiencies. The Plan includes recommended transportation system improvements and upgrades in Chapter 4, along with the functional classifications for the roadways in the Urban Area, and guidelines for street classification and design. Public transportation is addressed in Chapter 6, along with intercity bus and rail connections, aviation, and pipelines and utilities. Currently public transportation is provided by Rogue Valley Transit, a privately owned and operated entity. They also provide taxi service, and shuttle service to the airport in Medford. Special transportation services for the disadvantaged are provided by the Josephine County Community Services. There does not appear to be a feasible way to finance and implement a public transit system to serve the Grants Pass Urban Area. Consequently the community will have to rely on existing services. The non-motorized element of the plan is included in Chapter 5. This identifies existing and planned improvements for bicyclists and pedestrians.

TPR Requirements/Recommendations	Grants Pass Urban Area MTP Compliance
660-12-020 Elements of Transportation Systems Plans (continued)	
(e) An air, rail, water and pipeline transportation plan... (f) For areas within an urban area containing a population greater than 25,000 persons a plan for transportation system management and demand management. (h) Policies and land use regulations for implementing the TSP... (i) For areas within an urban growth boundary containing a population greater than 2500 persons, a transportation financing program	Chapter 7 of the Plan includes the transportation system management and transportation demand management elements of the Plan. Chapter 3 of the Plan includes goals and policies addressing a wide range of topics, including integration of land use and transportation decisions, and implementation of the plan. Chapter 9 includes a financial analysis and strategies for implementing the plan.
(3) Each element identified in subsection (2)(b)-(d) of this section shall contain (a) an inventory and general assessment of existing and committed transportation facilities and services by function, type, capacity and condition. (b) A system of planned transportation facilities, services and major improvements...functional classifications of planned facilities and services and their planned capacities and levels of service (c) A description of the location of planned facilities, services and major improvements, establishing the general corridor within which the ...improvements may be sited... (d) Identification of the provider of each transportation facility or service	Chapter 2 of the Plan includes a description of the existing transportation system in the study area, along with information about current operating conditions, an analysis of future travel demand (for 20 years), and the identification of current and future deficiencies. Chapter 4 includes tables and maps describing the planned improvements, and indicating their location, the primary beneficiaries of the improvements, and the primary and secondary funding sources expected to be used for each improvement.

TPR Requirements/Recommendations	Grants Pass Urban Area MTP Compliance
660-12-025. Complying with the Goals in Preparing Transportation System Plans	
(1) Except as provided in subsection (3) of this section, adoption of a TSP shall constitute the land use decision regarding the need for transportation facilities, services, and major improvements and their function mode, and general location. (2) Findings of compliance with applicable statewide planning goals and acknowledged comprehensive plan policies and land use regulations shall be developed in conjunction with the adoption of the TSP. (3) A local government or MPO may defer decisions regarding function, general location or mode of a refinement plan...	The goals and policies for the Grants Pass Urban Area Master Transportation Plan were developed to be compatible with those in the Oregon Statewide Plan, as well as local and regional transportation and land use goals and policies. The MTP specifically address statewide goals such as reducing the reliance on private automobiles, encouraging other modes of travel, coordinating among multiple jurisdictions, and integrating land use and transportation decisions.
660-12-030 Determination of Transportation Needs	
(1) The TSP shall identify transportation needs relevant to the planning area and the scale of the transportation network being planned including: (a) State, regional, and local transportation needs. (b) Needs of the transportation disadvantaged. (c) Needs for movement of goods and services... (2) ...Local governments preparing local TSPs shall rely on the analyses of state and regional transportation needs in adopted elements of the state TSP and adopted regional TSPs.	Chapter 2 of the Plan includes an identification of needs and deficiencies related to congestion and capacity, safety, accessibility and transportation system connectivity, functional classifications and sub standard facility needs, public transportation and special transportation services, non-motorized transportation, aviation, rail, and trucks.

TPR Requirements/Recommendations	Grants Pass Urban Area MTP Compliance
660-12-030 Determination of Transportation Needs (continued)	
(3) Within urban growth boundaries, the determination of local and regional transportation needs shall be based upon: (a) Population and employment forecasts and distributions which are consistent with the acknowledged comprehensive plan...forecasts and distributions shall be for 20 years... (b) Measures adopted pursuant to 660-12-045 to encourage reduced reliance on the automobile	In preparing the plan land use and transportation documents and plans from state, regional, and local governments were reviewed, and relevant findings were incorporated into interim documents and reports prepared for the MTP. Travel demand forecasts were prepared by the RVCOG for a 20 year planning horizon based on the population and employment forecasts derived from adopted comprehensive plans.
660-12-035 Evaluation and Selection of Transportation System Alternatives	
(1) The TSP shall be based upon evaluation of potential impacts of system alternatives that can reasonably be expected to meet the identified transportation needs in a safe manner and at a reasonable cost with available technology. The following shall be evaluated as components of system alternatives: (a) Improvements to existing facilities or services (b) New facilities and services, including different modes or combinations of modes... (c) Transportation system management measures; (d) Demand management measures; and	A series of alternatives were developed to respond to the needs and deficiencies identified in Chapter 2. These included a no action alternative, as well as seven different action alternatives. The action alternatives included a mix of improvements to existing facilities and new facilities.

TPR Requirements/Recommendations	Grants Pass Urban Area MTP Compliance
660-12-035 Evaluation and Selection of Transportation System Alternatives (continued)	
(e) A no-build alternative... (3) The following standards shall be used to evaluate and select alternatives. (a) The transportation system shall support urban and rural development by providing types and levels of transportation facilities and services appropriate to serve the land uses identified in the acknowledged comprehensive plan. (b) The transportation system shall be consistent with state and federal standards for protection of air, land and water quality... (c) The transportation system shall minimize adverse economic, social, environmental and energy consequences. (d) the transportation system shall minimize conflicts and facilitate connections between modes of travel. (e) The transportation system shall avoid principal reliance on any one mode of transportation and shall reduce principal reliance on the automobile... (8) Where existing and committed transportation facilities and services have adequate capacity to support the land uses in the acknowledged comprehensive plan, the local government shall not be required to evaluate alternatives as provided in this section.	Chapter 5 includes a list of the evaluation criteria used to evaluate the alternatives. These include criteria such as: Performance (congestion relief, safety, network completion, encouraging other travel modes), Impacts (on the natural and built environments and construction impacts), Financial Considerations (cost effectiveness and funding feasibility), Engineering/Design Feasibility (technical elements, and required structures), and Community Support (compatibility with plans, and degree of community support).

TPR Requirements/Recommendations	Grants Pass Urban Area MTP Compliance
660-12-040 Transportation Financing Program	
(1) For areas within an urban growth boundary containing a population greater than 2,500 persons, the TSP shall include a transportation financing program (2) A transportation financing program shall include: (a) a list of planned transportation facilities and major improvements; (b) A general estimate of the timing for planned transportation facilities and major improvements; (c) Determination of rough cost estimates for the transportation facilities and major improvements identified in the TSP	Chapter 8 of the Plan includes a financial strategy and the full report on the financial analysis done for the Plan. Chapter 4 of the Plan includes a table identifying all of the planned improvements, their planning level cost estimates, priority, timing for construction, beneficiaries, and primary and secondary funding sources.
(3) The determination of rough cost estimates is intended to provide an estimate of the fiscal requirements to support the land uses in the acknowledged comprehensive plan and allow jurisdictions to assess the adequacy of existing and possible alternative funding mechanisms ...the transportation financing plan shall include a discussion of the facility provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of ...improvements.	Information about current and past funding trends is included in the financial report in Chapter 8, along with forecasts and an assessment of likely future income for transportation purposes.

TPR Requirements/Recommendations	Grants Pass Urban Area MTP Compliance
660-12-040 Transportation Financing Program (continued)	
(5) The transportation financing program shall implement comprehensive plan policies which provide for phasing of major improvements to encourage infill and redevelopment of urban lands prior to facilities which would cause premature development of urbanizable areas or conversion of rural lands to urban uses.	
660-12-045 Implementation of the Transportation System Plan	
(1) Each local government shall amend its land use regulations to implement the TSP. (2) Local governments shall adopt land use or subdivision ordinance regulations, consistent with applicable federal and state requirements, to protect transportation facilities, corridors and sites for their identified functions. Such regulation shall include: (a) Access control measures...consistent with the functional classification of roads and consistent with limiting development on rural lands to rural uses and densities; (b) Standards to protect future operation of roads, transitways and major transit corridors; (c) Measures to protect public use airports... (d) A process for coordinated review of future land use decisions affecting transportation...	The Transportation Plan will be adopted as an element of the comprehensive plan. Additional local ordinances will be prepared consistent with TPR requirements.

TPR Requirements/Recommendations	Grants Pass Urban Area MTP Compliance
660-12-045 Implementation of the Transportation System Plan (continued)	
(e) A process to apply conditions to development proposals to minimize impacts and protect transportation facilities, corridors or sites. (f) Regulations to provide notice to public agencies providing transportation facilities and services, MPOs and ODOT of: (A) land use applications that require public hearings; (B) Subdivision and partition applications; (C) Other applications which affect private access to roads; and (D) Other applications...which affect airport operations. (g) Regulations assuring the amendments to land use designations are consistent with...the TSP. (3) Local governments shall adopt land use or subdivision regulations for urban areas and rural communities...to provide for safe and convenient pedestrian, bicycle and vehicular circulation... (a) Bicycle parking facilities as part of new multi-family residential developments of four units or more, new retail, office and institutional developments, and all transit transfer stations and park and ride lots.	The Transportation Plan will be adopted as an element of the comprehensive plan. Additional local ordinances will be prepared consistent with TPR requirements.

TPR Requirements/Recommendations	Grants Pass Urban Area MTP Compliance
660-12-045 Implementation of the Transportation System Plan (continued)	
(b) On-site facilities shall be provided which accommodate safe and convenient pedestrian and bicycle access from within new...developments...to adjacent residential areas and transit stops, and to neighborhood activity centers... (c) Where off site road improvements are otherwise required as a condition of development approval, they shall include facilities accommodating convenient pedestrian and bicycle travel, including bicycle ways along arterials and major collectors. (6) In developing a bicycle and pedestrian circulation plan...local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas... (7) Local government shall establish standards for local streets and accessways that minimize pavement width and total right-of-way consistent with the operational needs of the facility...consider and reduce excessive standards for local streets...to reduce the cost...provide for more efficient use of urban land, provide for emergency vehicle access while discouraging inappropriate traffic volumes and speeds, and which accommodate convenient pedestrian and bicycle circulation...	The Transportation Plan will be adopted as an element of the comprehensive plan. Additional local ordinances will be prepared consistent with TPR requirements.

TPR Requirements/Recommendations	Grants Pass Urban Area MTP Compliance
660-12-050 Transportation Project Development	
(2) Regional TSPs shall provide for coordinated project development among affected local governments...	Policies in Chapter 3 address interagency coordination in planning and implementing transportation improvements
660-12-055 Timing of Adoption and Update of Transportation System Plan; Exemptions	
(2) for areas outside an MPO, cities and counties shall complete and adopt regional and local TSPs and implementing measures by May 8, 1997.	Adopted on December 3, 1997.
(3) Within two years of adoption of this rule affected cities and counties shall, for urban areas of 25,000 or more, adopt land use and subdivision ordinances or amendments...	Additional ordinances and subdivision amendments will be developed following adoption of the transportation plan.
(4)(b) Affected cities and counties that do not have acknowledged plans and land use regulations (that comply with this rule as of April 12,1995) shall apply relevant sections of this rule to land use decisions....	
(5) Cities and counties shall update their TSPs and implementing measures as necessary to comply with this division at each periodic review subsequent to initial compliance with this division…	The policies in Chapter 3 include provisions to update the transportation plan on a regular basis.
660-12-060 Plan and Land Use Regulation Amendments	
(1) Amendments to functional plans, acknowledged comprehensive plans, and land use regulations which significantly affect a transportation facility shall assure that allowed land uses are consistent with the identified function, capacity, and level of service of the facility…	The Master Transportation Plan will be incorporated into the Comprehensive Plan for Grants Pass, and appropriate revisions will be made to the Josephine County Plan, as well as other local planning documents and regulations.

2. TRANSPORTATION TODAY AND TOMORROW IN THE GRANTS PASS URBAN AREA

This chapter includes a description of the existing transportation system in the study area, and information about current travel patterns and operating conditions for this system. Information about current levels of congestion (or "Level of Service") is included on major roadways and at major intersections, along with the information about accidents. Major traffic generators in the study area are identified, along with areas where future growth is expected. In addition, this chapter includes a summary of transportation system needs and deficiencies related to: functional classification revisions, substandard facilities, high accident locations, missing links in the roadway system, public transportation, nonmotorized travel (bicycles and pedestrians), aviation, rail, and truck.

Existing Transportation System in the Grants Pass Urban Area

The transportation system in the study area is made up of several discrete elements, including roadways, public transit services, sidewalks, trails and other facilities for bicyclists and pedestrians, facilities and services for rail and aviation, and pipelines. The following sections and figures provide a summary of the study area transportation system.

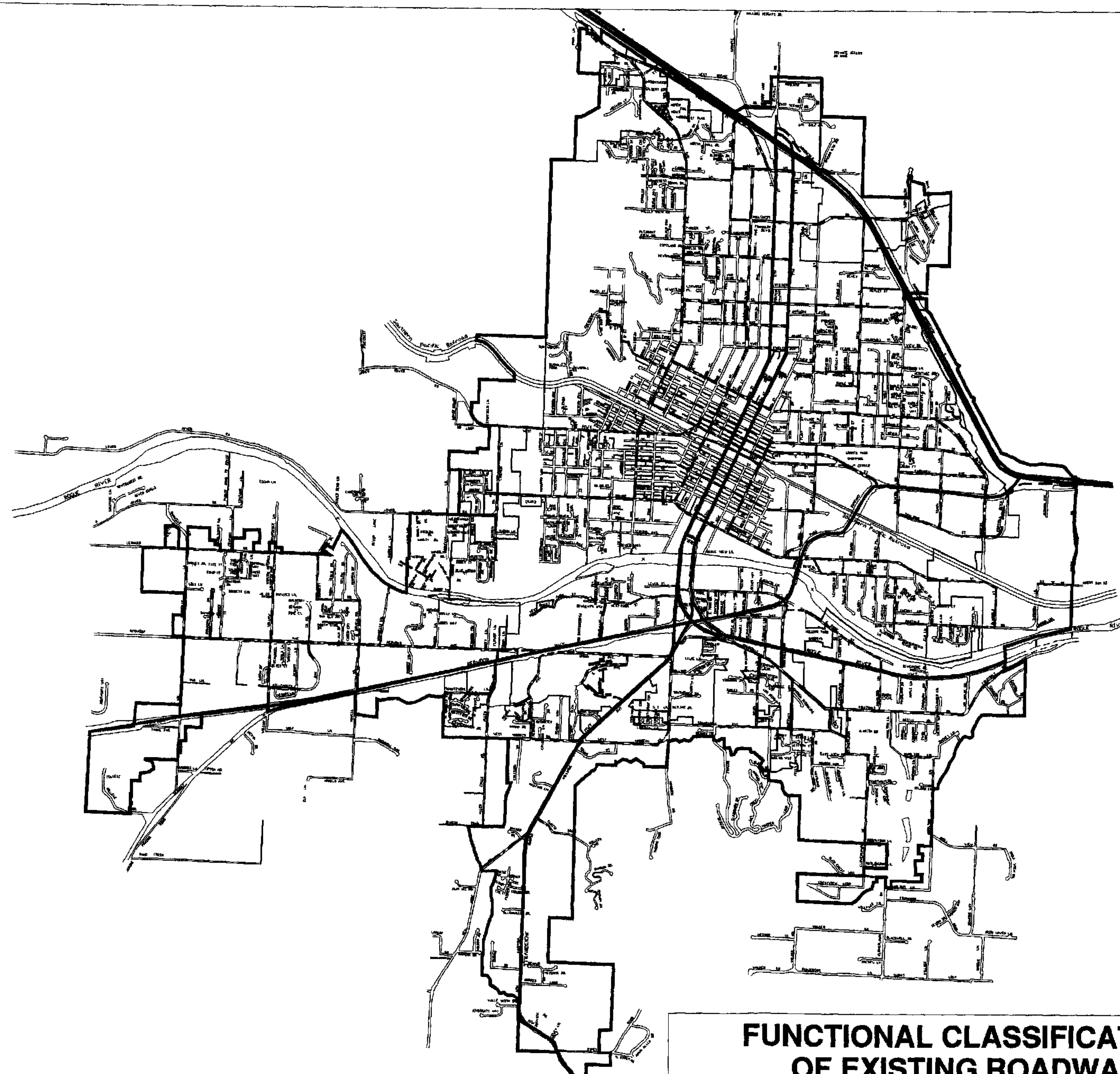
Functional Street Classification

The street and highway system is composed of a hierarchy of streets designed to provide for mobility (or the movement of people and goods), and access to adjacent properties in an efficient manner. The classification of streets is done to determine the degree to which individual streets (or segments of streets) should emphasize mobility versus property access, two functions which are potentially in conflict. Providing a high degree of access to property (which means allowing for traffic to leave/enter the roadway freely) impedes the ability of the roadway to move traffic; providing for large volumes of moving traffic, and/or high speeds for travel impedes access to properties.

Depending on the function of the roadway, it will be designed and operated differently to facilitate through movement of traffic or traffic entering/leaving the roadway. The Grants Pass Urban Area functional classification system is currently comprised of five different types of facilities. They are described in Table 2-1. A map showing the current functional classification of the roadways in the study area is included in Figure 2-1, and detailed descriptions of the roadways are included in Appendix B to this Plan. It should be noted that Figure 2-1 does not include proposed roadway extensions.

Table 2-1: Functional Classification of Roadways

Facility Type	Function or Emphasis - Mobility vs Property Access
State Highways (includes freeways, highways, and principal state routes)	Mobility - with no direct access to adjacent properties from the roadway, and limited access to arterial streets - generally serves intercity travel at relatively high travel speeds - right of way (ROW) between 60-230 feet, 2-6 travel lanes varies
Arterial Streets 6000+ ADT	Mobility - with access to other arterials and minimal direct property access - generally continuous for long distances providing connections with highways, major destinations and other arterials - serves longer trips (5+ miles) - speeds of 40-45 mile per hour - ROW from 60-100 feet, 2-4 travel lanes
Collector Street 3000-6000 ADT	Mobility - connecting neighborhoods to each other and to major arterials and/or freeways - generally continuous facilities for moderate distances, serving shorter trips of 2-5 miles in length, providing a moderate level of access to adjacent properties - ROW 50-80 feet with 2 travel lanes
Local Collector Streets 1000-3000 ADT	Access - and local circulation within neighborhoods to "collect" and "distribute" trips and connect to higher level arterials - providing a relatively high level of access to adjacent properties - typically 2 lanes with 50-60 feet of ROW
Local Access Streets <1000 ADT	Access - to adjacent properties - designed for short trips within neighborhoods connecting to collectors and higher level arterials - 2 lanes with ROW up to 60 feet



Functional Classifications

State Highway	
Arterial	
Collector	
Local Collector	
Local	
Private	

FUNCTIONAL CLASSIFICATIONS OF EXISTING ROADWAYS

Figure 2-1

Grants Pass Urban Area Transportation Plan

Major Traffic Generators

Existing average daily traffic (ADT) volumes for roadways in the study area were obtained from the Oregon Department of Transportation's (ODOT) Traffic Engineering Section and Transportation System Monitoring Unit, the Josephine County Public Works Department, and from the City of Grants Pass Engineering Division. The counts were obtained over the period from 1991 to 1993. ADT for individual facilities that were counted during this period is included in Appendix B.

As shown in that table, traffic volumes vary greatly by facility, and in some cases, by sections of facility. This is due in part to the location and characteristics of major "traffic generators", i.e., land uses that tend to generate or attract lots of traffic. Major traffic generators within the study area are shown in Figure 2-2. They tend to be concentrated along the four state highway corridors , as described below.

- **Highway 99** (6th and 7th Streets) - strip commercial area, business park, and hospital between Morgan Lane and Midland Avenue; medical services between Midland Avenue and Manzanita Avenue; downtown commercial and business area between A Street and M Street.
- **Redwood Highway** - strip commercial area, business park, and County Fairgrounds between Highway 99 and Allen Creek Road; industrial area in the vicinity of Dowell Road.
- **Grants Pass Parkway** - commercial area between Agness Avenue and Beacon Drive; industrial area north and south of the railroad tracks and west of Grants Pass Parkway.
- **Rogue River Highway** - strip commercial area between Maple Lane and Carnahan Drive.

Truck Traffic

There are no designated truck routes within the Grants Pass Urban Area. With the exception of local deliveries, most of the truck traffic can be classified as through or inter-regional trips that must utilize portions of the local street system for travel between state highways and I-5. Truck volume data was obtained from ODOT's Traffic Engineering Section and Transportation System Monitoring Unit, based on vehicle classification counts performed between 1991 and 1993.

Average daily truck volumes on **Redwood Highway/6th Street** traveling southbound between I-5 and A Street are around 550 trucks per day; this accounts for about 3.6 percent of total daily traffic volume. Between A and D Streets the volumes of trucks is about the same, but accounts for only 2.7 percent of the daily traffic volumes in this area (due to higher total traffic volumes in this location.) In the vicinity of Harbeck Road and Jacksonville Highway (where there is two way traffic) truck volumes are approximately 550/day, accounting for about 2.5 percent of daily traffic. On the northbound segment (7th Street), there are about 500 trucks/day between M and E streets (2.1 percent of daily traffic), and between A Street and I-5 there are around 520 trucks/day, representing about 3.5 percent of daily traffic volumes.

On **Grants Pass Parkway** there are about 350 trucks/day between Rogue River Highway and M Streets (around 3.5 percent of daily traffic.) There are about 400 trucks/day on **Rogue River Highway**, which is about 2.1 percent of total daily traffic.

Public Transportation

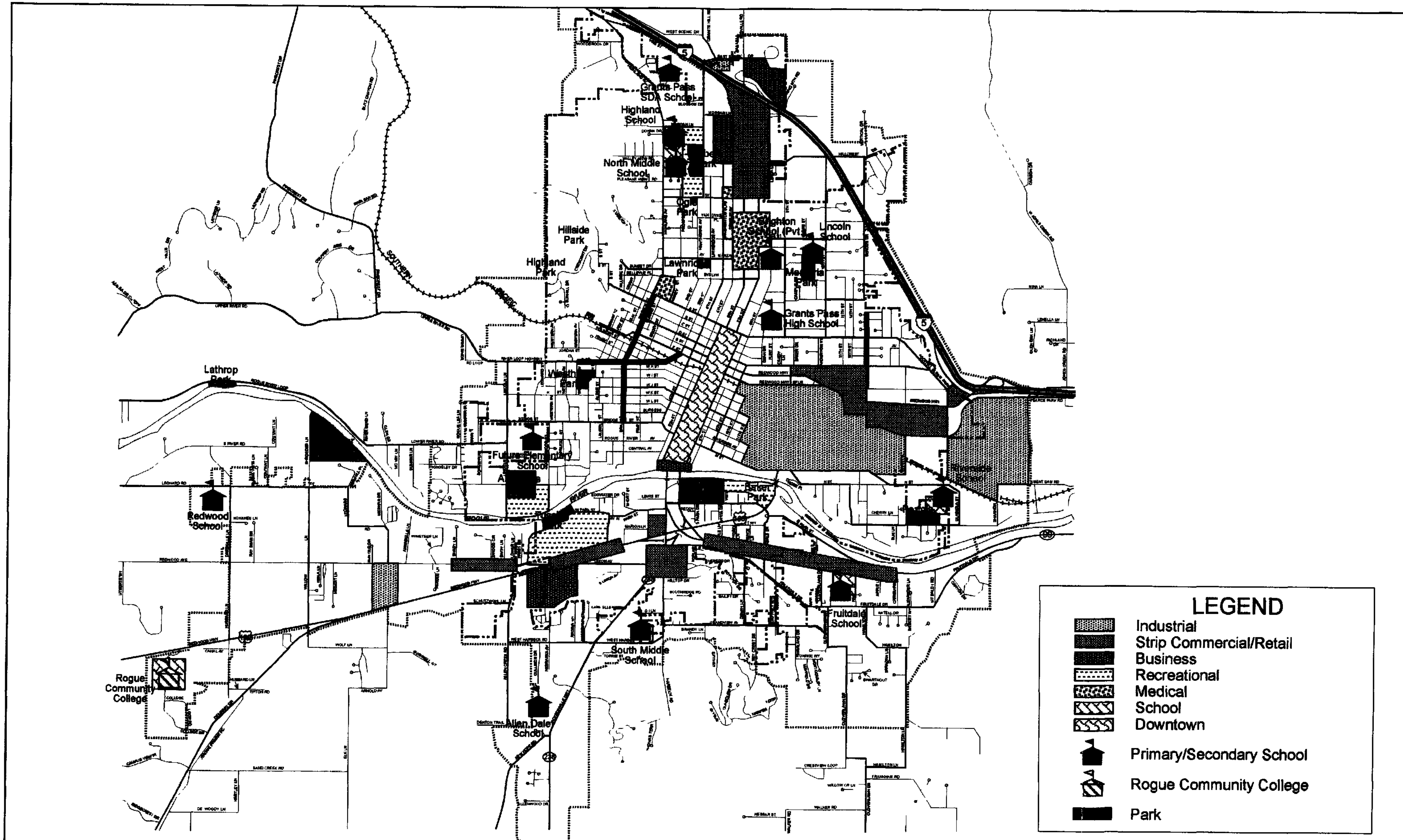
Public transportation within the Grants Pass Urban Area is currently provided by the Rogue Transit System. This is operated by a private operator (Rogue Transportation, Inc.), which also provides local taxi service and shuttle service to the airport in Medford. There is only one transit route in the area, configured as a continuous loop. Figure 2-3 shows the current route. It operates along Highway 99 from Morgan Lane through the downtown area to Redwood Highway, then along Redwood Highway to the Rogue Community College, and along A, D and F Streets between the downtown and Beacon Drive.

Service is provided Monday through Friday between 6:00 a.m. and 6:00 p.m., and on Saturday between 8:00 a.m. and 5:00 p.m.. The minimum headway (or time between buses) is one hour. The fare is one dollar. Existing ridership on the Rogue Transit System is around 100 passengers/day.

There is a strong community interest in providing public transit services, especially to meet the transportation needs of people who do not, or cannot, provide their own transportation (such as the young, the elderly, disabled people and people without access to a private vehicle.)

The current situation in Grants Pass is unique due to the fact that transit service is being provided by a private, rather than public agency. Since the transit service is provided by a private "for profit" operator, this limits the types of public funds that could potentially be used to finance transit service. The operator must rely on fares and other revenue to operate the system, which limits the amount of service that can be provided to the community, and impacts the long term prospects for continued public transit services in the area.

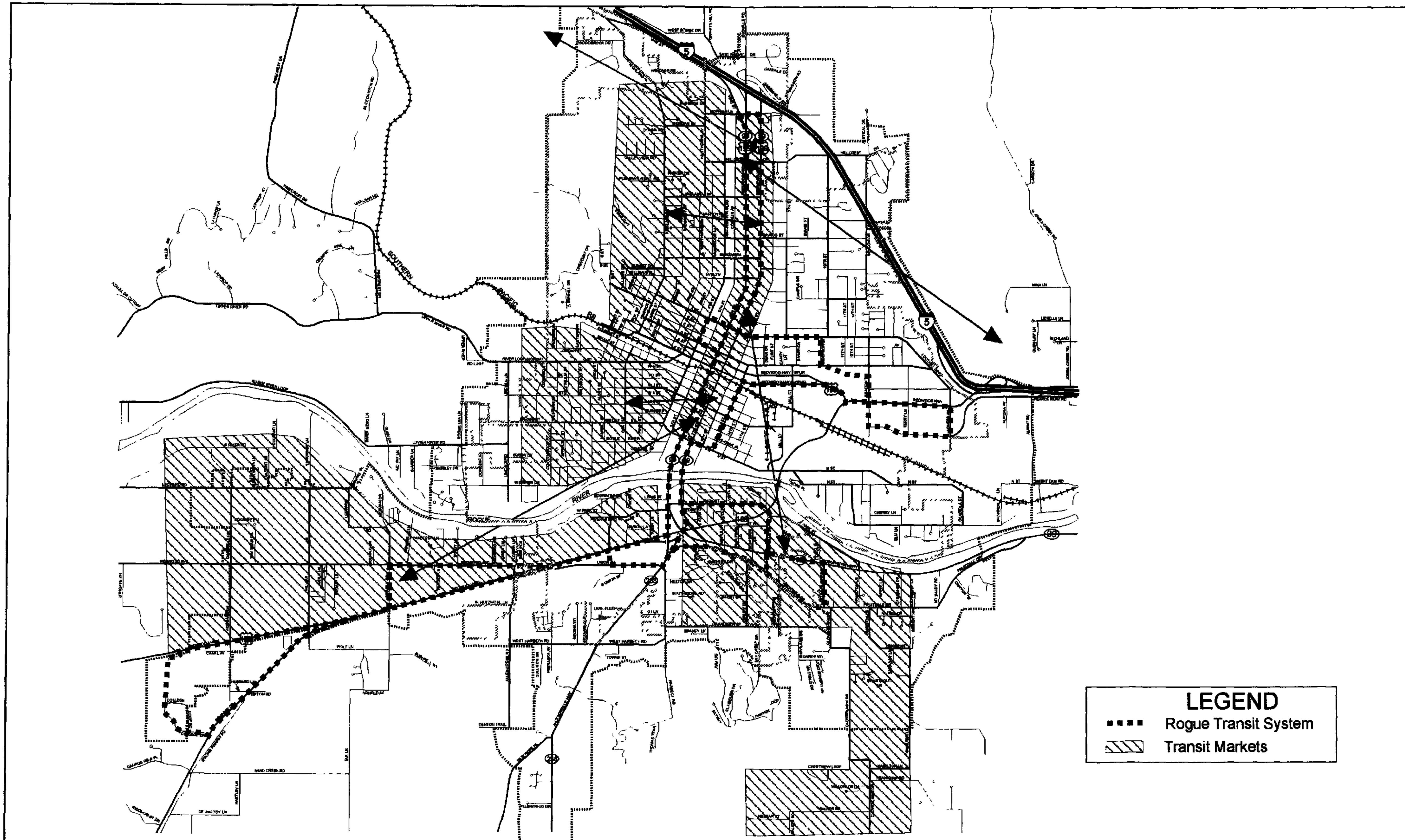
In addition to the public transit service, other transportation services are provided by some social service agencies, and by private tourist operations. However, these services are restricted to the clients of the agency (or business) providing the service and are usually limited to specific trip purposes and/or locations. Regularly scheduled transportation services operating in the area include:



Existing Major Traffic Generators

Figure 2-2

Grants Pass Urban Area Transportation Plan



Transit Route and Markets

Figure 2-3

Grants Pass Urban Area Transportation Plan

- **Grants Pass Taxi** - operating five round trips per day between Grants Pass, Rogue River and Medford - $12.00 fare each way - primary market is trips to/from the Medford/Jackson Airport
- **Greyhound/Trailways** - operating four trips/day in each direction between Grants Pass and Medford, with connections to point beyond - $5.50 fare each way;
- **Josephine County Community Services** - provides transportation for eligible individuals over the age of 60 who cannot drive or have no access to an automobile - recipients receive one trip/month between Grants Pass and Medford for a $3.00 fare - they can schedule two trips/month to the VA Hospital in Roseburg for a $5.00 fare;
- **Western Transportation Lines** - operates morning and afternoon shuttle services between Medford, Gold Hill, Rogue River, Grants Pass and Cave Junction - fares range from $4.00 - $8.00 - principal market is students going to/from Rogue Community College.

It is likely that community needs for public transit will increase due to: (1) overall growth in the area's population; (2) changes in the composition of the population, with more people becoming dependent on public transit (especially the elderly); (3) increased emphasis on travel by means other than the private automobile to reduce congestion and total VMT (vehicle miles traveled); and (4) requirements to improve air quality and address other environmental problems related to automobile use.

Nonmotorized Travel Modes

Bicycles

Given the large number of tourists visiting the area, the numerous area attractions, and the relatively flat terrain, there is a lot of potential for bicycle travel within the study area. Many roadways within the Grants Pass Urban Area are suitable for bicycle travel. State highways and many arterial routes generally have adequate shoulders for bicycles or sufficient pavement width to accommodate bicyclists safely. On most collector streets and lower classification roadways there is generally less pavement width; however, traffic volumes are less and there is not as much competition between motorized and nonmotorized travel modes.

There are some designated bike routes within the study area that have been striped on the pavement and/or signed to identify their presence and location. Routes considered the most desirable for bicycle travel according to the 1992 Josephine County Bicycle Guide are shown in Figure 2-4. In the Guide, routes are divided into four categories, defined by the Josephine County Bikeway Advisory Committee: (1) paved roads with minimal or no shoulders, (2) paved shoulders outside the "fog line" 2-4 feet wide, (3) paved shoulders 4 feet and wider with possible bike lane designation, and (4) separated bike path.

One of the largest generators of bicycle traffic in the area is the Rogue Community College. It is served by a separated bike path or wide shoulders on street until the 6th and 7th Street bridges over the Rogue River. At that point bicyclists must share the travel lanes with vehicular traffic. There are separate bike paths along the 7th Street/Jacksonville Highway (between Park Street and Union Avenue).

Pedestrians

Figure 2-5 illustrates the system of sidewalks in the Grants Pass Urban Area. Pedestrian facilities in the area consist of sidewalks along one or both sides of the roadway. The sidewalk system is the most complete in the downtown core and along the major commercial corridors. In the older residential neighborhoods sidewalks are limited, or non-existent. A more extensive system of sidewalks exists in newer residential tracts and neighborhoods, but there are few pedestrian connections between neighborhoods.

Pipelines

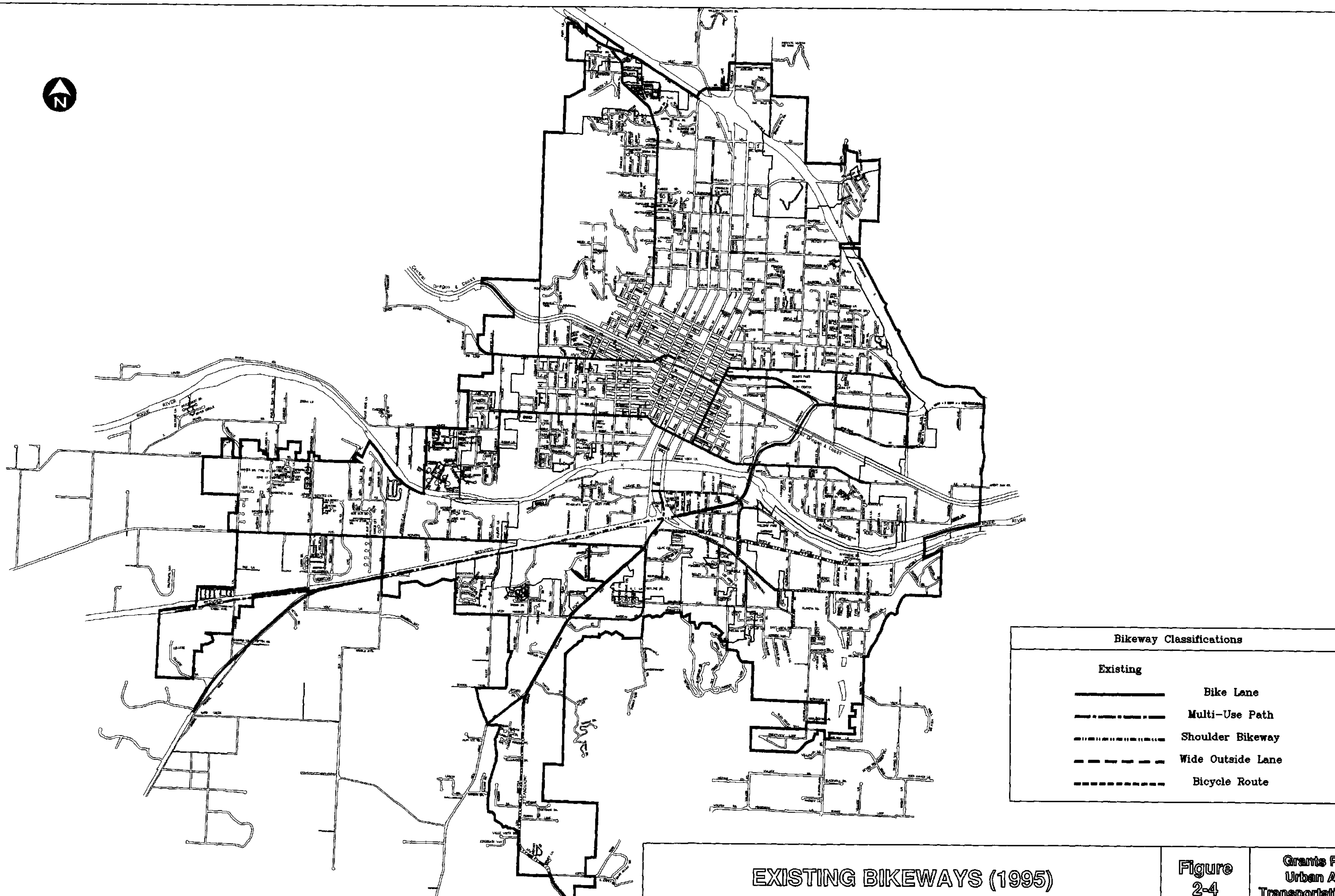
Within the Grants Pass Urban Area there are two natural gas pipelines. One natural gas transmission line is operated by the Northwest Pipeline Corporation and originates in Eugene, Oregon. This line is used to transport natural gas over long distances to local utilities and distributors.

The second pipeline is classified as a natural gas distribution utility line and is operated by W. P. Natural. It runs between Grants Pass and Ashland, Oregon, providing for distribution of natural gas to these local communities.

Aviation

Grants Pass Airport is located six miles northwest of Grants Pass, located on approximately 200 acres. Access to the airport is via Merlin Road, Monument Drive and Brookside Boulevard, which connect to I-5. The airport is classified by the Federal Aviation Administration at a "General Utility" general aviation airport, serving business, commercial, instructional and personal aircraft uses. The airport, owned and operated by Josephine County, has one paved runway (75 feet by 4000 feet). There are no scheduled commercial air services at the Grants Pass Airport. The closest airport providing commercial passenger service is located in Medford, about 30 miles south/east of Grants Pass.

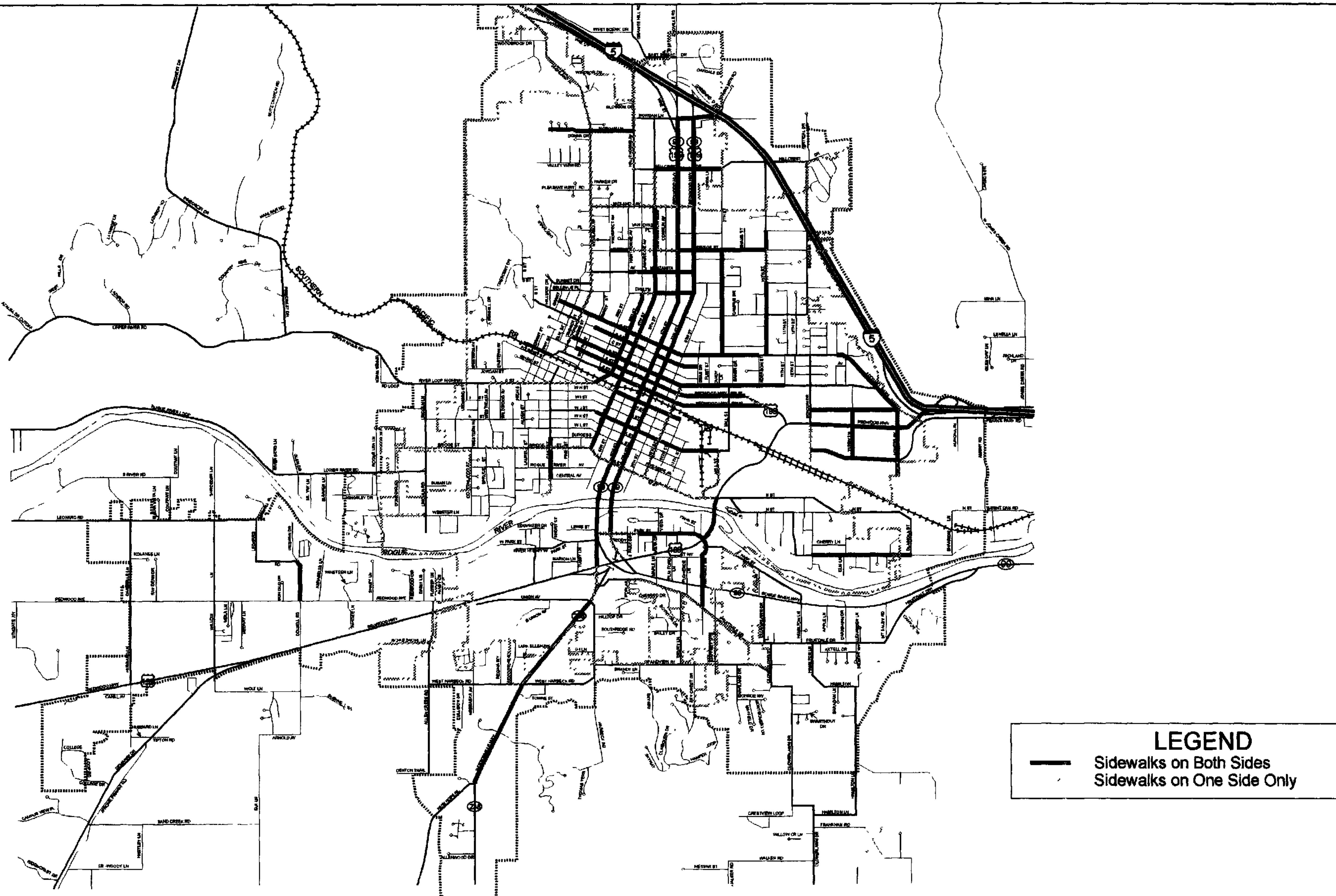
In 1990-91 there were approximately 100 aircraft based at the Grants Pass Airport. These aircraft are generally small, single-engine, and multi-engine, fixed-wing aircraft. Aircraft activity was last recorded during the calendar year 1986, when there was an estimated 24,500 "aircraft operations." Of this, single engine aircraft operations activity accounted for around 97 percent of total operations, with multi-engine aircraft accounting for the balance.



EXISTING BIKEWAYS (1995)

Figure 2-4

Grants Pass Urban Area Transportation Plan



Current Sidewalk Locations

Figure 2-5

Grants Pass Urban Area Transportation Plan

Rail

Since 1994 rail transportation in the Grants Pass Urban Area has been operated by RailTex, and is limited to the movement of freight. Runs originating in Grants Pass serve destinations between Eugene and Medford. There is one run per day (Monday through Saturday) from: Eugene to Medford, Medford to Eugene, and Grants Pass to White City; there is one run per day (Monday through Friday) from Grants Pass to Merlin and Glendale.

Passenger rail service to the area has not operated since 1953, when Southern Pacific (the operator at that time) terminated its passenger service operations between Roseburg, Oregon and Dunsmuir, California. The only passenger service in Southern Oregon is operated by Amtrak via its Coast Starlight service; however the closest station is in Klamath Falls. This service operates on a daily basis with a single northbound and southbound train, and is oriented towards long distance travel.

Existing Operating Conditions

This section provides information on the existing operating conditions for the transportation system in the study area. It includes information on roadway and intersection "levels of service" (a measure of the degree of congestion), safety, accessibility, and system connectivity.

Roadway and Intersection Level of Service

Level of service (LOS) provides an indication of the quality of traffic operations at an intersection or roadway segment. It measures the degree of congestion and/or delay experienced by vehicles at that location. LOS ranges from "A" (excellent operating condition) to "F" (severe congestion). LOS analysis is done for either daily or peak hour periods. Daily LOS was used for the analysis of roadway sections; and peak hour LOS was used for the intersection analysis. For planning purposes, LOS of "A", "B", or "C", is regarded as acceptable, with only minor and/or occasional delays being experienced by motorists. LOS "D" represents fair roadway operations, with moderate levels of congestion. LOS "D" is often used as the minimum acceptable standard to identify when congestion related problems exist, and is used for the planning and design of transportation facilities. Facilities or intersections operating at LOS "E" or "F" represent unstable traffic flow conditions where improvements will be needed.

In addition to LOS, another measure of operating conditions for traffic is the V/C Ratio which measures the volume of traffic on a given roadway segment against the "design capacity" of that roadway. The capacity of a roadway is measured by the number of travel lanes, posted speed limit, and operating characteristics (e.g. presence/absence of traffic signals, turn lanes, driveways, etc.). A V/C ratio of .70 means that the roadway is carrying 70 percent of its maximum design capacity, and is operating at LOS "C".

Roadway Level of Service

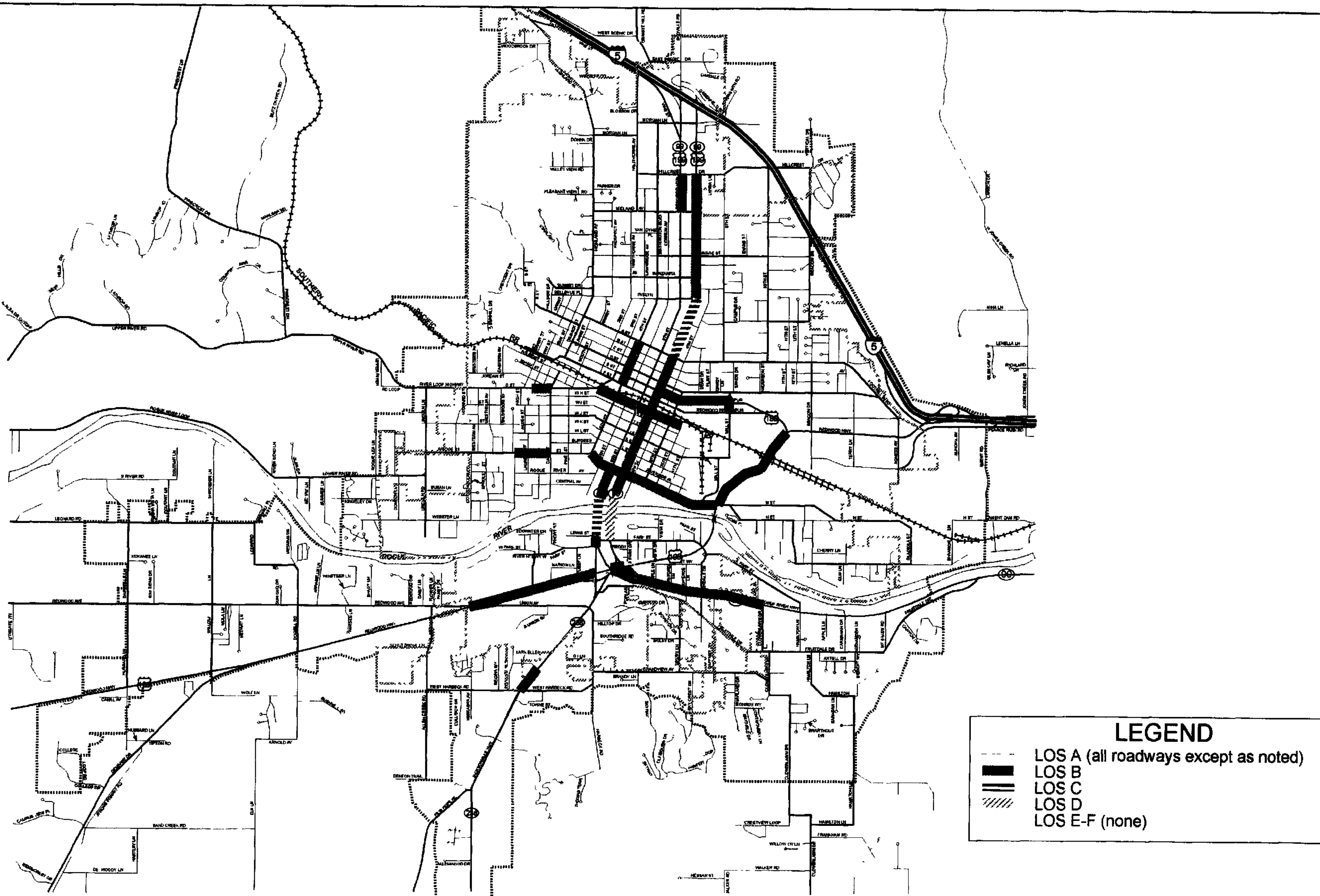
Table 2-2 summarizes the general operating characteristics and volume to capacity ratio associated with each level of service for roadways. Figure 2-6 shows the existing LOS for roadways in the study area. As can be seen, the majority of the roadways operate at LOS "B" or better. Segments operating at LOS "C" include 7th Street between A Street and Evelyn Street, and the Rogue River Highway from Redwood Highway to Florence Lane. Currently only one road is operating at LOS "D", 7th Street between Voorhies Avenue and Lewis Street, which is the bridge crossing the Rogue River.

Table 2-2: Level of Service Definitions

LOS	Description of Conditions	Ratio of Traffic Volume to Roadway Capacity
A	Free flowing traffic conditions with no delays for motorists	less than 0.40
B	Acceptable traffic conditions with minor and/or infrequent delays for motorists	0.41-0.66
C	Moderate traffic flow, acceptable conditions with relatively minor and/or short term delays for motorists	0.67-0.80
D	Generally stable traffic conditions with moderate and/or occasional delays for motorists - Standard used for the Grants Pass Urban Area MTP	0.81-0.90
E	Moderate to serious traffic congestion with frequent delays for motorists	0.91-0.99
F	Serious traffic congestion, unstable traffic flow, and lengthy delays for motorists	Greater than 1.00

Intersection Level of Service

The intersection analysis used for this study was based on the methodologies described in *the Highway Capacity Manual (HCM) Special Report 209.* The common measure of effectiveness for signalized intersections is "average stopped delay", which is the total time vehicles are stopped at an intersection approach, during a specified time period, divided by the number of vehicles departing from the approach in the same time period. Table 2-3 provides information on the traffic conditions and vehicle delay for each LOS.



1994 Roadway Levels of Service - Daily

Figure 2-6

Grants Pass Urban Area Transportation Plan

Table 2-3: Intersection Level of Service Descriptions - Signalized Intersections

LOS	Vehicle Delay Range (seconds/vehicle)	Description of Conditions
A	0.0-4.9	Traffic is light - most vehicles arrive when light is green and don't stop at all
B	5.0-14.9	Conditions are similar to A, but more vehicles are forced to slow and/or stop for the light
C	15.0-24.9	Significant number of vehicles must stop, but intersection clears for most signal cycles
D	25.0-39.9	Longer delay, poor traffic progression, intersection may not clear with signal cycles forcing motorists to wait through multiple cycles
E	40.0-59.9	Cycle failures become frequent with motorists having to wait through multiple signal cycles
F	60.0 or Greater	Lengthy delays at signals with motorists waiting through several cycles to get through intersection

For the analysis of unsignalized intersections, *the 1985 Highway Capacity Manual* procedures were used. This procedure involves a sequential analysis based on "gaps" in the major traffic stream that would allow for movement through the intersection. Once all of the traffic impedance and gap utilization have been subtracted from the potential capacity for the approach, the remainder is termed "reserved capacity", i.e. an indication of the number of additional vehicles that could get through the intersection. Table 2-4 provides information on characteristics of the LOS for unsignalized intersections; Figure 2-6 illustrates the existing LOS for roadways, and Figure 2-7 shows LOS for intersections in the study area.

Table 2-4: Unsignalized Intersections

LOS	Reserve Capacity	Expected Delay for Minor Street Traffic
A	> 400	Little or no delays
B	300-399	Short traffic delays through intersection
C	200-299	Average delays for traffic through the intersection
D	100-199	Moderate to long delays for traffic through the intersection
E	0-99	Long delays for traffic through the intersection
F	0	Extreme delays for traffic with severe congestion or backup at the intersection, this may warrant consideration of a signal for the intersection

Twenty six intersections were selected for evaluation for this study. Of these, 24 are signalized and two are controlled by stop signs. Table 2-6 shows the 1994 existing LOS and future year 2015 LOS at each of these intersections. As shown in the table, most of the signalized intersections operate at LOS "C" or better during the evening peak hour. The only exceptions are the intersection of Grants Pass Parkway/Beacon Drive and Redwood Highway/Jacksonville Highway (LOS "F"). All of the unsignalized intersections operate at LOS "F". Table 2-7 shows the turning movement level of service for existing and future conditions at all of the twenty six intersections analyzed.

Safety

Equally important to the movement of people is the safety of the transportation system they are using. The City of Grants Pass, Josephine County, and ODOT keep extensive accident records for the roadways within their respective jurisdictions. Two standard "measures" of traffic safety includes vehicular accidents per million vehicles entering intersections (MEV) for intersections, and accidents per million vehicle miles traveled (MVM) for roadway segments. Using data supplied by the local agencies, annualized accident rates were determined for intersections and roadways in the study area. Figure 2-8 illustrates the high accident locations in the study area.

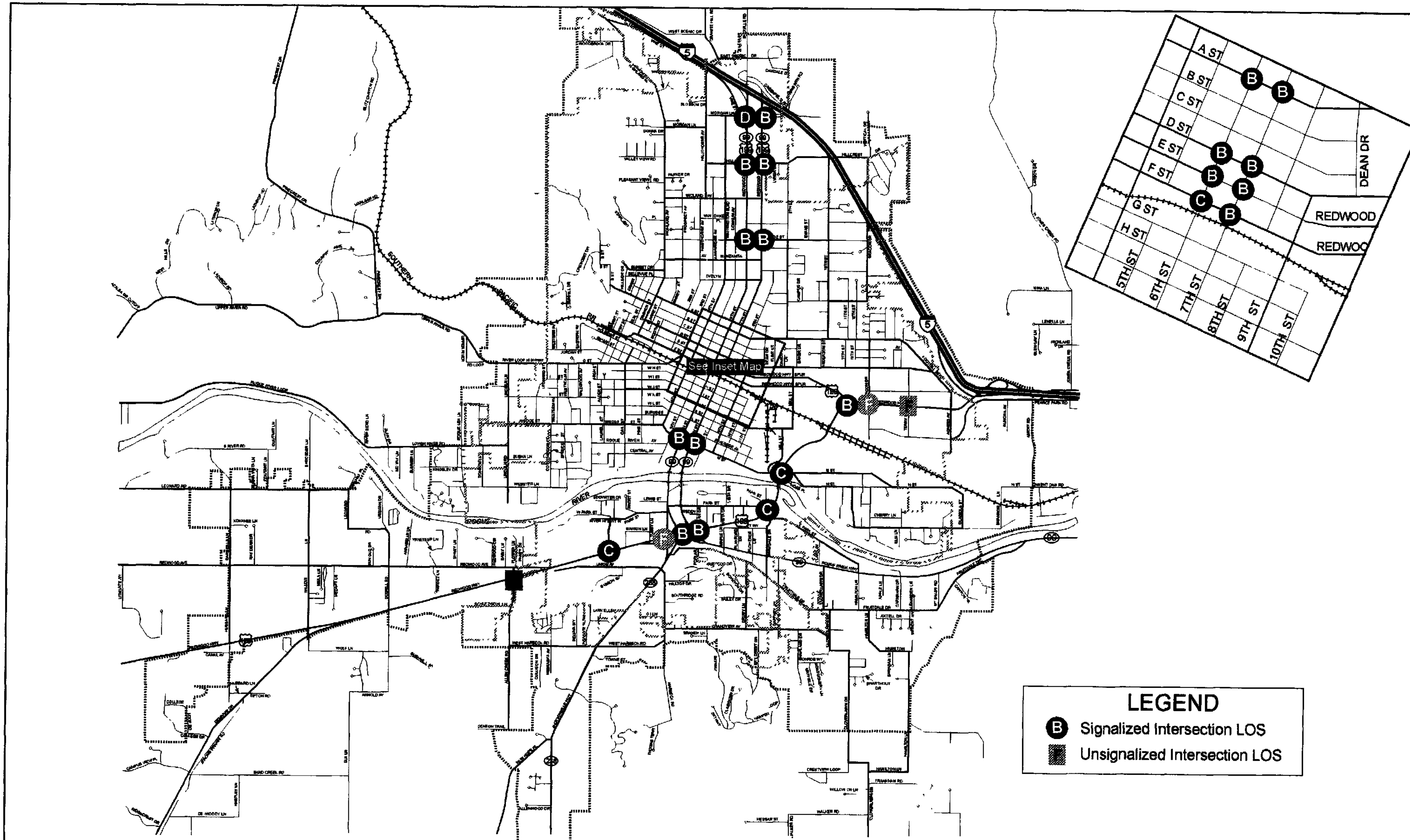
The highest accident locations were identified based on locations with accident rates one standard deviation above the average for the urban area. The highest annual accident rate for roadway segments occurs on F Street between 6th and 7th Streets, followed by J Street from 7th to 9th Streets. Redwood Highway from Ringuette to Willow had the highest number of actual accidents per year, but the higher traffic volumes resulted in lower accident rates. Intersections with the highest accident rate and largest number of accidents occurs at the intersection of 6th Street and D Street.

Transportation Needs and Deficiencies

A complete list of transportation needs and deficiencies was prepared at the beginning of this project. This provided the basis for the identification of potential transportation improvements to be included in the Master Transportation Plan. The results of the needs analysis are summarized in this section according to: congestion and capacity, safety, accessibility, system connectivity, functional classification and sub-standard facilities, public transportation, nonmotorized transportation, aviation, rail, and truck.

Congestion and Capacity Needs and Deficiencies

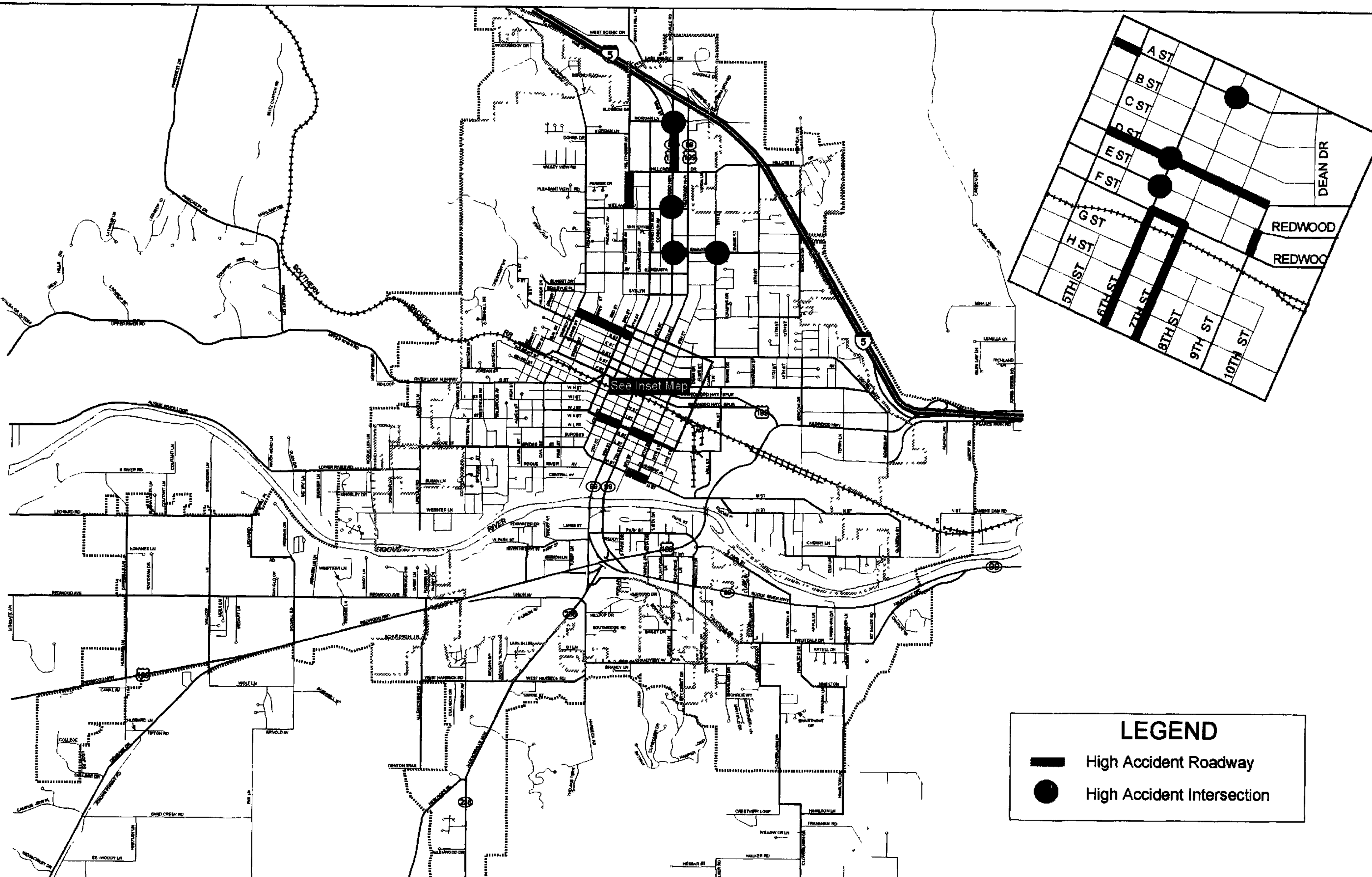
The Grants Pass Urban Area roadway system is currently operating at a good level of service with the majority of roadway segments operating at LOS "B" or better. Two roadway segments operate as LOS "C" (7th Street between A Street and Savage Street and the Rogue



1994 Intersection Level of Service - Peak Hour

Figure 2-7

Grants Pass Urban Area Transportation Plan



Existing High Accident Locations

Figure 2-8

Grants Pass Urban Area Transportation Plan

River Highway from Redwood Highway to Florence Lane.) Only one roadway segment operates at LOS "D", the bridge crossing the Rogue River on 7th Street.

Of the 32 intersections evaluated for this study, the majority operate at LOS "C" or better The only exceptions are the Redwood Highway southbound at Morgan Lane intersection (LOS "D"), and the intersection of 7th Street and Redwood Highway (LOS "E"). All unsignalized intersections are operating at LOS "A".

Travel Demand Forecast - 2015

As the area grows travel demand will increase and congestion will become worse in some locations. To assess future congestion and capacity deficiencies travel demand forecasts were prepared. The year 2015 was chosen as the planning horizon for the master plan to identify future demographic trends from which the travel forecasts were derived. A 20 year time span was chosen because beyond this time line population, employment and future travel patterns become much more difficult to predict and subsequently generate less reliable travel demand forecasts.

Future year (2015) traffic conditions were determined by adding the estimated number of vehicle trips generated by future land uses within the Grants Pass Urban Area to the existing traffic volumes. New trips generated by future land uses were distributed to destinations within and outside the Grants Pass Urban Area. They were then assigned to the street and highway system. This was done through the use of the RVCOG travel forecasting model for the Grants Pass Urban Area. The travel forecasts were calculated for daily trips, and all travel model data was summarized by traffic analysis zone.

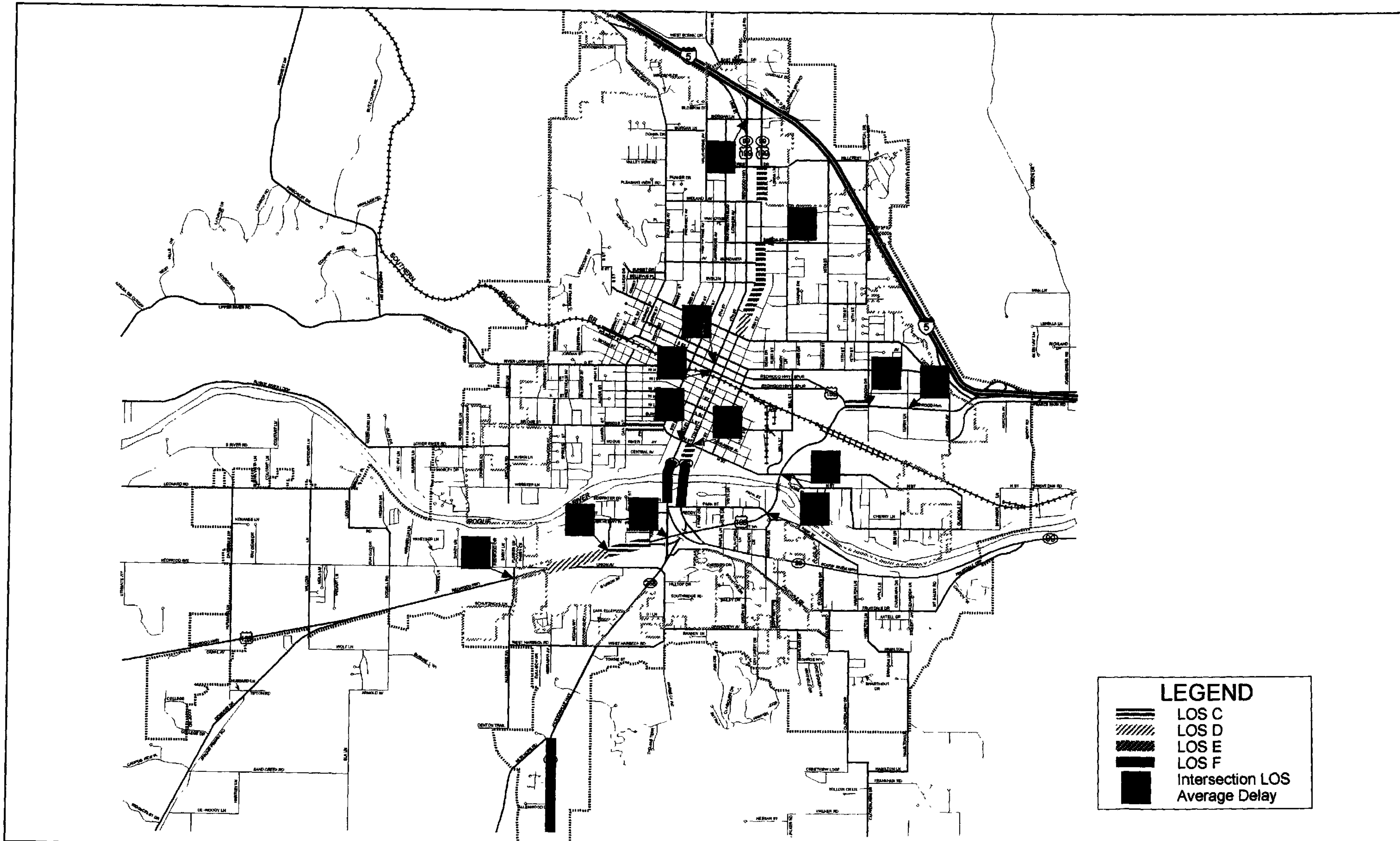
The future daily traffic forecasts were assigned to the "no-build" alternative to identify future congestion. The "no-build" alternative includes the existing transportation system, plus any additions or improvements that are funded at this time. The "no-build" provides a base to be used to assess future conditions and a point of comparison for the evaluation of proposed action alternatives. After a check of the initial assignments for "reasonableness" the level of service was calculated for the area roadway network, and changes in the LOS between existing conditions and the forecast conditions in 2015 were identified.

Figure 2-9 illustrates the levels of service associated with the no-build alternative. Under this alternative several roadway segments will operate at LOS "C" or worse by 2015. These locations have been summarized in Table 2-5. Traffic conditions in the future show a heavy orientation of east-west traffic on Redwood Highway and the Grants Pass Parkway for east-west travel; and on 6th Street and 7th Street for north-south travel. Because of the limited capacity of these facilities (and the resulting heavy congestion on the 6th and 7th Street bridges across the Rogue River) much of the traffic that might have been destined to the downtown area, or traveling beyond it via 6th and 7th Streets, appears to be diverted to I-5 and the Grants Pass Parkway. The traffic congestion on the Jacksonville Highway south of New Hope Road is caused by a roadway capacity reduction as the roadway narrows from four lanes to two lanes at this point.

Table 2-5: "No Build" Alternative - Roadway LOS in the Year 2015

Location	Level of Service (LOS)
Redwood Highway - Fairgrounds Road to Ringuette Street	D
Bridge Street - Oak Street to 4th Street	C
Grants Pass Parkway - Highway 199 Spur to Beacon Drive	C
7th Street - Hillcrest Lane to Midland Avenue	C
7th Street - Savage Street to Jackson Street	C
7th Street - "M" Street to Voorhies Avenue	C
Redwood Highway - Redwood Avenue to Ringuette Street	D
7th Street - Jackson Street to "A" Street	D
Jacksonville Highway - New Hope Road to Study Area Boundary	F
6th Street - Voorhies Avenue to Lewis Avenue	F
7th Street - Voorhies Avenue to Park Street	F

Of the twenty-six intersections evaluated in this analysis, eleven would have a degradation in the LOS. These include: 6th Street/"M" Street, 6th Street/Redwood Highway, 7th Street/"M" Street, and Jacksonville Highway/Redwood Highway. Table 2-6 includes a summary of existing intersection LOS and forecasted LOS in the year 2015.



Future Congestion 2015 - No Build Scenario

Figure 2-9

Grants Pass Urban Area Transportation Plan

Table 2-6: "No Build Alternative" - LOS at Intersections - Existing & Year 2015

Location	Existing LOS	2015 LOS
6th/Morgan Lane	D	F
7th/Morgan Lane	B	B
6th Street/"E" Street	B	C
7th Street/"E" Street	B	B
7th Street/"F" Street	B	B
6th Street/"M" Street	B	C
7th Street/"M" Street	B	F
6th Street/Redwood Highway	B	C
7th Street/Redwood Highway	B	B
Grants Pass Parkway/Redwood Highway Spur	B	B
Jacksonville Highway/Redwood Highway	B	F
Redwood Highway/Allen Creek Road	A	E
Redwood Highway/Ringuette	C	F
Grants Pass Parkway/E. Park Street	C	D
Grants Pass Parkway/"M" Street	C	C
Grants Pass Parkway/Beacon	F*	F
Grants Pass Parkway/Terry	F*	F
6th Street/"F" Street	C	D
7th Street/Savage	B	C

* (Unsignalized condition)

Safety Needs and Deficiencies

In terms of traffic safety, the majority of high accident locations are at intersections along Redwood Highway and the Rogue River Highway. This is due to the relatively high volumes of traffic and the variety of activities occurring in these areas which result in conflicts between through traffic, turning traffic, and various travel modes.

Table 2-8 summarizes the high accident locations. Accidents rates for roadways are expressed in MVM (accidents per million vehicle miles); accident rates for intersections are expressed in MEV (accidents per million entering vehicles). Collisions per MEV is a measure that reflects the number of vehicles traveling through an intersection. In general, intersections with an accident rate below 2.0 accidents per MEV are not considered high accident locations.

Table 2-7: Turning Movement LOS

			Existing		2015 NO BUILD			2015 BUILD		
INTERSECTION	Approach	V/C Ratio	Delay	LOS	V/C Ratio	Delay	LOS	V/C Ratio	Delay	LOS
6th	EB TR	0.242	27.5	D	0.274	22.6	C	0.247	22.3	C
at Morgan Lane	WB LT	0.712	35.6	D	2.04			0.564	26.4	D
	NB DFL	0.032	15.9	C						
	NB LTR				0.666	32.3	D	1.061	*	
	NB TR	0.521	20.6	C						
	SB DFL	0.038	26	D				1.055	*	
	SB LTR				0.753	29.2	D			
	SB TR	0.57	31.4	D						
7th	EB LT	0.199	12	B	0.704	17.5	C	0.196	12	B
at Morgan Lane	NB DFL	0 294	5.6	B						
	NB TR	0.605	7 5	B						
	NB LTR				0.741	8.6	B	0.732	8.5	B
6th	EB T	0.032	10.9	B	0.092	11.2	B	0.054	11	B
at Hillcrest Avenue	EB R	0.116	11.3	B	0.327	12.5	B	0.189	11.7	B
	WB L	0.171	11 6	B	0.369	12.8	B	0.311	12.4	B
	WB T	0.057	11	B	0.397	11.3	B	0 1	11.2	B
	SB DFL	0.092	5.1	B						
	SB TR	0 532	7.1	B						
	SB LTR				0.539	6.9	B	0 467	6.5	B
7th	EB L	0 23	11.9	B	0.32	12.4	B	0 3	12 3	B
at Hillcrest Avenue	EB T	0.03	10.9	B	0.19	11.7	B	0 17	11.6	B
	WB T	0.04	10.9	B	0.08	11.1	B	0.09	11.2	B
	WB R	0.06	11	B	0.07	11.1	B	0.08	11.1	B
	NB LT	0.77	10.3	B	0.86	13.5	B	0.81	12.2	B
	NB R	0.02	0	A	0.05	0	A	0.05	0	A
6th	EB TR	0.166	11.5	B	0.18	11.6	B	0.25	12	B
at Savage Street	WB LT	0.553	14.7	B	0.57	14.8	B	0.16	11.5	B
	SB DFL	0.077	5	A						
	SB TR	0.525	6.8	B						
	SB LTR				0.53	6 7	B	0 5	6 6	B
7th	EB LT	0.25	12	B	0.28	12.2	B	0.25	12	B
at Savage Street	WB TR	0.3	12.3	B	0.28	12.1	B	0.17	11.6	B
	NB LT	0.79	10.6	B	1	27.1	D	1.01	29.6	D
	NB R	0.03	0	A	0.04	0	A	0.04	0	A
6th	EB T	0 288	12.2	B	0 3	12.3	B	0 22	11.8	B
at A Street	EB R	0 296	12.3	B	0.31	12.4	B	0.22	11 8	B
	WB L	0 473	14	B	1.02	63.2	F	0.41	13 3	B
	WB T	0.424	13.2	B	0.75	18.3	C	0.4	13	B
	SB DFL	0.139	5.2	B						
	SB TR	0.774	8.9	B						
	SB LTR				0.75	9 5	B	0.71	9.1	B
7th	EB L	0.19	11.7	B	0.36	12.9	B	0.17	11 6	B
at A Street	EB T	0.44	13.4	B	0 79	19.8	C	0.43	13 2	B
	WB T	0.41	13.1	B	0.44	13.3	B	0.39	12 9	B
	WB R	0.08	0	A	0.08	0	A	0.08	0	A
	NB LTR	0.71	9.2	B	0.82	11.8	B	0 74	9 5	B

			Existing			2015 NO BUILD			2015 BUILD	
INTERSECTION	Approach	V/C Ratio	Delay	LOS	V/C Ratio	Delay	LOS	V/C Ratio	Delay	LOS
6th at D Street	EB TR	0.224	11.8	B	0.26	12.1	B	0.25	12	B
	WB LT	0.293	12.3	B	0.32	12.4	B	0.31	12.3	B
	SB DFL	0.098	5.1	B						
	SB TR	0.715	8.2	B						
	SB LTR				0.64	8.5	B	0.62	8.3	B
7th at D Street	EB LT	0.366	12.8	B	0.41	13.1	B	0.36	12.7	B
	WB TR	0.326	12.5	B	0.38	12.8	B	0.34	12.6	B
	NB DFL	0.057	5	A						
	NB TR	0.807	9.8	B						
	NB LTR				0.067	8.8	B	0.6	8.2	B
6th Street at E Street	WB L	0.538	11.8	B	0.83	17.8	C	0.85	19.1	C
	WB LT	0.54	11.8	B	0.55	9.1	B	0.56	9 2	B
	SB TR	0.592	4.8	A	0.69	6.4	B	0.62	5.9	B
7th Street at E Street	WB TR	0.762	13.9	B	1.01	32.9	D	0.95	23.1	C
	NB DFL	0.212	3.6	A						
	NB T	0.759	6 3	B						
	NB LT				0 65	6.2	B	0.6	5 1	B
6th Street at F Street	EB T	0.146	6.6	B	0 159	6.7	B	0.171	6 7	B
	EB R	0.382	18.2	C	0.418	18.6	C	0.447	18 9	C
	SB TR	0.956	24.6	C						
	SB LT				1 204	*	*	1 066	*	*
7th Street at F Street	EB DFL	0 166	7 9	B						
	EB LT				0.42	7.2	B	0 422	8 9	B
	EB T	0.604	10 4	B						
	NB TR	0.651	6.8	B	0.73	7.9	B	0.684	7	B
6th Street at M Street	EB T	0.209	11.8	B	0.22	11.8	B	0 16	11 5	B
	EB R	0.606	15.4	C	0.62	15.6	C	0 45	13 5	B
	WB L	0.332	12.6	B	1 13	120.2	F	0.72	20.3	C
	WB T	0.709	17.2	C	1.15	105.5	F	1.13	91.1	F
	SB DFL	0.095	5.1	B						
	SB TR	0.597	7 2	B						
	SB LTR				0.59	7.1	B	0 53	607	B
7th Street at M Street	EB T	0.32	12.4	B	0 53	14.2	B	0.52	14 1	B
	EB L				2.74	0.4	*	3.07	*	*
	WB T	0.47	13.6	B	0.48	13.7	B	0.52	14.1	B
	WB R	0 1	0	A	0.1	0	A	0.11	0	A
	NB LTR	0 72	9 4	B	0.79	10 3	B	0 8	10 4	B
6th Street at Redwood Highway	EB TR	0.46	12.3	B	0.51	12.7	B	0.65	14.4	B
	WB T	0.619	13.9	B	0.73	15.5	C	0.91	22.1	C
	SB DFL	0.053	9 8	B						
	SB T	0.743	17	C						
	SB LTR				0.54	13	B	0.47	12 4	B
7th Street at Redwood Highway	EB T	0.37	11.16	B	0 44	12.2	B	0.56	13.2	B
	WB T	0.46	12.2	B	0.61	13.8	B	0 6	13 7	B
	WB R	0	0	A	0	0	A	0	0	A
	NB L	0.35	11 5	B	0.34	11.4	B	0 3	11 1	B
	NB TR	0.29	11.1	B	0.3	11.1	B	0.25	10 8	B

			Existing		2015 NO BUILD			2015 BUILD		
INTERSECTION	Approach	V/C Ratio	Delay	LOS	V/C Ratio	Delay	LOS	V/C Ratio	Delay	LOS
Beacon at Grants Pass Parkway	EB T	0.466	20.4	C	0.97	37.1	D	0.36	19.5	C
	EB R	0.169	2.2	A	0.17	2.2	A	0.13	2.1	A
	WB L	0.486	28.3	D	0.63	36	D	0.56	34.3	D
	WB T	0.914	32.1	D	0.73	14.5	B	0.64	13.2	B
	NB L	0.077	25.4	D	0.08	29.9	D	0.08	29.9	D
	NB T	0.821	35.4	D	0.82	33.8	D	0.83	34.6	D
	NB R	0.042	2.5	A	0.04	2.5	A	0.04	2.5	A
	SB L	0.142	25.7	D	0.14	30.2	D	0.14	30.2	D
	SB T	1.518	*	*	1.51	*	*	1.54	*	*
	SB R	0.075	2.5	A	0.07	2.5	A	0.08	2.5	A
Grants Pass Parkway at Redwood Hwy. Spur	EB L	0.403	13.4	B	0.63	20.5	C	0.62	20.3	C
	EB R	0.331	13	B	0.5	16.5	C	0.49	16.4	C
	NB L	0.44	18.7	C	0.49	22.5	C	0.42	21.7	C
	NB T	0.285	6.2	B	0.29	4.7	A	0.24	4.5	A
	SB T	0.701	18.5	C	0.8	18.2	C	0.63	15.3	C
	SB R	0.452	3.9	A	0.62	5.1	B	0.49	4.1	A
Grants Pass Parkway at M Street	EB L	0.295	31.4	D	0.38	37.7	D	0.32	37.1	D
	EB T	0.389	26 8	D	0.5	28	D	0.43	27.1	D
	EB R	0.079	1.8	A	0.1	1.8	A	0.09	1.8	A
	WB L	0.532	34	D	0.7	44.3	E	0.58	40.8	E
	WB T	0.541	28.7	D	0.71	31.9	D	0.59	29.3	D
	WB R	0 033	1 7	A	0 04	1 8	A	0 04	1 7	A
	NB L	0.39	32.1	D	0.53	39.6	D	0.51	39.3	D
	NB T	0.385	20.1	C	0.52	21.4	C	0.5	21.2	C
	NB R	0.085	2.3	A	0.11	2.3	A	0.11	2 3	A
	SB L	0.361	31.9	D	0.4	37.9	D	0.34	37.3	D
	SB T	0.444	20.7	C	0.5	21.2	C	0.42	20.4	C
	SB R	0.079	2.2	A	0.09	2.3	A	0.08	2.2	A
Grants Pass Parkway at Park Street	EB LT	0.142	17.9	C	0.2	18.2	C	0.218	24.8	C
	EB R	0.01	0	A	0.013	0	A	0.015	0.8	A
	WB LT	0.106	17.7	C	0.14	17.9	C	0.152	24 3	C
	WB R	0.118	0	A	0.156	0	A	0.179	0.9	A
	NB L	0.063	22.8	C	0.081	22.9	C	0.195	37.8	D
	NB T	0.303	12.7	B	0.4	13.4	B	0.444	19.7	C
	NB R	0.009	2.1	A	0.012	2.1	A	0.013	4.3	A
	SB L	0.871	41.8	E	1.147	*	*	0.829	38.8	D
	SB T	0.3	12.6	B	0.395	13.3	B	0.298	9.6	B
	SB R	0.026	2.1	A	0.033	2.1	A	0.029	0.8	A
Fairgrounds Road at Grants Pass Parkway	EB L	0.021	18.3	C	0.03	21.6	C	0.03	21.5	C
	EB T	0.556	12.1	B	0.77	14.9	B	0.67	13.3	B
	EB R	0 131	2 6	A	0 18	2 7	A	0 16	2.7	A
	WB L	0.117	18.7	C	0 14	22.1	C	0.12	22	C
	WB TR	0.984	29.5	D	1.19	106.8	F	1.06	46.6	E
	NB LT	0.732	26.5	D	0.87	33.4	D	0.75	26.2	D
	NB R	0.149	18.3	C	0.18	18.5	C	0.16	18.4	C
	SB LT	0.102	18.1	C	0.42	21.2	C	0.37	20.4	C
	SB R	0.022	17.8	C	0.03	17.8	C	0.02	17.8	C

			Existing		2015 NO BUILD			2015 BUILD		
INTERSECTION	Approach	V/C Ratio	Delay	LOS	V/C Ratio	Delay	LOS	V/C Ratio	Delay	LOS
Jacksonville Highway at Redwood Highway	EB L	0.023	18	C	0.03	21.2	C	0.381	54.2	E
	EB T	0.466	13.3	B	0.51	13.6	B	0.941	53.5	E
	EB R	0.064	2.5	A	0.07	2.5	A	0.072	5	A
	WB L	1.108	96.7	F	1.23	*	*	1.055	86.9	F
	WB TR	0.415	13	B	0.46	13.3	B	0.402	18.5	C
	NB L	2.049	*	*	2.36	*	*	0.93	75.4	F
	NB TR	0.531	18.6	C	0.61	19.7	C			
	NB R							0.479	25.7	D
	SB DFL	0.125	15.6	C						
	SB T	1.905	*	*				1.047	68	F
	SBR	0.518	0.3	A						
	SB L							0.198	44.7	E
	SB LT				1.2	114.3	F			
Redwood Highway at Allen Creek Road	EB L		5.6	B	7.1	B		6.2	B	
	WB L		5	B	7.4	B		6.1	B	
	NB LTR		37.2	E	988.5	F		109.1	F	
	SB LTR		16.7	C	59.0	F		27.2	D	
Redwood Highway at Terry Lane	EB L		4.3	A	5.4	B		4.8	A	
	WB L		4.3	A	10.4	C		3.8	A	
	NB L		536 7	F	*	F		347.8	F	
	NB TR		7.7	B	23 6	D		6 7	B	
	SB L		27 9	D	112.5	F		24 5	D	
	SB TR		6.1	B	12.6	C		5.9	B	

Table 2-8: High Accident Locations

LOCATION	Accident Rates
Roadway Segments	
F Street - 6th to 7th	17.27 MVM
J Street 7th to 9th	12.23 MVM
J Street 4th to 7th	10.87 MVM
A Street - 7th to 9th	9.12 MVM
Willow Lane - Redwood Highway to Redwood	7.02 MVM
D Street - 6th to 9th	6.68 MVM
6th Street - F to J	6.64 MVM
6th Street - Morgan to Hillcrest	5.95 MVM
7th Street - F to J	5.95 MVM
Intersections	
6th Street/E Street	1.02 MEV
9th Street/Savage Street	0.94 MEV
6th Street/Morgan Lane	0.90 MEV
6th Street/D Street	0.68 MEV
9th Street/E Street	0.66 MEV
7th Street/A Street	0.62 MEV
6th Street/Savage Street	0.56 MEV
F Street/Mill Street	0.55 MEV
6th Street/A Street	0.52 MEV
6th Street/Midland Avenue	0.50 MEV
7th Street/Manzanita Avenue	0.41 MEV
7th Street/Hillcrest Drive	0.40 MEV
7th Street/Savage Street	0.40 MEV
6th Street/Manzanita	0.30 MEV
7th Street/E Street	0.27 MEV

(MVM) - Million vehicle miles.
(MEV) - Million entering vehicles.

Accessibility and Transportation System Connectivity Needs and Deficiencies

In general, accessibility is good throughout Grants Pass, but in some locations access is restricted due to a lack of through connections. This results in circuitous routings, increased travel times and increased total VMT (vehicle miles traveled). As a result there may be unnecessary congestion of those facilities that do exist and delay for motorists. This impacts overall mobility and impacts air quality. The following sub areas were identified as having access problems that warrant attention:

- **West of Dowell Road and South of the Rogue River** - New development in this area, combined with an incomplete road network have increased congestion and created a need for better north/south connections.
- **Fairgrounds/Riverfront Area** - To reach the downtown area residents of this area must use the Redwood Highway and 7th Street. Increases in traffic due to the recent commercial and residential development in this area have placed additional strain on Redwood Highway, and 6th and 7th Streets.
- **West of Highland Avenue** - New development in the area has placed a strain on the limited number of connections from this area to Highland Avenue.
- **South of Fruitdale Drive** - Cloverlawn Drive and Hamilton Lane are the only through roads south of Fruitdale Drive. Both are somewhat circuitous, resulting in indirect connections to Fruitdale and the rest of the arterial network.
- **South of Jacksonville Highway and the New Hope Road Junction** - Jacksonville Highway is the only through road south of New Hope Road. Recent development adjacent to Jacksonville Highway has resulted in increased travel demand in this area.
- **North of I-5/6th and 7th Street Interchange** - the congestion at the interchange makes it difficult to access the roadways north of I-5. Currently there is no alternative roadway in the area, forcing travelers north of the freeway to negotiate their way through the interchange congestion.
- **Lincoln Road Area** - future growth is planned for the western portion of the urban area. River crossings are limited and are typically the most congested locations in the transportation system. Additional ability to cross the river west of the existing bridges is needed to serve this area.

Missing Links

Gaps (or missing links) in the street system (arterial, collector and local collector) were identified in numerous parts of the urban area. Completion of these links would provide for better local traffic circulation and help to balance out traffic flow over the entire street system.

Physical Barriers

Natural and man-made barriers inhibit travel by car, bicycle and on foot. The major barriers are the Rogue River and the RailTex Railroad tracks, which severely limit north/south movement in the study area. There are only three bridges crossing the river and eight railroad crossings. A special bridge for pedestrians and bicyclists is proposed for construction in the vicinity of the All Sports Park, which will provide better accessibility for travelers using nonmotorized modes in this area. However, the limited number of crossings results in circuitous routing for travelers and congestion on the river crossings of three bridges and eight railroad crossings.

Functional Classifications and Sub Standard Facility Needs and Deficiencies

Based on observations of traffic volumes and flow patterns and on roadway design, several local roadways were improperly classified in the previous transportation plan. These are listed below, along with recommended changes in functional classification:

- **3rd Street** - Downgrade to Local Street from "G" Street to "J" Street.
- **9th Street** - Downgrade from Collector to Local Collector from Savage Street to Madrone Street. Downgrade from Collector to Local Street from Madrone Street to "A" Street.
- **Anderson Street** - Upgrade from Local Street to Collector.
- **Drury Lane** - Downgrade from Collector to Local Collector.
- **Fairview Avenue** - Downgrade to Local Collector to match current street construction.
- **Florer Drive** - Downgrade from Local Collector to Local Street due to wetlands in area.
- **Greenfield Road** - Upgrade from Local Street to Collector in conjunction with the extension to Hillcrest Drive.
- **Madrone Street** - Upgrade to Local Collector from 9th Street to 10th Street to capture traffic diverted from the 9th Street closure.
- **Manzanita Avenue** - Downgrade from Collector to Local Collector from 7th Street to Highland due to lower traffic volumes.
- **Redwood Area Collector System** - Upgrade Raydean Drive, Kellenbeck Avenue, Angler Lane, and George Tweed Blvd. from Local Collectors to Collectors.
- **Savage Street** - Upgrade to Collector east of 10th Street as it is the only through connection between Beacon Drive and Highland Avenue in this area.

- **Scenic Drive and Scoville Road** - Upgrade to Collector Streets to reflect elimination of plan to reroute Granite Hill Road to the I-5 interchange.
- **Spruce Street and Webster Lane** - Downgrade from Local Collector to Local Street due to vacation east of Lincoln Road, and closure of road at western end.
- **Vine Street** - Downgrade from Arterial to Local Street from Morgan Lane to 6th Street to reflect change to one-way street in the area.
- **West Park Street** - Upgrade from Local Street to Local Collector to reflect plan to connect the road to Lincoln Road.

Based on existing City and County design standards for urban and rural roads several substandard facilities were identified. Their design deficiencies include one or more of the following: insufficient right of way, inadequate roadway or lane width, and lack of curbs. These facilities include:

- **10th Street** - Hillcrest Dr. to Dewey Dr.,
- **Allen Creek Road** - Redwood Ave. to Denton Trail,
- **Ament Road** - Foothill Blvd. to "N" St.,
- **Beacon Drive** - Madrone to Hillcrest Dr.,
- **Cloverlawn Drive** - Grandview Ave. to Hamilton Ln.,
- **Curtis Drive** - Jacksonville Hwy. to Coach Dr.,
- **Darneille Lane** - Redwood Ave. to Leonard Dr.,
- **Dimmick Street** - "C" St. to "G" St.,
- **Dowell Road** - Redwood Ave. to Schutzwohl Ln.,
- **Drury Lane** - Grandview Ave. to Fruitdale Dr.,
- **East Park Street** - Gold River Ln. to Hamilton Ln.,
- **Fairgrounds Road** - Redwood Hwy. to Union Ave.,
- **Flower Lane** - From north end of road to Redwood Ave.,
- **Foothill Blvd.** - Spalding Ave. to Ament Rd.,
- **Fruitdale Drive** - Jacksonville Hwy. to Rogue River Hwy.,
- **"G" Street** - Lincoln Rd. to Leoard St.,
- **G.I. Lane** - Harbeck Rd. to 450 ft. west,
- **Gladiola St.** - "N" St. to Portola Dr.,

- **Grandview Ave.**- Cloverlawn Dr. to Harbeck Rd.,
- **Greenfield Road.** - Scoville Rd. to Spring Mountain Dr.,
- **Hamilton Lane** - East Park St. to Rogue River Hwy., and Overland Dr. to Cloverlawn Dr.,
- **Harbeck Road** - Jacksonville Hwy. to West Harbeck Rd.,
- **Haviland Drive** - Grandview Ave. to Highline Canal,
- **Highland Avenue** - UGB to Carol Dr.,
- **Hillcrest Drive** - 9th St. to Beacon Dr.,
- **Hubbard Lane** - Redwood Ave. to Redwood Hwy.,
- **Jacksonville Highway** - New Hope Rd. to UGB,
- **Leonard Road** - UGB to Mesman Dr.,
- **Lincoln Road** - "G" St. to Webster Ln.,
- **Lower River Road** - UGB to Lincoln Rd.,
- **Morgan Lane** - Highland Ave. to Hawthorne Ave.,
- **"N" Street** - Camelot Dr. to Gladiola St.,
- **Nebraska Avenue** - Ramsey Ave. to McCarter Dr.,
- **Portola Drive** - Harvey Dr. to Gladiola St.,
- **Raydean Drive** - Redwood Avenue to end,
- **Redwood Avenue** - UGB to Redwood Cir.,
- **Ringuette Street** - West Park St. to canal,
- **Rogue River Highway** - Redwood Hwy. to Fruitdale Dr.,
- **Savage Street** - 10th St. to Beacon Dr.,
- **Scenic Drive** - UGB to Scoville Rd.,
- **Schutzwohl Lane** - West Harbeck Rd. to Allen Creek Rd.,
- **Union Avenue** - Nebraska Ave. to Jacksonville Hwy.,
- **Upper River Road** - Upper River Road Lp. to Lincoln Rd.,
- **Vine Street** - Highland Ave. to Morgan Ln.,

- **West Harbeck Road** - Allen Creek Rd. to Harbeck Rd.,
- **West Park Street** - Lincoln Rd. to 6th St.,
- **Willow Lane** - Leonard Rd. to Redwood Hwy.

Public Transportation and Special Transportation Services Needs and Deficiencies

Rogue Transit (a privately owned and operated transit service) is currently providing service on one transit route, using one bus service operated on a continuous loop with one hour headways. The circuitous routes and long time between buses make the use of transit inconvenient for passengers. Existing ridership on the system is about 100 passengers per day, which averages eight passengers per trip and per revenue hour.

Although current ridership is small, the community has expressed a strong desire to have public transit service. In addition to serving the transportation needs of the "transit dependent" (those people who have no other means of transportation), public transit will be called on to serve "transit choice" riders in order to reduce the use and impacts of private automobiles. Based on the analysis done for the RVCOG in 1993, it is estimated that about 24 percent of the Rogue Valley's population is considered to be transit dependent. (*Rogue Valley Community Transportation Needs Survey - Eagle Point, Gold Hill, Grants Pass, and Rogue River*, 1993, RVCOG.)

As the population increases, and as it ages, the demand for alternatives to private automobiles is likely to increase. This presents a dilemma for the community. Financial resources to support public transit are very limited. Without a stable financial base it will be very difficult to expand (or possibly maintain) public transit service levels in the community.

Nonmotorized Transportation Needs and Deficiencies

Bicycles

Unlike some of the motorized travel modes, it is difficult to clearly identify where deficiencies exist for bicyclists because precise measures for demand and deficiencies have not been developed. The kinds of issues identified for the study area related to bicycle deficiencies include:

- Inadequate roadway shoulders, especially on higher volume, higher speed roadways,
- Obstructions such as signs, driveways and/or parked vehicles on roadway shoulders,
- Drainage grates along the curb or edge of the roadway that are not aligned perpendicular to the direction of bicycle travel,
- Inaccessibility to many destinations due to heavy traffic volumes and inadequate facilities,

- Inadequate facilities for bicycle storage at commercial establishments, businesses and other destinations, and
- Lack of shower facilities at places of employment.

Two of the major types of destinations for bicyclists are schools and parks. With the exception of Rogue Community College, none of the schools in the area is served by dedicated bicycle lanes or off road bike paths. The following schools are partially served by paved roads with minimal shoulders: Highland, North Middle, Lincoln, Grants Pass High, Riverside, Fruitdale, South Middle, Allen Dale and Brighton.

There are a number of parks in the Grants Pass Urban Area where access via bike routes is limited in length or coverage, or access by bicycle is simply impractical. Parks served by bike routes on paved roads with narrow or no shoulders include: Gilbert, Ogle, Riverside, Lathrop, Westholm and All Sports. Four parks not directly served by any bike routes (i.e. designated bike routes are several blocks away) include Memorial, Portola, Tussing and Schroeder.

In addition to schools and parks, bicycling can be a viable form of transportation for work and shopping trips along flat terrain and in good weather. However, as currently configured, the local bike route system does not serve the major commercial corridors adequately, or the many other business sites in the study area. Due to the lack of bicycle facilities and improvements (on the transportation network and at destinations) this mode of transportation is less attractive as an alternative means of transportation. This is an important issue given the emphasis at the federal and state levels on providing for, and encouraging alternatives to the private automobile for travel. In addition to the need for physical improvements, there is a need to educate the traveling public about the benefits for them and their community of travel by nonmotorized travel modes. There is also a need for policies and programs to encourage the use of bicycles and walking as viable means of transportation, as well as recreation.

Specific locations where bicycle improvements are needed (e.g., signage, pavement striping, traffic control, and/or separated lanes or paths) include:

- **Bike Pedestrian Bridge over Rogue River** - Construct bike/pedestrian bridge from the All Sports Park to Tussing Park. Include bike connections on West Park Street, through the Fairgrounds and the All Sports Park, and on Cottonwood Street.
- **North Middle School/Gilbert Creek Park** - Construct new multi-use path through the park and school
- **Riverside School** - Construct new multi-use path from "N" St. to Harvey Dr. through the school.
- **Rogue Community College** - Construct new multi-use path from Redwood Hwy. to Demaray Dr. through the school.
- **Midland Avenue** - Include multi-use path from 7th St. to 9th St.
- **3rd Street** - "E" St. to "F" St.

- **4th Street** - "A" St. to Bridge St.
- **6th Street** - Morgan Ln. to "A" St.
- **7th Street** - Park St. to Morgan Ln.
- **10th Street** - Hillcrest Dr. to "A" St.
- **"A" Street** - Dimmick St. to Foothill Blvd.
- **Allen Creek Road** - Redwood Ave. to Jacksonville Hwy.
- **Ament Road** - Agness Avenue east toward Tom Pierce Park.
- **Beacon Drive** - Hillcrest Dr. to "D" St.
- **Cloverlawn Drive** - Fruitdale Dr. to Hamiltón Ln.
- **Darneille Lane** - Redwood Ave. to Leonard Dr.
- **Dimmick Street** - Bellevue to "G" St.
- **Dowell Road** - Redwood Hwy. to Schutzwohl Ln.
- **"E" Street** - 3rd St. to 9th St.
- **"F" Street** - "G" St. to Mill St.
- **Fairgrounds Rd.** - Redwood Hwy. to Union Ave.
- **Foothill Blvd.** - I-5 to Ament Rd.
- **Fruitdale Drive** - Jacksonville Hwy. to Rogue River Hwy.
- **"G" Street** - Lincoln Rd. to Leonard Road.
- **G.I. Lane** - Jacksonville Hwy. to Harbeck Rd.
- **Grandview Ave.** - Harbeck Rd. to Cloverlawn Dr.
- **Grants Pass Parkway** - Agness Ave. to east with connection to Foothill Blvd.
- **Greenfield Road** - Scoville Rd. to Hillcrest Dr.
- **Hawthorne Avenue** - Morgan Ln. to Hillcrest Dr.
- **Hillcrest Drive** - Hawthorne Ave. to Beacon Dr.
- **Hubbard Lane** - Redwood Ave. to Redwood Hwy.
- **Jacksonville Highway** - New Hope Road to UGB.
- **Leonard Road** - UGB to Willow Ln.
- **Lincoln Road** - "G" St. to Redwood Hwy., including the Fourth Bridge
- **Lower River Road** - UGB to Lincoln Rd.
- **Midland Avenue** - Highland Ave. to 7th St.
- **Morgan Lane** - Candler Ave. to 7th St.

- **"N" Street** - Riverwood Apts. to Gladiola St.
- **Oak Street** - "G" St. to Bridge St.
- **Redwood Area Collector Streets** - Improvements to Angler Lane, Raydean Drive, George Tweed Blvd., and Kellenbeck Ave.
- **Redwood Avenue** - UGB to Raydean Dr.
- **Redwood Highway** - Redwood Ave. to South "Y"
- **Ringuette Street** - West Park St. to Union Ave.
- **Rogue River Highway** - Park St. to Fruitdale Dr.
- **Savage Street** - Highland Ave. to Beacon Dr.
- **Scenic Drive/Scoville Road.** - I-5 to UGB
- **Schutzwohl Lane** - Allen Creek Rd. to Dowell Rd.
- **Spalding Avenue** - Grants Pass Parkway to Agness Ave.
- **Vine Street** - Highland Ave. to Morgan Ln.
- **Washington Blvd.** - Midland Ave. to Evelyn St.
- **West Harbeck Road** - Allen Creek Rd. to Jacksonville Hwy.
- **Willow Lane** - Leonard Dr. to Redwood Hwy.

Pedestrian

The primary pedestrian system deficiency identified for the area is the general lack of sidewalks within the city of Grants Pass and the rest of the urban area. While the downtown core is well served by sidewalks, the areas outside the core (particularly southwest and southeast Grants Pass) have little, if any, sidewalks. This is a particular problem in the commercial areas near the fairgrounds, and west of the South "Y" intersection. With the recent residential and commercial growth in these areas, the availability of sidewalks has grown in importance.

In addition to the importance of sidewalks in the business community, sidewalks provide a vital community linkage to schools and recreation facilities. Some of the local schools are only partially served with sidewalks, and others have no sidewalks at all. Another issue is related to barriers for pedestrians that limit accessibility. These barriers may be natural (such as the Rogue River), or man-made (such as major arterials with high traffic volumes and limited pedestrian crossings, or developments that encroach or cut off pedestrian routes.)

Aviation Needs and Deficiencies

The Grants Pass airport, located six miles northwest of Grants Pass, is a general utility airport serving private aircraft. There is no scheduled passenger service from this airport. An airport master plan for the Grants Pass airport, completed in 1992, concluded the following:

- The existing length of Runway 12-30 is adequate to accommodate the majority of general aviation aircraft under most conditions; however, providing additional runway length has been identified as a requirement to accommodate the business aviation segment of the general aviation fleet.
- The runway and taxiway system has adequate capacity to accommodate forecast activity through the 20 year master plan period and beyond.
- The existing parallel taxiway located to the west side of Runway 12-30 does not meet FAA design standards for runway separation. The current separation of 150 feet does not meet the Airplane Design Group II standard of 240 feet.
- The length of runway 12-30 and the absence of an instrument approach to the airport are constraints towards allowing the operation of larger twin-turbine aircraft.

The presence of a full service airport in Medford (only 30 miles away), in combination with the local general aviation airport, appear to meet the needs and demand for aviation for the Grants Pass Urban Area.

Rail Needs and Deficiencies

Rail service in the study area is limited to freight operations, operating on a limited schedule. The low frequency of service through the area does not create any adverse impacts on traffic operations, and appears to meet local needs. Intercity passenger service is available through Trailways/Greyhound bus service, and through privately provided taxi and shuttle services. Goods movement is accommodated through existing rail service and trucking.

Truck Traffic Needs and Deficiencies

A summary of truck traffic on key facilities in the Grants Pass Urban Area was presented earlier in this Chapter. Trucks account for somewhere between two and four percent of total traffic on roadways within the study area. The analysis of general operating characteristics showed that almost all of the roadway segments in the study area are operating at good levels of service. They appear to be adequate in terms of roadway design, turning movements, sight distance and grade. As such, there do not appear to be any significant needs or deficiencies for trucks operating within the study area. There are a few isolated locations where there is some concern regarding the use of curb space for trucks loading and unloading.

However, there are issues associated with the impacts of trucks operating on local streets. The biggest issue currently is related to large trucks passing through the downtown core. The lanes are narrow on 6th and 7th Streets, and there are many competing uses for the roadway, including: through traffic in automobiles, local traffic destined for businesses along the roadway, pedestrians and bicyclists, and on street parking. Through truck traffic needs to be routed around the business and residential neighborhoods in the downtown area to reduce negative impacts such as noise, air pollution, damage to pavement, and conflicts with other transportation needs in this area.

However, as the commercial/industrial base of the area grows in the future, an increased amount of truck traffic can be expected. As congestion develops on the arterial system, trucks may detour through local neighborhoods resulting in negative impacts on these neighborhoods and the local streets. In order to minimize neighborhood disruption and impacts on the roadway surface it may be desirable to designate a truck route system for the area.

Summary of Needs and Deficiencies

Table 2-9 includes a comprehensive summary of the needs and deficiencies described above. Specific locations are listed, and the nature of the deficiencies at these locations is indicated.

Table 2-9: Summary of Deficiencies

Location	Congestion (LOS)	Safety (Accidents)	Connectivity & Accessibility	Functional Classification	Roadway Design	Non-motorized
3rd Street				X		X
4th Street: A St. to Bridge St.						X
6th Street/A Street		X				
6th Street/D Street		X				
6th Street/E Street		X				
6th Street/Manzanita Avenue		X				
6th Street/Midland Avenue		X				
6th Street/Morgan Lane		X				
6th Street/Savage Street		X				
6th Street: Morgan Ln. to Hillcrest Dr.		X				X
6th Street: Hillcrest Dr. to A St.						X
6th Street: F St. to J St.		X				
6th Street: Voorhies Ave. to Lewis Ave.	X					X
7th Street/A Street		X				
7th Street/E Street		X				
7th Street/Hillcrest Drive		X				
7th Street/Manzanita Avenue		X				
7th Street/Savage Street		X				

Table 2-9: Summary of Deficiencies

Location	Congestion (LOS)	Safety (Accidents)	Connectivity & Accessibility	Functional Classification	Roadway Design	Non-motorized
7th Street: Park St. to Voorhies Ave.	X					X
7th Street: Voorhies Ave. to M St.	X					X
7th Street: M St. to J St.						X
7th Street: J St. to F St.		X				X
7th Street: F St. to A St.						X
7th Street: A St. to Savage St.	X					X
7th Street: Savage St. to Midland Ave.						X
7th Street: Midland Ave. to Hillcrest Dr.	X					X
7th Street: Hillcrest Drive to Morgan Ln.						X
9th Street/E Street		X				
9th Street/Savage Street		X				
9th Street: Savage St. to A St.				X		
9th Street: F St. to M St.						X
10th Street					X	X
A Street						X
A Street: 7th St. to 9th St.		X				
Agness Avenue			X			
Allen Creek Road			X		X	X
Ament Road			X		X	X
Anderson Street				X		
Angler Lane			X			X
B Street			X			X

Table 2-9: Summary of Deficiencies

Location	Congestion (LOS)	Safety (Accidents)	Connectivity & Accessibility	Functional Classification	Roadway Design	Non-motorized
Beacon Drive: Olson Dr. to Spalding Ave.						X
Bridge Street						X
Bridge Street: Oak St. to Division St,	X					
Cloverlawn Drive: Rogue River Hwy. to East View						X
Cloverlawn Drive: East View to Hamilton Ln.					X	X
Cottonwood Street						X
Curtis Drive					X	X
D Street: 6th St. to 9th St.		X				
D Street: 11th St. to Foothill Blvd.						X
Darneille Lane					X	X
Dimmick Street			X		X	X
Dowell Road: Leonard Dr. to Redwood Ave.						X
Dowell Road: Redwood Hwy. to Schutzwohl Ln.					X	X
Drury Lane				X	X	X
E Street						X
East Park Street: Gold River Ln. to Hamilton Ln.					X	X
F Street/Mill Street						
F Street: G St. to Elm St.			X		X	X
F Street: Elm St. to Mill St.						X
F Street: 6th St. to 7th St.		X				
Fairgrounds Road					X	X
Fairgrounds/Riverfront Area			X			

Table 2-9: Summary of Deficiencies

Location	Congestion (LOS)	Safety (Accidents)	Connectivity & Accessibility	Functional Classification	Roadway Design	Non-motorized
Fairview Avenue				X		
Flower Lane: North end of road to Redwood Ave.					X	X
Florer Drive				X		
Foothill Blvd.: A St. to 760 ft. SE						X
Foothill Blvd.: Spalding Ave. to Ament Rd.					X	X
Fruitdale Area			X			
Fruitdale Drive					X	X
G Street: Leonard Rd. to Lincoln Rd.					X	X
G.I. Lane			X		X	X
Gladiola Street					X	X
Grandview Avenue			X		X	X
Grants Pass Parkway: Agness to I-5						X
Grants Pass Parkway: F Street to Beacon Dr.	X					
Greenfield Road			X	X	X	X
Hamilton Lane					X	X
Harbeck Road					X	X
Haviland Drive			X		X	X
Hawthorne Avenue						X
Highland Avenue: UGB to Carol Dr.					X	X
Highland Avenue: Carol Dr. to Bellevue Ave.						X
Hillcrest Drive: Hawthorne to 9th St.						X

Table 2-9: Summary of Deficiencies

Location	Congestion (LOS)	Safety (Accidents)	Connectivity & Accessibility	Functional Classification	Roadway Design	Non-motorized
Hillcrest Drive: 9th St. to Beacon Dr.					X	X
Hubbard Lane					X	X
J Street: 4th St. to 7th St.		X				
J Street: 7th St. to 9th St.		X				
J Street: 11th St. to Mill St.						X
Jacksonville Highway: New Hope Rd. to UGB	X				X	X
Jacksonville Highway Area			X			
Leonard Road					X	X
Lincoln Road			X		X	X
Lincoln Road Area			X			
Lower River Road					X	X
M Street: 11th St. to M St.						X
Madrone Street				X		X
Manzanita Avenue			X	X		X
Midland Avenue						X
Mill Street						X
Morgan Lane						X
Morgan Lane: Highland Ave. to Hawthorne Ave.					X	X
N Street: M St. to Camelot Dr.						X
N Street: Camelot Dr. to Gladiola St.					X	X
Nebraska Avenue			X			X
North of I-5/6th and 7th Street Interchange Area			X			
Oak Street						X
Overland Drive			X			

Table 2-9: Summary of Deficiencies

Location	Congestion (LOS)	Safety (Accidents)	Connectivity & Accessibility	Functional Classification	Roadway Design	Non-motorized
Parkdale Drive						
Portola Drive: Harvey Dr. to Gladiola St.					X	X
Ramsey Avenue			X			
Raydean Drive			X		X	X
Redwood Area			X	X	X	X
Redwood Avenue					X	X
Redwood Highway						X
Redwood Hwy.: Fairgrounds Rd. to Tussy Ln.	X					
Redwood Hwy.: Redwood Ave. to Fairgrounds Rd.	X					
Redwood Hwy.: South "Y" Interchange						X
Ringuette Street			X		X	X
Rogue Drive						X
Rogue River Highway					X	X
Savage Street: Highland Ave. to Washington Blvd.				X		X
Savage Street: Washington Blvd. to 10th St.						X
Savage Street: 10th St. to Beacon Drive				X	X	X
Scenic Drive				X	X	X
Schutzwohl Lane			X		X	X
Scoville Road				X	X	X
Spalding Avenue			X			X
Spruce Street				X		
Union Avenue					X	X

Table 2-9: Summary of Deficiencies

Location	Congestion (LOS)	Safety (Accidents)	Connectivity & Accessibility	Functional Classification	Roadway Design	Non-motorized
Upland Drive			X			
Upper River Road					X	X
Vine Street					X	X
Vine Street: Morgan Ln. to 6th St.				X		
Washington Blvd.						X
Webster Lane				X		
West Harbeck Road			X		X	X
West Park Street			X	X	X	X
Willow Lane		X			X	X

3. GOALS AND POLICIES FOR THE MASTER TRANSPORTATION PLAN

This chapter includes the goals and policies for the MTP. These goals and policies are organized around seven major themes listed in Table 3-1 below. Policies are identified to implement each goal. These goals and policies were developed from a number of sources, including prior planning documents developed by the participating agencies, community input, and discussions with the various project participants and committees. The goals and policies are intended to guide future decisions regarding transportation improvements, investments, programs and services for the Grants Pass Urban Area. The following sections provide brief discussions for each of the goals and specific policies designed to help the City of Grants Pass, Josephine County and ODOT meet these goals.

Table 3-1: Transportation Goals and Objectives

Transportation Goals	Supporting Objectives
Goal 1: Provide a Comprehensive Transportation System	Complete the Transportation System
	Provide Adequate Mobility for All Travelers
	Establish and Maintain Balance in Transportation Investments
	Provide Safety for All Travelers
	Provide a Multimodal Transportation System
	Ensure Accessibility to Transportation for All Travelers
Goal 2: Work Together to Meet Transportation Needs	Encourage Interagency Coordination
	Include the Community in Transportation Decisions
	Encourage Public/Private Partnerships to Meet Transportation Needs
	Integrate Land Use and Transportation Decisions

Table 3-1: Transportation Goals and Objectives (continued)

Transportation Goals	Supporting Objectives
Goal 3: Protect Public Investments in Transportation	Manage the Transportation System Effectively
	Maintain, Preserve and Rehabilitate Transportation Facilities
	Preserve Future Transportation Corridors
	Protect Existing Transportation Facilities
Goal 4: Support Economic Development and Vitality	Stimulate Desired Economic Development
	Support Tourism
	Provide for Goods Movement
Goal 5: Protect and Preserve the Natural and Built Environment	Conserve Energy Resources
	Enhance Community Aesthetics
	Protect Neighborhoods
	Protect Air Quality
	Provide for Safe Movement of Hazardous Materials
	Mitigate Negative Impacts
Goal 6: Ensure Financial Stability	Secure Adequate Transportation Funding
	Assure Equity in Financing Transportation Facilities and Services
	Encourage Private Initiatives
Goal 7: Implement Planned Transportation Improvements	Set Priorities
	Construct Needed New Facilities
	Preserve and Acquire Future Transportation Corridors
	Keep Transportation Plan Current
	Encourage Private Sector Participation in Implementation

Goal 1: Provide a Comprehensive Transportation System

The *Grants Pass Urban Area Master Transportation Plan* is designed to provide for the safe and efficient accommodation of travel through a variety of transportation modes, including private vehicles, public transportation, bicycles, and walking. In keeping with transportation policies and directives from the federal and state levels, this plan emphasizes a comprehensive, multimodal transportation system that provides choices for travelers; and it identifies specific methods to encourage the reduction of the use of the private automobile for travel.

The policies included in this section address issues related to: a complete transportation system for the urban area, adequate mobility for people and goods, maintaining a balance in expenditures, safety for all travelers, and accessibility to transportation facilities and services for all travelers.

Objective 1.1: Complete the Transportation System

Policy 1.1.1: Complete the missing links in the arterial and collector network in the urban area to improve accessibility to all parts of the area and improve the efficiency of the street network.

Policy 1.1.2: Support the provision of public transit services for those people who cannot provide their own private transportation due to age (too young or too old to drive), physical limitations, or economic circumstances.

Policy 1.1.3: Provide facilities for bicyclists and pedestrians for safe and convenient travel by non motorized travel modes.

Policy 1.1.4: Facilitate convenient connections between local and intercity travel.

Policy 1.1.5: Provide adequate facilities to meet the needs for goods movement within the urban area and to and from the Grants Pass urban area by:

- Identifying and designating regional truck routes,
- Designing and constructing designated routes to accommodate truck travel, and
- Maintaining adequate levels of rail service and facilities for freight movement.

Policy 1.1.6: Encourage and support the provision of acceptable levels of intercity transportation services.

Objective 1.2: Provide Adequate Mobility for All Travelers

Policy 1.2.1: Maintain Level of Service (LOS) "D" or better for all arterials and collectors.

Policy 1.2.2: Maintain minimum level of public transportation services for those people who cannot or who choose not to travel by private vehicle.

Policy 1.2.3: Encourage and support the provision of public transit services, and/or provide subsidies or other types of support for travelers to use taxis or other privately provided transportation services.

Objective 1.3: Establish and Maintain Balance in Transportation Investments

Policy 1.3.1: Establish a balance in expenditures for improvements to facilities and services for automobiles, bicyclists, pedestrians, trucks, and other transportation modes.

Policy 1.3.2: Balance expenditures for transportation relative to expenditures on other types of public services and facilities.

Policy 1.3.3: Balance short and long term expenditures on transportation facilities and services in relation to revenues that will be available for transportation.

Policy 1.3.4: Balance expenditures for transportation system expansion and improvement in relation to expenditures necessary to maintain the transportation system.

Objective 1.4: Provide Safety for all Travelers

Policy 1.4.1: Provide a safe transportation system for all travel modes by including safety considerations in the design, construction, operation and maintenance of all transportation facilities and services.

Policy 1.4.2: Minimize conflicts between motorized vehicles and bicyclists and pedestrians.

Policy 1.4.3: Minimize conflicts between through traffic and turning traffic through appropriate facility design, construction and operation.

Objective 1.5: Provide a Multimodal Transportation System

Policy 1.5.1: Provide transportation choices for the movement of people and goods.

Policy 1.5.2: Encourage the use of alternatives to single occupant automobiles and reduce travelers' dependency on this travel mode.

Policy 1.5.3: Provide for easy connections and transfers between different transportation modes.

Policy 1.5.4: Provide for the coordination and integration of local and intercity transportation options for moving people and goods.

Objective 1.6: Ensure Accessibility to Transportation for All Travelers

Policy 1.6.1: Ensure full compliance with the requirements of the Americans With Disabilities Act (ADA).

Policy 1.6.2: Coordinate transportation services for the disabled provided by the public and private sectors.

Policy 1.6.3: Support the provision of public transportation services for travelers who cannot provide their own private transportation due to age (too young or too old to drive), physical disability, economic circumstances, or lack of access to private transportation.

Goal 2: Working Together to Meet Transportation Needs

It has become increasingly important for jurisdictions and agencies to work together to develop a unified approach to address transportation issues and provide for future transportation needs. Transportation needs transcend jurisdictional boundaries and require combined efforts to make the best use of resources. The City of Grants Pass, Josephine County and the Oregon Department of Transportation have joined together to develop this transportation plan, and will continue to work together to implement it. Individual decisions of each jurisdiction will be coordinated; and the agencies will work together to solve issues and projects of regional significance.

The policies in this section address issues such as: interagency coordination, including the community in transportation planning and decision making, coordination of public and private efforts, and integrating land use and transportation decisions.

Objective 2.1: Encourage Interagency Coordination

Policy 2.1.1: Encourage interagency cooperation and coordination in the planning, design, construction, operation and maintenance of transportation facilities and services in the Grants Pass urban area.

Policy 2.1.2: Look for opportunities to combine resources to meet transportation needs shared by more than one agency.

Objective 2.2: Include the Community in Transportation Decisions

Policy 2.2.1: Make information about transportation options and decisions available to the public in a timely manner and in a form that is understandable to the general public so that they can participate in decision making.

Policy 2.2.2: Include the public in the identification of transportation needs, the identification and evaluation of potential transportation solutions, and in the establishment of priorities for transportation investments.

Policy 2.2.3: Provide education about transportation options such as transit, carpooling, bicycling and walking, and their implications, to help travelers choose more efficient travel modes.

Policy 2.2.4: Involve the Grants Pass area community as a full partner in implementing the transportation plan recommendations, educating the community about transportation options, and encouraging the use of alternatives to the private automobile.

Objective 2.3: Encourage Public and Private Partnerships to Meet Transportation Needs

Policy 2.3.1: Encourage the private sector to help to meet the transportation needs of the urban area through the provision of transportation services and facilities.

Policy 2.3.2: Coordinate publicly and privately provided transportation services to minimize duplication and facilitate use by travelers.

Policy 2.3.3: Look for opportunities for the private sector to implement the transportation improvements included in the *Grants Pass Urban Area Master Transportation Plan.*

Objective 2.4: Integrate Land Use and Transportation Decisions

Policy 2.4.1: Integrate decisions about development and transportation investments to ensure the best fit between development in the urban area and the transportation facilities and services needed to serve it.

Policy 2.4.2: Encourage more efficient land development patterns in the urban area through infill on undeveloped or underdeveloped properties in the urban area, and containment of sprawl outside of the urban area in order to reduce transportation needs.

Policy 2.4.3: Include a consistent and detailed review of transportation implications as part of the development review and permitting process for the Grants Pass Urban Area.

Policy 2.4.4: Coordinate the work of transportation, public works, utilities and planning departments of the City of Grants Pass, Josephine County and the Oregon Department of Transportation.

Goal 3: Protect Public Investments in Transportation

Investments in the community's transportation system represent one of the largest expenditures by the City and County. Over time, millions of dollars have been invested by the City, the County and ODOT in the design, construction, improvement and maintenance of the area's roads, trails, and other transportation facilities and services. In order to get the best return on the public's investment, it is critical that the transportation system be adequately maintained to extend its useful life, and that it be operated as efficiently as possible.

Policies in this section address issues such as managing transportation demand to reduce total demand and achieve a better balance in the use of the entire transportation system; and managing the transportation system to get the most efficient use of existing facilities and services. Policies also address maintenance and preservation of the system, preservation of future transportation corridors, and protecting existing transportation facilities.

Objective 3.1: Manage the Transportation System Effectively

Policy 3.1.1: Use Transportation System Management (TSM) techniques to preserve and enhance the capacity of transportation facilities in the urban area, including (but not limited to):

- Channelization techniques to separate turning traffic from through traffic,
- Effective management of left and right turns on and off of arterials and collectors,
- Signal coordination and timing, and
- Effective management of on street parking to maintain needed traffic capacity.

Policy 3.1.2: Use Transportation Demand Management (TDM) techniques to encourage people to reduce the demand for travel and obtain more efficient use of transportation facilities and services. Use TDM techniques to change the:

- Total amount of demand (by reducing the number and/or length of trips),
- Timing of demand (by reducing the concentration of trips during peak hours and distributing travel more evenly throughout the day),
- Location of demand (from congested facilities to less congested facilities), or
- Mode of travel (from single occupant vehicles to public transit, carpools, bicycling or walking.)

Objective 3.2: Maintain, Preserve and Rehabilitate Transportation Facilities

Policy 3.2.1: Provide regular preventative maintenance of transportation facilities to prevent facility deterioration, extend the useful life of transportation facilities, and improve safety and comfort for travelers.

Policy 3.2.2: Improve existing facilities through facility management and enhancements to postpone or eliminate the need to build new facilities.

Objective 3.3: Preserve Future Transportation Corridors

Policy 3.3.1: Identify future transportation corridors and preserve right-of-way from encroachment by development.

Policy 3.3.2: Acquire needed right-of-way in advance to preserve it and reduce ultimate costs for transportation facilities.

Policy 3.3.3: Obtain adequate property setbacks from developers to provide for future public right-of-way needs.

Objective 3.4: Protect Existing Transportation Facilities

Policy 3.4.1: Ensure sufficient roadway strength, turning radii and other geometrics to accommodate trucks on arterials and collectors.

Policy 3.4.2: Establish bypass routes to keep through traffic and trucks off of local roads.

Goal 4: Support Economic Development and Vitality

Adequate transportation infrastructure is a critical component in the economic development and vitality of the community. Accessibility to jobs, acceptable levels of traffic congestion, and adequate facilities for goods movement are all important in attracting and maintaining a successful economic base for the Grants Pass Urban Area. Provision of new facilities can open up areas for commercial and residential development, and relieve congestion that may be adversely affecting economic activities in other areas. Attractive and convenient transportation is important to maintaining and increasing the attraction of the area for tourists. Adequate transportation facilities are also important for the efficient and economical movement of goods to/from and within the Grants Pass urban area.

Policies in this section address issues related to stimulating economic development in the area, supporting tourism, providing for goods movement, and protecting the downtown business area from traffic impacts.

Objective 4.1: Stimulate Desired Economic Development

Policy 4.1.1: Coordinate land use and transportation decisions to promote accessibility to employment, commercial, retail, and visitor destinations and support economic development.

Policy 4.1.2: Use public investments in transportation and other infrastructure to stimulate desired economic development in the urban area.

Objective 4.2: Support Tourism

Policy 4.2.1: Support and encourage tourism through the provision of attractive and easily accessible transportation facilities and services for motorists, bicyclists, and pedestrians.

Policy 4.2.2: Provide better signing and information to help tourists locate local attractions easily.

Objective 4.3: Provide for Goods Movement

Policy 4.3.1: Provide adequate transportation facilities and services for the efficient movement of goods to/from and within the urban area.

Goal 5: Protect and Preserve the Natural and Built Environment

The lovely environment in the Grants Pass area is one of the major attractions for tourists, residents and businesses. Preserving and enhancing the physical surroundings is important to maintaining the high quality of life in the area. Transportation facilities and transportation related activities can negatively impact the natural and the built environment through congestion, and impacts on air quality, noise and water quality. In addition, federal and state laws and regulations have established specific targets for air quality and treatment of surface runoff and other environmentally related issues.

Policies in this section address issues related to: energy consumption, enhancing aesthetics, protecting residential and business neighborhoods from traffic impacts, air quality, movement of hazardous materials, and mitigating negative impacts.

Objective 5.1: Conserve Energy Resources

Policy 5.1.1: Protect the local environment and conserve energy resources by encouraging alternatives to the private automobile and reducing total VMT (vehicle miles traveled) per capita.

Policy 5.1.2: Pursue the use of more fuel efficient vehicles for public agencies to conserve fuel.

Policy 5.1.3: Encourage the use of more fuel efficient modes of travel such as carpools, bicycling and walking.

Objective 5.2: Enhance Community Aesthetics

Policy 5.2.1: Improve the attractiveness of transportation facilities through landscaping in the public right-of-way when possible.

Policy 5.2.2: Require landscaping and buffering along the public right-of-way for new developments.

Policy 5.2.3: Provide a safe, attractive and welcoming environment for bicyclists and pedestrians through the provision of special facilities such as:

- Bicycle lanes, paths and/or trails,
- Pedestrian walkways or trails, and
- Buffering of facilities for pedestrians and bicyclists from traffic.

Objective 5.3: Protect Neighborhoods

Policy 5.3.1: Keep through traffic off of residential streets through the provision of an adequate network of arterials and collectors, and consideration of neighborhood traffic control devices.

Policy 5.3.2: Keep trucks out of neighborhoods through the designation and enforcement of truck routes in the Grants Pass urban area.

Objective 5.4: Protect Air Quality

Policy 5.4.1: Meet the federal Clean Air Act (CAA) requirements for air quality.

Policy 5.4.2: Meet the Oregon Benchmarks targets for air quality.

Objective 5.5: Provide for Safe Movement of Hazardous Materials

Policy 5.5.1: Identify specific routes through the urban area for the movement of hazardous materials.

Policy 5.5.2: Implement a standard "incident management" program for hazardous materials.

Policy 5.5.3: Coordinate with state and federal agencies in developing programs and regulations for the safe movement of hazardous materials through the Grants Pass Urban Area.

Objective 5.6: Mitigate Negative Impacts

Policy 5.6.1: Mitigate negative environmental impacts associated with the construction, operation and maintenance of transportation facilities.

Goal 6: Ensure Financial Stability

Financing the recommended transportation improvements will be a major challenge. Costs have increased significantly for the construction of facilities due to inflation, and increased requirements to meet safety and environmental regulations. In addition, the competition for transportation funds has increased at local, state and federal levels; and competition has increased between transportation and other publicly provided facilities and services such as parks, police, fire and education. Stable financing sources need to be available to carry out the transportation plan and to conduct ongoing maintenance and operation of the transportation system.

Policies in this section address issues related to the adequacy of funds for transportation improvements, equity in the collection and expenditure of funds, and encouraging the private sector to participate in the provision of transportation facilities and services.

Objective 6.1: Secure Adequate Transportation Funding

Policy 6.1.1: Identify and secure sufficient funding resources to implement the *Grants Pass Urban Area Master Transportation Plan.*

Policy 6.1.2: Secure sufficient resources to support an adequate ongoing maintenance program for transportation facilities in the Grants Pass Urban Area.

Policy 6.1.3: Stay apprised of special purpose funds that may be available for transportation facilities and/or services and aggressively pursue grants from state, federal, and other sources for transportation improvements.

Policy 6.1.4: Support legislative initiatives at the state and federal level to provide funds for transportation.

Objective 6.2: Assure Equity in Financing Transportation Facilities and Services

Policy 6.2.1: Assess costs for transportation facilities and services in relation to the benefits received.

Policy 6.2.2: Explore options for local funding of transportation improvements such as Local Improvement Districts, development impact fees, and system development charges.

Objective 6.3: Encourage Private Initiatives

Policy 6.3.1: Provide incentives to stimulate private investment in transportation facilities and services.

Policy 6.3.2: Encourage the private sector to do as much as possible to meet the needs for transportation facilities and services in the Grants Pass Urban Area.

Goal 7: Implement Planned Transportation Improvements

The ultimate test of any plan is whether or not its recommendations can be implemented successfully. Since a plan is useful only to the extent that it result in improved conditions, a strong implementation element is critical to the *Grants Pass Urban Area Master Transportation Plan.* In addition to financial strategies, implementation requires the identification of implementation responsibilities, schedule, and other implementation activities. Some of these actions are "one time only", others involve ongoing actions and policies to systematically improve the transportation system as opportunities arise. Policies in this section address issues such as: setting priorities for transportation expenditures, project construction, preservation of future right-of-way, updating the transportation plan, and involving the private sector in improvements for the transportation system.

Objective 7.1: Set Priorities

Policy 7.1.1: Establish a clear process and criteria to determine funding priorities for transportation expenditures based on:

- Safety,
- Capacity,
- Encouraging alternatives to SOV's (Single Occupant Vehicles),
- Transportation system completion,
- Financial feasibility,
- Community support,
- Economic stimulation and support, and
- Environmental enhancement.

Policy 7.1.2: Maintain sufficient flexibility in plan implementation to take advantage of special opportunities that may arise and respond to conditions as they change.

Objective 7.2: Construct Needed New Facilities

Policy 7.2.1: Complete the planned transportation network to evenly distribute traffic and reduce traffic impacts on congested locations.

Policy 7.2.2: Provide for a fourth bridge to support the development of the south and western portions of the urban area as provided for in the Comprehensive Plan.

Policy 7.2.3: Include provisions for bicycles and pedestrians in major maintenance and improvement projects for roadways.

Policy 7.2.4: Establish on going spot improvement program for the systematic elimination of hazards for bicycles and pedestrians.

Policy 7.2.5: Update the implementation portion of the *Grants Pass Urban Area Master Transportation Plan* in coordination with preparation of Capital Improvement Programs for the City, County and State, to respond to changing conditions.

Objective 7.3: Preserve and Acquire Future Transportation Corridors

Policy 7.3.1: Identify future transportation corridors and prohibit development and/or encroachment on needed right-of-way.

***Policy** 7.3.2:* Obtain dedicated right-of-way and/or easements for roads, trails and utilities during the development review and permitting process.

Objective 7.4: Keep Transportation Plan Current

***Policy** 7.4.1:* Maintain an adequate data base to monitor the transportation system performance and provide for future transportation and land use planning efforts.

***Policy** 7.4.2:* Conduct regular assessment of the plan and prepare reports on transportation conditions in the urban area, the status of key indicators (such as traffic volumes, Level of Service on key roadways, air quality, financial conditions and project implementation status), and progress toward the goals and policies in the transportation plan.

***Policy** 7.4.3:* Complete updates of the *Grants Pass Urban Area Master Transportation Plan* as part of the periodic review of the Urban Area Comprehensive Plan.

Objective 7.5: Encourage Private Sector Participation in Implementation

***Policy** 7.5.1:* Encourage private sector participation in implementation of the projects, programs and policies included in the transportation plan.

***Policy** 7.5.2:* Encourage and support private entrepreneurs who want to provide transportation facilities and services in the urban area.

***Policy** 7.5.3:* Provide positive incentives as well as exactive requirements for the private sector to assist in meeting the transportation needs of the Grants Pass urban area.

***Policy** 7.5.4:* Encourage new developments to extend/connect roads, trails, paths adjacent to their developments.

4. ROADWAY ELEMENT

This chapter includes the planned transportation improvements for the Grants Pass Urban Area. The first section describes the process used to identify and evaluate proposed improvements for the transportation system in the urban area. The second section describes the planned capital improvement program, which includes transportation system improvement projects (new facilities or expansions of existing facilities), and transportation system upgrades for existing city, county, and state facilities. The planned improvements are described in tables and shown on maps included in this section. Individual projects have been prioritized, and scheduled for implementation over the next 20 years. A new functional classification map is also included in this section. The third section of this chapter includes roadway design guidelines for facilities within the Grants Pass Urban Area.

Developing the Capital Improvement Program

Following the identification of current and future needs and deficiencies a series of improvement alternatives were developed. These included a "no build" alternative, as well as eight different action alternatives. The action alternatives differed in the mix of individual improvements that were included. Each of the alternatives was "modeled" to test their effectiveness in meeting the identified deficiencies. These alternatives were evaluated using the criteria shown in Table 4-1. The results of the evaluation were reviewed with the Management Team, the Transportation Public Advisory Committee and the general public. Descriptions of the alternatives, along with the results of the model evaluation are included in Appendix C of this Plan.

Based on the evaluation, Alternative 8 was selected as the preferred option, and provided the basis for the Capital Improvement Program. This alternative was subsequently refined to respond to comments received during the review. Planning level cost estimates were developed for each of the projects in order to assess the fiscal requirements for the transportation improvements needed to serve the adopted land use plan. Individual projects were assigned a priority (high, medium or low) to reflect their relative importance, and assigned to a construction time period.

An assessment was made of the primary beneficiaries of each project (local, areawide, existing development and/or new development), and potential funding sources were identified for each project related to the identified beneficiaries. Possible funding sources included state and federal funds, city general funds, county road fund, private developers, local improvement districts (LIDs), system development charges (SDCs), and other (e.g., schools, and Grants Pass Parkway Redevelopment Agency.) A complete copy of the financial analysis is included in Chapter 8 of this Plan.

Table 4-1: Evaluation Criteria for Transportation Improvements

Evaluation Criteria	Description
Project Performance	
Congestion Relief	Extent to which the project relieves congestion and/or improves LOS (level of service) at project location and/or elsewhere
Safety	Potential for project to improve safety for travelers using motorized or non-motorized modes of travel
Roadway/Network Completion	Does the project/improvement fill in an important missing link in the roadway or transportation system
Encouraging Travel Modes Other than the Private Automobile	Potential for the project to encourage travel by transit, walking, bicycle, and/or the potential of the project to reduce total VMT (vehicle miles traveled) through more direct connections
Impacts of the Project	
Natural Environment	Potential impact of the project on air and water quality, wetlands and natural vegetation, and ability to mitigate adverse impacts
Built Environment	Potential impacts of project on neighborhoods, businesses, parks and recreational sites, and historical and cultural sites
Construction Impacts	Potential short-term impacts on the natural and built environment during project construction
Financial Feasibility	
Cost Effectiveness	Total project cost in relation to expected benefits of the project
Funding Feasibility	How reasonable is it to expect that funds can be secured for implementation, will the project qualify for special funding
Engineering Feasibility	
Technical Elements	Are there any difficult or unique technical issues to be addressed in the design/construction of the project
Required Structures	Are there any structures required that will significantly increase the technical complexity and cost of the project
Community Support	
Compatibility with Plans	Is the project compatible with adopted plans for the City of Grants Pass, Josephine County and ODOT
Community Support	To what degree does the community support/oppose the project

Capital Improvement Program

Projects for the long range capital improvement program for the Grants Pass Urban Area are divided into two categories: System Improvements and Urban Upgrades. System Improvement projects include new roadways or sections of roadways, and expansions of existing facilities to provide additional capacity and/or additional improvements for bicycles and/or pedestrians. Urban Upgrade projects involve improvements to existing facilities to bring them up to the design standards for their functional classification within the urban area. Upgrade projects are shown separately for city, county and state facilities. Functional classifications for all of the roadways is shown in Figure 4-1; design guidelines for each of these classifications is included in the last section of this chapter.

Transportation System Improvements

Planned transportation system improvements are described in Table 4-2, and are shown in Figures 4-2 to 4-4. A detailed list of planned improvements per facilitiy is located in Appendix F. These improvements include new roads, a new bridge crossing the Rogue River in the vicinity of Lincoln Road, extensions of existing roadways, and street widening and other improvements. The underlying rationale for the set of improvements included in the Plan is based on the three objectives described below.

- *Provide north/south routes in the western and eastern portions of the urban area, as well as the center route along 6th and 7th Streets. This will provide for better circulation within the urban area to support the approved land use plan. In addition it will help to distribute traffic more evenly throughout the urban area, relieving congestion in the downtown core and reducing unnecessary circuitous routing for travelers.*
- *Complete critical "missing links" in the roadway system. This will allow for more direct routing, and a more even distribution of traffic over the entire arterial network;*
- *Bring roadways within the urban area up to urban standards. This will improve safety and convenience for all travel modes, including bicycle and pedestrian.*

The highest priority projects included in the list of System Improvements are described below.

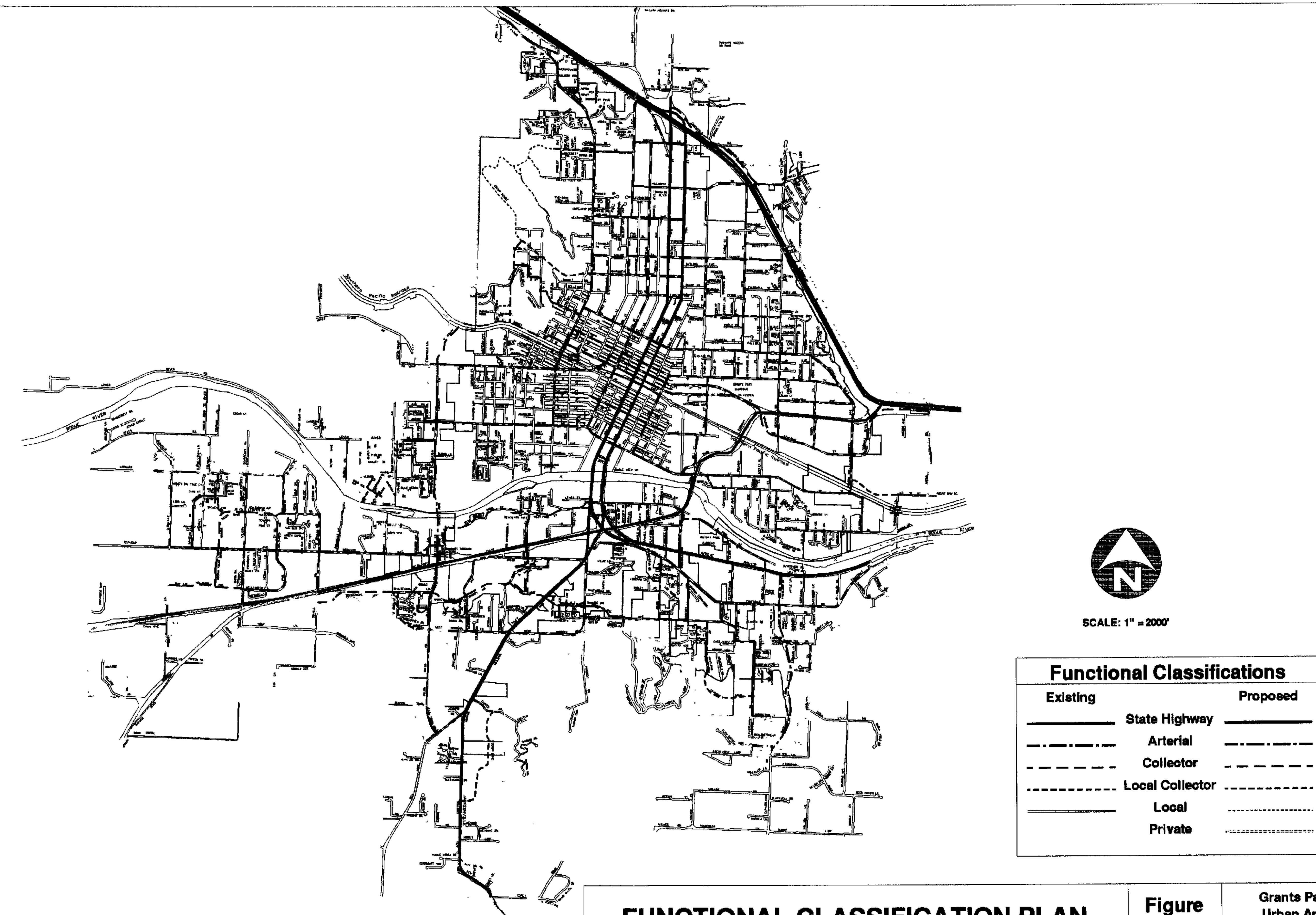
Fourth Bridge (Project 1) - The selected location for a fourth bridge across the Rogue River would connect Allen Creek Road/Flower Lane and Lincoln Road. The existing river crossings are becoming more congested, and will continue to get worse as the area grows. An additional bridge will provide additional north/south capacity across the river, and a more convenient connection for traffic on the western side of the urban area. This is consistent with the adopted land use plan which calls for substantial additional growth in this portion of the urban area. A new bridge in this area will eliminate some circuitous routing and travel on east/west streets as traffic uses the new bridge rather than traveling out of the way to reach existing bridges. The useful lifespan of a bridge is 40-50 years. Therefore this bridge is planned to be four lanes wide to provide sufficient width for long term needs. The roadway leading to/from the bridge could be two to five lanes depending on the travel demand for the roadway. The estimated cost for the bridge is $15.7 million; it is scheduled for construction in the period from 2006 to 2015.

Lincoln Road Widening (Webster Road to "G" Street) (Project 2) - The existing section of Lincoln Road between Webster Road and G Street would be widened to three lanes and upgraded to meet the design guidelines for an arterial street. This project is related to the fourth bridge. The estimated cost for this improvement is $2.1 million; it is scheduled for construction in the period from 2006-2015

"F" Street Extension (Elm Street to Sunhill Drive) (Project 3) - In this project "F" Street would be extended from its current terminus to the northwest along the railroad right-of-way, to connect with Sunhill Drive. The resulting collector roadway would provide better access to properties north of the railroad tracks. This project provides a critical link to serve the growing residential areas in the northwest portion of the urban area. This project is linked to Project 7 (a new local access road from Morgan Lane to "F: Street - Low priority), Project 19 (a new road from Upland Drive to Manzanita Street - Low priority), and Project 4 (a new road extending "F" street from Sunhill Drive to "G" Street/Lincoln Road - Medium priority). The estimated cost for this improvement is $2.1 million; it is scheduled for construction in the period from 2006 to 2015.

Urban Upgrades

In addition to system improvements, numerous locations were identified where upgrades are needed to bring existing facilities into compliance with design guidelines for the roadways within the Grants Pass Urban Area. Upgrades could include widening of lanes to meet standards, installation of enclosed drainage, improved traffic signals, installation of bicycle lanes and/or sidewalks, and other types of improvements. Upgrade projects for City and State facilities are shown in Figure 4-3, and upgrade projects for county facilities are shown in Figure 4-4. They are described in Table 4-2 and more fully in Appendix F. The highest priority upgrade projects are summarized in Table 4-3.



FUNCTIONAL CLASSIFICATION PLAN

Figure 4-1

Grants Pass Urban Area Transportation Plan

Key
H : High Priority
M : Medium Priority
L : Low Priority
PRA : Parkway Redevelopment Agency
RR Xing: Railroad Crossing
TWLTL : Two-way left turn lane

Table 4-2: Planned Transportation Projects

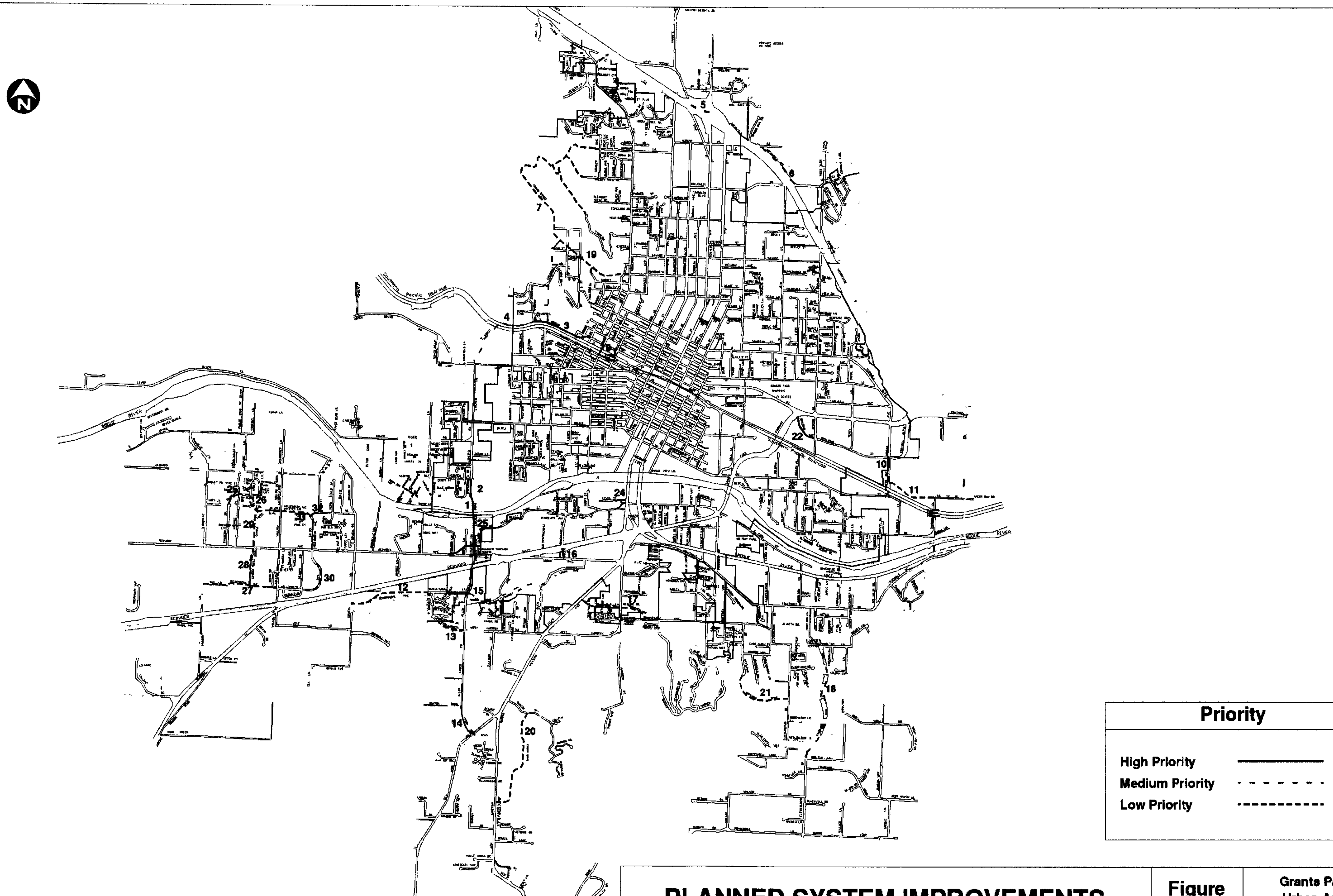
Code Number	Improvement Project	Description	Estimated Cost	Construction Timing	Primary Beneficiaries: Local	Area-wide	Existing Devt.	New Devt.	Potential Funding Sources (Primary (P) or Secondary (S)): Priority (H,M,L)	State/ Fed.	City Gen.	County Road	Private Devt.	LID	SDC	Other
	System Improvements															
1	Fourth Bridge: Redwood Avenue to Webster Road	New Bridge	$15,727,118	2006 to 2015	X	X	X	X	H	P	S	S			S	
2	Lincoln Road: Webster Road to G Street	Widen to three lanes	$2,101,111	2006 to 2015	X	X	X	X	H	S	S	S			S	
3	F Street: Elm Street to Sunhill Drive	New Extension, RR Xing	$2,089,747	2006 to 2015	X	X	X	X	H		S			P		
4	F Street: Sunhill Drive to G Street	New Extension, RR Xing	$2,064,863	2006 to 2015	X	X	X	X	M		S			P		
5	I-5 North Interchange Improvements	New Ramps	$1,817,098	2006 to 2015	X	X	X	X	M	S			P			
6	Service Road: Hillcrest Drive to Greenfield Road	New two lane road	$1,000,722	2006 to 2015	X	X	X	X	M	S	S	S		S		
7	Crown Street: Morgan Lane to F Street*	New local access	$3,682,166	2006 to 2015	X		X	X	L				P	S		
9	Dimmick Street: Foundry Street to F Street	New Extension, RR Xing	$718,762	2006 to 2015	X	X	X	X	M		S			P	S	
10	Agness Avenue: Spalding to N Street	New Extension, RR Xing	$1,278,824	2006 to 2015		X	X	X	M	S	S	S		S	S	
11	Ament Road: Shannon Lane to Agness Avenue	New Extension	$714,046	2015 +	X		X	X	L				P	S		
12	Schutzwohl Lane: West Harbeck Road to Dowell Road	New collector road	$1,798,770	2006 to 2015	X	X	X	X	L				P	S		
13	West Harbeck Road: Forestview Drive to Allen Creek	New collector road	$270,435	2006 to 2015	X	X	X	X	L				P	S		
14	Allen Creek Road: Denton Trail to New Hope Road*	New Extension	$1,239,746	2006 to 2015	X	X	X	X	M	S		S	P	S	S	
15	Ramsey Road: Allen Creek Road to Meridian Way	New Extension	$1,771,283	2006 to 2015	X	X	X	X	M				S	P		PRA
16	Ringuette Road: Redwood Highway to Union Avenue	New Extension	$471,863	2006 to 2015	X		X	X	M	P				S		PRA
17	GI Lane: Jacksonville Highway to Grandview Avenue	New Extension	$1,081,739	2006 to 2015	X		X	X	L				P	S		PRA
18	Overland Drive: Rogue River Highway to Cloverlawn	New Extension	$3,693,953	2002 to 2005	X		X	X	M			S	S	P		
19	New Road: Upland Drive to Manzanita Street	New Extension	$716,605	2006 to 2015	X			X	L				P	S		
20	Coach Drive: Curtis Drive to Williams Highway	New Extension	$2,587,713	1998 to 2006	X			X	L				P	S		
21	Haviland Drive: Highline Canal to Cloverlawn Drive	New Extension	$1,072,092	2006 to 2015	X			X	L				P			
22	Spalding Avenue: Beacon Drive to Grants Pass Parkway	New Extension	$550,711	1998 to 2006	X	X	X	X	H	S			S	P		PRA
23	West Park Street: Allen Creek to Pansy Lane	New Extension	$630,615	2015 +		X			L					P		
24	West Park/Lewis Avenue	Intersection improvements	$479,613	2006 to 2015	X	X	X	X	M			S	S	P		
25	Raydean Drive: Raydean Drive to Angler Lane	New Extension	$402,886	2015 +					L			S	P			
26	Angler Lane: Angler Lane to George Tweed-North	New Extension	$331,788	2015 +					L			S	P			
27	Kellenbeck Avenue-West: Hubbard Lane to Willow Lane	New Extension	$1,184,959	2015 +					L			S	P			
28	George Tweed Blvd-South: Kellenbeck-West to Redwood	New Extension	$592,479	2015 +					L			S	P			
29	George Tweed Blvd-North: Redwood to Willow Lane	New Extension	$900,569	2015 +					L			S	P			
30	Kellenbeck Avenue-South: Redwood to Willow Lane	New Extension	$450,284	2015 +					L			S	P			
31	Kellenbeck Avenue-North: Redwood to Willow Lane	New Extension	$995,365	2015 +					L			S	P			
32	Leonard Road: Leonard Road to Kellenbeck-North	New Extension	$142,195	2015 +					L	S		S	P	P	S	
		Total System Improvement	$52,560,120													
	Urban Upgrades: City															
33	Dimmick Street: Bellevue to C Street	Restripe for bike lanes	$19,964	2006 to 2015		X			M		S			P		
34	Dimmick Street: C Street to RR Crossing	Widen for TWLTL, bikes	$179,496	2006 to 2015		X			M		S			P		
35	Dimmick Street: RR Crossing to G Street	Widen for TWLTL, bikes	$15,608	2006 to 2015		X			M		S			P		
36	Oak Street: G Street to Bridge Street	Restripe for bike lanes	$32,984	2006 to 2015		X			M		S					
37	G Street: Leonard Road to 3rd Street	Widen for TWLTL, bikes	$499,466	2006 to 2015		X			H		P					
38	B Street/Crescent Drive: Olmar to New Local Collector	Curb, Gutter, Sidewalk	$45,565	2006 to 2015	X		X	X	L				S	P		
39	Beacon Drive: A Street to D Street	Restripe for bike lanes	$14,756	2006 to 2015		X			H		S					
40	Hillcrest Drive: 6th to 7th Street	Restripe for bike lanes	$9,548	2015 +		X			L		P					
41	Hillcrest Drive: 7th to 9th Street	Restripe for bike lanes	$13,020	2015 +		X			L		P					
42	Savage Street: Beacon Drive to 10th Street	Full Reconstruction	$99,537	2006 to 2015	X	X		X	M					P		
		Total City Upgrades	$929,944													

* Revised by Ord. 5022 - Estimated Costs not revised.

Urban Upgrades: County

43	A Street: Tenth Street to Foothill Boulevard	Overlay, 5' sidewalks (2)	$119,470	2015+					M				S	P		
44	Allen Creek Road: Redwood Avenue to Denton Trail	Full Reconstruction	$2,369,917	2006-2015					M	S		S	S	P	S	
45	Beacon Drive: Spalding Avenue to Railroad Right-of-Way	Full Reconstruction	$189,593	2015+					L				P	S		
46	Bridge Street: Lincoln Road to East Line Section 13	Overlay, 5' sidewalks (2)	$66,372	2006-2015					M				S	P		
47	Cloverlawn Drive: Rogue River Highway to Eastview Place	Overlay, 5' sidewalks (2)	$74,962	2006-2015					L				S	P		
48	Cloverlawn Drive: Eastview Place to Hamilton Lane	Full Reconstruction	$2,369,917	2015+					L	S		S	S	P	S	
49	Damielle Lane: Redwood Avenue to Leonard Road	Full Reconstruction	$1,184,959	2015+					M	S		S	S	P	S	
50	Dowell Road: Redwood Highway to Schutzwol Lane Extension	Full Reconstruction	$248,842	2006-2015					L				S	P		
51	Dowell Road: Redwood Avenue to Leonard Road	5' sidewalks (2)	$66,372	2006-2015					M			S	S	P	S	
52	Drury Lane: Fruitdale Drive to Grandview Avenue	Full Reconstruction	$947,967	2006-2015					M				S	P		
53	Fairgrounds Road: Redwood Highway to Union Avenue	Full Reconstruction	$47,398	2015+					M	S		S	S	P	S	
54	Foothill Boulevard: A Street to 760 Feet Southeast	Overlay, 5' sidewalks (2)	$37,168	2015+					M	S		S		P	S	
55	Fruitdale Drive: Jacksonville Highway to Parkdale Drive	Full Reconstruction	$1,421,950	1999-2005					M	S		S	S	P	S	
56	Fruitdale Drive: Parkdale Drive to Overland Drive	Full Reconstruction	$1,777,438	2006-2015					M	S		S	S	P	S	
57	Fruitdale Drive: Overland Drive to Rogue River Highway	Full Reconstruction	$2,488,413	2015+					M	S		S	S	P	S	
58	G Street: Third Street to Fourth Street	Overlay, 5' sidewalks (2)	$29,204	1999-2005					H				P	S		
59	G Street: Lincoln Road to Leonard Street	Full Reconstruction	$622,105	1999-2005					H	S		S	S	P	S	
60	Gladiola Avenue: N Street to Portola Drive	Full Reconstruction	$516,763	2006-2015					M	S			S	P	S	
61	Grandview Avenue: Harbeck Road to Cloverlawn Drive	Full Reconstruction	$2,369,917	2006-2015					H	S		S	S	P	S	
62	Hamilton Lane: Park Street, East to Rogue River Highway	Full Reconstruction	$149,305	2015+					M					P	S	
63	Hamilton Lane: Overland Drive to Cloverlawn Drive	Full Reconstruction	$2,836,801	2015+					L				S	P	S	
64	Harbeck Road: Jacksonville Highway to Grandview Avenue	Overlay, 5' sidewalks (2)	$100,886	2015+					M				P	S		
65	Harbeck Road, West:Jacksonville Highway to Allen Creek Road	Full Reconstruction	$1,184,959	2006-2015					M	S		S	S	P	S	
66	Haviland Drive: Grandview Avenue to Highline Canal	Full Reconstruction	$805,772	2015+					L				S	P		
67	Hawthorne Avenue: Midland Avenue to Morgan Lane (West)	Overlay, 5' sidewalks (2)	$114,160	1998 to 2000					L				S	P		
68	Highland Avenue: South Line Section 6 to Northwest UGB	Full Reconstruction	$2,015,621	1999-2005					M			S	S	P	S	
69	Hillcrest Drive: Hawthorne Avenue to Sixth Street	Overlay, 5' sidewalks (2)	$66,372	1999-2005					L				S	P		
70	Hillcrest Drive: Ninth Street to Tenth Street	Full Reconstruction	$671,874	2015+					M	S		S	S	P	S	
71	Hillcrest Drive: Tenth Street to Beacon Drive	Full Reconstruction	$622,105	2015+					M				S	P	S	
72	Hubbard Lane: Redwood Highway to Redwood Avenue	Full Reconstruction	$1,066,463	2015+					M	S		S	S	P	S	
73	Leonard Road: Willow Lane to Redwood School (UGB)	Full Reconstruction	$1,777,438	2015+					M	S		S	S	P	S	
74	Leonard Road: Dowell Road to Willow Lane	Full Reconstruction	$1,777,438	2015+					M				S	P	S	
75	M Street: Skunk Creek to East 1/16 Line Section 20	Overlay, 5' sidewalks (2)	$111,505	2015+					L				S	P		
76	M Street: West Line Section 21 to N Street	Overlay, 5' sidewalks (2)	$42,478	2015+					L				S	P		
77	Morgan Lane: Hawthorne Avenue to Vine Street	Overlay, 5' sidewalks (2)	$53,098	1999-2005					L				S	P		
78	Morgan Lane: Highland Avenue to Hawthorne Avenue	Full Reconstruction	$622,105	1999-2005					M	S		S	S	P	S	
79	N Street: East 1/16 Line Section 20 to Rogue Drive	Overlay, 5' sidewalks (2)	$55,753	2015+					L				S	P		
80	N Street: M Steet to Agness Avenue Extension	Full Reconstruction	$798,633	2006-2015					M	S		S	S	P	S	
81	N Street: Agness Avenue Extension to Gladiola Avenue	Full Reconstruction	$211,403	2006-2015					M							
82	Nebraska Avenue: West Harbeck Road to McCarter Drive	Overlay, 5' sidewalks (2)	$14,698	2015+					L	S			S	P	S	
83	Nebraska Avenue: McCarter Drive to South Union Avenue	Half Reconstruction	$236,992	1999-2005					M				S	P		
84	Nebraska Avenue: South Union Avenue to Union Avenue	Overlay, 5' sidewalks (2)	$36,746	1999-2005					L			S	P	S		
85	Park Street, East: Gold River Lane to Clara Avenue	Full Reconstruction	$597,221	2006-2015					M				S	P	S	
86	Park Street, East: Clara Avenue to Hamilton Lane	Full Reconstruction	$696,758	2015+					M				S	P	S	
87	Park Street, West: Sixth Street to Ringuette Street	Full Reconstruction	$947,967	1999-2005					L	S		S	S	P	S	
88	Park Street, West: Ringuette Street to Pansy Lane	Full Reconstruction	$2,132,926	2015+					M				S	P	S	
89	Portola Drive: 450 Feet west of Gladiola Avenue	Full Reconstruction	$211,403	1999-2005					M	S			S	P	S	
90	Portola Drive: Gladiola Avenue to Shannon Lane	Full Reconstruction	$489,764	2015+					M	S			S	P	S	
91	D Street: Beacon Drive to 1500 Feet East	Overlay, 5' sidewalks (2)	$74,337	2015+					M				S	P		
92	Redwood Avenue: Redwood Highway to Daisy Lane	Full Reconstruction	$473,983	2006-2015					H	S		S	S	P	S	
93	Redwood Avenue: Daisy Lane to Dowell Road	Full Reconstruction	$1,682,641	2006-2015					H	S		S	S	P	S	
94	Redwood Avenue: Dowell Road to 450 Feet West of Darneille La	Full Reconstruction	$2,441,015	2015+					H	S		S	S	P	S	
95	Foothill Boulevard: City Limits to Ament Road	Full Reconstruction	$995,369	2015+					M	S		S	S	P	S	
96	Ringuette Street: Redwood Highway to Canal Street	Overlay, 5' sidewalks (2)	$29,204	1999-2005					L				S	P		

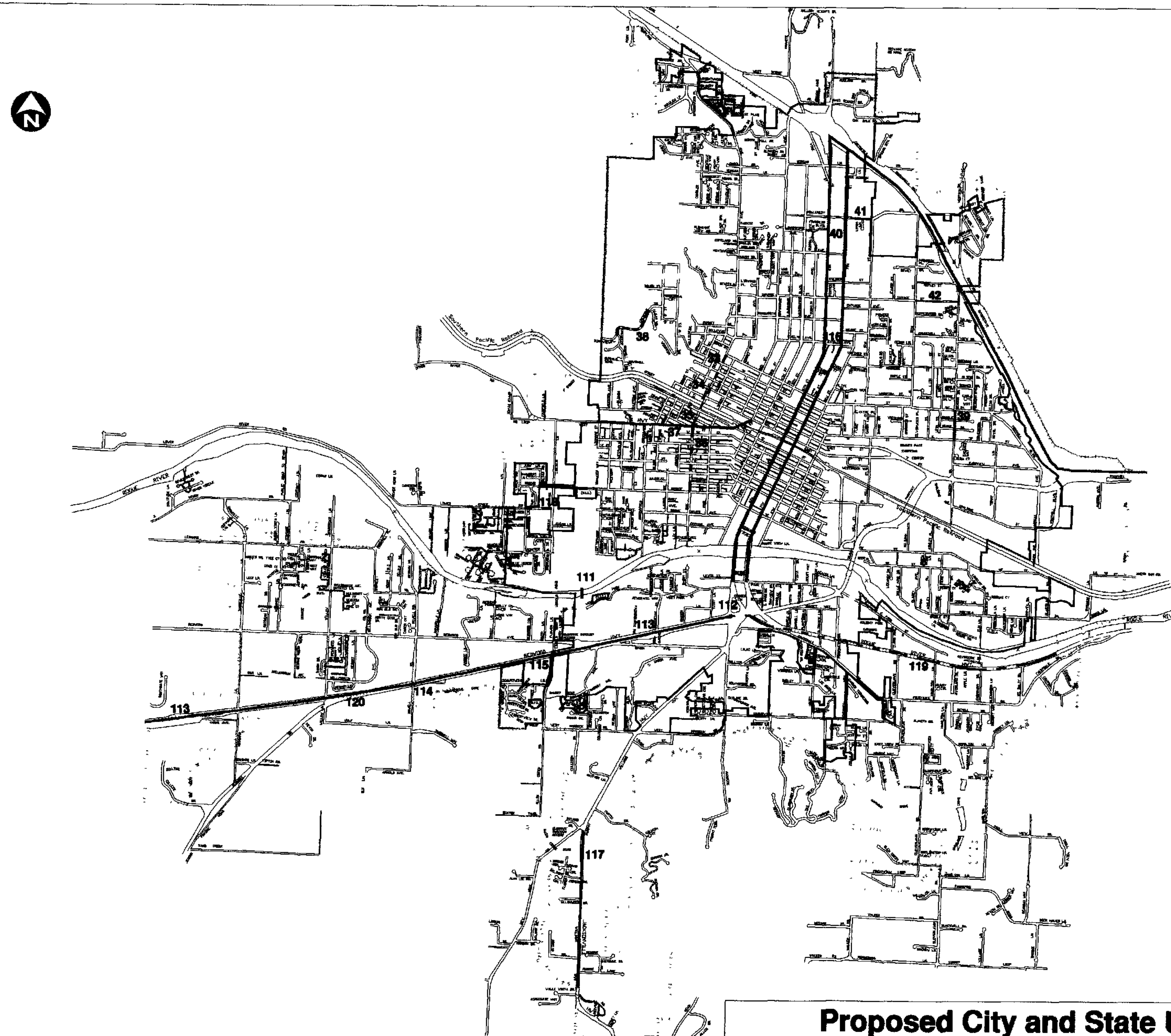
97	Ringuette Street: Canal to West Park Street	Full Reconstruction	$189,593	1999-2005					L			S	S	P	S	
98	Scenic Drive, West: Granite Hill Road to Scoville Road	Full Reconstruction	$726,639	2006-2015					L	S		S	S	P	S	
99	Schutzwohl Lane: West Harbeck Road to Allen Creek Road	Reconstruction	$622,105	1999-2005					L			S	P	S		
100	Scoville Road: Greenfield Road to Scenic Drive	Full Reconstruction	$208,343	2006-2015					L	S		S	S	P	S	
101	Shannon Lane: Portola Drive to North Railroad (ROW)	Full Reconstruction	$352,338	2015+					L	S			S	P	S	
102	Tenth Street: Hillcrest Drive to South 940 Feet	Full Reconstruction	$447,916	2015+					L	S		S	S	P	S	
103	Union Avenue: Jacksonville Highway to Ringuette Street Extensi	Full Reconstruction	$876,869	2006-2015					M	S		S	S	P	S	
104	Union Avenue: Ringuette Street Extension to Nebraska Avenue	Full Reconstruction	$805,772	2015+					M	S		S	S	P	S	
105	Upper River Road: Lincoln Road to UGB West	Overlay, 5' sidewalks (2)	$50,443	2015+					M				S	P		
106	Vine Street: Highland Avenue to Hawthorne Avenue	Full Reconstruction	$1,354,231	2015+					L			S	S	P	S	
107	Willow Lane: Redwood Highway to Redwood Avenue	Full Reconstruction	$971,666	2006-2015					M	S		S	S	P	S	
108	Willow Lane: Redwood Avenue to Leonard Road (UGB)	Full Reconstruction	$1,184,959	2006-2015					M	S		S	S	P	S	
109	Harbeck Road, West: Grandview Avenue to Jacksonville Highwa	Full Reconstruction	$1,327,154	2015+					M	S			S	P	S	
110	Pansy Lane: Redwood Avenue to North End	Full Reconstruction	$236,992	2015+					L				S	P	S	
		Total County Upgrades	$52,448,940													
	Urban Upgrades: State															
111	Grants Pass Pedestrian/Bikeway Bridge	New Bridge	$1,259,000	1998 to 2002	X				H	P	S	S				
112	Redwood Highway at Rogue River Highway	Needs Assessment	$27,000	1997	X	X	X	X	H	P						
113	Redwood Highway, MP 0.3 to 6.9: 6th Street to 7 miles west	Widen and Overlay	$3,561,000	1996	X	X			H	P						
114	Redwood Highway at Dowell Road	Install Traffic Signal	$184,000	1997	X		X	X	H	P		S				
115	Redwood Highway at Allen Creek Road	Install Traffic Signal	$184,000	1999	X		X	X	H	P		S				
116	6th Street/7th Street Couplet:North I-5 interchange to Park Street	Reconstruction	$14,000,000	1999 to 2001	X	X		X	H	P						
117	Jacksonville Highway: New Hope to UGB	Widen to four lanes	$2,140,000	2002 to 2005	X	X		X	H	P						
118	Lower River Road: Lincoln Road to UGB	Full Reconstruction	$315,000	2002 to 2005	X		X		M	S				P		
119	Rogue River Highway: Redwood Highway to UGB	Access mgt, CG	$4,000,000	2006 to 2015	X	X	X		M	P	S	S				
120	Redwood Highway at Willow Lane	Install Traffic Signal	$184,000	2006 to 2015	X		X	X	M	P		S				
		Total State Uprades	$25,854,000													
		Grand Total	**$131,793,004**													



PLANNED SYSTEM IMPROVEMENTS

Figure 4-2

Grants Pass Urban Area Transportation Plan



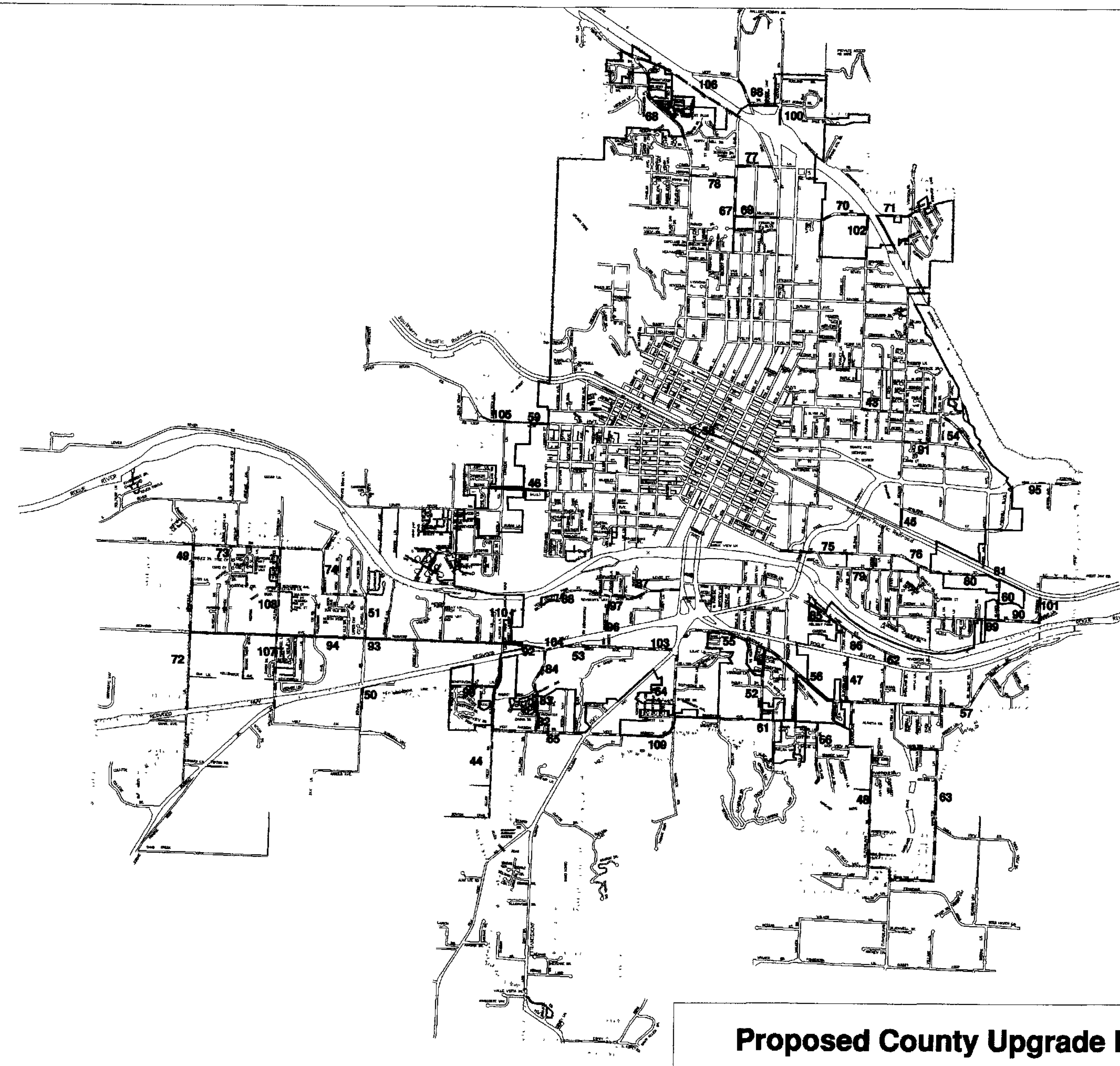
LEGEND

- High Priority
- Medium Priority
- Low Priority
- City Limits
- UGB

Proposed City and State Urban Upgrade Projects

Figure 4-3

Grants Pass Urban Area Transportation Plan



Proposed County Upgrade Projects

Figure 4-4

Grants Pass Urban Area Transportation Plan

Table 4-3: High Priority Urban Upgrade Projects

Project #	Location	Limits
City		
37	"G" Street	Leonard Road to 3rd Street
39	Beacon Drive	"A" Street to "D" Street
County		
58	"G" Street	3rd Street to 4th Street
59	"G" Street	Lincoln Road to Leonard Street
61	Grandview Avenue	Harbeck Road to Cloverlawn Drive
92	Redwood Avenue	Redwood Highway to Daisy Lane
93	Redwood Avenue	Daisy Lane to Dowell Road
94	Redwood Avenue	Dowell Road to 450 feet west of Darneille
State		
111	Pedestrian/Bikeway Bridge	Vicinity of All Sports Park
112	Redwood Highway	At Rogue River Highway
113	Redwood Highway	Milepost 0.3 to 6.9 (6th street to 7 miles west)
114	Redwood Highway	At Dowell Road
115	Redwood Highway	At Allen Creek Road
116	6th/7th Street Couplet	North I-5 Interchange to Park Street
117	Jacksonville Highway	New Hope Road to Urban Growth Boundary

Planning Criteria and Design Standards

This section includes general descriptions and guidelines for roadway design within the Grants Pass Urban Area. Table 4-4 includes descriptions of the general functions and characteristics for different functional classifications. Figure 4-5 includes typical cross section diagrams for these types of roadways. These illustrations are for typical facilities within each of the distinct functional classifications. There may be valid reasons for the city, county or state to deviate from these guidelines in response to unique conditions at a particular location.

In general the City of Grants Pass, Josephine County, and the Oregon Department of Transportation will follow current versions of recognized design standards when designing and constructing improvements for transportation facilities within the Grants Pass Urban Area. These include:

- *AASHTO (American Association of State Highway and Transportation Officials) Standards for roadway design, and for design of bicycle and pedestrian facilities;*
- *MUTCD (Manual on Uniform Traffic Control Devices), and Oregon Supplements to the MUTCD for traffic signals and other traffic control devices and for roadway signage;*
- *ODOT (Oregon Department of Transportation) Design Manual;*
- *City of Grants Pass Department of Engineering Standard Plans; and*
- *Josephine County Standards and Specifications for Design and Construction of County Roads.*

Table 4-4: Design Guidelines and Characteristics for Urban Streets

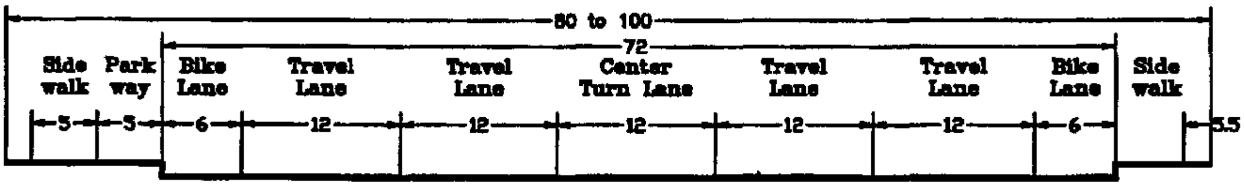
Features	State Highways	Major and Minor Arterial Streets	Collector Streets	Local Collectors	Local Streets
General Function	Generally serves intercity travel at relatively high travel speeds	Serves longer distance trips between neighborhoods and activity centers, connections to highways and other arterials	Connects neighborhoods to each other and to arterials and highways	Access and local circulation within neighborhoods	Access to adjacent properties, short trips within neighborhoods
Emphasis	Mobility	Mobility	Mobility and Local Circulation	Access and Local Circulation	Property Access
Typical Spacing	NA	1 mile	1/2 mile	1/4 mile	1 block
Typical Right of Way	60-230 feet	60-100 feet	50-80 feet	50-60 feet	Up to 50 feet
# of Travel Lanes	2-6	2-4	2	2	1-2
Travel Lane Width	12 feet	12 feet	12 feet	10-12 feet	10-12 feet
Median Left Turn Lane Width	14 feet	12-14 feet	12 feet	NA	NA
On Street Parking	Limited - to preserve capacity and operational efficiency	Limited	Limited - Generally one side only	Generally allowed	Generally allowed
Typical Design Speed	45-70 mph	45 mph Standard as minimum	40 mph	30-40 mph	30 mph
Typical Posted Speed	45 - 55 mph	40 mph	35 mph	30 mph	25 mph

Features	State Highways	Major and Minor Arterial Streets	Collector Streets	Local Collectors	Local Streets
Horizontal Curve (degrees)		6-10	10-12	14-22	40
Stopping Sight Distance		350 feet	315 feet	275 feet	150 - 250 feet
Maximum Grade (percent)		8-10	10	15	15-18 percent
Design ADT (average daily traffic) volume		7,000-20,000	7,000-11,000	6,000	4,000
Sidewalk Width	5 - 6 feet where installed	5 feet	5 feet	5 feet	5 feet
Bicycle Facilities	Separated Multi-use Path, Bike Lanes, or Shoulder Bikeway	Bike Lanes	Bike Lanes	Shared Roadway, may be signed as a Bicycle Route, or have bike lanes	Shared Roadway, may be signed as a Bicycle Route
Access Control Strategy*	Very limited access except at interchanges and/or intersections, Driveways and other curb cuts generally prohibited	Curb cuts and driveways limited to preserve operational capacity and efficiency, prohibited near intersections or where it will interfere with signal progression	Some restrictions on access to maintain satisfactory street operation	Relatively little access control, more driveways allowed to provide easy access to property	Virtually no limits on access, frequent driveways to allow full access to adjacent properties

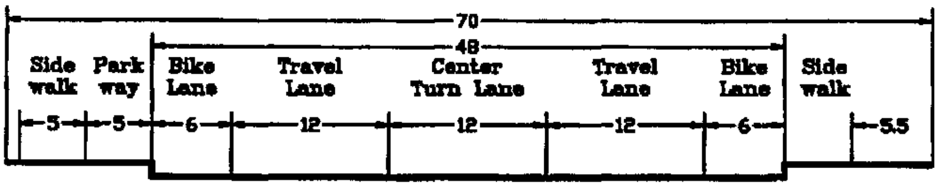
* - See Table 7-5 for details - "Access Management Guidelines for Grants Pass Urban Area"

Figure 4-5: Cross Sections of Major Streets

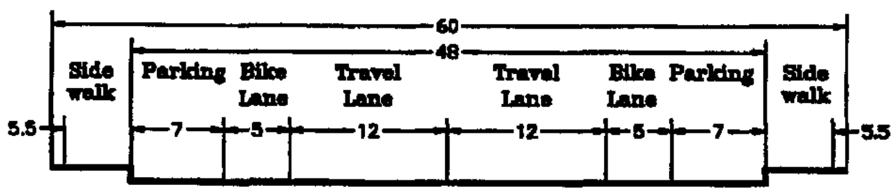
Major Arterial

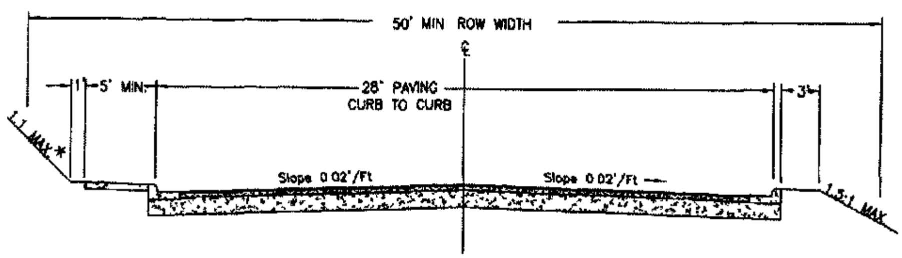


Minor Arterial (or Collector)



Minor Arterial (or Collector): Options



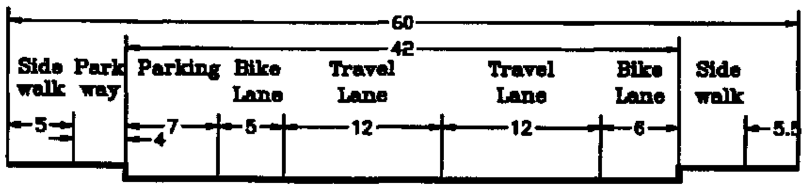


HILLSIDE STREET STANDARD FOR
LOCAL COLLECTOR STREETS

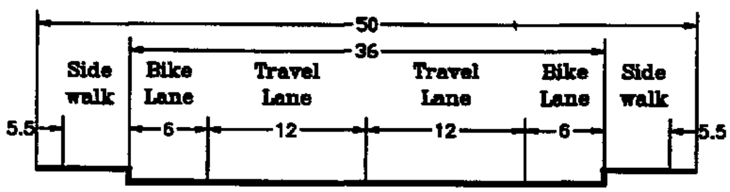
2 - 14 TRAVEL LANES, SIGNED FOR BICYLISTS

(Amended by Ordinance 5022)

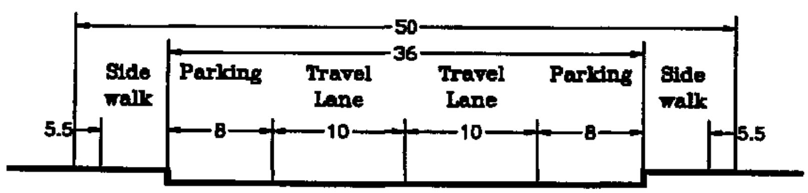
Collector Option 1



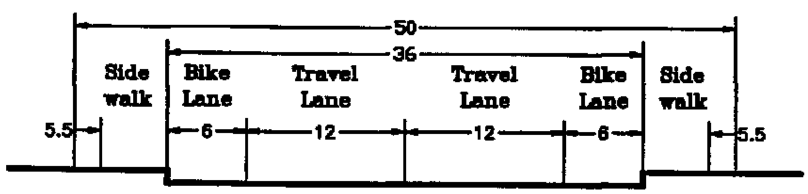
Collector Option 2



Local Collector



Local Collector Option



5. NONMOTORIZED ELEMENT

This chapter includes the planned transportation system to serve bicyclists and pedestrians in the Grants Pass Urban Area. Specific capital improvements are included, along with the design guidelines for facilities for nonmotorized travel. Supporting programs and policies are identified to promote and enhance the use of nonmotorized travel modes in the urban area.

Bicycle Element

Bicycling is now recognized as an important element of a multimodal transportation system. It provides a viable transportation option for people who cannot or who choose not to use private automobiles. It helps to reduce traffic congestion and air pollution, helps to conserve energy resources, and is an increasingly popular form of recreation and exercise.

Bicycling was a useful mode of transportation in the early part of the 20th century when communities were smaller and travel distances shorter. As the automobile became increasingly available, and vast sums of money were invested in the roadway network in communities across America, cycling became less practical and less attractive as a means of transportation.

Increasing traffic demand and its associated impacts on communities has led to renewed interest in bicycling as a means of transportation, as well as recreation. Recent legislation such as ISTEA and the Oregon Transportation Planning Rule, has once again elevated the importance of bicycling (as well as other alternatives to the private automobile) in transportation system planning and improvements. Bicycles are viewed as a viable way to meet a portion of the travel demand in communities, and an attractive alternative to private automobiles.

Today, people use bicycles for a wide variety of trips, including commutes to work, personal business (e.g., shopping or banking), school, and recreation. It is a critical transportation mode for those people too young to drive, and an increasingly popular mode for all other travelers. The relatively flat terrain in the Grants Pass Urban Area, combined with the mild climate make this travel mode a good option in this area.

The bicycle element of the Grants Pass Urban Area MTP is based on several sources of information. The *1982 Josephine County Bikeways Master Plan Proposal* provided an inventory of what had been proposed in the past for the area. Information gathered about the local transportation system and its current utilization helped in the analysis of the status of the proposed improvements, as well as information about the current environment for travel by nonmotorized travel modes, and the *ODOT Bicycle and Pedestrian Plan* provided guidance for design guidelines for proposed improvements.

Bicycle System Facilities

A complete bicycle system consists of several different types of facilities or improvements to accommodate travel by bicycle safely and efficiently. The challenge for local governments is to provide facilities for bicycles that adequately meet the needs of experienced and inexperienced cyclists within the area's financial constraints. Inexperienced and less stable riders usually feel more secure when there is some physical separation from automobile traffic. More experienced riders may need only a little extra pavement along the side of the road that is properly maintained. The impact of bicyclists on traffic is also an important consideration, especially in congested locations where they must compete for limited space. Table 5-1 includes a summary of the major types of facilities and a brief description of their key characteristics.

Table 5-1: Types of Bikeways

Facility Type	Description
Multi-Use Paths	A path physically separated from motor vehicle traffic by an open space or barrier and either within the roadway right-of-way or within an independent right-of-way. These are typically used by bicyclists, pedestrians, joggers, skaters and other non-motorized travelers. Multi-use paths are appropriate in corridors not well served by the street system (if there are few intersecting roadways), to create short cuts that link designation and origin points, or as an element of a community trail plan. ODOT recommends that paths be a minimum 10 feet wide, and, if next to a roadway, be separated from the edge of pavement by a minimum of 5 feet.
Bike Lane	A portion of a roadway which has been designated by striping and pavement markings for the preferential or exclusive use by bicyclists. Bike lanes are appropriate on urban arterials and major collectors. Bike lanes must always be well marked to call attention to their preferential use by bicyclists. ODOT recommends that bicycle lanes be six (6) feet in width (for one way); with a minimum width of four (4) feet. Exceptions may be made in situations where the lane is next to curbs, parking, or guardrails (5 feet); or open shoulders (4 feet).

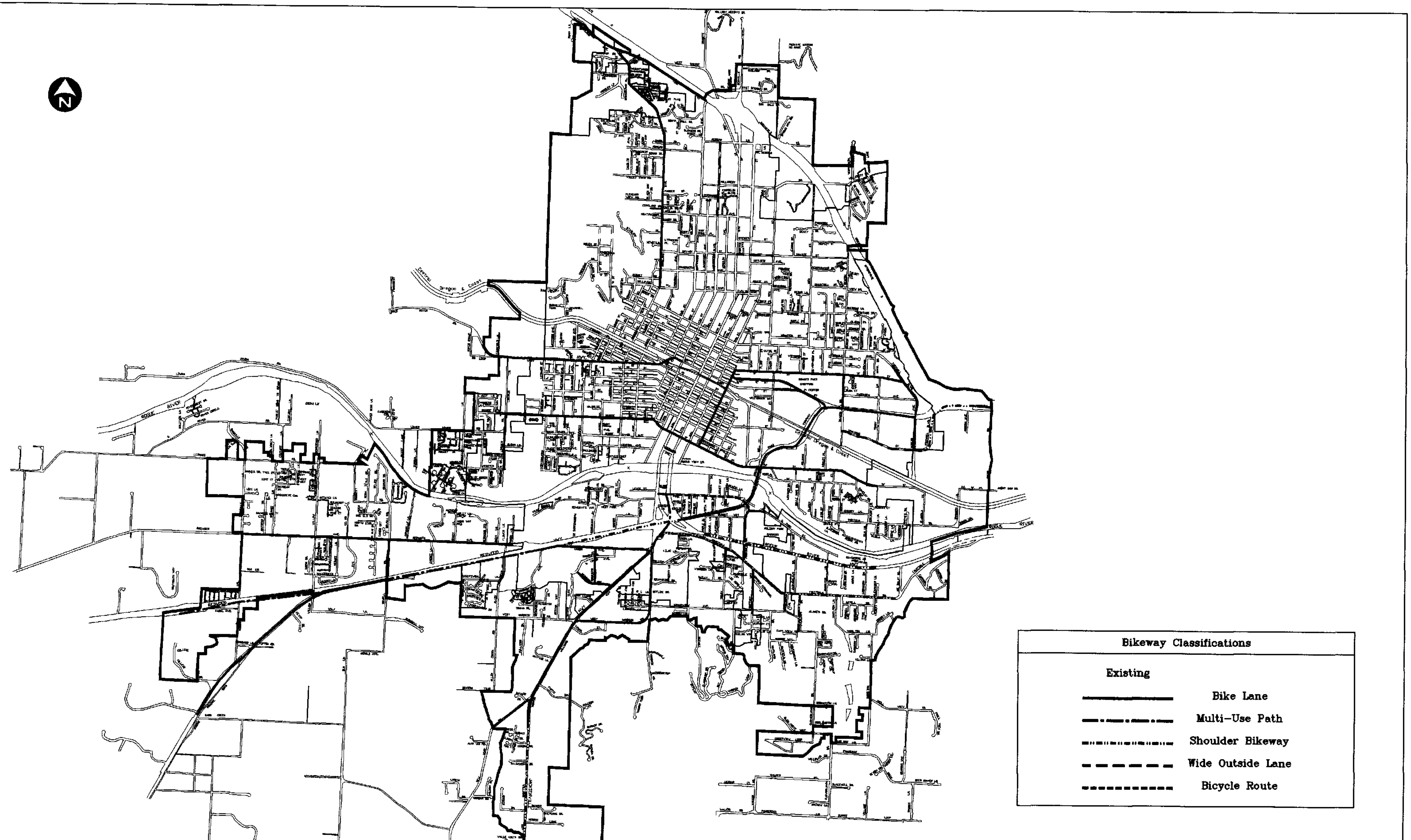
Table 5-1: Types of Bikeways (continued)

Facility Type	Description
Shared Roadway	A type of bikeway where bicyclists and motor vehicles share a travel lane. A motorist will usually have to cross over into the adjacent travel lane to pass a bicyclist. The majority of roads in the Grants Pass Urban Area falls into this category. There are no special provisions or signing for bicyclists, and no prohibitions on bicycle use of the roadway.
Shared Roadway - Wide Outside Lane	A wider than normal curbside travel lane that is provided for ease of bicycle operation where there is insufficient room for a bike lane or shoulder bikeway. ODOT recommends an additional two (2) feet beyond normal lane width to provide additional space for bicyclists. For a standard roadway this would mean a 14 foot minimum width. Depending on local circumstances it may be desirable to remove on-street parking and/or reduce traffic speeds to create a safer and more comfortable space for cyclists.
Shared Roadway - Bike Route	A shared roadway that does not necessarily include any special physical provisions for cyclists, but is usually signed and included on maps. A bike route serves to show cyclists where good facilities and/or conditions exist, and to alert motorists of the potential for higher than normal volumes of bicycle traffic.
Shoulder Bikeway	A type of bikeway where bicyclists travel on a paved shoulder. Paved roadway shoulders on rural roadways provide a suitable area for bicycling, with few conflicts with faster motor vehicle traffic. Most rural bicycle travel on the state highway system is accommodated on shoulder bikeways. While some roadways in the urban area currently have shoulder bikeways, striped bike lanes are normally more appropriate urban bike facilities.

ODOT has developed guidelines and criteria to determine the appropriate treatment for bicycles and pedestrians for different types of roadways. Table 5-2 presents a summary of the ODOT guidelines. Figure 5-1 depicts the current bikeways within the urban area. Currently there are 16 miles of designated bikeways inside the urban growth boundary.

Table 5-2: Appropriate Facilities for Urban Bikeways and Walkways
Oregon Bicycle and Pedestrian Plan

Street Type	Bikeway	Walkway
Arterials and Collectors	The appropriate facilities are bike lanes. *On retrofit projects*, where it is not physically possible to provide bike lanes due to constraints, a wide outside lane may be substituted. A wide outside lane should only be considered after other options have been pursued, such as narrowing or removing travel lanes or parking. Effectively reducing running (actual) speeds to less than 25 MPH creates a more comfortable environment for bicycling where there is insufficient width for bike lanes. This may be appropriate for Central Business Districts.	Sidewalks must be provided on both sides of all arterial and collector streets, unless there are physical limitations and land use characteristics that render a sidewalk unsuitable on one side. In these situations, safe and convenient crossing opportunities must be provided to allow pedestrians to proceed on the side with sidewalks.
Local Collectors and Local Streets	The appropriate facilities for bicyclists are shared roadways. Bike lanes are appropriate on local collectors with high average running speeds (above 25 MPH) or high traffic volumes (ADT over 3000). Local conditions may dictate different thresholds. Bike lanes on local collectors are also appropriate to connect up with other bike lanes or to extend bike lanes to destination points that generate high bicycle use, such as schools, parks and multi-family housing units.	Sidewalks on both sides of the street are the appropriate facility. There is a point below which sidewalks on both sides of a local street may not be critical: e.g. on short dead-end streets with few potential residences and with no access to other facilities.



EXISTING BIKEWAYS (1995)

Figure 5-1

Grants Pass Urban Area Transportation Plan

Planned Bicycle System

Figure 5-2 presents the planned bicycle system for the Grants Pass urban area. The planned system utilizes most of the existing facilities as part of the major bicycle routes within the City, augmented with additional connections to major parks and schools in the area. The following section describes the planned bicycle system in more detail; it is organized into four major topics covering the area north of the Rogue River, the Redwood Area (south of the Rogue River and west of Allen Creek), the Fruitdale-Harbeck Area (south of the Rogue River and east of Allen Creek), and connections across the Rogue River.

1. North of the Rogue River

General: Very good opportunities exist for bicycle travel in the neighborhoods north of the Rogue River. The area has slopes mostly under two percent. The area also has a good network of local streets and collectors that provide for safe and convenient bicycle access through the area. Many of the streets are 36 feet wide curbed streets, which provides adequate room for both vehicles and bicycles to share the roadway.

North-South Travel: The major facilities for north-south travel for the area north of the Rogue River are: Highland Avenue, 6th Street/7th Street, and Beacon Drive.

Highland Avenue provides access to a large residential area and two schools. Bike lanes are in place from the UGB to Bellevue Place. Construction of a rail crossing at Dimmick Street and installation of bike lanes on Dimmick Street and Oak Street will provide a continuous bike lane all the way to Bridge Street.

6th Street and 7th Street are a pair of one-way streets that serve the adjacent commercial areas. As part of its improvement plan, ODOT plans to provide bike lanes on one side of 7th Street. 6th Street is planned to have a bike lane from Morgan Lane to "A" Street. Due to narrow lane widths and the importance of on-street parking in the central business district, a bike lane is not planned on 6th Street south of "A" Street. Instead, a parallel bike route is planned on 4th Street, between "A" Street and Bridge Street, with a connecting link on "A" Street. On-street parking will have to be removed to accommodate the lanes of 4th Street.

Beacon Drive provides a continuous north-south route from Hillcrest Drive to the Grants Pass Parkway. The section from Madrone Street to Olson Drive is currently a multi-use path. A plan to connect Greenfield Road with Hillcrest Drive makes this an attractive north-south route for bicyclists crossing I-5 and/or accessing the east Grants Pass commercial areas. Currently, the roadway from Hillcrest Drive to Madrone Street has very narrow shoulders and needs to be widened to improve bicycle safety.

East-West Travel: The major facilities for east-west travel north of the Rogue River are the "G" Street/"E" & "F" Street/Grant Pass Parkway/"D" Street combination, and Bridge Street/"M" Street.

"G" Street, "E" Street, "F" Street, the Grants Pass Parkway, and "D" Street together provide for continuous east-west travel across the width of the urban area. "G" Street connects to Upper River Road and the areas west of the UGB. A continuous bike lane on "G" Street is provided easterly and across the railroad tracks to connect to the "E" Street/"F" Street one-way couplet. The planned extension of "F" Street between "G" Street and Elm Street would also provide a good east-west connection. Bike lanes currently do not connect through the downtown area, and should be installed to connect the "G" Street bike lanes to east Grants Pass. East of 9th Street, east-west bicyclists have a choice of facilities. Bicyclists can use the "E" Street/"F" Street couplet which connects with the bike lanes on the Grants Pass Parkway. Bicyclists can also use "D" Street, a lower speed and volume street which has striped bike lanes and connects to Agness Avenue. The street network plan provides for the continuation of "F" Street to Spalding Avenue. This street connection would provide a good opportunity for bicyclists to use Spalding Avenue and Foothill Boulevard to access the east Grants Pass commercial area and to continue east towards Tom Pearce Park. Bike lanes need to be striped on these roadways.

Bridge Street/"M" Street also provides a good east-west route across the urban area. Bike lanes are striped from Lincoln Road near the All Sport Park, east across 6th and 7th Streets and the Grants Pass Parkway, and to "N" Street near Riverwood Apartments.

Other travel: Opportunities also exist to continue "N" Street eastward with a rail crossing at Agness Avenue, a connection to Ament Road, and a possible trail east to Tom Pearce Park.

The hills in the northwest area of the City are an attractive destination for mountain bikers. Upland Drive, a local collector street, is planned to serve this area. Because of the steeper slopes and the attractiveness both for mountain bikers and recreational bikers seeking good views, bike lanes would be appropriate on this facility.

2. Redwood Area

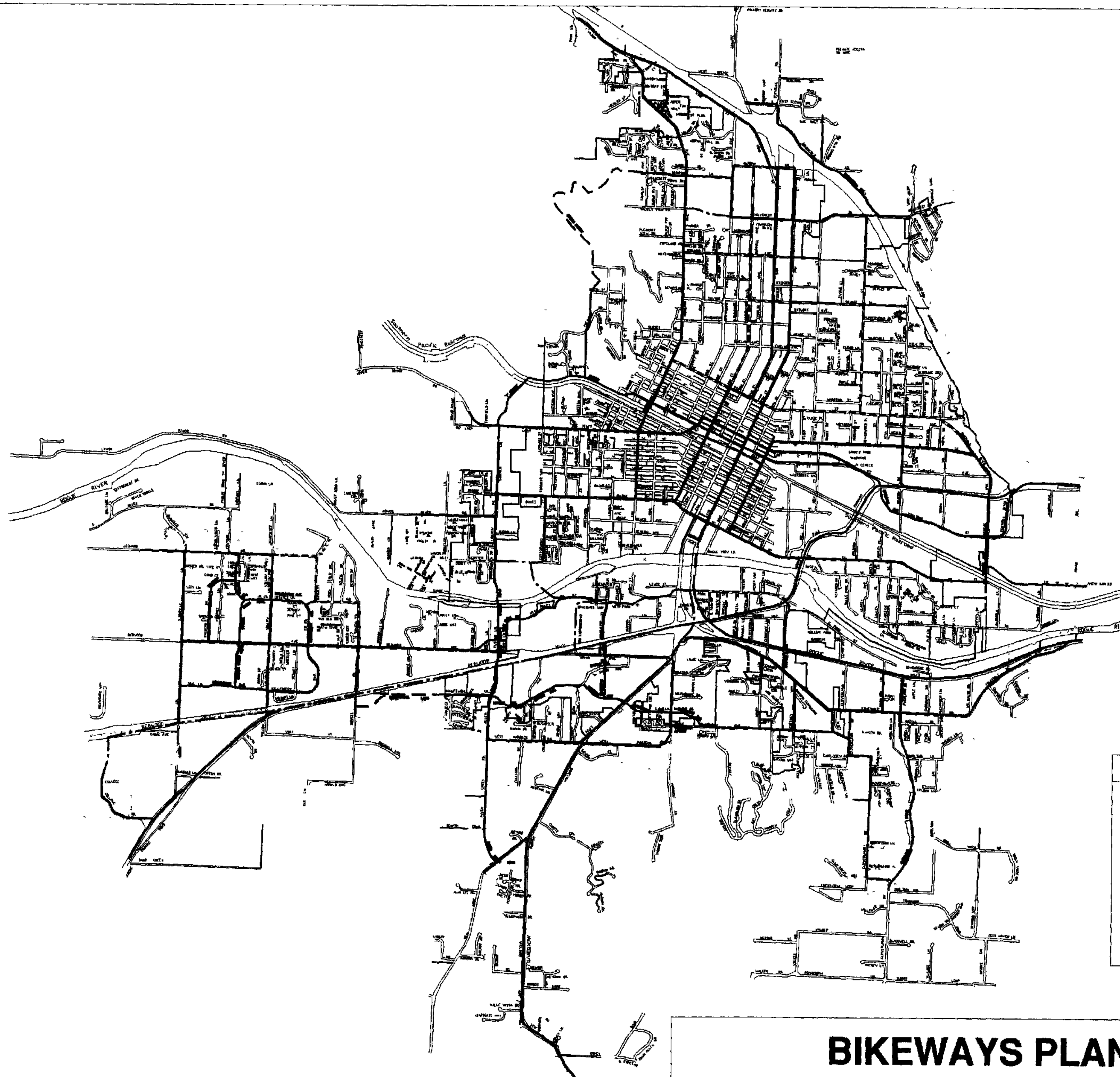
General: Bicycle destinations in this area include Rogue Community College, Redwood Elementary, a strip commercial area, and moderate density residential development. This area is very flat, and could provide good opportunities for bicycle travel. However, many of the existing roadways in the area are narrow rural standard roadways with minimal shoulders. Increases in development and traffic in this area will bring a need to provide bike lanes on the collector street network.

North-South travel: Virtually no adequate bicycle facilities exist for good north-south travel in the area. Bike lanes on Hubbard Lane/Darneille Lane would provide a connection from Redwood Elementary School to Rogue Community College. Bike lanes on Willow Lane would provide access from Redwood Highway to Schroeder Park.

East-West travel: Two major east-west facilities are provided in this area: Redwood Avenue and the path adjacent to Redwood Highway.

Redwood Avenue currently has striped bike lanes. This provides access across the Redwood area, to the strip commercial area, and to the Josephine County Fairgrounds.

A multi-use path parallels Redwood Highway from the Fairgrounds to Rogue Community College. This path provides good access for college students, though maintenance is an ongoing issue. This path does connect to the bike lanes on Union Avenue.



BIKEWAYS PLAN

Figure 5-2

Grants Pass Urban Area Transportation Plan

9-25-00

3. Fruitdale-Harbeck Area

General: The Fruitdale-Harbeck area also provides fairly level ground for biking. Good bicycle destinations in the area include shopping areas, the Josephine County Fairgrounds, three schools, Riverside Park and Baker Park. Many streets in this area are rural standard with narrow shoulders, and require upgrading to provide better bicycle access. State highways provide continuous access in this area, but many facilities have high speeds, poor shoulders, and either no access to destinations, or too many conflicting access points.

North-South Travel: The main north-south routes in the Fruitdale-Harbeck Area are Jacksonville Highway, Cloverlawn Drive, and the planned Overland Drive.

Jacksonville Highway provides a bike lane from Union Avenue to New Hope Road. A multi-use path provides a crossing at the South "Y". The bike lane stops just south of New Hope Road, where Jacksonville Highway becomes a two-lane facility. Increased development in this area, increased traffic volumes, and high speeds on the highway create a significant need for bike lanes on this facility.

Bike lanes are needed on Cloverlawn Drive to provide good north-south travel. In addition, the planned Overland Drive would provide an excellent route from Rogue River Highway south, plus provide a good recreational opportunity because the route would parallel Fruitdale Creek.

East-West Travel: The main east-west facilities in the area are Rogue River Highway and Fruitdale Drive. A good opportunity also exists to provide east-west travel on Park Streets.

Rogue River Highway currently has a shoulder bikeway of various widths. The highway provides a connection from the South "Y" to the east UGB. However, the high travel speeds and frequent access points make this an unattractive facility for most riders.

Fruitdale Drive provides a better facility for many east-west travelers. The facility has a wide shoulder bikeway in most places and moderate travel speeds. Installation of sidewalks and bike lanes would improve east-west travel on this facility.

East-west travel is possible along Redwood Highway/Grants Pass Parkway from the Fairgrounds to the Third Bridge. However, high travel speeds, lack of abutting destinations, lack of bike lanes from the Fairgrounds to the South "Y", and general confusion at the South "Y" make this an unattractive option for many riders. A good option exists to provide a continuous bike route on East and West Park Streets. This facility could provide connections to the Fairgrounds, the bicycle/pedestrian bridge, Riverside Park, Baker Park, and the Third Bridge. This route would also avoid the South "Y". Street widening and installation of bike lanes are needed on West Park Street.

4. Connections across the Rogue River

Third Bridge: The Third Bridge provides a connection between the Fruitdale-Harbeck area and the east Grants Pass area. A continuous bike lane exists on the Grants Pass Parkway. The facility provides close connections to Riverside Park and Baker Park.

6th and 7th Street Bridges: 6th and 7th Street Bridges provide connections between downtown and the area south of the Rogue River, including Riverside Park and commercial areas. However, there are several constraints that make this a less effective bike route. First, no bike lanes currently exist on either 6th or 7th Street to provide good access to the bridges. Second, the bridges themselves are narrow. The 6th Street Bridge is 27 feet wide, and the 7th Street Bridge is 30 feet wide. Extra shy distance is normally required for a bike lane crossing a bridge. The shy distance is increased on the 6th Street Bridge, where the bridge arches make the roadway feel narrower. Neither bridge contains bike lanes. Third, the bridges connect to the South "Y" intersection. This confusing intersection provides poor access for bicyclists. Currently, a multi-use path connects the route from Jacksonville Highway to the 7th Street Bridge. However, no good connections are available at the end of the 6th Street Bridge.

This plan would include a bike lane on 6th Street from "M" Street to the Bridge. The bike lane would terminate at the bridge. On 7th Street, a wide outside lane would be provided from Park Street to 300 feet south of "M" Street, where a bike lane would start.

Bicycle/Pedestrian Bridge: A special bike-pedestrian bridge is planned to cross the Rogue River in the vicinity of All Sports Park (on the north side of the river) and Tussing Park (on the south side of the river.) On the north side of the river, a bike path would be constructed through the All Sports Park with connections to Lincoln Road and Cottonwood Street. Bike lanes would be installed on Cottonwood Street, and completed on Lincoln Road.

On the south side of the river, bike lanes would be constructed on West Park Street. West Park Street would also be continued to the west to connect to Flower Lane. A bike path would be provided through the Josephine County Fairgrounds, and on Ringuette Street. Good connections from this special bike/pedestrian bridge to the rest of the bicycle/pedestrian system are essential and may eliminate the need to include bike lanes on the proposed fourth bridge (described in the Roadway Element of this plan.)

Pedestrian Element

The downtown area of Grants Pass is well served by sidewalks, but the areas outside of the downtown core (especially southwest and southeast of the downtown) have little, if any, sidewalks. This is a special problem in the commercial areas near the fairgrounds and west to the South "Y" interchange. With the recent residential and commercial growth in these areas, the need for sidewalks has increased in importance. As growth continues this will become even more important.

In addition to the importance of sidewalks to the business community, and for the enhancement of residential neighborhoods, they provide vital linkages to area schools and recreation facilities. Some of the schools in the Grants Pass Urban Area are only partially served by sidewalks. In these cases, sidewalks may be on one side of the street only, or they may not be continuous from block to block. Schools where this occurs include Highland, North Middle, Grants Pass High School, Lincoln, and Brighton. Some schools have essentially no sidewalk facilities; these include Riverside, Fruitdale and the Rogue Community College. Parks with no sidewalk access include Lathrop, Schroeder, All Sports, and Memorial; and parks with limited sidewalk access include Westholm, Gilbert, Ogle, Tussing, and Portola.

Provision of pedestrian connector routes is also important to encourage pedestrian travel by reducing walking distances where other routes are excessively long. The connector routes also provide shorter routes for bicycle travel, though some may require the cyclist to dismount prior to passing.

Providing New Pedestrian Facilities

The *Grants Pass and Urbanizing Area Comprehensive Community Develpment Plan* encourages developers of residential and commercial projects to provide safe and convenient facilities for pedestrians in accordance with state and local design standards along their property frontages. In addition, this Master Plan recommends incorporating sidewalks into all new roadways and into upgrades for existing roadways. In locations where there are no development or roadway improvements planned, sidewalk improvements will have to be coordinated with local property owners to develop satisfactory financing and implementation. The only funding sources currently available for such improvements are LIDs (Local Improvement Districts), gas tax funds, or the general fund for the City and/or County. These "in-fill" projects must compete with all other local street and drainage projects for the same limited funds. A new funding source, such as local gas tax or a street utility, would greatly increase the ability of the City and County to fund these types of improvements, as well as other transportation system upgrade or improvement projects. Lacking a substantial increase in funding, it will take a long time before sidewalks can be provided throughout the urban area.

This Plan does not include a separate map showing the location for new sidewalks. The list of urban upgrades for city, county and state facilities included in Chapter 4 identifies numerous projects throughout the entire Grants Pass Urban Area. These projects would include provisions for pedestrians consistent with the design guidelines and standards for urban arterials and collectors, and for local roads. Pedestrian improvements would be included as the upgrades are implemented.

Supporting Programs and Actions

In addition to providing physical facilities to accommodate pedestrians and bicyclists safely and comfortably, it is necessary to include additional elements to have a successful program for nonmotorized travel. Additional key elements are summarized below.

Supporting Facilities

If people are to use bicycles for transportation purposes they need to be assured of safe and convenient parking for their bicycles. Depending on the circumstances at individual locations this could consist of a simple bicycle rack where people could park and secure their bicycles. In some other cases it might include covered parking to protect them from the elements, and more secure parking facilities for the bicycles such as bicycle lockers or supervised/staffed parking areas.

For people who commute by bicycle an important factor is the availability of showers and personal lockers at the work site. For people who use bicycles for shopping or other personal business, some form of delivery service might be desirable to transport items too bulky or fragile to be carried by the bicyclist.

Street Maintenance

Adequate street maintenance is particularly important for bicyclists and pedestrians. Loose gravel can cause a bicyclist to lose control of their bicycle and could be thrown up by passing vehicles and hit bicyclists or pedestrians. While potholes or other "minor" roadway deterioration may not pose a danger for motorists they can be dangerous for bicyclists and pedestrians.

Education

Education programs about travel by nonmotorized travel modes should include three key components. The first component is directed toward the general public to educate them about the value of bicycling and walking for them, and for their community. Health benefits for individuals and for the community at large (less congestion, less pollution, and less paving over of the landscape to accommodate motorized vehicles) should be stressed. The second education component is directed toward drivers to enhance their awareness of bicyclists and pedestrians, teach them how to cooperate and coexist with bicyclists and pedestrians, and improve the overall safety of the roadways for all travelers, regardless of their chosen travel mode. The third component of education is directed toward bicyclists and pedestrians to teach them how to travel safely and in cooperation with motorized vehicles.

6. OTHER TRANSPORTATION MODES

This chapter includes the plan for other transportation modes, including: public transit, air, rail and intercity connections, and utilities. These transportation services are not provided by the City, County, or State and thus are not under the direct control of these agencies. The City and County should study transit needs and service before the end of the planning period (2015). The public agencies responsible for transportation in the Grants Pass urban area will coordinate with the providers of these kinds of transportation to assure the best possible services for the urban area.

Public Transportation

Public transportation within the Grants Pass Urban Area is currently provided by the Rogue Transit System. This is operated by Rogue Transportation, Inc. (a private, for profit organization.) In addition to the regularly scheduled bus service, Rogue Transportation provides taxi service and shuttle service to the airport in Medford. Figure 2-3 in Chapter 2 illustrates the existing transit routes and transit supportive markets in the urban area. Additional transportation services are provided by Josephine County Community Services for eligible individuals over the age of 60 who cannot drive, or who do not have access to a private automobile. Service is very limited in terms of the quantity provided for the community, and the trip purposes served.

It is likely that community needs for public transit will increase in the future. This is due to: (1) overall growth in the population of the area; (2) changes in the composition of the population with more people becoming dependent on public transit (especially the elderly); (3) increased emphasis on travel by means other than private automobiles to reduce congestion and the need for costly expansions to the local transportation system; and (4) requirements to improve air quality and address other environmental problems related to automobile use.

The current situation in Grants Pass related to the provision of public transit service is rather unique. Very few private operators provide public transit services. Typical market conditions and operating costs do not result in profitable operations, and public transit normally requires some degree of public subsidy. Since the local transit service is provided by a private operator, this limits the types of public funds that could be used to finance transit service. Financial constraints also limit the amount of service that the operator can provide.

The Grants Pass community has shown a strong interest in providing public transportation for those members of the community who do not or cannot provide their own transportation, such as the young, the elderly, the disabled, and people without access to private transportation. The need for public transit was cited repeatedly in the interviews and public meetings conducted as part of this planning process.

It may be possible to find some funds to provide for capital equipment and facilities, and or some types of service in the short run. However the question of long term transit service provision depends on the willingness of the local community to provide a long term, stable funding source. The basic funding for public transit in Oregon is limited and the local atmosphere regarding taxation and public expenditures make this a challenging issue to address.

Maintaining reasonable expectations about public transit service for the Grants Pass Urban Area is key, along with assessing long term implications of short term actions. There may be ways to make existing resources go further through better coordination of the services that do exist and pooling of resources from multiple sources. There may be some potential for outside funds for "demonstration" of creative public/private partnerships to provide transportation services. However, these are short term or one-time-only sources that cannot be counted on for long term service provision. There may be ways to provide public support directly to individuals that would allow them to "purchase" service from private providers. These options need to be explored further to determine which, if any, of them are appropriate for this community.

In the meantime, it appears that local public transportation will continue to be provided by the private sector, through a variety of general purpose transportation services (the bus or taxi), special purpose transportation (such as the Josephine County Community Services), and special services associated with tourist operations.

A related issue is that the provision of transit service (even if provided at a relatively high level) will not eliminate the need for the roadway improvements included in Chapter 4. Even with very good transit service, it is unlikely that a large percentage of travelers in Grants Pass would use public transit rather than private automobiles. Many of the improvements included in Chapter 4 are needed to complete the local arterial and collector network, which is critical regardless of the transportation mode used by travelers. Other improvements are needed to deal with significant existing or projected congestion problems that would not be eliminated through transit service provision.

Intercity Bus and Rail Connections

Regularly scheduled intercity passenger transportation is provided by Greyhound/Trailways and Western Transportation Lines. Greyhound/Trailways provides four trips per day in each direction between Grants Pass and Medford, with connections to points beyond. Western Transportation Lines operates morning and afternoon shuttle services between Medford, Gold Hill, Rogue River, Grants Pass and Cave Junction. There are no changes expected in the current operation of either of these services. However, since these are provided by private sector operators, they may choose to change services in the future to meet market conditions.

Rail service in the urban area is operated by the RailTex, which bought out Southern Pacific in 1994. Service is limited to the movement of freight; passenger service has not been provided to this area since 1953. The current level of service appears adequate to meet local needs, and does not create any adverse impacts on local traffic operations. Additional intercity goods movement is provided by trucking companies. Figure 6-1 shows the location of proposed truck routes through the Grants Pass Urban Area. The map designates through routes for trucks, through routes for vehicles with 3 axles or less, local delivery routes, and signed truck routes.

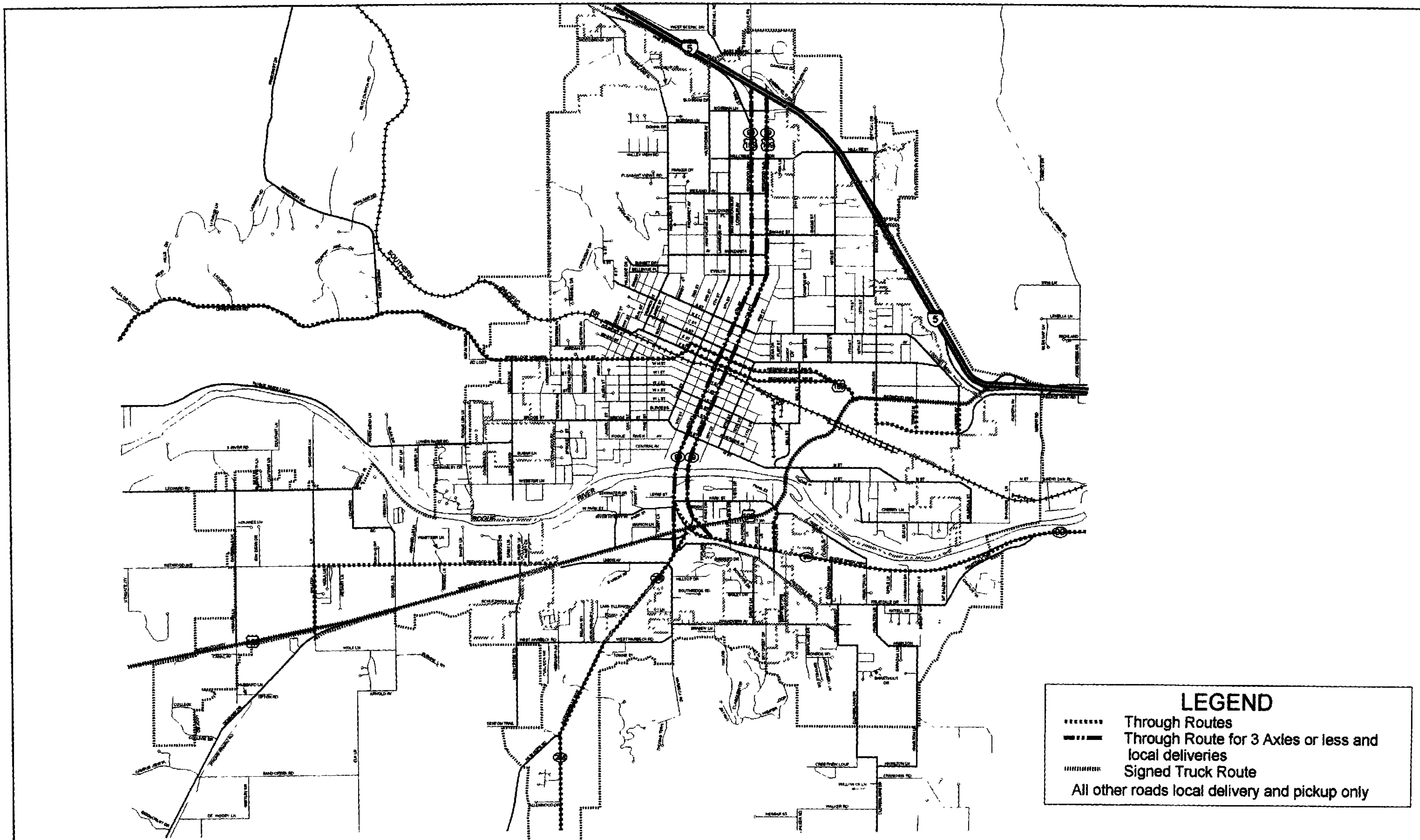
Designation of truck routes is important for the design, operation and maintenance of the street network. Because of the weight and size of trucks special attention must be paid to pavement strength, turning radii at intersections, roadway width, and the height of overhead obstructions. In addition, minimizing the impacts of truck traffic on residential neighborhoods is important.

Aviation

Grants Pass Airport is located six miles northwest of Grants Pass. This is classified by the FAA as a "General Utility," general aviation airport serving private aircraft. Commercial passenger service is provided at the Rogue Valley International Airport in Medford (30 miles south of Grants Pass). The Merlin Airport Master Plan, completed in 1992, identifies some constraints on the current operations due to the length of the runway and the absence of an instrument approach. However, the airport, in combination with the full service airport at Medford, appears to meet the needs and demand for aviation for the Grants Pass urban area.

Pipelines and Utilities

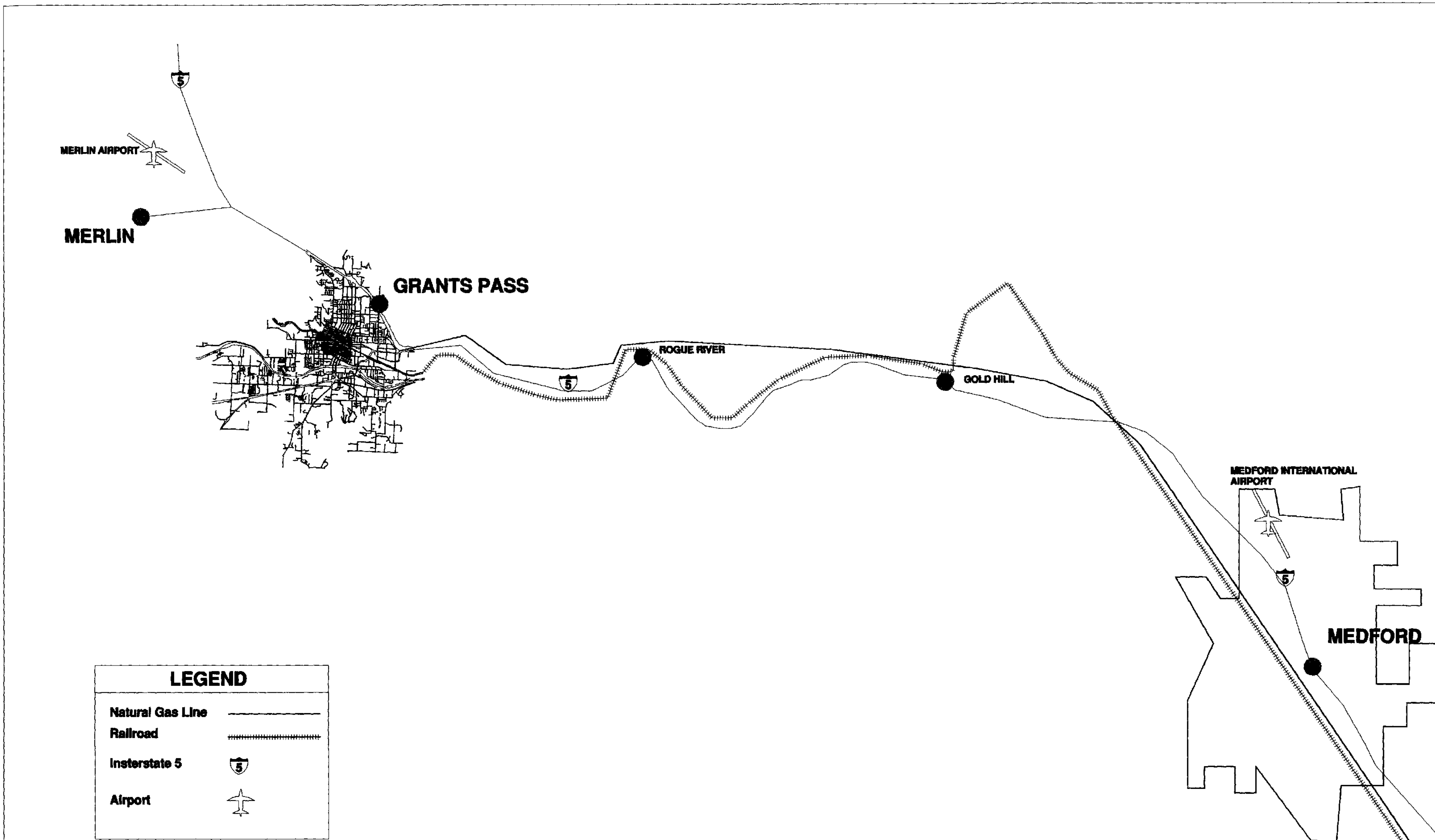
Within the Grants Pass Urban Area there are two natural gas pipelines. The Northwest Pipeline Corporation operates one of the lines, which is used to transport natural gas over long distances to local utilities and distributors. The second pipeline, operated by W.P. Natural, provides for the distribution of natural gas to Grants Pass and Ashland. These appear to be adequate for the area and there are no plans for additional pipelines.



Proposed Truck Routes

Figure 6-1

Grants Pass Urban Area Transportation Plan



AIR AND RAIL TRANSPORTATION

Figure 6-2

Grants Pass Urban Area Transportation Plan

7. MANAGING TRANSPORTATION

The streets, highways, and other transportation facilities and services in the Grants Pass Urban Area represent an important public resource and a major investment of public dollars. In order to get the best return on the public's investment, the transportation system needs to be managed effectively. Good management of the transportation system will result in more efficient utilization of existing and future facilities, safer travel conditions, the postponement or elimination of the need to add new facilities and/or capacity to the transportation system, and a better overall return on the investment in the area's transportation system .

Transportation management includes two major elements: (1) managing the transportation system to obtain the maximum efficiency and capacity out of transportation facilities and (2) managing travel demand to better balance demand for travel with the supply of transportation facilities and services.

This chapter describes strategies and techniques that can be used in the Grants Pass Urban Area to manage the transportation system more effectively. The first section on transportation system management (TSM) includes general information on TSM, and more specific information on access management and residential traffic management. The second section on travel demand management (TDM) includes information on strategies and techniques that can be used to manage demand (reduce total demand and move demand to other locations, or times of day).

Transportation System Management

Transportation System Management (TSM) focuses on improving the safety and efficiency of the existing transportation system through the application of relatively low-cost improvements and enhancements, as opposed to high-cost improvements such as building new facilities, or adding lanes to a highway or arterial street. The rising costs of providing major capacity improvements has forced federal, state and local agencies to do more with existing resources. Typical TSM strategies include:

- Geometric improvements to facilitate traffic operations (e.g., turn lanes at high volume intersections),
- Traffic control improvements to better manage traffic flow (e.g., interconnected traffic signals),
- Access management strategies to reduce conflicts between through traffic and local traffic entering/leaving the roadway (e.g., restrictions on driveway number and locations), and
- Safety enhancements to reduce the number and severity of accidents and provide a more pleasant environment for travelers using motorized and non-motorized travel modes (e.g., traffic "calming" and residential traffic management).

Each of these types of strategies is discussed briefly in the sections below, along with the identification of some locations where these applications could be beneficial. Many of the benefits are related to one another. For instance, all types of improvements which reduce traffic delays will also result in lower fuel consumption and lower vehicle emissions, and better air quality. Typical benefits of TSM improvements include:

- Fewer accidents and reduced conflicts among vehicles, bicycles and pedestrians,
- Reduced delays and improved overall travel speeds (especially for buses, and car/van pools),
- Reduced number of stops,
- Reduced fuel consumption and lower vehicle emissions, and
- Increased through-put at congestion points in the transportation network.

Geometric Improvements

"Geometric improvements" are those projects which "re-shape" the physical layout of streets and intersections. As listed in Table 7-1, they are generally isolated improvements at problem spot locations which are designed to improve traffic flow and increase the safety for vehicles, pedestrians and bicyclists. Constructing exclusive turn lanes at congested intersections is generally much less costly than providing additional through travel lanes for long stretches of streets and highways. In addition, turn lanes at intersections can significantly improve overall roadway capacity by improving the efficiency of left and right turning movements, and removing them from the travel lanes for through traffic. Finally, turn lanes can significantly reduce rear-end collisions at signalized intersections by separating through movements from turning movements.

Table 7-1: Geometric TSM Improvements

Type of Improvement	Application	Benefits
Channelization	Intersections	Guide traffic movements, reduce delays to through traffic, increase safety, facilitate truck turning movements, provide refuge island for pedestrians at high volume intersections
Exclusive turn lanes	Intersections	Reduce delays to through traffic, reduce rear-end collisions, facilitate efficient signal operations
Additional through travel lanes	Intersections	Increase intersection through-put if adequate lane tapers are provided on the downstream side of the intersection
Two-way left turn lane	Arterial mid-block section	Reduce delays to through traffic, reduce rear end collisions, provide refuge for left turning traffic entering/leaving the roadway
Bus pullouts	Arterials	Reduce delays for through traffic
Loading bays for Trucks	CBD Streets, Arterials in Industrial Areas	Reduce delays to through traffic, increase safety of loading/unloading operations for trucks

Traffic Control Improvements

Since the vast majority of traffic delays and traffic accidents occur at signalized intersections, traffic control improvements can be an effective strategy to improve efficiency and safety without resorting to major roadway widening. As listed in Table 7-2, these improvements include virtually no-cost regulatory changes, such as turn prohibitions and peak-hour parking removal, as well as relatively low cost improvements such as traffic signal upgrades. Another category of traffic control improvements is the implementation of one-way streets (which is used for the 6th/7th Street couplet in the downtown area). While this strategy may result in increased through capacity with the existing number of traffic lanes, it represents a significant change in traffic patterns; this may require some geometric improvements and additional access management strategies to be successful.

Table 7-2: Traffic Control TSM Strategies

Type of Improvement	Application	Benefits
Turn prohibitions (all day or peak hour only)	Key intersections	Reduce delays to through traffic, fewer right-angle and rear-end accidents
Parking removal (all day or peak hour only)	Arterial sections	Increase capacity of roadway by one to two lanes of traffic, often used on CBD streets to provide right turn lane or bus only lane during peak hour
All-way stop signs	Intersections	Reduce delays to side-street traffic, increase safety for all turning movements; often used as an interim measure before installing a traffic signal
Traffic signal upgrade (fixed time signal changes to traffic actuated signal)	Intersections	Reduced delays to major traffic movements
Arterial signal system (inter-connection and coordinated signal timing patterns)	Series of arterial intersections	Greatly improve capacity for traffic flow through a series of intersections, control speeds to desired level through traffic progression, reduce rear-end collisions
Areawide signal system	Series of signals	Reduce travel times and delays for north/south and east/west traffic flows, improve system throughput, control travel speeds to desired levels through traffic progression

Access Management

Access management involves a set of techniques and strategies used by public agencies to improve safety and traffic flow along roadways by "controlling" the movement of vehicles on and off of roadways. This results in :

- Less traffic congestion due to improved traffic flow and travel speeds along the roadway;
- Improved safety for all travelers by minimizing the conflicts between turning traffic and through traffic, and decreasing the potential for accidents; and
- Decreased need for roadway expansion and/or modifications through more efficient use of existing facilities.

Access management strategies are designed to maintain the necessary balance between accommodating through traffic on roadways, while providing access to adjacent homes, businesses and other properties. This is done through such things as controlling the number and spacing of driveways and intersections, and providing turn lanes and other provisions to separate turning traffic from through traffic. Table 7-3 includes a summary of typical access management strategies used to address traffic management issues.

Table 7-3: Access Management Strategies

Traffic Management Objective	Access Management Techniques
Reduction of access points on/off roadway	• Consolidate driveways to reduce number of driveways • Restrict access on to the roadway to public roads only (i.e., no private driveways)
Left turn management	• Provide turn pockets/lanes at intersections to remove turning vehicles from traffic flow • Provide center two-way-left-turn lanes to remove turning vehicles from traffic flow • Allow "U" turns at intersections and limit left turns between intersections • Install raised and/or landscaped medians to prevent turns • Use paint, "C" curb or other barriers to prevent left turns
Intersection Management	• Prohibit driveways close to intersections to reduce conflicts and interference with turning vehicles • Establish minimum spacing between intersections to reduce number of point of conflict and congestion • Use signals and other traffic control devices at intersections (as warranted to meet specific) conditions to improve traffic operations at intersections

Traffic Management Objective	Access Management Techniques
Separating through traffic from turning traffic	• Provide frontage roads to separate local and through traffic • Provide alleys for property access • Provide internal property circulation systems to remove local traffic from through traffic
Traffic Merging	• Provide acceleration/deceleration lanes to separate slower moving traffic from through traffic • Restrict outside lane(s) to turning traffic to separate local and through traffic movements

Access Management Guidelines

The State and local governments responsible for transportation facilities within the Grants Pass Urban Area have their own access management guidelines and standards. While they are similar in purpose and in many characteristics, there are some differences in how such standards would be applied to the facilities under the control of the respective jurisdictions.

Oregon Department of Transportation Access Management Standards

ODOT's Access Management Policy provides a framework to guide access management decisions for individual state highways so that they are consistent with the intended functions, key characteristics and operational conditions of that state highway within the Grants Pass Urban Area. The function, characteristics and operational conditions for state highways are defined in ODOT's "Level of Importance (LOI) Policy". Under the LOI policy, state highways are placed into one of four categories: Interstate, Statewide, Regional or District. Level of service standards are assigned for each highway segment based on the LOI classification, and the degree of urbanization of the area served by the highway segment. LOI classified highways in the Grants Pass Urban Area include Interstate 5 (Interstate), US 199 (Statewide), Highways 99, 238, and the Rogue River Loop (District).

Consistency with the LOI policy is achieved by assigning highway segments to one of six access management categories and then applying the specific access management standards developed for that category. Assignment of a highway segment to an access management category typically is done during the development of corridor plans for state facilities; but may be done for shorter segments in coordination with affected local governments.

Several factors are considered when making assignments to access management categories, including:

- Existing and proposed roadside development patterns,
- Regional and local transportation system plans and comprehensive plans,

- The potential for increasing the use of local roads to provide property access and local circulation,
- Topography, drainage and other land characteristics,
- Existing access agreements between ODOT and local jurisdictions, and
- Other operational aspects of access.

The six highway access management categories are described below in Table 7-4.

Table 7-4: ODOT Highway Access Management Categories

Access Management Category	Facility Characteristics
Category 1 Interstate 5 is in this category	Provides for high speed, high volume traffic. Standards include: • Full access control • Grade separated interchanges • Full median • No direct access to adjacent land • Access spacing is 2-3 miles (urban) and 3-8 miles (rural)
Category 2	Provides for high speed, high volume traffic. Standards include: • Full access control • At grade intersections allowed when designed to minimize impacts on mainline traffic • Full median • No direct access to adjacent land • Access spacing is 1/2-2 miles (urban), 1-5 miles (rural)
Category 3 Segments of US 199 (west of Highway 99) are in this category	Provides for medium to high speed, medium to high volume traffic. Standards include: • Limited access control • At-grade intersections • Partial median • Direct access to adjacent land through right turns in/out • Access spacing is 1/2-1 miles (urban), 1-3 miles (rural)

Access Management Category	Facility Characteristics
Category 4 Segments of the combined US 199 and Highway 99 are in this category	Provides for medium to high-speed, medium to high-volume traffic. Standards include: • Limited access control • At-grade intersections • Partial or no median • Direct access to adjacent land through right and left turns • Access spacing is 1/4 mile (urban), 1 mile (rural)
Category 5 Highway 238 is in this category	Provides for medium speed, medium to high volumes of traffic. Standards include: • Partial access control • At grade intersections, • No median • Direct access to adjacent land through right and left turns • Access spacing is 1/4 mile (urban), 1/2 mile (rural)
Category 6 Rogue River Loop is in this category	Provides for slow to medium speed and low to high volume traffic. Standards include: • Partial access control • At-grade intersections • No median • Direct access to adjacent land through right and left turns • Access spacing is 500 feet (urban) and 1/4 mile (rural)

ODOT's standards for access management are included in Table 7-4, along with guidelines for arterials and collectors for the Grants Pass Urban Area. Access control regulations for the City of Grants Pass are included in the City's Development Code. Some of the city's current regulations are less restrictive than ODOT's, e.g., the current City regulations allow closer spacing between private driveways (five feet for dwellings, and up to 22 feet for commercial and industrial uses). The City currently allows more access points for properties with frontage in excess of minimum lot sizes (e.g., properties of less than 100 feet of frontage are limited to two access lanes, and properties exceeding 100 feet of frontage are limited to two access lanes per 100 feet of frontage.) While the City's regulations are generally less restrictive than ODOT's, the City regulations state that the more restrictive ODOT requirements will apply on ODOT highways within the city.

Table 7-5 presents guidelines for the average situation. Exceptions may be justified for more restrictive, or less restrictive, access control based on the conditions at specific locations. When making a determination of the type and extent of access control to implement, the factors described below should be taken into consideration.

Existing Conditions - Development along individual roadways which has occurred over a long period of time under current regulations may not meet these access management guidelines. Trying to retrofit roadway facilities to meet new guidelines may not be technically or politically feasible. These guidelines should serve as a target for ultimate access control for the facility, to be achieved over time as properties are developed or redeveloped.

Minimums versus Maximums - These guidelines provide a minimum level of access control for various types of facilities. More stringent levels of access control may be required to address safety issues (especially in the vicinity of intersections or major traffic generators), or to address congestion and capacity issues. Sub-standard spacing of intersections and/or driveways should be considered only where safe and effective traffic operations can be maintained on the roadway based on traffic analysis of the specific location.

One Size Does Not Fit All - Special access control standards may need to be established for individual facilities based on the results of ODOT corridor planning projects and/or local plans.

Retrofitting Versus New Development - These standards are most successful when applied to new development, when it is possible to design the most appropriate forms of access control before the construction of private properties, and/or transportation facilities begins. However, they should be used to "retrofit" existing roadways as opportunities occur in the process of property development, and/or facility improvements and upgrades.

Legal Rights to Access - Properties must be provided with some reasonable access to the public roadway system. Exceptions to the guidelines may be necessary in individual circumstances where properties have limited options for roadway access. Efforts should be made to find reasonable alternatives to direct connections from private properties to state highways and arterials. Access may be restricted to a lower classified roadway if the property is served by more than one roadway.

Access for Large Developments - For large properties with frontage that exceeds minimum spacing standards for private driveways, internal circulation options should be explored to minimize the number of access connections to the public roadways. The total number of access connections permitted may be less than the driveway spacing standards would indicate.

Design of Connections - Permitted connections must be designed and managed to be consistent with the function and purpose of the roadway. This means that they should be of sufficient width and turning radii to safely accommodate the level and type of traffic that will be using them. It may be desirable to provide acceleration and/or deceleration lanes (on the private property) to ensure that traffic entering/leaving the property does not impede traffic operations on the roadway.

Table 7-5 Access Management Guidelines for Grants Pass Urban Area

Facility	Access Treatment	ADT per lane	Access Spacing		Turn Management	Signal Spacing	Median Treatment
			Public Road	Driveway			
ODOT Cat 1 Interstate	Full control	n/a	2-3 miles (interchange)	None allowed	Ramps	None	Full
ODOT Cat 2 Statewide LOI	Full control	n/a	1/2 - 2 miles (at grade)	None allowed	High-type design turn channelization	1/2-2 miles	Full
ODOT Cat 3 Statewide LOI	Limited control	n/a	1/2 - 1 mile (at grade)	800 feet	Left and/or right turn lanes	1/2-1 mile	Partial
ODOT Cat 4 Statewide or Regional LOI	Limited control	n/a	1/4 mile (at grade)	500 feet	Left and/or right turn lanes	1/2 mile	Partial or none
ODOT Cat 5 Regional/Dist. LOI	Partial control	n/a	1/4 mile (at grade)	300 feet	Left and/or right turn lanes	1/4 mile	None
ODOT Cat 6 District LOI	Partial control	n/a	500 feet	150 feet	Left turn lanes	1/4 mile	None
Arterial	Partial control	3,000 to 6,000	500 feet	150 feet	turn lanes or turn pockets	600 feet	None
Collector	Partial control	1,500 to 3,000	300 feet	100 feet	short turn pockets	600 feet	None
Local collector	No control	500 to 1,500	250 feet	50 feet	None	None	None
Local residential	No control	0 to 500	200 feet	20 feet	None	None	None

Access Management Strategies for Facilities in the Grants Pass Urban Area

This section presents specific access management strategies aimed at managing access along local highways and arterials within the study area. Thirteen roadways and one complex interchange area were studied for the Grants Pass Urban Area MTP. Nine "hot spots" were identified which could benefit immediately by implementing access control measures. Existing access conditions were reviewed for the roadways and interchanges within the study area described in Table 7-6. Several of these roadways have segments with poor access control, which results in traffic flow and other operational problems, as well as safety issues.

Table 7-6 describes the roadway segments where access control problems were identified, along with the identification of potential access management techniques that could be used to address the identified problems in these locations. In looking at potential access management improvements, four major strategies were considered: (1) limiting the number of conflict points, (2) separating the basic conflict areas, (3) limiting deceleration requirements, and (4) removing turning vehicles from through traffic lanes. There are numerous specific techniques that can be used to implement these strategies. For this plan the techniques were grouped into the twelve major categories included in Table 7-6. Description of these twelve strategies are provided below.

1. Median Barriers - Installing a raised median barrier (concrete safety shape barrier a curbed non-traverseable median, or a landscaped median) can be used to prohibit left-turns to/from adjacent properties along a roadway. Left-turns are allowed at intersections or at upstream/downstream turn pockets where left and "U" turns are allowed. This technique is effective along roadway segments with high numbers of mid-block accidents (turning and or rear-end accidents), where roadway speeds are over 40 mph, or where the development level exceeds 30 driveways per mile of roadway. A center median barrier is currently used along Grants Pass Parkway. Installation of a median barrier along Redwood Avenue (Redwood Circle to Daisy Lane) would eliminate traffic weaving for left turns to/from the frequent driveways along both sides of the roadway.

2. Channelization and Delineation - Physical channelization and pavement delineation is used to align motorists with a preferable travel path or to discourage use of a route. Channelization can consist of a raised or otherwise delineated channelization island or other measures to provide adequate safety areas for merging vehicles and/or to eliminate bottleneck traffic conditions. Channelization can also consist of providing raised curbing, barriers or landscaping to separate the roadway from abutting parking areas. Such channelization could be very effective in controlling access along roadways such as the Rogue River Highway.

3. Signalization of Intersections - If properly designed, installed and maintained, traffic signals can reduce right-angle collisions, vehicular/pedestrian accidents, and opposing left turn collisions. However, rear-end collisions can increase. A driveway should be considered for signalization only if the signal would be "warranted" according to the standards in the *Manual on Uniform Traffic Control Devices* (MUTCD), and if the signal would not interfere with traffic progression and operation on the roadway. Currently there are signals along

Grants Pass Parkway to allow access to/from major commercial areas. Additional signals could be warranted to consolidate access from private properties to side streets such as "E" and "F" and then on to the Parkway.

4. Driveway Treatment - Driveway consolidation (to reduce the total number of access points) and driveway narrowing have wide potential application to the urban area roadways. There are several specific techniques that could be considered, including one way driveways, driveway consolidation and provision of on-site circulation systems, and closing of open fronted properties to consolidate entry/exit at one driveway location. One of the most common access problems in the Grants Pass area is the presence of many abutting parking lots along roadways. Driveways and channelization could be implemented to provide better control of entry/exit to these lots without impacting the availability and convenience of parking.

5. Side Street Access - Providing access to the road network via side streets instead of major arterials is aimed at maintaining the traffic movement function of the major roadway by locating private driveways on collector and/or local side streets and consolidating access to the arterials and/or highways at fewer points. The measure reduces the number of locations for conflict and potential interference of traffic flow and improves safety, by diverting some or all driveway vehicles to the side street location where traffic volumes and speeds are lower. An example of where this technique could be used is along "E" street where access could be provided via Mill Street rather than from driveways along "E" Street.

6. Provisions for Pedestrians and Bicycles - Providing facilities for non-motorized travel can improve safety and traffic operations. Along segments where the volume of pedestrians and/or bicyclists is high, and/or there is high volume and/or high speed traffic, it may be appropriate to provide one or more of the following types of improvements: (1) continuous or spot bicycle lanes to keep slower moving bicycle out of the traffic flow, (2) sidewalks or other facilities for pedestrians along the roadway; and (3) signalized crossings between intersections to allow pedestrian and/or bicyclists to cross the roadway safely. In some cases, it may be appropriate to install barriers to prevent pedestrians from crossing critical roadway links.

7. Removing On-Street Parking - The removal of on-street parking provides additional capacity for through movement of vehicles. In addition it may help with the movement of vehicles to/from adjacent properties by removing obstacles from the vicinity of driveways, and improving sight distance for motorists and travelers using non-motorized travel modes. Accident frequency and/or severity may be reduced because turning vehicles do not have to slow down so much and the speed differential between turning and through movement is reduced. On-street parking near driveways exists at several locations along "E", "F", 6th and 7th Streets.

8. Improving Sight Distance - Improving sight distance at driveways and intersections allows drivers of turning vehicles a better view of the roadway so they can identify acceptable gaps in traffic. In addition it allows drivers of through vehicles better perception of turning vehicles and better reaction and braking distances which helps them to avoid accidents. There are numerous locations where sight distance is impeded by roadway alignment, buildings too near the roadway, topography, foliage and other landscaping, parked vehicles and other physical features. In some locations commercial establishments with insufficient setback distances and on-site parking and circulation use unpaved portions of the highway right-of-way for parking, e.g., Rogue River Highway. Enforcing regulations against such use would help to improve traffic flow and safety.

9. Acceleration/Deceleration Lanes - Installing special lanes for acceleration and/or deceleration for turning traffic allows slower moving vehicles to get out of the traffic stream. This improves overall traffic flow for through vehicles and reduces the potential for accidents. This technique is especially helpful in reducing "diverge", "merge" and "rear-end" accidents, and in improving perception times for drivers. Grants Pass Parkway and parts of Redwood Highway provide right-turn deceleration lanes. Acceleration/deceleration lanes should be considered along the Jacksonville Highway, particularly southwest of the 99/199/238 interchange.

10. Left-Turn Lanes - Left-turn lanes can be provided in several ways, including: continuous two-way-left-turn lane (TWLTL), as an alternating left-turn lane, or as an isolated left turn lane at or between intersections. Continuous TWLTL are applicable on roadways with adjacent strip development and low volume driveways; they are compatible with the function of collector streets and some minor arterials serving commercial and industrial and multi-family residential areas. They provide a level of access that may not be compatible with high volume, higher speed roadways. Alternating and isolated left-turn lanes are effective in reducing the frequency and severity of rear-end collisions by allowing slower moving and stopped vehicles to get out of the traffic flow. Continuous TWLTL exist along segments of Foothill Boulevard, Grants Pass Parkway, Rogue River Highway and Jacksonville Highway. Installation of additional TWLTLs should be considered along a segment of Redwood Avenue. Individual left-turn lanes could be justified along several area roadways.

11. Right Turn Lanes - Isolated right-turn lanes and continuous right-turn lanes provide a means of separating slower moving turning traffic from faster moving through traffic. They allow turning traffic to get out of the traffic stream and enter/leave adjacent properties. Continuous right-turn lanes are essentially a combination of a right-turn acceleration/deceleration lane that is extended to accommodate several nearby driveways. They are appropriate on high volume roadways with adjacent strip development that generates high volumes of turning traffic. This technique improves traffic flow and reduces the potential for rear-end and turning accidents.

12. Internal Driveways - Providing internal driveways between abutting parking lots or developments could remove local traffic from the roadway, and reduce the interference between turning vehicles and through traffic. The strategy for implementing this technique is to encourage adjacent property owners to permit property-to-property movements off of the highway, thus reducing the use of the highway for short trips between adjacent properties. This technique may be appropriate of several area roadways, including "E", "F", 6th and 7th Streets.

Table 7-6: Potential Access Management Strategies

Roadway Problem Locations	Segment	Description	Median Barrier	Channel-ization	Signal-ization	Driveway Treatment	X-Street Access	Bike/Ped Mngmnt	Restrict Parking	Sight Distance	Accel/Del Lane(s)	Left-turn Lane(s)	Right-turn Lane(s)	Internal Driveways
A Street	Highland to 6th/7th	2-lanes w/pkg. No turn lanes. 25 mph. All residential except near Chevron and hospital.		X		X			X					
	6th/7th to Foothill	2-lanes w/parking. No turn lanes. 25 mph. Mostly residential, few apartments, convenience store and high school.	X					X				X		
E Street	G.P. Pkwy. to 6th/7th	2-lane westbound, w/parking on left side from Mill to west, on right from 8th to west. No turn lanes. 35 mph to east of Skunk Cr., 20 mph to west Comm. and retail with numerous and close driveways.		X	X	X	X	X	X	X		X	X	X
F Street	6th/7th to G.P. Pkwy.	2-lane eastbound, w/parking isolated on both sides, including head-on and parallel. No turn lanes. 20 mph to west of Skunk Cr., 35 mph to east. Commercial and retail with numerous and close driveways.		X	X	X	X	X	X	X		X	X	X
Foothill Blvd.	A St to Agness	East end has 3-lanes (includes 2WLTL), west end has 2-lanes. 25 mph. Residential including apartments.												
Grants Pass Pkwy.	Hwy 99 to I-5	4 to 5 lanes (2WLTL in 5-lane segments) w/out parking, left turn lanes with right-turn deceleration lanes. 50 mph Bike lanes. No private driveways with uncontrolled access Well-spaced signals at public cross-streets.												
Hwy. 99/199/238	Vicinity of the south "Y"	5+ legged interchange of Highways 99, 199 and 238. Commercial and retail land uses within interchange area. Some driveways are close to key intersections.	X	X		X			X					
M Street	4th to 6th/7th	2-lanes w/out parking. Left turn lanes. 25mph. Retail uses.				X								
	6th/7th to G P Pkwy.	2-lanes w/parking and bike lanes. Only left-turn lane at 9th. 30 mph All residential.										X		
Redwood Ave.	Darneille to Dowell	2-lanes w/bike lanes. No turn lanes. 45 mph. Residential with 50'-100' minimum driveway spacing.												
	Dowell to Redwood Hwy.	2-lanes w/bike lanes. No turn lanes. 35 mph. Commercial uses. Parking lots abut roadway, numerous access points, wide driveways.	X	X		X	X					X		X
Redwood Hwy.	Willow Lane to Redwood Ave.	4-lanes w/out parking. Left turn lanes with right-turn deceleration lanes. 50 mph. Striped median. No private access from parkway. Vacant land.												
	Redwood Ave. to Hwy. 99	4-lanes w/out parking Left-turn lanes with right-turn deceleration lanes. 45 mph. Divided median with left-turns only at public roadways.		X		X	X							X
Rogue River Loop Hwy. ("G" St.)	Lincoln Rd. to 3rd St.	2-lanes w/parking and bike lanes. No turn lanes. 35 mph. All residential with few vacant lots.	X	X	X	X		X				X		

Table 7-6: Potential Access Management Strategies (continued)

Roadway Problem Locations	Segment	Description	Median Barrier	Channel-ization	Signal-ization	Driveway Treatment	X-Street Access	Bike/Ped Mngmnt	Restrict Parking	Sight Distance	Accel/Del Lane(s)	Left-turn Lane(s)	Right-turn Lane(s)	Internal Driveways
Rogue River Hwy	G.P. Pkwy. To Hamilton	3-lanes (includes continuous 2WLTL) w/out parking. Has shoulders. 40 mph. Commercial & retail uses w/abutting parking lots.	X	X	X	X		X	X			X		X
	Hamilton to Mt. Baldy	2-lanes w/out pkg. No turn lanes. Gravel and paved shoulders. Commercial, retail and vacant uses w/abutting parking lots.		X		X						X		
Sixth St	I-5 to Midland	2-lanes southbound, w/parking isolated on both sides. No turn lanes. 35 mph Commercial and retail. Some close driveway spacing.				X	X		X					
	Midland to G.P. Pkwy.	4-lanes southbound, w/parking on both sides. No turn lanes. 30 to 25 mph. Commercial and retail. Some close driveway spacing.				X	X						X	X
Seventh St.	Midland to I-5	2-lanes northbound, w/parking on both sides. No turn lanes. 35 mph. Commercial and retail. Some close driveway spacing.				X	X		X	X				X
	G P. Pkwy. To Midland	3-lanes northbound s/o Jackson, w/out parking. 2-lanes, w/out parking n/o Jackson. No turn lanes. 25 to 30 mph. Commercial and retail. Some close driveway spacing.				X	X							X
Jacksonville Hwy.	Shadow Mtn. Way to New Hope	2-lanes w/narrow shouldersand no turn lanes. 55 mph Golf course.				X	X	X		X		X	X	
	New Hope to Meridian Way	5-lanes (includes continuous 2WLTL) w/out parking. Has curbs, bike lanes. 40 mph. Residential uses with limited commercial activity. School. Few vacant parcels.	X	X		X	X							
	Meridian Way to G.P. Pkwy.	5-lanes (includes continuous 2WLTL) w/out parking. Has curbs, bike lanes, 30 mph. Shopping centers prevail.	X	X		X					X			X

Residential Traffic Management (RTM)

Traffic in residential areas is an issue in many parts of the Grants Pass Urban Area. Appendix D to this Plan includes excerpts from *A Guidebook for Residential Traffic Management*, prepared for the Washington State Department of Transportation. Copies of the complete document can be obtained from ODOT's Technology Transfer Office, or directly from the Washington State Department of Transportation.

Programs and practices to manage traffic in residential areas have many names: "neighborhood traffic control (NTC)," "traffic restraint", "traffic calming", "local area traffic management", and "environmental traffic management (ETM)." The key words are "calming", "restraint," and "management." Nearly all RTM programs seek to make residential streets safer, and to reduce traffic intrusion into neighborhoods by reducing traffic speeds, traffic noise, visual impacts, and traffic volumes.

RTM programs accomplish these objectives through several tactics including: physical, psychological, visual, social and legal (regulatory and enforcement) methods. Table 7-7 highlights some of the more common actions included in RTM programs. Table 7-8 includes a more comprehensive listing and description of RTM techniques.

It would be best to address specific neighborhood issues in the Grants Pass area in a systematic manner in order to ensure consistency throughout the urban area, allocate limited funds to the most serious problem locations, and ensure equity in the expenditure of funds for neighborhood traffic control. Part E of Appendix Dincludes a section on "Setting Up a Self Managed Program in Small Communities."

This has been briefly summarized below to provide an example of how the Grants Pass area could address neighborhood traffic issues.

- Step 1 - Determine the legal authority of the City of Grants Pass and Josephine County to implement a RTM program.
- Step 2 - Establish specific goals and objectives for the local RTM program.
- Step 3 - Identify needs in a consistent and equitable manner for neighborhoods throughout the Grants Pass Urban Area, using complaints from residents, and factual information about existing conditions.
- Step 4 - Assess identified problems to understand the nature of problems, and their complexity, magnitude and origin(s).
- Step 5 - Develop alternative solutions to address the identified problem(s) in the specific location(s) where it exists.
- Step 6 - Evaluate alternative solutions to determine the best approach.
- Step 7 - Select a preferred alternative based on the evaluation of the strengths and weaknesses of the various alternatives.
- Step 8 - Implement the selected alternative using either temporary or permanent devices or programs to control traffic.

- Step 9 - Evaluate the results to determine how effective the solution is in achieving its objectives, and make appropriate modifications if needed.

Table 7-7: Residential Traffic Management Strategies

Goals	General Strategy	Examples
Reduce Through Volume	Physical Means	Traffic circles, speed humps, traffic diverters, street closures
Reduce Vehicle Noise	Psychological Means	Variable-spaced paint stripes
Reduce Visual Impacts	Visual Means	Landscaping to block through views
Reduce Traffic Speeds	Social Means	Neighborhood "Speed Watch" programs
Reduce Accidents	Legal Means	Strict speed and traffic enforcement

Individual RTM programs are defined largely by their goals and objectives, and the tools that communities select to achieve them. The goals typically include the kinds of goals included in Table 7-7, with some variation in content and emphasis by community. The tools used to achieve these goals fall into four major categories:

- Education and enforcement programs such as "emphasis patrols" by local police to catch speeders, elementary school programs to teach and reinforce "defensive walking and biking" habits, or "speed watch" programs conducted by local residents;
- Laws and ordinances prohibiting through traffic and/or trucks in residential areas, posting speed limits in residential areas, and on-street parking restrictions;
- Traffic control devices ranging from turn prohibitions at key entry points to a succession of stop signs; and
- Geometric design features such as physical restrictions to induce low speed travel such as narrow streets, traffic circles or speed humps, and even traffic diverters and street closures.

Table 7-8: A Catalog of RTM Actions

Device	Definition	Volume Reduction	Speed Reduction	Change in % trucks	Environment/Pollution Changes in conditions: Noise	Environment/Pollution Changes in conditions: Air	Safety: Vehicle Conflicts	Safety: Pedestrian	Safety: Bicyclist	Emergency/ Service Vehicle Access/Delay	Dependence on Police Enforcement	Level of Violation	Type/ Classification of Street: Collector: Commercial	Type/ Classification of Street: Local Streets: Neighborhood Collector	Type/ Classification of Street: Local Streets: Local Access	Impact on Adjacent Arterial	Use on Bus Route	Use with Driveways On Street	Use with Curbs & Gutters	Construct Cost/ Problems	Maintenanc Cost/ Proble	Aesthetics/ Landscapin Potential	Useful for Spot/Areawid Problems
Bicycle Lanes	Lanes reserved for bicycles	No	No	No	No change	No change	-	-	Improved	No effect	-	Low	Yes	Yes	Yes	No	Yes	Plan with care	-	Low	Low	-	Both
Crosswalks	Painted pedestrian crossing areas mid-block or at intersections	No	No	No	No change	No change	No change	No change	No change	-	-	Low	Yes	Yes	Yes	No	Yes	Yes	Yes	Low	Low	No	Both
Curb Extensions (Entry, Exit, Mid Block)	Extension of the curb into the roadway to create a narrower travel lane to protect parking strip or shorten pedetrian crossing distance	No	Slight	No	Slight Improvement	No change	No effect	Improved	Plan with care	No problems	-	-	Yes	Yes	Yes	No	No	Yes	Yes	Moderate	Low to Moderate	Yes	Both
Diagonal Diverters	Barrier placed diagonally across an intersection to force drivers to make a sharp turn but not allow other movements	Yes	Likely	Yes	Reduction	Improved	Improved	Varies	Varies	Minor Constraint	Self Enforcing	-	No	Avoid	Yes	Yes	Plan with care	Yes	Yes	Low	Moderate	Yes	Usually Areawide
Enforcement (Visible & active police presence)	Extensive traffic enforcement, "emphasis patrols,"	Not likely	Yes, temporary	Not likely	Possible reduction	No change	-	Improved	Improved	-	High	Low	Yes	Yes	Yes	Yes	Yes	Yes	-	-	Moderate	-	Both
Forced Turn Islands, Barriers, Channelization	Traffic islands or curbs specifically designed to prevent traffic from executing specific movements at an intersection	Yes	Likely	Yes	Reduction	No change	Improved	Improved	Varies	Minor constraints	-	Low	Yes	Yes	Yes	Yes	No Major Effect	Yes	Yes	Can be complex	Low	Optional, Depends upon priority	Both
Median Barriers	Barrier along the center line of a roadway to prohibit left turns or cross traffic	Yes	No	Possible	reduction	Decrease	Improved	Varies	Varies	Minor constraints	-	Low	Yes	Yes	Yes	No	Possible	Plan with care	Yes	Complex	Varies	Varies	Both
Median Entry/Exit Islands	Traffic islands used to create narrower roadway at entry/exit point	Possible	No	Possible	Possible reduction	Possible Decrease	Improved	Improved	Varies	Minor constraints	-	Low	Yes	Yes	Yes	No	No	Yes	Yes	Low	Varies	Yes	Both
Median Mid Block Islands	Traffic islands between intersections to create a narrower roadway or provide refuge for crossing pedestrians	No	Slight	Slight	No change	No change	Improved	Improved	Varies	Minor constraints	-	Low	Yes	Yes	Yes	No	Possible	Plan with care	Yes	Low	Low	Varies	Both
Mid-Block Slow points, Chicanes	Curbed islands or curb extensions protruding into the roadway, leaving a single-lane or narrow two-lane gap, often at an angle to the centerline	Yes	Yes	Likely	Reduction	Decrease	Improved	Improved	Questionable	Minor constraint	Self Enforcing	-	Yes	Yes	Yes	No	Yes	Avoid near driveways	Yes	Moderate	Moderate to High	Yes	Both
Neighborhood Traffic Safety/Campaign Program (Education)	Distribute safety information, special pedestrian safety clases for children	No	Not likely	Not likely	No change	No change	-	Possible Improvement	Possible Improvement	-	-	-	-	-	-	-	-	-	-	-	-	-	Both
Neotraditional Neighborhood Design	Integrated land use and transportation design to increase transit and non-motorized travel to non-residential destinations within the neighborhood	Likely	Likely	Likely	Likely reduction	Unknown	Improved	Improved	Improved	No constraint	-	Low	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Can be high	Varies	High	Area
Novelty signs	"Slow - Nudist Crossing", etc.	No	No	No	No change	No change	No change	No change	No change	-	-	High	No	No	Yes	-	-	-	-	Low	High	No	Spot
Odd speed limit signs	"13 MPH", etc	No	No	No	No change	No change	No change	No change	No change	-	High	High	No	Yes	Yes	-	-	-	-	Low	High	No	Spot
One-Way Entry/Exit Chokers, Half closures, Semi-Diverters	A barrier to traffic in one direction of a street which permits traffic in the opposite direction to pass through	Possible	Yes	Not likely	Reduction	No change	Improved	Improved	Improved	Minor constraint	Initially high	Varies	Avoid	Avoid	Yes	Possible	Plan with care	Yes	Yes	Low	Moderate	Yes	Both
One-Way streets and signs	Restricted entry/exits to/from neighborhoods, one-way street patterns	Yes	Varies	Possible	Reduction	Improved	Improved	Improved	Improved	Plan with care	Low	Low	Yes	Yes	Yes	Yes	Plan with care	Yes	-	Low	Low	-	Usually Areawide
Parking Variants Class I (Zones, Signs, Striping, timed, resident restricted)	Parking areas create narrower roadways and increased activity leading to increased attention by drivers	Possible	Likely	Likely	Possible reduction	No change	Possible Improvement	Possible Improvement	-	No effect	Low	Varies	Yes	Yes	Yes	Yes	Yes	Yes	-	Low	Low	-	Both
Parking Variants, Class II (Shifting Traveled Way)	Alternating parking from one side of street to the other, parallel or diagonal	Possible	Likely	Not likely	Possible reduction	No change	Increased conflicts	Possible Improvement	Varies	No effect	-	-	Yes	Yes	Yes	No	No	Yes	Yes	Low	Low	Yes	Spot

Table 7-8: A Catalog of RTM Actions (continued)

Device	Definition	Volume Reduction	Speed Reduction	Change in % trucks	Environment/Pollution Changes in conditions: Noise	Environment/Pollution Changes in conditions: Air	Safety: Vehicle Conflicts	Safety: Pedestrian	Safety: Bicyclist	Emergency/ Service Vehicle Access/Delay	Dependence on Police Enforcement	Level of Violation	Type/ Classification of Street: Collector: Commercial	Type/ Classification of Street: Local Streets: Neighborhood Collector	Type/ Classification of Street: Local Streets: Local Access	Impact on Adjacent Arterial	Use on Bus Route	Use with Driveways On Street	Use with Curbs & Gutters	Construct Cost/ Problems	Maintenanc Cost/ Proble	Aesthetics/ Landscapin Potential	Useful for Spot/Areawid Problems
Pavement Treatment, Class II (Texture/Composition, Patterns, Color)	Special pavement compositions and markings to alert drivers of special conditions	Not likely	Possible	Possible	Possible reduction	No change	-	Possible Improvement	Varies	No constraint	-	-	Yes	Yes	Yes	No	Yes	Yes	-	Low	Low	-	Both
Pavement Treatments, Class I Marking and Striping & Color	Special pavement markings at entries, hazard locations or crosswalks to alert drivers of special conditions	No	Possible	Not likely	No change	No change	-	Possible Improvement	-	No effect	-	-	Yes	Yes	Yes	No	Yes	Yes	-	Low	Low	Yes	Both
Raised Crosswalks	Crosswalks raised transversely across the pavement	Possible	Yes	Not likely	No change	No change	-	Improved	Plan with care	Minor constraint	Self Enforcing	-	Plan with care	Yes	Yes	Yes	Plan with care	Yes	Yes	Moderate	Low to Moderate	Yes	Site
Speed Alert w/Warning	Residents use radar to clock speeds, record license plate numbers, police send notice to drivers	No	Varies	Not likely	Slight, temporary, reduction	No change	-	Slight, temporary, improvement	No change	-	High	-	Yes	Yes	Yes	No	Yes	Yes	-	-	Low	-	Both
Speed Bumps (about 3 5"h X 6")	Short strips of raised pavement, avoid using on public streets	Possible	Varies	Yes	Increased noise	Increase	Safety problem	Improved	Plan with care	Significant problems	Self Enforcing	-	No	No	No	-	No	-	-	Low	High	-	Spot
Speed Humps (about 2.75-4"h X 12')	Raised sections of pavement across the traveled way with curved transitions	Possible	Yes	Possible	No change	No change	-	Improved	Plan with care	Minor constraint	Self Enforcing	-	Plan with care	Yes	Yes	Yes	Yes	Yes	Yes	Low	Low to Moderate	Yes	Both
Speed limit signs	"25 MPH in residential areas", etc	No	No	No	No change	No change	No change	No change	No change	-	High	High	Yes	Yes	Yes	No	-	-	-	Low	Low	No	Both
Speed Tables (3-4"h X 22')	Speed humps with a long flat section, often used as crosswalks	Possible	Yes	Possible	No change	No change	-	Improved	Plan with care	Minor constraint	Self Enforcing	-	Plan with care	Yes	Yes	Yes	Plan with care	Yes	Yes	Moderate	Low to Moderate	Yes	Both
Speed Watch	Illuminated display shows actual speed to passing drivers	No	Varies	Not likely	Slight, temporary, reduction	No change	-	Slight, temporary, improvement	No change	-	None	-	Yes	Yes	Yes	No	Yes	Yes	-	-	Low	-	Spot
Stop Signs	Stop signs, two way or four way, used to assign right-of-way at intersections	Seldom	Varies	Not likely	Increased noise	Increase	Varies	Varies	Varies	No constraint	Low	Varies	Follow MUTCD guidelines	MUTCD guidelines	MUTCD guidelines	No	Yes	Yes	-	Low	Low	-	Both
Street Closures, Cul-De-Sacs	A complete barricade of a street at an intersection or a dead end street	Yes	Yes	Yes	Reduction	Improved	No	Improved	Improved	Significant constraints	-	-	No	No	Yes	Yes	No	Yes	-	Moderate	Moderate to High	Yes	Both
Traffic Circles	These geometric design features force traffic at intersections into circular maneuvers	Possible	Yes, near circle	Yes	No change	No change	Improved	Varies	Varies	Minor Constraint	Self Enforcing	-	Plan with care	Yes	Yes	Yes	Plan with care	Yes	Yes	Low	Moderate	Yes	Both
Traffic signals	Vehicle or pedestrian actuated	No	Possible	No	Increase	Increase	Improved	Improved	Improved	-	-	Low	Yes	Avoid	No	No	-	-	-	Moderate	Low	No	Both
Truck prohibitions	"No trucks over 10,000 lbs ", etc	Minor	No	Yes	Likely reduction	Slightly improved	Improved	Improved	Improved	-	-	Low	No	Yes	Yes	Yes	-	-	-	Low	Low	No	Area
Turn Prohibition sign	Regulatory signs at intersections	Yes	Likely	Possible	Reduction	No change	Improved	Varies	Varies	No effect	Low	Varies	Yes	Yes	Yes	Yes	Yes	Yes	-	Low	Low	-	Both
Woonerf	Traffic calmed residential area where the street is an extension of the front yards and vehicles share street space with bikes and pedestrians	Yes	Yes	Yes	Significant reduction	Improved due to lower vol	Improved	Improved	Improved	No constraint	-	Low	No	No	Yes	No	No	Yes	Yes	High	Varies	High	Spot

Travel Demand Management

In addition to managing the transportation system to achieve better operating efficiencies, it is equally important to manage the demand for travel. Travel demand strategies focus on one or more of the following objectives:

- Reducing the total amount of travel demand (i.e. eliminating trips or shortening the travel distance),
- Changing the modes of travel from the single occupant vehicle to more efficient travel modes such as carpooling, public transit, walking or bicycling,
- Relocating travel from congested corridors to less congested ones to balance the use of transportation facilities more efficiently, or
- Redistributing travel from peak periods (when the worst congestion occurs) to non peak times when there is more capacity available in the transportation system.

There are a wide variety of specific techniques that can be used to accomplish these objectives. A summary of such techniques is included in Table 7-9. The techniques are rated according to their relative effectiveness in inducing changes in travel mode from private automobile to ridesharing or non-motorized travel, (high, medium, or low); and in their relative costs for implementation (high, medium or low). It is important to maintain reasonable expectations about the potential effectiveness of TDM measures in communities like Grants Pass. Given the current situation regarding development patterns, alternatives to the private automobiles for travel, and the relative ease of driving and parking in the Grants Pass Urban Area it may be difficult to effect a significant change in the mode of travel selected by area residents and visitors.

There are five keys to successful travel demand management:

- Careful integration of land use and transportation decisions to provide for more compact development, minimization of sprawl, and provision of reasonable opportunities for travel by walking, bicycling and/or public transit;
- Provision of reasonable and attractive alternatives to traveling by private automobile, especially during the peak hour;
- Sufficient incentives and disincentives to encourage people to change their travel from less efficient to more efficient travel patterns;
- Coordination and integration of TDM programs and policies with other transportation decisions to ensure that facilities are designed to accommodate travel by means other than the private automobile, and
- Active support and implementation of TDM strategies by the private sector, particularly employers.

Table 7-9: Potential TDM Strategies

Strategy or Technique	Relative Effectiveness	Relative Cost
Carpool, Vanpool Program	Medium	Medium
Public Transportation System	Medium	High
Car/vanpool Preferential Parking (location and/pricing)	High	Low
Ridesharing Education and Promotion	Medium	Low
Guaranteed Ride Home Program	Low	Low
Flextime- Adjustable Working Schedules	Medium	Low
Transportation/Parking Management Association	Medium	Medium
Bicycle Facilities (on and off road)	High	Medium

There are fewer opportunities to manage travel demand in the Grants Pass Urban Area than in a more densely developed city such as Portland. So far, travel by private automobile is relatively easy. There is little congestion which would deter some drivers; parking is readily available throughout the urban area and largely free, and public transit alternatives are fairly limited. For those people who have access to a private vehicle, there are few disincentives to using it. However, the community can work towards reducing travel per capita as specified in the goals and policies element of this plan through:

- Consideration of the travel implications of proposed development,
- Encouraging developers to provide facilities for bicyclists and pedestrians,
- Supporting the provision of public transit services for "transit dependent" and for "transit choice" travelers,
- Educating the community about the benefits of travel demand management, and encouraging people to "share the ride" and/or use alternatives to the private automobile for their travel needs, and
- Implementing parking management strategies that reward those who travel by carpool rather than single occupant vehicles.

transportation revenues for cities come from federal sources (around four percent), with 96 percent of transportation revenues for cities derived from local and state sources. Counties and cities rely heavily on local property taxes, gasoline taxes, and local assessment and fees for transportation funding.

Transportation Funding for Josephine County

The funding for Josephine County roads (known as the "County Road Fund") historically has come from two main sources: (1) the County's Oregon Highway Fund apportionment, and (2) the County's share of U.S. Forest Service timber receipts. An interest earning reserve is kept to respond to historical fluctuations in timber receipts, and to provide some cushion in case revenues decline unexpectedly.

County Road Fund Revenues and Expenditures

For the past ten years, state and federal revenues distributed to Josephine County have contributed approximately 95 percent of the County Road Fund revenues. The remaining revenues come from local fees and reimbursements, and interest. Prior to 1980 the County Road Fund's major source of revenue was receipts from timber sales on the national forests in Josephine County. The U.S. Forest Service revenues have been used by the County to make significant capital improvements to its road system.

Federal revenue from timber sales has declined in recent years to around 25 percent of total revenue ($1.6 million.) Reserve fund revenue has been used to make up for the reduced federal revenue, but the County has indicated that it intends to reduce future expenditures for capital transportation improvements so that the County Road Fund will not rely on reserve revenue as a regular funding source. In fiscal year 1994 reserve funds constituted 10 percent of total revenue, or $650,000.

Shared revenues from the Oregon Highway Fund contributed $3.7 million to the County Road Fund in FY 1994, or 60 percent of the total revenue. The County generally uses these funds for the operation and maintenance needs of the County's roadways.

Local revenue sources for the County Road Fund are limited to interfund charges and reserve revenue. Josephine County has not levied property taxes or other local taxes for roads since 1981.

Outlook for County Road Fund Revenues

ODOT expects some growth in the State Highway Fund through fiscal year 98. Josephine County's share of the State Highway Fund is projected to grow at a rate of one to four percent per year. The increased revenue will probably be offset by inflation. However, this revenue source provides a reasonably reliable source of funds for roadway maintenance and operation. Given the ongoing needs for maintenance and the slow rate of growth it is unlikely that this source will provide significant funds for any capital improvements.

The County's share of forest revenues is no longer tied directly to the level of timber sales due to the "spotted owl compromise" legislation approved by Congress. Under the terms of this legislation counties are guaranteed timber receipt payments on a schedule set by Congress. Under this legislation timber payments to the County road fund will decline from $1.6 million in FY 1994 to $1.4 million in FY 1998. Unless timber receipts produce payments larger than the guaranteed minimum, payments to the County are expected to decline from $1.4 million in FY 1999 to $1.1 million in FY 2003. While this is a fairly stable and reliable funding source, the amount of funds available to the County for capital improvements from this source is declining at a time when needs are increasing.

Other potential sources of revenue for transportation improvements include payments by developers to mitigate transportation impacts of new developments, and dedication of right of way for public use. While this could help with transportation facilities serving new development, it will not provide much help for transportation improvements to serve existing development. In addition, it is not possible to predict the amount or timing of such funding.

Transportation Funding for Grants Pass

The City of Grants Pass budgeted $2.25 million in FY 1995, and $1.79 million in FY 1996 for transportation purposes. The largest source of revenue for transportation purposes is the State Highway Fund, which contributed $844,000 in FY 1995 (35 percent of total revenue), and $870,000 in FY 1996 (42 percent of total revenue). This funding source has grown at a rate of four to five percent per year for the past five fiscal years. While this is a relatively slow rate of growth (likely less than the rate of inflation), it is a stable and predictable funding source. The only other source of state funding for transportation in Grants Pass during FY 1995 and FY 1996 is a $64,000 Regional Strategy Grant funded by the Oregon Lottery.

Other sources of revenue for transportation come from local sources. These include Special Assessments collected from property owners for improvements that directly benefit their properties (which contributed $761,000 over the two years for which data was available), $782,000 in FY 1995 from the Grants Pass Parkway Redevelopment Agency (an urban renewal district funded by an incremental property tax assessed in the district), and the City's General Fund. The City does not use property tax revenue for transportation purposes. Funds transferred from the General Fund are generated from franchise fees, business license taxes, permit and license fees, fees for services, and the state per capita payments from alcohol and cigarette taxes.

The City spends over half of its transportation budget on capital improvements. In FY 1995, 67 percent of the $2.25 million budget was used for transportation capital improvements. The remaining 33 percent was used for maintenance and operation of the transportation system. In FY 1996, 57 percent of the $1.79 million budget is for capital improvements, and the remainder is for maintenance and operation.

Outlook for Existing Transportation Revenue Sources in Grants Pass

The City of Grants Pass currently allocates the majority of their transportation budget for capital improvements (57 percent in FY 1995 and 67 percent in FY 1996.) A major source of the funds for capital improvements comes from special sources linked to specific transportation improvements, e.g., the Grants Pass Parkway Redevelopment Agency and Special Assessments. If funding continues to be available from these sources at the current level the City will continue to make significant investments in capital improvements. However these funding sources are not predictable, and do not contribute funds for general capital improvement needs.

The City appears to be deferring some needed maintenance (possibly due to the limited gas tax funds available to the City) and upgrades to existing facilities. The list of needed improvements included in Chapter 4 identifies many locations where roadways do not have shoulders, there is insufficient right-of-way and/or land width to meet current roadway design standards, and other physical deficiencies in the transportation facilities.

The City will need additional resources to complete these upgrade projects, properly maintain the transportation system, and to implement the identified capital improvement projects. The City must establish a stable funding base to cover the increasing maintenance costs, and provide for future capital projects. A street utility and/or local gas tax are two possible options that should be pursued as soon as possible.

State and Federal Revenues for Grants Pass

According to estimates by ODOT, the State Highway Fund should grow faster than inflation for the next ten years, then decline in real terms through the following decade. It is reasonable to expect Grants Pass to experience similar trends. While this does not allow any significant increase in funds available to expand maintenance or capital budgets, it is a reliable and predictable source for the City.

Grant revenue from Regional Strategy Funds, and other state and federal sources are awarded on a case-by-case basis for economic development and other purposes. These grant programs are very competitive and the City cannot count on receipt of grant funds on a regular or predictable basis. While they could provide funding for some special projects, they will not be a very good source for implementation of the list of capital improvements identified in Chapter 4.

Transfers from the City's General Fund

Transfers from the General Fund are from relatively stable sources of revenue. These funds contribute about $200,000 per year for maintenance, and provide a source for capital improvements ($111,000 in FY 1996). General Fund money can be used for any expenditure the City chooses, so this source is open to many competing demands. While the General Fund will continue to be a stable source for maintenance, it provides only a quarter of the funds used for maintenance of the transportation system. Contributions from the General Fund for capital improvements are very limited and less certain; but it appears that these funds can be tapped occasionally for high priority projects for the City for which there is no other funding source, or to provide local match for state and federal funds.

Special Assessment Districts

A special assessment district is created to fund a specific transportation project that benefits a designated geographic area. The district can levy taxes, collect charges for services and issue debt independently of other local governmental units. Special districts typically are formed to carry out local improvements or to provide public services for the benefit of property owners within the district boundaries. Local improvement districts (LIDs) commonly are used for transportation improvements by municipalities.

Grants Pass generates significant revenues from LIDs. However the revenue from this source is tied to specific projects and cannot be used for other transportation purposes. Future revenue from this source is tied to the successful formation of additional LIDs, so future revenues from this source will be highly variable and difficult to predict. However, this approach could be used to finance some of the improvements identified in Chapter 4, including urban upgrade projects.

The Grants Pass Parkway Redevelopment Agency can provide funds for transportation projects within the district that support the mission of the agency (economic development). Future revenue from this source will depend on development interest in the area and revenues generated by the agency; expenditures of funds from the Redevelopment Agency will be tied to projects that benefit the district.

Right-of-Way Dedications and Developer Improvements

Grants Pass requires developers to provide right-of-way dedications and to construct transportation improvements to support new developments. The City's Development Code contains several articles which require developers to provide streets and sidewalks within new developments in accordance with the City's design standards for such facilities. The City's development standards ensure that local streets built within new subdivisions and sidewalks on arterials and collectors will be improved to City standards as property is developed. The City will not need new revenue for these types of improvements, as they will be built along with any new development.

Standards also exist for roadway improvements in the area between the City limits and the Urban Growth Boundary. Josephine County adopted road standards (including urban street standards) for this area. Developments within this area would be required to meet these standards as part of their development.

Future Transportation System Improvements

Chapter 4 includes the list of transportation improvements identified for the Grants Pass Urban Area. These include capital improvements to complete important links in the transportation system and provide for anticipated growth, and urban upgrade projects to bring existing facilities up to current design standards for the City and County. The list of improvements in Table 4-2 includes 31 transportation system improvement projects to be implemented over the next 20-25 years. The total cost for these improvements is estimated to be nearly $53 million in 1995 dollars.

Table 8-1 summarizes the estimated costs for these projects according to their priority (high, medium or low), and their estimated timing for construction (1998-2005, 2006-2015, and 2015+). Project costs were estimated by developing "unit costs" for individual project components (e.g., lane feet of asphalt and square feet of sidewalk, traffic signals, etc.), identifying the individual components for each project, and then summing the total for each project. These costs are estimated in 1995 dollars, which have not been inflated to reflect actual dollar costs in the future.

Table 8-1 Cost Summary for Transportation System Improvements - 1995 Dollars

Timing	High Priority	Medium Priority	Low Priority
1998-2005	$550,711	$3,693,953	$2,587,713
2006-2015	$19,917,976	$10,842,774	$8,621,807
2015+			$6,345,186
Total	**$20,468,687**	**$14,536,727**	**$17,554,706**

In addition to transportation system improvements 88 urban upgrade projects were identified to improve existing roadways within the urban area. Of these, 10 are City of Grants Pass projects ($929,944), 68 are Josephine County projects ($52,448,940), and 10 are ODOT projects ($25,854,000). Table 8-2 summarizes these projects by agency, timing and priority.

Table 8-2 - Cost Summary for Urban Upgrade Projects - 1995 Dollars

Timing	High Priority	Medium Priority	Low Priority
1998-2005			
City of Grants Pass	$0	$0	$0
Josephine County	$651,309	$4,508,071	$2,059,245
ODOT	$21,355,000	$315,000	$0
Subtotal	***$22,006,309***	***$4,823,071***	***$2,059,245***
2006-2015			
City of Grants Pass	$514,222	$347,589	$45,565
Josephine County	$4,526,541	$11,570,539	$1,258,786
ODOT	$0	$4,184,000	$0
Subtotal	***$5,040,763***	***$16,102,128***	***$1,304,351***
2015+			
City of Grants Pass	$0	$0	$22,568
Josephine County	$2,441,015	$16,615,440	$8,817,994
ODOT	$0	$0	$0
Subtotal	***$2,441,015***	***$16,615,440***	***$8,840,562***
Total	**$29,488,087**	**$37,540,639**	**$12,204,158**

Device	Definition	Volume Reduction	Speed Reduction	Change in % trucks	Environment/Pollution Changes in conditions		Safety			Emergency/ Service Vehicle Access/Delay	Dependence on Police Enforcement	Level of Violation	Type/ Classification of Street			Impact on Adjacent Arterial	Use on Bus Route	Use with Driveways On Street	Use with Curbs & Gutters	Construct Cost/ Problems	Maintenanc Cost/ Proble	Aesthetics/ Landscapin Potential	Useful for Spot/Areawic Problems
													Collector	Local Streets									
					Noise	Air	Vehicle Conflicts	Pedestrian	Bicyclist				Commercial	Neighborhood Collector	Local Access								
Bicycle Lanes	Lanes reserved for bicycles	No	No	No	No change	No change	-	-	Improved	No effect	-	Low	Yes	Yes	Yes	No	Yes	Plan with care	-	Low	Low	-	Both
Crosswalks	Painted pedestrian crossing areas mid-block or at intersections	No	No	No	No change	No change	No change	No change	No change	-	-	Low	Yes	Yes	Yes	No	Yes	Yes	Yes	Low	Low	No	Both
Curb Extensions (Entry, Exit, Mid Block)	Extension of the curb into the roadway to create a narrower travel lane to protect parking strip or shorten pedestrian crossing distance	No	Slight	No	Slight improvement	No change	No effect	Improved	Plan with care	No problems	-	-	Yes	Yes	Yes	No	No	Yes	Yes	Moderate	Low to Moderate	Yes	Both
Diagonal Diverters	Barrier placed diagonally across an intersection to force drivers to make a sharp turn but not allow other movements	Yes	Likely	Yes	Reduction	Improved	Improved	Varies	Varies	Minor Constraint	Self Enforcing	-	No	Avoid	Yes	Yes	Plan with care	Yes	Yes	Low	Moderate	Yes	Usually Areawide
Enforcement (Visible & active police presence)	Extensive traffic enforcement, "emphasis patrols,"	Not likely	Yes, temporary	Not likely	Possible reduction	No change	-	Improved	Improved	-	High	Low	Yes	Yes	Yes	Yes	Yes	Yes	-	-	Moderate	-	Both
Forced Turn Islands, Barriers, Channelization	Traffic islands or curbs specifically designed to prevent traffic from executing specific movements at an intersection	Yes	Likely	Yes	Reduction	No change	Improved	Improved	Varies	Minor constraints	-	Low	Yes	Yes	Yes	Yes	No Major Effect	Yes	Yes	Can be complex	Low	Optional, Depends upon priority	Both
Median Barriers	Barrier along the center line of a roadway to prohibit left turns or cross traffic	Yes	No	Possible	reduction	Decrease	Improved	Varies	Varies	Minor constraints	-	Low	Yes	Yes	Yes	No	Possible	Plan with care	Yes	Complex	Varies	Varies	Both
Median Entry/Exit Islands	Traffic islands used to create narrower roadway at entry/exit point	Possible	No	Possible	Possible reduction	Possible Decrease	Improved	Improved	Varies	Minor constraints	-	Low	Yes	Yes	Yes	No	No	Yes	Yes	Low	Varies	Yes	Both
Median Mid Block Islands	Traffic islands between intersections to create a narrower roadway or provide refuge for crossing pedestrians	No	Slight	Slight	No change	No change	Improved	Improved	Varies	Minor constraints	-	Low	Yes	Yes	Yes	No	Possible	Plan with care	Yes	Low	Low	Varies	Both
Mid-Block Slow points, Chicanes	Curbed islands or curb extensions protruding into the roadway, leaving a single-lane or narrow two-lane gap, often at an angle to the centerline	Yes	Yes	Likely	Reduction	Decrease	Improved	Improved	Questionable	Minor constraint	Self Enforcing	-	Yes	Yes	Yes	No	Yes	Avoid near driveways	Yes	Moderate	Moderate to High	Yes	Both
Neighborhood Traffic Safety/Campaign Program (Education)	Distribute safety information, special pedestrian safety clases for children	No	Not likely	Not likely	No change	No change	-	Possible Improvement	Possible Improvement	-	-	-	-	-	-	-	-	-	-	-	-	-	Both
Neotraditional Neighborhood Design	Integrated land use and transportation design to increase transit and non-motorized travel to non-residential destinations within the neighborhood	Likely	Likely	Likely	Likely reduction	Unknown	Improved	Improved	Improved	No constraint	-	Low	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Can be high	Varies	High	Area
Novelty signs	"Slow - Nudist Crossing", etc.	No	No	No	No change	No change	No change	No change	No change	-	-	High	No	No	Yes	-	-	-	-	Low	High	No	Spot
Odd speed limit signs	"13 MPH", etc.	No	No	No	No change	No change	No change	No change	No change	-	High	High	No	Yes	Yes	-	-	-	-	Low	High	No	Spot
One-Way Entry/Exit Chokers, Half closures, Semi-Diverters	A barrier to traffic in one direction of a street which permits traffic in the opposite direction to pass through	Possible	Yes	Not likely	Reduction	No change	Improved	Improved	Improved	Minor constraint	Initially high	Varies	Avoid	Avoid	Yes	Possible	Plan with care	Yes	Yes	Low	Moderate	Yes	Both
One-Way streets and signs	Restricted entry/exits to/from neighborhoods, one-way street patterns	Yes	Varies	Possible	Reduction	Improved	Improved	Improved	Improved	Plan with care	Low	Low	Yes	Yes	Yes	Yes	Plan with care	Yes	-	Low	Low	-	Usually Areawide
Parking Variants Class I (Zones, Signs, Striping, timed, resident restricted)	Parking areas create narrower roadways and increased activity leading to increased attention by drivers	Possible	Likely	Likely	Possible reduction	No change	Possible Improvement	Possible Improvement	-	No effect	Low	Varies	Yes	Yes	Yes	Yes	Yes	Yes	-	Low	Low	-	Both
Parking Variants, Class II (Shifting Traveled Way)	Alternating parking from one side of street to the other, parallel or diagonal	Possible	Likely	Not likely	Possible reduction	No change	Increased conflicts	Possible Improvement	Varies	No effect	-	-	Yes	Yes	Yes	No	No	Yes	Yes	Low	Low	Yes	Spot

Table 4-1 A Catalog of RTM Actions

Device	Definition	Volume Reduction	Speed Reduction	Change in % trucks	Environment/Pollution Changes in conditions		Safety			Emergency/ Service Vehicle Access/Delay	Dependence on Police Enforcement	Level of Violation	Type/ Classification of Street			Impact on Adjacent Arterial	Use on Bus Route	Use with Driveways On Street	Use with Curbs & Gutters	Construct Cost/ Problems	Maintenanc Cost/ Proble	Aesthetics/ Landscapin Potential	Useful for Spot/Areawic Problems
					Noise	Air	Vehicle Conflicts	Pedestrian	Bicyclist				Collector: Commercial	Local Streets: Neighborhood Collector	Local Streets: Local Access								
Pavement Treatment, Class II (Texture/Composition, Patterns, Color)	Special pavement compositions and markings to alert drivers of special conditions	Not likely	Possible	Possible	Possible reduction	No change	-	Possible Improvement	Varies	No constraint	-	-	Yes	Yes	Yes	No	Yes	Yes	-	Low	Low	-	Both
Pavement Treatments, Class I Marking and Striping & Color	Special pavement markings at entries, hazard locations or crosswalks to alert drivers of special conditions	No	Possible	Not likely	No change	No change	-	Possible Improvement	-	No effect	-	-	Yes	Yes	Yes	No	Yes	Yes	-	Low	Low	Yes	Both
Raised Crosswalks	Crosswalks raised transversely across the pavement	Possible	Yes	Not likely	No change	No change	-	Improved	Plan with care	Minor constraint	Self Enforcing	-	Plan with care	Yes	Yes	Yes	Plan with care	Yes	Yes	Moderate	Low to Moderate	Yes	Site
Speed Alert w/Warning	Residents use radar to clock speeds, record license plate numbers, police send notice to drivers	No	Varies	Not likely	Slight, temporary, reduction	No change	-	Slight, temporary, improvement	No change	-	High	-	Yes	Yes	Yes	No	Yes	Yes	-	-	Low	-	Both
Speed Bumps (about 3.5"h X 6")	Short strips of raised pavement, avoid using on public streets	Possible	Varies	Yes	Increased noise	Increase	Safety problem	Improved	Plan with care	Significant problems	Self Enforcing	-	No	No	No	-	No	-	-	Low	High	-	Spot
Speed Humps (about 2.75-4"h X 12')	Raised sections of pavement across the traveled way with curved transitions	Possible	Yes	Possible	No change	No change	-	Improved	Plan with care	Minor constraint	Self Enforcing	-	Plan with care	Yes	Yes	Yes	Yes	Yes	Yes	Low	Low to Moderate	Yes	Both
Speed limit signs	"25 MPH in residential areas", etc	No	No	No	No change	No change	No change	No change	No change	-	High	High	Yes	Yes	Yes	No	-	-	-	Low	Low	No	Both
Speed Tables (3-4"h X 22')	Speed humps with a long flat section, often used as crosswalks	Possible	Yes	Possible	No change	No change	-	Improved	Plan with care	Minor constraint	Self Enforcing	-	Plan with care	Yes	Yes	Yes	Plan with care	Yes	Yes	Moderate	Low to Moderate	Yes	Both
Speed Watch	Illuminated display shows actual speed to passing drivers	No	Varies	Not likely	Slight, temporary, reduction	No change	-	Slight, temporary, improvement	No change	-	None	-	Yes	Yes	Yes	No	Yes	Yes	-	-	Low	-	Spot
Stop Signs	Stop signs, two way or four way, used to assign right-of-way at intersections.	Seldom	Varies	Not likely	Increased noise	Increase	Varies	Varies	Varies	No constraint	Low	Varies	Follow MUTCD guidelines	MUTCD guidelines	MUTCD guidelines	No	Yes	Yes	-	Low	Low	-	Both
Street Closures, Cul-De-Sacs	A complete barricade of a street at an intersection or a dead end street	Yes	Yes	Yes	Reduction	Improved	No	Improved	Improved	Significant constraints	-	-	No	No	Yes	Yes	No	Yes	-	Moderate	Moderate to High	Yes	Both
Traffic Circles	These geometric design features force traffic at intersections into circular maneuvers	Possible	Yes, near circle	Yes	No change	No change	Improved	Varies	Varies	Minor Constraint	Self Enforcing	-	Plan with care	Yes	Yes	Yes	Plan with care	Yes	Yes	Low	Moderate	Yes	Both
Traffic signals	Vehicle or pedestrian actuated	No	Possible	No	Increase	Increase	Improved	Improved	Improved	-	-	Low	Yes	Avoid	No	No	-	-	-	Moderate	Low	No	Both
Truck prohibitions	"No trucks over 10,000 lbs.", etc	Minor	No	Yes	Likely reduction	Slightly improved	Improved	Improved	Improved	-	-	Low	No	Yes	Yes	Yes	-	-	-	Low	Low	No	Area
Turn Prohibition sign	Regulatory signs at intersections	Yes	Likely	Possible	Reduction	No change	Improved	Varies	Varies	No effect	Low	Varies	Yes	Yes	Yes	Yes	Yes	Yes	-	Low	Low	-	Both
Woonerf	Traffic calmed residential area where the street is an extension of the front yards and vehicles share street space with bikes and pedestrians	Yes	Yes	Yes	Significant reduction	Improved due to lower vol.	Improved	Improved	Improved	No constraint	-	Low	No	No	Yes	No	No	Yes	Yes	High	Varies	High	Spot

Table 4-1. A Catalog of RTM Actions

Funding Needed Transportation Projects

The projected revenues for the City of Grants Pass and Josephine County for transportation purposes described earlier in this chapter are nowhere near the estimated costs for the identified transportation projects. Therefore the City and County will need to pursue additional funding options in order to implement the Master Transportation Plan. The City and County may want to pursue additional funding sources in the following order:

- Use federal or state funds first. Try to get more funds and/or grants from federal and state programs, or tie what might otherwise be local (City and/or County) projects (such as urban upgrades) to federal or state highway projects.
- For projects that the federal or state agencies will not fund, be sure the projects are needed and that the design options have considered lower-cost alternatives to address the problems.
- For the remaining projects that primarily serve new development, or specific properties, charge new development (through system development charges) and property owners (through LIDs or urban renewal districts) where possible and appropriate. Continue to require developers to provide local streets needed within new developments consistent with urban area design standards.
- For remaining needed, but unfunded projects, charge all residents regardless of their use of the transportation system through locally generated taxes such as property taxes, business license fees, or a sales tax. The City or County could issue general obligation or revenue bonds, backed by the revenue generated through such fees or taxed to finance transportation improvements.

The summary of planned transportation improvements in Table 4-2 includes preliminary information about potential primary and secondary funding sources for each of the planned improvements. These sources include: State/Federal, City General Funds, County Road Fund, Private Development, LID (Local Improvement District), SDC (System Development Charge), and Other. This is simply a "first cut" at identifying appropriate sources to pursue for each of the projects. The final funding package for the projects could include a different mix from the identified sources, or potential new sources that are not included in the table. By doing the initial assessment it is possible to identify general amounts of funds that would be needed from each of the major funding sources over the next 20-25 years in order to implement the planned improvements.

Federal and State Sources

All federal funding is handled through ODOT's funding process. Federal funds are administered by the state for a variety of purposes at the state, regional, county and local levels. The City of Grants Pass and Josephine County would apply for such funds through the regular ODOT process, beginning with ODOT staff in Region 3. The key factor for federal funding of major transportation improvements is to get them included as part of the Statewide Transportation Improvement Program (STIP) which is updated and adopted every two years. The process for the next STIP (covering the period from 1998-2001) began in the Spring of 1996.

ODOT is the primary funding source for the interstate and state highways it maintains. In the Grants Pass Urban Area that includes: I-5, Highway 99 (Rogue River Highway), Highway 199 (Redwood Highway), and Highway 238 (Jacksonville Highway). Federal/State funds are indicated as the primary funding source for eight projects in the years 1-10, and four projects in the years 11-20. Several of these projects are included in the current STIP.

Funding for the Fourth Bridge across the Rogue River is not included in the current STIP. Funding for this project with state or federal funds may be difficult since the bridge would not be part of a federal or state highway.

Federal/State funding is indicated as a secondary funding source for more than 40 projects included in this Plan. Such funding for these projects is speculative. The City and County should have an aggressive program to secure federal and state sources, but should not count on receipt of sufficient funds from these sources to finance the planned improvements.

One project that directly involves a federal highway that does not identify any federal/state funds as the primary funding source is the I-5 interchange anticipated in years 11-20. This project is estimated to cost $1.8 million. Since the interchange is needed to serve proposed new development, the primary funding source at this time is from private development.

There may be other projects in the list of planned improvements that would reduce congestion or otherwise improve traffic flow on state highways because of improvements to the arterial system. The City and County should seek to link such improvements to arterials with improvements on state highways to increase the chances for state funding.

Federal programs authorized by ISTEA pay for selected transportation projects that meet the specific criteria of individual federal programs. To receive ISTEA funding from these programs a project must meet the federal program criteria, and must be included in the current STIP. The City and County should work with Region 3 of ODOT to identify which of the planned improvements included in Chapter 4 would be eligible for ISTEA funds and ensure that these projects are included in ODOT's STIP.

Josephine County Sources

Currently Josephine County does not share funds with the City of Grants Pass for transportation improvements. The County is responsible for maintenance of roadways in the urbanizing area and some roads within the city limits that remain under County jurisdiction. It might seem that the County should fund improvements in the unincorporated areas within the UGB. As a practical matter, the City will need to take a large role (or the lead at times) in funding improvements in this area for several reasons: (1) the County's ability to fund transportation projects is limited by the County's charter restrictions; (2) transportation revenues at the County level are declining (due in part to declining revenue from timber sales); and (3) as the City annexes areas within the UGB, projects currently outside the City limits may be inside the City by the time they are needed, or scheduled for implementation.

The City of Grants Pass and Josephine County occasionally participate in cost sharing on individual projects. There is no on-going formal process to jointly fund transportation improvements; decisions are made on a project-by-project basis. In any case the City and County should work together to develop the best approach to funding needed improvements that serve City and County interests, particularly in the unincorporated area within the UGB.

City of Grants Pass Sources

While federal, state and county funds will continue to be important sources of funding to implement the transportation plan, these sources obviously will not provide sufficient funds for all of the projects included in the plan. Most projects that are expected to be funded through these sources will require local matching funds. City sources will be needed for match, and to pay for improvements that cannot be funded through other sources.

The City of Grants Pass should follow the general strategy for project funding described earlier in this chapter, through careful matching of projects to funding sources so that those who benefit most from the improvements contribute the most to their costs. If property owners are unwilling to contribute to transportation improvements that benefit them (through LID, SDCs or other special assessments) the City must then decide whether to use general funds for the project or whether to eliminate the project.

Projects that serve people throughout the Urban Area can be financed from sources generated throughout the area. This includes existing funding sources or potential new sources tied to the use of the particular transportation improvements.

Private Funding Sources

The City of Grants Pass Development Code and the Josephine County Ordinances require developers to provide right-of-way dedications for public roads that serve the development and require that transportation facilities within the developments meet City and County design standards. The City Code and County Ordinances specify standards for new streets, sidewalks and paths. Private Development is indicated as the primary funding source for 23 of the projects included in Table 4-2. These projects would serve primarily new development areas. The secondary funding sources identified for these projects are mostly LIDs or the County Road Fund. Implementation of these projects is dependent on the development taking place and funding being provided by the private sector.

Local Improvement Districts

A Local Improvement District (LID) is a special governmental entity created to fund a specific project within a specified geographic area. The LID can levy taxes for its support, collect charges for its services and issue debt independently of other governmental units. LIDs typically are formed for the purpose of carrying out local improvements or providing public services for the direct benefit of property owners within the district boundaries and are rarely used for larger transportation projects serving regional traffic.

Over seventy of the projects included in Table 4-2 indicate LIDs as the primary funding source for implementation. The large number of projects and their associated cost, account for more than 40 percent of the total cost for all of the projects included in this Plan. This is a larger total than for any of the other funding sources listed in Table 4-2. LIDs were selected as the primary potential funding source for these projects because they would serve relatively limited geographic areas. The secondary funding sources identified for these projects include private development, SDCs, County Road Fund and Federal/State funds. While these projects primarily benefit nearby property owners, some of them will have wider impacts and benefits that would justify using funds from these secondary sources.

If all of these projects are to be constructed, it would require revenues of about $1.1 million/year for years 1-10, $2.8 million/year for year 11-20, and $6.1 million per year for years beyond 2015 (assuming five years in this period.) LID funded expenditures were budgeted at $50,000 in FY 1995, and $700,000 in FY 1996. The amount needed to implement the LID type projects included in this Plan for the next ten years far exceeds the level of LID revenue and expenditure in recent years. The level of expenditure indicated for the following decade far exceeds the level of all transportation capital expenditures funded by all revenue sources in the last two years. The level of expenditure needed for LID type expenditures beyond the next two decades is so high that the City will be faced with the choice of either implementing new fees or taxes to pay for the projects or simply doing without them.

System Development Charges (SDCs)

SDCs are fees paid by land developers to governmental entities in association with new development. SDC generated income is used to pay for capital improvements required to serve the new development, such as streets, water lines, and sewer service. Neither the City of Grants Pass nor Josephine County currently collect SDCs for transportation. This Plan does not identify any projects with SDCs as the primary potential funding source, but does identify SDCs as a potential secondary source for several projects, especially projects to be funded through LIDs.

Other Funding Sources

Other funding sources includes special purpose funding that may become available such as grants from the school district or the Grants Pass Parkway Redevelopment Agency. Four of the projects included in Table 4-2 identify the Redevelopment Agency as the primary potential funding source. The Redevelopment Agency would use urban renewal funds generated through a special property tax levied in the redevelopment district to fund these improvements. The secondary sources identified for these projects include LIDs and Private Development. These projects are not anticipated to receive any other local funding.

These four projects (medium and low priority) are estimated to require $550,000 in years 1-10 and $3.3 million in years 11-20.

City of Grants Pass General Funds

Three of the projects included in Table 4-2 identify City General Funds as the primary potential funding source; a secondary funding source was not identified for these projects.

The total estimated cost for these three projects is $522,034; the majority of which is for one of the projects designated as high priority to be constructed within the next ten years.

An additional 14 projects identify City General Funds as a secondary funding source. The City's General Funds will be required to implement these projects as match for outer funds, or to replace funding that may not come for the other identified sources. In addition, there may be additional projects included in Table 4-2 that will require City General Funds if their identified funding sources do not provide sufficient funds for the projects.

The City currently spends $1-1.5 million per year for transportation-related capital construction. In the most optimistic scenario this would be sufficient to meet these identified needs. However, this conclusion is based on several key assumptions, including:

- Projects for which Federal/State is the primary funding source are fully funded from these sources, and the City will not need to provide matching funds. (These projects include the planned Fourth Bridge.)
- The City will implement SDCs, and this revenue source will contribute sufficient revenues to fund those projects identified for this source.
- All transportation projects within new developments are fully funded by private developers, LIDs, and/or SDCs, thus requiring no funds from the General Fund.
- LID funded projects that are not at least 60 percent funded by other sources will not be built; i.e., the City will not provide more than 40 percent of the funding for these projects.
- Projects identified with "Other" as the primary funding source will be fully funded by the school district, the Grants Pass Parkway Redevelopment Agency, or some other source, and will not require General Funds.

If these assumptions hold true, the City may be able to avoid raising additional revenue for transportation. However, it must pursue funding from Federal/State sources aggressively, implement SDCs, require developers to pay for transportation projects associated with new development, and refuse to build projects for which sufficient outside funding cannot be secured. In reality, these assumptions will be extremely difficult to achieve. There are several reasons to question them, as described below.

- Federal and state funding for the Fourth Bridge may be extremely difficult to secure because: (1) this bridge would not be on a federal or state facility; and (2) state and federal funds are limited and highly competitive. Even if federal or state funds become available for this project, a substantial local contribution would be required as match. This is an important project for the Urban Area. It is designated as High Priority and scheduled for implementation between 2006 and 2015.

- Developers and property owners may resist paying for transportation improvements and apply political pressure to use other sources to fund projects they want. The City may find it difficult to avoid using General Fund revenues to build some of the projects indicated to be funded from private sources such as SDCs, LIDs and Private Development.

- Increasing maintenance needs and inflation will erode the spending power of funds available for capital improvements for the transportation system. As the system ages, and as it expands to include new facilities, maintenance costs will increase faster than inflation. As maintenance costs increase, they may consume a larger proportion of the total funds available for transportation, thus reducing the amount available for capital improvements.

Currently there are no funding programs administered through the State that provide funds for new bridge construction. To secure federal funding, the Fourth Bridge project would need to be specifically funded by Congress as a special project when it reauthorizes the ISTEA legislation. Congressionally mandated project funding is highly speculative at this time. Even if Congress would authorize funds for this project, these funds would not cover the full costs. Additional City and County General Funds probably would be required, and the amount is likely to be substantial

The possibility for state funding may be slightly better since the Fourth Bridge may help traffic conditions on other state facilities (i.e. 6th and 7th Street through the downtown core.) However, state funds are very limited and the list of projects applying for these funds is long. In any case the City and County need to participate in ODOT's process to develop and update the STIP (Statewide Transportation Improvement Program.) to secure state funding for this project.

The Fourth Bridge is an important project for the area (designated as high priority) to be constructed sometime between 2006 and 2015. It is an expensive project, estimated to cost $16 million in 1995 dollars. The most optimistic assumption is that federal and state funds would contribute 80 percent of the cost, which would require a local match of $3.2 million. A more pessimistic assumption is that federal and state funds could contribute less than half of the costs. This represents a major difficulty for the City and County to raise the funds needed to implement the project. Even if the project were financed through bonds, the City and County would have to have some new revenue source to generate funds to pay off the bonds.

Additional Revenue Sources for Transportation Plan Implementation

In summary, it is likely that the City of Grants Pass and Josephine County will have to find additional funding sources that will generate substantial amounts of revenue in order to implement this Transportation Plan. It is unlikely that sufficient federal, state, private, and other funds will be available to finance the projects indicated for funding from these identified sources. The level of expenditure needed to implement the planned system improvements and the long list of urban upgrades is way beyond the historical level of expenditure for the City, County and State for transportation purposes in this area.

In general, the City and County should seek revenue sources that charge travelers based on their use of the transportation system. However, it is difficult, if not impossible, to determine appropriate charges and to implement them successfully. Consequently the City and County will need to look at revenue sources collected from the general population (residents and visitors) that are less directly tied to transportation usage.

System Development Charges (SDC)

It is recommended that the City of Grants Pass and Josephine County adopt an SDC program for transportation, which is sometimes referred to as Transportation Impact Fees (TIF). These types of charges are widely used in Oregon, and elsewhere, to help to finance transportation improvements needed to support new development. The national average for TIFs is $1,329/residential unit. In 1994 Grants Pass issued 190 permits for new residential units (159 single family residences, 23 duplexes, and eight for apartment buildings.) Using the national average, local TIFs would have generated over $250,000 for the City. Once it is established, a TIF program could be indexed to inflation or some other measure to ensure that it kept up with costs.

Local Street Utility

Even with a TIF, additional funding sources will be needed for the City and County. There are numerous projects that need to be implemented that are not related to new development and could not be funded through SDCs. Another possibility is to create a Street Utility. The utility could charge property owners a fee based on the amount of transportation "consumed" by the residence or business (possibly based on national trip generation rates for different types of land development). It might even be possible to charge "hook up" fees for new development.

As an example, a fee of $2/month for each residential household, plus some charge to commercial properties could generate $300,000 to $400,000 annually for the City of Grants Pass. Revenue from this source would increase as the number of households and businesses increased, and it could be indexed to increase with inflation. In spite of the fact that this a fee based on use (rather than a general local tax) street utilities are not popular and are difficult to implement.

The City of Grants Pass and Josephine County will participate in the study of a transportation utility for the purpose of financing the development and maintenance of streets and storm drains within the above jurisdictions. The user fees are to be based on the number of parking spaces per unit of development with a minimum of one per living or commercial unit.

Local Option Gas Tax

Implementing a "local option" gas tax appears politically attractive because it charges travelers (presumably in some proportion to their use), places some of the transportation financing burden on non-residents, and a 1-2 cent/gallon gas tax probably would have little effect on the profits for local gasoline dealers. This revenue source could generate about $140,000/year for each penny of tax. It is relatively easy to administer, does not cost much to collect, and provides a long term stable funding source.

However, a local option gas tax may require county-wide voter approval. Almost every proposed local option gas tax in Oregon has been defeated by voters. Given the general anti-tax sentiment in Josephine County, a local option gas tax would be a "hard sell" at the polls.

Transportation System Tolls

Another possible funding source is to levy tolls to directly charge users of specific facilities. This is particularly applicable to bridges, and should be considered for a Fourth Bridge. If a toll were applied to a new bridge, it would have to be applied to all river crossings so that travelers would not simply use the "free" facility in order to avoid paying a toll on the new facility. Based on 1994 average daily traffic on the 6th/7th Street bridged over the Rogue River (41,600), a 25 cent toll would generate over $3 million annually (charging travelers in both directions). There are legal issues to be explored (especially whether a toll could be imposed on an existing state facility (6th and 7th Streets), as well as a thorough economic analysis to determine the relative merit of a toll. Such analysis should certainly be included in any future work related to the Fourth Bridge.

Local Property Tax

As a last resort the City and County may want to explore the use of property tax revenue to pay for improvements directly or to be used to pay off bonds issues to cover transportation improvement costs. Given the projected population growth in the Grants Pass Urban Area, there will be many competing demands for use of property tax revenue. The City and County will need to assess their overall needs for property tax revenues and the best way to allocate such resources.

General Obligation Bonds could be used to pay for transportation improvements. These bonds could be backed by existing revenue sources or by some new tax. GO bonds would require voter approval. There are several reasons why they may have a better chance of winning voter approval than some of the other revenue sources described above, including:

- GO bonds could rely on existing tax revenue rather than requiring a new tax source;
- GO bonds would be tied to a specific package of projects that the public could support, while other fees and taxes would not be directly tied to identified and approved projects (i.e. the voter would see what they are buying in advance).

Washington County has passed three bond levies to fund specific transportation improvements; the most recent levy funded a package of projects with a total cost of $130 million.

Summary of Transportation Funding Options

Governments at all levels are under pressure to maintain current levels of service without raising taxes. If the City and County are to implement the transportation improvements included in the Master Transportation Plan they will need do several things, including:

- Aggressively pursue federal and state funding for transportation improvements;

- Require that developers provide infrastructure improvements within new development and pay for improvements to the surrounding transportation system necessitated by the impact of new development;
- Charge property owners for transportation improvements that benefit their properties;
- Refuse to build projects which do not have sufficient funding from federal, state, private and other sources (as indicated in the financing options in Table 4-2 of this Plan); and
- Consider implementation of additional local funding sources to pay for the substantial list of transportation improvements identified for the Grants Pass Urban Area.

APPENDIX A: OREGON TRANSPORTATION PLANNING RULE

DEC - 4 1995

Adopted Amendments to the Transportation Planning Rule
September 11, 1995

Note: Adopted amendments are shown in bold for new language and deletions are in brackets.

Requirement for Reduced System Development Charges (SDCs) for Bicycle Pedestrian and Transit Friendly Developments

OAR 660-12-040(6) has been deleted:

[(6) Local governments which have or adopt impact fees or system development charges to fund construction of improvements to transportation facilities shall establish lesser fees or charges for developments located in transit-oriented developments, pedestrian districts, and other developments which, through enhanced pedestrian, bicycle or transit facilities or related design features, or demand management measures, are demonstrated to reduce vehicle trip generation.]

Requirement for Bikeways on Arterial and Major Collector Streets

OAR 660-12-045(3)(b)(B) is amended as follows:

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

1995 Amendments

This version of the Transportation Planning Rule (TPR) shows amendments to the rule adopted by the Land Conservation and Development Commission in March and April 1995. New language added to the rule is shown in **bold**. Deletions are shown in brackets.

DIVISION 12

660-12-000 Purpose

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

660-12-005 Definitions

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

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

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

([2]**3**) Affected local government: means a city, county or metropolitan service district that is directly impacted by a proposed transportation facility or improvement.

(4) At or near a major transit stop: "At" means a parcel or ownership which is adjacent to or includes a major transit stop generally including portions of such parcels or ownerships that are within 200 feet of a transit stop. "Near" generally means a parcel or ownership that is within 300 feet of a major transit stop. The term "generally" is intended to

allow local governments through their plans and ordinances to adopt more specific definitions of these terms considering local needs and circumstances consistent with the overall objective and requirement to provide convenient pedestrian access to transit.

([3]5) Committed Transportation Facilities: means those proposed transportation facilities and improvements which are consistent with the acknowledged comprehensive plan and have approved funding for construction in a public facilities plan or the Six-Year Highway or Transportation Improvement Program.

([4]6) Demand Management: means actions which are designed to change travel behavior in order to improve performance of transportation facilities and to reduce need for additional road capacity. Methods may include but are not limited to the use of alternative modes, ride-sharing and vanpool programs, and trip-reduction ordinance.

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

([5]8) Major: means, in general, those facilities or developments which, considering the size of the urban or rural area and the range of size, capacity or service level of similar facilities or developments in the area, are either larger than average, serve more than neighborhood needs or have significant land use or traffic impacts on more than the immediate neighborhood.

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

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

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

(9) "Major transit stop" means:

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

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

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

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

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

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

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

([6]10) Metropolitan Planning Organization (MPO): an organization located within the State of Oregon and designated by the Governor to coordinate transportation planning in an urbanized area of the state including such designations made subsequent to the adoption of this rule. The Longview-Kelso-Rainier MPO is not considered an MPO for the purposes of this rule.

([7]11) ODOT: means the Oregon Department of Transportation.

([8]12) Parking spaces: means on and off street spaces designated for automobile parking in areas planned for industrial, commercial.

institutional or public uses. The following are not considered parking spaces for the purposes of 660-12-045(5)(c): park and ride lots, handicapped parking, and parking spaces for carpools and vanpools.

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

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

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

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

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

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

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

([9]**17**) Planning Period: means the twenty year period beginning with the date of adoption of a TSP to meet the requirements of this rule.

([10]**18**) Preliminary Design: means an engineering design which specifies in detail the location and alignment of a planned transportation facility or improvement.

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

([11]**20**) Refinement Plan: an amendment to the transportation system plan, which resolves, at a systems level, determinations on function, mode or general location which were deferred during transportation system planning because detailed information needed to make those determinations could not reasonably be obtained during that process.

([12]**21**) Roads: means streets, roads and highways.

([13]**22**) Transit-oriented development (TOD): means a mix of residential, retail and office uses and a supporting network of roads, bicycle and pedestrian ways focused on a major transit stop designed to support a high level of transit use. The key features of transit oriented development include:

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

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

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

([14]23) Transportation facilities: means any physical facility that moves or assists in the movement of people and goods including facilities identified in 660-12-020 but excluding electricity, sewage and water systems.

([15]24) Transportation system management measures: means techniques for increasing the efficiency, safety, capacity or level of service of a transportation facility without increasing its size. Examples include, but are not limited to, traffic signal improvements, traffic control devices including installing medians and parking removal, channelization, access management, ramp metering, and restriping for high occupancy vehicle (HOV) lanes.

([16]25) Transportation Needs: means estimates of the movement of people and goods consistent with acknowledged comprehensive plan and the requirements of this rule. Needs are typically based on projections of future travel demand resulting from a continuation of current trends as modified by policy objectives, including those expressed in Goal 12 and this rule, especially those for avoiding principal reliance on any one mode of transportation.

([17]26) Transportation Needs, Local: means needs for movement of people and goods within communities and portions of counties and the need to provide access to local destinations.

([18]27) Transportation Needs, Regional: means needs for movement of people and goods between and through communities and accessibility to regional destinations within a metropolitan area, county or associated group of counties.

([19]28) Transportation Needs, State: means needs for movement of people and goods between and through regions of the state and between the state and other states.

([20]29) Transportation Project Development: means implementing the transportation system plan (TSP) by determining the precise location, alignment, and preliminary design of improvements included in the TSP based on site-specific engineering and environmental studies.

([21]30) Transportation Service: means a service for moving people and goods, such as intercity bus service and passenger rail service.

([22]31) Transportation System Plan (TSP): means a plan for one or more transportation facilities that are planned, developed, operated and maintained in a coordinated manner to supply continuity of movement between modes, and within and between geographic and jurisdictional areas.

([23]32) Urban Area: means lands within an urban growth boundary or two or more contiguous urban growth boundaries.

([24]33) Urban fringe: **means (a) Areas outside the urban growth boundary that are within 5 miles of the urban growth boundary of an MPO area; and (b) Areas outside the urban growth boundary within 2 miles of the urban growth boundary of an urban area containing a population greater than 25,000.**

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

660-12-010 Transportation Planning

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

660-12-020 Elements of Transportation System Plans

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

(2) The TSP shall include the following elements:

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

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

(A) Extensions of existing streets;

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

(C) Connections to neighborhood destinations.

(c) A public transportation plan which:

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

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

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

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

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

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

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

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

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

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

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

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

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

(i) The capacities of existing and committed facilities;

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

660-12-030 Determination of Transportation Needs

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

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

(b) Needs of the transportation disadvantaged.

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

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

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

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

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

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

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

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

(a) Improvements to existing facilities or services;

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

(c) Transportation system management measures;

(d) Demand management measures; and

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

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

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

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

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

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

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

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

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

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

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

(a) The transportation system shall support urban and rural development by providing types and levels of transportation facilities and services appropriate to serve the land uses identified in the acknowledged comprehensive plan.

(b) The transportation system shall be consistent with state and federal standards for protection of air, land and water quality including the State Implementation Plan under the Federal Clean Air Act and the State Water Quality Management Plan;

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

be identified by the predominant traffic flows in the project area.

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

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

(b) Has utility as an independent transportation project.

660-12-040 Transportation Financing Program

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

(2) A transportation financing program shall include:

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

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

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

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

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

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

(6) Local governments which have or adopt impact fees or system development charges to fund improvements to transportation facilities shall establish lesser fees or charges for developments located in transit-oriented developments, pedestrian districts, and other developments which, through enhanced pedestrian, bicycle or transit facilities or related design features, or demand management measures, are demonstrated to reduce vehicle trip generation.

660-12-045 Implementation of the Transportation System Plan

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(A) Land use applications that require public hearings;

(B) Subdivision and partition applications;

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

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

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

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

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

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

(A) [Sidewalks along arterials and collectors in urban areas;] **"Neighborhood activity centers" includes, but is not limited to, existing or planned schools, parks, shopping areas, transit stops or employment centers.**

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

(C) [Where appropriate, separate bike or pedestrian ways to minimize travel distances within and between the areas and developments listed above.] **Cul-de-sacs and other dead-end streets may be used as part of a development plan, consistent with the purposes set forth in this section.**

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

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

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

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

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

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

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

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

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

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

([d]e) [Provision of i]Internal pedestrian circulation [in] **within** new office parks and commercial developments **shall be provided** through clustering of buildings, construction of [pedestrian ways, skywalks, where appropriate,] **accessways, walkways** and similar techniques.

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

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

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

(A) [Orienting building entrances to the transit stop or station;] **Walkways shall be provided connecting building entrances and streets adjoining the site.**

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

(C) [Locating buildings as close as possible to transit stops.]**In addition to (A) and (B) above, on sites at major transit stops provide the following:**

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

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

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

(iv) An easement or dedication for a passenger shelter if requested by the transit provider; and,

(v) Lighting at the transit stop.

(c) Local governments may implement 4(b)(A) and (B) above through the designation of pedestrian districts and adoption of appropriate implementing measures regulating development within pedestrian districts. Pedestrian districts must comply with the requirement of 4(b)(C) above.

([c]**d**) [New industrial and commercial developments to] **Designated employee parking areas in new developments shall** provide preferential parking for carpools and vanpools.

([d]**e**) [An opportunity for e]Existing development **shall be allowed** to redevelop a portion of existing parking areas for transit oriented uses, including bus stops and pullouts, bus shelters, park and ride stations, transit oriented developments, and similar facilities, where appropriate.

([e]**f**) Road systems for new development [which] **shall be provided that** can be adequately served by transit, including provision of pedestrian access to existing and identified future transit routes. This shall include, where appropriate, separate [bicycle and pedestrian ways] **accessways** to minimize travel distances.

([f]**g**) Along existing or planned transit routes, designation of types and densities of land uses adequate to support transit.

(5) In MPO areas, local governments shall adopt land use and subdivision regulations to reduce reliance on the automobile which:

(a) Allow transit oriented developments (TODs) on lands along transit routes;

(b) Implements a demand management program to meet the measurable standards set in the TSP in response to 660-12-035(4).

(c) Implements a parking plan which:

(A) Achieves a 10% reduction in the number of parking spaces per capita in the MPO area over the planning period. This may be accomplished through a combination of restrictions on development of new parking spaces and requirements that existing parking spaces be redeveloped to other uses;

(B) Aids in achieving the measurable standards set in the TSP in response to 660-12-035(4);

(C) Includes land use and subdivision regulations setting minimum and maximum parking requirements; and,

(D) Is consistent with demand management programs, transit-oriented development requirements and planned transit service.

(d) Require all major industrial, institutional, retail and office developments to provide either a transit stop on site or connection to a transit stop along a transit trunk route when the transit operator requires such an improvement.

(6) In developing a bicycle and pedestrian circulation plan as required by 660-12-020(2)(d), local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas. Appropriate improvements should provide for more direct, convenient and safer bicycle or pedestrian travel within and between residential areas and neighborhood activity centers (i.e. schools, shopping, transit stops). Specific measures include, for example, constructing walkways between cul-de-sacs and adjacent roads, providing walkways between buildings, and providing direct access between adjacent uses.

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

660-12-050 Transportation Project Development

(1) For projects identified by ODOT pursuant to OAR 731, Division 15, project development shall occur in the manner set forth in that Division.

(2) Regional TSPs shall provide for coordinated project development among affected local governments. The process shall include:

(a) Designation of a lead agency to prepare and coordinate project development;

(b) A process for citizen involvement, including public notice and hearing, if project development involves land use decision-making. The process shall include notice to affected transportation facility and service providers, MPOs, and ODOT.

(c) A process for developing and adopting findings of compliance with applicable statewide planning goals, if any. This shall include a process to allow amendments to acknowledged comprehensive plans where such amendments are necessary to accommodate the project;

(d) A process for developing and adopting findings of compliance with applicable acknowledged comprehensive plan policies and land use regulations of individual local governments, if any. This shall include a process to allow amendments to acknowledged comprehensive plans or land use regulations where such amendments are necessary to accommodate the project.

(3) Project development involves land use decision-making to the extent that issues of compliance with applicable requirements remain outstanding at the project development phase. Issues may include, but are not limited to, compliance with regulations protecting or regulating development within floodways and other hazard areas, identified Goal 5 resource areas, estuarine and coastal shoreland areas, and the Willamette River Greenway. Where project development involves land use decisionmaking, all unresolved issues of compliance with applicable acknowledged comprehensive plan policies and land use regulations shall be addressed and findings of compliance adopted prior to project approval. To the extent compliance has already been determined during transportation system planning, including adoption of a refinement plan, affected local governments may rely on and reference the earlier findings of compliance with applicable standards.

(4) Where an Environmental Impact Statement (EIS) is prepared pursuant to the National Environmental Policy Act of 1969, project development shall be coordinated with the preparation of the EIS. All unresolved issues of compliance with applicable acknowledged comprehensive plan policies and land use regulations shall be addressed and findings of compliance adopted prior to issuance of the Final EIS.

(5) If a local government decides not to build a project authorized by the TSP, it must evaluate whether the needs that the project would serve could otherwise be satisfied in a manner consistent with the TSP. If identified needs cannot be met consistent with the TSP, the local government shall initiate a plan amendment to change the TSP or the comprehensive plan to assure that there is an adequate transportation system to meet transportation needs.

(6) Transportation project development may be done concurrently with preparation of the TSP or a refinement plan.

660-12-055 Timing of Adoption and Update of Transportation System Plans; Exemptions

(1) MPOs shall complete regional TSPs for their planning areas [within four years following the effective date of this division] by May 8, 1996. For those areas within an MPO, cities and counties shall adopt local TSPs and implementing measures within one year following completion of the regional TSP. Urban areas designated as MPOs subsequent to the adoption of this rule shall adopt TSPs in compliance with applicable requirements of this rule within three years of designation.

(2) For areas outside an MPO, cities and counties shall complete and adopt regional and local TSPs and implementing measures [within five years of the effective date of this division] **by May 8, 1997.**

(3) Within two years of adoption of this rule affected cities and counties shall, for urban areas of 25,000 or more, adopt land use and subdivision ordinances or amendments required by 660-12-045(3),(4)(a)-([e]f) and (5)(d).

(4)(a) Affected cities and counties that either:

(A) Have acknowledged plans and land use regulations that comply with this rule as of May 8, 1995, may continue to apply those acknowledged plans and land use regulations, or

(B) Have plan and land use regulations adopted to comply with this rule as of April 12, 1995, may continue to apply the provisions of this rule as they existed as of April 12, 1995, and may continue to pursue acknowledgment of the adopted plans and land use regulations under those same rule provisions provided such adopted plans and land use regulations are acknowledged by April 12, 1996. Affected cities and counties that qualify and make this election under this subsection shall update their plans and land use regulations to comply with the 1995 amendments to section 660-12-045 as part of their transportation system plans.

(b) Affected cities and counties that do not have acknowledged plans and land use regulations as provided in (a) above, shall apply relevant sections of this rule to land use decisions and limited land use decisions until land use regulations complying with this amended rule have been adopted.

([4]5) Cities and counties shall update their TSPs and implementing measures as necessary to comply with this division at each periodic review subsequent to initial compliance with this division. This shall include a reevaluation of the land use designations, densities and design standards in the following circumstances:

(a) If the interim benchmarks established pursuant to 660-12-035(6) have not been achieved; or,

(b) If a refinement plan has not been adopted consistent with the requirements of 660-12-025(3).

([5]6) The director may grant a whole or partial exemption from the requirements of this division to cities under 2,500 population outside MPO areas and counties under 25,000 population. Eligible jurisdictions may, within five years following the adoption of this rule or at subsequent periodic reviews, request that the director approve an exemption from all or part of the requirements in this division until the jurisdiction's next periodic review.

(a) The director's decision to approve an exemption shall be based upon the following factors:

(A) Whether the existing and committed transportation system is generally adequate to meet likely transportation needs;

(B) Whether the new development or population growth is anticipated in the planning area over the next five years;

(C) Whether major new transportation facilities are proposed which would affect the planning areas;

(D) Whether deferral of planning requirements would conflict with accommodating state or regional transportation needs; and,

(E) Consultation with the Oregon Department of Transportation on the need for transportation planning in the area, including measures needed to protect existing transportation facilities.

(b) The director's decision to grant an exemption under this section is appealable to the Commission as provided in OAR 660-02-020 (Delegation of Authority Rule).

([6]7) Portions of TSPs and implementing measures adopted as part of comprehensive plans prior to the responsible jurisdiction's periodic review shall be reviewed pursuant to OAR 660, Division 18, Post Acknowledgement Procedures.

[illegible] and Land Use Regulation [illegible]

(1) Amendments to functional plans, acknowledged comprehensive plans, and land use regulations which significantly affect a transportation facility shall assure that allowed land uses are consistent with the identified function, capacity, and level of service of the facility. This shall be accomplished by either:

(a) Limiting allowed land uses to be consistent with the planned function, capacity and level of service of the transportation facility;

(b) Amending the TSP to provide transportation facilities adequate to support the proposed land uses consistent with the requirements of this division; or,

(c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.

(2) A plan or land use regulation amendment significantly affects a transportation facility if it:

(a) Changes the functional classification of an existing or planned transportation facility;

(b) Changes standards implementing a functional classification system;

(c) Allows types or levels of land uses which would result in levels of travel or access which are inconsistent with the functional classification of a transportation facility; or

(d) Would reduce the level of service of the facility below the minimum acceptable level identified in the TSP

(3) Determinations under subsections (1) and (2) of this section shall be coordinated with affected transportation facility and service providers and other affected local governments.

(4) The presence of a transportation facility or improvement shall not be a basis for an exception to allow residential, commercial, institutional or industrial development on rural lands under this division or OAR 660-04-022 and 028.

660-12-065 Transportation Improvements on Rural Lands

(Note: This section of the rule was completely replaced by new language as part of amendments adopted in March 1995. To save space the text of the unamended rule has not been included here.)

(1) This rule identifies transportation facilities, services and improvements which may be permitted on rural lands consistent with Goals 3, 4, 11 and 14 without a goal exception.

(2) For the purposes of this rule, the following definitions apply:

(a) "Access roads" means low volume public roads that principally provide access to property or as specified in an acknowledged comprehensive plan.

(b) "Collectors" means public roads that provide access to property and that collect and distribute traffic between access roads and arterials or as specified in an acknowledged comprehensive plan.

(c) "Arterials" means state highways and other public roads that principally provide service to through traffic between cities and towns, state highways and major destinations or as specified in an acknowledged comprehensive plan.

(d) "Accessory transportation improvements" means transportation improvements that are incidental to a land use to provide safe and efficient access to the use.

(e) "Channelization" means the separation or regulation of conflicting traffic movements into definite paths of travel by traffic islands or pavement markings to facilitate the safe and orderly movement of both vehicles and pedestrians. Examples include, but are not limited to, left turn refuges, right turn refuges including the construction of islands at intersections to separate traffic, and raised medians at driveways or intersections to permit only right turns. "Channelization" does not include continuous median turn lanes.

(f) "Realignment" means rebuilding an existing roadway on a new alignment where the new centerline shifts outside the existing right of way, and where the existing road surface is either removed, maintained as an access road or maintained as a connection between the realigned roadway and a road that intersects the original alignment. The realignment shall maintain the function of the existing road segment being realigned as specified in the acknowledged comprehensive plan.

(g) "New road" means a public road or road segment that is not a realignment of an existing road or road segment.

(3) The following transportation improvements are consistent with goals 3, 4, 11, and 14 subject to the requirements of this rule:

(a) Accessory transportation improvements for a use that is allowed or conditionally allowed by ORS 215.213, 215.283 or OAR 660-Division 6 (Forest Lands);

(b) Transportation improvements that are allowed or conditionally allowed by ORS 215.213, 215.283 or OAR 660-Division 6 (Forest Lands);

(c) Channelization not otherwise allowed under subsections (a) or (b) of this section;

(d) Realignment of roads not otherwise allowed under subsection (a) or (b) of this section;

(e) Replacement of an intersection with an interchange;

(f) Continuous median turn lane;

(g) New access roads and collectors within a built or committed exception area, or in other areas where the function of the road is to reduce local access to or local traffic on a state highway. These roads shall be limited to two travel lanes. Private access and intersections shall be limited to rural needs or to provide adequate emergency access.

(h) Bikeways, footpaths and recreation trails not otherwise allowed as a modification or part of an existing road;

(i) Park and ride lots;

(j) Railroad mainlines and branchlines;

(k) Pipelines;

(l) Navigation channels;

(m) Replacement of docks and other facilities without significantly increasing the capacity of those facilities;

(n) Expansions or alterations of public use airports that do not permit service to a larger class of airplanes; and

(o) Transportation facilities, services and improvements other than those listed in this rule that serve local travel needs. The travel capacity and level of service of facilities and improvements serving local travel needs shall be limited to that necessary to support rural land uses identified in the acknowledged comprehensive plan or to provide adequate emergency access.

(4) Accessory transportation improvements required as a condition of development listed in subsection (3)(a) of this rule shall be subject to the same procedures, standards and requirements applicable to the use to which they are accessory.

(5) For transportation uses or improvements listed in subsection (3)(d) to (g) and (o) of this rule within an exclusive farm use (EFU) or forest zone, a jurisdiction shall, in addition to demonstrating compliance with the requirements of ORS 215.296:

(a) Identify reasonable build design alternatives, such as alternative alignments, that are safe and can be constructed at a reasonable cost, not considering raw land costs, with available technology. Until adoption of a local TSP pursuant to the requirements of OAR 660-12-035, the jurisdiction shall consider design and operations alternatives within the project area that would not result in a substantial reduction in peak hour travel time for projects in the urban fringe that would significantly reduce peak hour travel time. A determination that a project will significantly reduce peak hour travel time is based on OAR 660-12-035(10). The jurisdiction need not consider alternatives that are inconsistent with applicable standards or not approved by a registered professional engineer.

(b) Assess the effects of the identified alternatives on farm and forest practices, considering impacts to farm and forest lands, structures and facilities, considering the effects of traffic on the movement of farm and forest vehicles and equipment and considering the effects of access to parcels created on farm and forest lands; and

(c) Select from the identified alternatives, the one, or combination of identified alternatives that has the least impact on lands in the immediate vicinity devoted to farm or forest use.

(6) Notwithstanding any other provision of this division, if a jurisdiction has not met the deadline for TSP adoption set forth in OAR 660-12-055, or any extension thereof, a transportation improvement that is listed in section (5) of this rule and that will significantly reduce peak hour travel time as provided in

OAR 660-12-035(10) may be allowed in the urban fringe only if the jurisdiction applies either:

(a) the criteria applicable to a "reasons" exception provided in Goal 2 and OAR 660, Division 4; or

(b) the evaluation and selection criteria set forth in OAR 660-12-035.

660-12-070 Exceptions for Transportation Improvements on Rural Land

(1) Transportation facilities and improvements which do not meet the requirements of 660-12-065 require an exception to be sited on rural lands.

(2) Where an exception to Goals 3, 4, 11, or 14 is required, the exception shall be taken pursuant to ORS 197.732(1)(c), Goal 2, OAR 660, Division 4 and this division.

(3) An exception adopted as part of a TSP or refinement plan shall, at a minimum, decide need, mode, function and general location for the proposed facility or improvement.

(a) The general location shall be specified as a corridor within which the proposed facility or improvement is to be located, including the outer limits of the proposed location. Specific sites or areas within the corridor may be excluded from the exception to avoid or lessen likely adverse impacts.

(b) The size, design and capacity of the proposed facility or improvement shall be described generally, but in sufficient detail to allow a general understanding of the likely impacts of the proposed facility or improvement. Measures limiting the size, design or capacity may be specified in the description of the proposed use in order to simplify the analysis of the effects of the proposed use.

(c) The adopted exception shall include a process and standards to guide selection of the precise design and location within the corridor and consistent with the general description of the proposed facility or improvement. For example, where a general location or corridor crosses a river, the exception would specify that a bridge crossing would be built but would defer to project development decisions about precise location and design of the bridge within the selected corridor subject to requirements to minimize impacts on riparian vegetation, habitat values, etc.

(d) Land use regulations implementing the exception may include standards for specific mitigation measures to offset unavoidable environmental, economic, social or energy impacts of the proposed facility or improvement or the assure compatibility with adjacent uses.

(4) To address Goal 2, Part II(c)(1) the exception shall demonstrate that there is a transportation need identified consistent with the requirements of 660-12-030 which cannot reasonably be accommodated through one or a combination of the following measures not requiring an exception:

(a) Alternative modes of transportation;

(b) Traffic management measures; and

(c) Improvements to existing transportation facilities.

(5) To address Goal 2, Part II(c)(2), the exception shall demonstrate that non-exception locations cannot reasonably accommodate the proposed transportation improvement or facility.

(6) To determine the reasonableness of alternatives to an exception under subsections (4) and (5) of this section, cost, operational feasibility, economic dislocation and other relevant factors shall be addressed. The thresholds chosen to judge whether an alternative method or location cannot reasonably accommodate the proposed transportation need or facility must be justified in the exception.

(7) To address Goal 2, Part II(c)(3), the exception shall:

(a) Compare the economic, social, environmental and energy consequences of the proposed location and other alternative locations requiring exceptions.

(b) Determine whether the net adverse impacts associated with the proposed exception site are significantly more adverse than the net impacts from other locations which would also require an exception. A proposed exception location would fail to meet this requirement only if the affected local government concludes that the impacts associated with it are significantly more adverse than the other identified exception sites.

(c) The evaluation of the consequences of general locations or corridors need not be site-specific, but may be generalized consistent with the requirements of 660-12-070(3).

(8) To address Goal 2, Part II(c)(4), the exception shall:

(a) Describe the adverse effects that the proposed transportation improvement is likely to have on the surrounding rural lands and land uses, including increased traffic and pressure for nonfarm or highway oriented development on areas made more accessible by the transportation improvement.

(b) Adopt as part of the exception, facility design and land use measures which minimize accessibility of rural lands from the proposed transportation facility or improvement and support continued rural use of surrounding lands.

G:\BCORT\TPR\RULE\RULE695B.OAR

APPENDIX B - ROADWAY DESCRIPTIONS

Color
11-12
13-24

Appendix B: Description of Study Area Roadways

(Counts of Average Daily Traffic were obtained between 1991 and 1993)

Facility	Size	Average Daily Traffic	Comments
Highways			
Redwood Highway (Highway 199)	4 lanes	11,000 (Dawn Dr. to Allen Creek Rd.), 28,000 (Allen Creek Rd to Highway 238), 19,000 (Highway 238 to Parkdale Dr.)	Operates as one-way couplet through downtown (6th Street and 7th Street)
Rogue River Highway (State Route 99)	2 lanes, 3 lanes (Maple to Hamilton)	18,500 (Redwood Highway and Cloverlawn Dr.), 11,800 (Cloverlawn Dr. and Fruitdale Dr.), 9,500 (Fruitdale Dr. to Peckerwood Lane)	
Jacksonville Highway (State Route 238)	5 lanes (Redwood Hwy. to New Hope) then 2 lanes	17,200 (Redwood Hwy., to New Hope Rd.), 10,700 south of New Hope Rd.	
Arterial Streets			
A Street - extends from Dimmick to Foothill Blvd.	2 lanes	4,900 (Grants St. to 4th St.), 6,700 (just east of 4th Street), 11,100 (between 8th and 9th Street.)	Pavement width 36 feet, right of way generally 60 feet
Allen Creek Rd - extends from Denton Trail to Redwood Ave.	2 lanes	1,700	Pavement width of 22 feet, in 60 foot right of way
Agness Avenue - extends south from Fairview Ave./Foothill Blvd. to RailTex Tracks	2 lanes	4,800	50 feet right of way
Bridge Street - extends from 4th St. to Lincoln Rd.	2 lanes	4,600 (Lincoln Ln. to Way Spruce St.), 7,500 Way Spruce St. to Oak St.), 11,100 east of Oak	Pavement width of 44 feet, varying right of way up to 60 feet
Dimmick Street - extends from "G" St. to Foundry, and "F" St. to Bellevue Place	2 lanes		Discontinuous facility at RR tracks, varying pavement width in 60 foot right of way

Facility	Size	Average Daily Traffic	Comments
Dowell Road - extends from Leonard Road to Arnold Ave.	2 lanes	1,500	22 foot pavement with right of way of 40-60 feet s/o Hwy. 199, 48 feet Redwood Hwy. to Redwood Ave.
"E" Street - extends from Grants Pass Parkway to Grant St.	2 lanes	4,000 except for segment between 6th St. and 7th St. which carried 8,400	Part of one-way couplet with "F" St., running west from Grants Pass Parkway to 4th St.
"F" Street - extends from Grant St. to Grants Pass Parkway	2 lanes	1,800 (Dimmick St. to 3rd St.), 4,400 (just east of 3rd St., 6,800 (between 6th and 7th Streets)	Part of one-way couplet with "E" St., running east, 36-40 feet of pavement in 60 foot right of way
"G" Street - extends from Lincoln Rd. to 10th St.	2 lanes	9,900	24 feet of pavement in 60 foot of right of way
Highland Ave. - extends from Vine St. to Bellevue Pl.	2 lanes	2,500 (Vine St. to Morgan Ln.) 5,800 near Midland Ave., 4,900 (Midland to Bellevue Pl.)	
Lincoln Road - extends from Webster Ln. to Upper River Rd./ "G" St.	2 lanes		20 feet of pavement in 40 foot right of way (wider pavement between Bridge and Webster)
"M" Street - extends from 4th St. to "N" St.	2 lanes	9,000 except for segment between 6th and 9th St. with volumes of 12,000	36-40 feet of pavement in a 60 foot right of way
Oak Street - extends from "G" St. to River Oaks	2 lanes	400	36 foot of pavement in a 60 foot right of way
Redwood Avenue - extends west from Highway 199 beyond edge of study area	2 lanes	4,200 (west of Dowell Rd., 11,400 (Dowell Rd. to Hwy. 199)	22 feet of pavement in 60 foot right of way (wider at Dowell)
Upper River Road - extends from Lincoln Rd. west beyond study area boundary	2 lanes		60 foot right of way
Vine Street - extends west from Morgan Ln. to Highland Ave.	2 lanes		22 feet of pavement in 60 foot right of way
Willow Lane - extends from Wolf Ln. to Leonard Rd.	2 lanes	1,600-2,000	22 feet of pavement in 40 foot right of way

Facility	Size	Average Daily Traffic	Comments
Collector Streets			
Ament Dam Road - extends from Foothill Blvd. to "N" St.	2 lanes		20 feet of pavement in 40 foot right of way
Beacon Drive - extends from RR tracks to Olson Drive, and from Madrone St. to Hillcrest Dr.	2 lanes	8,300 south of Grants Pass Parkway, 7,000 at A St.	Discontinuous street, 36 feet of pavement in 50-60 foot right of way, narrower between Madrone and Hillcrest, (collector from RR tracks to "A" St.)
Cloverlawn Drive - extends south from Rogue River Hwy. beyond southern boundary of study area	2 lanes	4,000 (Alanita Rd to Hamilton Ln.), 600 south of Hamilton Ln.	Pavement of 22-36 feet in right of way of 40-60 feet
D Street - extends west from Foothill Blvd. to Fry St.	2 lanes	5,100 east of Mill St., 3,000 east of 5th St.	30-36 feet of pavement in 50-60 feet of right of way
Darnielle Lane - extends from S. River Road to Redwood Ave.	2 lanes	1,000	pavement of 22-24 feet in 60 foot right of way
Drury Lane - extends from Fruitdale Dr. to Grandview Ave.	2 lanes	1,100	22 feet of pavement in 50 foot right of way
East Park Street - extends from Grants Pass Parkway to Rogue River Hwy.	2 lanes	900 east of Clara Ave. and 300 west of Clara Ave.	22 feet of pavement in 40 foot right of way
Evelyn Street - extends from 2nd St. to 8th St.	2 lanes		30-36 feet of pavement in 40-60 foot right of way
Foothill Boulevard - extends from Agness Ave. to Ament Rd.	2 lanes		36-40 feet of pavement in 50-80 foot right of way
Fruitdale Drive - extends from Jacksonville Hwy. to Rogue River Hwy.	2 lanes	3,200 (Jacksonville Hwy - to Cloverlawn Dr.), 2,600 (Cloverlawn Dr. to Alexander Ln.), 900 (Alexander Ln. to Rogue River Hwy.)	Generally 22 feet of pavement in 60 foot right of way
G.I. Lane - extends west from Harbeck	2 lanes		20 feet of pavement in a 24 foot right of way

Facility	Size	Average Daily Traffic	Comments
Grandview Avenue - extends from Harbeck Rd. to Cloverlawn Dr.	2 lanes	2,300	Pavement width of 20-28 feet in 50 foot right of way
Harbeck Road - extends south from Union Ave. to Highway 238	2 lanes	4,600 (noth of G.I. Lan), 1,500 south to Hwy. 238	24 feet of pavement in 50-60 foot right of way (wider from Union to Grandview)
Hawthorne Ave - extends from Vine St. to Midland Ave.	2 lanes	2,000	30-40 feet of pavement in 45-60 feet of right of way
Hillcrest Drive- extends from Hawthorne Ave. to Sunset Ln.	2 lanes	2,100 except for 6,300 (between 6th and 7th St.)	20-44 feet of pavement in 50-60 feet of right of way
Hubbard Lane - extends from Redwood Ave. to Tipton Rd.	2 lanes	500	22 feet of pavement in 40 foot right of way
J Street - extends from Mill St. to Alder St.	2 lanes	1,600	36-44 feet of pavement in 50-60 foot right of way
Leonard Road - extends west from Dowell Rd.	2 lanes	700	20-22 feet of pavement in a 40 foot right of way
Lower River Road - extends west from Lincoln Ln. To River Bend Ln. becomes Rogue River Loop	2 lanes		22 feet of pavement in 50-60 foot right of way
Manzanita Avenue - extends from Highland to 7th St.	2 lanes	2,200	36 feet of pavement in 60 feet of right of way
Midland Avenue - extends from Highland Ave. to Redwood Hwy./ 7th St.	2 lanes	4,000	50-60 feet of right of way
Mill Street - extends from east D St. to M St.	2 lanes	2,200	22 feet of pavement in 40-50 foot right of way

Facility	Size	Average Daily Traffic	Comments
Morgan Lane - extends from Chandler Ave. to 7th St.	2 lanes	2,100 (Chandler Ave to Washington Blvd., 2,700 (east of Washington Blvd.), 3,700 (between 6th and 7th St.)	22-36 feet of pavement in 50-80 foot right of way
New Hope Road - extends south from Jacksonville Hwy.	2 lanes		40 feet of pavement in 60 foot right of way
Ringuette Street - extends from River Heights Way to Meridian	2 lanes		30-36 feet of pavement of 60-64 feet of right of way
Savage Street - extends from Highland Ave. to Beacon Dr.	2 lanes	2,500 (Highland Ave. to Conklin Ave.) 4,400 (6th to 7th St.), 2,800 (7th St. to Beacon Dr.)	36-44 feet of pavement in 40-60 foot right of way
Schultzwohl Lane - extends west from Allen Creek Rd.	2 lanes		22 feet of pavement in 40 foot right of way
Ramsey Lane - extends south from Union Ave. to Meridian Way	2 lanes		36 feet of pavement in 60 foot right of way
Union Avenue - extends from Nebraska to Jacksonville Hwy.	2 lanes	5,200	Generally 20 feet of pavement in 60 foot right of way (wider in some sections)
Washington Blvd. - extends from Morgan Ln. to Evelyn Ave.	2 lanes	2,000 - 2,300	Divided roadway between Savage St. and Evelyn Ave., 40-70 feet of pavement on 60-100 foot right of way
West Harbeck Road - extends from Allen Creek Rd. to Harbeck Rd.	2 lanes	1,500	24 feet of pavement in 40 foot right of way
West Park Street - extends from Ringuette St. to Short St.	2 lanes	650	22 feet of pavement in 40 foot right of way
4th Street - extends from Evelyn Ave. to Bridge St.	2 lanes	6,000 (between A and D St.), 7,200 (between D and F St.), 5,600 (between G and J St.), 4,000 (J St. to Bridge St.)	36 feet of pavement in 60 foot right of way

Facility	Size	Average Daily Traffic	Comments
9th Street - extends from M St. to D St., and A St. to Hillcrest	2 lanes	3,800 (between M and J St.), 6,100 (between J and F St.) 3,200 (north of F St.), 6,100 (Savage St. to Hillcrest Dr.)	Discontinuous street, 36 feet of pavement on 60 feet right of way
10th Street - extends from M St. to G St. and A St. to Hillcrest Dr.	2 lanes	1,500 to 3,600	Discontinuous street, 20-36 feet of pavement on 50-60 feet of right of way
Local Collector Streets			
B Street - extends from Dean Dr. to 5th St. and from 6th St. to Ponderosa St.	2 lanes		20 feet of pavement in 40 foot right of way
East Park Street - extends from Parkdale Dr. to Hamilton Ln.	2 lanes	900	22 feet of pavement in 50 foot right of way
Gladiola Ave. - extends from "N" St. to Portola Dr.	2 lanes		36 feet of pavement in 50 foot right of way
Hamilton Lane - extends from Rogue River Hwy. to Cloverlawn Dr.	2 lanes	1,400 (south of Fruitdale Dr.)	22 feet of pavement on 40 foot right of way
Haviland Drive - extends south from Grandview Ave.	2 lanes	900	26 feet of pavement on 50 foot right of way
"N" Street - extends from "M" St. to Gladiola St.	2 lanes		36 feet of pavement on 50 foot right of way
Madrone Street - extends from 9th St. to Beacon Dr.	2 lanes		22 feet of pavement on 60 foot right of way
Nebraska Avenue. - extends south from McCarter	2 lanes		20 feet of pavement on 40-50 foot right of way
South River Road - extends from Leonard Rd. to Coutant Ln.	2 lanes		22 feet of pavemnt on 40-50 foot right of way

Facility	Size	Average Daily Traffic	Comments
Spruce Street - extends from Webster Ln.	2 lanes		22 feet of pavement on 60 foot right of way
Webster Road - extends west from Lincoln Rd.	2 lanes	200	20 feet of pavement on 30-40 foot right of way

APPENDIX C - ALTERNATIVES CONSIDERED

APPENDIX C - ALTERNATIVES CONSIDERED

K J S Associates, Inc.

MEMORANDUM

DATE: April 14, 1995

TO: Paula Brown, RVCOG
Kevin Wallace, RVCOG

FROM: Joel Falter, KJS Associates
Jeffrey Ream, KJS Associates

SUBJECT: Revised Roadway Network Development and Analysis

This revised memorandum is based on the comments and direction received at the March 7th Management Committee meeting and summarizes the findings of our analysis of the testing of additional highway improvements as part of the development of the Grants Pass Urban Area Master Plan.

Results of Alternative Networks Development and Testing

Introduction

Long-term transportation improvements for the Grants Pass Urban area will include physical roadway improvements via the enhancement of capacity on existing roads or new roadway construction, improved transit service and the expansion and development of non-motorized transportation facilities such as sidewalks and bike facilities. This memorandum addresses the development and analysis of the streets and highways component of the master plan. It is based on the results of the operation analysis that was prepared in Phase II of the study, the travel demand forecasts for the future land use plan for the area, as well as direction from the management team, and input received from residents at public open house meetings.

One no-build and eight construction alternatives were developed in an effort to enhance mobility and reduce congestion within the urban-area growth boundary by 2015. These eight build-alternatives were analyzed using RVCOG's traffic forecast model for the Grants Pass Urban Area.

500-108th Avenue NE
Suite 2100
Bellevue, WA 98004
Fax 206 646-6647
206 646-6600

The following sections summarize the details of each alternative and an assessment of their overall benefits and impacts.

Future Land Use - Demographics

The year 2015 was chosen as the planning horizon for the master plan to identify future demographic trends from which the travel forecasts were derived. A 20 year time span was chosen because beyond this time line population, employment and future travel patterns become much more difficult to develop and subsequently generate less reliable travel forecasts.

Future Traffic Conditions

Future year (2015) traffic conditions were determined by adding the estimated number of vehicle trips generated by future land uses within the Grants Pass Urban Area to the existing traffic volumes. New trips generated by future land uses were distributed to destinations both within the Grants Pass urban area as well as those outside of it, such as Medford or Jacksonville, for example, and then assigned to the street and highway system. This was accomplished through the use and application of RVCOG's travel forecasting model for the Grants Pass Urban Area. The travel model trip generation, distribution and assignment assumptions were calculated for daily trip purposes. For the purposes of calculating trip generation, distribution and travel assignment, all travel model data was summarized by traffic analysis zone.

Future Transportation System Alternatives

The future daily traffic assignments were developed for each of the eight roadway alternatives described below using the travel demand model developed by RVCOG. After a reasonableness check of the assignments, the level of service for the major roadways and key intersection in the area was calculated, and any changes in level of service or levels of congestion identified. The alternatives were then ranked based on the overall reduction in congestion each one resulted in. Table 1 summarizes the roadway level of service for each alternative tested. Table 2 summarizes the level of service at eleven key intersections.

			2015 Alternative Run Assignments																										
			No Build Alternative			Alternative 1			Alternative 2			Alternative 3			Alternative 4			Alternative 5			Alternative 6			Alternative 7			Alternative 8		
Street Name	Segment Name (From)	Segment Name (To)	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
Pine Crest Dr.	Blitz Canyon Rd.	Upper River Road	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A
Upper River Road	Lathrop	Pinecrest	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A
Upper River Road	Pinecrest	Leonard St.	8,574	0.40	A	8,766	0.41	A	8,774	0.41	A	15,248	0.32	A	8,799	0.41	A	5,966	0.13	A	8,574	0.40	A	8,806	0.41	A	8,800	0.41	A
Upper River Road	Leonard St.	Wildwood Ave	11,540	0.53	B	16,653	0.35	A	15,753	0.73	C	17,823	0.38	A	11,313	0.52	B	12,535	0.27	A	10,885	0.51	B	11,065	0.51	B	11,004	0.51	B
Upper River Road	Wildwood Ave	Oak St	10,421	0.48	B	16,230	0.34	A	16,373	0.76	C	18,012	0.38	A	11,709	0.54	B	13,122	0.28	A	9,595	0.44	B	11,472	0.53	B	11,514	0.53	B
Upper River Road	Oak St	Pine St	11,422	0.53	B	18,761	0.40	A	17,904	0.83	D	19,543	0.41	B	13,240	0.61	B	14,653	0.31	A	10,876	0.50	B	13,003	0.60	B	13,056	0.60	B
Upper River Road	Pine St	Foundry St	11,771	0.54	B	19,780	0.42	B	19,587	0.91	D	20,514	0.43	B	14,068	0.65	B	14,068	0.30	A	11,353	0.53	B	13,916	0.64	B	10,552	0.49	B
Redwood Hwy.	Dawn Dr.	Hubbard Ln.	14,996	0.32	A	15,000	0.32	A	15,000	0.32	A	15,000	0.32	A	15,000	0.32	A	15,000	0.32	A	14,996	0.32	A	15,000	0.32	A	15,000	0.32	A
Redwood Hwy.	Hubbard Ln.	Willow Ln.	15,694	0.33	A	17,456	0.37	A	17,500	0.37	A	15,790	0.33	A	17,610	0.37	A	15,674	0.33	A	17,502	0.37	A	17,747	0.38	A	17,652	0.37	A
Redwood Hwy.	Willow Ln.	Demaray Dr.	22,272	0.47	B	22,502	0.48	B	22,565	0.48	B	18,370	0.39	A	22,634	0.48	B	16,553	0.35	A	22,376	0.47	B	22,833	0.48	B	22,733	0.48	B
Redwood Hwy.	Demaray Dr.	Dowell Rd.	28,468	0.60	B	29,363	0.62	B	29,452	0.62	B	23,721	0.50	B	29,615	0.63	B	22,218	0.47	B	28,667	0.61	B	29,860	0.63	B	29,855	0.63	B
Redwood Hwy.	Dowell Rd.	Allen Creek Rd.	30,358	0.64	B	31,440	0.67	B	31,560	0.67	B	25,765	0.55	B	31,671	0.67	C	24,233	0.51	B	30,558	0.65	B	32,122	0.68	C	32,050	0.68	C
Redwood Hwy.	Allen Creek Rd.	Redwood Ave.	25,769	0.55	B	21,561	0.46	B	21,783	0.46	B	22,108	0.47	B	19,244	0.41	A	20,880	0.44	B	21,000	0.44	B	19,022	0.40	A	18,380	0.39	A
Redwood Hwy.	Redwood Ave.	Fairgrounds Rd.	41,334	0.88	D	34,946	0.74	C	34,406	0.73	C	34,152	0.72	C	33,033	0.70	C	32,004	0.68	C	42,008	0.89	D	31,790	0.67	C	31,781	0.67	C
Redwood Hwy.	Fairgrounds Rd.	Rinquette St.	36,276	0.77	C	30,774	0.65	B	30,256	0.64	B	30,102	0.64	B	28,541	0.60	B	28,240	0.60	B	37,000	0.79	C	29,304	0.62	B	29,565	0.63	B
Redwood Hwy.	Rinquette St.	Tussy Ln.	36,432	0.77	C	30,614	0.65	B	30,109	0.64	B	30,170	0.64	B	28,806	0.61	B	28,269	0.60	B	37,251	0.79	C	27,838	0.59	B	27,715	0.59	B
Redwood Hwy.	Tussy Ln.	6th St	25,804	0.54	B	21,018	0.45	B	21,354	0.45	B	20,950	0.44	B	19,817	0.42	B	19,866	0.42	B	27,223	0.58	B	19,119	0.41	A	18,569	0.39	A
Redwood Hwy.	6th St	Hwy 238 6th/7th Interch	27,055	0.57	B	24,020	0.51	B	24,066	0.51	B	23,936	0.51	B	23,587	0.50	B	23,469	0.50	B	29,247	0.62	B	23,020	0.49	B	22,892	0.49	B
Redwood Hwy.	Hwy 238 6th/7th Interchang	Interchange to 7th St.	28,910	0.61	B	24,205	0.51	B	24,434	0.52	B	24,257	0.51	B	23,667	0.50	B	23,931	0.51	B	30,316	0.64	B	23,109	0.49	B	23,081	0.49	B
Willow Ln.	Jerome Prairie Rd.	Redwood Ave.	2,370	0.15	A	2,254	0.14	A	2,204	0.14	A	6,233	0.38	A	2,165	0.13	A	8,687	0.54	B	2,332	0.14	A	2,182	0.13	A	2,178	0.13	A
Willow Ln.	Redwood Ave.	Leonard Ln.	2,332	0.14	A	2,198	0.14	A	2,582	0.16	A	4,813	0.30	A	2,528	0.16	A	7,501	0.46	B	2,422	0.15	A	1,137	0.07	A	2,628	0.16	A
Allen Creek Rd.	Redwood Ave.	Redwood Hwy.	2,679	0.12	A	10,165	0.47	B	10,032	0.46	B	3,434	0.16	A	13,510	0.63	B	3,404	0.16	A	2,641	0.12	A	16,221	0.34	A	15,577	0.33	A
Allen Creek Rd.	Redwood Hwy.	Denton Trail	5,326	0.24	A	5,350	0.25	A	5,347	0.25	A	5,107	0.24	A	5,839	0.27	A	5,033	0.23	A	4,911	0.23	A	11,399	0.24	A	10,172	0.22	A
Jacksonville Hwy.	Lark Ellen Way	West Harbeck Rd.	24,651	0.52	B	22,865	0.48	B	22,957	0.49	B	23,067	0.49	B	22,392	0.47	B	23,121	0.49	B	24,047	0.51	B	22,742	0.48	B	22,108	0.47	B
Jacksonville Hwy.	West Harbeck Rd.	Mayfair Ln.	25,940	0.55	B	26,102	0.55	B	26,092	0.55	B	26,062	0.55	B	26,074	0.55	B	26,074	0.55	B	25,960	0.55	B	16,723	0.35	A	19,983	0.42	B
Jacksonville Hwy.	Mayfair Ln.	New Hope Rd.	25,218	0.53	B	25,314	0.54	B	25,302	0.54	B	25,288	0.54	B	25,300	0.54	B	25,290	0.54	B	25,226	0.53	B	25,906	0.55	B	19,179	0.41	A
Jacksonville Hwy.	New Hope Rd.	Allenwood Dr.	17,443	1.56	F	17,501	1.57	F	17,493	1.57	F	17,489	1.57	F	17,491	1.57	F	17,491	1.57	F	17,441	1.56	F	17,825	1.60	F	10,045	0.90	D
Jacksonville Hwy.	Allenwood Dr.	Extends beyond study ar	16,210	1.45	F	16,328	1.46	F	16,320	1.46	F	16,320	1.46	F	16,354	1.47	F	16,324	1.46	F	16,310	1.46	F	16,440	1.47	F	16,990	1.52	F
Bridge St.	Lincoln Ln.	Wey Spruce St.	8,494	0.39	A	6,131	0.28	A	5,568	0.26	A	5,746	0.27	A	4,951	0.23	A	6,512	0.30	A	9,031	0.42	B	5,541	0.26	A	5,259	0.24	A
Bridge St.	Wey Spruce St.	Greenwood Ave.	11,781	0.55	B	7,453	0.35	A	6,830	0.32	A	7,836	0.36	A	6,064	0.28	A	7,907	0.37	A	12,264	0.57	B	5,866	0.27	A	5,693	0.26	A
Bridge St.	Greenwood Ave.	Oak St.	11,841	0.55	B	7,540	0.35	A	6,886	0.32	A	8,000	0.37	A	6,124	0.28	A	7,905	0.37	A	12,197	0.56	B	5,618	0.26	A	5,398	0.25	A
Bridge St.	Oak St.	Division St	14,757	0.68	C	9,590	0.44	B	9,257	0.43	B	10,492	0.49	B	8,289	0.38	A	11,852	0.55	B	14,864	0.69	C	7,731	0.36	A	10,818	0.50	B
Highland Ave.	Valley View Rd.	Midland Ave.	7,169	0.33	A	7,128	0.33	A	7,352	0.34	A	7,107	0.33	A	3,037	0.14	A	2,047	0.09	A	7,152	0.33	A	2,836	0.13	A	3,546	0.16	A
Highland Ave.	Midland Ave.	Starlite Pl.	5,436	0.25	A	5,542	0.26	A	5,787	0.27	A	5,462	0.25	A	4,001	0.18	A	3,059	0.14	A	5,656	0.26	A	3,819	0.18	A	4,538	0.21	A
Highland Ave.	Starlite Pl.	Savage St.	5,422	0.25	A	5,676	0.26	A	5,862	0.27	A	5,587	0.26	A	3,302	0.15	A	2,520	0.12	A	5,672	0.26	A	3,121	0.14	A	4,150	0.19	A
Highland Ave.	Savage St.	Bellevue Pl.	5,473	0.25	A	5,636	0.26	A	5,833	0.27	A	5,527	0.26	A	3,284	0.15	A	2,510	0.12	A	5,573	0.26	A	3,114	0.14	A	4,596	0.21	A
Morgan Ln.	Chandler Way	Washington Blvd.		0.00	A		0.00	A		0.00	A		0.00	A	13,594	0.84	D		0.00	A		0.00	A	13,261	0.82	D	11,790	0.73	C
Morgan Ln.	Washington Blvd.	Vine St.	5,776	0.36	A	5,577	0.34	A	5,283	0.33	A	5,343	0.33	A	12,117	0.75	C	9,728	0.60	B	5,139	0.32	A	11,787	0.73	C	11,586	0.72	C
Morgan Ln.	Vine St.	6th St	7,256	0.45	B	7,019	0.43	B	6,901	0.43	B	7,271	0.45	B	12,798	0.79	C	10,209	0.63	B	6,741	0.42	B	12,344	0.76	C	11,849	0.73	C
Morgan Ln.	6th St	7th St	5,591	0.35	A	4,875	0.30	A	4,858	0.30	A	5,784	0.36	A	7,280	0.45	B	5,807	0.36	A	5,174	0.32	A	6,816	0.42	B	6,352	0.39	A
Morgan Ln.	7th St	Interstate 5	4,459	0.28	A	4,453	0.27	A	4,412	0.27	A	4,448	0.27	A	4,229	0.26	A	4,200	0.26	A	4,387	0.27	A	4,247	0.26	A	4,225	0.26	A
Hillcrest Dr.	Washington Blvd.	6th St	3,880	0.24	A	3,804	0.23	A	3,930	0.24	A	3,841	0.24	A	3,859	0.24	A	4,194	0.26	A	3,860	0.24	A	3,869	0.24	A	3,787	0.23	A
Hillcrest Dr.	6th St	7th St	5,322	0.33	A	5,300	0.33	A	5,378	0.33	A	5,247	0.32	A	5,949	0.37	A	5,447	0.34	A	5,852	0.36	A	6,156	0.38	A	4,194	0.26	A
Hillcrest Dr.	7th St	9th St	3,414	0.21	A	3,059	0.19	A	3,169	0.20	A	3,084	0.19	A	3,066	0.19	A	2,704	0.17	A	2,970	0.18	A	3,062	0.19	A	3,071	0.19	A
Hillcrest Dr.	9th St	10th St	3,509	0.22	A	3,164	0.20	A	3,274	0.20	A	3,190	0.20	A	3,192	0.20	A	2,702	0.17	A	3,067	0.19	A	3,184	0.20	A	3,196	0.20	A
Hillcrest Dr.	10th St	Sunset Ln	2,250	0.14	A	2,180	0.13	A	2,179	0.13	A	2,172	0.13	A	2,154	0.13	A	2,132	0.13	A	2,128	0.13	A	2,084	0.13	A	2,117	0.13	A
Savage St.	Washington Blvd	6th St	3,039	0.19	A	1,989	0.12	A	2,579	0.16	A	2,930	0.18	A	2,701	0.17	A	1,924	0.12	A	2,657	0.16	A	2,452	0.15	A	3,084	0.19	A
Savage St.	6th St	7th St	5,286	0.33	A	4,773	0.29	A	4,874	0.30	A	4,969	0.31	A	4,761	0.30	A	5,186	0.32	A	5,006	0.31	A	4,554	0.28	A	4,890	0.30	A
Savage St.	7th St	9th St	3,804	0.24	A	3,754	0.23	A	3,654	0.23	A	3,719	0.23	A	3,639	0.22	A	4,124	0.25	A	3,837	0.24	A	3,657	0.23	A	3,653	0.23	A
Savage St.	9th St	10th St	2,027	0.13	A	2,071	0.13	A	2,082	0.13	A	2,063	0.13	A	2,020	0.12	A	1,918	0.12	A	2,004	0.12	A	2,025	0.13	A	2,023	0.12	A
A St	Grant St	Kinney St	5,473	0.25	A	5,636	0.26	A	5,833	0.27	A	5,527	0.26	A	3,294	0.15	A	2,510	0.12	A	5,573	0.26	A	3,114	0.14	A	461	0.02	A
A St	Kinney St	4th St	6,079	0.28	A	6,094	0.28	A	6,658	0.31	A	5,993	0.28	A	3,659	0.17	A	3,061	0.14	A	6,126	0.28	A	3,551	0.16	A	1,795	0.08	A
A St	4th St	6th St	7,966	0.37	A	6,737	0.31	A	5,848	0.28	A	7,225	0.33	A	5,733	0.27	A	5,041	0.23	A	7,782	0.36	A	5,479	0.25	A	3,811	0.18	A
A St	6th St	7th St	8,915	0.41	B	8,740	0.40	A	8,771	0.41	A	8,995	0.42	B	8,413	0.39	A	8,123	0.38	A	9,073	0.42	B	8,196	0.38	A	7,991	0.37	A
A St	7th St	Dean Dr	8,953	0.41	B	9,459	0.44	B	9,389	0.43	B	9,324	0.43	B	9,378	0.43	B	8,420	0.39	A	8,904	0.41	B	9,496	0.44	B	9,569	0.44	B
A St	Dean Dr	9th St	7,728	0.36	A	8,249	0.38	A	8,163	0.38	A	8,135	0.38	A	8,159	0.38	A	7,041	0.33	A	7,694	0.36	A	8,281	0.38	A	8,354	0.39	A
A St	9th St	North 10th St	6,433	0.30	A	6,294	0.29	A	5,935	0.27	A	6,273	0.29	A	5,531	0.26	A	6,400	0.30	A	6,382	0.30	A	5,594	0.26	A	5,516	0.26	A
A St	North 10th St	Beacon Dr	6,155	0.28	A	5,395	0.25	A	5,013	0.23	A	5,436	0.25	A	4,611	0.21	A	5,640	0.26	A	6,094	0.28	A	4,558	0.21	A	4,377	0.20	A
A St	Beacon Dr	Foothill	2,631	0.12	A	2,533	0.12	A	2,424	0.11	A	2,399	0.11	A	2,284	0.11	A	2,204	0.10	A	2,552	0.12	A	2,236	0.10	A	2,294	0.11	A
E St	Grant St	4th St	4,679	0.23	A	8,706	0.40	A	8,035	0.37	A	9,036	0.42	B	4,222	0.20	A	5,340	0.25	A	4,645	0.22	A	4,211	0.19	A	4,156	0.19	A
E St	4th St	6th St	5,636	0.26	A	7,112	0.33	A	6,787	0.31	A	6,779	0.31	A	4,508	0.21	A	5,452	0.25	A	5,840	0.27	A	4,412	0.20	A	4,404	0.20	A
E St	6th St	7th St	7,562	0.35	A	6,196	0.29	A	7,614	0.35	A	7,770	0.36	A	7,416	0.34	A	7,844	0.36	A	7,620	0.35	A	7,402	0.34	A	7,645	0.35	A
E St	7th St	9th St	8,076	0.45	B	7,606	0.43	B	8,217	0.46	B	8,056	0.45	B	8,348	0.47	B	8,950	0.50	B	7,949	0.45	B	8,132	0.46	B	8,682	0.49	B
E St	9th St	Mill St	8,477	0.42	B	7,876	0.40	A	8,057	0.40	A	8,313	0.42	B	8,276	0.41	B	8,459	0.42	B	8,451	0.42	B	8,236	0.41	B	8,157	0.41	A
E St	Mill St	F St	11,945	0.60	B	11,695	0.58	B	11,756	0.59	B	11,612	0.58	B	12,050	0.60	B	11,956	0.60	B	11,996	0.60	B	12,061	0.60	B	12,163	0.61	B
F St	3rd St	6th St	6,032	0.28	A	7,707	0.36	A	7,391	0.34	A	6,286	0.39	A	4,601	0.22	A	5,715	0.26	A	6,255	0.29	A	4,707	0.22	A	4,626	0.21	A
F St	6th St	7th St	8,637	0.40	A	8,841	0.41	A	10,076	0.47	B	10,877	0.50	B	7,676	0.36	A	8,102	0.38	A	8,645	0.40	A	7,378	0.34	A	7,044	0.33	A
F St	7th St	9th St	7,526	0.42	B	7,018	0.39	A	7,165	0.40	A	7,367	0.41	B	7,644	0.43	B	7,815	0.44	B	7,175	0.40	A	7,394	0.41	B	7,689	0.43	B
F St	9th St	Mill St	7,629	0.39	A	7,785	0.39	A	7,935	0.40	A	8,029	0.40	A	7,833	0.39	A	7,916	0.40	A	7,521	0.38	A	7,733	0.39	A	7,748	0.39	A
F St	Mill St	E St	8,614	0.43	B	8,654	0.43	B	8,724	0.44	B	8,758	0.44	B	8,816	0.44	B	8,949	0.45	B	8,396	0.42	B	8,685	0.43	B	8,831	0.44	B
M St	4th St	6th St	11,654	0.55	B	7,723	0.36	A	8,066	0.37	A	9,356	0.43	B	8,247	0.38	A	10,183	0.47	B	12,020	0.56	B	8,199	0.38	A	9,026	0.42	B
M St	6th St	7th St	11,769	0.54	B	10,230	0.47	B	10,424	0.48	B	10,749	0.50	B	10,721	0.50	B	11,441	0.53	B	11,789	0.54	B	10,383	0.48	B	10,944	0.51	B
M St	7th St	9th St	8,549	0.40	A	10,897	0.50	B	10,529	0.49	B	10,061	0.47	B	10,491	0.49	B	6,940	0.32	A	8,343	0.39	A	9,895	0.46	B	10,157	0.47	B
M St	9th St	10th St	8,002	0.37	A	7,817	0.36	A	7,774	0.36	A	7,831	0.36	A	7,959	0.37	A	7,998	0.37	A	7,783	0.36	A	8,059	0.37	A	8,000	0.37	A
M St	10th St	12th St	7,101	0.33	A	7,467	0.35	A	7,466	0.35	A	7,487	0.35	A	7,709	0.36	A	7,630	0.35	A	7,740	0.36	A	7,770	0.36	A	7,775	0.36	A
M St	12th St	N St	11,457	0.53	B	11,459	0.53	B	11,465	0.53	B	11,461	0.53	B	11,465	0.53	B	11,456	0.53	B	11,439	0.53	B	11,467	0.53	B	11,477	0.53	B
M St	N St	N St	9,847	0.46	B	9,847	0.46	B	9,851	0.46	B	9,849	0.46	B	9,851	0.46	B	9,847	0.46	B	9,837	0.46	B	9,851	0.46	B	9,857	0.46	B
Grants Pass Parkw	7th St	Parkdale Dr	23,153	0.49	B	20,028	0.42	B	19,683	0.42	B	20,123	0.43	B	18,670	0.40	A	19,643	0.42	B	23,070	0.49	B	18,789	0.40	A	18,709	0.40	A

			2015 Alternative Run Assignments																										
			No Build Alternative			Alternative 1			Alternative 2			Alternative 3			Alternative 4			Alternative 5			Alternative 6			Alternative 7			Alternative 8		
Street Name	Segment Name (From)	Segment Name (To)	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
Grants Pass Parkw	Parkdale Dr	M St	26,823	0.61	B	25,224	0.53	B	25,256	0.54	B	25,630	0.54	B	23,620	0.50	B	25,769	0.53	B	28,830	0.61	B	23,625	0.50	B	23,524	0.50	B
Grants Pass Parkw	M St	Hwy 199 Spur	26,963	0.57	B	25,810	0.55	B	25,815	0.55	B	25,916	0.55	B	24,347	0.52	B	25,020	0.53	B	26,954	0.57	B	24,521	0.52	B	23,956	0.51	B
Grants Pass Parkw	Hwy 199 Spur	Beacon Dr	36,103	0.76	C	34,950	0.74	C	34,984	0.74	C	35,146	0.74	C	33,898	0.72	C	34,772	0.74	C	36,014	0.76	C	34,027	0.72	C	33,659	0.71	C
Grants Pass Parkw	Beacon Dr	Terry Ln	27,072	0.57	B	26,954	0.57	B	27,381	0.58	B	27,027	0.57	B	26,232	0.56	B	26,399	0.56	B	27,076	0.57	B	26,224	0.56	B	26,104	0.55	B
Grants Pass Parkw	Terry Ln	Agnes Ave	22,325	0.47	B	22,032	0.47	B	22,191	0.47	B	22,057	0.47	B	21,323	0.45	B	20,871	0.44	B	22,348	0.47	B	21,139	0.45	B	20,878	0.44	B
Grants Pass Parkw	Agnes Ave	I-5	28,783	0.61	B	27,605	0.58	B	27,700	0.59	B	27,860	0.59	B	26,259	0.56	B	26,470	0.56	B	29,065	0.62	B	26,250	0.56	B	26,097	0.55	B
6th St	Begins at I-5	Vine St	17,231	0.37	A	17,095	0.36	A	17,095	0.36	A	17,130	0.36	A	17,462	0.37	A	17,398	0.37	A	18,461	0.39	A	17,479	0.37	A	17,549	0.37	A
6th St	Vine St	Hillcrest Ln	15,106	0.62	B	15,508	0.64	B	15,429	0.64	B	15,462	0.64	B	13,025	0.54	B	13,529	0.56	B	14,787	0.61	B	12,883	0.53	B	12,822	0.53	B
6th St	Hillcrest Ln	Midland Ave	16,197	0.67	B	16,793	0.69	C	16,726	0.69	C	16,748	0.69	C	14,281	0.59	B	15,274	0.63	B	16,034	0.66	B	14,287	0.59	B	14,241	0.59	B
6th St	Midland Ave	Savage St	18,531	0.39	A	18,841	0.40	A	18,779	0.40	A	18,983	0.40	A	14,863	0.31	A	15,890	0.34	A	18,436	0.39	A	14,920	0.32	A	14,818	0.31	A
6th St	Savage St	Manzanita Ave	17,229	0.37	A	18,678	0.39	A	18,130	0.38	A	18,095	0.38	A	14,220	0.30	A	15,151	0.32	A	17,839	0.38	A	14,257	0.30	A	13,721	0.29	A
6th St	Manzanita Ave	A St	20,196	0.43	B	21,138	0.45	B	20,636	0.44	B	20,703	0.44	B	16,931	0.36	A	18,415	0.39	A	20,285	0.43	B	16,885	0.36	A	16,561	0.35	A
6th St	A St	D St	22,234	0.47	B	23,199	0.49	B	22,680	0.48	B	22,919	0.49	B	18,991	0.40	A	18,140	0.38	A	22,313	0.47	B	18,909	0.40	A	17,560	0.37	A
6th St	E St	F St	22,024	0.47	B	20,429	0.43	B	19,797	0.42	B	20,532	0.44	B	18,304	0.39	A	17,852	0.38	A	21,894	0.46	B	18,742	0.40	A	17,797	0.38	A
6th St	F St	H St	21,341	0.45	B	19,535	0.41	B	18,934	0.40	A	19,862	0.42	B	18,047	0.38	A	17,487	0.37	A	21,487	0.45	B	17,983	0.38	A	17,243	0.37	A
6th St	H St	M St	20,859	0.44	B	18,515	0.39	A	17,928	0.38	A	18,507	0.39	A	17,218	0.36	A	16,827	0.35	A	20,728	0.44	B	17,105	0.36	A	16,567	0.35	A
6th St	M St	Voorhies Ave	24,669	0.52	B	20,245	0.43	B	20,202	0.43	B	21,199	0.45	B	19,617	0.41	B	20,048	0.42	B	24,639	0.52	B	19,247	0.41	A	19,436	0.41	B
6th St	Voorhies Ave	Lewis Ave	28,090	1.08	F	21,804	0.81	D	21,844	0.80	D	22,535	0.83	E	21,175	0.88	D	21,597	0.80	D	28,109	1.08	F	20,890	0.86	D	21,094	0.87	D
6th St	Lewis Ave	West Park St	26,962	0.57	B	22,772	0.48	B	22,721	0.48	B	23,401	0.50	B	21,909	0.46	B	22,442	0.48	B	27,002	0.57	B	21,597	0.46	B	21,815	0.46	B
6th St	West Park St	Redwood Hwy	19,713	0.40	A	14,477	0.31	A	14,386	0.30	A	14,967	0.32	A	13,475	0.29	A	13,772	0.29	A	18,671	0.40	A	13,158	0.28	A	13,342	0.28	A
6th St	Redwood Hwy	Fruitdale Dr	12,800	0.27	A	12,919	0.27	A	12,841	0.27	A	13,136	0.28	A	12,017	0.25	A	13,060	0.28	A	12,880	0.27	A	10,669	0.23	A	10,999	0.23	A
7th St	Morgan Ln	Hillcrest Dr	12,936	0.53	B	12,217	0.50	B	12,134	0.50	B	12,292	0.51	B	11,399	0.47	B	11,148	0.46	B	12,016	0.50	B	11,197	0.46	B	11,509	0.48	B
7th St	Hillcrest Dr	Midland Ave	16,433	0.68	C	16,874	0.70	C	16,721	0.69	C	16,766	0.69	C	15,252	0.63	B	15,512	0.64	B	16,218	0.67	C	15,156	0.63	B	15,265	0.63	B
7th St	Midland Ave	Savage St	16,146	0.67	B	16,463	0.68	C	16,391	0.68	C	16,486	0.68	C	14,850	0.61	B	15,025	0.62	B	16,209	0.67	B	14,626	0.60	B	14,772	0.61	B
7th St	Savage St	Outlook Ave	17,466	0.72	C	18,131	0.75	C	18,114	0.75	C	18,267	0.75	C	16,033	0.66	B	16,794	0.69	C	17,769	0.73	C	16,031	0.66	B	15,821	0.65	B
7th St	Outlook Ave	Evelyn Ave	17,851	0.74	C	18,717	0.77	C	18,465	0.76	C	18,740	0.77	C	16,033	0.66	B	16,806	0.69	C	18,094	0.75	C	15,759	0.65	B	15,359	0.63	B
7th St	Evelyn Ave	Jackson St	19,151	0.79	C	20,017	0.83	D	19,765	0.82	D	20,040	0.83	D	17,339	0.72	C	18,108	0.75	C	19,394	0.80	C	17,059	0.70	C	16,659	0.69	C
7th St	Jackson St	A St	20,327	0.84	D	21,430	0.89	D	20,222	0.84	D	20,989	0.87	D	16,922	0.70	C	17,189	0.71	C	20,103	0.83	D	17,182	0.71	C	16,095	0.67	B
7th St	A St	E St	20,651	0.58	B	21,920	0.61	B	20,928	0.59	B	21,799	0.61	B	17,403	0.49	B	16,842	0.47	B	20,885	0.59	B	17,207	0.48	B	16,067	0.45	B
7th St	E St	F St	21,698	0.61	B	23,617	0.66	B	21,497	0.60	B	22,758	0.64	B	17,746	0.50	B	17,577	0.49	B	22,099	0.62	B	17,547	0.49	B	16,363	0.46	B
7th St	F St	J St	20,750	0.58	B	19,664	0.55	B	18,603	0.52	B	19,225	0.54	B	17,510	0.49	B	16,879	0.47	B	20,595	0.58	B	17,345	0.49	B	16,791	0.47	B
7th St	J St	M St	19,350	0.54	B	17,200	0.48	B	16,270	0.46	B	16,797	0.47	B	15,667	0.44	B	15,209	0.43	B	19,272	0.54	B	15,781	0.44	B	15,292	0.43	B
7th St	M St	Voorhies Ave	25,796	0.72	C	21,970	0.62	B	21,549	0.60	B	22,527	0.63	B	21,369	0.60	B	21,799	0.61	B	25,779	0.72	C	20,987	0.59	B	21,349	0.60	B
7th St	Voorhies Ave	Park St	25,031	1.03	F	21,353	0.88	D	20,909	0.86	D	21,587	0.89	D	20,748	0.86	D	21,070	0.87	D	25,069	1.04	F	20,354	0.84	D	20,731	0.86	D
7th St	Park St	Redwood Hwy	11,379	0.24	A	8,384	0.18	A	8,749	0.19	A	8,956	0.19	A	9,133	0.19	A	8,891	0.19	A	12,147	0.26	A	8,800	0.19	A	8,700	0.18	A
9th St	Hillcrest Dr	Savage St	605	0.04	A	648	0.04	A	651	0.04	A	654	0.04	A	672	0.04	A	696	0.04	A	632	0.04	A	671	0.04	A	672	0.04	A
9th St	Savage St	Madrone St	3,313	0.20	A	3,119	0.19	A	2,984	0.18	A	3,087	0.19	A	3,051	0.19	A	3,449	0.21	A	3,295	0.20	A	3,094	0.19	A	3,062	0.19	A
9th St	Madrone St	A St	3,497	0.22	A	4,748	0.29	A	4,301	0.27	A	4,045	0.25	A	4,162	0.26	A	0	0.00	A	3,529	0.22	A	4,324	0.27	A	4,396	0.27	A
9th St	D St	E St	3,696	0.23	A	4,299	0.27	A	4,135	0.26	A	4,382	0.27	A	3,924	0.24	A	3,960	0.25	A	3,499	0.22	A	4,285	0.26	A	3,259	0.20	A
9th St	E St	F St	4,381	0.27	A	4,609	0.29	A	4,891	0.30	A	4,699	0.29	A	4,511	0.28	A	4,475	0.28	A	4,355	0.27	A	4,651	0.29	A	4,209	0.26	A
9th St	F St	J St	5,309	0.33	A	5,632	0.35	A	5,292	0.33	A	4,968	0.31	A	4,977	0.31	A	4,543	0.28	A	5,828	0.36	A	4,854	0.30	A	4,547	0.28	A
9th St	J St	M St	3,761	0.23	A	4,796	0.30	A	4,494	0.28	A	4,210	0.26	A	4,280	0.26	A	3,690	0.23	A	3,738	0.23	A	4,146	0.26	A	3,832	0.24	A
10th St	Hillcrest Dr	Dewey Dr	2,263	0.14	A	2,379	0.15	A	2,470	0.15	A	2,415	0.15	A	2,317	0.14	A	1,801	0.11	A	2,272	0.14	A	2,309	0.14	A	2,286	0.14	A
10th St	Dewey Dr	Savage St	2,818	0.17	A	2,932	0.18	A	3,019	0.19	A	2,963	0.18	A	2,869	0.18	A	2,257	0.14	A	2,824	0.17	A	2,851	0.18	A	2,836	0.18	A
10th St	Savage St	Josephine St	4,338	0.27	A	4,463	0.28	A	4,586	0.28	A	4,498	0.28	A	4,351	0.27	A	3,629	0.22	A	4,340	0.27	A	4,341	0.27	A	4,324	0.27	A
10th St	Josephine St	A St	5,090	0.31	A	4,416	0.27	A	4,261	0.26	A	4,524	0.28	A	4,329	0.27	A	6,977	0.43	B	4,996	0.31	A	4,229	0.26	A	4,106	0.25	A
Fruitdale Dr	Jacksonville Hwy	Poplar Dr	4,794	0.30	A	5,081	0.31	A	4,941	0.31	A	4,774	0.29	A	4,769	0.29	A	4,737	0.29	A	4,706	0.29	A	4,800	0.30	A	4,940	0.30	A
Fruitdale Dr	Poplar Dr	Drury Ln	4,794	0.30	A	5,081	0.31	A	4,941	0.31	A	4,774	0.29	A	4,769	0.29	A	4,737	0.29	A	4,706	0.29	A	4,800	0.30	A	4,940	0.30	A
Fruitdale Dr	Drury Ln	Parkdale Dr	4,444	0.27	A	4,069	0.25	A	4,204	0.26	A	4,060	0.25	A	3,627	0.22	A	3,697	0.23	A	3,762	0.23	A	3,804	0.23	A	3,805	0.23	A
Fruitdale Dr	Parkdale Dr	Alexander Ln	5,392	0.33	A	5,666	0.35	A	5,693	0.35	A	5,027	0.31	A	5,565	0.34	A	5,533	0.34	A	5,233	0.32	A	5,472	0.34	A	5,591	0.35	A
Grandview Ave	Harbeck Rd	Drury Ln	5,404	0.33	A	5,100	0.31	A	5,105	0.32	A	5,219	0.32	A	5,223	0.32	A	5,224	0.32	A	5,296	0.33	A	5,185	0.32	A	5,339	0.33	A
Grandview Ave	Drury Ln	Gaffney Way	5,496	0.34	A	5,199	0.32	A	5,206	0.32	A	5,319	0.33	A	5,336	0.33	A	5,329	0.33	A	5,390	0.33	A	5,296	0.33	A	5,455	0.34	A
Grandview Ave	Gaffney Way	Cloverlawn Dr	4,592	0.28	A	4,292	0.26	A	4,312	0.27	A	4,417	0.27	A	4,442	0.27	A	4,433	0.27	A	4,482	0.28	A	4,430	0.27	A	4,545	0.28	A
Cloverlawn	Rogue River Hwy	Fruitdale Dr	5,929	0.37	A	4,774	0.29	A	4,600	0.28	A	5,585	0.34	A	3,650	0.23	A	4,572	0.28	A	5,929	0.37	A	4,249	0.26	A	4,052	0.25	A
Cloverlawn	Fruitdale Dr	Alanita Rd	7,536	0.47	B	7,551	0.47	B	7,413	0.46	B	7,450	0.46	B	7,166	0.44	B	7,400	0.46	B	7,475	0.46	B	6,571	0.41	A	6,527	0.40	A
Cloverlawn	Alanita Rd	Hamilton Ln	7,756	0.48	B	8,784	0.54	B	8,769	0.54	B	8,780	0.54	B	8,770	0.54	B	8,776	0.54	B	8,780	0.54	B	8,786	0.54	B	8,746	0.54	B
Rogue River Hwy	Redwood Hwy	Maple Ln	17,996	0.59	B	18,189	0.60	B	17,996	0.59	B	18,149	0.60	B	18,566	0.61	B	18,453	0.61	B	17,926	0.59	B	18,478	0.61	B	18,414	0.61	B
Rogue River Hwy	Maple Ln	Parkdale Dr	18,622	0.61	B	18,724	0.62	B	18,498	0.61	B	18,669	0.62	B	19,110	0.63	B	16,993	0.56	B	18,619	0.61	B	19,079	0.63	B	18,950	0.63	B
Rogue River Hwy	Parkdale Dr	Cloverlawn Dr	16,017	0.53	B	16,157	0.53	B	16,143	0.53	B	16,675	0.55	B	16,162	0.53	B	17,166	0.57	B	16,269	0.54	B	16,209	0.54	B	16,039	0.53	B
Rogue River Hwy	Cloverlawn Dr	Mt Baldy Rd	10,452	0.34	A	10,370	0.34	A	10,468	0.35	A	10,527	0.35	A	10,536	0.35	A	10,483	0.35	A	10,425	0.34	A	10,315	0.34	A	10,426	0.34	A
Rogue River Hwy	Mt Baldy Rd	Fruitdale Dr	9,228	0.38	A	9,143	0.38	A	9,241	0.38	A	9,300	0.38	A	9,310	0.38	A	9,257	0.38	A	9,199	0.38	A	9,099	0.38	A	9,193	0.38	A
Rogue River Hwy	Fruitdale Dr	Packerwood Ln	12,401	0.51	B	12,407	0.51	B	12,427	0.51	B	12,411	0.51	B	12,427	0.51	B	12,411	0.51	B	12,391	0.51	B	12,409	0.51	B	12,423	0.51	B
4th St	Evelyn Ave	A St	7,609	0.47	B	7,231	0.45	B	7,759	0.48	B	7,600	0.47	B	7,163	0.44	B	7,858	0.48	B	6,960	0.43	B	7,311	0.45	B	7,606	0.47	B
4th St	A St	E St	8,165	0.50	B	8,744	0.54	B	7,119	0.44	B	8,859	0.55	B	6,076	0.38	A	6,213	0.38	A	8,016	0.49	B	6,072	0.37	A	5,002	0.31	A
4th St	E St	F St	7,139	0.44	B	6,652	0.41	B	6,409	0.40	A	6,461	0.40	A	6,745	0.42	B	6,419	0.40	A	7,677	0.47	B	6,727	0.42	B	6,157	0.38	A
4th St	F St	J St	7,153	0.44	B	4,515	0.28	A	4,794	0.30	A	4,478	0.28	A	5,710	0.35	A	5,299	0.33	A	7,299	0.45	B	5,729	0.35	A	5,179	0.32	A
4th St	J St	Bridge St	4,057	0.25	A	4,303	0.27	A	4,618	0.29	A	4,554	0.28	A	4,659	0.29	A	4,104	0.26	A	4,280	0.30	A	4,631	0.29	A	3,865	0.24	A
Harbeck Rd	Union Ave	GI Ln	6,732	0.42	B	7,457	0.46	B	7,530	0.46	B	7,666	0.47	B	7,236	0.45	B	7,432	0.46	B	7,038	0.43	B	6,043	0.37	A	5,789	0.36	A
Harbeck Rd	GI Ln	Grandview Ave	2,848	0.18	A	2,707	0.17	A	2,802	0.17	A	2,831	0.17	A	2,909	0.18	A	2,794	0.17	A	2,812	0.17	A	3,273	0.20	A	3,254	0.20	A
Harbeck Rd	Grandview Ave	West Harbeck Rd	3,167	0.20	A	3,003	0.19	A	2,913	0.18	A	3,000	0.19	A	2,835	0.18	A	3,042	0.19	A	3,095	0.19	A	2,524	0.16	A	2,697	0.17	A
West Harbeck Rd	Allen Creek Rd	Williams Hwy	5,076	0.31	A	5,200	0.32	A	5,197	0.32	A	4,957	0.31	A	5,698	0.35	A	4,883	0.30	A	4,761	0.29	A	757	0.05	A	48	0.00	A
West Harbeck Rd	Williams Hwy	Towne St	2,821	0.17	A	2,658	0.16	A	2,580	0.16	A	2,650	0.16	A	2,687	0.16	A	2,699	0.17	A	2,746	0.17	A	2,237	0.14	A	2,392	0.15	A
West Harbeck Rd	Towne St	Harbeck Rd	3,167	0.20	A	3,003	0.19	A	2,913	0.18	A	3,000	0.19	A	1,935	0.12	A	3,042	0.19	A	3,095	0.19	A	2,524	0.16	A	2,697	0.17	A

Tab

INTERSECTION	Existing Delay	NO BUILD	ALT 1	ALT 2	ALT 3	ALT 4	ALT 5	ALT 6	ALT 7	ALT 8
6th at Morgan Lane	26	37	31	31	39	>60	52	32	>60	>60
	D	D	D	D	D	F	E**	D	F	F***
7th at Morgan Lane	7	10	9	9	10	10	9	9	9	9
	B	B	B	B	B	B	B	B	B	B
6th Street at E Street	6	8	7	8	8	7	7	8	7	7
	B	B	B	B	B	B	B	B	B	B
7th Street at E Street	8	10	10	11	10	10	13	10	10	12
	B	B	B	B	B	B	B	B	B	B
7th Street at F Street	7	8	8	8	8	7	7	8	7	7
	B	B	B	B	B	B	B	B	B	B
6th Street at M Street	10	18	10	10	10	10	11	>60	10	10
	B	C	B	B	B	B	B	F	B	B
7th Street at M Street	9	>60	>60	>60	>60	>60	>60	>60	>60	>60
	B	F	F	F	F	F	F*	F	F	F*
6th Street at Redwood Highway	13	17	14	14	14	14	14	N/A	14	14
	B	C	B	B	B	B	B		B	B
7th Street at Redwood Highway	12	14	13	13	13	13	13	N/A	12	13
	B	B	B	B	B	B	B		B	B
Grants Pass Parkway at Redwood Hwy. Spur	12	13	13	13	13	13	12	13	13	13
	B	B	B	B	B	B	B	B	B	B
Jacksonville Highway at Redwood Highway	44	>60	>60	>60	>60	>60	>60	N/A	>60	>60
	E	F	F	F	F	F	F		F	F

* LOS C could be achieved through minor signal timing change

** LOS D could be achieved through minor signal timing change

*** LOS E could be achieved through minor signal timing change

No Build Alternative

The no-build or "do nothing" alternative assumes there will be no new roadway construction or other major capital investments made over the next 20 years, outside of projects already scheduled in the six year TIP.

Figure 1 illustrates the levels of service associated with the no-build alternative. Under the no-build alternative, the following seven roadway segments will operate at Level of Service (LOS) C in 2015:

- **Redwood Highway:** Fairgrounds Road to Tussy Lane;
- **Bridge Street:** Oak Street to Division Street;
- **Grants Pass Parkway:** Highway 199 Spur to Beacon Drive; and
- **7th Street:** Hillcrest Lane to Midland Avenue, Savage Street to Jackson Street, M Street to Voorhies Avenue.

Two roadway segments will operate at LOS D in 2015 including:

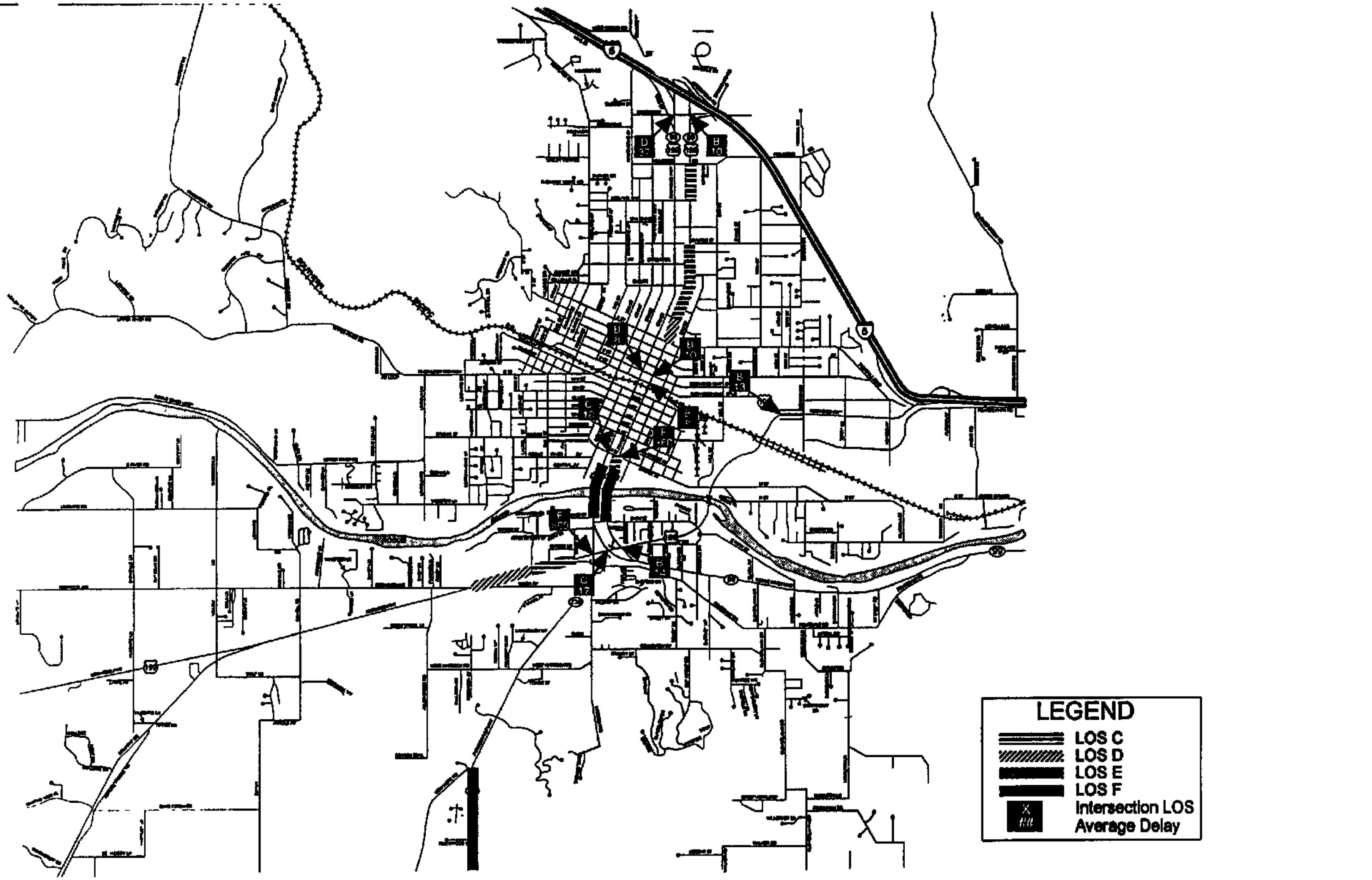
- **Redwood Highway:** Redwood Avenue to Fairgrounds Road; and
- **7th Street:** Jackson Street to A Street.

No roadway segments will operate at LOS E in 2015 in the No Build Alternative.

Three roadway segments will operate at LOS F in 2015:

- **Jacksonville Highway:** New Hope Road to the study area boundary;
- **6th Street:** Voorhies Avenue to Lewis Avenue; and
- **7th Street:** Voorhies Avenue to Park Street.

The primary highlights of future traffic conditions under this alternative shows a heavy orientation of east-west traffic on Redwood Highway and Grants Pass Parkway for east-west travel and on 6th Street and 7th Street for north-south travel. Because of the limited capacity and resultant heavy congestion on the 6th and 7th Street bridges, much of the traffic that might



KJS

Figure 1 - Congestion in the No Build Alternative

Grants Pass
Urban Area
Transportation Plan

have otherwise be destined to the downtown area or traveling beyond it via 6th and 7th Streets, appears to be being diverted to I-5 and Grants Pass Parkway. The traffic congestion on the Jacksonville Highway south of New Hope Road is caused by a roadway capacity reduction from four lanes to two lanes at that point.

Of the eleven intersections evaluated four would have a degradation in their associated levels of service.

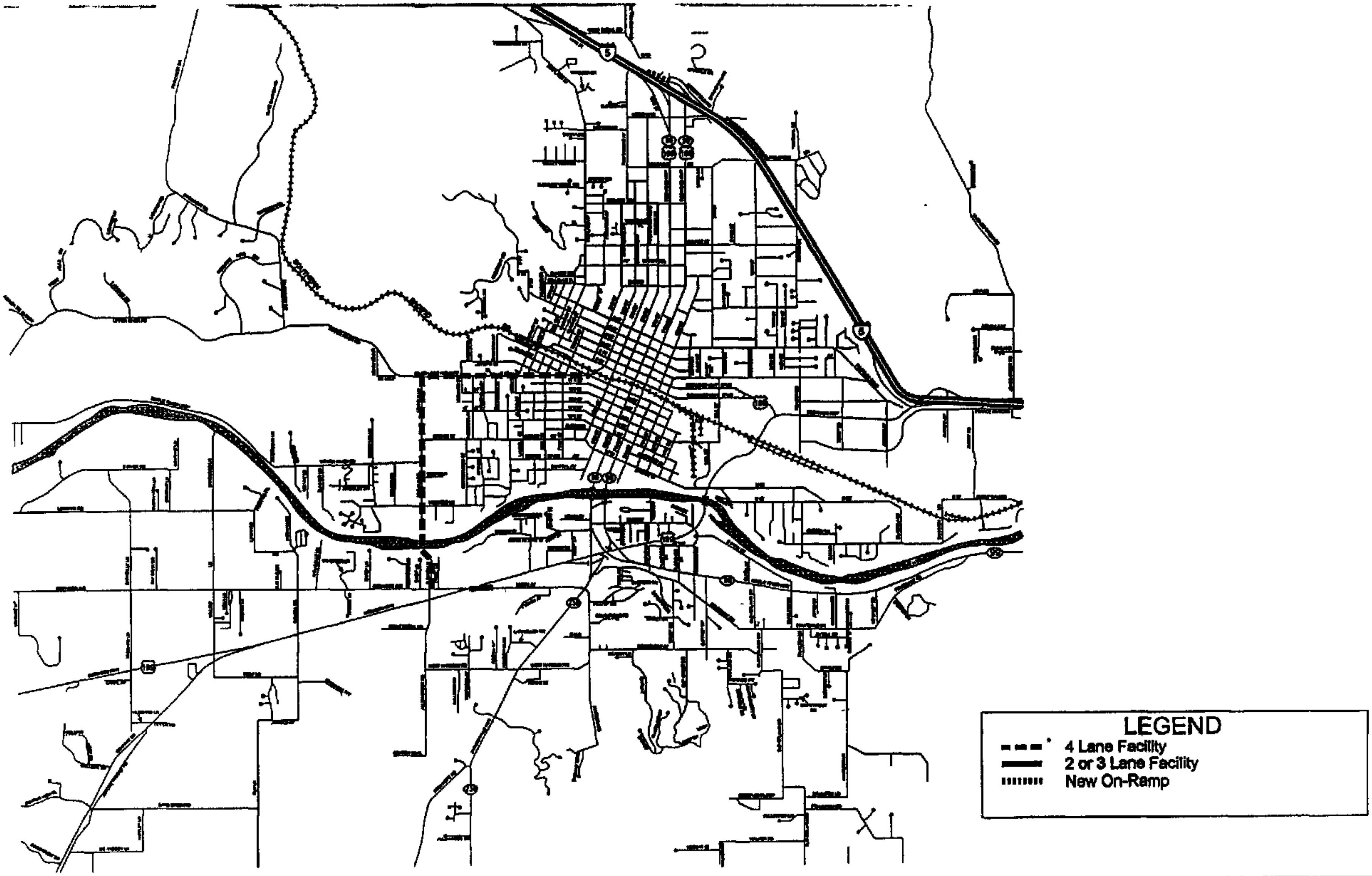
- The LOS would decrease from B to C at the 6th Street and M Street intersection.
- The LOS would decrease from B to C at the 6th Street and Redwood Highway intersection.
- The LOS would decrease from B to F at the 7th Street and M Street intersection.
- The LOS would decrease from E to F at the Jacksonville Highway and Redwood Highway intersection.

Alternative 1

Alternative 1 includes the roadway improvement assumptions listed below which are also illustrated in Figure 2:

- The addition of a fourth bridge that extends north from the Flower Lane roadway alignment on the south side of the Rogue River to the Lincoln Lane alignment on the north side of the river;
- Widening of Flower Lane and Lincoln Road from two to four lanes;
- Widening of River Loop Highway/G Street from two to four lanes;
- Extending Union Avenue west to the intersection of Redwood Avenue and the Redwood Highway;
- Addition of a new northbound on-ramp to I-5 from Scoville Road, consistent with the planned roadway improvements for the factory outlet center project; and

Creation of a new service road on the north side of I-5 from Hillcrest Drive to Greenfield Road.



KJS

Figure 2 - Improvements Included in Alternative 1

Grants Pass
Urban Area
Transportation Plan

Figure 3 illustrates the level of service associated with Alternative 1 improvements. Under the Alternative 1 scenario, the following four roadway segments will operate at LOS C in 2015:

- **Redwood Highway:** Redwood Avenue to Fairgrounds Road;
- **Grants Pass Parkway:** Highway 199 Spur to Beacon Drive;
- **6th Street:** Hillcrest Drive to Midland Avenue; and
- **7th Street:** Hillcrest Lane to Evelyn Avenue.

Two roadway segments will operate at LOS D in 2015:

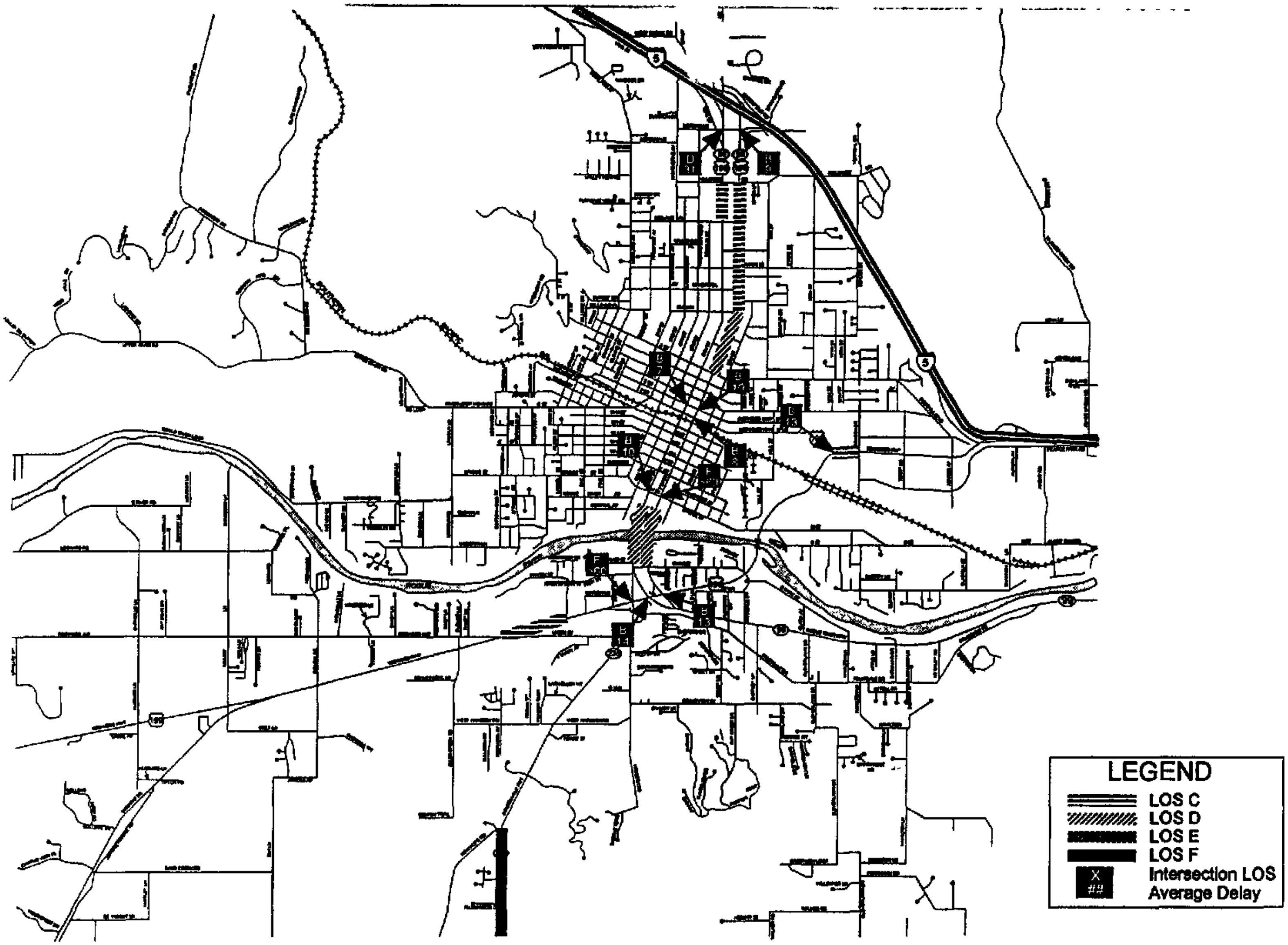
- **6th Street:** Voorhies Avenue to Lewis Avenue.
- **7th Street:** Evelyn Avenue to A Street, Voorhies Avenue to Park Street.

One roadway segment will operate at LOS F in 2015:

- **Jacksonville Highway:** New Hope Road to the study area boundary.

No roadway segments will operate at LOS E in 2015 in Alternative 1.

The improvements associated with Alternative 1 result in a reduction in congestion on Redwood Highway between Redwood Avenue and the "Y" interchange, as well as on the 6th and 7th Street bridges. However, congestion increases on 6th and 7th Street north of the downtown area. This increase in congestion may be due in part to the additional capacity across the river created by the addition of a fourth bridge. This is because traffic that under the No-build alternative accessed the area south of the Rogue River via I-5 and Grants Pass Parkway, may now be using 6th and 7th Street to access the new bridge. This shift in travel patterns is evidenced by the approximately 3,500 vehicles per day decrease in volume on Grants Pass Parkway and the approximately 1,000 vehicles per day increase in volume on both 6th and 7th Streets at the north end of the city. There area also volume reductions on A, E, an F Streets in the vicinity of Grants Pass Parkway that appear to be related to the remaining 1,500 vehicle trip reduction on Grants Pass Parkway that appears to now be using the fourth bridge. The other notable traffic pattern change involves



KJS

Figure 3 - Congestion in Alternative 1

Grants Pass
Urban Area
Transportation Plan

approximately 4,000 vehicles per day shifting to the new bridge from the each of the 6th and 7th Street bridges.

Of the eleven intersections evaluated, two would have a degradation in their associated levels of service.

- The LOS would decrease from B to F at the 7th Street and M Street intersection.
- The LOS would decrease from E to F at the Jacksonville Highway and Redwood Highway intersection.

Alternative 2

The roadway improvements included in Alternative 2, which are illustrated in Figure 4, are the same as in Alternative 1 with the following enhancements:

- Extend Lincoln Road north across the railroad tracks; and
- Widen Foundry Street to four lanes from 3rd Street west and extend it so that it connects with the northern extension of Lincoln Street.

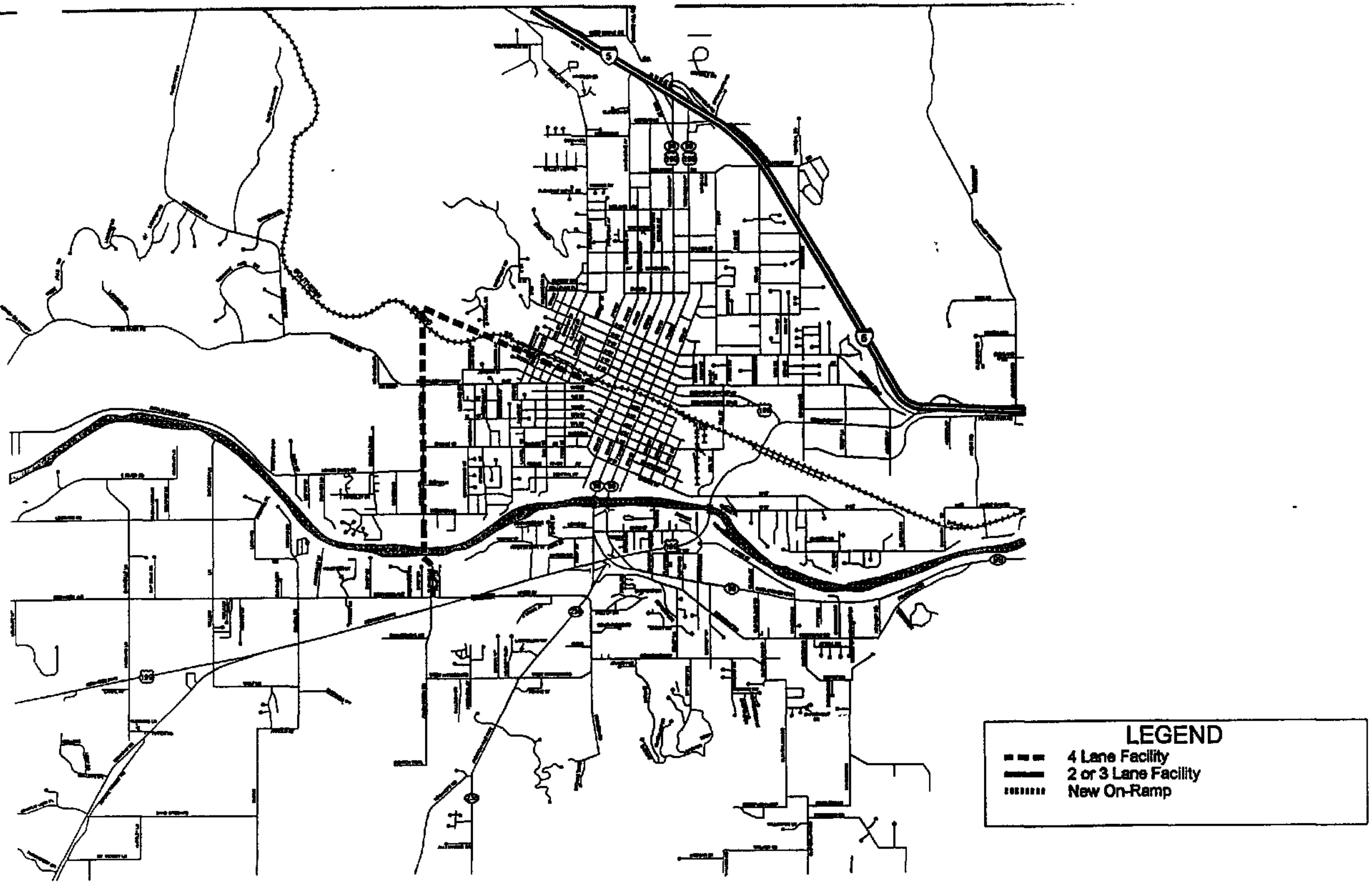
Figure 5 illustrates the level of service associated with Alternative 2 improvements. Under this scenario the following five roadway segments will operate at LOS C in 2015:

- **Redwood Highway:** Redwood Avenue to Fairgrounds Road;
- **Grants Pass Parkway:** Highway 199 Spur to Beacon Drive;
- **River Loop Highway/G Street:** Lincoln Street to Oak Street;
- **6th Street:** Hillcrest Drive to Midland Avenue; and
- **7th Street:** Hillcrest Lane to Evelyn Avenue.

Two roadway segments will operate at LOS D in 2015 including:

- **6th Street:** Voorhies Avenue to Lewis Avenue; and

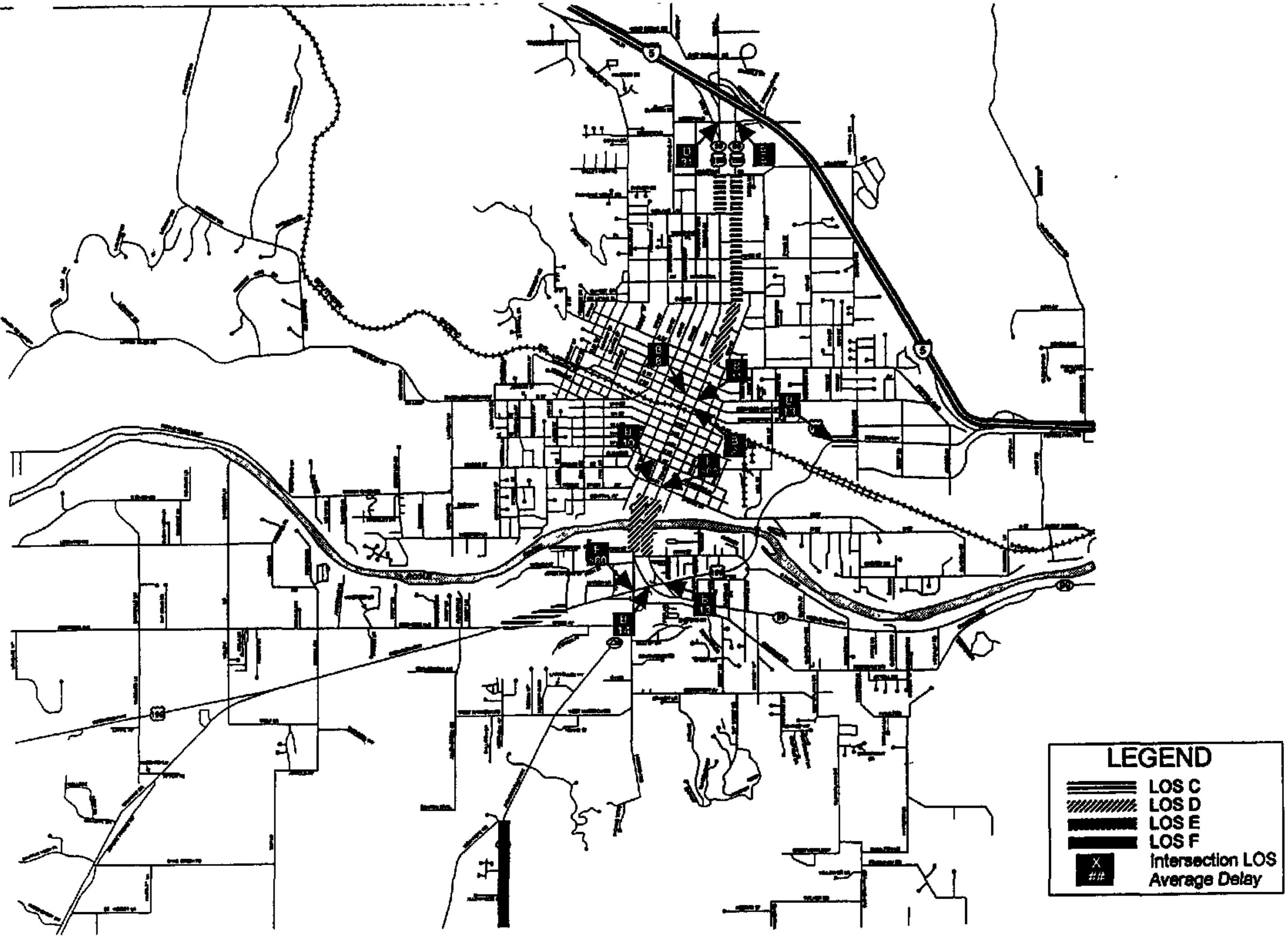
7th Street: Evelyn Avenue to A Street, Voorhies Avenue to Park Street.



KJS

Figure 4 - Improvements Included in Alternative 2

Grants Pass
Urban Area
Transportation Plan



KJS

Figure 5 - Congestion in Alternative 2

Grants Pass
Urban Area
Transportation Plan

The following roadway segments will operate at LOS F in 2015:

- **Jacksonville Highway:** New Hope Road to the study area boundary.

No roadway segments will operate at LOS E in 2015 in Alternative 2.

The congestion related improvements associated with Alternative 2 are essentially the same as those identified with Alternative 1 with one exception. Under the Alternative 2 scheme higher congestion levels on River Loop Highway/G Street are realized. This is probably because the extension of Lincoln Street and Foundry Street creates a connection to the downtown area that is more circuitous than River Loop Highway/G Street, attracting only approximately 2,200 vehicles per day. Of these, it appears that only approximately 1,000 vehicles per day are diverted from River Loop Highway.

The remaining traffic pattern shifts that were outlined in the discussion for Alternative 1, also hold true for this alternative as well. Approximately 1,000 vehicles per day shift from I-5 and Grants Pass Parkway to 6th and 7th Street, a total of approximately 3,500 vehicles per day shift from Grants Pass Parkway to the new bridge, and approximately 4,000 vehicles per day shift to the new bridge from the 6th and 7th Street bridges.

Of the eleven intersections evaluated two would have a degradation in their associated levels of service.

- The LOS would decrease from B to F at the 7th Street and M Street intersection.

- The LOS would decrease from E to F at the Jacksonville Highway and Redwood Highway intersection.

Alternative 3

Figure 6 illustrates the roadway improvement associated with Alternative 3 which includes the following:

- The addition of a fourth bridge that extends north from the Willow Lane/Schroeder Lane roadway alignment on the south side of the Rogue River to align with Pinecrest Drive on the north side of the river;

- Widening of Willow Lane/Schroeder Lane and Lincoln Road from two to four lanes from Redwood Avenue to Pinecrest Drive;

- Widening of Upper River Road/River Loop Highway/G Street from two to four lanes from Pinecrest Drive to the Foundry Street/3rd Street intersection;

- Extending Union Avenue west to the intersection of Redwood Avenue and the Redwood Highway;

- Addition of a new northbound on-ramp to I-5 from Scoville Road, consistent with the planned roadway improvements for the factory outlet center project; and

- Creation of a new service road on the north side of I-5 from Hillcrest Drive to Greenfield Road.

Figure 7 illustrates the level of service associated with Alternative 3. Under this alternative, four roadway segments will operate at LOS C in 2015:

- **Redwood Highway:** Redwood Avenue to Fairgrounds Road;

- **Grants Pass Parkway:** Highway 199 Spur to Beacon Drive;

- **6th Street:** Hillcrest Drive to Midland Avenue; and

- **7th Street:** Hillcrest Lane to Evelyn Avenue.

One roadway segment will operate at LOS D in 2015:

- **7th Street:** Evelyn Avenue to A Street, Voorhies Avenue to Park Street.

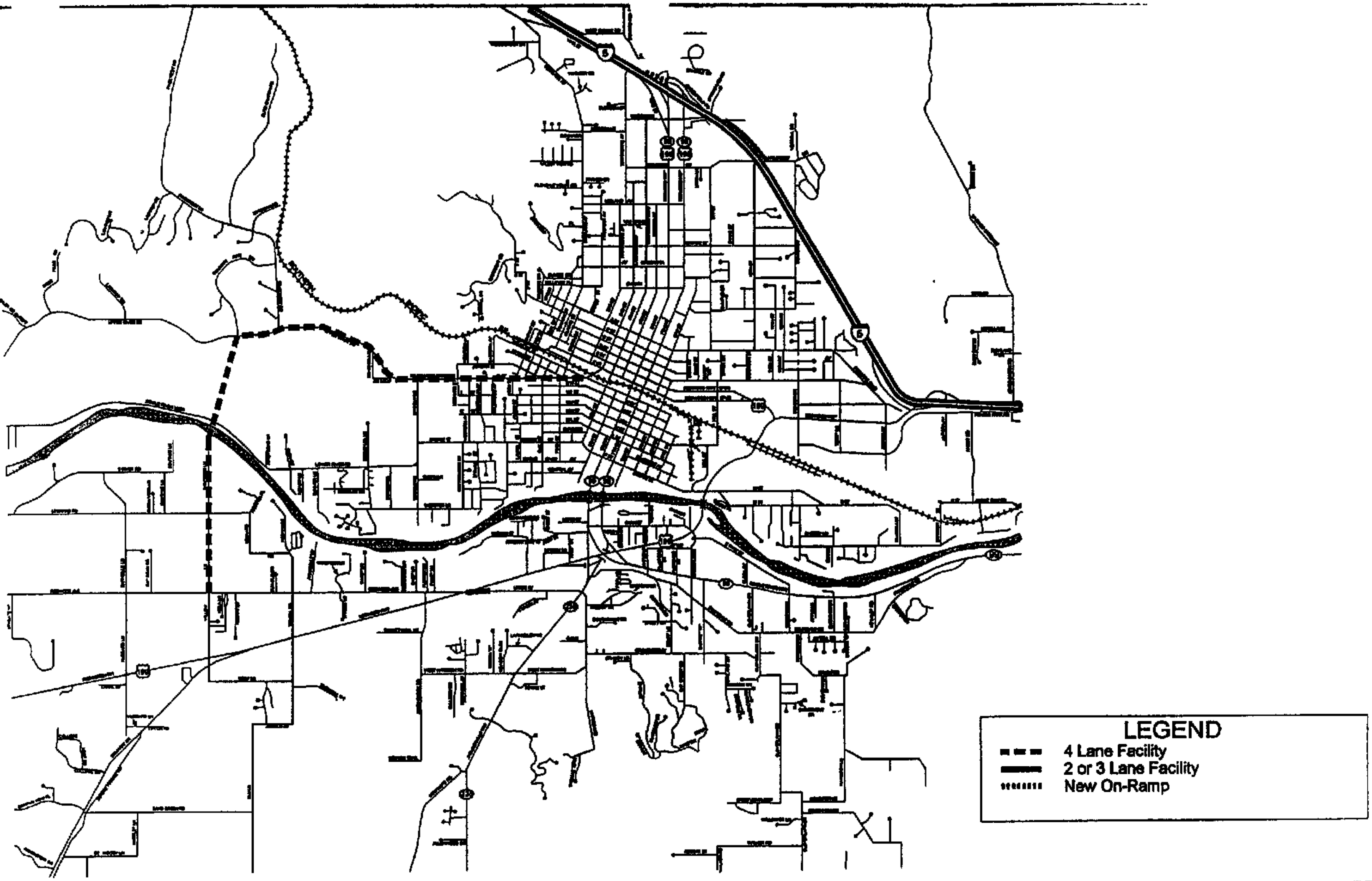
One roadway segment will operate at LOS E in 2015:

- **6th Street:** Voorhies Avenue to Lewis Avenue.

One roadway segment will operate at LOS F in 2015:

- **Jacksonville Highway:** New Hope Road to the study area boundary.

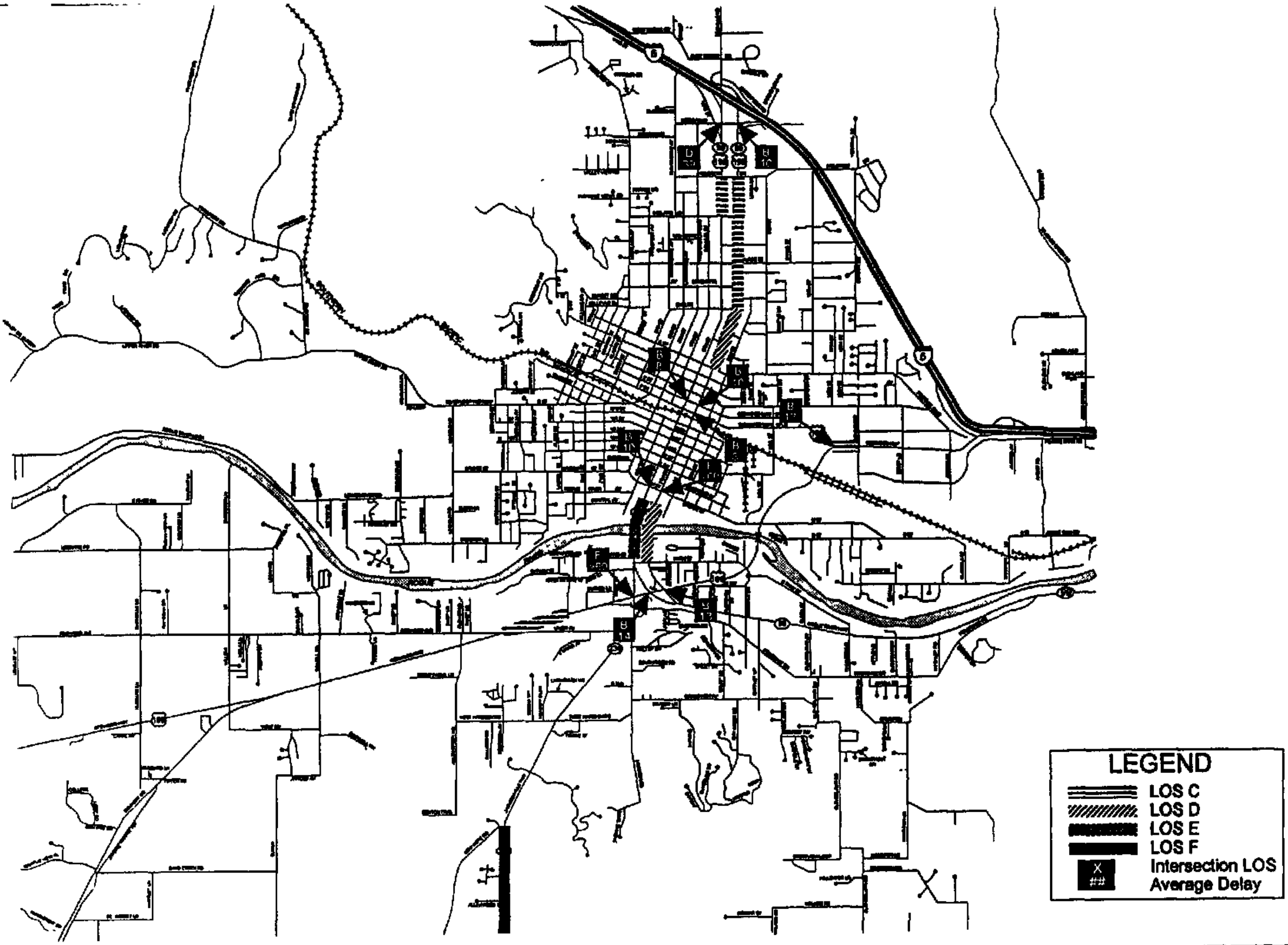
The improvements associated with Alternative 3 are essentially the same as Alternative 1 with one exception. Under the Alternative 3 scenario



KJS

Figure 6 - Improvements Included in Alternative 3

Grants Pass
Urban Area
Transportation Plan



ØKJS

Figure 7 - Congestion in Alternative 3

Grants Pass
Urban Area
Transportation Plan

congestion on the 6th Street bridge is reduced only to LOS E, while under the Alternative 1 scenario, the improvements result in a reduction in congestion to LOS D. This lower LOS improvement appears to be due to a smaller shift in traffic from 6th Street to the new bridge due to its location much further to the west of the CBD. The analysis shows that approximately 3,500 vehicles per day shift to the new bridge from the 6th and 7th Street bridges, versus approximately 4,000 vehicles per day switching to the Lincoln Street bridge alignment under Alternative 1.

Also, as with the previous alternatives discussion, approximately 1,000 vehicles per day shift from I-5 and Grants Pass Parkway to 6th and 7th Street, and a total of about 3,500 vehicles per day shift from Grants Pass Parkway to the fourth bridge.

It should also be noted that the location of the fourth bridge in this alternative, further west of the city, and the lack of an existing access road leading to it on the north side of the river, may make this alternative more costly both in terms of construction and environmental impacts than the other bridge alignment. However, it is clear that further detailed studies would need to be undertaken to verify this assertion.

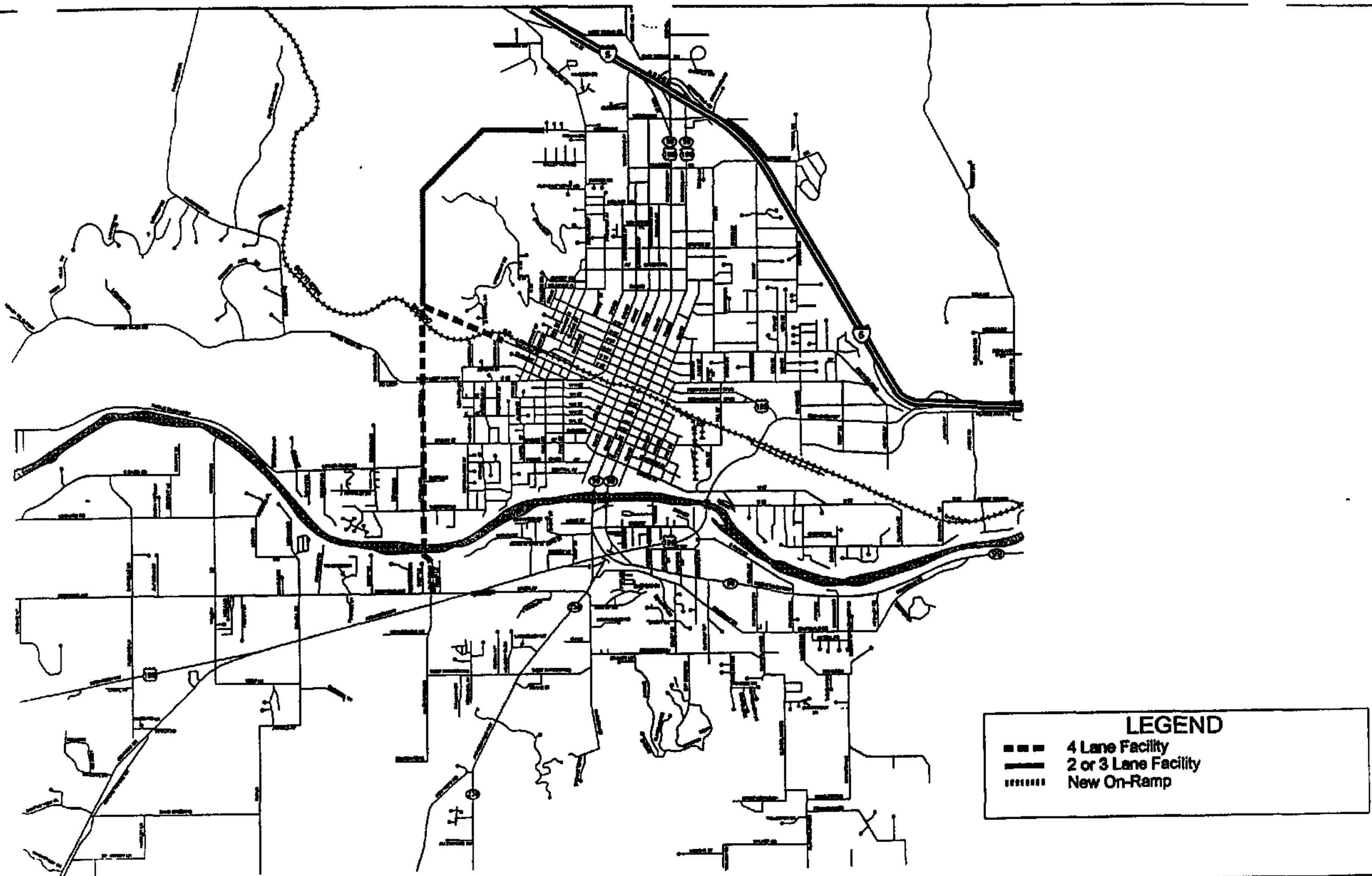
Of the eleven intersections evaluated two would have a degradation in their associated levels of service.

- The LOS would decrease from B to F at the 7th Street and M Street intersection.
- The LOS would decrease from E to F at the Jacksonville Highway and Redwood Highway intersection.

Alternative 4

Alternative 4 includes the same roadway improvements, illustrated in Figure 8, as in Alternative 2, but adds the following enhancement:

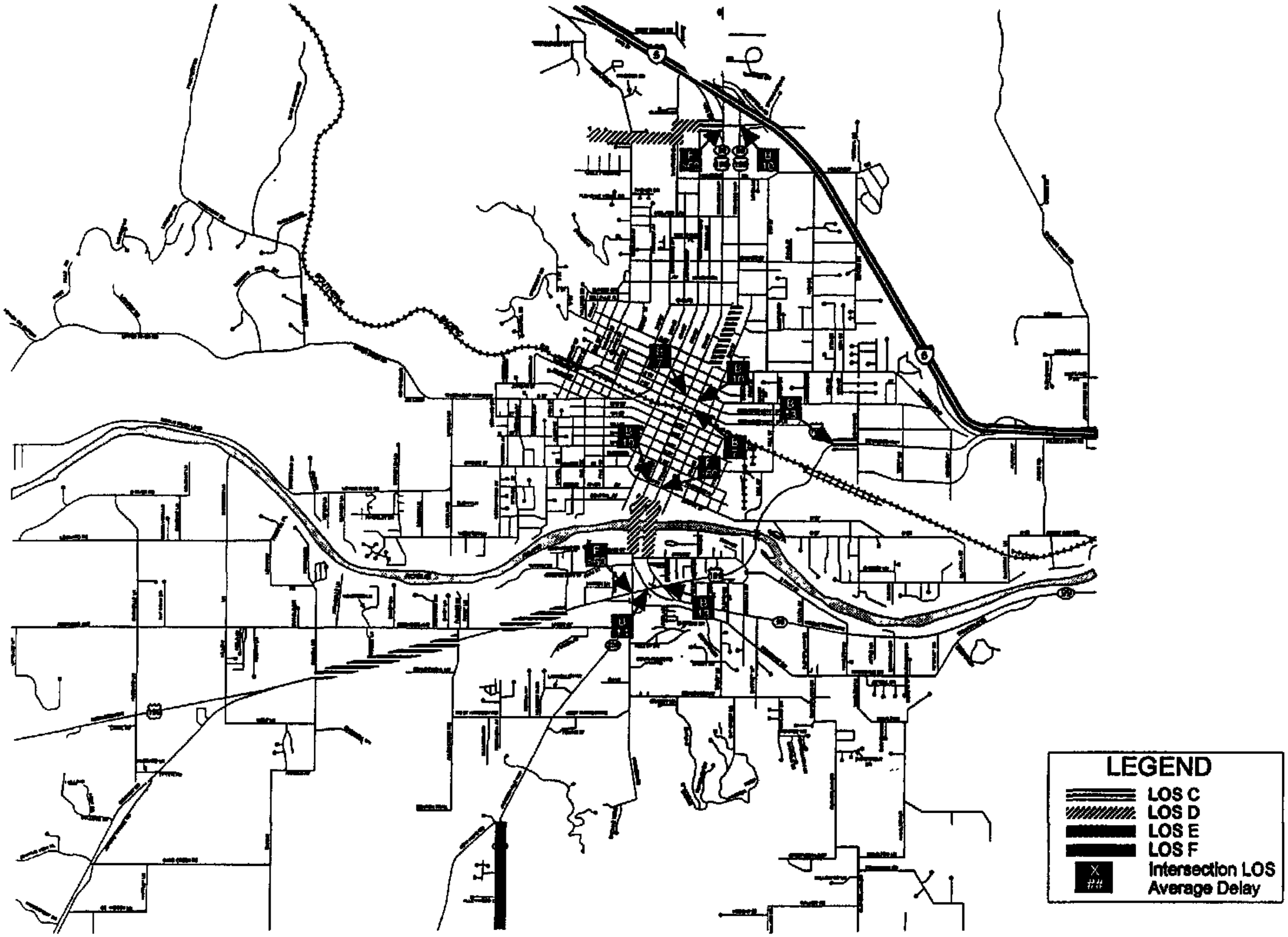
- Create a loop road by extending Morgan Lane west and then south to form an intersection with the Lincoln Road/Foundry Street intersection.
- Figure 9 illustrates the level of service associated with Alternative 4 improvements. Under the Alternative 4 scheme, the following four roadway segments will operate at LOS C in 2015:



KJS

Figure 8 - Improvements Included in Alternative 4

Grants Pass
Urban Area
Transportation Plan



KJS

Figure 9 - Congestion in Alternative 4

Grants Pass
Urban Area
Transportation Plan

Redwood Highway: Dowell Road to Allen Creek Road, Redwood Avenue to Fairgrounds Road;

- **Morgan Lane:** Chandler Way to Highland Avenue, Washington Boulevard to 6th Street;

- **Grants Pass Parkway:** Highway 199 Spur to Beacon Drive; and

- **7th Street:** Evelyn Avenue to A Street.

Three roadway segments will operate at LOS D in 2015:

- **Morgan Lane:** Highland Avenue to Washington Boulevard;

- **6th Street:** Voorhies Avenue to Lewis Avenue; and

- **7th Street:** Voorhies Avenue to Park Street.

One roadway segments will operate at LOS F in 2015:

- **Jacksonville Highway:** New Hope Road to the study area boundary.

No roadway segments will operate at LOS E in 2015 in Alternative 4.

The improvements associated with this alternative result in a better levels of congestion reduction on the north end of 6th and 7th Street than the three previous alternatives. Only the 7th Street segment from Evelyn Avenue to A Street operates worse than LOS B, because the new loop road helps to divert more traffic away from 6th and 7th Street. Approximately 3,500 vehicles per day are diverted from 6th Street and approximately 1,500 vehicles per day are diverted from 7th Street to the new loop road. The forecasts indicate that approximately 12,000 vehicles per day would be attracted to the loop road. However, the increase in traffic on the new loop roadway, causes the existing sections of Morgan Lane to experience increased levels of congestion, however.

Approximately 5,000 vehicles per day are predicted to shift from I-5 and Grants Pass Parkway to the new road and new bridge, with an additional 5,000 vehicles per day shift to the new bridge from the 6th Street bridge and an additional 4,000 vehicles per day shifting from the 7th Street bridge.

The traffic volume projections on the Morgan Lane extension suggest that it may need to be improved to at least 3 lanes to accommodate the projected traffic volumes, as well as any increase in traffic volume beyond 2015.

Of the eleven intersections evaluated three would have a degradation in their associated levels of service.

- The LOS would decrease from D to F at the 6th Street and Morgan Lane intersection.
- The LOS would decrease from B to F at the 7th Street and M Street intersection.
- The LOS would decrease from E to F at the Jacksonville Highway and Redwood Highway intersection.

Alternative 5

The improvements associated with Alternative 5 are illustrated in Figure 10. The roadway improvements in this scenario are the same as in Alternative 3, with the following enhancement:

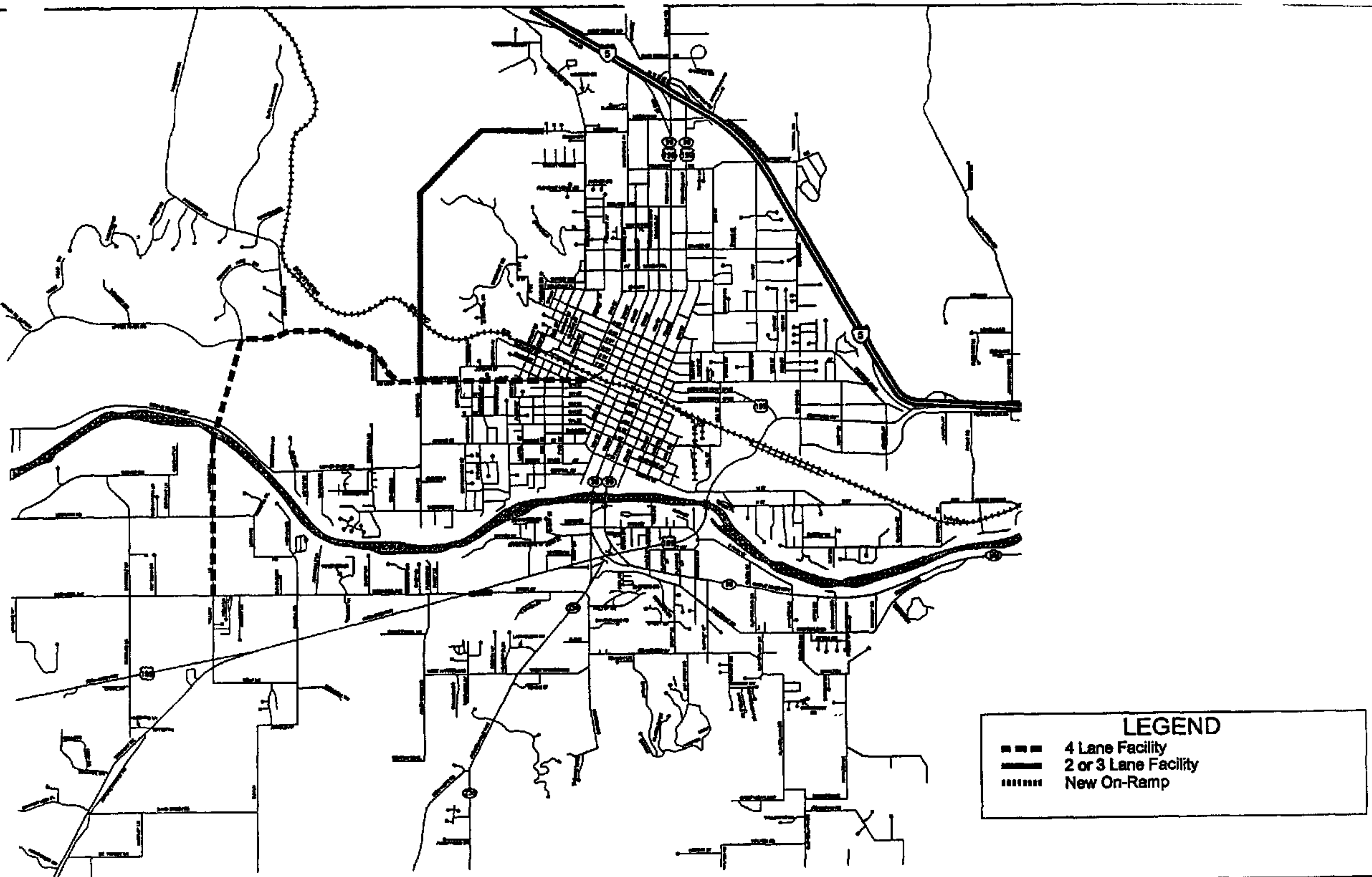
- Create a loop road by extending Morgan Lane west and then south to form an intersection with the Lincoln Road/River Loop Highway/G Street intersection.

Figure 11 illustrates the level of service associated with Alternative 5 improvements. Under Alternative 5, three roadway segments will operate at LOS C in 2015:

- **Redwood Highway:** Redwood Avenue to Fairgrounds Road;
- **Grants Pass Parkway:** Highway 199 Spur to Beacon Drive; and
- **7th Street:** Savage Street to A Street.

Two roadway segments will operate at LOS D in 2015:

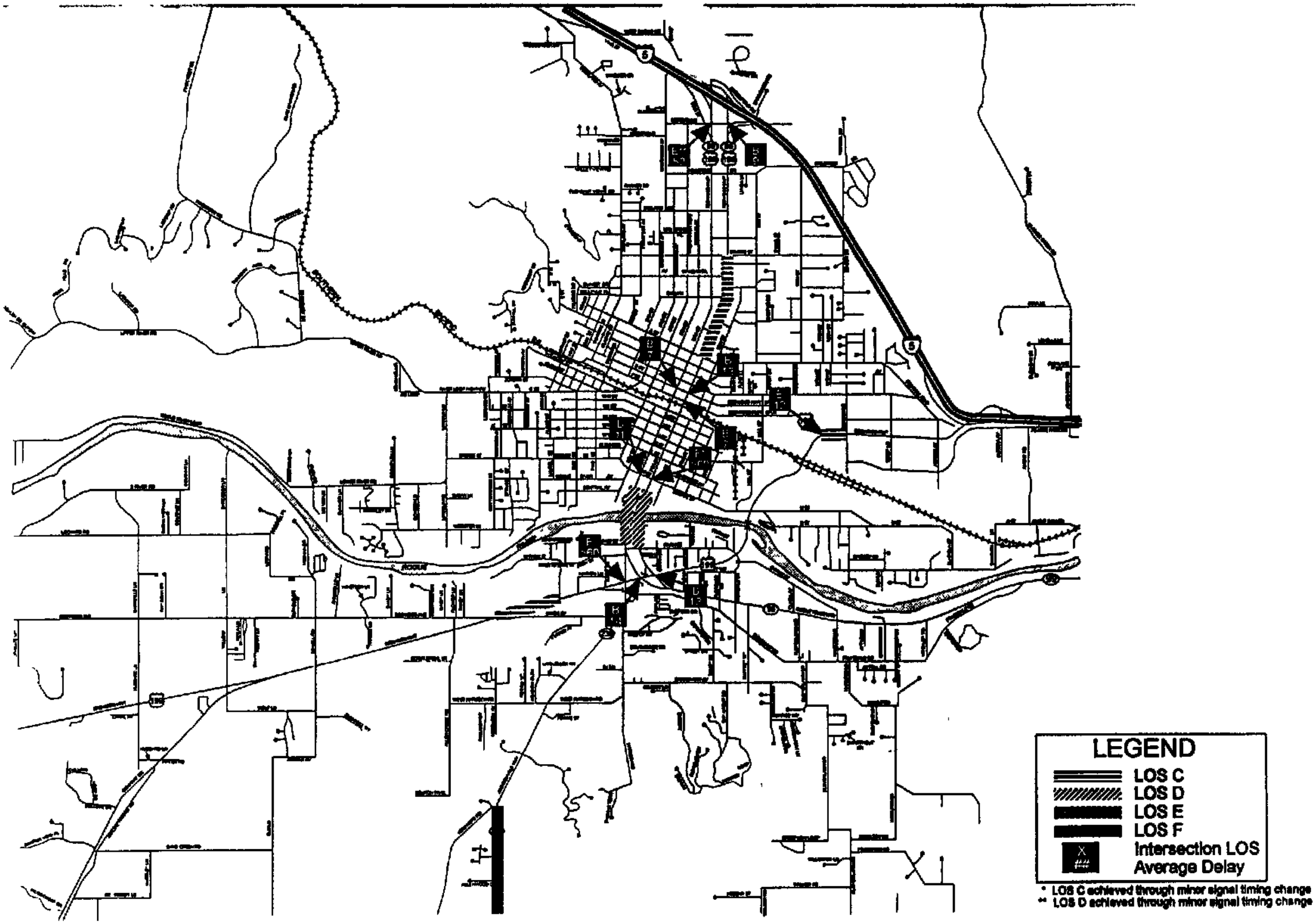
- **6th Street:** Voorhies Avenue to Lewis Avenue; and



KJS

Figure 10 - Improvements Included in Alternative 5

Grants Pass
Urban Area
Transportation Plan



KJS

Figure 11 - Congestion in Alternative 5

Grants Pass
Urban Area
Transportation Plan

- **7th Street:** Voorhies Avenue to Park Street.

One roadway segment will operate at LOS F in 2015:

- **Jacksonville Highway:** New Hope Road to the study area boundary.

No roadway segments will operate at LOS E in 2015 in Alternative 5.

This alternative results in some better levels of congestion reduction than are realized in Alternative 4. Although 7th Street operates at LOS C over a slightly longer segment--Savage Street to A Street in this alternative, versus LOS C from Evelyn Avenue to A Street in alternative 4--the LOS on Morgan Lane does not deteriorate beyond LOS B. The improvements to River Loop Highway/G Street in this alternative cause a shift in higher number of vehicles than the Foundry Street improvements associated with Alternative 4. As a result Morgan Lane and the new extension have lower traffic volumes and less congestion in this alternative. Approximately 1,000 fewer vehicles are diverted from the north sections of 6th and 7th Street to the Morgan Lane extension, accessing the new bridge instead via the improved River Loop Highway/G Street.

Approximately 4,000 vehicles per day shift from I-5 and Grants Pass Parkway to the new road/new bridge, while approximately 4,500 vehicles per day shift to the new bridge from the 6th Street bridge and approximately 4,000 vehicles per day shift from the 7th Street bridge.

As with Alternative 4, the traffic volume projections on the Morgan Lane extension suggest that it may need to be improved to at least 3 lanes to accommodate the projected traffic volumes, as well as any increase in traffic volume beyond 2015.

Of the eleven intersections evaluated three would have a degradation in their associated levels of service.

- The LOS would decrease from D to E at the 6th Street and Morgan Lane intersection. However, this can be mitigated through signal timing optimization as shown in Table 2.

- The LOS would decrease from B to F at the 7th Street and M Street intersection. However, this can be mitigated through signal timing optimization as shown in Table 2.

- The LOS would decrease from E to F at the Jacksonville Highway and Redwood Highway intersection.

Alternative 6

Alternative 6 includes the roadway assumptions listed below which are also illustrated in Figure 12:

- Reconfigure the Redwood Highway at 6th and 7th Streets such that the south "Y" interchange is grade separated;
- Extending Union Avenue west to the intersection of Redwood Avenue and the Redwood Highway;
- Addition of a new northbound on-ramp to I-5 from Scoville Road, consistent with the planned roadway improvements for the factory outlet center project; and
- Creation of a new service road on the north side of I-5 from Hillcrest Drive to Greenfield Road.

Figure 13 illustrates the level of service associated with Alternative 6 improvements. Under this scheme the following four roadway segments will operate at LOS C in 2015:

- **Redwood Highway:** Fairgrounds Road to Tussy Lane;
- **Bridge Street:** Oak Street to Division Street;
- **Grants Pass Parkway:** Highway 199 Spur to Beacon Drive; and
- **7th Street:** Hillcrest Lane to Midland Avenue, Savage Street to Jackson Street, M Street to Voorhies Avenue.

Two following roadway segments will operate at LOS D in 2015:

- **Redwood Highway:** Redwood Avenue to Fairgrounds Road; and
- **7th Street:** Jackson Street to A Street.

Three roadway segments will operate at LOS F in 2015:

- **Jacksonville Highway:** New Hope Road to the study area boundary;

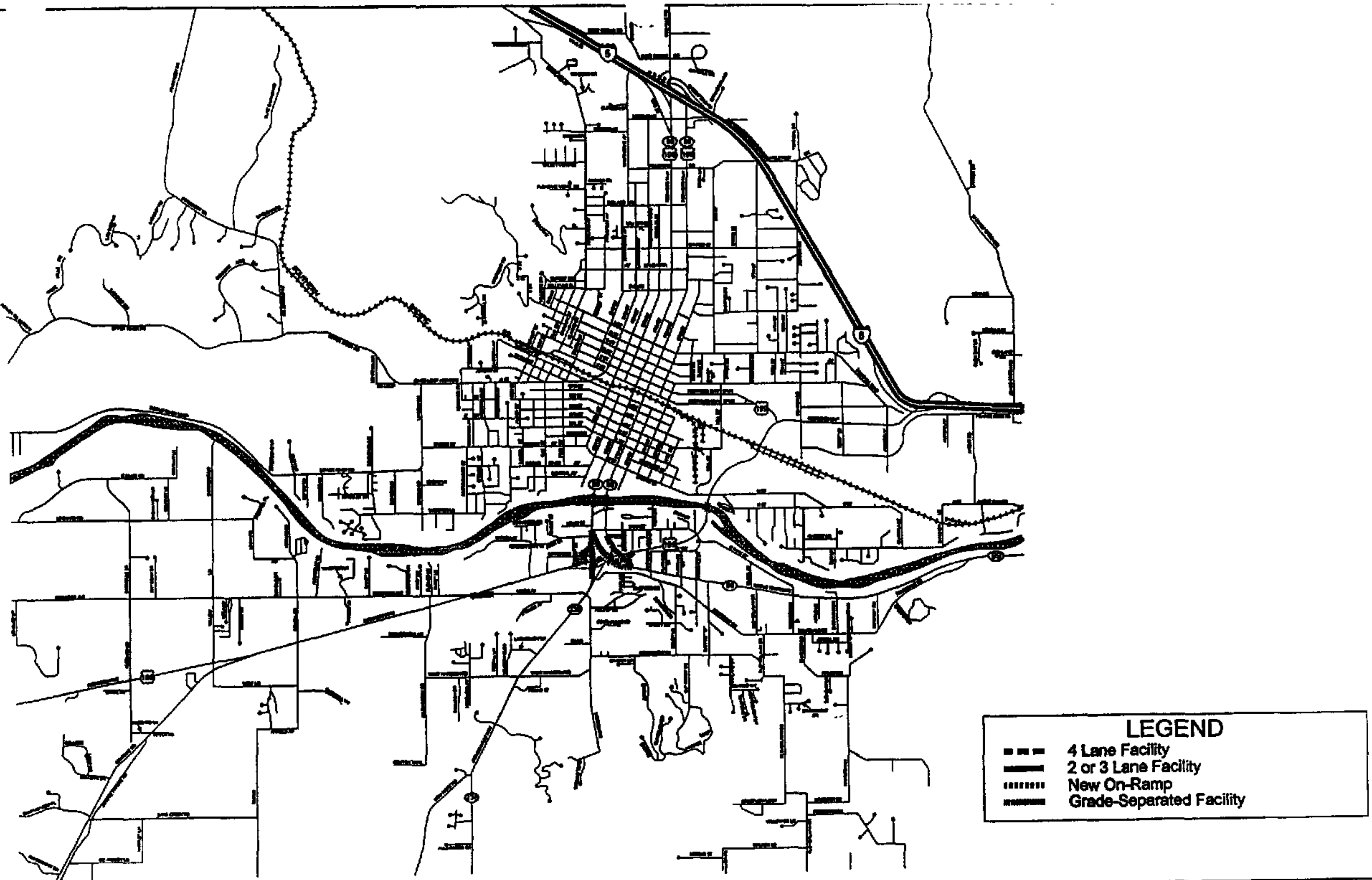
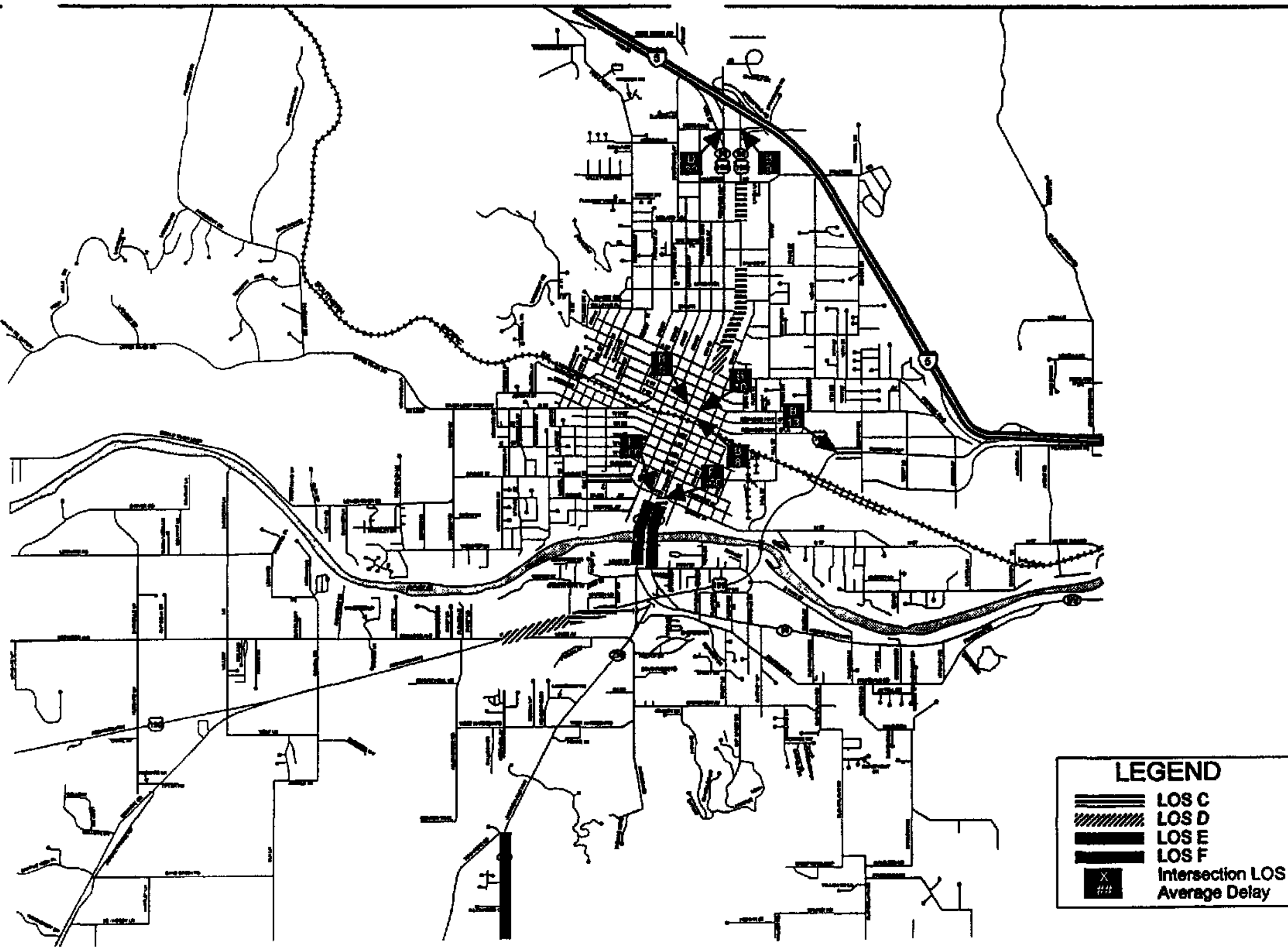


Figure 12 - Improvements Included in Alternative 6

Grants Pass
Urban Area
Transportation Plan



KJS

Figure 13 - Congestion in Alternative 6

Grants Pass
Urban Area
Transportation Plan

6th Street: Voorhies Avenue to Lewis Avenue; and

- **7th Street:** Voorhies Avenue to Park Street.

No roadway segments will operate at LOS E in 2015 in Alternative 6.

The improvements associated with Alternative 6 improvements are very similar to the No-Build Alternative because Alternative 6 does not add additional roadway capacity across the Rogue River. Though the improvements to the south "Y" interchange will improve traffic operations in that area, its effect on traffic volume shifts on roadways throughout the urban area are minimal. Volumes on Grants Pass Parkway, 6th, and 7th Street are virtually unchanged from the No Build Alternative.

Of the eleven intersections evaluated two would have a degradation in their associated levels of service.

- The LOS would decrease from B to F at the 6th Street and M Street intersection.

- The LOS would decrease from B to F at the 7th Street and M Street intersection.

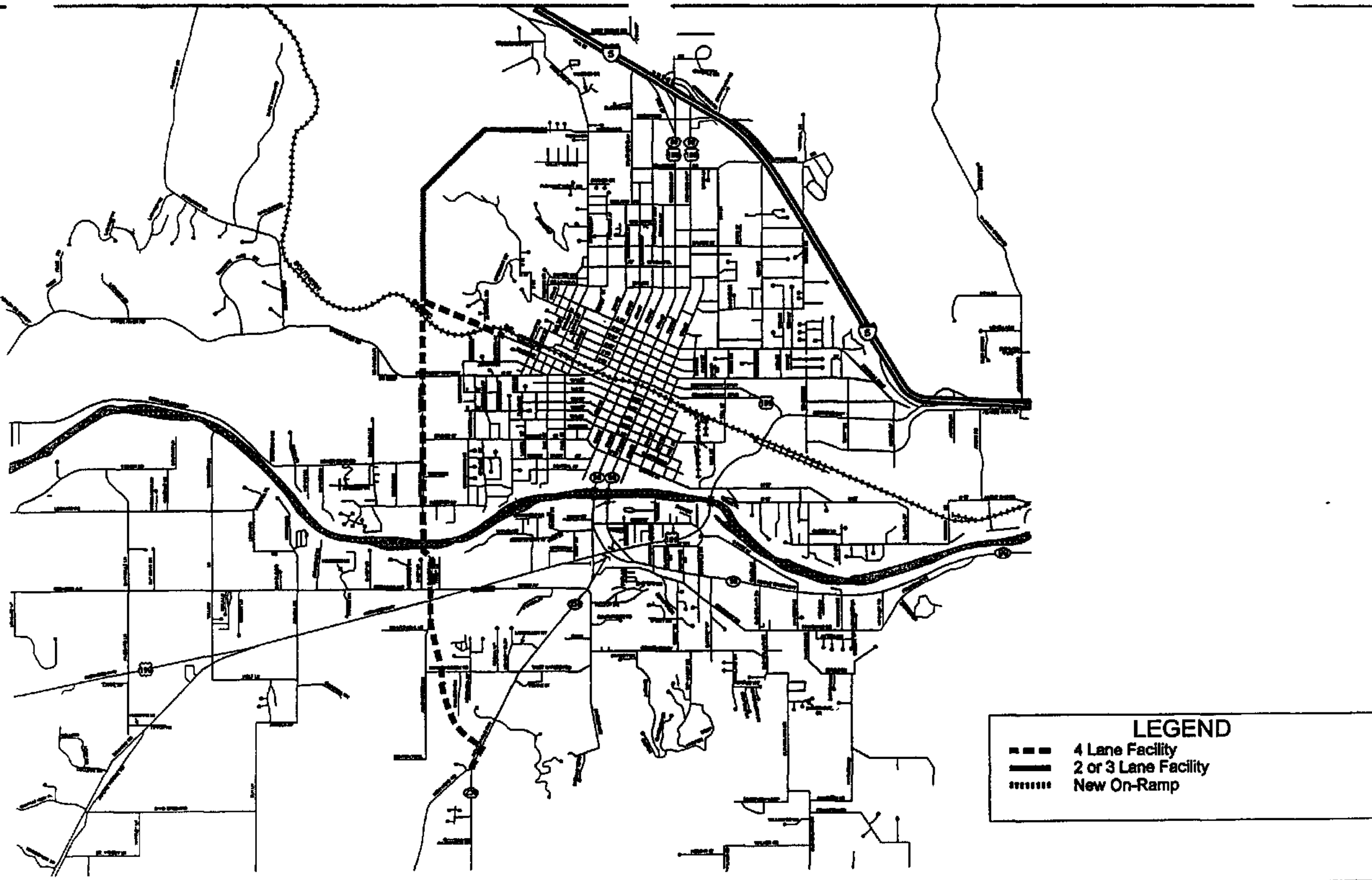
Alternative 7

The roadway improvements in Alternative 7, which are illustrated in Figure 14, are the same as those included in Alternative 4 with the following enhancements:

- Widening of Allen Creek Road from two to four lanes from Redwood Avenue to the vicinity of Schutzwohl Lane; and

- Construction of a new four lane road from the vicinity of Schutzwohl Lane to Jacksonville Highway in the vicinity of Mayfair Lane.

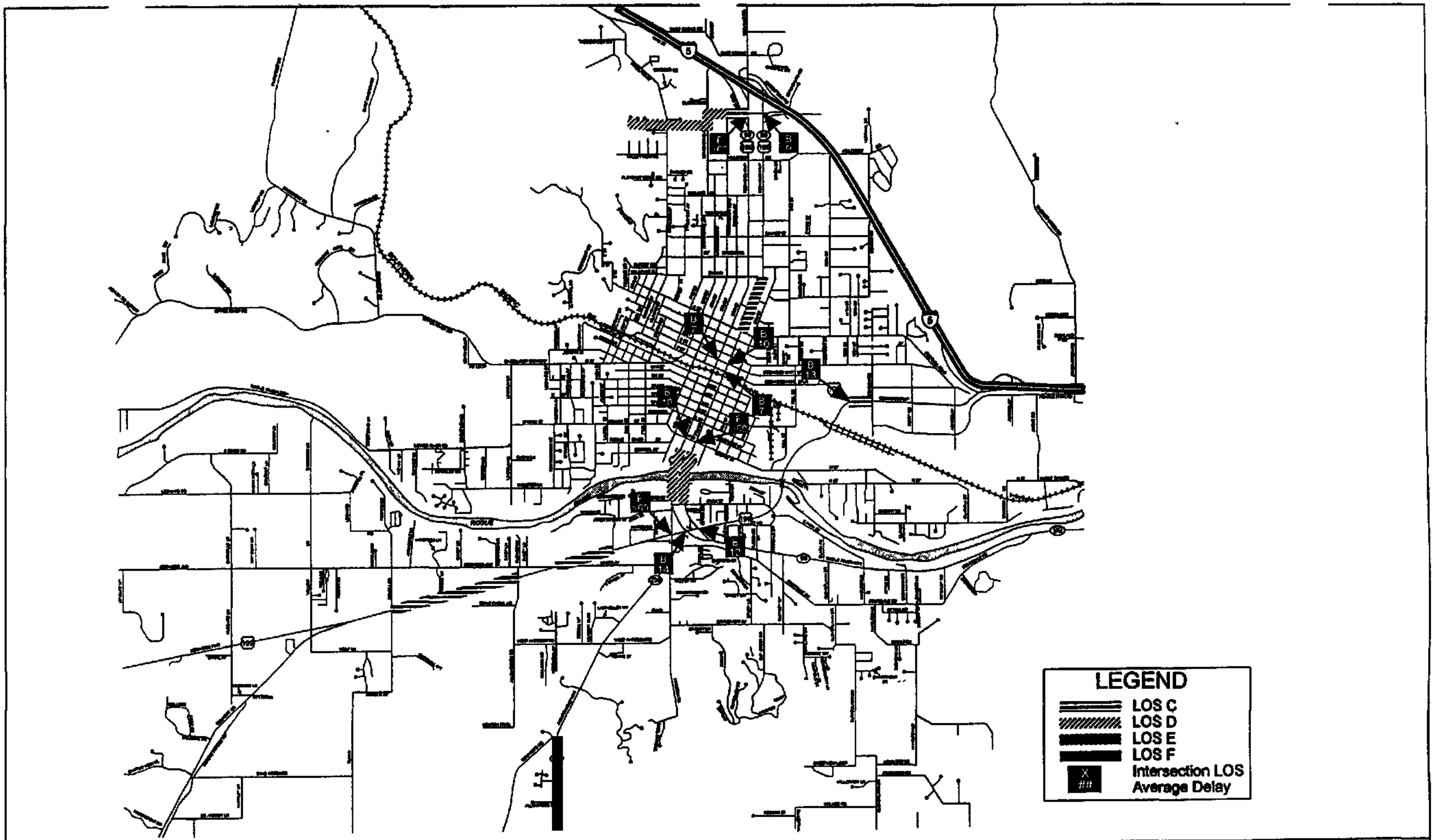
- Figure 15 illustrates the level of service associated with Alternative 7 improvements. Under this scheme, four roadway segments will operate at LOS C in 2015:



KJS

Figure 14 - Improvements Included in Alternative 7

Grants Pass
Urban Area
Transportation Plan



KJS

Figure 15 - Congestion in Alternative 7

Grants Pass
Urban Area
Transportation Plan

Redwood Highway: Dowell Road to Allen Creek Road, Redwood Avenue to Fairgrounds Road;

- **Morgan Lane:** Chandler Way to Highland Avenue, Washington Boulevard to 6th Street;
- **Grants Pass Parkway:** Highway 199 Spur to Beacon Drive; and
- **7th Street:** Evelyn Avenue to A Street.

Three roadway segments will operate at LOS D in 2015:

- **Morgan Lane:** Highland Avenue to Washington Boulevard;
- **6th Street:** Voorhies Avenue to Lewis Avenue; and
- **7th Street:** Voorhies Avenue to Park Street.

One roadway segments will operate at LOS F in 2015:

- **Jacksonville Highway:** New Hope Road to the study area boundary.

No roadway segments will operate at LOS E in 2015 in Alternative 4.

The reductions in congestion in this alternative are nearly identical to those that would be realized with the improvements tested in Alternative 4. The trips and associated traffic volumes on roadways throughout the urban area are projected to be within a few hundred vehicles of the projections identified under Alternative 4.

The improvements associated with this alternative result in a better levels of congestion reduction on the north end of 6th and 7th Street. Only the 7th Street segment from Evelyn Avenue to A Street operates worse than LOS B, because the new loop road helps to divert more traffic away from 6th and 7th Street. Approximately 3,500 vehicles per day are diverted from 6th Street and approximately 1,500 vehicles per day are diverted from 7th Street to the new loop road. The forecasts indicate that approximately 12,000 vehicles per day would be attracted to the loop road. However, the increase in traffic on the new loop roadway, causes the existing sections of Morgan Lane to experience increased levels of congestion, however. Environmental concerns may be encountered in this alternative due to a creek located in the proximity of the extension of Allen Creek Road to the Jacksonville Highway.

As was shown under Alternative 4, approximately 5,000 vehicles per day shift from I-5 and Grants Pass Parkway to the new road and new bridge, with an additional 5,000 vehicles per day shift to the new bridge from each of the 6th and 7th Street bridges.

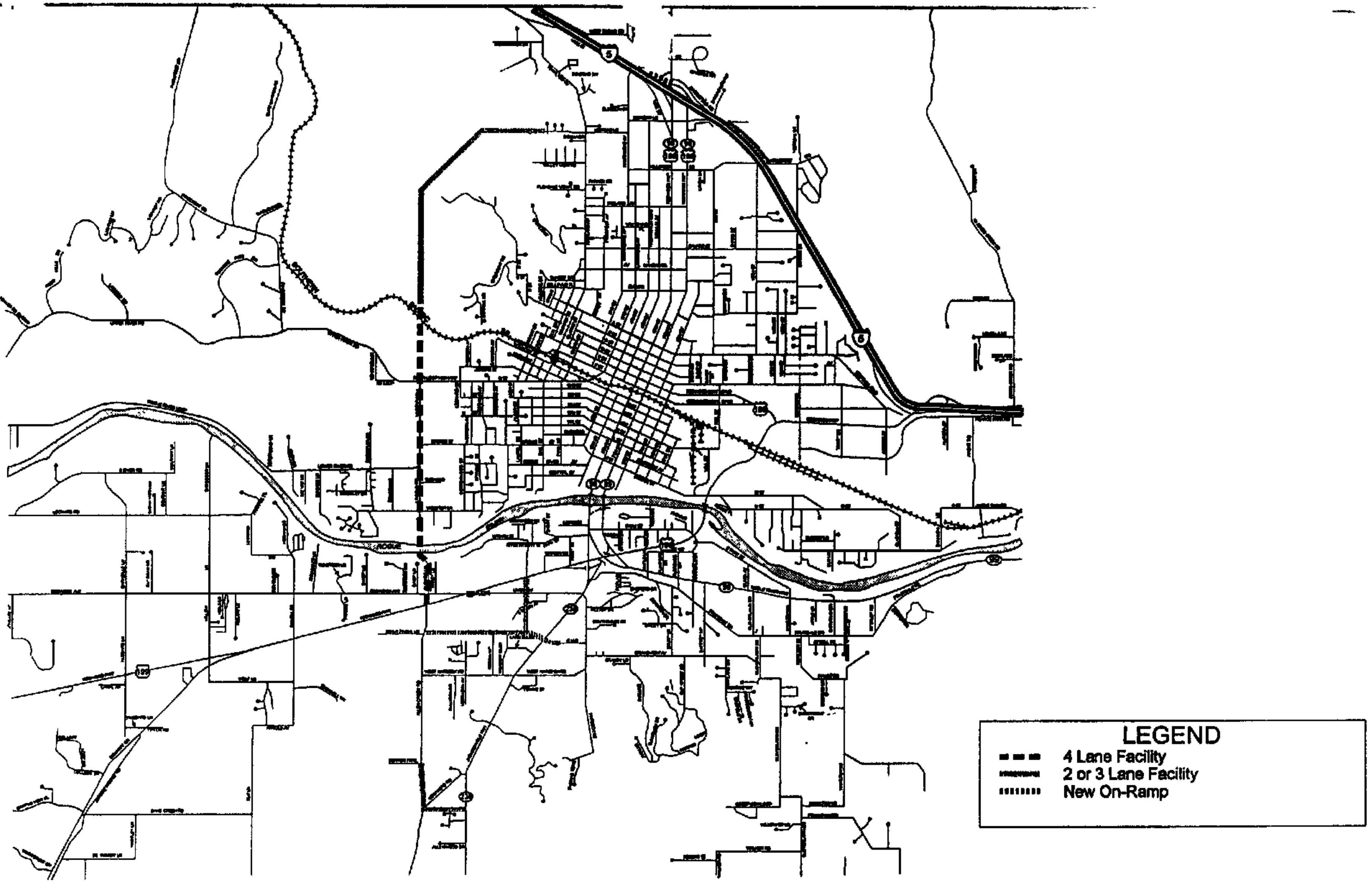
Of the eleven intersections evaluated three would have a degradation in their associated levels of service.

- The LOS would decrease from D to F at the 6th Street and Morgan Lane intersection.
- The LOS would decrease from B to F at the 7th Street and M Street intersection.
- The LOS would decrease from E to F at the Jacksonville Highway and Redwood Highway intersection.

Alternative 8

The roadway improvements in Alternative 8, which are illustrated in Figure 16, include the following:

- Create a loop road by extending Morgan Lane west and then south to form an intersection with the Lincoln Road/Foundry Street intersection.
- Construct a fourth bridge that extends north from the Flower Lane roadway alignment on the south side of the Rogue River to the Lincoln Lane alignment on the north side of the river;
- Widen Flower Lane and Lincoln Road from two to four lanes;
- Extend Allen Creek Road south to New Hope Road, then west to Jacksonville Highway;
- Construct a new 2 lane road from the Schutzwohl Lane/Allen Creek Road intersection east to GI Lane;
- Extend Ringuette Street south from Redwood Highway to the east-west road linking Schutzwohl Lane and GI Lane;



KJS

Figure 16 - Improvements included in Alternative 8

Grants Pass Urban Area Transportation Plan

- Extend Dimmick Street south across the railroad tracks to Foundry Street;
- Extend Union Avenue west to the intersection of Redwood Avenue and the Redwood Highway;
- Add a new northbound on-ramp to I-5 from Scoville Road, consistent with the planned roadway improvements for the factory outlet center project; and
- Create a new service road on the north side of I-5 from Hillcrest Drive to Greenfield Road.

Figure 17 illustrates the level of service associated with Alternative 8 improvements. Under the Alternative 8 scheme, the following four roadway segments will operate at LOS C in 2015:

- **Redwood Highway:** Dowell Road to Allen Creek Road, Redwood Avenue to Fairgrounds Road;
- **Morgan Lane:** Chandler Way to 6th Street;
- **Grants Pass Parkway:** Highway 199 Spur to Beacon Drive; and
- **7th Street:** Evelyn Avenue to Jackson Street.

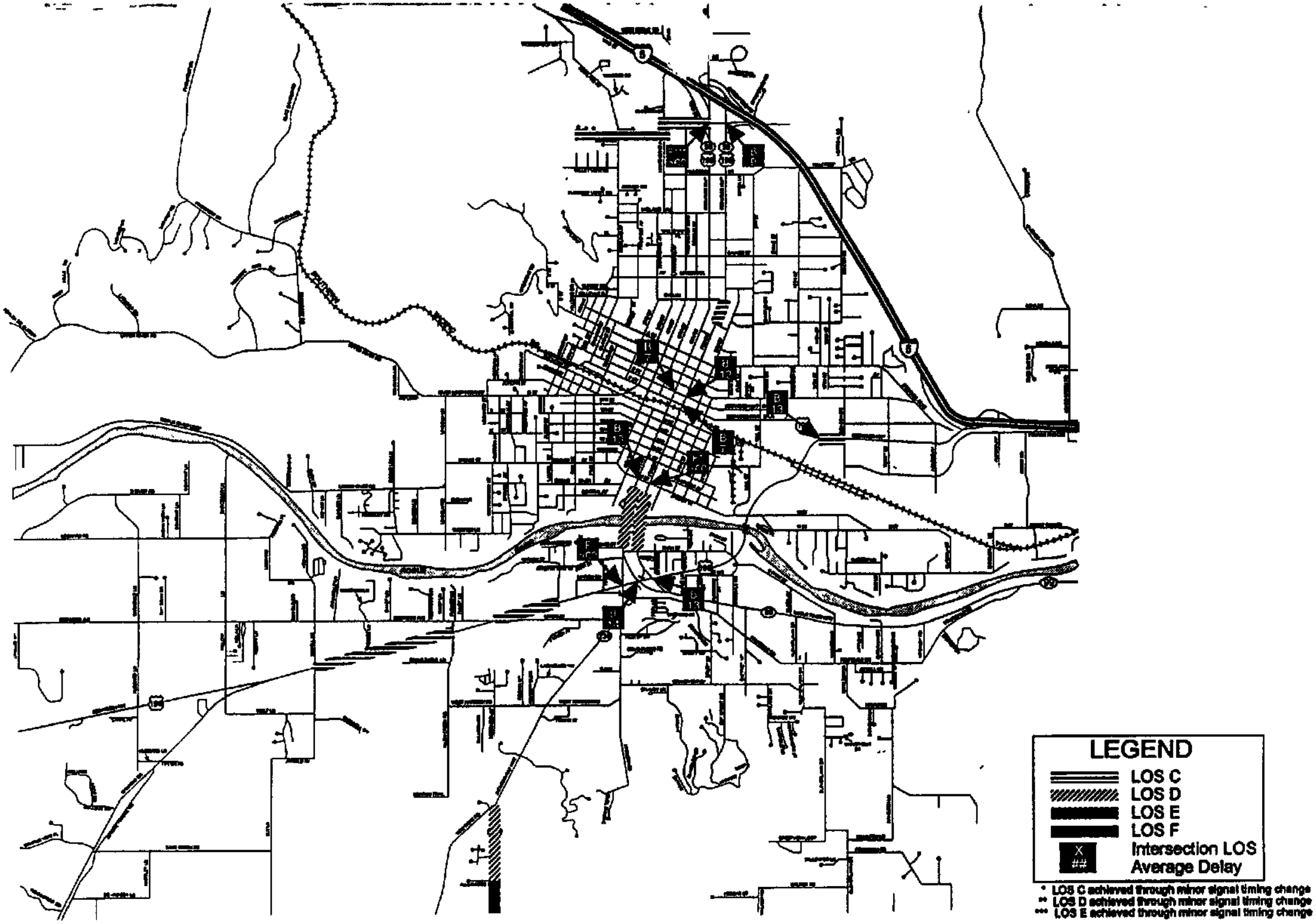
Three roadway segments will operate at LOS D in 2015 including:

- **Jacksonville Highway:** New Hope Road to Allenwood Drive;
- **6th Street:** Voorhies Avenue to Lewis Avenue; and
- **7th Street:** Voorhies Avenue to Park Street.

One roadway segment is projected to operate at LOS F in 2015:

- **Jacksonville Highway:** Allenwood Drive to the study area boundary.

No roadway segments are projected to operate at LOS E in 2015 with the improvements included in Alternative 8.



KJS

Figure 17 - Congestion in Alternative 8

Grants Pass
Urban Area
Transportation Plan

The improvements associated with this alternative result in less congestion and a higher degree of mobility than Alternative 5. This is particularly evident on Jacksonville Highway from the intersection of New Hope Road to Allenwood Drive and is due to the extension of Allen Creek Road itself. However, environmental difficulties may be encountered in association with the improvements recommended in this alternative due to the close proximity of the roadway alignment to the Highline Canal and Allen Creek.

The travel demand projections indicate approximately 5,000 vehicles per day would shift from I-5 and Grants Pass Parkway to the new road and new bridge combination, with an additional shift of about 5,000 vehicles per day from each of the 6th and 7th Street bridges.

Of the eleven intersections evaluated three would have a degradation in their associated levels of service.

- The LOS would decrease from D to F at the 6th Street and Morgan Lane intersection. However, this can be mitigated through signal timing optimization as shown in Table 2.

- The LOS would decrease from B to F at the 7th Street and M Street intersection. However, this can be mitigated through signal timing optimization as shown in Table 2.

- The LOS would decrease from E to F at the Jacksonville Highway and Redwood Highway intersection.

Conclusions

The evaluation of the null and eight build alternatives, from a strictly vehicular traffic/congestion reduction perspective, do allow for a ranking of which provide the greatest level of this type of benefit. However, the full impact of each alternative in terms of feasibility, costs, public acceptance and likelihood of funding have not been assessed. However, this preliminary analysis does provide guidance on which alternatives should be carried into the next level of project evaluation and plan development. Based on the analysis discussed in the preceding sections the eight build alternatives are ranked as follows from best to worst.

1. Alternative 8;
2. Alternative 5
3. Alternative 4
4. Alternative 7 (tie with Alternative 4)
5. Alternative 1
6. Alternative 3 (tie with Alternative 1)
7. Alternative 2
8. Alternative 6

			2015 Alternative Run Assignments																									
			No Build Alternative			Alternative 1			Alternative 2			Alternative 3			Alternative 4			Alternative 5			Alternative 6			Alternative 7			Alternative 8		
Street Name	Segment Name (From)	Segment Name (To)	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
Pine Crest Dr.	Blitz Canyon Rd.	Upper River Road	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A	4,603	0.21	A
Upper River Road	Lathrop	Pinecrest	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A	4,729	0.22	A
Upper River Road	Pinecrest	Leonard St.	8,574	0.40	A	8,768	0.41	A	8,774	0.41	A	15,248	0.32	A	8,799	0.41	A	5,988	0.13	A	8,574	0.40	A	8,808	0.41	A	8,806	0.41	A
Upper River Road	Leonard St.	Wildwood Ave	11,540	0.53	B	16,653	0.35	A	15,753	0.73	C	17,823	0.38	A	11,313	0.52	B	12,536	0.27	A	10,985	0.51	B	11,065	0.51	B	11,004	0.51	B
Upper River Road	Wildwood Ave	Oak St	10,421	0.48	B	16,230	0.34	A	16,373	0.76	C	18,012	0.38	A	11,709	0.54	B	13,122	0.28	A	9,555	0.44	B	11,472	0.53	B	11,514	0.53	B
Upper River Road	Oak St	Pine St	11,422	0.53	B	18,761	0.40	A	17,904	0.83	D	19,543	0.41	B	13,240	0.61	B	14,853	0.31	A	10,876	0.50	B	13,003	0.60	B	13,058	0.60	B
Upper River Road	Pine St	Foundry St	11,771	0.54	B	19,760	0.42	B	19,587	0.91	D	20,514	0.43	B	14,068	0.65	B	14,069	0.30	A	11,353	0.53	B	13,916	0.64	B	10,552	0.49	B
Redwood Hwy.	Dawn Dr.	Hubbard Ln.	14,996	0.32	A	15,000	0.32	A	15,000	0.32	A	15,000	0.32	A	15,000	0.32	A	15,000	0.32	A	14,996	0.32	A	15,000	0.32	A	15,000	0.32	A
Redwood Hwy.	Hubbard Ln.	Willow Ln.	15,684	0.33	A	17,458	0.37	A	17,500	0.37	A	15,790	0.33	A	17,610	0.37	A	15,574	0.33	A	17,502	0.37	A	17,747	0.38	A	17,652	0.37	A
Redwood Hwy.	Willow Ln.	Demaray Dr.	22,272	0.47	B	22,602	0.48	B	22,565	0.48	B	18,370	0.39	A	22,634	0.48	B	16,853	0.35	A	22,376	0.47	B	22,633	0.48	B	22,733	0.48	B
Redwood Hwy.	Demaray Dr.	Dowell Rd.	28,469	0.60	B	29,363	0.62	B	29,452	0.62	B	23,721	0.50	B	29,615	0.63	B	22,219	0.47	B	28,667	0.61	B	29,960	0.63	B	29,856	0.63	B
Redwood Hwy.	Dowell Rd.	Allen Creek Rd.	30,359	0.64	B	31,440	0.67	B	31,560	0.67	B	25,765	0.55	B	31,671	0.67	C	24,233	0.51	B	30,558	0.65	B	32,122	0.68	C	32,050	0.68	C
Redwood Hwy.	Allen Creek Rd.	Redwood Ave.	25,789	0.55	B	21,581	0.46	B	21,793	0.46	B	22,168	0.47	B	19,244	0.41	A	20,680	0.44	B	21,000	0.44	B	19,023	0.40	A	18,360	0.39	A
Redwood Hwy.	Redwood Ave.	Fairgrounds Rd.	41,334	0.88	D	34,946	0.74	C	34,406	0.73	C	34,152	0.72	C	33,033	0.70	C	32,064	0.68	C	42,006	0.89	D	31,790	0.67	C	31,781	0.67	C
Redwood Hwy.	Fairgrounds Rd.	Rinquette St.	36,276	0.77	C	30,774	0.65	B	30,256	0.64	B	30,102	0.64	B	28,541	0.60	B	28,240	0.60	B	37,060	0.79	C	29,304	0.62	B	29,565	0.63	B
Redwood Hwy.	Rinquette St.	Tussy Ln.	36,432	0.77	C	30,614	0.65	B	30,109	0.64	B	30,170	0.64	B	28,808	0.61	B	28,263	0.60	B	37,251	0.79	C	27,838	0.59	B	27,715	0.59	B
Redwood Hwy.	Tussy Ln.	6th St	25,604	0.54	B	21,019	0.45	B	21,354	0.45	B	20,950	0.44	B	19,917	0.42	B	19,666	0.42	B	27,233	0.58	B	19,119	0.41	A	18,568	0.39	A
Redwood Hwy.	6th St	Hwy 238 6th/7th Interc	27,055	0.57	B	24,020	0.51	B	24,086	0.51	B	23,936	0.51	B	23,587	0.50	B	23,489	0.50	B	29,247	0.62	B	23,020	0.49	B	22,892	0.49	B
Redwood Hwy	Hwy 238 6th/7th Interchan	Interchange to 7th St.	28,810	0.61	B	24,205	0.51	B	24,434	0.52	B	24,257	0.51	B	23,667	0.50	B	23,931	0.51	B	30,316	0.64	B	23,109	0.49	B	23,081	0.49	B
Willow Ln	Jerome Prairie Rd.	Redwood Ave.	2,370	0.15	A	2,254	0.14	A	2,264	0.14	A	6,233	0.38	A	2,165	0.13	A	8,687	0.54	B	2,332	0.14	A	2,182	0.13	A	2,178	0.13	A
Willow Ln.	Redwood Ave.	Leonard Ln.	2,332	0.14	A	2,198	0.14	A	2,582	0.16	A	4,813	0.30	A	2,526	0.16	A	7,501	0.46	B	2,422	0.15	A	1,137	0.07	A	2,628	0.16	A
Allen Creek Rd	Redwood Ave	Redwood Hwy.	2,679	0.12	A	10,165	0.47	B	10,032	0.46	B	3,434	0.16	A	13,616	0.63	B	3,404	0.16	A	2,641	0.12	A	16,221	0.34	A	15,577	0.33	A
Allen Creek Rd.	Redwood Hwy.	Denton Trail	5,226	0.24	A	5,350	0.25	A	5,347	0.25	A	5,107	0.24	A	5,839	0.27	A	5,033	0.23	A	4,911	0.23	A	11,299	0.24	A	10,172	0.22	A
Jacksonville Hwy	Lark Ellen Way.	West Harbeck Rd.	24,651	0.52	B	22,865	0.48	B	22,957	0.49	B	23,067	0.49	B	22,392	0.47	B	23,121	0.49	B	24,047	0.51	B	22,742	0.48	B	22,108	0.47	B
Jacksonville Hwy	West Harbeck Rd.	Mayfair Ln.	25,940	0.55	B	26,102	0.55	B	26,092	0.55	B	26,062	0.55	B	26,074	0.55	B	26,074	0.55	B	25,960	0.55	B	16,723	0.35	A	19,983	0.42	B
Jacksonville Hwy	Mayfair Ln.	New Hope Rd	25,218	0.53	B	25,314	0.54	B	25,302	0.54	B	25,286	0.54	B	25,300	0.54	B	25,296	0.54	B	25,226	0.53	B	25,906	0.55	B	19,179	0.41	A
Jacksonville Hwy.	New Hope Rd	Allenwood Dr.	17,443	1.56	F	17,501	1.57	F	17,493	1.57	F	17,483	1.57	F	17,491	1.57	F	17,491	1.57	F	17,441	1.56	F	17,825	1.60	F	10,045	0.90	D
Jacksonville Hwy	Allenwood Dr.	Extends beyond study	16,210	1.45	F	16,328	1.46	F	16,326	1.46	F	16,320	1.46	F	16,364	1.47	F	16,324	1.46	F	16,310	1.46	F	16,440	1.47	F	16,980	1.52	F
Bridge St.	Lincoln Ln.	Way Spruce St.	8,494	0.39	A	6,131	0.28	A	5,568	0.26	A	5,746	0.27	A	4,951	0.23	A	6,512	0.30	A	9,031	0.42	B	5,541	0.26	A	5,259	0.24	A
Bridge St.	Way Spruce St.	Greenwood Ave	11,781	0.55	B	7,453	0.35	A	6,930	0.32	A	7,836	0.36	A	6,054	0.28	A	7,907	0.37	A	12,284	0.57	B	5,866	0.27	A	5,693	0.26	A
Bridge St.	Greenwood Ave.	Oak St.	11,841	0.55	B	7,540	0.35	A	6,986	0.32	A	8,000	0.37	A	6,124	0.28	A	7,905	0.37	A	12,187	0.56	B	5,616	0.26	A	5,398	0 25	A
Bridge St.	Oak St.	Division St	14,757	0.68	C	9,560	0.44	B	9,257	0.43	B	10,492	0.49	B	8,289	0.38	A	11,852	0.55	B	14,864	0.69	C	7,731	0.36	A	10,818	0.50	B
Highland Ave	Valley View Rd.	Midland Ave.	7,169	0.33	A	7,128	0.33	A	7,352	0.34	A	7,107	0.33	A	3,037	0.14	A	2,047	0.09	A	7,182	0.33	A	2,836	0.13	A	3,546	0.16	A
Highland Ave.	Midland Ave.	Starlite Pl.	5,438	0.25	A	5,542	0.26	A	5,767	0.27	A	5,462	0.25	A	4,001	0.19	A	3,059	0.14	A	5,556	0.26	A	3,816	0.18	A	4,536	0.21	A
Highland Ave.	Starlite Pl.	Savage St.	5,422	0.25	A	5,676	0.26	A	5,882	0.27	A	5,587	0.26	A	3,302	0.15	A	2,520	0.12	A	5,672	0.26	A	3,121	0.14	A	4,150	0.19	A
Highland Ave.	Savage St.	Bellevue Pl.	5,473	0.25	A	5,636	0.26	A	5,833	0.27	A	5,527	0.26	A	3,294	0.15	A	2,510	0.12	A	5,573	0.26	A	3,114	0.14	A	4,586	0.21	A
Morgan Ln.	Chandler Way	Washington Blvd.		0.00	A		0.00	A		0.00	A		0.00	A	13,594	0.84	D		0.00	A		0.00	A	13,261	0.82	D	11,790	0.73	C
Morgan Ln.	Washington Blvd.	Vine St.	5,776	0.36	A	5,577	0.34	A	5,283	0.33	A	5,343	0.33	A	12,117	0.75	C	9,728	0.60	B	5,139	0.32	A	11,767	0.73	C	11,688	0.72	C
Morgan Ln.	Vine St.	6th St	7,256	0.45	B	7,019	0.43	B	6,901	0.43	B	7,271	0.45	B	12,798	0.79	C	10,209	0.63	B	6,741	0.42	B	12,344	0.76	C	11,846	0.73	C
Morgan Ln.	6th St	7th St	5,591	0.35	A	4,875	0.30	A	4,858	0.30	A	5,784	0.36	A	7,260	0.45	B	5,807	0.36	A	5,174	0.32	A	6,816	0.42	B	6,352	0.39	A
Morgan Ln.	7th St	Interstate 5	4,459	0.28	A	4,453	0.27	A	4,412	0.27	A	4,448	0.27	A	4,239	0.26	A	4,200	0.26	A	4,367	0.27	A	4,247	0.26	A	4,226	0.26	A
Hillcrest Dr.	Washington Blvd.	6th St	3,960	0.24	A	3,804	0.23	A	3,930	0.24	A	3,941	0.24	A	3,859	0.24	A	4,164	0.26	A	3,960	0.24	A	3,889	0.24	A	3,787	0.23	A
Hillcrest Dr.	6th St	7th St	5,322	0.33	A	5,300	0.33	A	5,378	0.33	A	5,247	0.32	A	5,949	0.37	A	5,447	0.34	A	5,852	0.36	A	6,156	0.38	A	4,194	0.26	A
Hillcrest Dr	7th St	9th St	3,414	0.21	A	3,058	0.19	A	3,169	0.20	A	3,084	0.19	A	3,068	0.19	A	2,704	0.17	A	2,870	0.18	A	3,062	0.19	A	3,071	0.19	A
Hillcrest Dr.	9th St	10th St	3,509	0.22	A	3,164	0.20	A	3,274	0.20	A	3,190	0.20	A	3,192	0.20	A	2,702	0.17	A	3,067	0.19	A	3,184	0.20	A	3,196	0.20	A
Hillcrest Dr.	10th St	Sunset Ln	2,250	0.14	A	2,180	0.13	A	2,179	0.13	A	2,172	0.13	A	2,154	0.13	A	2,132	0.13	A	2,126	0.13	A	2,084	0.13	A	2,117	0.13	A
Savage St.	Washington Blvd	6th St	3,039	0.19	A	1,989	0.12	A	2,578	0.16	A	2,930	0.18	A	2,701	0.17	A	1,924	0.12	A	2,657	0.16	A	2,462	0.15	A	3,084	0.19	A
Savage St.	6th St	7th St	5,298	0.33	A	4,773	0.29	A	4,874	0.30	A	4,969	0.31	A	4,781	0.30	A	5,196	0.32	A	5,066	0.31	A	4,656	0.28	A	4,890	0.30	A
Savage St.	7th St	9th St	3,904	0.24	A	3,756	0.23	A	3,654	0.23	A	3,718	0.23	A	3,638	0.22	A	4,124	0.25	A	3,837	0.24	A	3,657	0.23	A	3,653	0.23	A
Savage St.	9th St	10th St	2,027	0.13	A	2,071	0.13	A	2,092	0.13	A	2,063	0.13	A	2,020	0.12	A	1,918	0.12	A	2,004	0.12	A	2,025	0.13	A	2,023	0.12	A
A St	Grant St	Kinney St	5,473	0.25	A	5,636	0.26	A	5,833	0.27	A	5,527	0.26	A	3,294	0.15	A	2,610	0.12	A	5,573	0.26	A	3,114	0.14	A	481	0.02	A
A St	Kinney St	4th St	6,076	0.28	A	6,084	0.28	A	6,658	0.31	A	5,993	0.28	A	3,658	0.17	A	3,061	0.14	A	6,128	0.28	A	3,551	0.16	A	1,795	0.08	A
A St	4th St	6th St	7,968	0.37	A	6,737	0.31	A	5,948	0.28	A	7,225	0.33	A	5,733	0.27	A	5,041	0.23	A	7,782	0.36	A	5,479	0.25	A	3,811	0.18	A
A St	6th St	7th St	8,916	0.41	B	8,740	0.40	A	8,771	0.41	A	8,995	0.42	B	8,413	0.39	A	8,123	0.38	A	9,073	0.42	B	8,196	0.38	A	7,991	0.37	A
A St	7th St	Dean Dr	8,953	0.41	B	9,459	0.44	B	9,389	0.43	B	9,324	0.43	B	9,378	0.43	B	8,420	0.39	A	8,904	0.41	B	9,498	0.44	B	9,568	0.44	B
A St	Dean Dr	9th St	7,728	0.36	A	8,248	0.38	A	8,183	0.38	A	8,135	0.38	A	8,159	0.38	A	7,041	0.33	A	7,684	0.36	A	8,281	0.38	A	8,354	0.39	A
A St	9th St	North 10th St	6,433	0.30	A	6,294	0.29	A	5,935	0.27	A	6,273	0.29	A	5,631	0.26	A	8,400	0.39	A	6,362	0.30	A	5,584	0.26	A	5,516	0.26	A
A St	North 10th St	Beacon Dr	6,155	0.28	A	5,385	0.25	A	5,013	0.23	A	5,436	0.25	A	4,611	0.21	A	5,640	0.26	A	6,064	0.28	A	4,556	0.21	A	4,377	0.20	A
A St	Beacon Dr	Foothill	2,631	0.12	A	2,533	0.12	A	2,424	0.11	A	2,399	0.11	A	2,284	0.11	A	2,204	0.10	A	2,552	0.12	A	2,236	0.10	A	2,294	0.11	A
E St	Grant St	4th St	4,879	0.23	A	8,706	0.40	A	8,036	0.37	A	9,036	0.42	B	4,222	0.20	A	5,340	0.25	A	4,645	0.22	A	4,211	0.19	A	4,158	0.19	A
E St	4th St	6th St	5,636	0.26	A	7,112	0.33	A	6,797	0.31	A	6,779	0.31	A	4,508	0.21	A	5,452	0.25	A	5,840	0.27	A	4,412	0.20	A	4,404	0.20	A
E St	6th St	7th St	7,562	0.35	A	6,186	0.29	A	7,514	0.35	A	7,770	0.36	A	7,418	0.34	A	7,644	0.36	A	7,620	0.35	A	7,402	0.34	A	7,645	0.35	A
E St	7th St	9th St	8,076	0.45	B	7,605	0.43	B	8,217	0.46	B	8,056	0.45	B	8,348	0.47	B	8,950	0.50	B	7,948	0.45	B	8,132	0.46	B	8,682	0.49	B
E St	9th [illegible]	Mill St	8,477	0.42	B	7,976	0.40	A	8,057	0.40	A	[illegible]	0.42	B	8,276	0.41	B	8,459	0.42	B	8,451	0.42	B	8,236	0.41	B	[illegible]	0.41	A

			2015 Alternative Run Assignments																									
			No Build Alternative			Alternative 1			Alternative 2			Alternative 3			Alternative 4			Alternative 5			Alternative 6			Alternative 7			Alternative 8		
Street Name	Segment Name (From)	Segment Name (To)	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
E St	Mill St	F St	11,945	0.60	B	11,695	0.58	B	11,756	0.59	B	11,612	0.58	B	12,050	0.60	B	11,966	0.60	B	11,996	0.60	B	12,081	0.60	B	12,163	0.61	B
F St	3rd St	6th St	6,033	0.28	A	7,707	0.36	A	7,391	0.34	A	8,285	0.38	A	4,801	0.22	A	5,715	0.26	A	6,355	0.29	A	4,707	0.22	A	4,628	0.21	A
F St	6th St	7th St	8,637	0.40	A	8,841	0.41	A	10,076	0.47	B	10,877	0.50	B	7,876	0.36	A	8,102	0.38	A	8,645	0.40	A	7,378	0.34	A	7,044	0.33	A
F St	7th St	9th St	7,526	0.42	B	7,016	0.39	A	7,185	0.40	A	7,367	0.41	B	7,644	0.43	B	7,815	0.44	B	7,175	0.40	A	7,394	0.41	B	7,689	0.43	B
F St	9th St	Mill St	7,629	0.38	A	7,785	0.39	A	7,935	0.40	A	8,029	0.40	A	7,833	0.39	A	7,915	0.40	A	7,621	0.38	A	7,733	0.39	A	7,748	0.39	A
F St	Mill St	E St	8,514	0.43	B	8,654	0.43	B	8,724	0.44	B	8,758	0.44	B	8,816	0.44	B	8,949	0.45	B	8,398	0.42	B	8,686	0.43	B	8,831	0.44	B
M St	4th St	6th St	11,854	0.55	B	7,733	0.36	A	8,066	0.37	A	9,356	0.43	B	8,247	0.38	A	10,163	0.47	B	12,020	0.56	B	8,189	0.38	A	9,026	0.42	B
M St	6th St	7th St	11,789	0.54	B	10,230	0.47	B	10,424	0.48	B	10,748	0.50	B	10,721	0.50	B	11,441	0.53	B	11,768	0.54	B	10,383	0.48	B	10,944	0.51	B
M St	7th St	9th St	8,649	0.40	A	10,897	0.50	B	10,529	0.49	B	10,061	0.47	B	10,491	0.49	B	6,940	0.32	A	8,343	0.39	A	9,895	0.46	B	10,157	0.47	B
M St	9th St	10th St	8,002	0.37	A	7,817	0.36	A	7,774	0.36	A	7,831	0.36	A	7,959	0.37	A	7,998	0.37	A	7,783	0.36	A	8,059	0.37	A	8,000	0.37	A
M St	10th St	12th St	7,101	0.33	A	7,467	0.35	A	7,466	0.35	A	7,487	0.35	A	7,709	0.36	A	7,630	0.35	A	7,740	0.36	A	7,770	0.36	A	7,775	0.36	A
M St	12th St	N St	11,457	0.53	B	11,459	0.53	B	11,465	0.53	B	11,461	0.53	B	11,466	0.53	B	11,456	0.53	B	11,439	0.53	B	11,467	0.53	B	11,477	0.53	B
M St	N St	N St	9,847	0.46	B	9,847	0.46	B	9,851	0.46	B	9,849	0.46	B	9,851	0.46	B	9,847	0.46	B	9,837	0.46	B	9,851	0.46	B	9,857	0.46	B
Grants Pass Park	7th St	Parkdale Dr	23,153	0.49	B	20,026	0.42	B	19,663	0.42	B	20,123	0.43	B	18,870	0.40	A	19,643	0.42	B	23,070	0.49	B	18,769	0.40	A	18,709	0.40	A
Grants Pass Park	Parkdale Dr	M St	28,823	0.61	B	25,224	0.53	B	25,256	0.54	B	25,630	0.54	B	23,820	0.50	B	24,799	0.53	B	28,890	0.61	B	23,625	0.50	B	23,524	0.50	B
Grants Pass Park	M St	Hwy 199 Spur	26,963	0.57	B	25,810	0.55	B	25,815	0.55	B	25,916	0.55	B	24,347	0.52	B	25,020	0.53	B	26,954	0.57	B	24,521	0.52	B	23,956	0.51	B
Grants Pass Park	Hwy 199 Spur	Beacon Dr	36,103	0.76	C	34,950	0.74	C	34,984	0.74	C	35,146	0.74	C	33,898	0.72	C	34,772	0.74	C	36,014	0.76	C	34,027	0.72	C	33,659	0.71	C
Grants Pass Park	Beacon Dr	Terry Ln	27,072	0.57	B	26,854	0.57	B	27,381	0.58	B	27,027	0.57	B	26,232	0.56	B	26,399	0.56	B	27,076	0.57	B	26,224	0.56	B	26,164	0.55	B
Grants Pass Park	Terry Ln	Agnes Ave	22,325	0.47	B	22,032	0.47	B	22,191	0.47	B	22,057	0.47	B	21,223	0.45	B	20,871	0.44	B	22,346	0.47	B	21,153	0.45	B	20,878	0.44	B
Grants Pass Park	Agnes Ave	I-5	28,763	0.61	B	27,605	0.58	B	27,700	0.59	B	27,860	0.59	B	26,259	0.56	B	26,470	0.56	B	29,065	0.62	B	26,350	0.56	B	26,097	0.55	B
6th St	Begins at I-5	Vine St	17,231	0.37	A	17,095	0.36	A	17,095	0.36	A	17,130	0.36	A	17,482	0.37	A	17,388	0.37	A	16,461	0.35	A	17,478	0.37	A	17,548	0.37	A
6th St	Vine St	Hillcrest Ln	15,106	0.62	B	15,508	0.64	B	15,429	0.64	B	15,462	0.64	B	13,025	0.54	B	13,529	0.56	B	14,787	0.61	B	12,863	0.53	B	12,822	0.53	B
6th St	Hillcrest Ln	Midland Ave	16,197	0.67	B	16,793	0.69	C	16,725	0.69	C	16,748	0.69	C	14,281	0.59	B	15,274	0.63	B	16,034	0.66	B	14,287	0.59	B	14,241	0.59	B
6th St	Midland Ave	Savage St	18,531	0.39	A	18,841	0.40	A	18,779	0.40	A	18,983	0.40	A	14,863	0.31	A	15,880	0.34	A	18,436	0.39	A	14,920	0.32	A	14,818	0.31	A
6th St	Savage St	Manzanita Ave	17,229	0.37	A	18,578	0.39	A	18,130	0.38	A	18,095	0.38	A	14,220	0.30	A	15,161	0.32	A	17,833	0.38	A	14,257	0.30	A	13,731	0.29	A
6th St	Manzanita Ave	A St	20,196	0.43	B	21,138	0.45	B	20,636	0.44	B	20,703	0.44	B	16,931	0.36	A	18,415	0.39	A	20,285	0.43	B	16,885	0.36	A	16,561	0.35	A
6th St	A St	D St	22,234	0.47	B	23,199	0.49	B	22,660	0.48	B	22,919	0.49	B	18,991	0.40	A	18,140	0.38	A	22,313	0.47	B	18,869	0.40	A	17,560	0.37	A
6th St	E St	F St	22,024	0.47	B	20,426	0.43	B	19,797	0.42	B	20,532	0.44	B	18,304	0.39	A	17,952	0.38	A	21,894	0.46	B	18,742	0.40	A	17,797	0.38	A
6th St	F St	H St	21,341	0.45	B	19,535	0.41	B	19,034	0.40	A	19,882	0.42	B	18,047	0.38	A	17,487	0.37	A	21,467	0.45	B	17,993	0.38	A	17,243	0.37	A
6th St	H St	M St	20,859	0.44	B	18,515	0.39	A	17,928	0.38	A	18,507	0.39	A	17,218	0.36	A	16,627	0.35	A	20,736	0.44	B	17,105	0.36	A	16,567	0.35	A
6th St	M St	Voorhies Ave	24,569	0.52	B	20,245	0.43	B	20,202	0.43	B	21,199	0.45	B	19,517	0.41	B	20,048	0.42	B	24,539	0.52	B	19,247	0.41	A	19,436	0.41	B
6th St	Voorhies Ave	Lewis Ave	26,060	1.08	F	21,904	0.91	D	21,844	0.90	D	22,535	0.93	E	21,175	0.88	D	21,597	0.89	D	26,106	1.08	F	20,890	0.86	D	21,094	0.87	D
6th St	Lewis Ave	West Park St	26,962	0.57	B	22,772	0.48	B	22,721	0.48	B	23,401	0.50	B	21,903	0.46	B	22,442	0.48	B	27,002	0.57	B	21,587	0.46	B	21,816	0.46	B
6th St	West Park St	Redwood Hwy	18,713	0.40	A	14,477	0.31	A	14,388	0.30	A	14,987	0.32	A	13,478	0.29	A	13,772	0.29	A	18,671	0.40	A	13,155	0.28	A	13,342	0.28	A
6th St	Redwood Hwy	Fruitdale Dr	12,600	0.27	A	12,919	0.27	A	12,641	0.27	A	13,136	0.28	A	12,017	0.25	A	13,060	0.28	A	12,880	0.27	A	10,869	0.23	A	10,999	0.23	A
7th St	Morgan Ln	Hillcrest Dr	12,936	0.53	B	12,217	0.50	B	12,134	0.50	B	12,292	0.51	B	11,399	0.47	B	11,148	0.46	B	12,016	0.50	B	11,197	0.46	B	11,509	0.48	B
7th St	Hillcrest Dr	Midland Ave	16,433	0.68	C	16,874	0.70	C	16,721	0.69	C	16,766	0.69	C	15,352	0.63	B	15,512	0.64	B	16,318	0.67	C	15,156	0.63	B	15,265	0.63	B
7th St	Midland Ave	Savage St	16,148	0.67	B	16,463	0.68	C	16,391	0.68	C	16,486	0.68	C	14,850	0.61	B	15,025	0.62	B	16,209	0.67	B	14,628	0.60	B	14,772	0.61	B
7th St	Savage St	Outlook Ave	17,466	0.72	C	18,131	0.75	C	18,114	0.75	C	18,267	0.75	C	16,033	0.66	B	16,784	0.69	C	17,765	0.73	C	16,031	0.66	B	15,821	0.65	B
7th St	Outlook Ave	Evelyn Ave	17,851	0.74	C	18,717	0.77	C	18,465	0.76	C	18,740	0.77	C	16,033	0.66	B	16,806	0.69	C	18,094	0.75	C	15,759	0.65	B	15,358	0.63	B
7th St	Evelyn Ave	Jackson St	19,151	0.79	C	20,017	0.83	D	19,765	0.82	D	20,040	0.83	D	17,333	0.72	C	18,106	0.75	C	19,394	0.80	C	17,069	0.70	C	16,658	0.69	C
7th St	Jackson St	A St	20,327	0.84	D	21,430	0.89	D	20,222	0.84	D	20,989	0.87	D	16,922	0.70	C	17,189	0.71	C	20,103	0.83	D	17,182	0.71	C	16,095	0.67	B
7th St	A St	E St	20,651	0.58	B	21,920	0.61	B	20,928	0.59	B	21,789	0.61	B	17,403	0.49	B	16,842	0.47	B	20,885	0.59	B	17,207	0.48	B	16,067	0.45	B
7th St	E St	F St	21,899	0.61	B	23,617	0.66	B	21,487	0.60	B	22,758	0.64	B	17,746	0.50	B	17,677	0.49	B	22,099	0.62	B	17,647	0.49	B	16,363	0.46	B
7th St	F St	J St	20,750	0.58	B	19,664	0.55	B	18,603	0.52	B	19,225	0.54	B	17,510	0.49	B	16,879	0.47	B	20,595	0.58	B	17,345	0.49	B	16,791	0.47	B
7th St	J St	M St	19,350	0.54	B	17,200	0.48	B	16,270	0.46	B	16,787	0.47	B	15,867	0.44	B	15,309	0.43	B	18,372	0.51	B	15,781	0.44	B	15,292	0.43	B
7th St	M St	Voorhies Ave	25,796	0.72	C	21,970	0.62	B	21,549	0.60	B	22,527	0.63	B	21,366	0.60	B	21,796	0.61	B	25,776	0.72	C	20,987	0.59	B	21,349	0.60	B
7th St	Voorhies Ave	Park St	25,031	1.03	F	21,353	0.88	D	20,909	0.86	D	21,567	0.89	D	20,748	0.86	D	21,070	0.87	D	25,086	1.04	F	20,354	0.84	D	20,731	0.86	D
7th St	Park St	Redwood Hwy	11,379	0.24	A	8,394	0.18	A	8,749	0.19	A	8,956	0.19	A	9,133	0.19	A	8,891	0.19	A	12,147	0.26	A	8,900	0.19	A	8,700	0.18	A
9th St	Hillcrest Dr	Savage St	605	0.04	A	646	0.04	A	651	0.04	A	654	0.04	A	672	0.04	A	696	0.04	A	632	0.04	A	671	0.04	A	672	0.04	A
9th St	Savage St	Madrone St	3,313	0.20	A	3,118	0.19	A	2,994	0.18	A	3,087	0.19	A	3,051	0.19	A	3,446	0.21	A	3,265	0.20	A	3,064	0.19	A	3,062	0.19	A
9th St	Madrone St	A St	3,497	0.22	A	4,748	0.29	A	4,301	0.27	A	4,045	0.25	A	4,162	0.26	A	0	0.00	A	3,529	0.22	A	4,324	0.27	A	4,396	0.27	A
9th St	D St	E St	3,696	0.23	A	4,299	0.27	A	4,135	0.26	A	4,382	0.27	A	3,924	0.24	A	3,980	0.25	A	3,499	0.22	A	4,286	0.26	A	3,259	0.20	A
9th St	E St	F St	4,381	0.27	A	4,609	0.28	A	4,881	0.30	A	4,689	0.29	A	4,511	0.28	A	4,475	0.28	A	4,356	0.27	A	4,651	0.29	A	4,209	0.26	A
9th St	F St	J St	5,309	0.33	A	5,632	0.35	A	5,292	0.33	A	4,968	0.31	A	4,977	0.31	A	4,543	0.28	A	5,828	0.36	A	4,854	0.30	A	4,547	0.28	A
9th St	J St	M St	3,761	0.23	A	4,796	0.30	A	4,484	0.28	A	4,210	0.26	A	4,280	0.26	A	3,690	0.23	A	3,738	0.23	A	4,146	0.26	A	3,832	0.24	A
10th St	Hillcrest Dr	Dewey Dr	2,263	0.14	A	2,379	0.15	A	2,470	0.15	A	2,416	0.15	A	2,317	0.14	A	1,801	0.11	A	2,273	0.14	A	2,303	0.14	A	2,288	0.14	A
10th St	Dewey Dr	Savage St	2,818	0.17	A	2,932	0.18	A	3,019	0.19	A	2,963	0.18	A	2,866	0.18	A	2,257	0.14	A	2,834	0.17	A	2,851	0.18	A	2,838	0.18	A
10th St	Savage St	Josephine St	4,338	0.27	A	4,483	0.28	A	4,588	0.28	A	4,498	0.28	A	4,351	0.27	A	3,629	0.22	A	4,340	0.27	A	4,341	0.27	A	4,324	0.27	A
10th St	Josephine St	A St	5,080	0.31	A	4,416	0.27	A	4,261	0.26	A	4,524	0.28	A	4,329	0.27	A	6,877	0.42	B	4,999	0.31	A	4,229	0.26	A	4,108	0.25	A
Fruitdale Dr	Jacksonville Hwy	Popular Dr	4,794	0.30	A	5,081	0.31	A	4,941	0.31	A	4,774	0.29	A	4,768	0.29	A	4,737	0.29	A	4,706	0.29	A	4,900	0.30	A	4,940	0.30	A
Fruitdale Dr	Popular Dr	Drury Ln	4,794	0.30	A	5,081	0.31	A	4,941	0.31	A	4,774	0.29	A	4,768	0.29	A	4,737	0.29	A	4,706	0.29	A	4,900	0.30	A	4,940	0.30	A
Fruitdale Dr	Drury Ln	Parkdale Dr	4,444	0.27	A	4,088	0.25	A	4,204	0.26	A	4,060	0.25	A	3,627	0.22	A	3,697	0.23	A	3,782	0.23	A	3,804	0.23	A	3,805	0.23	A
Fruitdale Dr	Parkdale Dr	Alexander Ln	5,392	0.33	A	5,666	0.35	A	5,693	0.35	A	5,027	0.31	A	5,565	0.34	A	5,633	0.34	A	5,233	0.32	A	5,472	0.34	A	5,591	0.35	A

Street Name	Segment Name (From)	Segment Name (To)	No Build Alternative			Alternative 1			Alternative 2			Alternative 3		
			2015 Alternative Run Assignments											
			Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
Grandview Ave	Harbeck Rd	Drury Ln	5,404	0.33	A	5,100	0.31	A	5,105	0.32	A	5,219	0.32	A
Grandview Ave	Drury Ln	Gaffney Way	5,498	0.34	A	5,199	0.32	A	5,206	0.32	A	5,319	0.33	A
Grandview Ave	Gaffney Way	Cloverlawn Dr	4,592	0.28	A	4,292	0.26	A	4,312	0.27	A	4,417	0.27	A
Cloverlawn	Rogue River Hwy	Fruitdale Dr	5,929	0.37	A	4,774	0.29	A	4,600	0.28	A	5,585	0.34	A
Cloverlawn	Fruitdale Dr	Alanita Rd	7,536	0.47	B	7,551	0.47	B	7,413	0.46	B	7,450	0.46	B
Cloverlawn	Alanita Rd	Hamilton Ln	7,766	0.48	B	8,784	0.54	B	8,768	0.54	B	8,780	0.54	B
Rogue River Hwy	Redwood Hwy	Maple Ln	17,996	0.59	B	18,188	0.60	B	17,966	0.59	B	18,149	0.60	B
Rogue River Hwy	Maple Ln	Parkdale Dr	18,622	0.61	B	18,724	0.62	B	18,488	0.61	B	18,668	0.62	B
Rogue River Hwy	Parkdale Dr	Cloverlawn Dr	16,017	0.53	B	16,167	0.53	B	16,143	0.53	B	16,675	0.55	B
Rogue River Hwy	Cloverlawn Dr	Mt Baldy Rd	10,452	0.34	A	10,370	0.34	A	10,468	0.35	A	10,527	0.35	A
Rogue River Hwy	Mt Baldy Rd	Fruitdale Dr	9,228	0.38	A	9,143	0.38	A	9,241	0.38	A	9,300	0.38	A
Rogue River Hwy	Fruitdale Dr	Peckerwood Ln	12,401	0.51	B	12,407	0.51	B	12,427	0.51	B	12,411	0.51	B
4th St	Evelyn Ave	A St	7,609	0.47	B	7,231	0.45	B	7,756	0.48	B	7,600	0.47	B
4th St	A St	E St	8,165	0.50	B	8,744	0.54	B	7,119	0.44	B	8,859	0.55	B
4th St	E St	F St	7,139	0.44	B	6,652	0.41	B	6,409	0.40	A	6,461	0.40	A
4th St	F St	J St	7,153	0.44	B	4,615	0.28	A	4,784	0.30	A	4,478	0.28	A
4th St	J St	Bridge St	4,057	0.25	A	4,303	0.27	A	4,618	0.29	A	4,554	0.28	A
Harbeck Rd	Union Ave	GI Ln	6,732	0.42	B	7,457	0.46	B	7,530	0.46	B	7,566	0.47	B
Harbeck Rd	GI Ln	Grandview Ave	2,848	0.18	A	2,707	0.17	A	2,802	0.17	A	2,831	0.17	A
Harbeck Rd	Grandview Ave	West Harbeck Rd	3,167	0.20	A	3,003	0.19	A	2,913	0.18	A	3,000	0.19	A
West Harbeck Rd	Allen Creek Rd	Williams Hwy	5,076	0.31	A	5,200	0.32	A	5,197	0.32	A	4,957	0.31	A
West Harbeck Rd	Williams Hwy	Towne St	2,821	0.17	A	2,659	0.16	A	2,550	0.16	A	2,656	0.16	A
West Harbeck Rd	Towne St	Harbeck Rd	3,167	0.20	A	3,003	0.19	A	2,913	0.18	A	3,000	0.19	A
	LOS Definitions			0.46	B		0.44	B		0.45	B		0.44	B

Street Name	Segment Name (From)	Segment Name (To)	Alternative 4			Alternative 5			Alternative 6			Alternative 7			Alternative 8		
			Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
Grandview Ave	Harbeck Rd	Drury Ln	5,233	0.32	A	5,224	0.32	A	5,296	0.33	A	5,185	0.32	A	5,339	0.33	A
Grandview Ave	Drury Ln	Gaffney Way	5,335	0.33	A	5,326	0.33	A	5,396	0.33	A	5,296	0.33	A	5,455	0.34	A
Grandview Ave	Gaffney Way	Cloverlawn Dr	4,442	0.27	A	4,433	0.27	A	4,482	0.28	A	4,430	0.27	A	4,545	0.28	A
Cloverlawn	Rogue River Hwy	Fruitdale Dr	3,650	0.23	A	4,672	0.28	A	5,925	0.37	A	4,248	0.26	A	4,052	0.25	A
Cloverlawn	Fruitdale Dr	Alanita Rd	7,188	0.44	B	7,460	0.46	B	7,475	0.46	B	6,671	0.41	A	6,527	0.40	A
Cloverlawn	Alanita Rd	Hamilton Ln	8,770	0.54	B	8,778	0.54	B	8,780	0.54	B	8,786	0.54	B	8,746	0.54	B
Rogue River Hwy	Redwood Hwy	Maple Ln	18,566	0.61	B	18,453	0.61	B	17,928	0.59	B	18,478	0.61	B	18,414	0.61	B
Rogue River Hwy	Maple Ln	Parkdale Dr	19,116	0.63	B	16,963	0.56	B	18,519	0.61	B	19,079	0.63	B	18,950	0.63	B
Rogue River Hwy	Parkdale Dr	Cloverlawn Dr	16,162	0.53	B	17,166	0.57	B	16,266	0.54	B	16,268	0.54	B	16,039	0.53	B
Rogue River Hwy	Cloverlawn Dr	Mt Baldy Rd	10,538	0.35	A	10,483	0.35	A	10,425	0.34	A	10,316	0.34	A	10,426	0.34	A
Rogue River Hwy	Mt Baldy Rd	Fruitdale Dr	9,310	0.38	A	9,257	0.38	A	9,199	0.38	A	9,088	0.38	A	9,193	0.38	A
Rogue River Hwy	Fruitdale Dr	Peckerwood Ln	12,427	0.51	B	12,411	0.51	B	12,381	0.51	B	12,409	0.51	B	12,423	0.51	B
4th St	Evelyn Ave	A St	7,163	0.44	B	7,856	0.48	B	6,980	0.43	B	7,311	0.45	B	7,606	0.47	B
4th St	A St	E St	6,076	0.38	A	6,213	0.38	A	8,016	0.49	B	6,072	0.37	A	5,002	0.31	A
4th St	E St	F St	6,745	0.42	B	6,419	0.40	A	7,677	0.47	B	6,727	0.42	B	6,157	0.38	A
4th St	F St	J St	5,710	0.35	A	5,298	0.33	A	7,288	0.45	B	5,728	0.35	A	5,179	0.32	A
4th St	J St	Bridge St	4,558	0.28	A	4,164	0.26	A	4,280	0.26	A	4,531	0.28	A	3,865	0.24	A
Harbeck Rd	Union Ave	GI Ln	7,236	0.45	B	7,432	0.46	B	7,038	0.43	B	6,043	0.37	A	5,788	0.36	A
Harbeck Rd	GI Ln	Grandview Ave	2,909	0.18	A	2,794	0.17	A	2,812	0.17	A	3,273	0.20	A	3,254	0.20	A
Harbeck Rd	Grandview Ave	West Harbeck Rd	2,935	0.18	A	3,042	0.19	A	3,096	0.19	A	2,524	0.16	A	2,697	0.17	A
West Harbeck Rd	Allen Creek Rd	Williams Hwy	5,698	0.35	A	4,883	0.30	A	4,761	0.29	A	757	0.05	A	48	0.00	A
West Harbeck Rd	Williams Hwy	Towne St	2,587	0.16	A	2,699	0.17	A	2,746	0.17	A	2,237	0.14	A	2,392	0.15	A
West Harbeck Rd	Towne St	Harbeck Rd	1,935	0.12	A	3,042	0.19	A	3,095	0.19	A	2,524	0.16	A	2,697	0.17	A
	LOS Definitions			0.42	B		0.41	A		0.46	B		0.42	B		0.41	A

Alternative Construction Projects

Facility	Limits: From	To	Length (mi)	GRAND TOTAL	Notes
Fourth Bridge	Schroeder Lane	Lower River Road	0.11	8,460,000	Cost based on $11,750/linear foot for bridge construction
	Lower River Road	Upper River Road	0.63	2,246,480	
Willow Lane/Schroeder Lane	Redwood Avenue	New Bridge	0.95	2,446,947	
Foundry Street	F Street	Lincoln Road	1.01	3,337,351	Includes at-grade railroad crossing
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.	2.05	5,825,630	Extensive grading work required (2x cost), likely to have 2 stream crossings
G Street	Lincoln Road	Foundry St.	1.04	2,602,239	
Upper River Road	Pinecrest Drive	Lincoln Road	0.91	2,137,072	
I-5 Northbound On-Ramp	Scoville Road	I-5	0.80	1,817,098	Project consistent with outlet mall improvements
New Service Road	Hillcrest Drive	Greenfield Road	0.32	1,000,722	Improved access to area north of I-5, likely to cross canal
			Subtotal w/ G Street	29,873,539	
			Subtotal w/o G Street	27,271,300	
Tier Two Projects					
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.	1.14	3,162,438	Extensive grading work required (2x cost), likely to have 2 stream crossings
Midland Avenue	7th Street	9th Street	0.15	686,185	Study suggests that improvement is not recommended, offset intersection
Beacon Drive	Madrone Street	Heritage Drive	0.06	161,365	Improve neighborhood circulation, provide new access to north of I-5
9th Street	Wharton Street	A Street	0.04	7,924	Vacate roadway to allow for High School expansion
Dimmick Street	Foundry Street	F Street	0.04	718,762	More efficient circulation and emergency access, 1 railroad crossing
Lincoln Road @ Lower River Rd	Intersection Improvements			210,877	Increase efficiency and safety, exact improvements unknown
Susan Lane Extension	Terminus	Cottonwood Street	0.16	369,181	New access for future school project
New Road	Bridge Street	Susan Lane	0.21	496,548	New access for future school project
Agness Avenue Extension	Terminus	N Street	0.19	1,065,997	More efficient circulation and emergency access, 1 railroad crossing
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension	0.30	714,046	More efficient circulation and emergency access
New Road	Darneille Lane	Leonard Road	0.63	1,504,782	New collector road to support future development, encroaches on housing
New Road	Hubbard Lane	Leonard Road	0.76	2,207,924	New collector road, part is constructed, canal crossing
New Road	Leonard Road	New Hubbard-Leonard connection	0.27	632,891	New collector road to support future development in the area
New Road	Ray Dean Drive	New Hubbard-Leonard connection	0.27	631,765	New collector road to support future development in the area
New Road	West Harbeck Road	Dowell Road	0.76	1,798,770	New collector road to support future development in the area
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.	0.11	270,435	New collector road to support future development in the area
Allen Creek Road	Denton Trail	Jacksonville Hwy	0.42	1,239,746	Reduces congestion on Jacksonville Highway, crosses creek, housing
New Road	Schutzwohl Lane	GI Lane	0.59	1,771,283	More efficient circulation and emergency access, housing on Jack. Hwy
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road	0.21	533,477	More efficient circulation and emergency access
Ringuette Road Extension	Redwood Highway	Union Avenue	0.07	471,863	More efficient circulation and emergency access
GI Lane Extension	Harbeck Road	Grandview Avenue	0.45	1,081,739	More efficient circulation
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy	1.18	3,693,953	New road would support future growth, 2 creek crossings
			Tier Two Total	20,269,512	
			Grand Total w/ G Street	50,143,052	
			Grand Total w/o G Street	47,540,813	

Alternative ა Construction Projects

Facility	Limits From	To	Lanes	Lane Miles	Location	ROW	Asphalt	Subgrade	Excavation
Fourth Bridge	Schroeder Lane	Lower River Road	4	0.45	UGB				
	Lower River Road	Upper River Road	4	2.50	UGB	398,129	126,720	96,624	63,360
Willow Lane/Schroeder Lane	Redwood Avenue	New Bridge	2	1.90	UGB	605,638	96,384	73,493	48,192
Foundry Street	F Street	Lincoln Road	2	2.02	City	644,245	102,528	78,178	51,264
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.	2	4.09	City	1,302,967	207,360	158,112	207,360
G Street	Lincoln Road	Foundry St.	2	2.08	City	663,548	105,600	80,520	52,800
Upper River Road	Pinecrest Drive	Lincoln Road	2	1.82	UGB	579,096	92,160	70,272	46,080
I-5 Northbound On-Ramp	Scoville Road	I-5	1	0.80	City	506,709	40,320	30,744	20,160
New Service Road	Hillcrest Drive	Greenfield Road	2	0.64	UGB	205,097	32,640	24,888	16,320

Su

Tier Two Projects

Subt

Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.	2	2.27	City	723,870	115,200	87,840	115,200
Midland Avenue	7th Street	9th Street	2	0.30	City	96,518	15,360	11,712	7,680
Beacon Drive	Madrone Street	Heritage Drive	2	0.13	City	41,019	6,528	4,978	3,264
9th Street	Wharton Street	A Street	2	0.08	City				
Dimmick Street	Foundry Street	F Street	2	0.08	City	24,129	3,840	2,928	1,920
Lincoln Road @ Lower River Rd	Intersection Improvements			0.00	UGB				
Susan Lane Extension	Terminus	Cottonwood Street	2	0.31	UGB	98,929	15,744	12,005	7,872
New Road	Bridge Street	Susan Lane	2	0.42	UGB	132,710	21,120	16,104	10,560
Agness Avenue Extension	Terminus	N Street	2	0.38	UGB	120,645	19,200	14,640	9,600
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension	2	0.61	UGB	193,032	30,720	23,424	15,360
New Road	Darneille Lane	Leonard Road	2	1.27	UGB	402,955	64,128	48,898	32,064
New Road	Hubbard Lane	Leonard Road	2	1.52	UGB	484,993	77,184	58,853	38,592
New Road	Leonard Road	New Hubbard-Leonard connection	2	0.53	UGB	168,903	26,880	20,496	13,440
New Road	Ray Dean Drive	New Hubbard-Leonard connection	2	0.53	UGB	168,903	26,880	20,496	13,440
New Road	West Harbeck Road	Dowell Road	2	1.52	UGB	482,580	76,800	58,560	38,400
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.	2	0.23	UGB	72,387	11,520	8,784	5,760
Allen Creek Road	Denton Trail	Jacksonville Hwy	2	0.83	UGB	265,419	42,240	32,208	21,120
New Road	Schutzwohl Lane	GI Lane	2	1.17	City	374,000	59,520	45,384	29,760
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road	2	0.42	City	135,122	21,504	16,397	10,752
Ringuette Road Extension	Redwood Highway	Union Avenue	2	0.14	City	43,432	6,912	5,270	3,456
GI Lane Extension	Harbeck Road	Grandview Avenue	2	0.91	City	289,548	46,080	35,136	23,040
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy	2	2.36	UGB	752,825	119,808	91,354	59,904

Grand

Grand T

Alternativ Construction Projects

	Limits		Storm				Curb &			Street
Facility	From	To	Drainage	Channelization	Striping	Landscaping	Gutter	5' Sidewalk	5' Bike lane	Lighting
Fourth Bridge	Schroeder Lane	Lower River Road								
	Lower River Road	Upper River Road	357,324	84,250	3,250	105,438	18,975	55,110	59,730	
Willow Lane/Schroeder Lane	Redwood Avenue	New Bridge	543,566	64,081	2,472	160,393	28,865	83,834	90,862	
Foundry Street	F Street	Lincoln Road	578,215	68,168	2,630	170,617	30,705	89,178	96,654	113,778
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.	1,169,424	137,864	5,318	345,068	62,100	180,360	195,480	230,114
G Street	Lincoln Road	Foundry St.	595,540	70,208	2,708	175,729	31,625	91,850	99,550	117,188
Upper River Road	Pinecrest Drive	Lincoln Road	519,744	61,273	2,364	153,364	27,600	80,160	86,880	
I-5 Northbound On-Ramp	Scoville Road	I-5	454,776	26,807	1,034	134,193				
New Service Road	Hillcrest Drive	Greenfield Road	184,076	21,701	837	54,316	9,775	28,390	30,770	36,222

Su

Subt

Tier Two Projects

Facility	From	To	Storm Drainage	Channelization	Striping	Landscaping	Curb & Gutter	5' Sidewalk	5' Bike lane	Street Lighting
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.	649,680	76,591	2,955	191,705	34,500	100,200		127,841
Midland Avenue	7th Street	9th Street	86,624	10,212	394	25,561	4,600	13,360	14,480	17,045
Beacon Drive	Madrone Street	Heritage Drive	36,815	4,340	167	10,863	1,955	5,678	6,154	7,244
9th Street	Wharton Street	A Street				6,390				
Dimmick Street	Foundry Street	F Street	21,656	2,553	98	6,390	1,150	3,340	3,620	4,261
Lincoln Road @ Lower River Rd	Intersection Improvements									
Susan Lane Extension	Terminus	Cottonwood Street	88,790	10,467	404	26,200	4,715	13,694		17,472
New Road	Bridge Street	Susan Lane	119,108	14,042	542	35,146	6,325	18,370		23,438
Agness Avenue Extension	Terminus	N Street	108,280	12,765	492	31,951	5,750	16,700	18,100	
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension	173,248	20,424	788	51,121	9,200	26,720	28,960	
New Road	Darneille Lane	Leonard Road	361,655	42,636	1,645	106,716	19,205	55,778		71,165
New Road	Hubbard Lane	Leonard Road	435,286	51,316	1,980	128,442	23,115	67,134		85,653
New Road	Leonard Road	New Hubbard-Leonard connection	151,592	17,871	689	44,731	8,050	23,380		29,830
New Road	Ray Dean Drive	New Hubbard-Leonard connection	151,592	17,871	689	44,731	8,050	23,380		29,830
New Road	West Harbeck Road	Dowell Road	433,120	51,061	1,970	127,803	23,000	66,800		85,227
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.	64,968	7,659	295	19,170	3,450	10,020		12,784
Allen Creek Road	Denton Trail	Jacksonville Hwy	238,216	28,083	1,083	70,292	12,650	36,740	39,820	46,875
New Road	Schutzwohl Lane	GI Lane	335,668	39,572	1,527	99,047	17,825	51,770	56,110	66,051
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road	121,274	14,297	552	35,785	6,440	18,704	20,272	23,864
Ringuette Road Extension	Redwood Highway	Union Avenue	38,981	4,595	177	11,502	2,070	6,012		7,670
GI Lane Extension	Harbeck Road	Grandview Avenue	259,872	30,636	1,182	76,682	13,800	40,080		51,136
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy	675,667	79,655	3,073	199,373	35,880	104,208	112,944	

Grand

Grand T

Alternative 5 Construction Projects

Non-Costable

Facility	Limits From	To	Signage	Wheelchair Ramps #		Comm. Driveway Ft		GP Traffic Signal #		ODOT Traffic Signal #		Wetland Mitigation
Fourth Bridge	Schroeder Lane	Lower River Road			0		0		0		0	
	Lower River Road	Upper River Road	2,125	16	3,632		0	2	337,400		0	
Willow Lane/Schroeder Lane	Redwood Avenue	New Bridge	3,233	16	3,632		0	1	168,700		0	
Foundry Street	F Street	Lincoln Road	3,439	8	1,816		0		0		0	
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.	6,955	4	908		0	1	168,700		0	
G Street	Lincoln Road	Foundry St.	3,542	36	8,172		0		0		0	
Upper River Road	Pinecrest Drive	Lincoln Road	3,091	6	1,362		0		0		0	
I-5 Northbound On-Ramp	Scoville Road	I-5	2,705	2	454		0		0	1	247,500	
New Service Road	Hillcrest Drive	Greenfield Road	1,095	4	908		0		0		0	

Su

Subt

Tier Two Projects

Facility	From	To	Signage	Wheelchair Ramps #		Comm. Driveway Ft		GP Traffic Signal #		ODOT Traffic Signal #		Wetland Mitigation
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.	3,864	4	908		0		0		0	
Midland Avenue	7th Street	9th Street	515	8	1,816		0		0	1	247,500	
Beacon Drive	Madrone Street	Heritage Drive	219	4	908		0		0		0	
9th Street	Wharton Street	A Street			0		0		0		0	
Dimmick Street	Foundry Street	F Street	129	16	3,632		0		0		0	
Lincoln Road @ Lower River Rd	Intersection Improvements			6	1,362		0	1	168,700		0	
Susan Lane Extension	Terminus	Cottonwood Street	528	4	908		0		0		0	
New Road	Bridge Street	Susan Lane	708	10	2,270		0		0		0	
Agness Avenue Extension	Terminus	N Street	644	4	908		0		0		0	
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension	1,030	8	1,816		0		0		0	
New Road	Dameille Lane	Leonard Road	2,151	20	4,540		0		0		0	
New Road	Hubbard Lane	Leonard Road	2,589	24	5,448		0		0		0	
New Road	Leonard Road	New Hubbard-Leonard connection	902	16	3,632		0		0		0	
New Road	Ray Dean Drive	New Hubbard-Leonard connection	902	12	2,724		0		0		0	
New Road	West Harbeck Road	Dowell Road	2,576	12	2,724		0		0		0	
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.	386	4	908		0		0		0	
Allen Creek Road	Denton Trail	Jacksonville Hwy	1,417	16	3,632		0		0		0	
New Road	Schutzwohl Lane	GI Lane	1,996	12	2,724		0		0	1	247,500	
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road	721	20	4,540		0		0		0	
Ringuette Road Extension	Redwood Highway	Union Avenue	232	12	2,724		0		0	1	247,500	
GI Lane Extension	Harbeck Road	Grandview Avenue	1,545	16	3,632		0		0		0	
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy	4,018	18	4,086		0	1	168,700	1	247,500	

Grand

Grand T

A native 5 Construction Projects

Facility	Limits From	To	dd-Ons At-Grade RR Crossing	Bridge/Structure LF	Cost	SUBTOTAL	20% D,CM, Permits
Fourth Bridge	Schroeder Lane	Lower River Road		600	7,050,000	7,050,000	1,410,000
	Lower River Road	Upper River Road		100	160,000	1,872,066	374,413
Willow Lane/Schroeder Lane	Redwood Avenue	New Bridge				1,973,344	473,603
Foundry Street	F Street	Lincoln Road	500,000	100	160,000	2,691,412	645,939
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.		200	320,000	4,698,089	1,127,541
G Street	Lincoln Road	Foundry St.				2,098,580	503,659
Upper River Road	Pinecrest Drive	Lincoln Road				1,723,445	413,627
I-5 Northbound On-Ramp	Scoville Road	I-5				1,465,402	351,696
New Service Road	Hillcrest Drive	Greenfield Road		100	160,000	807,034	193,688
		Su					Subtotal w/ G Street
Tier Two Projects		Subt					Subtotal w/o G Street
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.		200	320,000	2,550,353	612,085
Midland Avenue	7th Street	9th Street				553,375	132,810
Beacon Drive	Madrone Street	Heritage Drive				130,133	31,232
9th Street	Wharton Street	A Street				6,390	1,534
Dimmick Street	Foundry Street	F Street	500,000			579,647	139,115
Lincoln Road @ Lower River Rd	Intersection Improvements					170,062	40,815
Susan Lane Extension	Terminus	Cottonwood Street				297,727	71,454
New Road	Bridge Street	Susan Lane				400,442	96,106
Agness Avenue Extension	Terminus	N Street	500,000			859,675	206,322
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension				575,844	138,203
New Road	Darneille Lane	Leonard Road				1,213,534	291,248
New Road	Hubbard Lane	Leonard Road		200	320,000	1,780,584	427,340
New Road	Leonard Road	New Hubbard-Leonard connection				510,396	122,495
New Road	Ray Dean Drive	New Hubbard-Leonard connection				509,488	122,277
New Road	West Harbeck Road	Dowell Road				1,450,621	348,149
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.				218,093	52,342
Allen Creek Road	Denton Trail	Jacksonville Hwy		100	160,000	999,795	239,951
New Road	Schutzwohl Lane	GI Lane				1,428,454	342,829
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road				430,223	103,254
Ringuette Road Extension	Redwood Highway	Union Avenue				380,535	91,328
GI Lane Extension	Harbeck Road	Grandview Avenue				872,370	209,369
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy		200	320,000	2,978,994	714,959
							Subtotal
		Grand					Grand Total w/ G Street
		Grand T					Grand Total w/o G Street

Alternative ‹ ›nstruction Projects

Facility	Limits From	To	Length (mi)	GRAND TOTAL	Notes
Fourth Bridge	Flower Lane	Lincoln Road/Foundry St.	0.18	13,987,200	Cost based on $11,750/linear foot for bridge construction
Flower Lane	Redwood Highway	New Bridge	0.20	1,029,587	
Lincoln Road	New Bridge	Terminus	0.11	324,958	
Lincoln Road	Terminus	G Street	0.76	2,101,111	
G Street	Lincoln Road	Foundry St.	1.04	2,602,239	
Foundry Street	F Street	Lincoln Road	1.01	3,337,351	Includes at-grade railroad crossing
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.	2.05	5,825,630	Extensive grading work required (2x cost), likely to have 2 stream crossings
I-5 Northbound On-Ramp	Scoville Road	I-5	0.80	1,817,098	Project consistent with outlet mall improvements
New Service Road	Hillcrest Drive	Greenfield Road	0.32	1,000,722	Improved access to area north of I-5, likely to cross canal
			Subtotal w/ G Street	32,025,898	
			Subtotal w/o G Street	29,423,659	

Tier Two Projects

Facility	From	To	Length (mi)	GRAND TOTAL	Notes
Morgan Lane Extension	Mogan Lane Terminus	B Street	1.14	3,162,438	Extensive grading work required (2x cost), likely to have 2 stream crossings
Midland Avenue	7th Street	9th Street	0.15	686,185	Study suggests that improvement is not recommended, offset intersection
Beacon Drive	Madrone Street	Heritage Drive	0.06	161,365	Improve neighborhood circulation, provide new access to north of I-5
9th Street	Wharton Street	A Street	0.04	7,924	Vacate roadway to allow for High School expansion
Dimmick Street	Foundry Street	F Street	0.04	718,762	More efficient circulation and emergency access, 1 railroad crossing
Lincoln Road @ Lower River Rd	Intersection Improvements			210,877	Increase efficiency and safety, exact improvements unknown
Susan Lane Extension	Terminus	Cottonwood Street	0.16	369,181	New access for future school project
New Road	Bridge Street	Susan Lane	0.21	496,548	New access for future school project
Agness Avenue Extension	Terminus	N Street	0.19	1,065,997	More efficient circulation and emergency access, 1 railroad crossing
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension	0.30	714,046	More efficient circulation and emergency access
New Road	Darnelle Lane	Leonard Road	0.63	1,504,782	New collector road to support future development, encroaches on housing
New Road	Hubbard Lane	Leonard Road	0.76	2,207,924	New collector road, part is constructed, canal crossing
New Road	Leonard Road	New Hubbard-Leonard connection	0.27	632,891	New collector road to support future development in the area
New Road	Ray Dean Drive	New Hubbard-Leonard connection	0.27	631,765	New collector road to support future development in the area
New Road	West Harbeck Road	Dowell Road	0.76	1,798,770	New collector road to support future development in the area
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.	0.11	270,435	New collector road to support future development in the area
Allen Creek Road	Denton Trail	Jacksonville Hwy	0.42	1,239,746	Reduces congestion on Jacksonville Highway, crosses creek, housing
New Road	Schutzwohl Lane	GI Lane	0.59	1,771,283	More efficient circulation and emergency access, housing on Jack. Hwy
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road	0.21	533,477	More efficient circulation and emergency access
Ringuette Road Extension	Redwood Highway	Union Avenue	0.07	471,863	More efficient circulation and emergency access
GI Lane Extension	Harbeck Road	Grandview Avenue	0.45	1,081,739	More efficient circulation
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy	1.18	3,693,953	New road would support future growth, 2 creek crossings
			Tier Two Total	20,269,512	
			Grand Total w/ G Street	52,295,410	
			Grand Total w/o G Street	49,693,171	

Alternative o Construction Projects

Facility	Limits From	To	Lanes	Lane Miles	Location	ROW	Asphalt	Subgrade	Excavation
Fourth Bridge	Flower Lane	Lincoln Road/Foundry St.	4	0.73	UGB				
Flower Lane	Redwood Highway	New Bridge	2	0.41	UGB	130,297	20,736	15,811	10,368
Lincoln Road	New Bridge	Terminus	4	0.45	UGB	72,387	23,040	17,568	11,520
Lincoln Road	Terminus	G Street	2	1.52	UGB	482,580	76,800	58,560	38,400
G Street	Lincoln Road	Foundry St.	2	2.08	City	663,548	105,600	80,520	52,800
Foundry Street	F Street	Lincoln Road	2	2.02	City	644,245	102,528	78,178	51,264
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.	2	4.09	City	1,302,967	207,360	158,112	207,360
I-5 Northbound On-Ramp	Scoville Road	I-5	1	0.80	City	506,709	40,320	30,744	20,160
New Service Road	Hillcrest Drive	Greenfield Road	2	0.64	UGB	205,097	32,640	24,888	16,320

Su

Subt

Tier Two Projects									
Morgan Lane Extension	Mogan Lane Terminus	B Street	2	2.27	City	723,870	115,200	87,840	115,200
Midland Avenue	7th Street	9th Street	2	0.30	City	96,518	15,360	11,712	7,680
Beacon Drive	Madrone Street	Heritage Drive	2	0.13	City	41,019	6,528	4,978	3,264
9th Street	Wharton Street	A Street	2	0.08	City				
Dimmick Street	Foundry Street	F Street	2	0.08	City	24,129	3,840	2,928	1,920
Lincoln Road @ Lower River Rd	Intersection Improvements			0.00	UGB				
Susan Lane Extension	Terminus	Cottonwood Street	2	0.31	UGB	98,929	15,744	12,005	7,872
New Road	Bridge Street	Susan Lane	2	0.42	UGB	132,710	21,120	16,104	10,560
Agness Avenue Extension	Terminus	N Street	2	0.38	UGB	120,645	19,200	14,640	9,600
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension	2	0.61	UGB	193,032	30,720	23,424	15,360
New Road	Darnellle Lane	Leonard Road	2	1.27	UGB	402,955	64,128	48,898	32,064
New Road	Hubbard Lane	Leonard Road	2	1.52	UGB	484,993	77,184	58,853	38,592
New Road	Leonard Road	New Hubbard-Leonard connection	2	0.53	UGB	168,903	26,880	20,496	13,440
New Road	Ray Dean Drive	New Hubbard-Leonard connection	2	0.53	UGB	168,903	26,880	20,496	13,440
New Road	West Harbeck Road	Dowell Road	2	1.52	UGB	482,580	76,800	58,560	38,400
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.	2	0.23	UGB	72,387	11,520	8,784	5,760
Allen Creek Road	Denton Trail	Jacksonville Hwy	2	0.83	UGB	265,419	42,240	32,208	21,120
New Road	Schutzwohl Lane	GI Lane	2	1.17	City	374,000	59,520	45,384	29,760
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road	2	0.42	City	135,122	21,504	16,397	10,752
Ringuette Road Extension	Redwood Highway	Union Avenue	2	0.14	City	43,432	6,912	5,270	3,456
GI Lane Extension	Harbeck Road	Grandview Avenue	2	0.91	City	289,548	46,080	35,136	23,040
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy	2	2.36	UGB	752,825	119,808	91,354	59,904

Grand

Grand T

Alternativ Construction Projects

Facility	Limits From	To	Storm Drainage	Channelization	Striping	Landscaping	Curb & Gutter	5' Sidewalk	5' Bike lane	Street Lighting
Fourth Bridge	Flower Lane	Lincoln Road/Foundry St.								
Flower Lane	Redwood Highway	New Bridge	116,942	13,786	532	34,507	6,210	18,036	19,548	23,011
Lincoln Road	New Bridge	Terminus	64,968	15,318	591	19,170	3,450	10,020	10,860	12,784
Lincoln Road	Terminus	G Street	433,120	51,061	1,970	127,803	23,000	66,800	72,400	85,227
G Street	Lincoln Road	Foundry St.	595,540	70,208	2,708	175,729	31,625	91,850	99,550	117,188
Foundry Street	F Street	Lincoln Road	578,215	68,166	2,630	170,617	30,705	89,178	96,654	113,778
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.	1,169,424	137,864	5,318	345,068	62,100	180,360	195,480	230,114
I-5 Northbound On-Ramp	Scoville Road	I-5	454,776	26,807	1,034	134,193				
New Service Road	Hillcrest Drive	Greenfield Road	164,078	21,701	837	54,316	9,775	28,390	30,770	36,222

Su

Tier Two Projects

Subt

Facility	From	To	Storm Drainage	Channelization	Striping	Landscaping	Curb & Gutter	5' Sidewalk	5' Bike lane	Street Lighting
Morgan Lane Extension	Mogan Lane Terminus	B Street	649,680	76,591	2,955	191,705	34,500	100,200		127,841
Midland Avenue	7th Street	9th Street	86,624	10,212	394	25,561	4,600	13,360	14,480	17,045
Beacon Drive	Madrone Street	Heritage Drive	36,815	4,340	167	10,863	1,955	5,678	6,154	7,244
9th Street	Wharton Street	A Street				6,390				
Dimmick Street	Foundry Street	F Street	21,656	2,553	98	6,390	1,150	3,340	3,620	4,261
Lincoln Road @ Lower River Rd	Intersection Improvements									
Susan Lane Extension	Terminus	Cottonwood Street	88,790	10,467	404	26,200	4,715	13,694		17,472
New Road	Bridge Street	Susan Lane	119,108	14,042	542	35,146	6,325	18,370		23,438
Agness Avenue Extension	Terminus	N Street	108,280	12,765	492	31,951	5,750	16,700	18,100	
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension	173,248	20,424	788	51,121	9,200	26,720	28,960	
New Road	Darnellle Lane	Leonard Road	361,655	42,636	1,645	106,716	19,205	55,778		71,165
New Road	Hubbard Lane	Leonard Road	435,286	51,316	1,980	128,442	23,115	67,134		85,653
New Road	Leonard Road	New Hubbard-Leonard connection	151,592	17,871	689	44,731	8,050	23,380		29,830
New Road	Ray Dean Drive	New Hubbard-Leonard connection	151,592	17,871	689	44,731	8,050	23,380		29,830
New Road	West Harbeck Road	Dowell Road	433,120	51,061	1,970	127,803	23,000	66,800		85,227
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.	64,968	7,659	295	19,170	3,450	10,020		12,784
Allen Creek Road	Denton Trail	Jacksonville Hwy	238,216	28,083	1,083	70,292	12,650	36,740	39,820	46,875
New Road	Schutzwohl Lane	GI Lane	335,668	39,572	1,527	99,047	17,825	51,770	56,110	66,051
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road	121,274	14,297	552	35,785	6,440	18,704	20,272	23,864
Ringuette Road Extension	Redwood Highway	Union Avenue	38,981	4,595	177	11,502	2,070	6,012		7,670
GI Lane Extension	Harbeck Road	Grandview Avenue	259,872	30,636	1,182	76,682	13,800	40,080		51,136
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy	675,667	79,655	3,073	199,373	35,880	104,208	112,944	

Grand

Grand T

Alternative 8 Construction Projects

Non-Costable

	Limits			Wheelchair Ramps		Comm. Driveway		GP Traffic Signal		ODOT Traffic Signal		Wetland
Facility	From	To	Signage	#		Ft		#		#		Mitigation
Fourth Bridge	Flower Lane	Lincoln Road/Foundry St.			0		0		0		0	
Flower Lane	Redwood Highway	New Bridge	695	16	3,632		0	1	168,700	1	247,500	
Lincoln Road	New Bridge	Terminus	386		0		0		0		0	
Lincoln Road	Terminus	G Street	2,576	24	5,448		0	1	168,700		0	
G Street	Lincoln Road	Foundry St.	3,542	36	8,172		0		0		0	
Foundry Street	F Street	Lincoln Road	3,439	8	1,816		0		0		0	
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.	6,955	4	908		0	1	168,700		0	
I-5 Northbound On-Ramp	Scoville Road	I-5	2,705	2	454		0		0	1	247,500	
New Service Road	Hillcrest Drive	Greenfield Road	1,095	4	908		0		0		0	

Su

Subt

Tier Two Projects

Facility	From	To	Signage	#		Ft		#		#		Mitigation
Morgan Lane Extension	Mogan Lane Terminus	B Street	3,864	4	908		0		0		0	
Midland Avenue	7th Street	9th Street	515	8	1,816		0		0	1	247,500	
Beacon Drive	Madrone Street	Heritage Drive	219	4	908		0		0		0	
9th Street	Wharton Street	A Street			0		0		0		0	
Dimmick Street	Foundry Street	F Street	129	16	3,632		0		0		0	
Lincoln Road @ Lower River Rd	Intersection Improvements			6	1,362		0	1	168,700		0	
Susan Lane Extension	Terminus	Cottonwood Street	528	4	908		0		0		0	
New Road	Bridge Street	Susan Lane	708	10	2,270		0		0		0	
Agness Avenue Extension	Terminus	N Street	644	4	908		0		0		0	
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension	1,030	8	1,816		0		0		0	
New Road	Darneille Lane	Leonard Road	2,151	20	4,540		0		0		0	
New Road	Hubbard Lane	Leonard Road	2,589	24	5,448		0		0		0	
New Road	Leonard Road	New Hubbard-Leonard connection	902	16	3,632		0		0		0	
New Road	Ray Dean Drive	New Hubbard-Leonard connection	902	12	2,724		0		0		0	
New Road	West Harbeck Road	Dowell Road	2,576	12	2,724		0		0		0	
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.	386	4	908		0		0		0	
Allen Creek Road	Denton Trail	Jacksonville Hwy	1,417	16	3,632		0		0		0	
New Road	Schutzwohl Lane	GI Lane	1,996	12	2,724		0		0	1	247,500	
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road	721	20	4,540		0		0		0	
Ringuette Road Extension	Redwood Highway	Union Avenue	232	12	2,724		0		0	1	247,500	
GI Lane Extension	Harbeck Road	Grandview Avenue	1,545	16	3,632		0		0		0	
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy	4,018	18	4,086		0	1	168,700	1	247,500	

Grand

Grand T

Alternat 8 Construction Projects

	Limits		Ons				20% for	
			At-Grade	Bridge/Structure			D,CM, &	GRAND
Facility	From	To	RR Crossing	LF	Cost	SUBTOTAL	Permits	TOTAL
Fourth Bridge	Flower Lane	Lincoln Road/Foundry St.		960	11,280,000	11,280,000	2,707,200	13,987,200
Flower Lane	Redwood Highway	New Bridge				830,312	199,275	1,029,587
Lincoln Road	New Bridge	Terminus				262,063	62,895	324,958
Lincoln Road	Terminus	G Street				1,694,445	406,667	2,101,111
G Street	Lincoln Road	Foundry St.				2,098,580	503,659	2,602,239
Foundry Street	F Street	Lincoln Road	500,000	100	160,000	2,691,412	645,939	3,337,351
Morgan Lane Extension	Mogan Lane Terminus	Lincoln Rd./Foundry St.		200	320,000	4,698,089	1,127,541	5,825,630
I-5 Northbound On-Ramp	Scoville Road	I-5				1,465,402	351,696	1,817,098
New Service Road	Hillcrest Drive	Greenfield Road		100	160,000	807,034	193,688	1,000,722
		Su					Subtotal w/ G Street	32,025,898
Tier Two Projects		Subt					Subtotal w/o G Street	29,423,659
Morgan Lane Extension	Mogan Lane Terminus	B Street		200	320,000	2,550,353	612,085	3,162,438
Midland Avenue	7th Street	9th Street				553,375	132,810	686,185
Beacon Drive	Madrone Street	Heritage Drive				130,133	31,232	161,365
9th Street	Wharton Street	A Street				6,390	1,534	7,924
Dimmick Street	Foundry Street	F Street	500,000			579,647	139,115	718,762
Lincoln Road @ Lower River Rd	Intersection Improvements					170,062	40,815	210,877
Susan Lane Extension	Terminus	Cottonwood Street				297,727	71,454	369,181
New Road	Bridge Street	Susan Lane				400,442	96,106	496,548
Agness Avenue Extension	Terminus	N Street	500,000			859,675	206,322	1,065,997
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension				575,844	138,203	714,046
New Road	Dameille Lane	Leonard Road				1,213,534	291,248	1,504,782
New Road	Hubbard Lane	Leonard Road		200	320,000	1,780,584	427,340	2,207,924
New Road	Leonard Road	New Hubbard-Leonard connection				510,396	122,495	632,891
New Road	Ray Dean Drive	New Hubbard-Leonard connection				509,488	122,277	631,765
New Road	West Harbeck Road	Dowell Road				1,450,621	348,149	1,798,770
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.				218,093	52,342	270,435
Allen Creek Road	Denton Trail	Jacksonville Hwy		100	160,000	999,795	239,951	1,239,746
New Road	Schutzwohl Lane	Gl Lane				1,428,454	342,829	1,771,283
South Union Road Extension	Terminus	New Schutzwohl-Gl Ln. Road				430,223	103,254	533,477
Ringuette Road Extension	Redwood Highway	Union Avenue				380,535	91,328	471,863
Gl Lane Extension	Harbeck Road	Grandview Avenue				872,370	209,369	1,081,739
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy		200	320,000	2,978,994	714,959	3,693,953
							Subtotal	20,269,512
		Grand					Subtotal w/ G Street	52,295,410
		Grand T					Subtotal w/o G Street	49,693,171

Tier Two Construction Projects Only

Facility	Limits: From	Limits: To	Length (mi)	GRAND TOTAL	Notes
Morgan Lane Extension	Mogan Lane Terminus	B Street	1.14	3,162,438	Extensive grading work required (2x cost), likely to have 2 stream crossings
Midland Avenue	7th Street	9th Street	0.15	686,185	Study suggests that improvement is not recommended, offset intersection
Beacon Drive	Madrone Street	Heritage Drive	0.06	161,365	Improve neighborhood circulation, provide new access to north of I-5
9th Street	Wharton Street	A Street	0.04	7,924	Vacate roadway to allow for High School expansion
Dimmick Street	Foundry Street	F Street	0.04	718,762	More efficient circulation and emergency access, 1 railroad crossing
Lincoln Road @ Lower River Rd	Intersection Improvements			210,877	Increase efficiency and safety, exact improvements unknown
Susan Lane Extension	Terminus	Cottonwood Street	0.16	369,181	New access for future school project
New Road	Bridge Street	Susan Lane	0.21	496,548	New access for future school project
Agness Avenue Extension	Terminus	N Street	0.19	1,065,997	More efficient circulation and emergency access, 1 railroad crossing
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension	0.30	714,046	More efficient circulation and emergency access
New Road	Darnelle Lane	Leonard Road	0.63	1,504,782	New collector road to support future development, encroaches on housing
New Road	Hubbard Lane	Leonard Road	0.76	2,207,924	New collector road, part is constructed, canal crossing
New Road	Leonard Road	New Hubbard-Leonard connection	0.27	632,891	New collector road to support future development in the area
New Road	Ray Dean Drive	New Hubbard-Leonard connection	0.27	631,765	New collector road to support future development in the area
New Road	West Harbeck Road	Dowell Road	0.76	1,798,770	New collector road to support future development in the area
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.	0.11	270,435	New collector road to support future development in the area
Allen Creek Road	Denton Trail	Jacksonville Hwy	0.42	1,239,746	Reduces congestion on Jacksonville Highway, crosses creek, housing
New Road	Schutzwohl Lane	GI Lane	0.59	1,771,283	More efficient circulation and emergency access, housing on Jack. Hwy
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road	0.21	533,477	More efficient circulation and emergency access
Ringuette Road Extension	Redwood Highway	Union Avenue	0.07	471,863	More efficient circulation and emergency access
GI Lane Extension	Harbeck Road	Grandview Avenue	0.45	1,081,739	More efficient circulation
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy	1.18	3,693,953	New road would support future growth, 2 creek crossings
			Grand Total	20,269,512	

Tier Two Construction Projects Only

Facility	Limits From	To	Lanes	Lane Miles	Location	ROW	Asphalt	Subgrade	Excavation
Morgan Lane Extension	Mogan Lane Terminus	B Street	2	2.27	City	723,870	115,200	87,840	115,200
Midland Avenue	7th Street	9th Street	2	0.30	City	96,516	15,360	11,712	7,680
Beacon Drive	Madrone Street	Heritage Drive	2	0.13	City	41,019	6,528	4,978	3,264
9th Street	Wharton Street	A Street	2	0.08	City				
Dimmick Street	Foundry Street	F Street	2	0.08	City	24,129	3,840	2,928	1,920
Lincoln Road @ Lower River Rd	Intersection Improvements			0.00	UGB				
Susan Lane Extension	Terminus	Cottonwood Street	2	0.31	UGB	98,929	15,744	12,005	7,872
New Road	Bridge Street	Susan Lane	2	0.42	UGB	132,710	21,120	16,104	10,560
Agness Avenue Extension	Terminus	N Street	2	0.38	UGB	120,645	19,200	14,640	9,600
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension	2	0.61	UGB	193,032	30,720	23,424	15,360
New Road	Darneille Lane	Leonard Road	2	1.27	UGB	402,955	64,128	48,898	32,064
New Road	Hubbard Lane	Leonard Road	2	1.52	UGB	484,993	77,184	58,853	38,592
New Road	Leonard Road	New Hubbard-Leonard connection	2	0.53	UGB	168,903	26,880	20,496	13,440
New Road	Ray Dean Drive	New Hubbard-Leonard connection	2	0.53	UGB	168,903	26,880	20,496	13,440
New Road	West Harbeck Road	Dowell Road	2	1.52	UGB	482,580	76,800	58,560	38,400
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.	2	0.23	UGB	72,387	11,520	8,784	5,760
Allen Creek Road	Denton Trail	Jacksonville Hwy	2	0.83	UGB	265,419	42,240	32,208	21,120
New Road	Schutzwohl Lane	GI Lane	2	1.17	City	374,000	59,520	45,384	29,760
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road	2	0.42	City	135,122	21,504	16,397	10,752
Ringuette Road Extension	Redwood Highway	Union Avenue	2	0.14	City	43,432	6,912	5,270	3,456
GI Lane Extension	Harbeck Road	Grandview Avenue	2	0.91	City	289,548	46,080	35,136	23,040
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy	2	2.36	UGB	752,825	119,808	91,354	59,904

Tier Two Construction Projects Only

Facility	Limits From	To	Storm Drainage	Channelization	Striping	Landscaping	Curb & Gutter	5' Sidewalk	5' Bike lane	Street Lighting
Morgan Lane Extension	Mogan Lane Terminus	B Street	649,680	76,591	2,955	191,705	34,500	100,200		127,841
Midland Avenue	7th Street	9th Street	86,624	10,212	394	25,561	4,600	13,360	14,480	17,045
Beacon Drive	Madrone Street	Heritage Drive	36,815	4,340	167	10,863	1,955	5,678	6,154	7,244
9th Street	Wharton Street	A Street				6,390				
Dimmick Street	Foundry Street	F Street	21,656	2,553	98	6,390	1,150	3,340	3,620	4,261
Lincoln Road @ Lower River Rd	Intersection Improvements									
Susan Lane Extension	Terminus	Cottonwood Street	88,790	10,467	404	26,200	4,715	13,694		17,472
New Road	Bridge Street	Susan Lane	119,108	14,042	542	35,146	6,325	18,370		23,438
Agness Avenue Extension	Terminus	N Street	108,280	12,765	492	31,951	5,750	16,700	18,100	
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension	173,248	20,424	788	51,121	9,200	26,720	28,960	
New Road	Darnelle Lane	Leonard Road	361,655	42,636	1,645	106,716	19,205	55,778		71,165
New Road	Hubbard Lane	Leonard Road	435,286	51,316	1,980	128,442	23,115	67,134		85,653
New Road	Leonard Road	New Hubbard-Leonard connection	151,592	17,871	689	44,731	8,050	23,380		29,830
New Road	Ray Dean Drive	New Hubbard-Leonard connection	151,592	17,871	689	44,731	8,050	23,380		29,830
New Road	West Harbeck Road	Dowell Road	433,120	51,061	1,970	127,803	23,000	66,800		85,227
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.	64,968	7,659	295	19,170	3,450	10,020		12,784
Allen Creek Road	Denton Trail	Jacksonville Hwy	238,216	28,083	1,083	70,292	12,650	36,740	39,820	46,875
New Road	Schutzwohl Lane	GI Lane	335,668	39,572	1,527	99,047	17,825	51,770	56,110	66,051
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road	121,274	14,297	552	35,785	6,440	18,704	20,272	23,864
Ringuette Road Extension	Redwood Highway	Union Avenue	38,981	4,595	177	11,502	2,070	6,012		7,670
GI Lane Extension	Harbeck Road	Grandview Avenue	259,872	30,636	1,182	76,682	13,800	40,080		51,136
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy	675,667	79,655	3,073	199,373	35,880	104,208	112,944	

Tier Two Construction Projects Only

Non-Costable

Facility	Limits: From	To	Signage	Wheelchair Ramps #		Comm. Driveway Ft		GP Traffic Signal #		ODOT Traffic Signal #		Wetland Mitigation
Morgan Lane Extension	Mogan Lane Terminus	B Street	3,864	4	908		0		0		0	
Midland Avenue	7th Street	9th Street	515	8	1,816		0		0	1	247,500	
Beacon Drive	Madrone Street	Heritage Drive	219	4	908		0		0		0	
9th Street	Wharton Street	A Street			0		0		0		0	
Dimmick Street	Foundry Street	F Street	129	16	3,632		0		0		0	
Lincoln Road @ Lower River Rd	Intersection Improvements			6	1,362		0	1	168,700		0	
Susan Lane Extension	Terminus	Cottonwood Street	528	4	908		0		0		0	
New Road	Bridge Street	Susan Lane	708	10	2,270		0		0		0	
Agness Avenue Extension	Terminus	N Street	644	4	908		0		0		0	
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension	1,030	8	1,816		0		0		0	
New Road	Darnelle Lane	Leonard Road	2,151	20	4,540		0		0		0	
New Road	Hubbard Lane	Leonard Road	2,589	24	5,448		0		0		0	
New Road	Leonard Road	New Hubbard-Leonard connection	902	16	3,632		0		0		0	
New Road	Ray Dean Drive	New Hubbard-Leonard connection	902	12	2,724		0		0		0	
New Road	West Harbeck Road	Dowell Road	2,576	12	2,724		0		0		0	
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.	386	4	908		0		0		0	
Allen Creek Road	Denton Trail	Jacksonville Hwy	1,417	16	3,632		0		0		0	
New Road	Schutzwohl Lane	GI Lane	1,996	12	2,724		0		0	1	247,500	
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road	721	20	4,540		0		0		0	
Ringuette Road Extension	Redwood Highway	Union Avenue	232	12	2,724		0		0	1	247,500	
GI Lane Extension	Harbeck Road	Grandview Avenue	1,545	16	3,632		0		0		0	
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy	4,018	18	4,086		0	1	168,700	1	247,500	

Tier Two Construction Projects Only

Facility	Limits From	To	dd-Ons At-Grade RR Crossing	Bridge/Structure LF	Bridge/Structure Cost	SUBTOTAL	20% for D,CM, & Permits	GRAND TOTAL
Morgan Lane Extension	Mogan Lane Terminus	B Street		200	320,000	2,550,353	612,085	3,162,438
Midland Avenue	7th Street	9th Street				553,375	132,810	686,185
Beacon Drive	Madrone Street	Heritage Drive				130,133	31,232	161,365
9th Street	Wharton Street	A Street				6,390	1,534	7,924
Dimmick Street	Foundry Street	F Street	500,000			579,647	139,115	718,762
Lincoln Road @ Lower River Rd	Intersection Improvements					170,062	40,815	210,877
Susan Lane Extension	Terminus	Cottonwood Street				297,727	71,454	369,181
New Road	Bridge Street	Susan Lane				400,442	96,106	496,548
Agness Avenue Extension	Terminus	N Street	500,000			859,675	206,322	1,065,997
Ament Dam Road Extension	Shannon Lane	Agness Avenue Extension				575,844	138,203	714,046
New Road	Darnelle Lane	Leonard Road				1,213,534	291,248	1,504,782
New Road	Hubbard Lane	Leonard Road		200	320,000	1,780,584	427,340	2,207,924
New Road	Leonard Road	New Hubbard-Leonard connection				510,396	122,495	632,891
New Road	Ray Dean Drive	New Hubbard-Leonard connection				509,488	122,277	631,765
New Road	West Harbeck Road	Dowell Road				1,450,621	348,149	1,798,770
New Road	Schutzwohl Lane	New W Harbeck-Dowell Rd.				218,093	52,342	270,435
Allen Creek Road	Denton Trail	Jacksonville Hwy		100	160,000	999,795	239,951	1,239,746
New Road	Schutzwohl Lane	GI Lane				1,428,454	342,829	1,771,283
South Union Road Extension	Terminus	New Schutzwohl-GI Ln. Road				430,223	103,254	533,477
Ringuette Road Extension	Redwood Highway	Union Avenue				380,535	91,328	471,863
GI Lane Extension	Harbeck Road	Grandview Avenue				872,370	209,369	1,081,739
Cloverlawn Drive Extension	Hamilton Lane	Rogue River Hwy		200	320,000	2,978,994	714,959	3,693,953
							Subtotal	20,269,512

APPENDIX D - RESIDENTIAL TRAFFIC MANAGEMENT

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No	2. Government Accession No	3. Recipient's Catalog No
4. Title and Subtitle A Guidebook for Residential Traffic Management		5. Report Date December 1994
		6. Performing Organization Code
7. Authors Joseph P. Savage, Jr., P.E., KJS Associates, Inc. R. David MacDonald, Plantec John Ewell, P.E., INCA Engineers, Inc.		10. Work Number
		11. Contract or Grant No.
12. Sponsoring Agency Name and Address Washington State Department of Transportation Transportation Building, KF-10 Olympia, Washington 98504		13. Type of Report and Period Covered Final Report
		14. Sponsoring Agency Code
15. Supplementary Notes		

16. Abstract

This report provides a comprehensive reference on initiating and running a residential traffic management (RTM) program. Although aimed at smaller cities, towns and counties, the procedures are applicable in any jurisdiction. The Guidebook takes a "toolbox" approach to implementing traffic management projects, with various RTM devices and procedures being the "tools" in each box. Contents include: Introduction — a perspective on controlling traffic in residential areas; A Look at RTM — history, background and worldwide examples of RTM efforts; Getting Started — the first steps to take in starting an RTM program, and using involvement, learning and consensus building tools to build alliances; The RTM Toolboxes — a listing of RTM devices categorized by Speeding, Volume, Accidents and Miscellaneous Toolboxes; Common Design Issues — do's and don'ts for the design and installation of RTM devices; Legal Issues — authority for RTM programs under Washington state and federal statutes, regulations and case law; The Politics of RTM — a realistic look at how to make RTM a political as well as engineering success; and Concluding Thoughts — the author's view of the keys to success for an RTM program.

The Guidebook is illustrated with over 30 photographs of RTM devices in place, plus extensive references for further details.

The Guidebook includes a glossary of RTM terms, an annotated bibliography, a pictorial glossary of RTM devices excerpted from a report prepared by the City of Everett Department of Public Works, and an appendix on "Setting Up a Self-managed RTM Program in a Small Community."

17. Keywords residential traffic management, traffic engineering, traffic calming, neighborhood traffic control, traffic safety, pedestrian safety		18. Distribution Statement This document is available through the WSDOT Northwest Technology Transfer Center. Permission to reproduce parts of this document is granted to all parties in accordance with the "fair use" provisions of the Copyright Act.	
19. Security Classif. (of this report) None	20. Security Classif. (of this page) None	21. Number of Pages 82 plus appendices	22. Price

Contents

Appendices

Chapter 1.
Introduction

Throughout the United States citizens are asking their local officials to stop the decline in their residential environmental quality caused by excessive traffic volumes and speeding on their local streets. People are demanding actions that divert or slow the flow of cars on their streets. Many actions are available — and in choosing the best ones for an area, it is important that both local governments and citizens understand all of the issues involved.

Although many technical reports and professional references are available, they are not frequently used at the local level and their examples and recommendations are not always practical for smaller jurisdictions with limited resources.

This guidebook on residential traffic management (RTM) is intended to be an off-the-shelf resource for local jurisdictions that are looking for ways to address traffic issues on neighborhood streets. It presents a "state of the art" review of technical information in the field, and compiles key elements of successful residential traffic management programs used by local jurisdictions, primarily those in the Pacific Northwest. It is aimed at transportation professionals and citizens interested in learning more about neighborhood traffic management. As such, it functions as a "short course" on how to approach and resolve traffic problems in residential areas.

The goal of residential traffic management programs is to influence driver behavior through a variety of measures and devices, including physical, psychological, visual, social and legal means.

A Perspective on Residential Streets

The issues covered here arise from a desire for safe, functional and attractive streets in residential areas. In many communities, speeding, unnecessary through traffic, noise and air pollution, and parking problems threaten this vision. Residents also voice concerns about the safety of pedestrians, bicyclists and children. As traffic volumes grow and congestion increases on nearby through and arterial streets, these issues become more acute.

> Residential streets become part of the neighborhood and are eventually used for a variety of purposes for which they were not designed. Residential streets provide direct auto access for the occupant to his home; they carry traffic past his home; they provide a visual setting, an entryway for each house; a pedestrian circulation system; a meeting place for the residents; a play area (whether one likes it or not) for the children, etc. (*Performance Streets*, Bucks County (PA) Planning Commission, Doylestown, Pa, 1980)

Residential streets do more than carry cars and provide access to homes; they are an integral part of the neighborhood environment. A residential street typically:

- provides vehicular access to abutting property,
- provides vehicular access within or through a local area,
- provides a means to enable social interaction within a neighborhood,
- often serves as a play area or as community open space,
- provides access for emergency and service vehicles, and
- contributes visually to the living environment[1].

Recognizing this multiplicity of functions, traffic engineers have developed design standards for new residential streets. Standard references emphasize that residential streets are inherently different from arterials, and they need different design and traffic control treatments. Some recent examples include *Residential Streets, Second Edition*[2], by the American Society of Civil Engineers, and the Institute of Transportation Engineers' *Residential Street Design and Traffic Control*[3] and *Traffic Engineering Handbook*[4] (citations are listed at the end of this chapter). Residential traffic management techniques have even been introduced into the standard traffic engineering curriculums[5].

Not a cure-all

RTM programs cannot solve all traffic problems in residential areas. Traffic circles, speed humps and other devices won't make up for problems caused by poor zoning and planning, or reckless driving. They also can't substitute for needed improvements on congested arterials.

Often, a residential street starts out serving a few homes in a sparsely developed area on the fringes of town, but they become a busy collector or minor arterial as development occurs. Without enough alternate routes, the through traffic on this residential street may not have anywhere else to go. A common complaint by residents in such situations is that they can't "back out onto the street from their driveway" as they did "when they first moved there."

Residential streets may also suffer from cut-through traffic trying to escape congestion on the major arterial routes nearby. While RTM techniques may slow cut-through traffic to more acceptable speeds, very little may be accomplished in terms of reducing actual traffic volumes.

Purpose of this guidebook

Technical reports and professional references on residential traffic management offer detailed and comprehensive discussions of the key issues that must be part of a RTM program. Most are technical and do not provide hands-on guidance in developing a community program.

> The view of Paul C. Box, a consulting traffic engineer in Skokie, Illinois is shared by many in the profession: "I feel that the public agency should first strive to improve operation conditions [on the parallel arterials] and reduce the incentive for bypassing [congested areas] by use of local streets." (*ITE Journal*, August 1993; letter to the Editor)

Genre	Primary Functions
Home Owners	Vehicle access to abutting property.
	Vehicle access within or through local area.
Neighborhood	Provides a means to enable social interaction.
	Contributes visually to the living environment.
Children	Often serves as a play area or community open space.
Public Services	Provides access for emergency and service vehicles.

Table 1-1. Functions of a residential street

This guidebook was prepared to help transportation professionals, local jurisdictions and neighborhood residents who are looking for ways to reduce the impact of traffic in residential neighborhoods.

The guidebook covers:

- traffic control devices that can be applied to traffic problems on residential streets,
- what planning steps are needed to implement a successful RTM program,
- new developments in urban design that may affect neighborhood traffic,
- the planning and design aspects of traffic control devices as they affect traffic, emergency services, and other issues,
- the concept and practice of "traffic calming",
- the legal considerations of RTM programs, devices and systems,
- examples of Pacific Northwest RTM traffic control devices in place, and
- examples of effective RTM programs.

- **Starting an RTM program**
- **Research and reference**
- **Selecting an appropriate RTM device**
- **Education about RTM**

Table 1-2. Uses of this guidebook

Endnotes

[1] National Association of Australian State Road Authorities (NAASRA), *Traffic Engineering Practice Part 10*, "Local Area Traffic Management", Sydney, Australia, 1992.

[2] *Residential Streets, Second Edition*, ASCE, National Association of Homebuilders and the Urban Land Institute, Washington, D.C., 1990.

[3] Homburger, Wolfgang and Deakin, Elizabeth, et al., *Residential Street Design and Traffic Control*, Institute of Transportation Engineers, 1989; page 64.

[4] Institute of Transportation Engineers, *Traffic Engineering Handbook*, 5th Edition, Prentice-Hall, Englewood Cliffs, N.J., 1992.

[5] For example, see *Fundamentals of Traffic Engineering*, 12th Edition, which is a standard text for traffic engineering classes.

Chapter 2.
A Look At RTM

Programs and practices to manage traffic in residential areas have many names: neighborhood traffic control (NTC), traffic restraint, traffic calming, local area traffic management and environmental traffic management (ETM). The key words are "calming," "restraint", and "management." Nearly all RTM programs seek to make the residential streets safer and reduce traffic intrusion by reducing traffic speeds and, to a lesser extent, traffic volumes.

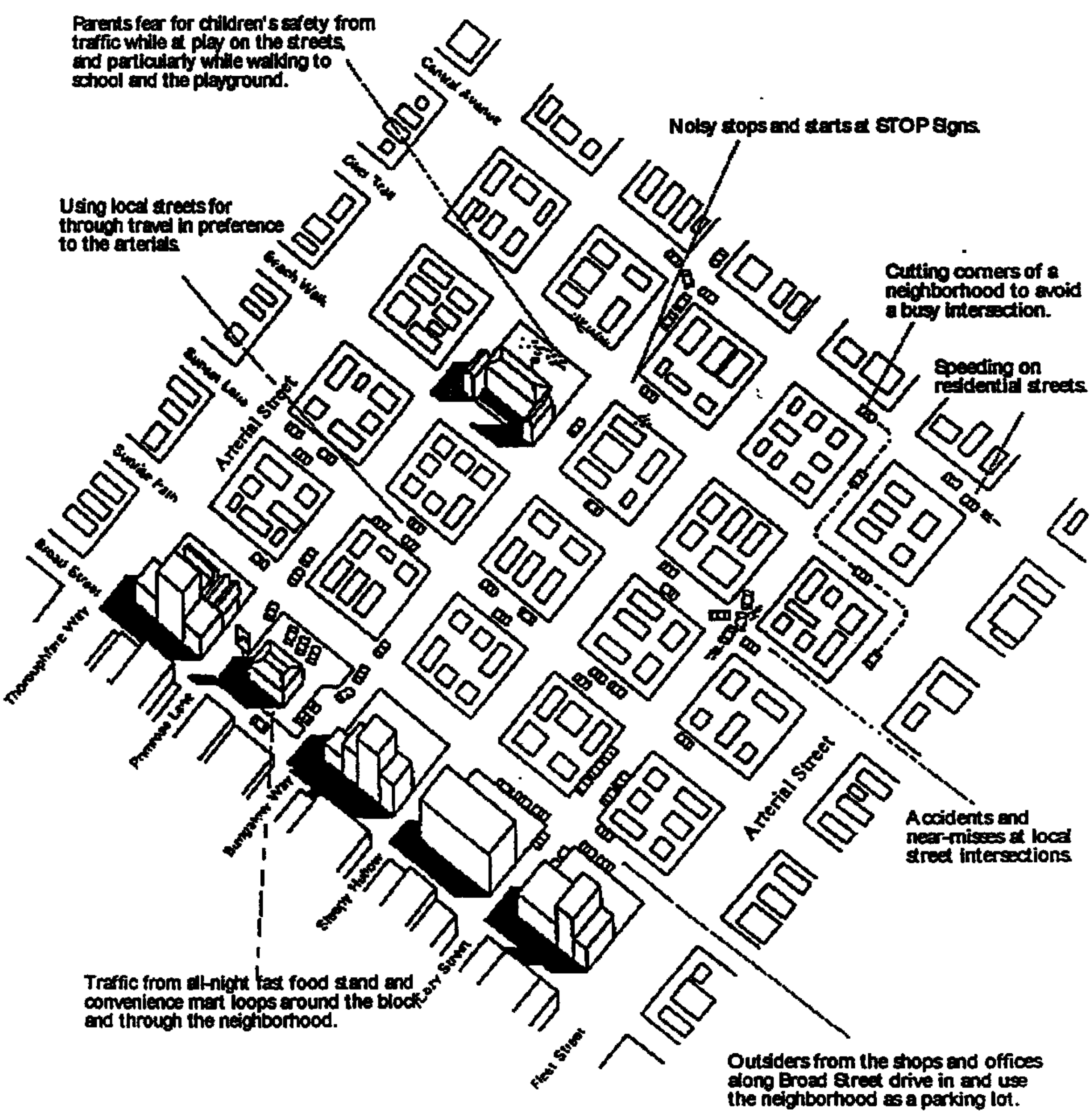
RTM – An Example

The problems with a high closely-spaced grid system in a high density urban area can be used to illustrate residential traffic management applications. As shown in Figure 2-1, cut-through traffic from the adjacent arterials (Thoroughfare Way, Fleet Street, Broad Street and Central Avenue) can impact streets designed to provide access to local residents only. The expectations of neighborhood residents to a quiet and safe environment conflict with those of motorists who believe they have the right to use any street available. In addition, commercial activities along the arterial create spill-over traffic and parking impacts on the nearby residential streets.

An example of a neighborhood traffic control plans to address these kinds of problems is illustrated in Figure 2-2. This example, from an early report on RTM techniques by Appleyard and Smith[1] for the Federal Highway Administration, shows how a series of RTM devices and control measures can work together to achieve the desired results. The resulting RTM system discourages cut-through traffic, reduces speeding and protects the residential streets from commercially-oriented traffic. Although smaller jurisdictions may not face the intensity of problems indicated in these illustrations, they provide a good overview of RTM applications.

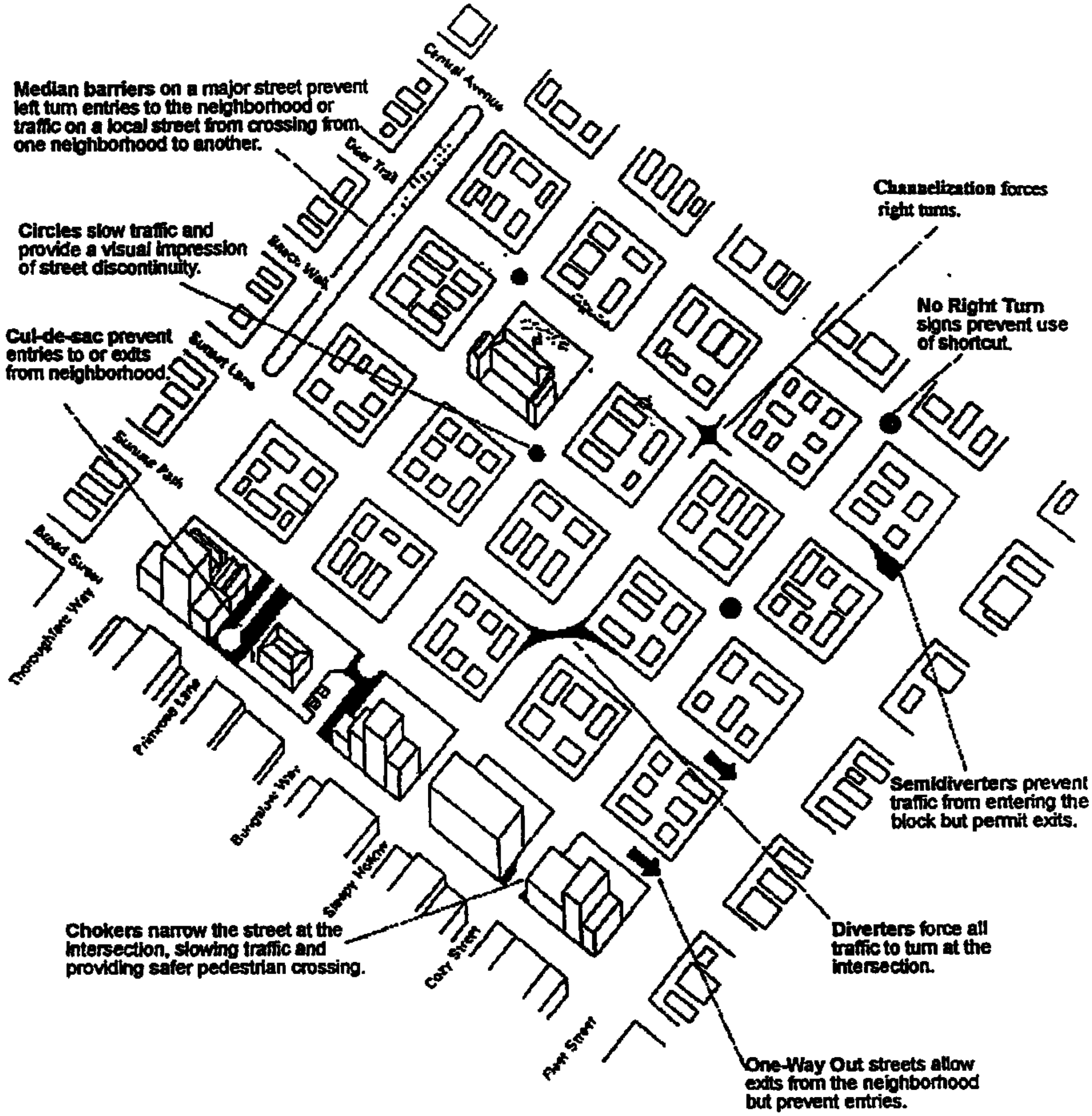
RTM – A Working Definition

Residential traffic management reduces traffic speeds, vehicle noise, visual impacts and through traffic volumes in residential neighborhoods by physical, psychological, visual, social and legal (regulatory and enforcement) means. Table 2-1 highlights some of the common actions of RTM programs.



Adapted from State of The Art Report: Residential Traffic Management; Federal Highway Administration, 1980.

Figure 2-1. Illustrative urban neighborhood and its traffic-related problems



Adapted from State of The Art Report: Residential Traffic Management; Federal Highway Administration, 1980

Figure 2-2. Illustrative residential traffic managmment program applied to problems in Figure 2-1.

RTM programs are defined largely [by t]heir goals and objectives, and the tools used to achieve them. Typical goals are seen in the City of Portland, Oregon's, program, "Reclaiming Our Streets" which are listed below:

- **Reduce traffic speeds and volumes on neighborhood streets to make them safer for pedestrians, bicyclists and residents, with special regard for children.**
- Increase bicyclist and pedestrian safety, and encourage cycling and walking as transportation modes.
- Reduce deaths, injuries and property damage resulting from driving under the influence of intoxicants and from failure to use safety restraints.
- Increase the use of alternative transportation while decreasing auto use.

Reducing	By	Examples
Through Volumes	Physical Means	Traffic circles, speed humps
Vehicle Noise	Psychological Means	Variable-spaced paint stripes
Visual Impacts	Visual Means	Landscaping to block through views
Traffic Speeds	Social Means	Neighborhood "Speed Watch" program
Accidents	Legal means	Strict speed enforcement

Table 2-1. RTM Activities

[A]s summarized in Table 2-2, the tools for achieving these goals fall into four general categories:

Education, encouragement and enforcement programs such as "emphasis patrols" by local police to catch speeders, elementary school programs to teach and reinforce "defensive walking and biking habits" byschool children, or speed watch programs by residents.

Laws and ordinances - prohibiting through trucks in residential areas, posting speed limits in residential areas, on-street parking restrictions, etc.

Traffic control devices - ranging from turn prohibitions at key entry points to a succession of stop signs.

⇨	Education
⇨	Enforcement
⇨	Engineering
⇨	Enhancement

Table 2-2. The 4 E's of Residential Traffic Management

Geometric design features - physical restrictions to induce low speed travel such as narrow streets, traffic circles or speed humps, and even traffic diverters and street closures.

Most RTM programs have similar goals and techniques, but different results are often expected. For example, European and Japanese cities strive to restrain vehicle speeds in RTM areas to 6 to 12 mph, while many communities in the US want to hold average speeds to 25 mph on local streets.

History

Traffic engineers have only recently begun to look at vehicle movements in residential areas differently than traffic flows on urban arterials. On arterial streets, the focus is on maintaining mobility for vehicles, mostly in terms of speed and efficiency of movement. Residential streets require a much different approach, with a focus on safety and access instead of through movements.

Even though they have different purposes, most residential streets were not planned much differently than the rest of the urban street system. Most streets in residential neighborhoods are laid out in either a grid or a curvilinear pattern. While curving streets are less than a century old, the grid has been around since antiquity. In the United States, the grid is the most common street pattern found in urban areas, although in some areas the natural landscape made the roads more easily laid out than built. However, a regular grid offers a potentially endless variety of alternative travel routes.

Not surprisingly, some people living within a grid system did not always like having so little control over access to their neighborhood. Looking to reduce unwanted traffic and to establish a sense of exclusivity and community, some neighborhoods in Philadelphia, Boston and New York began to put up walls and large gated entrances to set their blocks apart.

As cities grew and spread, and auto ownership increased, unwanted through traffic became more of an issue. In the late 1940s and early 1950s, Montclair, New Jersey, and Grand Rapids, Michigan, began to put in traffic diverters, and convert neighborhood access streets into cul-de-sacs. Urban redevelopment projects in the 1960s also worked to alter the grid system, often by closing streets, by rebuilding existing neighborhoods and by creating huge "superblocks" of development with few through streets.

On the other hand, the curvilinear pattern used in many subdivisions and newer neighborhoods also was having problems. The patterns varied from division to division and offered few connections to main access routes, making trips circuitous. Transit and other alternative modes proved difficult to implement and use in these neighborhoods. Bicycle and pedestrian travel also became more difficult since interconnecting paths, sidewalks and trails were not mandated in local zoning ordinances.

The First Studies

Planning guides and technical references specifically on the traffic problems of residential streets began first appearing in the early to mid 1960's. A seminal work, *Traffic in Towns*[2] by Colin Buchanan of the United Kingdom Ministry of Transport (1963), looked at the effect that suburban commuter traffic had on inner-city neighborhoods in England. Buchanan noted the threats to quality of life posed by greater congestion, air pollution, noise, and by the lower levels of safety and freedom of movement for local residents. Buchanan first introduced the concepts of "environmental traffic management" and the "environmental capacities" of residential streets.

By placing the traffic problems directly in the context of "life in the neighborhood," Buchanan pointed in the right direction. Later studies looked at the conflicts between urban mobility and neighborhood quality of life.

The Rise of Traffic Calming

"Traffic calming" for residential areas is a concept that seeks harmony between automobiles and people. Calming the traffic means to lower vehicle speeds and traffic volumes, usually through physical changes to the streets themselves and through laws on parking and speeds. With lower speeds and less through traffic, the street environment becomes more hospitable to residents, pedestrians, bicyclists and even playing children.

Traffic calming initially started out as a treatment for individual streets. However, the benefits of the managed traffic were limited mostly to those living on the affected street. Gradually, the concept was widened to include residential street networks and even main roads. Traffic calming has been applied the most in cities in Europe, and it is there that we find the broadest range of techniques.

Table 4-2
Speeding Tool Box
By Program Phase

Phase I Toolbox	Phase - II Toolbox (When Phase I Measures Fail)	
	Intersections & Entry Ways	**Along the Street/Street Section**
Warning, Caution Signs	Pavement pattern, texture, color variations (e.g. Cobblestone street section pseudo humps etc.)	Landscaping: foliated trees in planted strip, curb extensions, median islands. (shortens width, depth of view)
Speed limit, zone signs	Landscaping: foliated trees in circles, curb extensions, islands (Shortens width, depth of view)	Parking variants e.g. add parking, change parallel to diagonal, perpendicular, staggered, alternating
Pavement striping, marking, coloring	Raised street surface, e.g. Speed tables, thresholds of minor street	Curb extensions that don't alter number or width of lanes, e.g. protected parking
Rumble Strips	Chokers (half closures), using curb extensions to reduce turn/curb radii, lane width/number/access/egress	Median islands (lengths vary, may serve as turn barriers)
Speed Alert, (large, illuminated, roadside speed display in driver's view; shows driver's actual speed)	Traffic circles, rotaries, round-a-bouts	Raised Crosswalks
Police visibly present (enforcement)	Median islands, barriers, turn channeling	Speed humps,undulations, dips; speed tables/platforms
Speed watch/warning. Residents use radar, record license plate # of speeders, police send letter to alert/warn vehicle owners of observed vehicle speed, request compliance.	Diagonal diverters	Slow Points. Chokers, curb extensions that reduce number and or (less effectively) width of lanes; includes chicanes; are typically one lane two-way (Slow points may also be two lane two-way.)
Photo Radar. Police offsite, automatically issue tickets to owners of speeding vehicles. Photos contain pictures of license plate and occupants of the car.	Street closure	

Table 4-3
Volume/Cut-Through Traffic Tool Box
By Program Phase

Phase I Toolbox	Phase - II Toolbox (When Phase I Measures Fail): Intersections & Entry Ways	Phase - II Toolbox (When Phase I Measures Fail): Along the Street/Street Section
No Through Traffic signs (Traffic volume reduction is possible only if alternate routes exist)		Parking variants e.g. add parking, change parallel to diagonal, perpendicular, staggered, alternating
One-way Signs (Caution: May also increase cut-through volumes and speeding)	Chokers (half closures), using curb extensions to reduce turn/curb radii, lane width/number/access/egress	Speed humps, undulations, dips; speed tables/platforms
Speed watch/warning (effective only if cut-through time savings are related to excessive travel speeds)	Traffic circles, rotaries, round-a-bouts	Slow Points. Chokers, curb extensions
Police visibly present (enforcement)	Diagonal diverters	
Photo Radar. Police offsite, automatically issue tickets to owners of speeding vehicles. Photos contain pictures of license plate and occupants of the car.	Forced turn channelization	Median Barriers
Turn Prohibition Signs	Full Street Closure, Cul-De-Sacs	

Table 4-3. RTM Volume / Cut-through Traffic Tools

Table 4-4
Accident Problem Tool Box
By Program Phase

Phase I Toolbox	Phase - II Toolbox (When Phase I Measures Fail)	
	Intersections & Entry Ways	Along the Street/Street Section
Speed limit, zone signs	Raised street surface, e.g. Speed tables, thresholds of minor street	Raised and landscaped crosswalks for pedestrian accidents)
Speed watch/warning. Residents use radar, record license plate # of speeders, police send letter to alert/warn vehicle owners of observed vehicle speed, request compliance	Chokers (half closures), using curb extensions to reduce turn/curb radii, lane width/number/access/egress	Speed humps, bumps, undulations, dips, speed tables/platforms (effective where accidents are speed related)
Police visibly present (enforcement)	Traffic circles, rotaries, round-a-bouts	Slow Points. Chokers, curb extensions
Warning signs	Diagonal diverters	
Stop signs	Forced turn channelization	Median Barriers
Yield signs	Full Street Closure, Cul-De-Sacs	
Turn Prohibition Signs	Flashing beacons	

Table 4-4. RTM Accident Tools

Chapter 5.
Common Design Issues

Local jurisdictions face many common issues in selecting and designing of a Residential Traffic Management program or device.

A successful RTM program and its devices should be:

- Predictable: To ensure comparable types of traffic control devices over the entire transportation system.
- Based on Sound Engineering Standards: To ensure the safety of the public and limit the liability of the City.
- Equitable: To ensure a fair distribution of limited resources among the competing problems and among neighborhoods.
- Cost Effective: To get the greatest public benefit from the limited capital and maintenance dollars available to the City.
- Consistent: To ensure consistency with proven and accepted traffic engineering standards.
- Clear and concise: To be understood by the public, and easily administered by staff and officials.

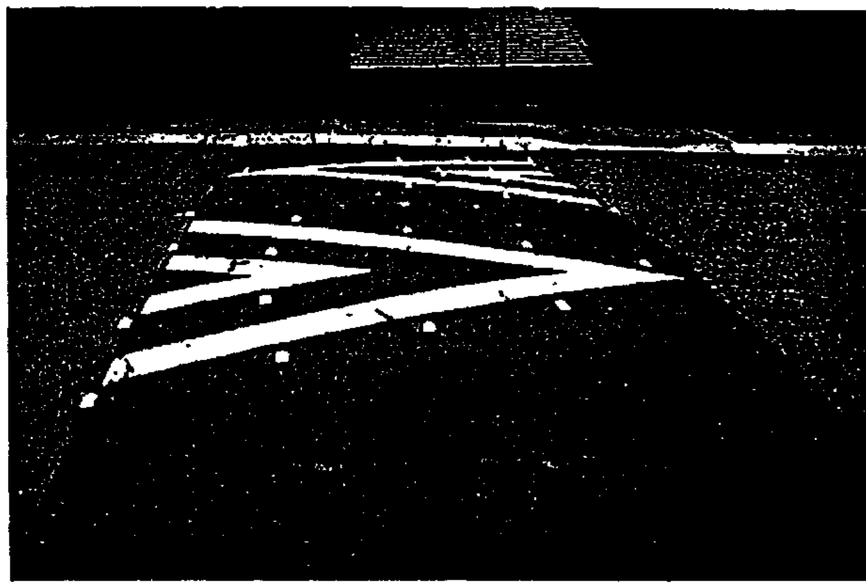


Figure 5-1a. Speed Hump Striping Pattern

Figure 5-1b. Speed Hump Edge Treatment

Guidelines

While efficiency and cost-effectiveness are important, safety is the overriding requirement in the design of local streets and RTM devices. The entire "streetscape" should create a safe environment for motorists, bicyclists, pedestrians and residents. The needs of each competing user group are balanced with the overall all goals for the street. Each element of the streetscape should contribute to the goal of maximizing personal safety, rather than the speed of car travel.

While many examples of successful RTM devices exist, a list of "off-the-shelf" devices and design standards will not produce a successful RTM program. Each situation is unique, and all design elements must be reviewed on a given street when considering RTM measures. As a minimum, the following items should be reviewed by the design professional for each RTM installation:

Geometrics

- Alignment
- Turning Radius
- Horizontal and Vertical Curves
- Superelevation
- Major geometric features such as sidewalks, curbs, etc.
- Lateral separation of modes
- Roadway Width
- Sight Distances

Safety

- Channelization
- Illumination
- Signing
- Safety Zone (clearance of obstructions from traveled roadway)
- Crosswalk Locations

Utilities

- Water and Sewer
- Franchise Utilities (such as gas, power, telephone, etc.)
- Storm Drainage
- Location of Fire Hydrants

Design vehicles

- Local emergency vehicle characteristics
- Minimum design vehicle - bus, single unit truck or passenger car
- Public transit and school bus stops and routes
- Bicycles, wheelchairs and other non-motorized devices

Other

- Landscaping
- Pedestrians and Bicycles
- Handicapped Access
- Parking
- Mail delivery routes
- Emergency Access

The requirements for these elements can be found in the design references listed in Table 5-1.

A Policy on Geometric Design of Highways and Streets, (commonly referred to as the AASHTO Green Book), American Association of State Highway and Transportation Officials.

Manual on Uniform Traffic Control Devices (MUTCD), Federal Highway Administration.

Washington State Department of Transportation:

- *Sign Fabrication Manual*
- *Standard Specifications for Road, Bridge, and Municipal Construction*
- *Standard Plans* for Road and Bridge Construction
- *Local Agency Guidelines*
- Local Supplements to the State's Standard Specifications and Standard Plans (varies by jurisdiction)

Table 5-1. RTM Design References

Figure 5-2 Visibility is a key design issue at an RTM device

Design Aspects of RTM Devices

This section discusses design issues related to specific RTM devices. Some common issues are:

- *Visibility.* Devices should be easily visible during day and night. Reflectors, buttons, highly reflective paint, or illumination should be used as appropriate to ensure visibility. Additionally, RTM devices should not be placed were drivers do not have adequate stopping sight distance for the desired deign speed.

- *Signage.* Advance signs should warn motorists of upcoming RTM devices and, to the extent possible, guide the motorists' response to such devices. For example, a curve sign should be placed upstream of diagonal diverters. A typical RTM warning sign is shown in Figure 5-3.

- *Streetscape.* RTM devices should blend naturally into the streetscape and enhance the appearance and "feel" of the street. They should alert drivers that they are in or entering a residential place.

- *Design vehicles.* RTM devices should be designed to accommodate emergency service and other large vehicles at an acceptable speed.

- *Maintenance.* As with any municipal project, the longer term maintenance needs should be anticipated in the design process and minimized to the extent possible. Some jurisdictions contract with the neighborhood to maintain plantings or simply eliminate planting and landscape in the absence of a willingness on the part of residents to participate.

- *Parking.* On-street parking in residential areas creates a sense of activity; some jurisdictions encourage on-street parking for this reason. However, in some instances, on-street parking also creates sight line restrictions which may be unsafe for drivers who are going too fast. Diagonal parking in selected areas can be used to slow traffic flow, since motorists must be alert to cars backing out at any time. Examples of parking options are given in Figure 5-4.

Figure 5-3. Advance warning sign

- *Speed control.* RTM devices should be located and designed to limit speeds in residential areas.

Landscaping

Neighborhood residents often insist on attractive landscaping as a component of RTM devices. Landscaping can enhance the effectiveness of traffic control devices and add to the living quality of the neighborhood. Figure 5-5 shows two approaches to landscaping traffic circles in the City of Seattle. The first, with a tree and well-established vegetation, contributes to the character of the neighborhood and reinforces the circle as an obstacle requiring low speeds to circumnavigate. The second, anchored by reflectors on a sign post, attracts little extra attention as evidenced by the dents in the guard rails and wheel marks on the curbing around the circle.

When planning landscaping, consider the following issues:

- Does the landscaping block vehicle and pedestrian sight lines?
- Does the landscaping hide pedestrians?
- Does the landscaping attract the driver's attention and induce the driver to negotiate the circle at low speed?
- Does the landscaping block illumination? The site should be visited at night to review the illumination and looking for shadows.
- How will the landscaping be maintained? Is irrigation required?

Many cities use a team approach where the neighborhood and city share the costs of installation and maintenance.

Figure 5-4a. Parallel parking on one side of the street

Figure 5-4b. Parallel parking on both sides of the street

Figure 5-4c. Diagonal parking on one side of the street.

INTERACTIVE SPEED WATCH

RUMBLE STRIPS

TRAVERSIBLE RUBBER DELINEATOR

Location

Bellevue, Washington
Vancouver, B.C.

Setting

Varies

FIGURE 1 Interactive speed watch
Bellevue, Washington

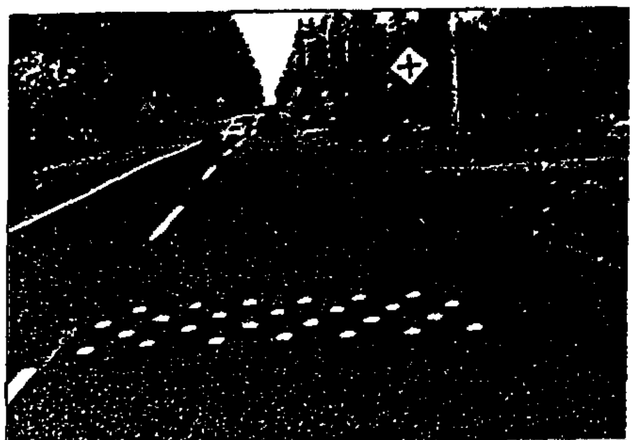


FIGURE 2 Rumble strip preceeding intersection
Bellevue, Washington

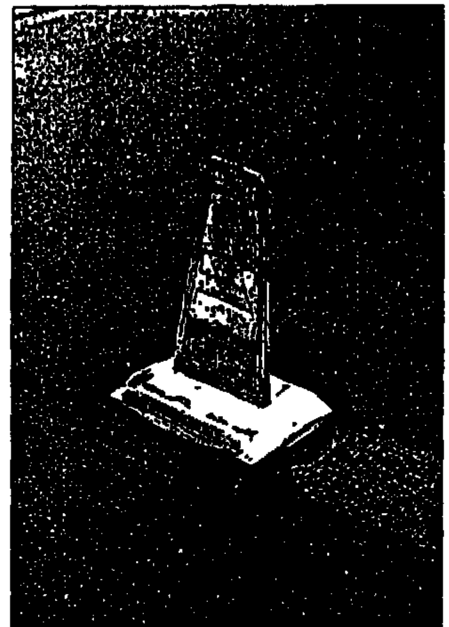


FIGURE 3 Rubber delineator on diagonal diverter
Vancouver, B.C.

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Rumble Strips	Unlikely	Yes	Increase	Vehicles - Good Bicycles - Questionable	None	No Problems	Not Applicable	Low	Snowplow

22

ENTRY TREATMENT

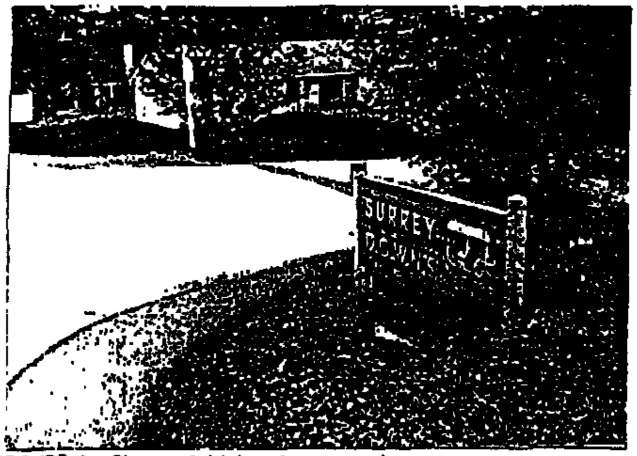


FIGURE 1 Sign and textured pavement
110th Ave. S.E. at Main St., Bellevue, Washington

FIGURE 3 Textured pavement, red "Bomanite"
110th Ave. S.E. at Main St., Bellevue, Washington

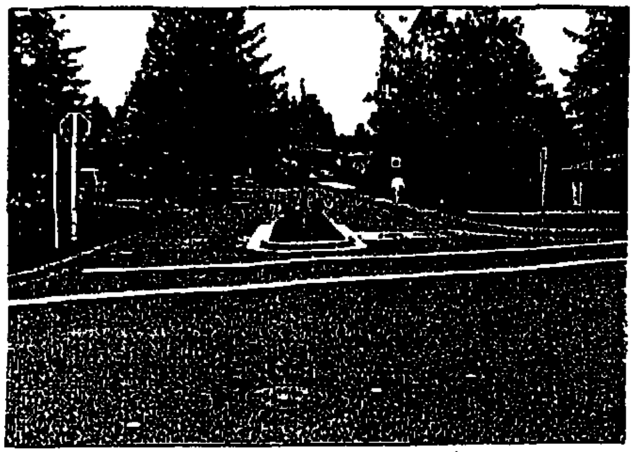


FIGURE 2 Median sign and textured pavement
S.E. 2nd Ave. at 100th Ave. S.E., Bellevue, Washington

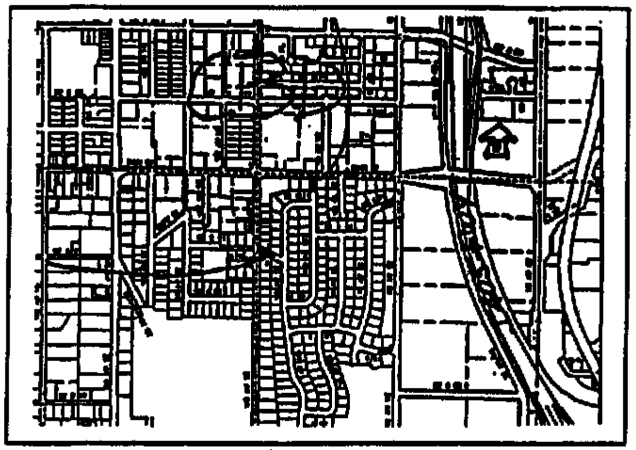


FIGURE 4 Map courtesy of City of Bellevue

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Entry Treatment Surface & Median	Possible	Slight	No/Minor Change	Possibly Improved	None	No Problem	Not Applicable	Low to Moderate	Low to / Possible Moderate Vandalism

Location

Surrey Downs Neighborhood
Bellevue, Washington

Setting

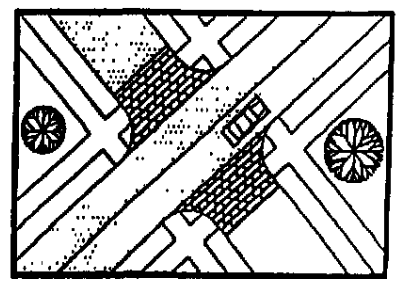
Fully developed, single family residential area, adjacent to downtown Bellevue.

Situation

Cut-thru traffic and excessive speeds. Neighbors seek to affect driver behavior by emphasizing that they are entering a "special" place.

Features

Textured, colored pavement, neighborhood identification sign, median, drought-resistant landscaping.



TRAFFIC CIRCLE

FIGURE 1 Circle sign indicates direction of travel
Vancouver, B.C.

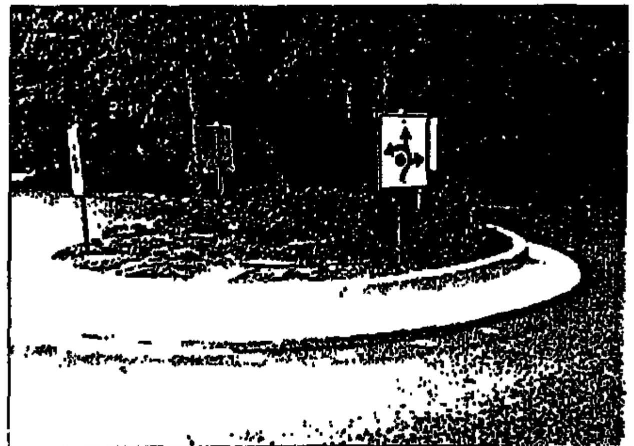


FIGURE 3 Circle sign clearly shows direction of travel
N.E. area, Portland, Oregon

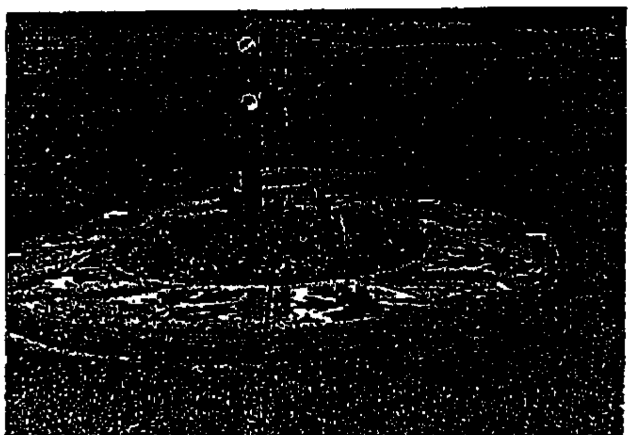


FIGURE 2 Circle detail "Mapleleaf" pavement design
Mapleleaf Neighborhood, Seattle, Washington

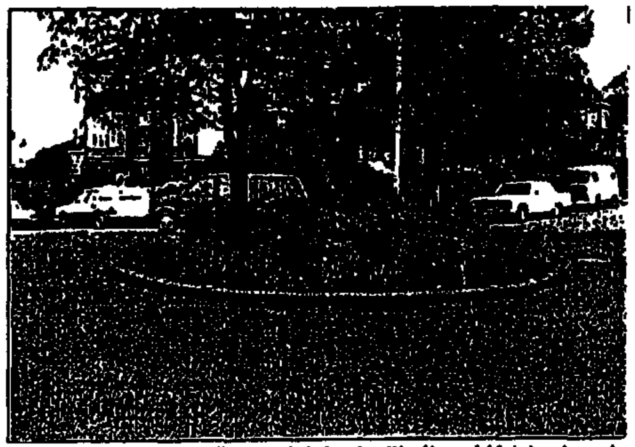


FIGURE 4 Circle visibility maintained with thoughtful landscaping,
E. Highland Dr. at 16th St., Seattle, Washington

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Traffic Circle	Possible	Likely	No Change	Improved	None	Some Constraint	Low	Low	Vandalism

Location

Figure 1 Vancouver, B.C.
Figure 2,4 Seattle, Washington
Figure 3 Portland, Oregon

Setting

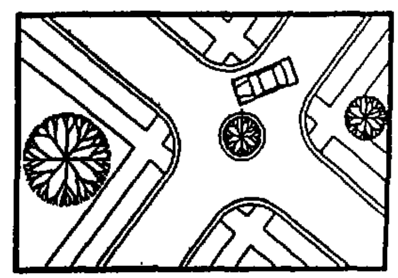
Fully developed residential areas in three Pacific Northwest cities.

Situation

All circles at intersections of local streets.
Diameter of circles varies to provide clearance.

Features

Portland and Vancouver both provide signs to indicate the desired direction of travel Seattle does not do this on local streets, but does sign for direction when circles are located on intersections of local and arterial/collector streets



TRAFFIC CIRCLES

In Three Cities

Location

Seattle, Washington
Portland, Oregon
Vancouver, B.C., Canada

Setting

Figure 1 Old single family area near church and school; circle installed mid 1970's; Seattle, Washington

Figure 2 Affluent, single family area near Univ. of Washington and Lake Washington. Circle newly installed

Figure 3 High density, high rise near downtown Vancouver, B.C.

Figure 4 Mature, well-kept single family area; Portland, Oregon

Situation

The same problem in each city: speeding, cut-thru traffic, accidents. The circles are one of a number of devices and measures put in together to provide an area-wide remedy. They are not "spot" improvements in these case

Features

All examples very well landscaped with both shrubs and trees.
Notice variation in signage, curb design, striping and use of reflectors. See how shrubs are kept low and trees are pruned high to assure pedestrians and driver/auto visibility.

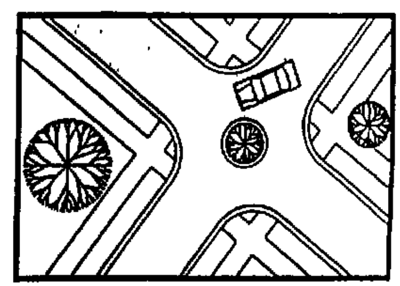


FIGURE 1 18th Ave. E. at E. Roy St.
Capitol Hill, Seattle, Washington

FIGURE 2 E Roanoke at 25th Ave. E. Eastbound
Mountlake District, Seattle, Washington

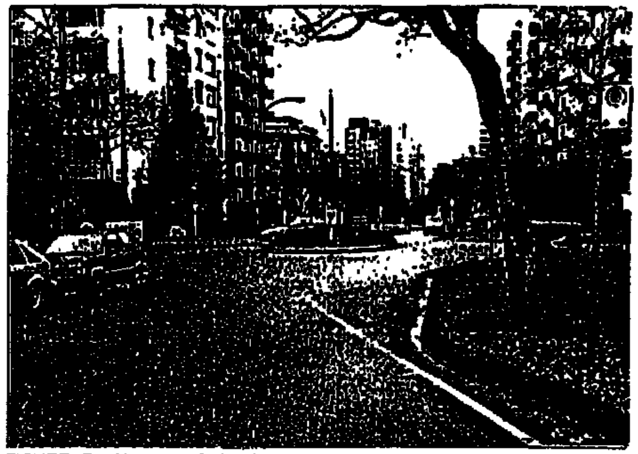


FIGURE 3 Haro and Jervis
Vancouver, B.C., Canada

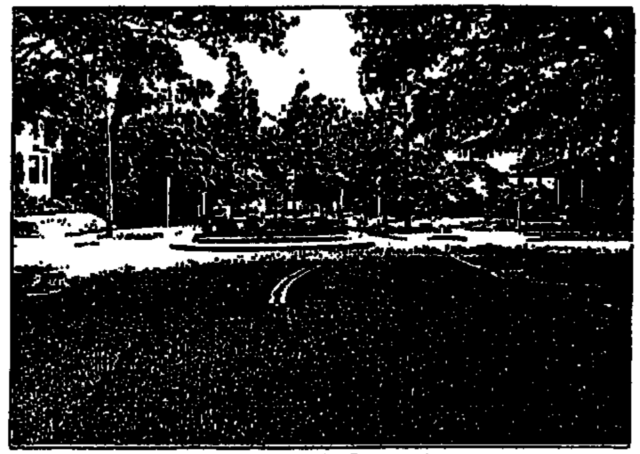


FIGURE 4 N.E. 24th Ave. at N.E. Tillamook
Portland, Oregon

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Traffic Circle	Possible	Yes Near Circle	No Change	Improved	None	Some Constraint	Self Enforcing	Moderate to High	Moderate / Possible Vandalism

ROTARY

Moderate Size

FIGURE 1 Rotary N.E. Naomi at 17th Ave. and 63rd St. Looking east. Seattle, Washington

FIGURE 2 Rotary, N.E. Naomi at 17th Ave. and 63rd St. Seattle, Washington

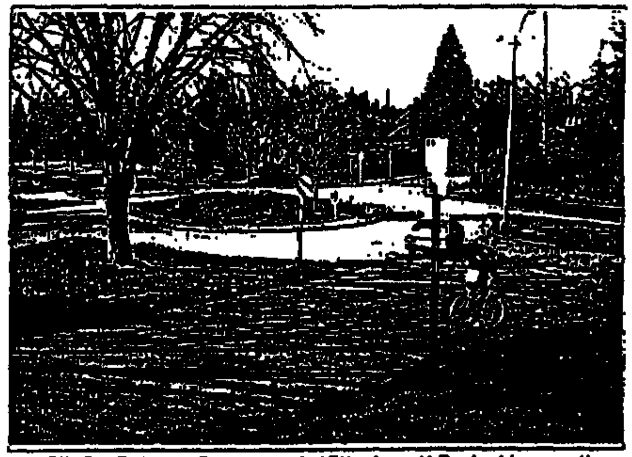


FIGURE 3 Rotary Ravenna at 17th Ave. N.E., looking north Seattle, Washington

FIGURE 4

Location

University neighborhood north of the University of Washington, Seattle, Washington

Setting

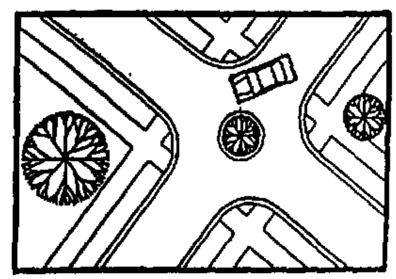
Fully developed, mature single family areas, N. Seattle.
Figure 2 Classic rotary in heavily landscaped boulevard of historic Olmsted design

Situation

Rotaries reduce head on conflicts by encouragin traffic to merge, flow in the same direction, and exit smoothly. Pedestrians must be alert to find gaps in which to cross if traffic volumes are high.

Features

Figure 1,2 Odd-shaped, landscaped rotary with walkways cutting across to accomodate pedestrians.
Figure 3 has a circumferential sidewalk It and the nearby median islands are wide and tastefully landscaped



TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Traffic Rotary	No	No	Mixed Results	Mixed Results	None	No Constraint	Low	High	Moderate / Possible to High Vandalism

• Rotaries are very large circles. They often substitute for traffic signals on major arterials if there is enough space available. In these neighborhood examples, however, some of the entering streets have stop signs; in many instances, rotaries function quite well without stop controls. Unfamiliar drivers discover that they take some getting used to.

FORCED TURN CHANNELIZATION

Right Turn In
Right Turn Out
Diverter

Location

Westend area, Vancouver, B.C.
Northeast area, Portland, Oregon

Setting

Two residential neighborhoods in two Pacific Northwest cities. In Vancouver, B.C., high population density in high and low rise buildings adjacent to downtown. In Portland, Oregon, mature urban single family area near major shopping center.

Situation

Vancouver, B.C.: High volume of cut-thru speeding traffic, often to/from hospital complex to east.
Portland, Oregon: Cut-thru, speeding traffic mostly to/from shopping complex to south

Features

Figure 1,3 raised island diverter with curb cuts, no landscaping, functional but unattractive.
Figure 2,4 Test case. Lack of bulk contributes to unappealing appearance.

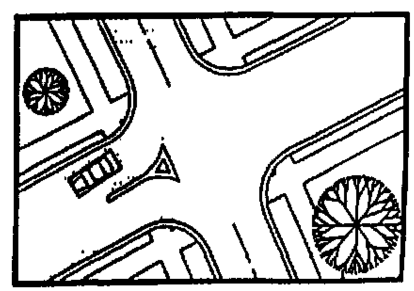


FIGURE 1 Barkley at Thurlow Looking west
Vancouver, B.C.

FIGURE 3 Barkley at Thurlow Looking east
Vancouver, B.C.

FIGURE 2 Test: Right turn in, right turn out island
N.E. Schulyer at E. 8th Ave, looking S.W.
Portland, Oregon

FIGURE 4 Test: Right turn in, right turn out island
N.E. Schulyer at E. 8th Ave., looking north
Portland, Oregon

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Forced Turn Channelization	Yes	Likely	Decrease	Improved	Some, No Left Turn	Minor Constraint	N/A	Potentially High	Vandalism

SPEED HUMP (BUMP)

ROAD UNDULATIONS
3 Humps in Series
With Curb Extensions

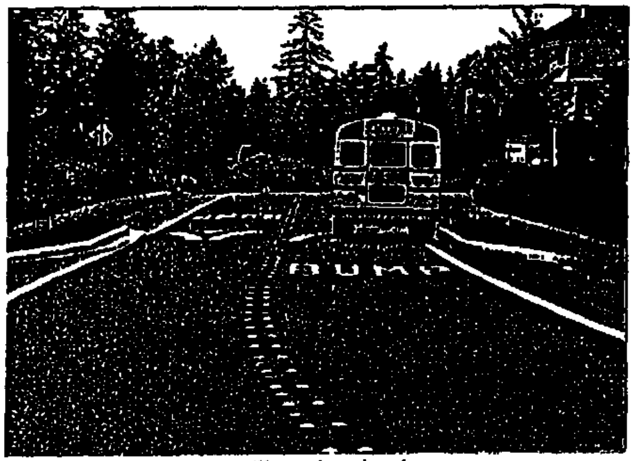


FIGURE 1 Speed hump with curb extensions
111th Ave. N.E. looking N.W., Bellevue, Washington

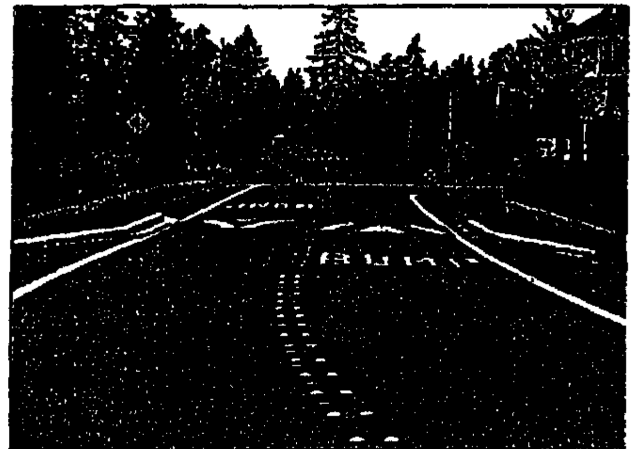


FIGURE 3 Speed hump with curb extensions
111th Ave. N.E. looking N.W., Bellevue, Washington

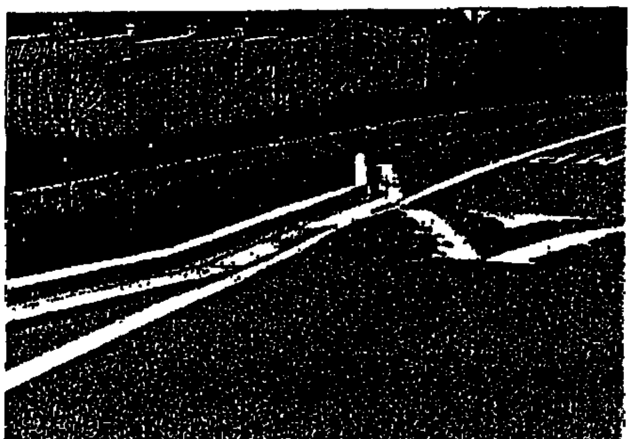


FIGURE 2 Detail curb extension to physically reduce traveled way. See tire marks on curb face.
111th Ave. N.E., Bellevue, Washington

FIGURE 4 Grand Ave., Everett, Washington

Location

Yarrow Bay Development
Bellevue, Washington;
Grand Ave., Everett, Washington

Setting

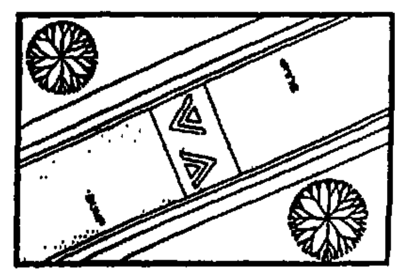
Newly developed, single family area. Condos and other multi-family dwellings along easterly portion of 111th Ave. N.E.

Situation

Cut-thru traffic, speeding
Wide street width and sweeping curves invited speeding. Rolling terrain and curves limit sight distance. Wide curb-to-curb places crossing pedestrians and school children at risk.
Speed reduced

Features

Extensive use of striping, reflectors, and buttons. Landscaped curb extensions include deciduous trees. Drought tolerant plantings maintained by neighbors. Pedestrian crossing distance effectively reduced with striping.



TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Speed Humps/ Undulations	Possible	Yes	No Change	Improved	None	Minor Constraint	Self Enforcing	Moderate	Low to / Possible Moderate Vandalism

ENTRY ISLANDS AND MID BLOCK SLOW POINT

FIGURE 1 Mid block slow point, one lane/two way
Dorffel Dr., Seattle, Washington

FIGURE 3 Entry median looking out (S.E.)
Dorffel Dr. at E. John and Malden Lane, Seattle, Washington

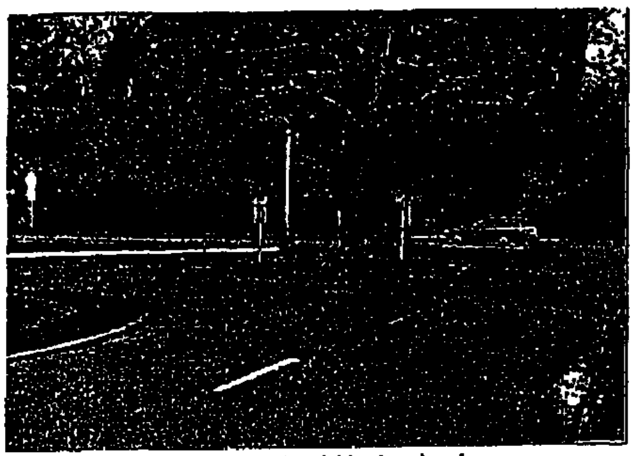


FIGURE 2 Intersection island neighborhood entry
Lake Washington Blvd. at Dorffel Dr.

FIGURE 4

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS

Location

Lakeview Park area
Seattle, Washington

Setting

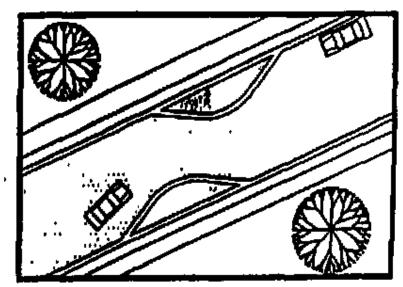
Fully developed, mature and single family residential neighborhood near Lake Washington.

Situation

Cut-thru traffic and excessive speed. Neighbors requested slow point to allow passage of only one car at a time, and the median at southeast entry to lessen collisions by slowing and guiding traffic flow.

Features

Offset slow point and entry islands, all landscaped.
Slow point and island have irrigation system



CHICANE

Alternating Barriers

Reduce 2 Lane, 2 Way to 1 Lane, 2 Way

Location

North of the Univ. of Washington, east of I-5 freeway and the Green Lake area of Seattle, Washington.

Setting

Fully developed, urban area in corridor serving heavily traveled freeway.

Situation

Three chicanes on 70th St. N.E. just west of 15th Ave. and another three farther down the street just east of 12th Ave. have been very effective in reducing cut-thru traffic volumes. Speeding has also diminished

70th Ave. to the west provides one of several I-5 freeway crossings in the vicinity. It is fed by an I-5 off-ramp serving south, west, and eastbound freeway exits

Features

Basic landscaping and fencing (6x6 posts, 2x6 laterals), provided by the city is maintained by neighbors (who also painted fence). The solid appearance and use of reflectors and signs has proven effective, safe and popular with residents along the street. Boisterous negotiations between drivers going in opposing directions have been reported.

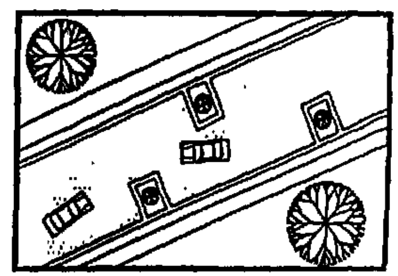


FIGURE 1 Approaching vehicle, requires driver decision. Who is to give way? 70th Ave., westbound

FIGURE 2 Open lane ahead; N.E. 70th St. west of 15th Ave. N.E., westbound

FIGURE 3 N.E. 70th St. at 15th Ave. N.E.; Looking west

FIGURE 4 N.E. 70th St. just west of 15th Ave. N.E., westbound

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Chicane (Fort)	Yes	Yes	Decrease	Mixed Results	None	Minor Constraint	Not Applicable	Moderate to High	Moderate to High / Possible Vandalism

30

CHOKERS LANE REDUCTION

Passage For One Vehicle At A Time

FIGURE 1 Interlaken Blvd. east of 24th Ave. E. Bridge reduced to one lane

FIGURE 2 Interlaken Blvd. near 24th Ave. E., when southeast bound, entering series of choke points.

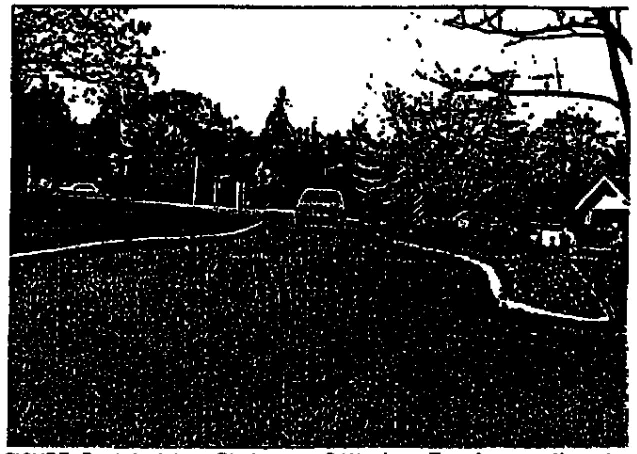


FIGURE 3 Interlaken Blvd. near 24th Ave. E., when northwest bound, exiting series of choke points

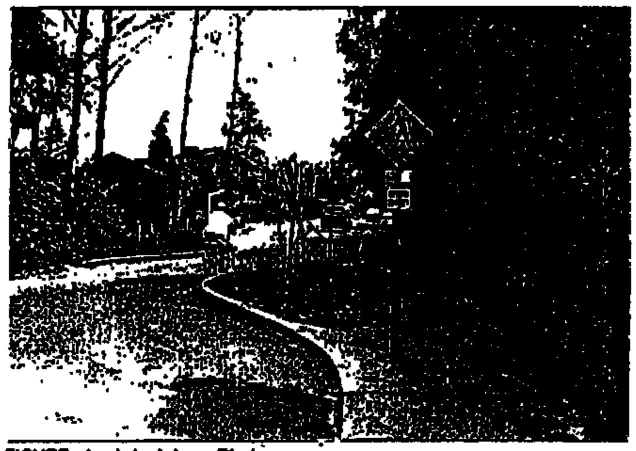


FIGURE 4 Interlaken Blvd.

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Choker Lane Reduction	Possible	Yes	Decrease	Improved for Pedestrians	None	No Problems	Initially High Now Routine	Moderate to High	Possible Vandalism Moderate

Location

West of Washington Park
Seattle, Washington

Setting

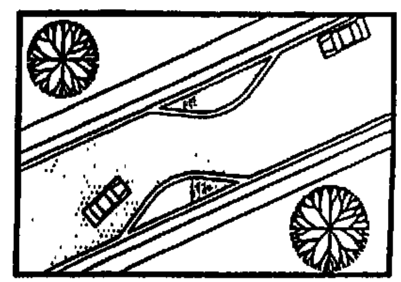
Fully developed, mature single family area. Houses abut linear parkway

Situation

Congestion on the few alternative routes attracted commuter cut-thru traffic
Series of chokers effectively reduced speed and volume of traffic. Strenuous opposition is slowly abating (1991), but drivers often "honk" (day and night) to warn opposing vehicles approaching single lane bridge Honking upsets neighbors.
"Perfect" solution yet to be achieved

Features

Landscaping on chokers and bridge approaches retains flavor of original "Olmstead" boulevard design.



HALF CLOSURE

Test Exit Only
Semi-Diverter/Choker

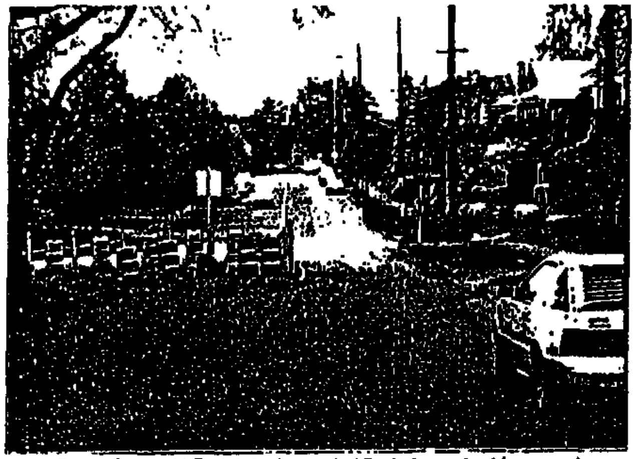


FIGURE 1 Test N.E. Wistaria and 42nd Ave., looking west

FIGURE 3 Test N.E. Wistaria and 42nd Ave., looking east

FIGURE 2 Test N.E. Knott at 42nd Ave., looking east

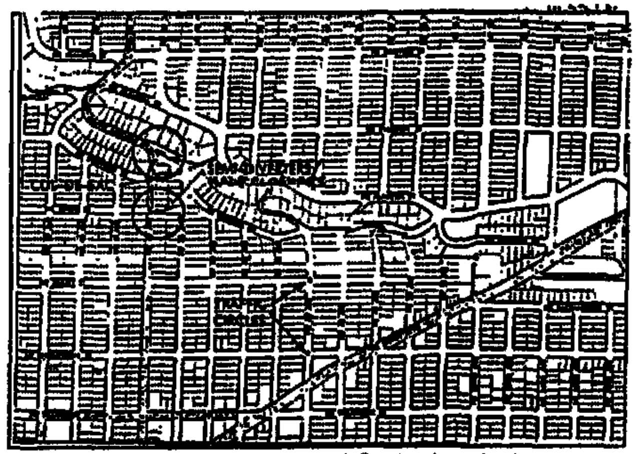


FIGURE 4 Map courtesy of City of Portland, revised

Location

Northeast Portland, Oregon

Setting

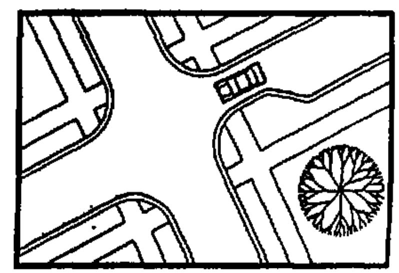
Fully developed, well maintained, single family residential area

Situation

Cut-thru traffic uses local streets
Two half closures and one full closure/cul-de-sac have been temporarily installed to assess their deterrent effect

Features

Highly visible, well signed barriers are successful in appearing both massive and temporary.



TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Half Closure (Semi-diverter)	Yes	Likely	Decrease	Improved	Restricted One Direction	Minor Constraint	Potentially High	Moderate	Low to / Possible Moderate Vandalism

HALF CLOSURE

EXIT ONLY
Semi-Diverter /Choker

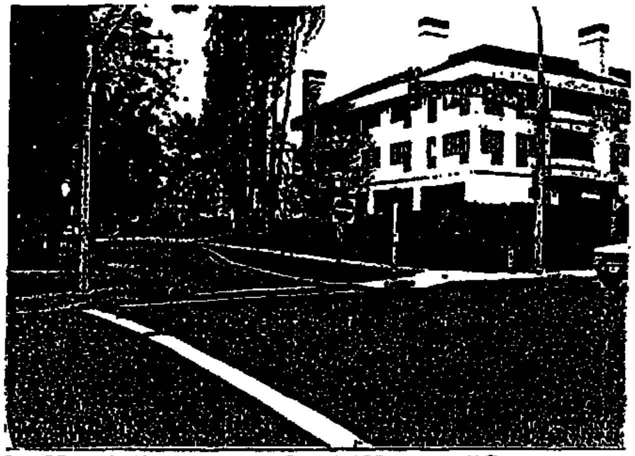


FIGURE 1 Half closure, 4th St. at 100th Ave. N.E., looking northwest, Bellevue, Washington

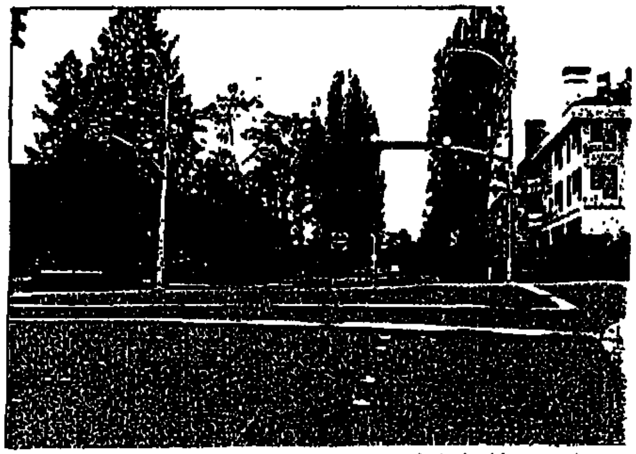


FIGURE 2 Same location as figures 1 and 4, looking west

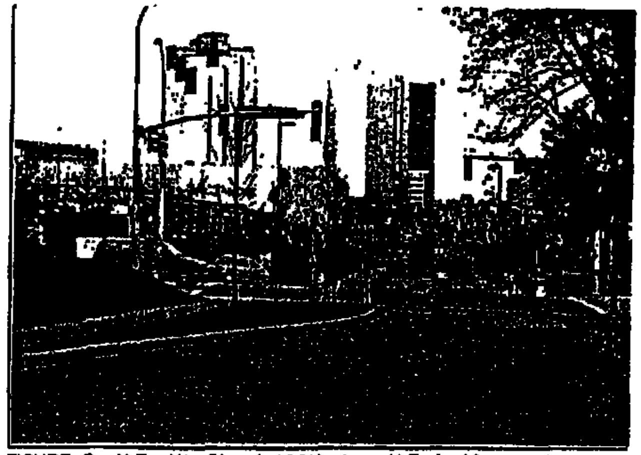


FIGURE 3 N.E. 4th St. at 100th Ave. N.E. looking east Bellevue, Washington

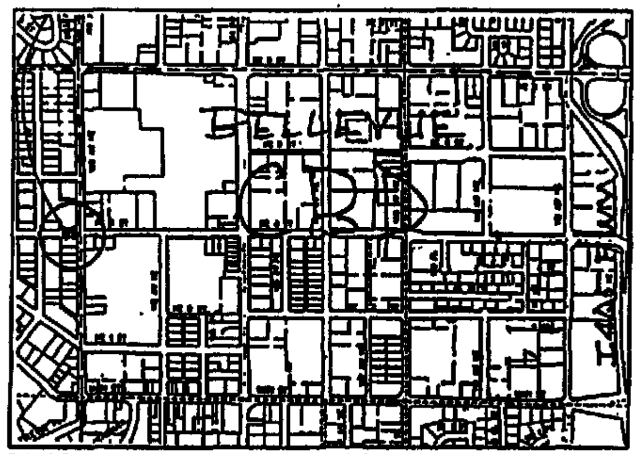


FIGURE 4 Map courtesy of City of Bellevue, revised

Location

West of downtown Bellevue, Washington

Setting

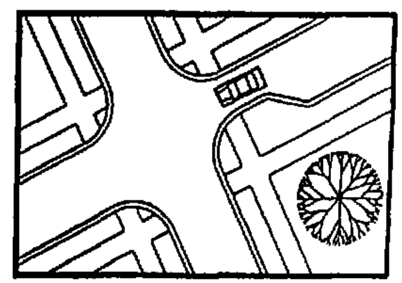
Transition block, senior housing condominiums and apartments between downtown Bellevue and single family area to west

Situation

Heavy two-directional traffic to and through neighborhood. Pedestrians at risk
Exit-only half closure installed
Reduced volume; shifted and split entering traffic among alternative routes nearby.
Pedestrians also benefit from reduced crossing distance on west side of 100th Ave

Features

Curb extended to close off entry lane
Irrigated landscaping, ample signage, pedestrian activated signal



TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Half Closure/ Semi-Diverter	Yes	Likely	Decrease	Improved	Restricted to One Direction	Minor Constraint	Potentially High	Low to Moderate / Possible Vandalism	Moderate

SEMI-DIVERTER PARTIAL CLOSURE

Intersection Re-Design

Location

Along bluff east of and above Swan Island Industrial Park and the Willamette River in the north area of Portland, Oregon

Setting

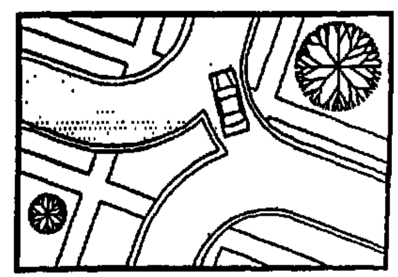
Mature, fully developed, mostly single family residential area. Residences are on bluff on east side of street facing westerly view over the street toward Forest Park on the west Portland hills across the Willamette River below

Situation

Cut-thru and speeding traffic caused neighbors to south to seek remedy. The semi-diverter forces south bound traffic originating from the north to flow eastward toward the Portland Blvd interchange with the I-5 freeway.

Features

Dense, yet tasteful landscaping reinforces change of direction.
Curb cut walkway accesses blufftop trails



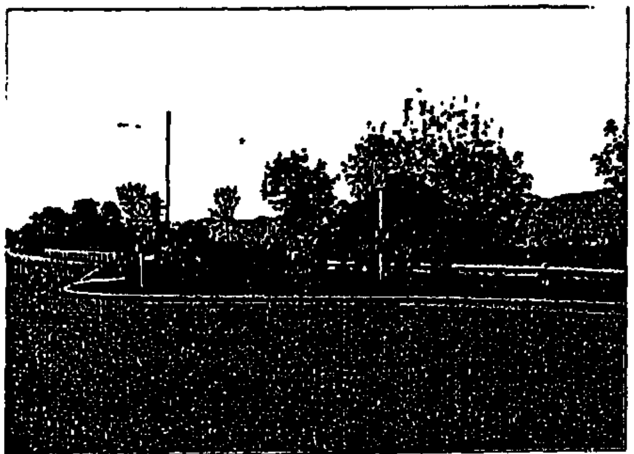


Figure 1 N. Willamette Blvd. at N. Portland Blvd.
Looking southwest

Figure 2 N. Willamette Blvd. at N. Portland Blvd.
Looking northwest

Figure 3 N. Willamette Blvd. at N. Portland Blvd.
Looking south

Figure 4

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/COMPLEXITY	MAINTENANCE COST/PROBLEMS
Semi Diverter	Yes	Likely	Decrease	Improved	Restricted	No Problems	Moderate	Potentially High	Vandalism

DIAGONAL DIVERTER

Location

West End Neighborhood
(Near Stanley Park)
Vancouver, B.C., Canada

Setting

Fully developed, dense urban area mostly residential with high and low rise buildings.
Between downtown and major regional scale park.

Situation

High volumes of cut-thru traffic, speeding accidents.
Diagonal diverters one of several devices used to mitigate negative traffic impacts in this area.

Features

Very desirable, close-in living and working environment. Tasteful landscaping and surface treatment
Sparse appearance due to seasonal loss of leaves by deciduous trees
Traversable curbs allow passage of emergency vehicles.

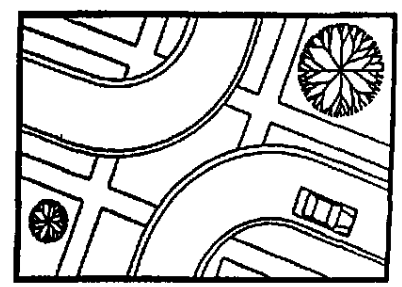


FIGURE 1 Diagonal diverter at Gilford and Pendrell, looking east

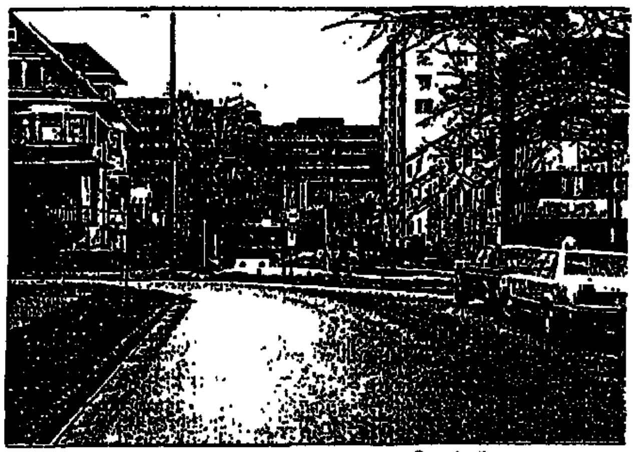


FIGURE 2 Diagonal diverter at Bute and Pendrell, looking south on Bute

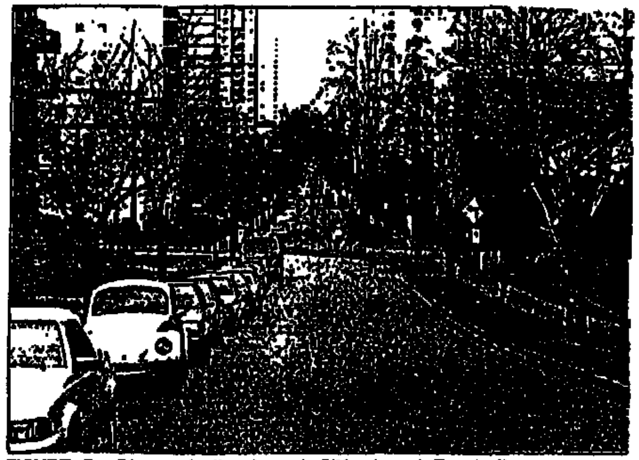


FIGURE 3 Diagonal diverter at Gilford and Pendrell, looking west

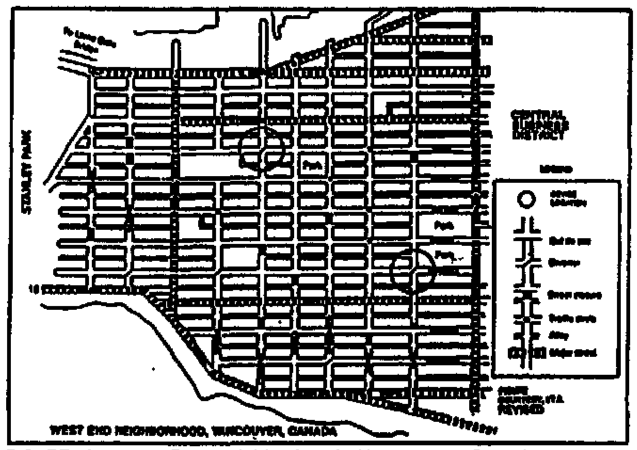


FIGURE 4 West End neighborhood, Vancouver, Canada (Courtesy of I.T.E.)

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Diagonal Diverters	Yes	Likely	Decrease	Improved	Left or Right Turn Only	Some Constraint	Moderate	Potentially High	Vandalism

DIAGONAL DIVERTERS

Full and Partial

See Opening For Right Turns
(Figure 3 only)

FIGURE 1 Diagonal diverter, E. Prospect at 18th Ave., Seattle, Washington

FIGURE 2 Diagonal diverter, E. 17th Ave. at Republican St., Seattle, Washington

FIGURE 3 Turn lane cut into partial diagonal diverter E. Highland Ave. at 18th Ave., Seattle, Washington

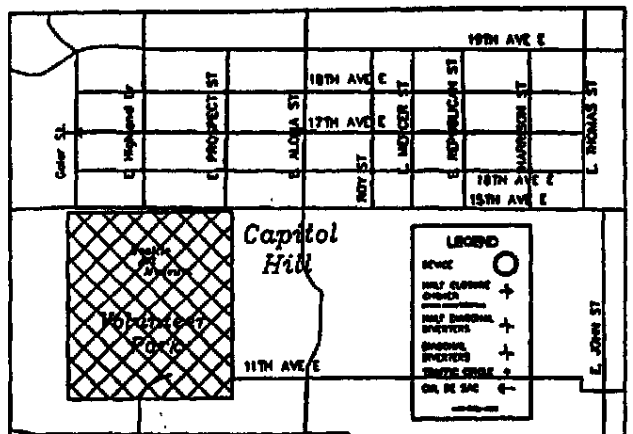


FIGURE 4 Capitol Hill area, Seattle, Washington

Location

Capitol Hill Area
Seattle, Washington

Setting

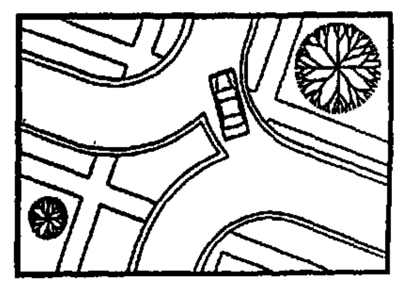
Fully developed, older residential area of large, single family and apartment houses.

Situation

Cut-thru traffic, numerous accidents at local street intersections.
System of diverters, half closures, and circles lessened cut-thru volume and greatly reduced accidents

Features

Figure 1 diverter is cut to ease traffic access to elementary school on adjacent block. All diverters heavily landscaped Autos parked along diverter further slow traffic.



TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Full Diagonal Diverters	Yes	Likely	Decrease	Reduces Accidents	Left or Right Turn Only	Some Constraint	Low, Depends on Features	Moderate to High	Moderate / Possible Vandalism
Partial Diagonal Diverters	Yes	Likely	Decrease	Reduces Accidents (Less so than Full Diverter)	Left or Right Turn Only (Except at opening)	Some Constraint	Low, Depends on Features	Moderate to High	Moderate / Possible Vandalism

DIAGONAL DIVERTER

FIGURE 1 Diagonal diverter at Cadero and Haro, Vancouver, B.C.

FIGURE 3 Diagonal diverter at Cadero and Haro, Vancouver, B.C.

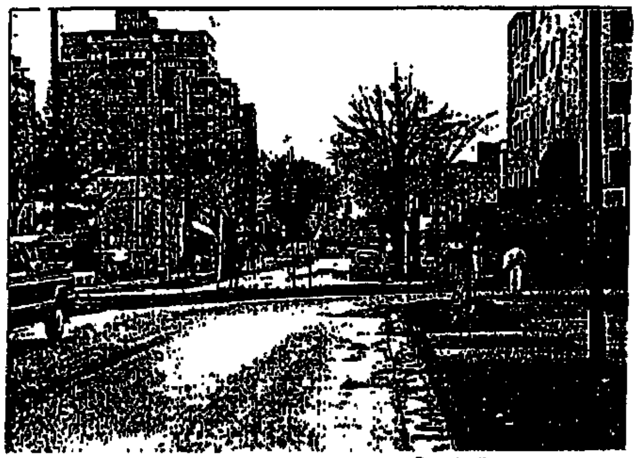


FIGURE 2 Diagonal diverter at Bute and Pendrell, Vancouver, B.C.

FIGURE 4 West End neighborhood, Vancouver, Canada
Figure courtesy of I.T.E.

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Diagonal Diverters	Yes	Likely	Decrease	Reduces Accidents	Left or Right Turn Only	Some Constraint	Low to High Depends on Features	Moderate to High	Possible Vandalism

Location

West End Neighborhood
(Near Stanley Park)
Vancouver, B.C., Canada

Setting

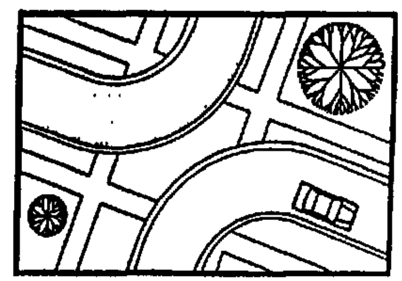
Fully developed, dense urban area mostly residential with high and low rise buildings.
Between downtown and major regional scale park.

Situation

High volumes of cut-thru traffic, speeding accidents.
Diagonal diverters one of several devices used to mitigate negative traffic impacts in this area.

Features

Very desirable, close-in living and working environment. Tasteful landscaping and surface treatment
Sparse appearance due to seasonal loss of leaves by deciduous trees
Traversable curbs allow passage of emergency vehicles.



DIAGONAL DIVERTER

FIGURE 1 Diagonal diverter at 15th Ave. and E. Prospect St.

FIGURE 2 Diagonal diverter at 15th Ave and E. Prospect St., looking south

FIGURE 3 Diagonal diverter at 16th Ave. and E. Prospect St.

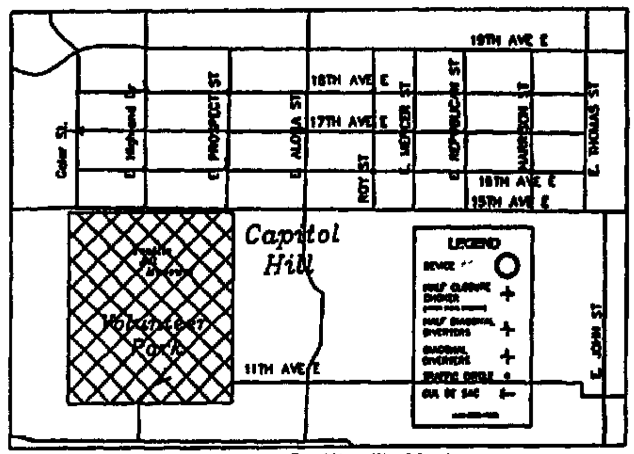


FIGURE 4 Capitol Hill area, Seattle, Washington

Location

Stevens neighborhood
(Capitol Hill)
Seattle, Washington

Setting

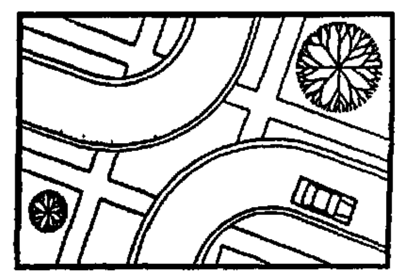
Fully developed, mature, single family residential neighborhood.
Some conversions to apartments

Situation

This diverter is one of a network of six devices put in place in 1974 following a test period. (See map, figure 4)
Thru traffic and accidents were reduced and have remained low since the devices were installed

Features

Seattle installs street lights, hydrants, on each side of diagonal diverters
Landscaped with trees and shrubs
Community bulletin board, stone bench, rock obstacles,and curb cuts



TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Diagonal Diverters	Yes	Likely	Decrease	Reduces Accidents	Left or Right Turn Only	Some Constraint	Low, Self Enforcing	Moderate to High	Moderate / Vandalism

HALF CLOSURE

Median Barriers

Turn Channelization

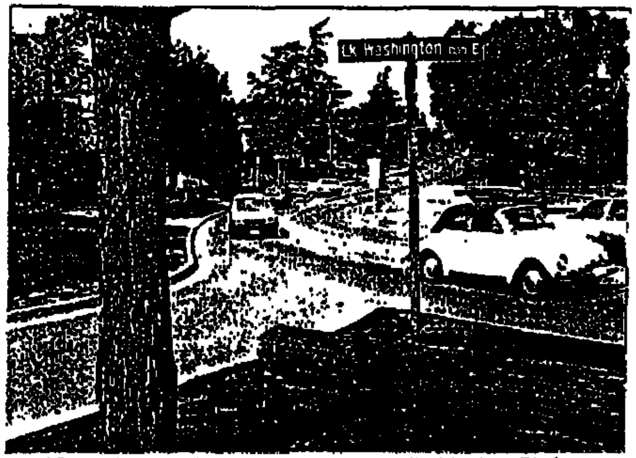


FIGURE 1 Two median barriers on Lake Washington Blvd. prohibit left turns into neighborhood.

FIGURE 2 No exit from neighborhood, 26th Ave.; right turn entry only. See SR520 off-ramp to Lake Washington Blvd. in background.

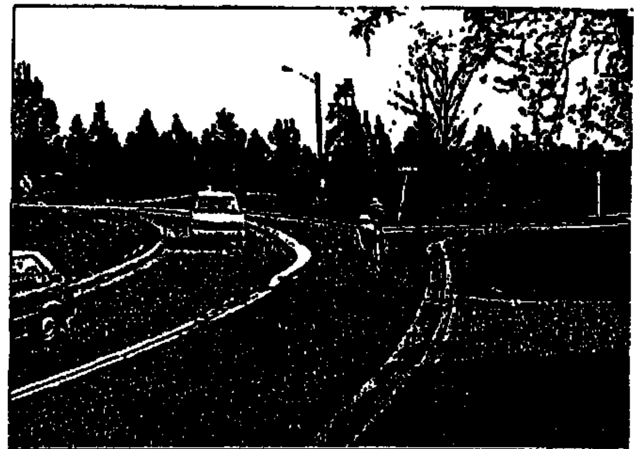


FIGURE 3 Median barrier prohibits left turns into residential area; no exit from 26th Ave.
Lake Washington Blvd. at 26th Ave., Seattle, Washington

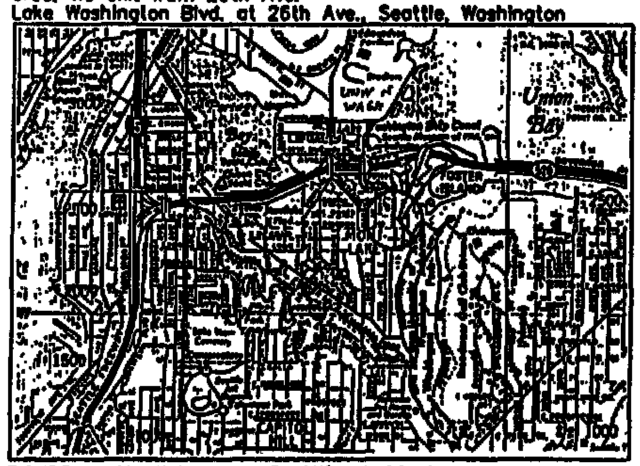


FIGURE 4 Montlake area, Seattle, Washington
Map courtesy of H.M. Gousha, Barrington, Ill.,revised

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Forced Turn Channelization Snake	Yes	Likely	Decrease	Improved	Some, No Left Turn	Minor Constraint	Potentially High	Low to Moderate	Vandalism
Half Closure Semi Diverter	Yes	Likely	Decrease	Improved	Restricted One Direction	Minor Constraint	Low	Moderate	Vandalism

Location

Mountlake Neighborhood
Seattle, Washington

Setting

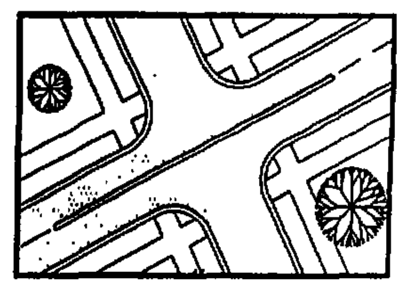
Urban, fully developed, single family area adjacent but separated from major lakeside park by Lake Washington Blvd

Situation

Lake Washington Blvd. provides route to and from park, Univ. of Washington, I-5, and SR520 bridge System of turn prohibitors, half closure, and traffic circles reduced cut-thru traffic volumes and reduced speed on local streets

Features

Lawn and tree landscaping blends half closure into park and adjacent residential area. Unattractive and very narrow median barriers are products of hard fought compromises. Barriers have many reflectors and are illuminated by street lights



STREET CLOSURE

Half Block

Full Closure

Location

West End Neighborhood
(Near Stanley Park, west of downtown)
Vancouver, B.C., Canada

Setting

Fully developed dense urban area, mostly residential with high and low rise buildings just east of Stanley Park

Situation

Full closure one of a variety of traffic control devices located to discourage thru and speeding traffic; reduce accidents. Devices are within residential areas bounded by major streets.

Features

Very desirable, close in living near downtown and regional scale park. Tasteful landscaping, attractive street furniture, permanent appearance and design

FIGURE 1 Half block, full closure; looking northeast along Gilford toward alley and Haro.

FIGURE 2 Alley adjacent to half block, full closure on Gilford north of Haro.

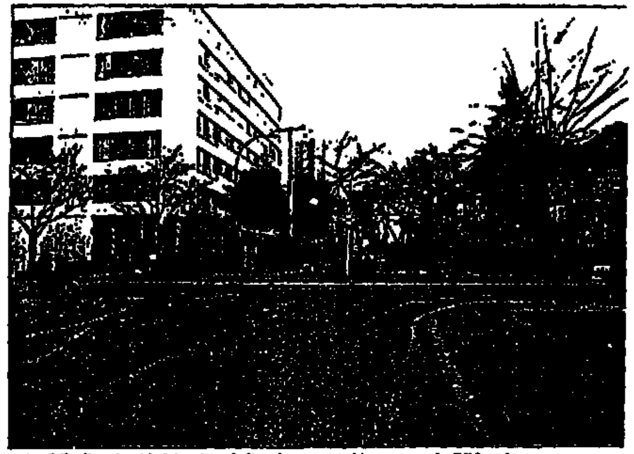


FIGURE 3 Half block, full closure; Haro and Gilford, looking southwest along Gilford.

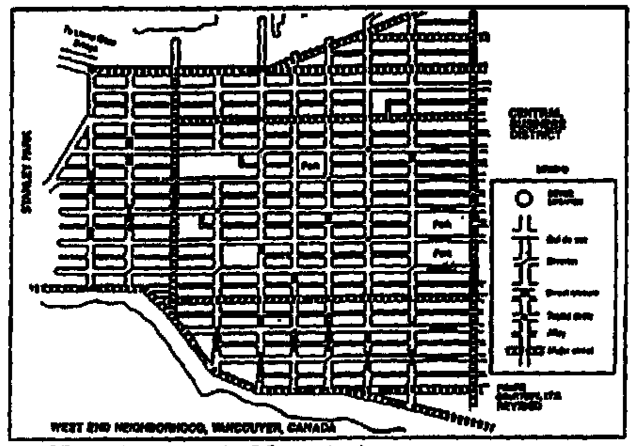
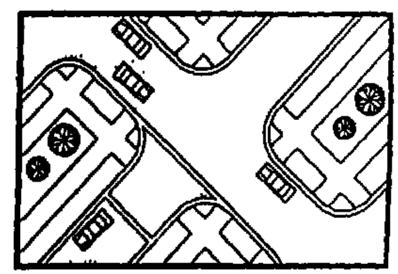


FIGURE 4 Courtesy of I.T.E., revised



TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/COMPLEXITY	MAINTENANCE COST/PROBLEMS
Full Closure	Yes	Yes	Decrease	Improved	Yes	Some Constraint	Low	High/Moderate to High	Moderate/Possible to High Vandalism

STREET CLOSURE

Half Block
Full Closure

FIGURE 1 Half block, full closure
Cordero and alley south of Comox

FIGURE 2 Half block, full closure
Looking northeast along Broughton from Comox

FIGURE 3 Half block, full closure
Comox and Chilco, looking northeast along Chilco

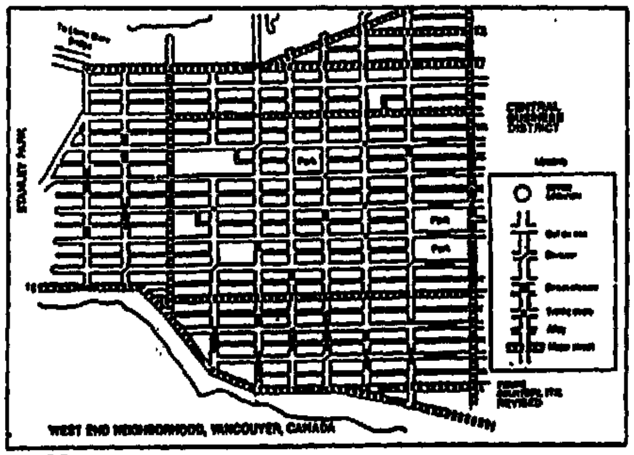


FIGURE 4

TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Full Closure	Yes	Likely	Reduced	Improved	Yes	Some Constraint	Low	Low	Vandalism

Location

West End Neighborhood
(Near Stanley Park)
Vancouver, B.C., Canada

Setting

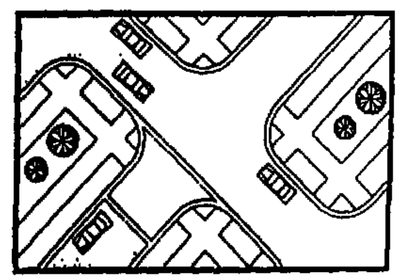
Fully developed, dense urban area
Mostly residential with high and low rise buildings.
Adjacent to downtown

Situation

High volumes of cut thru traffic, speeding, accidents; full closures just one of several types of control devices used in this area to control traffic.

Features

Very desirable, close-in living.
tasteful landscaping, planters, street furniture and surface treatments
Permanent appearance and design
See mountable curb for emergency vehicle access.



FULL CLOSURE

Cul-de-Sac
Diverter
Combination

Location

West End Neighborhood
(Near Stanley Park)
Vancouver, B.C., Canada

Setting

Fully Developed
Dense Urban Area
Mostly residential with high and low rise buildings.

Situation

Adjacent to downtown
Very desirable, close in living
Tasteful landscaping
Permanent appearance and design

Features

Very desirable, close in living near downtown and regional park.
Tasteful landscaping

FIGURE 1 Chilco St. cul-de-sac looking southwest toward the intersection of Chilco, Robson, and Lagoon Dr.

FIGURE 2 Chilco St. cul-de-sac looking toward Robson.

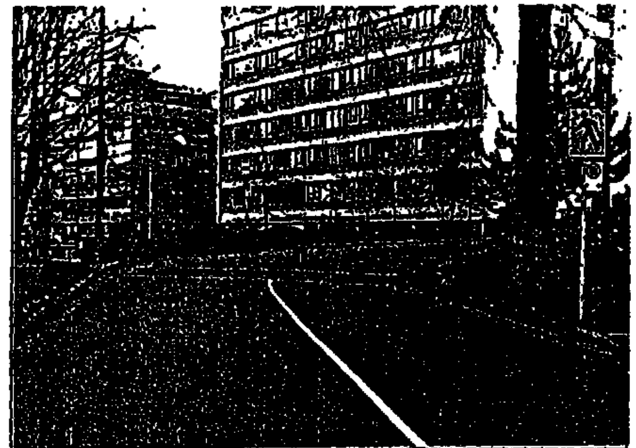


FIGURE 3 Lagoon Dr. looking east toward diverter; rear of cul-de-sac on Chilco.

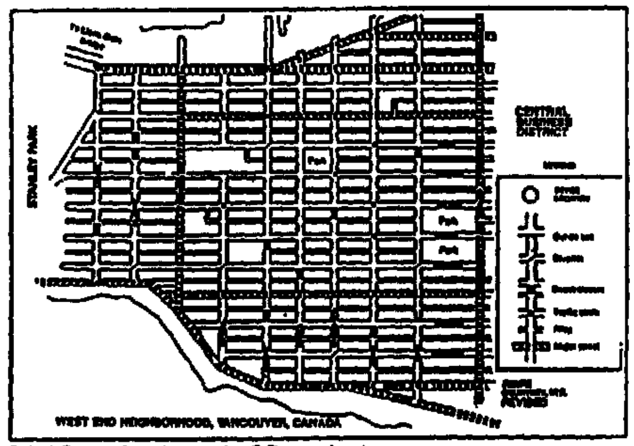
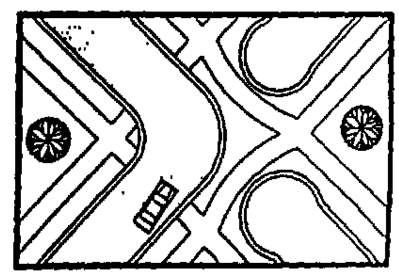


FIGURE 4 Courtesy of I.T.E., revised



TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Diagonal Diverters	Yes	Likely	Decrease	Improved	Left or right turn only	Some Constraint	Low	Moderate to High	Moderate to High / Possible Vandalism
Cul-de-Sac	Yes	Yes	Decrease	Improved	Total	Some Constraint	Low		Moderate to High / Possible Vandalism

FULL CLOSURES TEST

Cul-de-Sac or Hammerhead

Depending upon design at street terminus

Location

Northeast area of Portland, Oregon

Setting

Two different residential neighborhoods both fully developed.
Figure 1 and 3 mixed multiple and single family near large (Fred Meyer) shopping center.
Figure 2 single family area

Situation

Excessive cut thru traffic
See "E" and "F" in figure 4 for series of five test closures near shopping center
Figure 2 reverts to play street One of three locations in test case

Features

Obvious temporary appearance, well signed, many reflectors.
Three to six month test period precedes decisions on suitability/acceptance
CAUTION: Concrete "Jersey" barriers are unforgiving if struck. Use in test requires careful and liberal use of reflectors, warning and control signs.

FIGURE 1 Test, Full Closure, looking west
N.E. Halsey St. at 28th Ave., Portland, Oregon

FIGURE 2 Test Full Closure looking west
N.E. Stanton at N.E. 42nd Ave., Portland, Oregon

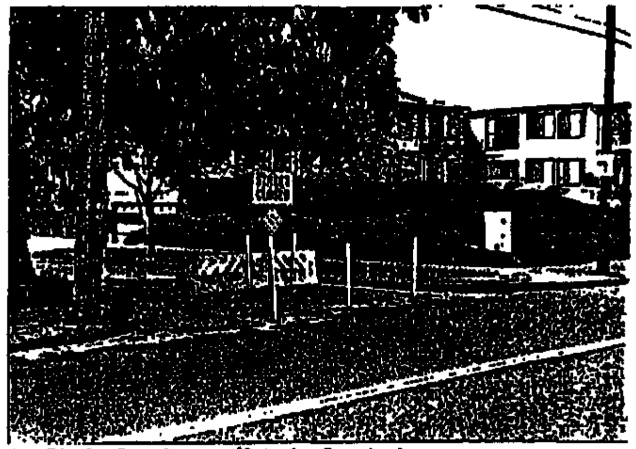


FIGURE 3 Full Closure/Cul-de-Sac test
N.E. 28th Ave. at Wasco St., Portland, Oregon

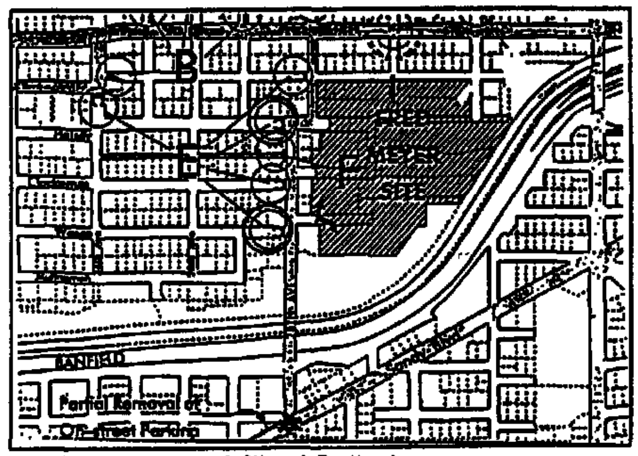
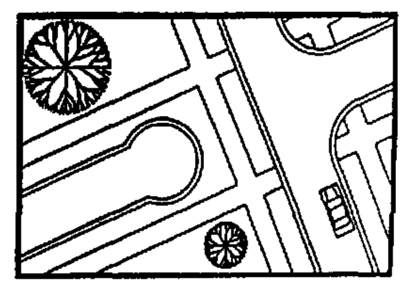


FIGURE 4 Courtesy of City of Portland



TRAFFIC MANAGEMENT DEVICE	VOLUME REDUCTION	SPEED REDUCTION	NOISE AND POLLUTION	SAFETY	ACCESS RESTRICTIONS	EMERGENCY VEHICLE ACCESS	DEPENDENCE ON POLICE ENFORCEMENT	CONSTRUCTABILITY COST/ COMPLEXITY	MAINTENANCE COST/PROBLEMS
Cul de Sac	Yes	Yes	Decrease	Improved	Total	Some Constraint	Low	Low to High (R.O.W. acquisition and landscaping)	Low to Moderate Possible Vandalism if landscaped

Appendix E
Setting Up A Self Managed Program in Small Communities

Often times local agencies are confronted with complaints from citizen groups, and or individuals regarding traffic problems pertaining to their respective neighborhoods. Typical complaints involve speeding, cut-through traffic, high traffic volumes, accidents, noise, pollution, sight distance, safety of children, pedestrians, and bicyclists, etc. The local agencies also have to respond to the complaints of this nature received by a mayor or a City Council person. What should a local agency do and what steps should it follow in order to address these complaints? This section provides an overview of everything that a local agency needs to know about setting up a RTM program that has guidelines to deal with problems of this nature.

Authority to undertake RTM programs

Before setting up a RTM program, a local agency would want to know the authority it has in implementing any such program. Although there are no specific state statutes related to residential traffic management, the authority for RTM programs can be derived from the same statutes which allow jurisdictions to install and maintain other traffic control devices such as stop signs and traffic signals. Titles 46 and 47 of the Revised Code of Washington (RCW) contain the statutes dealing with motor vehicles, public highways and transportation in the state of Washington. The chapters and sections of the laws applicable to the residential traffic management are discussed below.

Section 46.90.010 of the RCW directs the Director of the Deaprtment of Licensing to adopt a model traffic ordinance containing a comprehensive set of uniform traffic laws for Washington communities. The model ordinance is codified in Chapter 308-300 of the Washington Administrative Code (WAC).

The basic authority for the installation and maintenance of traffic control devices rests with the "traffic engineer" for each local jurisdiction. WAC 308-330-260 (pursuant to RCW 46.90.010) establishes the office of "traffic engineer" and generally describes his or her duties. Absent a specific position of traffic engineer in a jurisdiction, the statutory duties of the traffic engineer may be carried out by the jurisdiction's engineer or other person appointed to carry them out.

The authority for specific acts by the traffic engineer is provided by WAC 308-330-265. The predecessor of this WAC regulation (formerely RCW 46.90.265) was cited by traffic engineers in Bellevue, King County and Seattle as the source of their authority for the RTM programs in these jurisdictions. Under the more recent RCW 46.90.010, the WAC regulation should have the same effect.

For RTM programs, the following subsections of the WAC apply:

> **WAC 308-330-265 (1). The traffic engineer is authorized to place and maintain official traffic control devices when and as required under the traffic ordinances or resolutions of the local authority to make effective the provisions of said ordinances or resolutions, and may place and maintain such additional official traffic control devices as he/she may deem necessary to regulate, warn, or guide traffic under the traffic ordinances or resolutions of the local authority;**
>
> **(4) To establish safety zones of such kind and character and at such places as he/she may deem necessary for the protection of pedestrians;**
>
> **(23) To test new or proposed traffic control devices under actual conditions of traffic.**

The latter section (23) establishes the authority of the traffic engineer to undertake demonstration projects involving traffic control devices under actual conditions of traffic. This section allows jurisdictions to test various RTM measures under the guidance of the local traffic engineer.

Speed Limits. The basic speed limits for unposted streets in cities and towns in Washington is set at 25 mph by RCW 46.61.400(2). The basic rule of speed restrictions is more applicable to RTM settings:

> **RCW 46.61.400 Basic Rule and maximum limits.** (1) No person shall drive a vehicle on a highway at a speed greater than is **reasonable and prudent** under the conditions and having regard to the **actual and potential hazards** then existing. ...(emphasis added)

RCW 47.24.020 requires WSDOT approval for speed limits established by local authorities on city streets that are part of the state highway system.

Goals and Objectives

The goals selected for RTM program should be consistent with local needs, desires and resources, should be non-conflicting and accepted and easily understood by local officials. The primary goal could be the improvement of living and environmental conditions in residential streets.

The objectives must be clear, concise, and unambiguous, should be consistent with goals and priorities. The objectives could be improvements in safety, and reduction in noise and air pollution.

Identification of the Needs

Growing public awareness of the neighborhood traffic problems and related issues mounted to increasing pressure on the local agencies in dealing with the problems. These problems range from high speeds, high traffic volumes to excessive non-resident parking, to poor geometrics and pavement surface. The issues range from safety to pollution, to inconvenience. The local agencies use two approaches to identify and address the problems and issues associated with residential traffic management.

Based on Complaints

In most cities, neighborhood traffic problems are identified primarily through the complaints they receive from the residents. Some cities have established standard procedures for assessing a complaint and dealing with it. Usually, they require citizens to document their problems in a standard format (e.g., the Citizens' Action Request Form in this appendix). If the complaint is from an individual, the problem is confirmed either by conducting interviews with the residents of the neighborhood or by requiring the individual to obtain problem confirming signatures from other residents in the neighborhood. Before undertaking a detailed assessment, based on a complaint, of the nature and the gravity of a neighborhood traffic problem, it is important to ascertain whether it is a widely experienced problem or the one that is perceived by one or two individuals of the neighborhood. A written complaint with signatures corroborating the problem provides the local agency with enough justification to address the problem.

Based on Inventory Information

Some cities periodically update inventory of the conditions of local streets. Typically, the inventory updates are done for traffic volume, speed, accident, and composition data, pavement condition data, data on traffic control devices, signs, and markings, and other pertinent information. These cities use either locally developed standards or state standards or guidelines from other established sources, to identify conditions of streets in need of attention.

Assessment of the Problem

Once it is confirmed that there exists a problem in a neighborhood, the local agency should undertake field studies to understand the nature of the problem, its complexity, magnitude, and origin. In general, the field studies are conducted for information on traffic volume counts, speed, accidents, traffic operations, parking patterns, traffic composition, design features and geometrics of the roadway, and land use. Analysis of all these factors and other pertinent factors would help reveal the real cause(s) of the problem. Sometimes, contrary to the beliefs of the residents, the real cause of the problem may be lying within the neighborhood . For instance, on-street parking shortages in certain neighborhoods have been found to be the result not only of commuter use of the spaces, but partly due to residential off-street parking standards being below the level needed to handle resident's cars.

Development of Alternatives

Community involvement plays a crucial role in the development of alternatives for alleviating neighborhood traffic problems. In developing alternative plans, all affected groups should be invited for a open discussion of the problem and possible solutions. Transportation professionals should educate the community groups, emergency service personnel, and other affected parties of various possible ways in which a problem may be addressed. It is equally important to listen to the solutions that the affected groups might have in dealing with a particular problem. The communities should be informed of both long and short term solutions, although they usually prefer a quick fix solution to their respective neighborhood problems. Usually a combination of short-term and long-term solutions may be in the best interest of the community. For example, a short-term solution to excessive non-resident parking on local streets might be to implement resident permit parking. Longer-term solution would include developing a commute-reduction program to reduce the percentage of non-residents arriving by auto, improving the management of available commercial parking facilities, and constructing additional parking facilities for non-residents' use.

While preparing alternative schemes, some of the important factors to be considered are the access restrictions to emergency vehicles, safety issues, traffic operational impacts, and environmental impacts.

Evaluation of Alternatives

A detailed assessment of the selected alternatives should be conducted in order to determine their feasibility of implementation of an alternative and likelihood of its success in mitigating a neighborhood traffic problem. The impacts to be assessed include:

Access restrictions to the emergency vehicles, school and transit buses, other service vehicles because of the alternatives

- Safety issues associated with the alternatives
- Impacts of the alternatives on the adjacent neighborhoods
- Other Traffic and parking operational impacts
- Land use impacts
- Environmental impacts including noise pollution, air pollution, and fuel consumption
- Impacts on the aesthetics of the neighborhood

Besides these issues, financial and economic feasibility, socio-political impacts, and legal implications of the alternatives should also be studied in detail. Lastly and most importantly, legal aspects of the traffic control devices involved in the alternatives should be given due consideration.

Selection of an Alternative

The alternatives should be compared in a matrix format in relation to the factors and issues listed in the above section. Using the matrix, transportation professionals can help the decision makers in their choice by identifying the merits and demerits of various alternatives and by recommending some of them. The final selection of an alternative is usually the responsibility of elected officials. Neighborhood groups also have considerable influence in the selection process. However, it is the duty of transportation professionals to inform the decision makers of all possible consequences of the alternatives.

Implementation

The implementation of a neighborhood traffic control plan involves several issues including public notice and involvement, enforcement, the choice of temporary and permanent installations, financing implementation, incremental versus one step implementation, timing of various phases of installation. Besides, care should be taken to see that the plan satisfies all the legal requirements. If the traffic control plan involves installation of any devices, standard manuals, and texts should be referred to for guidelines.

Public notice, citizen involvement, and police enforcement

Public and motorists should be informed of the implementation plan so that they are fully aware of the changes about to take place. The information can be passed to the affected interests by distributing notices, posters, and flyers. Also, emergency services including police, fire, paramedics, and other services such as public transit, school buses, and delivery services should be made fully aware of the implementation schedule and the changes.

Since the enforcement is the key for the successful implementation of any program, it is important to apprise the enforcement personnel of the plan, of the laws related to new controls, and expected construction schedule.

Also, local magistrates should be informed of the purpose of the program, the planning process involved, the legal basis for the devices, and the planned enforcement program. This could be useful in case of any future legal entanglements.

Temporary versus permanent devices

The choice between temporary and permanent devices involves substantial trade-offs. Temporary devices are easy to modify, and cost effective for installation in several locations. They can be used as experimental devices, modified or upgraded if proved to be successful, dismantled otherwise, without involving huge losses. On the negative side, they may create technical, legal, aesthetic, and political problems. Vandalism and disobedience is also a possibility with these devices.

Permanent devices on the other hand are aesthetically pleasing, command better obedience and respect. However it is financially risky to install them if their effectiveness is subject to question.

Financing and Implementation

The costs of a neighborhood traffic control scheme vary depending upon the type and the extent to which the devices are used. The funds for financing these schemes are obtained from general funds in most states of the U.S. However in some states, fuel taxes, motor vehicle taxes, parking revenues, and other transportation funds are utilized for funding these schemes. Occasionally, commercial developments contributing to the neighborhood problems fund these schemes while community development funds or other grants are used in certain lower income neighborhoods to help pay for traffic control schemes.

Incremental Vs One-Step Implementation

Incremental approach is followed when the resources are limited, and the implementation plan is large. This approach allows for careful evaluation of the impacts associated with individual installations and provides room for rectifying the mistakes in later installations. However, series of changes in traffic operations spread over a longer period of time could lead to adverse public reactions. Controversies may raise over which neighborhood was chosen for early implementation of the plan over others.

One-Step implementation on the other hand avoids issues of favoritism and repeated changes in the traffic operations. However, one time-large scale changes in traffic conditions could lead to complicated traffic flow and control problems and could become a target for political opposition.

Timing of Installations

Ideally, installation of any traffic devices should be done when least number of drivers and residents are around. e.g. Summer time in a university town. In the communities where such situation is not likely to occur, effort should be made to avoid implementation of the programs in peak traffic seasons like Christmas shopping season near downtown etc.

Evaluation

Evaluation process of any RTM traffic control program is the most critical process since it forms the basis for any future program of similar nature. It helps determine how well the scheme performed and how effective it was in achieving the intended objectives. Before conducting the evaluation process, a waiting period of three to six months should be given to allow for the residents and traffic to adjust to the new program.

A "before-after" traffic study should be a part of the evaluation process to study the impacts of the scheme on various factors such as traffic volumes, vehicle composition, trip diversion, accidents, speeds, aesthetics, safety. Residents' perceptions on these factors and input from the personnel of emergency services, public transit, and school buses regarding their experiences with the program could be very valuable in the evaluation process.

Public Participation

In all the steps listed above, it could be noticed that public participation had a prominent role to play in shaping any RTM program. Public involvement in all steps of the program builds the trust of citizens in their governing bodies, and increases the chances of success of a program. Also, it is very crucial to a city committed to improving the living conditions, welfare, and safety of its citizens and the neighborhoods they live in.

Program Monitoring and record keeping

Successful programs should be monitored constantly and records should be kept on the problems and issues associated with them. These records could be very beneficial for similar programs of the future.

Where (and When) to Get Help?

In case of any ambiguity concerning any issue related to RTM, the small communities could consult the following sources.

1. Experienced staff of the cities where successful RTM programs exist (e.g. City of Portland, City of Bellevue, City of Seattle, etc.)
2. Private traffic consultant
3. WSDOT and the Northwest Technology Transfer Center
4. References listed in this report (Public libraries could be encouraged to have them)

Common sense, reasonableness and liability exposure

Clearly best protection is a reasonable, logical and well thought out plan with good guidelines. While reasonableness should be exercised in implementing any Residential Traffic Management program, tradeoffs and risks should be recognized in case of any discretionary action.

As in the case of any other traffic engineering activity or improvement, care should be taken to follow the guidelines suggested in standard manuals before installing any traffic control devices for RTM.

All facts and engineering decisions should be documented to minimize the possibility of lawsuits. Residential Traffic Management programs in place should be followed upon to evaluate their effectiveness in neighborhood traffic control.

CITIZEN ACTION REQUEST FORM

FOR THE FIRST PHASE IN NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM

Contact Name: ______________________________ Day Phone: ____________

Address: __________________________________ Today's Date: ____________

Neighborhood: ____

Concerned Location: ____

What concerns have you identified at the above location?

____

____

What Phase I solutions do you feel would address your concerns? (Check one or more)

- ☐ Trimming Bushes
- ☐ Signing
- ☐ Enforcement
- ☐ Speed Humps
- ☐ Neighborhood Traffic Safety Campaign
- ☐ Other ________________________________
  ____

Thank you for taking the time to fill out the Citizen Action Request Form. After completing the form, fold it for mailing (address appears on the other side of this form). *Don't forget to use first class postage.* Once we receive the form, we will contact you to investigate traffic solutions.

FOR OFFICE USE ONLY

Date Received: ________________ Project Number: ________________

Field Investigated: ____

Accidents ☐ Speeds ☐ Volumes ☐ Map ☐

Neighborhood Contacted: ____

Traffic Improvement Plan Selected: ________________________________

NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM

City of Phoenix
STREET TRANSPORTATION DEPARTMENT

NEIGHBORHOOD TRAFFIC MANAGEMENT DEVICES

Traffic Management Device	Traffic Reduction	Speed Reduction	Noise and Pollution	Safety	Traffic Access Restrictions	Emergency Vehicle Access	Maintenance Problems	Level of Violation	Cost
Speed Bumps	Possible	Limited	Increase Noise	No Documented Problems	None	Minor Problems	None	Not Applicable	Low
STOP Signs*	Unlikely	None	Increase	Unclear	None	No Problems	None	Potentially High	Low
NO LEFT/RIGHT TURN Signs	Yes	None	Decrease	Improved	No Turn(s)	No Problems	Vandalism	Potentially High	Low
One-Way Street	Yes	None	Decrease	Improved	One Direction	One Direction	None	Low	Low
Chokers	Unlikely	Minor	No Change	Improved For Pedestrians	None	No Problems	Trucks Hit Curbs	Not Applicable	Moderate
Traffic Circle	Possible	Likely	No Change	Unclear	None	Some Constraint	Vandalism	Low	Moderate
Median Barrier	Yes	None	Decrease	Improved	Right Turn Only	Minor Constraint	None	Low	Moderate
Forced Turn Channelization	Yes	Possible	Decrease	Improved	Some	Minor Constraint	Vandalism	Potentially High	Moderate
Semi-Diverter	Yes	Likely	Decrease	Improved	One Direction	Minor Constraint	Vandalism	Potentially High	Moderate
Diagonal Diverters	Yes	Likely	Decrease	Improved [illegible]	Through Traffic	Some Constraint	Vandalism	Low	Mo[illegible]
Cul-de-Sac	Yes	Likely	Decrease	Improved	Total	Some Constraint	Vandalism	Low	[illegible]

*Must meet legal requirements for installation
**May result in high roadway user costs

Source City of Phoenix
Street Transportation Department

WHAT IS THE NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM?

The Neighborhood Traffic Management Program was created in 1989 by the Phoenix City Council and is operated by the Street Transportation Department. Since that time the program has been addressing neighborhood traffic safety concerns by enabling citizens and/or community groups to become involved with the improvement process.

In this way, the Street Transportation Department and the neighborhood community work together to create a pleasant and safe environment in which to live.

WHY WOULD OUR NEIGHBORHOOD BECOME INVOLVED?

There could be many reasons. Some major ones include:

- Vehicles travelling faster than the posted speed limit.
- Non-local traffic using the neighborhood as a short cut.
- High number of traffic accidents.
- Pedestrian safety.

HOW DOES THE PROGRAM WORK?

The program involves a two-phase process. Depending on the nature of the problem, some solutions can be resolved and action taken immediately, while others may take longer.

PHASE I

The first phase measures the extent of the problem and focuses on using effective but less restrictive measures first. Doing so allows the opportunity to change driver behaviors and correct the problem *without* imposing severe and drastic changes.

- Citizen request from Home Owners' Association or by petition
- Traffic Engineering Reviews ... 1-2 months
- Organize neighborhood and develop traffic management plan .... 1-3 months
- If approved by the neighborhood and Phoenix City Council, work is completed . . . 1 month

PHASE II

The second phase focuses on physical measures. These are *only necessary or desirable, if the first phase improvements are ineffective.*

- Review 1st Phase Improvements .. 1 month
- *If necessary*, modify or develop additional traffic control measures .... 1 month
- A petition is circulated by neighborhood with at least a 70% majority .... 1-2 months
- Public Hearing .... 1-2 months
- If approved by the neighborhood and the City Council, work is completed ..... 1-3 months

HOW DOES OUR NEIGHBORHOOD BEGIN THE PROCESS?

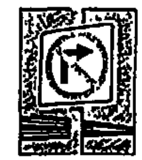
1. Identify the PROBLEMS in your neighborhood. For example:
   - Limited visibility or sight distance.
   - Unusually high traffic volumes.
   - Speeding vehicles.
   - Unsafe walking routes.
2. Discuss the types of SOLUTIONS with your neighbors. Possible solutions may be as follows:

   Trimming Bushes
   Trim bushes either by the homeowners or City crews to provide better sight distance.

   Signing
   Install appropriate traffic control signs. These may include speed limit, parking restrictions, turn restrictions, etc.

   Target Enforcement
   Increased enforcement of the speed limit by the Phoenix Police Department. Police cannot be at all places at all times. However, with neighborhood assistance they can target their efforts to those times when speeding is most prevalent and through their presence increase driver awareness.

   Speed Humps
   The installation of 3" asphalt humps placed across the street to slow motorists down. Residents may elect to use one hump or a series of humps along a street to control speeds.
3. FILL OUT the Citizen Action Request Form enclosed.
   Please note: Each project will be evaluated and prioritized on a first come, first serve basis, and the ability of the neighborhood to show concensus for a traffic management plan.



IS THE PROGRAM SUCCESSFUL?

The success of the program is reflected by the positive comments and results achieved in neighborhoods throughout Phoenix. The most successful efforts occur where the neighborhood establishes traffic safety as a community priority and becomes actively involved. By working as a community, you have taken the first step toward a more pleasant and safer neighborhood in which to live.

A Public Awareness Program
Sponsored by the City of Phoenix
Street Transportation Department

APPENDIX E - ENVIRONMENTAL DOCUMENTATION

Rogue Valley
Council of Governments

Grants Pass Urban Area Transportation Plan Update
Environmental Documentation

Transportation Department

June, 1995

OVERVIEW

Most environmental legislation comes from the federal government. Implementation, however, is relegated to the states. This document describes some of the more commonly used environmental laws and their applicability to transportation planning in the Grants Pass area. The document is presented in two sections: (1) a brief summary of federal legislation relevant to the Grants Pass Master Transportation Plan update including the implementing authorities; and (2) a description of documents containing environmental reviews pertinent to the Grants Pass area and their findings.

FEDERAL LEGISLATION

Clean Air Act (CAA)

Air quality became a national issue in the 1960s. Legislation passed in 1963 and in 1967 provided the foundation for today's air quality laws. The acts divided the United States into air quality regions and set national emission standards for air pollutants. It required states to develop state improvement plans (SIP)s to conform with the national emission standards. In 1970, the Federal Clean Air Act was enacted. It was a product of dissatisfaction over enforcement of the earlier laws and the continued feeling that poor air quality threatened public health. The 1970 Act contains three elements: (1) deadlines for meeting federal air quality standards; (2) health and welfare criteria for CO, NO, SO, ozone, lead, particulate matter, and toxic pollutants; and 3)requirements for the use of the best available technology to meet air quality standards. This was also the first act to provide for citizen suits as a means of enforcement. Although amended in 1977 and 1990, the principles of the 1970 act still apply. Today, the Act protects areas which are cleaner than ambient standards from degrading to the federal ambient standard, provides for tail pipe emission standards, hazardous air pollution emission standards, contingency plans for accidental releases, acid rain research, and enforcement procedures. Non-attainment areas are defined for areas not meeting ambient standards. The Environmental Protection Agency (EPA) and the State Department of Environmental Quality (DEQ) regulate the act.

Transportation planning is closely tied with the Clean Air Act. Grants Pass is currently a non-attainment area for both carbon monoxide (CO) and Particulate Matter (PM_{10}). CO is a concern in the downtown core, where ambient standards are approached at certain concentrated areas called "hot spots". Particulate matter is a concern for the entire planning area.

Clean Water Act (CWA)

The Clean Water Act prohibits discharge of pollutants into the waters of the United States, and seeks to restore and maintain the integrity of the nations waters. In 1972, the Act set three broad goals for United States water quality: (1) maintain biological integrity of waters; (2) maximum the use of available technology; and; (3) zero discharge. The act distinguishes between point and non-point sources, divides responsibilities between federal, state, and local governments and distinguishes between water discharge and in filling of wetlands. It set up the National Pollutant Discharge Elimination System (NPDES) which requires permits for discharging into navigable waters. The scope of NPDES was recently expanded to include storm water discharge in municipalities over 100,000 in population. The EPA issues permits and the DEQ reviews standards and sets monitoring criteria. The Clean Water Act is of concern to the Grants Pass area for wetland maintenance (see below).

Statute 404 of the Clean Water Act: Wetlands

Wetland regulation primarily falls under Statute 404 of the Clean Water Act. The statute prohibits the discharge of fill or dredge material into U.S. waters without a permit from the Army Corps of Engineers. In 1988, then Vice-President Bush campaigned on the idea of "no net loss" of the nation's wetlands. Once elected he implemented the federal Emergency Wetlands Resource Act of 1986. The act recognized areas of specific wetland loss around the nation and established mechanisms for public-private cooperation in wetland protection. Authority for wetland regulation falls upon the Army Corp of Engineers, the EPA, the Department of the Interior's Fish and Wildlife Service and the Department of Agriculture's Soil Conservation Service.

Wetlands are a concern in transportation planning. Construction usually requires the movement, in filling, or grading of soils. Oregon has a planning policy (benchmark) of no net loss of the state's wetlands. The Grants Pass Urban Area contains significant wetland areas.

Endangered Species Act (ESA)

Passed in 1973, ESA protects both threatened and endangered species and their habitat. Species refers to plants as well as animals. The Department of the Interior's Fish and Wildlife Service continually updates a list of threatened and endangered species.

In planning, a biological assessment must be completed to determine if a species or its critical habitat is effected by a project. If impacts are discovered they must be satisfactorily mitigated before a project receives approval.

Fish and Wildlife Coordination Act

This act refers to the protection of fish stock and habitat. A cost benefit analysis of relevant projects must be completed prior to approval. If impacted, provisions for conservation, maintenance, and management of fish resources on project land and water must be made. The Department of Interior's Fish and Wildlife Department is the primary regulator.

The Rogue River, a major fishery resource for the state of Oregon, cuts through Grants Pass. Projects must not impact the riparian zones along the river or the river itself with runoff, habitat removal or other impacts.

National Environmental Policy Act (NEPA)

NEPA was signed into law January first 1970. It's purpose is to identify and to mitigate environmental.impacts early in the planning process. NEPA requires an environmental assessment of all projects receiving federal funds. If significant impacts are found, a written environmental review, called an environmental impact statement (EIS), must be conducted. Significant impacts are those considered to effect the "quality of the human environment or are expected to be controversial on environmental grounds." The process includes public comment periods.

NEPA may affect specific projects identified in the Grants Pass Master Transportation Plan update.

Noise Control Act
As population and population densities increase, so do levels of noise. Noise pollution is of specific concern to those located near airports, industrial areas, or freeways. The Noise Control Act provides noise controls for surface transportation, construction, aviation and railways. It also protects against inadvertent exposure through education and through the labeling of "noise intensive" products. The EPA and state Department of Transportation regulate the Noise Control Act.

Resource Conservation and Recovery Act (RCRA)
RCRA regulated the management and disposal of solid and hazardous waste. A hazardous waste causes or contributes to mortality or human and/or environmental health. Solid waste are materials not immediately reused. Recyclable materials may be considered part of the solid waste problem. Solid waste can be a solid, a liquid, a gas or a sludge.

RCRA applies to transportation planning where hazardous and solid wastes are routed during transport. For completion of the Grants Pass Master Transportation Plan update, hazardous and solid waste transport routes should be known. An understanding of potential disasters, natural or otherwise, along those routes is also recommended.

Comprehensive Environmental Response Act (CERCLA)
Superfunds Amendments and Reauthorization Act (SARA)
Toxic Control Substances Act (TSCA)
The three acts above address hazardous waste clean-up and disposal. CERCLA (a.k.a. Superfund) and SARA provide the financial mechanisms for the remediation and clean up of hazardous waste. TSCA controls toxic and chemical substances posing an "unreasonable risk to environmental and\or human welfare". It requires manufactures to provide information on the health and environmental risks associated with products and with manufacturing processes. The EPA regulates the aforementioned acts.

Safe Drinking Water Act (SDWA)
The Safe Drinking Water Act serves to protect drinking water by setting standards for water source and quality. It involves: (1) a national drinking water standards program and; (2) an underground injection control program. The first program requires public water facilities to treat water to meet minimal national standards for contaminants. The second program establishes a permit process for the underground disposal of liquid wastes. SDWA is regulated by the EPA.

The act applies to transportation planning when a project impacts groundwater wells. It is not anticipated as a significant concern for current transportation planning in Grants Pass.

Wild and Scenic Rivers Act
This act protects rivers possessing either pristine corridors or unique scenic, recreational, historic and/or cultural characteristics. Its intent is to protect free-flowing rivers or sections of rivers which symbolize the vanishing heritage of the United States' frontier landscape for present and future generations to enjoy. The Department of Interior's Bureau of Land Management and the Department of Agriculture's United States Forest Service administer the act.

Projects which affect a designated river must provide a detailed description and explanation of the impacts. The Rogue River contains 84 miles of designated wild and scenic river way. The designated area does not fall within the Grants Pass area, yet projects may still fall with in the scope of the act if impacts flow downstream.

ENVIRONMENTAL DOCUMENTATION

Existing documents with environmental information were reviewed as part of this process. This screening was done to identify potential environmental issues for projects recommended in the Grants Pass Urban Area Master Transportation Plan.

Title:	6th Street / 7th Street Couplet Redwood Hwy (US-199) Grants Pass, Josephine County.
Date:	June 1994.
Author:	ODOT, Environmental Services. Vince Carrow, Air Quality Specialist.
Document Type:	Air Quality - Conformity Analysis.
Geographic Area:	Area-wide Analysis: Grants Pass Urban Growth Boundary. Local Analysis: 6th St, between G and H streets, in the central business district.

Synopsis:
A local and regional analysis of air quality was conducted on four alternatives for rebuilding a section of the Redwood Highway through downtown Grants Pass. The area- wide study concentrated on carbon monoxide (CO) emissions, while the local study examined CO concentrations. The four alternatives were (1) continuous three lanes, (2) four lanes from "A" Street to the bridge, (3) four lanes from "Midland" Street to the bridge and (4) a no build scenario. Each alternative was examined with and without curbside parking.

Findings:
Conformity with CO criteria (project does not increase CO emissions over those in 1990 or over no build alternative levels nor does it increase CO "hot spots") was achieved with both four lane options without curbside parking. A conformity analysis needs to be done on particulate matter 10 (PM10) as soon as a method of analysis is approved by the EPA.

Title:	Preparation Plan for Revising the Hellgate Recreation Area Management Plan.
Date:	September 1993.
Author:	U. S. Department of Interior, Bureau of Land Management.
Document Type:	Preparation Plan.
Geographic Area:	Hellgate Recreation Area of the National Wild and Scenic Rogue River (from Applegate River to Grave Creek). 27 miles.

Synopsis:
The desire to revise the management plan for the Rogue River grew from increases in visitor use and concurrent conflicts. The revision attempts to refocus implementation of the Wild and Scenic Rivers Act 1968 (see p. 4). A preparation plan is prepared to document boundaries and goals of previous planning efforts, explain the need for a revised plan, explain the revision process and identify issues, players and alternatives.

Findings:
The BLM proposed to limit recreation use. An Environmental Impact Statement (EIS) needs to be prepared. The Preparation Plan discusses the following issues: (1) conflicts between private boating (motorized and non-motorized) and commercial boating and angling, and serenity (in reference to motorized boating); (2) commercial regulation; (3) user fees; (4) management of recreational opportunities, including fishing, camping, hiking, and interpretive resources, and; (5) enforcement. The preparation plan discusses four scenarios; (1) less visitor use, requiring permits for all recreational use except sightseeing, dining or lodging; (2) the status quo. This is the baseline alternative to which the other alternatives can be compared; (3) angler and floater enhancement/more visitor use and watercraft. This alternative emphasizes the fishing and floating experience. All motorized boating would be banned during spawning season and strictly regulated the rest of the year. No regulations would be placed on the number of visitors interested in angling or floating. Three new fishing sites would be developed, and; (4) maximum visitor use. This alternative seeks to maximize visitor use, through heavy management, but with few fees and limits. Many new facilities would be developed. Each alternative will be examined in an EIS. The Preparation plan is not available for public comment (public comment is inherent within an EIS) but it will become a public document after plan completion.

Title:	Grants Pass Urban Area Wetlands Inventory.
Date:	April 1992.
Author:	City of Grants Pass.
Document Type:	Map.
Geographic Area:	Grants Pass, Oregon.

Synopsis:
This is a draft map of wetland locations in the Grants Pass urban area. A final map and a report are in production.

Findings:
Wetlands are located throughout the Grants Pass area, especially on the outer edges of development.

Title:	Wetland Determination and Delineation in Grants Pass, Oregon.
Date:	July 24, 1991.
Author:	Scientific Resources, Inc.
Document Type:	Technical.
Geographic Area:	Southeast corner of Redwood Hwy #25 and Terry Lane, Grants Pass, Oregon. 10-acres.

Synopsis:
A study was undertaken to determine and to delineate wetlands on a 10 acre site proposed for development. The *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* was the main resource consulted for the determination. The study examined the soil, the hydrology and the vegetation for wetland characteristics. One-foot diameter holes were excavated in selected areas to determine soil content and hydrology. A visual percent cover analysis was completed for vegetative species. To receive wetland status, a site must contain wetland characteristics in all three areas.

Findings:
It was found that no area tested within the site contained the combined wetland characteristics.

Title:	Lonnon Road-Fish Hatchery R, New Hope Rd, Josephine County, Oregon.
Date:	April 1990.
Author:	Oregon Department of Transportation and Federal Highway Administration.
Document Type:	Environmental Assessment.
Geographic Area:	New Hope Road, South of Grants Pass. 2.43 miles.

Synopsis:
The environmental assessment pertains to the widening of New Hope Road. At the time of publication, New Hope road was too narrow to adequately allow emergency parking, pedestrian or bicycle traffic. The accident rate on this section of roadway was 17 % higher than the average for rural secondary highways during the five year study period of 1983-1988. The proposed project widens the road from 24 feet to 40 feet, extending the shoulders from 3 feet to 8 feet. It also reconstructs a curve to reduce curvature. Three alternatives were identified and an environmental assessment of the area and of the proposed project was completed.

Findings:
The project would cause the relocation of one residential and possibly one business site. Approximately 8 acres of right-of-way must be obtained from 53 parcels. Impacts on businesses, residents and land use were found to be minimal. Water ways and quality, threatened and endangered species, and other natural resources were not found to be significantly impacted. The drainage method, however, has not been determined although no significant impact is expected.

Historical, cultural, and archeological resources are not anticipated to be a concern, nor is aesthetic resources. Air quality standards would not be exceeded with construction. Three underground storage tanks fall within the proposed right-of-way area, making hazardous materials are a potential concern. Noise levels are also a concern. Project completion results in noise levels for 34 residences exceeding the Federal Highway Administration noise impact criteria. Construction would cause occasional traffic delays and noise impacts. Mitigation measures were proposed for traffic, right of way, noise and hazardous material impacts.

Title:	The Third Bridge Corridor Development Plan.
Date:	September 1987.
Author:	City of Grants Pass.
Document Type:	Report and Plan.
Geographic Area:	The land area bisected by the pending arterial highway which connects the Redwood spur at the city's south interchange with Interstate 5 and Redwood Highway (U.S. 99). Grants Pass, 868.5 acres.

Synopsis:
The Third Bridge Corridor Development Plan is an urban renewal plan. It is under the jurisdiction of the Development Agency, whose mission statement is to "eliminate blight and depreciating property values". Public utility systems in the area need upgrading, as does the existing street system. This is especially important, in that ODOT plans on constructing a third bridge over the Rogue River. Its connecting streets would bisect the project area. This places development pressure upon the area. Public work activities are proposed to create conditions in the area which facilitate jobs and support the cost of public services. All redevelopment projects will comply with the Grants Pass Comprehensive Plan.

Findings:
Public utility improvements should decrease operation and delivery costs of the city, as well as encourage businesses to locate in the area, creating jobs. The improved roadway system is seen as reducing energy consumption per vehicle mile traveled and reducing air pollution and travel time. Assessed property values are expected to rise as a result of the project.

Title:	Final Environmental Impact Statement for Foothill Boulevard, Rogue River and Redwood Highway (3rd Bridge, Grants Pass).
Date:	1987.
Author:	Oregon Department of Transportation.
Document Type:	Final Environmental Impact Statement.
Geographic Area:	Rogue River crossing from Interstate 5 to Highway 99, 199, and 238. Grants Pass, Oregon.

Synopsis:
The proposal of a bypass of the downtown area of Grants Pass, including the construction of a third bridge over the Rogue River, is examined in this Final Environmental Impact Statement (FEIS). The document examines the environmental impacts of four alternatives and the no build

alternative. Alternative 1 was proposed for construction. The document identifies project impacts on geology, wildlife, aquatic habitat, energy, transportation, land use, recreation, social and economic environments, historical and archeological resources, aesthetics, air quality, and noise levels.

Findings:
Insignificant impacts were found for historic and archeological resources. Geological impacts were discovered regarding soil type (low strength, high water table, and significant shrink-swell capacities). Mitigation measures provide for drainage which alleviates high water table problems and for the use of lime soil treatment or cement to mitigate soil strength and shrink swell potential. A secondary impact of such is the irretrievable loss of soil resources to urban land uses. Maintenance costs of embankments are significant. Project construction results in the loss of biological habitat, which reduces wildlife production. Secondary impacts of project completion will result in more rapid habitat loss, than the no-build alternative. The project is expected to increases development along its corridor. No threatened or endangered species were found on the project site. Overall impacts were considered minor, in that they are localized and a natural result of development. Following the no build alternative wouldn't avoid this impact, only delay it. Aquatic impacts were found to be minimal, and could be mitigated. Riparian zones supplying organic materials to the river and some stream side pools would be disrupted . The affected area is small and similar habitat is available nearby. The project entails crossing the 50 and 100 year floodplains. Measures are to be taken which alleviate the impediment of floodwater. Alternative 1 intrudes four acres upon the flood plain. Energy consumption is favorably impacted by the project.

Traffic impacts of the project are also considered favorable. Peak hour traffic would be alleviated for downtown Medford as well as travel time. Access to the industrial section of would be improved, resulting in a decrease of through town truck traffic. Access would also be improved for emergency services. The project alone is not considered to cause land use impacts in the entirety. Recreational impacts of the project are deemed beneficial, providing increased access to parks and a bikeway. Noise levels at H.W. Baker Park, although not significant, have been mitigated. Social impacts include improved access for emergency services, improved safety for pedestrians in the downtown area, and the displacement of property. Alternative 1 displaces seven residences and one day care center. Measures have been secured to reimburse those displaced. Residents are agreeable with the action. The project separates a neighborhood. Noise control barriers would be constructed to mitigate the neighborhood noise increase, but in the long run neighborhood character would change. Five businesses would be affected by the project. Overall the project would facilitate business in the central business district and in the industrial area of the city. Aesthetic impacts to the river corridor would occur. Air quality impacts are determined to be beneficial.

Title:	Grants Pass Carbon Monoxide Plan.
Date:	June 1986.
Author:	Rogue Valley Council of Governments.
Document Type:	Air Quality Compliance Document.
Geographic Area:	Grants Pass Carbon Monoxide Non Attainment Area, Grants Pass, Oregon.

Synopsis:
Pursuant to the 1977 Clean Air Act amendments, states must submit plans documenting how it will conform with air quality standards. Grants Pass is in an air quality non-attainment area for carbon monoxide. A plan to comply with health standards for CO by December 16, 1990 was needed. Most CO pollution originates for vehicles. The plan, consequently, addresses transportation improvements which result in acceptable CO levels.

Findings:
The City of Grants Pass chose a combination of the federal emissions control program and the construction of a third bridge over the Rogue River as its control measures. (The third bridge program is included in the Six Year Highway Improvement Program by ODOT (see above).) This plan is projected to decrease CO emissions 50 % between !984 and 1990.

APPENDIX F - STREET IMPROVEMENT PROGRAM

Appendix F

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
3rd Street	**Arterial**			800							
-"E" to "F"	*City*	3,550	-	300	60	36	None	Both	Stripe bike lane and remove parking west side.	2015+ *Low*	$2,700
-"F" to "G"	*City*	6,196	-	500	60	36	Lanes Both	Both	None.		
4th Street	**Collector**			4,800							
-Evelyn to "A"	*City*	6,000	7,727	1,200	60	36	None	Both	None.		
-"A" to "E"	*City*	7,143	5,933	1,100	60	36	None	Both	Install bike lanes both sides. Remove Parking.	1998 *High*	$64,800
-"E" to "F"	*City*	7,500	6,802	300	60	36	None	Both			
-"F" to "J"	*City*	5,600	6,840	1,200	60	36	None	Both			
-"J" to Bridge	*City*	4,309	4,165	1,000	60	36	None	Both			
6th Street	**State Hwy.**			13,600							
-Morgan to Vine	*State*	8,304	13,894	500	70	49	None	East	Reconstruct street. Provide bike lane on west side.	1998 *High*	$7,473,000
-Vine to Hillcrest	*State*	8,608	12,255	1,100	70	44	None	Both			
-Hillcrest to Midland	*State*	12,157	13,301	1,000	70	44	None	Both			

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Midland to Savage	*State*	13,586	15,308	1,300	70	56	None	Both	Reconstruct street. Provide bike lane west side.		
-Savage to Manzanita	*State*	13,442	17,477	600	80	56	None	Both			
-Manzanita to "A"	*State*	16,097	18,639	2,200	80	56	None	Both			
-"A" to "D"	*State*	18,118	20,300	800	80	56	None	Both	Reconstruct street. Widen to 62 feet. Provide four travel lanes with parking both sides. Provide bump outs at corners and alleys. Maintain nine foot sidewalk.		
-"D" to "F"	*State*	17,913	20,193	600	80	56	None	Both			
-"F" to "J"	*State*	17,312	20,068	1,200	80	56	None	Both			
-"J" to "M"	*State*	16,872	18,901	1,100	80	56	None	Both			
-"M" to Voorhies	*State*	19,759	22,266	600	80	56	None	Both	Reconstruct street. Provide bike lane west side from "M" St. to Caveman bridge.		
-Voorhies to Lewis	*State*	21,403	23,015	1,400	80	56	None	Both			
-Lewis to West Park	*State*	22,265	23,737	300	80	56	None	Both			
-West Park to Redwood Hwy.	*State*	14,354	15,773	900	80	38-56	None	Both			
7th Street	**State Hwy.**			13,600							
-Morgan to Hillcrest	*City*	8,652	13,436	1,500	100	44	None	Both	Reconstruct street. Provide bike lane on east side.		

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Hillcrest to Midland	*City*	13,281	16,249	1,000	90	44	None	Both			
-Midland to Steiger	*City*	13,824	15,386	800	90	44	None	Both			
-Steiger to Savage	*City*	13,824	15,386	500	60	44	None	Both			
-Savage to Outlook	*City*	15,300	19,762	300	60	36	None	Both	Full reconstruction. Widen street to 42 feet. Provide no parking either side, bike lane east side.		
-Outlook to Evelyn	*City*	15,300	17,654	1,000	60	36	None	Both			
-Evelyn to Jackson	*City*	16,600	18,954	900	60	36	None	Both			
-Jackson to "A"	*City*	17,000	18,086	800	60	36	None	Both			
-"A" to "E"	*City*	17,085	17,869	1,100	60	36	None	Both			
-"E" to "F"	*City*	18,233	18,028	300	60	36	None	Both			
-"F" to "J"	*City*	17,471	18,328	1,200	60	36	None	Both			
-"J" to "M"	*City*	15,814	17,560	1,100	60	36	None	Both			
-"M" to Voorhies	*City*	21,700	23,902	600	60	36	None	Both	Reconstruct street. Provide a bike lane on the east side from "M" St. to 300 feet south.		
-Voorhies to East Park	*City*	21,069	22,375	1,500	130	36	None	Both			
-East Park to Redwood Hwy	*City*	10,100	8,417	1,000	130	36	None	West			

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
9th Street	**Local Coll./ Collector**			8,300							
-Savage to Josephine	Local Coll./ *City*	3,497	3,411	2,000	60	36	None	Both	None.		
-"D" to "E"	Collector/ *City*	3,566	3,822	300	60	36	Lanes Both	Both	None.		
-"E" to "F"	Collector/ *City*	3,866	4,382	300	60	36	Lanes Both	Both	None.		
-"F" to "J"	Collector/ *City*	3,775	5,174	1,200	60	36	Lanes Both	East	Provide sidewalks where needed.	2006 - 2015 *Low*	$34,500
-"J" to "M"	Collector/ *City*	3,000	4,642	1,100	60	36	Lanes Both	East			
10th Street	**Collector**			4,700							
-Hillcrest to Dewey	Collector/ *County*	1,482	1,828	1,600	50	36	None	None	Reconstruct collector street from Hillcrest to 940 feet south. Provide curb, gutter, sidewalk, and bike lanes.	2015+ *Low*	$447,916
-Dewey to Hefley	Collector/ *City*	2,057	2,139	400	50	36	None	None	Provide sidewalks where none exist. Provide bike route signage as needed.	2006 - 2015 *Low*	$67,860
-Hefley to Savage	Collector/ *City*	2,057	2,139	500	50	36	None	Both			

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT 1995	ADT 2015	Length (feet)	Conditions (1995) ROW	Width	Bike	Walk	Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
-Savage to Cedar	Collector/ *City*	3,600	4,089	400	50	36	None	West			
-Cedar to Madrone	Collector/ *City*	3,600	4,089	600	60	36	None	Both			
-Madrone to "A"	Collector/ *City*	4,306	6,587	1,200	60	36	None	Both			
"A" Street	**Arterial**			8,200							
-Dimmick to 4th	*City*	5,471	2,058	1,900	60	36	None	Both	Sign as bike route as needed.	2006-2015 *Low*	$1,200
-4th to 6th	*City*	7,200	5,469	350	60	36	None	Both	Remove parking and provide bike lanes both sides.	1998 *High*	$12,600
-5th to 6th	*City*	7,200	5,469	350	60	44	None	Both	Stripe bike lanes both sides.		
-6th to 8th	*City*	8,518	8,200	700	60	36	None	Both	Sign as bike route as needed.	2006-2015 *Low*	$1,900
-8th to 9th	*County*	7,300	6,354	1,200	70	36	None	Both			
-9th to 10th	*County*	6,294	7,713	1,300	60	36-40	None	Both			
-10th to Foothill	*County*	6,294	7,713	2,400	60	36-40	None	None	Sign as bike route, install sidewalks both sides.	2015+ *Low*	$199,470
Agness Avenue	**Arterial**			3,000							

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Fairview to Spalding	*City*	-	-	1,700	80	48	Lanes Both	Both	None.	NA	NA
-Spalding to "N"	*County*	-	-	1,300	80 to tracks	NA	NA	NA	Provide 80 foot right-of-way where needed on south side of tracks. Provide at-grade rail crossing. Construct new arterial street 48 feet wide with bike lanes and sidewalks both sides.	2006-2015 *Med*	$1,278,824
Allen Creek Road	**Arterial**			7,100							
-Redwood Ave to Redwood Hwy.	*County*	1,498	9,060	300	50	22	None	None	Provide 70 feet right-of-way. Reconstruct as 48 foot wide arterial street with sidewalks and bike lanes both sides.	2006-2015 *Med.*	$2,369,917
-Redwood Hwy to West Harbeck	*County*	2,139	7,579	2,100	60	22	None	None			
-West Harbeck to Denton Trail	*County*	2,139	7,579	2,600	40	22	None	None			
-Denton Trail to Jacksonville Hwy	*County*	NA	NA	2,100	NA	NA	NA	NA	Provide 70 foot right-of-way. Construct new 48 foot wide arterial street with sidewalks and bike lanes both sides.	2006-2015 *Med.*	$1,239,746

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
Ament Road	**Local Coll.**			5,700							
-Foothill to Shannon	*County*	936	-	3,900	50	20	None	None	Full reconstruction. Improve to 36 feet wide with curb, gutter, and sidewalk. Install bike lanes at "N" St.	2015+ *Low*	$1,755,000
-Shannon to Agness (New Road)	*County*	-	-	1,800	NA	20	None	None	Provide 50 foot right-of-way. Construct new 36 foot wide local collector street with bike lanes and sidewalks both sides.	2015+ *Low*	$714,046
Anderson Street	**Collector**			1,000							
-"A" to "D"	*City*	3,602	-	1,000	60	36	None	Both	None.		
Angler Lane	**Collector**			1,600							
-Leonard to Raydean	*County*	-	-	800	50	36	None	Both	Install bike lanes both sides.	2015+ *Low*	$14,400
-Raydean to George Tweed	*County*	-	-	800	NA	NA	NA	NA	Construct new collector street with sidewalks and bike lanes both sides.	2015+ *Low*	$331,788
"B" Street	**Local Coll.**			3,700							
-Upland to Olmar	*City*	-	-	200	NA	NA	NA	NA	Construct new local collector. Provide 50 feet right-of-way, 36 feet curb-to-curb with sidewalks both sides	2006-2015 *Low*	$45,565

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Olmar to Dimmick	*City*	1,084	-	3,500	40-60	36	None	None	Install sidewalks both sides.	2015+ *Low*	$105,000
Beacon Drive	**Collector**			2,400							
-"A" to "D"	*City*	-	-	900	45-50	44	None	None	Stripe bike lanes both sides. Install sidewalks both sides.	2006-2015 *High*	?
-"D" to Fairview	*City*	-	-	700	50	44	Lanes Both	None	Provide 60 feet right-of-way. Install sidewalks both sides.	2015+ *Low*	$21,000
-Grants Pass Pkwy. to Spalding	*County*	-	-	800	50-60	44	None	East	Provide sidewalks on west side.	2015+ *Low*	$12,000
Bridge Street	**Arterial**			5,200							
-Lincoln to East Line Section 13	*County*	5,163	5,285	1,300	50	44	Lanes Both	None	Overlay. Provide 60 feet minimum right-of-way. Provide sidewalks both sides.	2006-2015 *Med.*	$66,372
-East Line Section 13 to Spruce	*City*	5,163	5,285	500	60	44	Lanes Both	None	Provide sidewalks where none exist.	2015+ *Low*	$66,000
-Spruce to Cypress	*City*	7,799	6,239	600	60	44	Lanes Both	North			
-Cypress to Greenwood	*City*	7,799	6,239	300	60	44	Lanes Both	South			

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT 1995	ADT 2015	Length (feet)	Conditions (1995) ROW	Width	Bike	Walk	Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
-Greenwood to Oak	*City*	8,291	5,723	1,300	60	44	Lanes Both	South			
-Oak to 4th	*City*	11,378	10,382	1,200	60	44	Lanes Both	South			
Cloverlawn Drive	**Collector**			10,100							
-Rogue River Hwy to Fruitdale	*County*	1,902	7,866	1,300	50	36	None	None	Overlay. Provide sidewalks both sides.	2006-2015	$74,962
-Fruitdale to Alanita	*County*	3,932	7,989	800	50	36	None	None	Overlay. Provide bike lanes and sidewalks both sides.	*Low*	
-Alanita to East View	*County*	4,232	8,222	700	50	36	None	None			
-East View to Hamilton	*County*	4,232	8,222	1,500	40-60	22	None	None	Full reconstruction. Provide 60 feet minimum right-of-way. Reconstruct 42 foot wide street with bike lanes and sidewalks both sides.	2105+ *Low*	$2,369,917
Coach Drive	**Local Coll.**			3,500							

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Curtis to Jacksonville Hwy.	*County*	-	-	3,500	NA	NA	NA	NA	Construct new local collector street. Provide 50 feet right-of-way. Construct 36 foot wide street with sidewalks both sides.	1998-2006 *Low*	$2,587,713
Cottonwood St.	**Local**			1,900							
-Bridge to Louise	*City*	-	-	1,200	50	36	None	None	Remove parking. Stripe bike lanes both sides.	1996-1998 *High*	$34,200
-Louise to Webster	*City*	-	-	700	50	36	None	Both			
Curtis Drive	**Local Coll.**			800							
-Jacksonville Hwy to Coach	*County*	-	-	800	50	22-36	None	None	Full reconstruction. Reconstruct local collector street 36 feet wide with sidewalks both sides.	2015+ *Low*	$360,000
"D" Street	**Collector**			9,700							
-Dimmick to 9th	*City*	-	-	3,700	60	32-36	None	Both	None.		
-9th to Candy	*City*	-	-	1,300	50	39	Lanes Both	Both	None.		
-Candy to 11th	*City*	4,277	-	1,900	50	44	Lanes Both	Both	None.		

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-11th to Beacon	*City*	-	-	800	50	40	Lanes Both	None	Install sidewalks both sides.	2015+ *Med.*	$12,000
-Beacon to Foothill	*County*	-	-	2,000	50	40	Lanes Both	None	Overlay. Install sidewalks both sides.	2015+ *Med*	$74,337
Darneille Lane	**Collector**			2,600							
-Redwood Ave. to Leonard	*County*	647	-	2,600	60	22-24	None	None	Full Reconstruction. Construct collector 42 feet wide with bike lanes and sidewalks both sides.	2015+ *Med.*	$1,184,959
Dimmick Street	**Arterial**			2,900							
- Bellevue to "A"	*City*	-	-	500	60	36	None	East	Stripe bike lanes both sides. Eliminate parking. Provide sidewalks where none exist.	2006-2015 *Med*	$31,964
- "A" to "B"	*City*	-	-	300	60	36	None	Both			
- "B" to "C"	*City*	-	-	300	60	36	None	West			
- "C" to "F"	*City*	-	-	900	60	22-28	None	None	Full reconstruction. Construct new 48 foot wide arterial with TWLTL and bike lanes, no parking, and sidewalks both sides.	2006-2015 *Med*	$179,496
-"F" to Foundry	*City*	-	-	200	60	NA	NA	NA	Construct new at grade rail crossing Construct 48 foot wide arterial with bike lanes and sidewalks both sides	2006-2015 *Med.*	$718,762

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Foundry to "G"	*City*	-	-	500	60	20-25	None	None	Full reconstruction. Construct new 48 foot wide street with TWLTL and bike lanes, no parking, and sidewalks both sides.	2006-2015 *Med.*	$15,608
Dowell Road	**Local Coll. /Arterial /Collector**			3,300							
- Leonard to Redwood Avenue	Local Coll./ *County*	1,196	-	1,300	60	36	None	Both	Install sidewalks both sides.	2006-2015 *Med*	$66,372
- Redwood Avenue to Redwood Hwy.	Arterial/ *County*	1,196	-	1,400	65-80	48	Both	Both	None.		
-Redwood Hwy. to Schutzwohl	Collector/ *County*	1,598	-	600	60	20	None	None	Full reconstruction. Provide 48 foot wide collector with TWLTL and bike lanes, no parking, and sidewalks both sides.	2006-2015 *Low*	$248,842
Drury Lane	**Local Coll.**			2,100							
-Grandview to Fruitdale	*County*	814	-	2,100	50	22	None	None	Full reconstruction. Construct 36 foot wide local collector with sidewalks both sides.	2006-2015 *Med*	$947,967
"E" Street	**Arterial**			4,200							

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-3rd to 4th	*City*	4,022	1,742	300	60	36	None	Both	Stripe bike lane north side. Eliminate parking one side.	2015+ *Low*	$18,900
-4th to 6th	*City*	4,172	3,149	700	60	36	None	Both			
-6th to 7th	*City*	6,400	8,463	400	60	36	None	Both			
-7th to 9th	*City*	7,000	8,779	700	60	36	None	Both			
-9th to Mill	*City*	6,855	8,997	1,400	60	36	Lane North	Both	None.		
-Mill to "F"	*City*	10,000	13,991	700	60	36	Lane North	North	Construct sidewalks south side.	2015+ *Low*	$10,500
East Park Street	**Collector/ Local Coll.**			6,400							
-6th Street to Grants Pass Pkwy	Collector *City*	-	-	3,100	50	40	Route	Both	None.		
-Parkdale to Gold River	Local Coll. *City*	-	-	600	0	40	Lanes Both	Both	None.		
-Gold River to Clara	Local Coll. *County*	1,119	-	1,200	50	29	None	One Side	Full Reconstruction. Construct 36 foot wide local collector street with sidewalks both sides.	2006-2015 *Med*	$597,221
-Clara to Hamilton	Local Coll. *County*	1,119	-	1,500	50	22	None	None	Full Reconstruction. Construct 36 foot wide local collector street with sidewalks both sides.	2015+ *Med.*	$696,758

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
Evelyn Avenue	**Local Coll.**			1,200							
-4th to 6th	Local Coll./ *City*	-	-	700	60	30-36	None	Both	None.		
-6th to 7th	Local Coll./ *City*	-	-	500	50	30-36	None	Both			
"F" Street	**Collector/ Arterial**			12,600							
-"G" to Sunhill	Collector/ *City*	-	-	2,800	NA	NA	NA	NA	Construct new collector. Provide 60 feet right-of-way. Construct 36 foot wide collector with bike lanes, no parking, and sidewalks both sides. Provide new at-grade rail crossing.	2006-2015 *Med*	$2,064,863
-Sunhill to Elm	Collector/ *City*	-	-	2,400	NA	NA	NA	NA	Construct new collector. Provide 60 feet right-of-way. Construct 36 foot wide collector with bike lane, no parking, and sidewalks both sides.	2006-2015 *High*	$2,089,747
-Elm to Booth	Collector/ *City*	-	-	800	60	36	None	South	Provide bike lanes and sidewalks both sides.	2015+ *Low*	$27,000
-Booth to 2nd	Collector/ *City*	-	-	600	60	36	None	None			
-2nd to 3rd	Collector/ *City*	1,790	-	400	50	36	None	Both			

Street Improvement Program

Street -*Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-3rd to 4th	Arterial/ *City*	4,277	4,998	300	50	40	Lane South	Both	None.		
-4th to 6th	Arterial/ *City*	4,277	4,998	700	50	36	None	Both	Provide bike lane on south side. Eliminate parking one side. Provide sidewalks where none exist.	2015+ *Low*	$6,930
-6th to 7th	Arterial/ *City*	6,800	7,046	400	50	36	None	Both			
-7th to 8th	Arterial/ *City*	6,000	9,002	400	50	36	None	Both			
-8th to 9th	Arterial/ *City*	6,000	9,002	300	60	36	None	North			
-9th to Mill	Arterial/ *City*	5,852	8,821	1,600	60	40	None	Both			
-Mill to Grants Pass Pkwy.	Arterial/ *City*	6,700	9,734	1,900	60	40	Lane Both	Both	None		

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
Fairgrounds Rd.	**Collector**			200							
-Redwood Hwy. to Union	*County*	-	-	200	60	40	None	None	Full reconstruction. Reconstruct as 42 foot wide collector street with bike lanes and sidewalks both sides.	2015+ *Med.*	$47,398
Fairview Avenue	**Local Coll.**			2,600							
-Beacon to Foothill	*City*	-	-	2,600	50	36	None	Both	None.		
Foothill Blvd.	**Arterial/ Collector**			6,660							
-"A" to 760 feet southeast	*Arterial/ County*	-	-	760	60	36	None	None	Overlay. Provide sidewalks both sides	2015+ *Med*	$37,168
-760 feet southeast of "A" to Fairview	Arterial/ *City*	-	-	2,300	60	36-44	Lanes Both	Both	None.		
-Spalding to I-5	Collector/ *City*	-	-	1,600	100-130	44	Shoulder	None	Install sidewalks and bike lanes both sides.	2015+ *Low*	$48,000
-I-5 to Ament	Collector/ *County*	3,606	-	2,000	50	44	None	None	Full Reconstruction. Reconstruct collector street 42 feet wide with bike lanes, no parking, and sidewalks both sides.	2015+ *Med*	$995,369

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
Fruitdale Drive	**Collector**			12,700							
-Jacksonville Hwy. to Drury	*County*	3,183	4,622	2,600	60	22	Shou l-der	None	Full Reconstruction. Reconstruct collector street 42 feet wide with bike lanes and sidewalks both sides.	1999-2005 *Med.*	$1,421,950
-Drury to Parkdale	*County*	3,026	4,419	700	60	22	Shou l-der	None			
-Parkdale to Gaffney	*County*	3,929	5,329	500	60	22	Shou l-der	North	Full Reconstruction. Reconstruct collector street 42 feet wide with bike lanes and sidewalks both sides, parking one side.	2006-2015 *Med.*	$1,777,438
-Gaffney to Overland	*County*	3,929	5,329	3,300	60	22	Shou l-der	None			
-Overland to Alexander	*County*	3,929	5,329	1,300	60	22	Shou l-der	None	Full Reconstruction. Reconstruct collector street 42 feet wide with bike lanes and sidewalks both sides, parking one side.	2015+ *Med.*	$2,488,413
-Alexander to Rogue River Hwy	*County*	-	-	4,300	60	22	None	None			
"G" Street	**Arterial**			5,800							
-Lincoln to Leonard	*County*	5,529	8,618	1,300	40-80	24	None	None	Full Reconstruction. Reconstruct arterial street 48 feet wide with TWLTL and bike lanes and sidewalks both sides, parking one side.	1999-2005 *High*	$622,105
-Leonard to Wildwood	*City*	6,822	6,799	1,100	60	44	Lanes Both	North	Stripe for TWLTL. Retain bike lanes both sides. Install sidewalks on south side.	2006-2015 *High*	$108,000

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Wildwood to Oak	*City*	7,611	6,933	2,100	60	44	Lanes Both	North			
-Oak to Pine	*City*	9,142	7,237	500	60	44	Lanes Both	North			
-Pine to 3rd	*City*	10,248	5,646	800	60	44	Lanes Both	North			
George Tweed Blvd	**Proposed Collector**			3,300							
-Kellenbeck to Redwood Ave	County	30-60	-	1,300	NA	NA	NA	NA	Construct new collector street 42 feet wide with bike lanes, no parking, and sidewalks both sides.	2015+ *Low*	$592,479
-Redwood Ave. to Willow	County	0-30	-	2,000	NA	NA	NA	NA	Construct new collector street 40 feet wide with bike lanes, no parking, and sidewalks both sides.	2015+ *Low*	$900,569
Gladiola Street	**Local Coll.**			1,600							
-"N" to Portola	*County*	851	-	1,600	40	22	None	None	Full Reconstruction. Provide 50 foot right-of-way. Reconstruct local collector street 36 feet wide with sidewalks both sides.	2006-2015 *Med.*	$516,763

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT 1995	ADT 2015	Length (feet)	Conditions (1995) ROW	Width	Bike	Walk	Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
G.I. Lane	**Collector**			1,300							
-Harbeck to Jacksonville Hwy.	*County/ Private*	-	-	500	0-20	NA	None	None	Construct new collector street. Provide 60 foot right-of-way. Construct 42 foot wide collector street with bike lanes and sidewalks both sides	2006-2015 *Low*	$1,081,739
Grandview Ave.	**Collector**			5,200							
-Harbeck to existing Grandview	*City*	-	-	1,100	NA	NA	NA	NA			
-New Extension to Drury	*County*	2,020	5,288	2,600	40-60	20-28	None	None	Full Reconstruction. Provide 60 foot right-of-way. Reconstruct collector street 42 feet wide with bike lanes and sidewalks both sides.	2006-2015 *High*	$2,369,917
-Drury to Gaffney	*County*	2,042	5,341	1,000	40-60	20-28	None	None			
-Gaffney to Cloverlawn	*County*	1,537	5,341	1,600	40-60	20-28	None	None			
Grants Pass Parkway	**State Highway**			11,500							
-7th to Parkdale	*State*	13,824	18,252	2,400	110	68	Lanes Both	None	None.		
-Parkdale to "M"	*State*	17,988	23,692	1,300	110	78	Lanes Both	Both			
-"M" to "F"	*State*	19,793	18,849	3,200	110	68	Lanes Both	Both			

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-"F" to Beacon	*State*	26,509	28,822	700	110	80	Lanes Both	Both			
-Beacon to Terry	*State*	21,397	24,615	1,300	110	80	Lanes Both	Both			
-Terry to Agness	*State*	14,412	19,215	1,300	110	80	Lanes Both	Both			
-Agness to I-5	*State*	15,683	26,208	1,300	110	68-80	None	None	Provide bike lane south side. Provide connection to Foothill Blvd.	1999-2005 *Low*	$11,700
Greenfield Road	**Collector**			4,100							
-Scoville to Spring Mountain	***County***	-	-	2,100	30+	22	None	None	Full reconstruction. Reconstruct collector street 42 feet wide with bike lanes and sidewalks both sides	2006-2015 *Med.*	$945,000
-Spring Mountain to Hillcrest	***County***	-	-	2,000	NA	NA	NA	NA	Construct new collector street. Provide 50 feet minimum right-of-way. Construct 36 foot wide collector street with bike lanes and sidewalks both sides.	2006-2015 *Med*	$1,000,722
Hamilton Lane	**Local Coll.**			9,100							
-East Park to Rogue River Hwy.	*County*	590	-	400	40	22	None	None	Full Reconstruction. Reconstruct local collector street 36 feet wide with sidewalks both sides.	2015+ *Med*	$149,305

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Overland to Cloverlawn	*County*	770	-	6,000	40	22	None	None	Full Reconstruction. Reconstruct local collector street 36 feet wide with sidewalks both sides.	2015+ *Low*	$2,836,801
Harbeck Road	**Collector**			5,500							
-Jacksonville Hwy. to G I. Ln.	*County*	4,249	2,481	1,700	60	38-44	Lanes Both	One Side	Overlay and widen to 40 feet. Provide sidewalks, curb, and gutter where none exist.	2015+ *Med*	$100,886
-G I Ln to Grandview	*County*	1,333	2,481	400	60	38-44	Lanes Both	One Side			
-Grandview to West Harbeck	*County*	1,297	2,830	400	60	34-38	Lanes Both	West (Part)	Full reconstruction. Provide 40 foot wide collector street with bike lanes and sidewalks both sides. Provide turn lanes where needed.	2015+ *Med*	$353,908
Haviland Drive	**Local Coll.**			4,000							
-Grandview to Highline Canal	*County*	751	-	2,000	60	26	None	None	Full Reconstruction. Provide 36 foot wide local collector street with sidewalks both sides.	2015+ *Low*	$805,772
-Highline Canal to Cloverlawn	*County*	-	-	2,000	NA	NA	NA	NA	Construct new local collector street. Provide 50 foot right-of-way minimum and new 36 foot wide street with sidewalks both sides.	2006-2015 *Low*	$1,072,092

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
Hawthorne Ave.	**Collector**			3,800							
-Vine to Morgan	*County*	-	-	1,500	70	27-36	None	East	Install sidewalks west side.	2015+ *Low*	$22,500
-Morgan to Hillcrest	*County*	-	-	1,100	70	27-36	None	East	Overlay. Provide sidewalks where none exist. Stripe for bike lanes.	1998-2000 *Low*	$114,160
-Hillcrest to Loughridge	*County*	-	-	500	70	27-36	None	None	Overlay. Provide sidewalks both sides.		
-Loughridge to Midland	*County*	-	-	700	50	27-36	None	None			
Highland Avenue	**Arterial**			11,100							
-UGB to Vine	*County*	1,700	-	1,900	60	36	Lanes Both	None	Full Reconstruction. Construct arterial street 40 feet wide with bike lanes and sidewalks both sides.	1999-2005 *Med*	$2,015,621
-Vine to Woodbrook	*County*	1,637	-	3,300	60	40	Lanes Both	West			
-Woodbrook to Windsor	*County*	1,637	-	1,800	60	36	Lanes Both	East (Part)			
-Windsor to Carol	*County*	1,637	-	1,000	60	40	Lanes Both	Both			
-Carol to Valley View	*City*	-	-	1,200	50-60	36-40	Lanes Both	East	Provide sidewalks where none exist.	2015+ *Low*	$84,000

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Valley View to Midland	*City*	6,020	6,568	1,300	60	36-40	Lanes Both	East			
-Midland to Starlite	*City*	5,085	5,501	600	60	36-40	Lanes Both	East			
-Starlite to Savage	*City*	5,291	4,902	600	60	36-40	Lane East	None			
-Savage to Bellevue	*City*	5,228	5,957	1,300	60	36-40	Lane East	East			
Hillcrest Drive	**Collector**			6,000							
-Hawthorne to Washington	*County*	-	-	600	60	36	None	None	Overlay Stripe bike lanes both sides. Provide sidewalks where none exist.	1999-2005 *Low*	$66,372
-Washington to 6th	*County*	3,100	5,093	700	60	42	None	Both			
-6th to 7th	*City*	3,471	6,064	500	40-50	44	None	Both	Stripe bike lanes both sides. Remove parking both sides.	2015+ *Low*	$9,548
-7th to 9th	*City*	2,444	2,811	800	50	40	None	Both	Stripe bike lanes both sides. Remove parking north side.	2015+ *Low*	$13,020
-9th to 10th	*County*	2,614	7,120	1,400	50	28	None	None	Full Reconstruction. Reconstruct collector street 42 feet wide with bike lanes, no parking, and sidewalks both sides.	2015+ *Med.*	$671,874

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-10th to Beacon	*County*	2,100	1,784	1,300	50	28	None	None	Full Reconstruction. Reconstruct collector street 42 feet wide with bike lanes, no parking, and sidewalks both sides.	2015+ *Med*	$622,105
Hubbard Lane	**Collector**			2,300							
-Redwood Ave. to Redwood Hwy	*County*	-	-	2,300	40	22	None	None	Full Reconstruction. Reconstruct collector street 42 feet wide with bike lanes and sidewalks both sides.	2015+ *Med.*	$1,066,463
I-5	**State Highway**										
-Exit 58	*State*	-	-	NA	NA	NA	NA	NA	Construct new on-ramp and improve intersection.	2006-2015 *Med*	$1,817,098
"J" Street	**Collector**			5,600							
-Oak to 5th	*City*	-	-	1,300	60	36	None	Both	None.		
-5th to 6th	*City*	-	-	4,300	60	44	None	Both			
-6th to 11th	*City*	-	-	2,100	60	36	None	Both	None.		
-11th to Mill	*City*	-	-	1,400	60	36	None	None	Overlay. Provide sidewalks both sides.	2015+ *Low*	$70,000

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
Jacksonville Highway	**State Highway**			15,400							
-Redwood Hwy. to Lark Ellen	*State*	19,000	-	3,500	90	74	Lanes Both	Both	None.		
-Lark Ellen to West Harbeck	*State*	19,899	23,225	800	90	74	Lanes Both	Both			
-West Harbeck to Mayfair	*State*	17,310	18,616	1,500	90	74	Lanes Both	Both			
-Mayfair to New Hope	*State*	17,262	18,218	1,600	90	74	Lanes Both	Both			
-New Hope to Allenwood	*State*	11,008	14,449	2,100	90	32	Shou l-der	None	Widen to four lanes with bike lanes and sidewalks both sides.	2002-2005 *High*	$2,140,000
-Allenwood to UGB	*State*	10,031	17,254	5,900	90	32	Shou l-der	None			
Kellenbeck Ave.	**Collector**			7,600							
-Hubbard to Willow	***County***	-	-	2,600	NA	NA	NA	NA	Construct new collector street. Provide 60 feet right-of-way. Construct 42 foot wide collector with bike lanes and sidewalks both sides.	2015+ *Low*	$1,184,959
-Willow to Redwood Ave	***County***	-	-	2,800	60	0-40	None	Both Part	Construct new collector street. Construct 40 foot wide collector with bike lanes and sidewalks both sides.	2015+ *Low*	$450,284

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Redwood Ave to Willow	***County***	-	-	2,200	0-60	NA	NA	NA	Construct new collector street. Provide 60 feet right-of-way. Construct 42 foot wide collector with bike lanes and sidewalks both sides.	2015+ *Low*	$995,365
Leonard Road	**Collector/ Local Coll.**			7,900							
-UGB to Willow	*Collector/ County*	683	-	3,900	40	20-22	None	None	Full reconstruction. Provide 60 feet right-of-way. Reconstruct collector street 42 feet wide with bike lanes and sidewalks both sides.	2015+ *Med*	$1,777,438
-Willow Ln to Mesman Dr.	*Local Coll / County*	683	-	4,000	40	21-22	None	None	Full reconstruction. Provide 50 feet right-of-way. Reconstruct local collector street 36 feet wide with sidewalks both sides.	2015+ *Med.*	$1,777,438
-Kellenbeck to Leonard	*Collector/ County*	683	-	300	NA	NA	NA	NA	Provide 60 feet right-of-way. Construct new collector street 42 feet wide with bike lanes and sidewalks both sides.	2015+ *Low*	$142,195
Lincoln Road	**Arterial**			6,200							
-"G" to Bridge	*County*	-	-	2,000	40	20	None	None	Full Reconstruction. Provide 70 feet right-of-way. Reconstruct arterial street 48 feet wide with TWLTL, bike lanes, no parking, and sidewalks both sides.	2006-2015 *High*	$2,101,111
-Bridge to Webster	*County*	-	-	1,900	55-70	36	Lanes Both	None			

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Webster to Redwood Ave.	*County*	246	-	2,300	NA	NA	NA	NA	Construct new bridge. Provide 70 feet right-of-way. Construct new arterial street 48 feet wide with TWLTL, bike lanes, and sidewalks both sides.	2006-2015 *High*	$15,727,118
Lower River Rd.	**State Hwy.**			2,600							
-UGB to Doneen Lane	*State*	-	-	1,800	40	28	None	None	Full reconstruction. Provide 60 feet right-of-way where needed. Widen to 48 feet with curb, gutter, sidewalk, and bike lanes.	2002-2005 *Med*	$315,000
-Doneen Ln. to Lincoln Rd	*State*	-	-	800	40-60	28	None	None			
"M" Street	**Arterial**			8,200							
-4th to 6th	*City*	9,675	7,305	800	60	44	Lanes Both	Both	None.		
-6th to 7th	*City*	10,500	16,830	400	60	44	Lanes Both	Both			
-7th to 9th	*City*	9,000	9,966	600	60	44	Lanes Both	Both			
-9th to 10th	*City*	7,700	7,619	400	60	44	Lanes Both	Both			
-10th to 11th	*City*	7,700	7,494	400	60	44	Lanes Both	Both			

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-11th to Skunk Creek	*City*	7,700	7,494	1,000	60	38-44	Lanes Both	North	Provide sidewalks where none exist.	2015+ *Low*	$15,000
-Skunk Creek to "N"	*County*	8,179	9,068	1,000	50	38-42	Lanes Both	Both	Overlay. Provide sidewalks where none exist.	2015+ *Low*	$111,505
-"N" to Milbank	*County*	7,295	8,773	1,200	50-60	42	Lanes Both	Both			
-Milbank to Ashley	*City*	7,295	8,773	700	50-60	42	Lanes Both	Both			
-Ashley to West Line Section 21	*City*	7,295	8,773	300	50-60	42	Lanes Both	None			
-West Line Section 21 to "N"	*County*	7,295	8,773	1,300	50	42	Lanes Both	None	Overlay. Provide sidewalks both sides.	2015+ *Low*	$42,478
Madrone Street	**Local Coll.**			2,600							
-9th to 10th	*City*	1,169	-	1,300	50	36	None	None	Provide sidewalks both sides.	2015+ *Low*	$39,000
-10th to 11th	*City*	-	-	600	40	36	None	None			
-11th to Beacon	*City*	978	-	700	50	36	None	None			

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
Manzanita Ave.	**Local Coll.**			3,400							
-Upland to Elm	*City*	-	-	2,800	NA	NA	NA	NA	Construct new local collector street. Provide 50 feet minimum right-of-way. Construct 36 feet wide local collector with sidewalks both sides.	2006-2015 *Low*	$716,605
-Elm to Hawthorne	*City*	-	-	1,400	60	36	None	None	Provide sidewalks where none exist.	2015+ *Low*	$21,000
-Hawthorne to 7th	*City*	-	-	2,000	60	36	None	Both			
Meridian Way	**Collector**			1,400							
-Ramsey to Jacksonville Hwy	*City*	-	-	1,400	60	40	Lanes Both	Both	None.		
Midland Ave.	**Collector**			3,300							
-Highland to Prospect	*City*	-	-	600	50	36	None	Both	Provide sidewalks where none exist. Sign as bike route as needed.	2015+ *Low*	$34,632
-Prospect to Hawthorne	*City*	-	-	700	50	36	None	North			
-Hawthorne to Hawthorne	*City*	-	-	100	50	36	None	None			
-Hawthorne to Washington	*City*	-	-	600	60	36	None	South			
-Washington to 6th	*City*	-	-	800	60	36	None	North			

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-6th to 7th	*City*	-	-	500	60	36	None	Both			
Mill Street	**Collector**			3,600							
-"D" to "F"	*City*	-	-	600	50	36	None	West	Provide 50 foot right-of-way where necessary. Provide sidewalks where none exist.	2015+ *Low*	$75,000
-"F" to "J"	*City*	-	-	1,400	40-50	36	None	None			
-"J" to "M"	*City*	-	-	1,600	50	44	None	West			
Morgan Lane	**Local Coll./ Collector/ Arterial**			5,000							
-Candler to Highland	Local Coll./ *City*	-	-	1,200	50	36	None	Both	Stripe bike lanes both sides. Eliminate parking.	2006-2015 *Low*	$16,200
-Highland to Hawthorne	Collector/ *County*	-	-	1,400	50	22	None	Both	Full Reconstruction. Provide 60 feet right-of-way. Reconstruct 42 foot wide collector with bike lanes and sidewalks both sides, parking one side.	1999-2005 *Med*	$622,105
-Hawthorne to Washington	Collector/ *County*	-	-	600	80	36	None	None	Overlay. Provide sidewalks both sides. Sign as bike route as needed	1999-2005 *Low*	$53,098
-Washington to Vine	Collector/ *County*	3,571	5,134	500	60	40	None	None			

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Vine to 6th	Arterial/ *City*	4,818	6,551	200	70	44	None	None	Provide sidewalks where none exist. Stripe bike lanes both sides. Eliminate parking as needed.	2015+ *Low*	$6,750
-6th to 7th	Arterial/ *City*	3,063	3,025	500	70	44	None	Both			
"N" Street	**Local Coll./Arterial**			5,300							
-"M" to 100 feet east of Belle Aire	Local Coll./ *City*	-	-	1,200	45-55	36	None	None	Provide sidewalks where none exist. Provide 50 feet right-of-way where needed.	2015+ *Low*	$18,000
-100 feet east of Belle Aire to Rogue Drive	Local Coll./ *County*	-	-	2,000	50	36	None	None	Overlay. Provide sidewalks both sides.	2015+ *Low*	$55,753
-Camelot to Riverwood Apts	Arterial/ *County*	-	-	800	50-55	42	Both	South	Full Reconstruction. Provide 60 feet right-of-way. Reconstruct arterial street 48 feet wide with bike lanes and sidewalks both sides.	2006-2015 *Med*	$798,633
-Riverwood Apts to Agness	Arterial/ *County*	-	-	1,900	50	22-24	None	None			
-Agness to Gladiola	Local Coll./ *County*	-	-	200	40	22-24	None	None	Full reconstruction. Reconstruct 36 foot wide local collector with sidewalks both sides.	2006-2015 *Med*	$211,403

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
Nebraska Avenue	**Local Coll.**			2,700							
-Union to Ramsey	*County*	455	-	1,400	50	36	None	Both	Overlay. Provide sidewalks both sides.	1999-2005 *Low*	$36,746
-Ramsey to McCarter	*County*	455	-	700	50	18	None	West	Reconstruct east half of street. Construct 36 foot wide street with sidewalks.	1999-2005 *Med.*	$236,992
-McCarter to West Harbeck	*County*	455	-	600	40-50	36	None	None	Overlay. Provide sidewalks both sides	2015+ *Low*	$14,698
New Hope Road	**Collector**			7,400							
-Jacksonville Hwy. to UGB	Collector/ *County*	2,381	-	500	60	40	Lanes Both	None	Terminate vehicular through access from Jacksonville Highway to Allen Creek Road. Retain pedestrian and bike through route. Construct sidewalks both sides.	2006-2015 *Med.*	$16,000
Oak Street	**Arterial**			2,200							
-"G" to Burgess	*City*	-	-	1,700	60	36	None	None	Stripe bike lanes both sides. Eliminate parking. Provide sidewalks where none exist Sign for through traffic.	2006-2015 *Med*	$83,984
-Burgess to Bridge	*City*	-	-	500	60	36	None	Both			

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
Overland Drive	**Arterial**			6,300							
-Rogue River Hwy. to Cloverlawn	*County*	-	-	6,300	0-80	NA	NA	NA	Provide 80 feet right-of-way. Construct new arterial street with bike lanes and sidewalks.	1999-2005 *Med*	
Parkdale Drive	**Arterial/ Collector**	-	-	2,400							
-Grants Pass Pkwy. to Rogue River Hwy.	Arterial/ *City*	-	-	1,300	60-70	48	Lanes Both	Both	None.		
-Rogue River Hwy to Fruitdale	Collector/ *City*	-	-	600	50	48	Lanes Both	Both			
Portola Drive	**Local Coll.**			3,000							
-Rogue to Harvey	*City*	-	-	2,400	50	36	None	Both	None.		
-Harvey to Gladiola	*County*	998	-	600	40	22	None	None	Full reconstruction. Reconstruct local collector 36 feet wide with sidewalks both sides.	2015+ *Low*	$225,000
Ramsey Avenue	**Collector/ Local Coll.**	-	-	5,400							
-Allen Creek Rd. to Hemlock	Collector/ *County*	-	-	700	NA	NA	NA	NA	Provide 60 feet right-of-way. Construct new collector street 48 feet wide with bike lanes both sides.	2006-2015 *Med*	$1,771,283

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Hemlock to Nebraska	Collector/ *County*			500	60	48	None	Both	Overlay.		
-Nebraska to Meridian	Collector/ *City*	-	-	2,300	60	NA	NA	NA	Construct new collector street 48 feet wide with bike lanes both sides.		
-Meridian to Union	Local Coll./ *City*	-	-	1,900	50-60	36	None	Both	None.		
Raydean Drive	**Collector**	-	-	2,400							
-Redwood Ave. to End	*County*	-	-	1,500	60	24	None	None	Full reconstruction. Reconstruct collector street 42 feet wide with bike lanes and sidewalks both sides, parking one side.	2015+ *Low*	$682,500
-End to Angler	*County*	-	-	900	NA	NA	None	None	Construct new collector street. Provide 60 foot right-of-way. Construct 42 foot wide collector with bike lanes and sidewalks both sides, parking one side.	2015+ *Low*	$402,886
Redwood Avenue	**Arterial**			10,100							
-450 west of Darneille to Raydean	*County*	5,172	-	800	60	32	None	None	Full reconstruction. Reconstruct arterial street 48 feet wide with TWLTL, bike lanes, no parking, and sidewalks both sides.	2015+ *High*	$2,441,015
-Raydean to Dowell	*County*	5,172	-	4,400	60	32	Lanes Both	None			

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Dowell to Redwood Cir.	*County*	5,172	-	3,800	60	36	Lanes Both	None	Full reconstruction. Reconstruct arterial street 48 feet wide with TWLTL, bike lanes, no parking, and sidewalks both sides.	2006-2015 *High*	$7,682,641
-Redwood Cir. to Lincoln Rd.	*County*	5,172	-	1,100	60	36	Lanes Both	None	Construct new arterial street 48 feet wide with TWLTL, bike lanes, no parking, and sidewalks both sides.	2006-2015 *High*	$473,983
Redwood Highway	**State Highway**			14,700							
-UGB to Hubbard	*State*	9,804	15,000	400	150	68	Mult i-use	None	Widen and overlay. Provide shoulder bikeway from Redwood Ave. to South "Y".	1996 *High*	$3,561,000
-Hubbard to Willow	*State*	10,930	15,276	2,600	150	68	Mult i-use	None			
-Willow to Demaray	*State*	13,498	19,793	500	150	68	Mult i-use	None			
-Demaray to Dowell	*State*	17,018	26,035	2,300	150	68	Mult i-use	None			
-Dowell to Allen Creek	*State*	18,511	28,010	4,300	150	68	Mult i-use	None			
-Allen Creek to Redwood Ave	*State*	16,948	25,006	900	150	68	Mult i-use	None			

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Redwood Ave. to Fairgrounds	*State*	27,223	33,207	2,300	170	72	Shou l-der	None			
-Fairgrounds to Ringuette	*State*	26,303	28,647	800	170	72	Shou l-der	None			
-Ringuette to South "Y"	*State*	26,807	27,658	600	200	72	Shou l-der	None			
-Willow Ln. Intersection	*State*	NA	NA	NA	NA	NA	NA	NA	Install traffic signal.	2006-2015 *Med*	$184,000
-Dowell Rd Intersection	*State*	NA	NA	NA	NA	NA	NA	NA	Install traffic signal.	1997 *High*	$184,000
-Allen Creek Rd Intersection	*State*	NA	NA	NA	NA	NA	NA	NA	Install traffic signal.	1999 *High*	$184,000
-South "Y"	*State*	NA	NA	NA	NA	NA	NA	NA	Needs Assessment.	1997 *High*	$27,000
Ringuette Street	**Collector**			2,900							
-West Park to canal	*County*	794		500	60	24	None	None	Full reconstruction. Reconstruct collector street 36 feet wide with bike lanes, no parking, and sidewalks both sides	1999-2005 *Low*	$189,593

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-canal to Redwood Hwy	*County*	794	-	600	60	36	None	None	Overlay. Stripe bike lanes both sides. Provide sidewalks both sides.	1999-2005 *Low*	$29,204
-Redwood Hwy to Union	*City*	-	-	500	NA	NA	NA	NA	Install traffic signal. Provide 60 foot right-of-way. Construct new collector street 48 feet wide with TWLTL and bike lanes, no parking, and sidewalks both sides.	2006-2015 *Med.*	$471,863
-Union to Meridian	*City*	-	-	1,300	60	40	Lanes Both	Both	None.		
Rogue Drive	**Local Coll.**			1,400							
-"N" to Portola	*City*	-	-	1,400	40-44	32-34	None	None	Provide 50 feet right-of-way where needed. Provide sidewalks both sides.	2015+ *Med*	$42,000
Rogue River Highway	**State Highway**			10,900							
-Redwood Hwy to Maple	*City*	15,576	16,022	1,000	100	72	None	None	Provide access management Install curbs, gutter, sidewalks and bike lanes both sides.	2006-2015 *Med*	$4,000,000
-Maple to Parkdale	*City*	16,000	16,583	1,500	100	50	Shou l-der	None			
-Parkdale to Cloverlawn	*County*	12,941	14,287	1,800	100	50	Shou l-der	None			

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Cloverlawn to Mt Baldy	*County*	8,950	8,950	3,700	100	30-50	Shou l-der	None			
-Mt. Baldy to Fruitdale	*County*	7,530	7,370	3,000	100	30	None	None			
Savage Street	**Collector**			6,600							
-Highland to Prospect	*City*	-	-	700	60	36	None	None	Provide sidewalks where none exist. Provide bike route signs as needed.	2015+ *Low*	$52,740
-Prospect to Hawthorne	*City*	-	-	600	60	36	None	Both			
-Hawthorne to Lawnridge	*City*	-	-	400	60	36	None	None			
-Lawnridge to Washington	*City*	-	-	400	60	36	None	Both			
-Washington to Conklin	*City*	2,001	2,720	400	60	36	None	None			
-Conklin to 6th	*City*	2,001	2,720	400	60	36	None	South			
-6th to 7th	*City*	4,509	4,958	500	60	44	Wide Both	South	Provide sidewalks where none exist.	2015+ *Low*	$7,500
-7th to 9th	*City*	4,117	2,387	800	60	44	Wide Both	Both	None.		

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-9th to 10th	*City*	2,100	2,196	1,200	60	36	None	Both	Provide bike route signage as needed.	2015+ *Low*	$720
-10th to Beacon	*City*	-	-	1,200	40	18-36	None	Both	Full Reconstruction. Reconstruct collector street 36 feet wide with bike lanes, no parking, and sidewalks both sides.	2006-2015 *Med.*	$99,537
Scenic Drive	**Collector**			900							
-UGB to Scoville	*County*	1,002	-	900	80-90	24	None	None	Full reconstruction. Provide 60 feet right-of-way. Reconstruct collector street 42 feet wide with bike lanes and sidewalks both sides.	2015+ *Low*	$370,944
Schutzwohl Lane	**Collector**			4,100							
-Dowell to West Harbeck	*County*	-	-	3,000	NA	NA	NA	NA	Provide 60 feet right-of-way. Construct new collector 42 feet wide with bike lanes and sidewalks both sides.	2006-2015 *Low*	$1,798,770
-West Harbeck to Allen Creek	*County*	-	-	1,100	50	30	None	South	Reconstruct collector street. Provide 60 feet right-of-way. Reconstruct collector street 40 feet wide with bike lanes and sidewalks both sides.	1999-2005 *Low*	$622,105

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
Scoville Road	**Collector**			600							
-Scenic to Greenfield	*County*	1,892	-	600	80+	36	None	None	Full Reconstruction. Reconstruct collector street 42 feet wide with bike lanes and sidewalks both sides.	2015+ *Low*	$270,000
Spalding Avenue	**Collector**	-	-	3,400							
-Grants Pass Pkwy. to Beacon	***City***	-	-	900	NA	NA	NA	NA	Construct new collector street 48 feet wide with TWLTL and bike lanes and sidewalks both sides.	1998-2006 *High*	$550,711
-Beacon to Agness	*City*	-	-	2,800	50	36	Wide	Both	Stripe bike lanes both sides.	1996-1998 *Med.*	$25,200
Terry Lane	**Local Coll.**			1,700							
-Fairview to Spalding	*City*	-	-	1,700	50-70	36-48	None	Both	None.		
Union Avenue	**Local Coll./ Collector**			4,000							
-Nebraska to Fairgrounds	Local Coll./ *County*	3,038	-	1,000	60	36	Lanes Both	None	Full Reconstruction. Reconstruct local collector street 36 feet wide with sidewalks both sides.	2015+ *Med.*	$805,772
-Fairgrounds to Ringuette	Collector/ *County*	3,038	-	900	60	36	Lanes Both	None			

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-Ringuette to Jacksonville Hwy	Collector/ *County*	3,038	-	2,100	60	36	Lanes Both	None	Full Reconstruction. Reconstruct collector street 48 feet wide with TWLTL and bike lanes, no parking, and sidewalk both sides.	2006-2015 *Med.*	$876,869
Upland Drive	**Proposed Local Coll.**			9,000							
-Morgan to "F" St	*City*	-	-	9,000	NA	NA	NA	NA	Construct new local collector street. Provide 50 foot right-of-way minimum. Construct local collector 36 feet wide with bike lanes, no parking, and sidewalks both sides.	2006-2015 *Low*	$3,682,166
Upper River Road	**Arterial**			1,400							
-Upper River Road Loop to Lincoln	*County*	2,715	-	1,400	60	24	Lanes Both	None	Widen to 48 feet. Install bike lanes and sidewalks both sides	2015+ *Med*	$50,443
Vine Street	**Arterial**			8,500							
-Highland to Hawthorne	*County*	1,487	-	3,500	60	22	None	None	Full reconstruction. Construct 48 foot wide arterial street with bike lanes and sidewalks both sides.	2015+ *Low*	$1,354,231
-Hawthorne to Morgan	*City*	1,487	-	1,800	60	22	None	None	Full reconstruction. Construct 48 foot wide arterial street with bike lanes and sidewalks both sides	2015+ *Low*	$696,462

Street Improvement Program

Street *-Segment*	**Functional Classification** *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
Washington Blvd.	**Collector**			5,300							
-Morgan to Hillcrest	*County*	1,801	-	1,500	90	44	Wide Both	None	Provide sidewalks where none exist.	2015+ *Low*	$54,000
-Hillcrest to Loughridge	*County*	1,801	-	500	90	44	Wide Both	Both			
-Loughridge to Midland	*County*	1,801	-	600	90	44	Wide Both	East			
-Midland to Van Dyke	*City*	-	-	700	60	36	None	None	Provide sidewalks both sides. Provide bike route signage as needed.	2015+ *Low*	$21,042
-Van Dyke to Savage	*City*	-	-	700	60	36	None	Both	Provide bike route signage as needed.	2015+ *Low*	$1,200
-Savage to Evelyn	*City*	-	-	1,300	100	21+ 26	None	Both			
West Harbeck Road	**Collector/ Local Coll.**			7,400							
-Schutzwohl to Forestview	Local Coll./ *County*	1,123	-	900	60	36	None	Both	None.		
-Forestview to Allen Creek Rd	Local Coll./ *County*	1,123	-	1,100	NA	NA	NA	NA	Construct new local collector road. Provide 50 feet right-of-way, 36 feet wide road with sidewalks both sides.	2006-2015 *Low*	$270,435

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT 1995	ADT 2015	Length (feet)	Conditions (1995) ROW	Width	Bike	Walk	Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
-Allen Creek Rd. to Jacksonville Hwy	Collector/ *County*	1,989	2,064	2,700	60	24	None	None	Full Reconstruction. Reconstruct collector road 42 feet wide with bike lanes and sidewalks both sides.	2006-2015 *Med.*	$1,184,959
-Jacksonville Hwy to Towne	Collector/ *County*	1,201	2,522	1,100	60	34	Lanes Both	None	Full reconstruction. Reconstruct collector street 42 feet wide with sidewalks and bike lanes both sides.	2015+ *Med.*	$973,246
-Towne to Harbeck	Collector/ *County*	1,297	2,830	1,600	60	34	Lanes Both	None			
West Park Street	**Local Coll./ Collector**			7,200							
-Lincoln Road to Allen Creek	Local Coll./ *County*	-	-	1,400	NA	NA	NA	NA	Provide 60 feet right-of-way. Construct new local collector street 36 feet wide with bike lanes, no parking, and sidewalks both sides.	2015+ *Low*	$630,615
-Allen Creek to Ringuette	Local Coll / *County*	-	-	3,500	40	18-22	None	None	Full Reconstruction. Provide 50 feet right-of-way. Construct local collector 36 feet wide with bike lanes, no parking, and sidewalks both sides.	2015+ *Med.*	$2,132,926
-Ringuette to 300 feet west of 6th	Collector/ *County*	1,024	-	2,000	50	20-28	None	None	Full Reconstruction. Provide 60 feet of right-of-way. Reconstruct collector street 42 feet wide with bike lanes and sidewalks both sides.	1999-2005 *Low*	$947,967

Street Improvement Program

Street *-Segment*	Functional Classification *Jurisdiction*	ADT		Length (feet)	Conditions (1995)				Planned Improvement	Project Timing, *Priority*	Project Cost ($1995)
		1995	2015		ROW	Width	Bike	Walk			
-300 feet west of 6th to 6th	Collector/ *County*	1,024	-	300	NA	NA	NA	NA	Intersection Improvements. Align West Park St., Lewis Ave. and East Park St.	2006-2015 *Med.*	$479,613
Willow Lane	**Collector/ Arterial**			4,500							
-Leonard to Redwood Ave.	Collector/ *County*	2,730	2,076	2,600	50	20	None	None	Full Reconstruction. Provide 60 feet right-of-way. Reconstruct collector street 42 feet wide with bike lanes and sidewalks both sides.	2006-2015 *Med.*	$1,184,959
-Redwood Ave to Redwood Hwy.	Arterial/ *County*	1,053	2,236	1,900	50	20	None	None	Full Reconstruction. Provide 60 feet right-of-way. Reconstruct arterial street 48 feet wide with bike lanes and sidewalks both sides.	2006-2015 *Med.*	$971,666

Separate Pedestrian and Bicycle Improvements

Location *-Segment*	Jurisdiction	Length (feet)	Planned Improvement	Project Timing *Priority*	Project Cost ($1995)
Bike/Pedestrian Bridge over Rogue River *-Webster to West Park*	*City*	2,500	Construct New Bicycle/Pedestrian Bridge over Rogue River. Provide connecting links to the All Sports Park, Lincoln Road, Cottonwood St., West Park Street, and Redwood Highway through the Fairgrounds.	1998-2002 *High*	$1,259,000
Midland Avenue *-7th to 9th*	*City*	800	Construct new multi-use path.	1996-1998 *Low*	$16,000
North Middle School/Gilbert Creek Park *-Highland to Hawthorne*	*City/Dist. 7*	1,400	Construct new multi-use path through the park and school.	2015+ *Low*	$28,000
Riverside School *-"N" to Harvey*	*County/Dist 7*	900	Construct new multi-use path through the school	2015+ *Low*	$18,000
Rogue Community College *-Redwood Hwy to Demaray Dr*	*RCC*	3,300	Construct new multi-use path through the school	2015+ *Low*	$66,000

APPENDIX G - EXISTING PLANS & POLICIES

Grants Pass Urban Area
Master Transportation Plan

Technical Memorandum 1

Summary of Existing Plans and Policies

Final

April 11, 1994

Prepared by:

The KJSA Team
500 108th Avenue NE
Suite 2100
Bellevue, WA 98004

Table of Contents

INTRODUCTION & SUMMARY

PURPOSE

This technical memorandum summarizes contents, findings and recommendations of planning documents that affect transportation in Grants Pass and Josephine County. The purpose of the memorandum is to consolidate basic information about current planning requirements and recommendations in a concise form that can be easily referenced during the Grants Pass Urban Area Master Transportation Plan Update process.

ORGANIZATION

The memorandum is organized by state, regional and local plans and studies. The following information is provided in a standard format for each document:

- Title
- Author
- Date
- Document Type
- Status
- Planning Period
- Geographic Area Covered
- Synopsis
- Findings
- Recommendations

SUMMARY OF RECOMMENDATIONS

The following is a listing of the documents summarized in this memorandum, with highlights of major findings and/or recommendations of each:

State Plans and Studies

State plans are those that apply to the entire state of Oregon.

Oregon Transportation Plan (1992)

The plan presents a series of goals and policies to guide Oregon transportation development as well as a preferred plan for achieving those goals. The preferred plan includes recommendations for transportation system improvements and development of new programs to control transportation supply and demand. It also identifies strategies for supporting the state's growth management goals through transportation system management.

Oregon Highway Plan (1991)

The plan recommends implementation of the policies, guidelines and standards included in the plan. Further, almost $12 billion (uninflated dollars) are recommended to "fully" address all needs. The plan recommends pursuit of "Plan 2," which would include increasing the fuel tax by two cents per year through 2010. This plan would cost $10.1 billion in 1991 dollars, and would meet 53 percent of modernization needs statewide, in addition to significant preservation, operations, maintenance and bridge needs.

State Agency Coordination Program (1990)

ODOT will focus on two areas in its coordination program: reestablishing a strong field component through regional planning representative, and providing central coordination through the Planning Section of the Highway Division. The plan assigns specific responsibilities to the planning section, regional representatives, district offices, the aeronautics and public transit divisions, the environmental section, and the strategic planning unit.

1993-1998 Six-Year Transportation Improvement Program (1992)

The plan details which projects and programs will be implemented during the 1993-1998 period, identifies individual project costs, and schedules implementation on an annual basis. Over $561 million of highway improvements are recommended in ODOT Region 3, which includes Josephine County and Grants Pass. $32,000 of public transportation assistance is included for Josephine County. No funds are programmed for airport or railroad improvements in the Grants Pass area. Please see the full document for detailed project and program descriptions and scheduling.

Preliminary 1995 - 1998 Statewide Transportation Improvement Program (1993)

The plan details which projects and programs will be implemented during the 1995-1998 period, identifies individual project costs, and schedules implementation on an annual basis. Over $370 million of highway improvements are recommended in ODOT Region 3. which includes Josephine County and Grants Pass. $211,000 of public transportation assistance is included for Josephine County. No funds are programmed for airport or railroad improvements in the Grants Pass area. Please see the full document for detailed project and program descriptions and scheduling.

Regional Plans and Studies

Regional plans are those that cover areas larger than Josephine County, but smaller than the state of Oregon.

Elderly and Handicapped Transportation Services Alternatives Report (1986)

New transportation services for this population should be limited to those people who cannot use other forms of transportation. Taxi companies are recommended as the preferred providers of additional services to this group. Discount coupons are recommended as an efficient way to subsidize this service.

Transportation Service Extension Study for the Rogue Valley Transportation District (1985)

The study recommends the following: 1) free-standing fixed route, fixed schedule service in Grants Pass with connections to Medford; and 2) fixed route, fixed schedule service for Gold Hill and Rogue River connected to line-haul service between Medford and Grants Pass.

Local Plans and Studies

Local plans are those that apply to Josephine County, the City of Grants Pass, or both jurisdictions in whole or in part. Plans and studies relating to Josephine County are presented first, followed by those related directly to Grants Pass.

Comprehensive Plan for Josephine County, Oregon (1981)

The plan includes a list of 10-year roadway construction projects within the County. Construction of a third and, potentially, fourth bridge across the Rogue River is also encouraged.

Josephine County Special Transportation Plan for Seniors and Persons with Disabilities (1993)

The plan recommends the adoption by the Josephine County STF (Special Transportation Fund) Committee of a mission statement, and eight sets of goals and supporting policies to ensure coordination of STF programs.

Urban Growth Area Zoning Ordinance (1992)

No specific recommendations.

Josephine County Subdivision Ordinance (1990)

No specific recommendations.

Flood Damage Prevention Ordinance for Josephine County, Oregon (1990)

No specific recommendations.

Josephine County Bikeways Master Plan Proposal (1982)

A recommended bikeway system map is presented, together with a phased implementation plan. Phase I is the skeleton of the entire network, Phase 2 includes all routes recommended for construction in the City and County comprehensive plans, and Phase III is routes which would open up further recreation possibilities for local residents. Potential funding sources are the State bicycle fund, obligation bonds, private funds, and bike fees. An effective public education program for both bicyclists and motorists is also recommended.

Josephine County Bicycle Guide (1992)

No specific recommendations.

Grants Pass Comprehensive Plan Transportation Element (1982?)

Fourteen capital improvements are recommended in the CIP portion of the element to address existing and future transportation deficiencies. The element also recommends updating the functional classification designations of all streets in the City and adopting street design criteria, expanding the bicycle network, and providing more transportation services for the elderly and disabled.

Airport Master Plan for Grants Pass Airport (1992)

The plan recommendations include a runway extension of 1,200 feet to a length of 5,200 feet to accommodate a wider variety of business aircraft, staged development of roughly 32 aircraft hangar positions during the planning period, extension or realignment of vehicle access to the western apron and hangar area to connect the development area with existing roadways, and extension of Flaming Road to connect with Paradise Ranch to provide access for long-term aviation-related development. The plan also encourages planned water and sewer improvements in the North Valley Industrial Area that would benefit airport users and long-term airport development and ensuring that compatible land uses are located in the immediate vicinity of the airport.

Josephine County Roadway and Traffic Management Plan (1982 ?)

The plan recommends development of six action programs: Roadway Network Planning, Data Collection and Evaluation, Roadway and Traffic Improvement, Roadway Maintenance, Traffic Safety, and Project Implementation. The plan identifies and recommends $2.7 million of street network improvement projects to address existing and immediate future conditions, and an additional $62.5 million to address growth through 2000. The plan also includes a rating system for prioritizing capital improvement projects.

Josephine County Standards and Specifications for Design and Construction of County Roads (1977)

No specific recommendations.

Grants Pass Carbon Monoxide Plan (1986)

The selected carbon monoxide (CO) control strategy for the Grants Pass area is the combination of the federal new car emission control program and the construction of a third bridge over the Rogue River in Grants Pass to reduce congestion and CO concentrations in the Grants Pass downtown area.

Technical Document Updating the Population Element of the Comprehensive Plan for the City of Grants Pass, Oregon (1992)

The population for the City of Grants Pass is projected to grow from 17,488 in 1990 to as high as 25,481 by 2010, under the highest growth scenario. Under the medium growth scenario, the area within the City's urban growth boundary is projected to grow from 25,069 in 1990 to 33,764 in 2010.

Roadway and Traffic Safety Management Plan for Grants Pass, Oregon (1981)

The plan recommends development of six action programs to address current and future transportation management needs. The plan identifies and recommends almost $21 million of street network improvement projects to address existing conditions, and an additional $14.7 million to address growth over a five to ten year time frame.

A Land Access and Traffic Management Plan - Northwest Sector Development (including Supplement and Addendum #1 - "F" St. Extension) (1981)

The development scenarios which would result in unacceptable traffic loadings on existing streets or the new collector would not be desirable with regard to land access and traffic distribution. Construction of a new collector with indirect access to local streets is recommended because it provides better traffic distribution and emergency access, and allows full potential land development.

Grants Pass Convention Center Traffic Impact Analysis (1989)

The study recommends seven roadway improvement projects to mitigate project build conditions in 1991, three more to address conditions in 2001, and two more in 2015.

Grants Pass Sports Complex Traffic Impact Analysis (1990)

Two operational improvements are recommended during Phase I development, and two more operational improvements are recommended during Phase II. Detailed signal warrant analysis is recommended to track the need for a signal at Lincoln Road and 'G' Street in the future. More extensive traffic modeling is recommended to determine intersection capacity expansion needs in the future at 6th and 'M' Streets. Signalization changes at this intersection are recommended in the short term.

Josephine County Fairgrounds and Grants Pass Riverfront Transportation System Analysis (1990)

Fourth Bridge/Allen Creek Road Corridor: Re-align Redwood Ave. at Allen Creek Rd. to line up with the proposed Fairgrounds driveway. Maintain Redwood Ave. as a collector arterial. Terminate Redwood Ave. in a cul-de-sac east of Allen Creek Rd. Construct Allen Creek Rd. as a 5-lane facility between Redwood Ave. and Redwood Hwy. with signals. Connect Allen Creek Rd. to Hwy. 238 at New Hope Rd.

Fairgrounds/Riverfront Area Street Network: Install the pedestrian and bicycle facilities recommended in the Riverfront and Fairgrounds master plans as land development permits. Tie local streets to the collector system formed by East and West Park Streets to enhance access to the river and developments within the area. Extension of Tussy Lane from West Park to Lewis St. and realignment of Lewis with East Park at 6th St. Retain the offset between East and West Park Streets. Connect West Park St. with Pansy Lane west of the Fairgrounds. Minimize the number of accesses onto Allen Creek Rd. between Redwood Ave. and the River.

Fairgrounds Entryways: Maintain internal Fairgrounds circulation routes to allow existing south frontage entrances to continue to serve as main access points. Test the impact of closing Fairgrounds Rd. with a temporary closure. Restrict turning movements at the west driveway to right-in and right-out only.

South "Y" (Redwood Highway) Interchange Needs: Construct improvements recommended as part of the Grants Pass Parkway project. Further study is recommended after the Parkway project is completed.

AM/PM Mini Market Transportation Impact Analysis - Grants Pass Parkway & Terry Lane (1993)

The study recommends that on-site signage in the gasoline pump area should be provided to encourage drivers to use the forwardmost pump. The new road/Terry Lane intersection should be striped to provide an eastbound left turn lane and an eastbound through-right lane. Also, adequate sight lines should be maintained to allow motorists exiting the north site driveway to see vehicles turning from Grants Pass Parkway.

Transportation Analysis for Grants Pass Retail Center (1991)

Three improvements are recommended in order to mitigate project impacts at the Grants Pass Parkway/Terry Lane intersection:

- The project should be served by three full access driveways - two on Terry Lane and one on Spalding.

- The proposed driveways should have two exit lanes and one entrance lane.
- A traffic signal should be installed at the Grants Pass Parkway/Terry Lane intersection, with a left turn lane and through-right turn lane on the northbound approach.

Redwood Neighborhood Plaza Master Plan (1981)

The plan contains a variety of proposed on-site transportation improvements related to driveways, on-site access/circulation, parking, and pedestrian and bicycle movements. Please see the full document for detailed descriptions of these improvements.

Redwood Neighborhood Plaza Traffic Impact Report (1981)

The report recommends a set of roadway improvements for the "without project" and "with project" cases. Please refer to the full document for a detailed description of these improvements.

The Third Bridge Corridor Development Plan (and report) (1987)

A list of specific roadway and bike/pedestrian path improvements is presented. Please refer to the full document for a complete description of these projects.

Josephine County Fairgrounds Master Plan (1990)

The plan contains a recommended parking plan. No other specific transportation recommendations are provided, but a list of transportation issues is presented. These issues and others were to be addressed in a transportation system study for the Fairgrounds and Riverfront Development Area.

Grants Pass South Union Local Improvement District Transportation System Analysis (and additional related analysis) (1992)

A series of improvements are recommended both for LID access routes and the internal streets system. Please refer to the full document for a detailed description of these improvements.

Grants Pass Signal Study (1981)

The study recommends installation of a new traffic-adjusted signal system on 6th and 7th Streets in Grants Pass. The system includes an on-street master controller and hardware interconnect, with complete replacement of the existing signals. Total cost to implement the recommended system is $1.265 million.

CONSISTENCY AMONG PLANS & STUDIES

The primary differences in planning documents that affect transportation in Grants Pass and Josephine County are found between recent planning efforts at the state level and the various past planning studies that have been conducted at the local level. In particular, the Oregon Transportation Plan and 1993-1998 Statewide Transportation Improvement Program both reflect a greatly increased emphasis on multimodal planning and coordination. In contrast, local planning studies have been more heavily oriented to the auto mode. Also, planning for individual modal systems has not been closely coordinated with the other modal components of the overall transportation system.

The second area of difference between recent state level plans and local planning documents is the consideration given to the relationship between the transportation system and land use. Both the Oregon Transportation Plan and the State Agency Coordination Program emphasize the importance of this interdependence in transportation and land use planning in jointly achieving transportation and land use goals. In past local planning activities, however, there has been less recognition of this relationship, i.e., local transportation plans generally do not reflect impacts of the transportation system on land use and vice-versa.

With regard to consistency between the planning documents, there are no similar features common to all of the plans reviewed. This is to be expected given the diversity of areas covered by the plans.

There are, however, several elements that appear in more than one planning document. These are:

1. An immediate need for operational improvements at the South "Y" interchange;

2. A longer-range need for a fourth bridge connecting Lincoln Rd. with Flower Lane/Allen Creek Rd.;

3. Access/circulation improvements are required in the Fairgrounds area on the north side of Redwood Highway and in the S. Union Ave. area on the south side of Redwood Highway;

4. Operational/level-of-service problems are associated with future development along Grants Pass Parkway at the intersection of Terry Lane/Grants Pass Parkway; and

5. A need for access management measures along Redwood Highway west of the South "Y" interchange and along Rogue River Highway.

STATE PLANS AND STUDIES

OREGON TRANSPORTATION PLAN

Author: Oregon Department of Transportation

Date: September 1992

Document Type: Statewide Transportation Plan

Status: Adopted by the Oregon Transportation Commission on September 15, 1992.

Planning Period: 1992-2012 (system development); 1992-2032 (policy direction)

Geographic Area Covered: Entire state of Oregon

Synopsis

The Oregon Transportation Plan (OTP) sets out the long-range multi-modal transportation vision for the state for the next 20 to 40 years. The plan articulates policies to guide attainment of statewide goals relating to transportation system development, livability, economic development and implementation. The plan describes alternative transportation systems, and presents a preferred alternative for achieving the state's transportation and growth management goals. Finally, the plan presents methods for addressing the state's transportation needs through investment and other implementation techniques.

Findings

Strong growth and changing travel patterns will dictate where and how the state responds to transportation needs in the future. Increased rural and urban linkages, goods movement, environmental protection, management of growth, economic development, and integration of new transportation technologies are identified as paramount needs in the plan. The preferred alternative will be the most effective way to achieve the goals of the plan, and attain transportation benchmarks.

Recommendations

The plan presents a series of goals and policies to guide Oregon transportation development as well as a preferred plan for achieving those goals. The preferred plan includes recommendations for transportation system improvements and development of new programs to control transportation supply and demand. It also identifies strategies for supporting the state's growth management goals through transportation system management.

1991 OREGON HIGHWAY PLAN

Author: Oregon Department of Transportation

Date: June 1991

Document Type: State Transportation Plan

Status: Adopted by Oregon Transportation Commission in 1991.

Planning Period: 1991-2010

Geographic Area Covered: Entire state of Oregon.

Synopsis

This plan comprises the Highway Element of the Oregon Transportation Plan. It includes "policies and strategies that will guide the Highway Division's operating and fiscal activities during the 1991-2010 period." The plan updates the 1985 Highway Plan. The plan also includes program definitions, standards, a status report on each of the Highway Division's programs, growth trends, policies and strategies to address needs, and an evaluation of different implementation options. The implementation analysis includes revenue projections, evaluation of alternate plans under three funding scenarios (no additional funding, 2 cent/year gas tax increase, and 3 cent/year gas tax increase), and discussion of methods of meeting the needs.

Findings

The plan finds that there will be significant highway needs between 1991 and 2010. ODOT's major strategy and priority is to maintain the existing state highway system, regardless of funding availability. System expansion, congestion reduction, and highway modernization are goals that the Division will pursue, subject to funding constraints.

Recommendations

The plan recommends implementation of the policies, guidelines and standards included in the plan. Further, almost $12 billion (uninflated dollars) are recommended to "fully" address all needs. The plan recommends pursuit of "Plan 2," which would include increasing the fuel tax by two cents per year through 2010. This plan would cost $10.1 billion in 1991 dollars, and would meet 53 percent of modernization needs statewide, in addition to significant preservation, operations, maintenance and bridge needs.

STATE AGENCY COORDINATION PROGRAM

Author: Oregon Department of Transportation

Date: December 1990

Document Type: Program Plan

Status: Adopted by Oregon Transportation Commission on September 18, 1990. Certified by LCDC on December 13, 1990.

Planning Period: Indefinite.

Geographic Area Covered: Entire state of Oregon.

Synopsis

This plan describes how ODOT plans to coordinate its programs to comply with Oregon's land use planning program, statewide planning goals, and acknowledged comprehensive plans. The program plan is divided into several chapters that discuss the following: 1) ODOT organization and programs; 2) Identification of ODOT programs affecting land use; 3) Coordination of programs affecting land use; 4) Cooperation and technical assistance program; 5) Coordination with state and federal agencies, and special districts; 6) Organization of ODOT's coordination program.

Findings

Most of ODOT's programs affect land use in some way. All of ODOT's programs are required to comply with acknowledged comprehensive plans. Most of the department's coordination with local public facility planning will occur during periodic review. The department's primary areas of coordination with the Department of Land Conservation and Development involve ODOT's planning program, city and county plan amendments, and periodic review. The department coordinates with a large number of state and federal agencies and special districts.

Recommendations

ODOT will focus on two areas in its coordination program: reestablishing a strong field component through regional planning representative, and providing central coordination through the Planning Section of the Highway Division. The plan assigns specific responsibilities to the planning section, regional representatives, district offices, the aeronautics and public transit divisions, the environmental section, and the strategic planning unit.

1993 - 1998 SIX-YEAR TRANSPORTATION IMPROVEMENT PROGRAM

Author: Oregon Department of Transportation

Date: July 1992

Document Type: Transportation Improvement Program

Status: Adopted by Oregon Transportation Commission in 1992.

Planning Period: 1993 - 1998

Geographic Area Covered: Entire state of Oregon.

Synopsis

This plan describes the comprehensive program of transportation improvements that the state of Oregon intends to carry out between 1993 and 1998. The plan identifies aeronautics, railroad, public transit and highway projects that are necessary to maintain and enhance the existing transportation system. The plan also identifies funding sources for each of the projects, and schedules their implementation on an annual basis for the planning period based on priority. Further, the plan identifies additional needs that are not funded.

Findings

The cost of identified transportation needs during the planning period exceeds the level of anticipated funding to implement projects and programs to address those needs.

Recommendations

The plan details which projects and programs will be implemented during the 1993-1998 period, identifies individual project costs, and schedules implementation on an annual basis. Over $561 million of highway improvements are recommended in ODOT Region 3, which includes Josephine County and Grants Pass. $32,000 of public transportation assistance is included for Josephine County. No funds are programmed for airport or railroad improvements in the Grants Pass area. Please see the full document for detailed project and program descriptions and scheduling.

PRELIMINARY 1995 - 1998 STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM

Author: Oregon Department of Transportation

Date: December 1993

Document Type: Transportation Improvement Program

Status: Not yet adopted

Planning Period: 1995 - 1998

Geographic Area Covered: Entire state of Oregon.

Synopsis

This plan describes the comprehensive program of transportation improvements that the state of Oregon intends to carry out between 1995 and 1998. The plan identifies aeronautics, railroad, public transit and highway projects that are necessary to maintain and enhance the existing transportation system. The plan also identifies funding sources for each of the projects, and schedules their implementation on an annual basis for the planning period based on priority. Further, the plan identifies additional needs that are not funded.

Findings

The cost of identified transportation needs during the planning period exceeds the level of anticipated funding to implement projects and programs to address those needs.

Recommendations

The plan details which projects and programs will be implemented during the 1995-1998 period, identifies individual project costs, and schedules implementation on an annual basis. Over $370 million of highway improvements are recommended in ODOT Region 3, which includes Josephine County and Grants Pass. $211,000 of public transportation assistance is included for Josephine County. No funds are programmed for airport or railroad improvements in the Grants Pass area. Please see the full document for detailed project and program descriptions and scheduling.

REGIONAL PLANS AND STUDIES

ELDERLY AND HANDICAPPED TRANSPORTATION SERVICES ALTERNATIVES REPORT

Author: Rogue Valley Council of Governments

Date: March 1986

Document Type: Alternatives Study.

Status: Complete.

Planning Period: 1986 (existing conditions)

Geographic Area Covered: Josephine and Jackson Counties.

Synopsis

This study evaluated the current (1986) transportation services for the elderly and handicapped in Josephine and Jackson Counties. Major issues involved accessibility of services and the fiscal implications of various service alternatives.

Findings

Transportation services for the elderly and handicapped are of paramount importance in Josephine and Jackson Counties. The study concludes that transportation services for the elderly and handicapped in the study area in 1986 were: 1) too focused on particular segments of the elderly and handicapped community; 2) too expensive; and 3) inaccessible for a large portion of the target population. The recommended service improvements can be funded through Special Transportation Fund allocations.

Recommendations

New transportation services for this population should be limited to those people who cannot use other forms of transportation. Taxi companies are recommended as the preferred providers of additional services to this group. Discount coupons are recommended as an efficient way to subsidize this service.

TRANSPORTATION SERVICE EXTENSION STUDY FOR THE ROGUE VALLEY TRANSPORTATION DISTRICT

Author:	Rogue Valley Council of Governments and Rogue Valley Transportation District
Date:	July 1985
Document Type:	Public Transportation Study
Status:	Complete.
Planning Period:	Current (1985).

Geographic Area Covered: RVTD service area and adjacent communities that could be included in an expanded area, including Grants Pass, Central Point, Eagle Point, Rogue River, Gold Hill, and Shady Cove.

Synopsis

This study examines the feasibility of expanding the RVTD service area, and providing public transportation services to new areas including the communities listed above. The study examines travel demand characteristics based on 1980 Census data, reviews community goals for public transportation and existing services, discusses several alternative methods of providing public transportation, evaluates the financial feasibility of each, and recommends a preferred alternative.

Findings

Transit service to Shady Cove and Eagle Point is not fiscally feasible without substantial subsidies aside from property tax and farebox revenues. Services to Gold Hill and Rogue River would not be practical unless linked to service between Medford and Grants Pass. Services in Grants Pass and Central Point could be self-supporting, using property tax and farebox revenues.

Recommendations

The study recommends the following: 1) free-standing fixed route, fixed schedule service in Grants Pass with connections to Medford; 2) fixed route, fixed schedule service for Gold Hill and Rogue River connected to line-haul service between Medford and Grants Pass; and 3) fixed route, fixed schedule service in Central Point. The study also presents recommended routings and service frequencies in each area.

LOCAL PLANS AND STUDIES

COMPREHENSIVE PLAN FOR JOSEPHINE COUNTY, OREGON

Author: Josephine County Planning Department

Date: April 1981

Document Type: Comprehensive Plan

Status: Adopted

Planning Period: 20 years from adoption

Geographic Area Covered: Rural portion of Josephine County

Synopsis

The plan contains a variety of elements that outline the direction of development (overall and specific) over a 20 year planning period, including specific methods for fulfilling the plan goals. Elements that are most relevant to the Grants Pass Urban Area Master Transportation Plan update are: social characteristics, economics, housing, and transportation.

Findings

The social characteristics element includes information on population characteristics, migration patterns. and population projections. The total population for Josephine County was projected to increase from 56,800 in 1980 to 96,643 by 2000, with a significant shift in the urban/rural distribution from 71%/29% in 1980 to 57%/43% in 2000. The economics element presents information on employment, economic sectors, income, employment projections, and commercial/industrial development. The significant long term employment trends have been a severe decline in agriculture and fisheries employment, fluctuations in manufacturing, and increases in trade and services. Total employment for Josephine County was projected to increase from 19,400 in 1978 to 37,500 in 2000. The housing element includes information on housing inventory and housing projections, with total dwelling units projected to nearly double from 21,887 in 1980 to 39,127 in 2000. The transportation element describes both the County road system and other modes. Road system data includes an inventory of County roads, rural road and urban street standards, and a description of the County roadway funding process. An important finding regarding the roadway system is the need for a third and, potentially, fourth bridge across the Rogue River. The discussion of other modes includes inter-city transportation, rail, air, bicycle and pedestrian modes, and the general feasibility of public transit service. Findings for other modes were:

- current development densities did not warrant a fixed route public transit system;
- inter-city transportation services are very restricted; and
- implementation of bicycle and pedestrian paths should be done in conjunction with overall bicycle and pedestrian system plans.

Recommendations

The plan includes a list of 10-year roadway construction projects within the County. Construction of a third and, potentially, fourth bridge across the Rogue River is also encouraged.

JOSEPHINE COUNTY SPECIAL TRANSPORTATION PLAN FOR SENIORS AND PERSONS WITH DISABILITIES

Author: Rogue Valley Council of Governments

Date: February 1993

Document Type: Transportation Plan

Status: Complete.

Planning Period: Indefinite.

Geographic Area Covered: Josephine County.

Synopsis

The plan addresses the need to efficiently coordinate special transportation services for the elderly and disabled in Josephine County. It also provides a coordinated mechanism for funding applications and allocations under the Oregon Special Transportation Fund (STF), created by the Oregon Legislature in 1985 to provide financial assistance to transportation providers to help expand services to elderly and handicapped citizens. The plan provides a coordination framework for three STF providers in Josephine County: Josephine County Community Services, Josephine County Mental Health, and the Handicap Awareness Support League (HASL).

Findings

The elderly and disabled community in Josephine County makes up a significant portion of the population. Rising transportation costs and scarce funding make it important to ensure that funds available for special transportation are used efficiently. A coordinated, formalized planning process is necessary to maximize the use of available STF funds. Plan findings and recommendations are based on a survey of the elderly and disabled community, providing information about their needs and priorities.

Recommendations

The plan recommends the adoption by the Josephine County STF Committee of a mission statement, and eight sets of goals and supporting policies to ensure coordination of STF programs.

URBAN GROWTH AREA ZONING ORDINANCE

Author: City of Grants Pass and Josephine County

Date: 1981

Document Type: Ordinance.

Status: Adopted.

Planning Period: Present.

Geographic Area Covered: Grants Pass urban area outside of City limits.

Synopsis

This ordinance defines acceptable and unacceptable uses and development of land within the urban area of Grants Pass. The ordinance implements the Comprehensive Plan for Josephine County and the General Plan for the City of Grants Pass.

Findings

None.

Recommendations

None.

JOSEPHINE COUNTY SUBDIVISION ORDINANCE

Author: Josephine County

Date: 1990 (revised version adopted)

Document Type: Ordinance.

Status: Adopted

Planning Period: Present.

Geographic Area Covered: Josephine County.

Synopsis

This ordinance implements provisions of the Comprehensive Plan for Josephine County pertaining to land division and development. The ordinance delineates the proper width and arrangement of streets, and their proper relation to the topography of the site and to existing or planned streets. The ordinance also provides for public utilities and facilities, adequate open space, recreational opportunities, proper division of land, and the development of property at appropriate densities. This document applies to both the urban and rural portions of Josephine County, with two sets of land division and development scenarios.

Findings

None.

Recommendations

None.

FLOOD DAMAGE PREVENTION ORDINANCE FOR JOSEPHINE COUNTY, OREGON

Author: Josephine County

Date: 1990

Document Type: Ordinance.

Status: Adopted

Planning Period: Present.

Geographic Area Covered: Both urban and rural portions of Josephine County.

Synopsis

This ordinance sets our requirements for flood prevention, control and repair in Josephine County. Provisions that affect transportation include minimizing damage to public facilities such as streets, and requiring that uses vulnerable to floods, including facilities serving those uses, be protected against flood damage at the time of initial construction. The ordinance also includes general standards for achieving this protection.

Findings

None.

Recommendations

None.

JOSEPHINE COUNTY BIKEWAYS MASTER PLAN PROPOSAL

Author: City/County Bikeways Advisory Committee

Date: 1982

Document Type: Bikeway Plan

Status: ?

Planning Period: Indefinite

Geographic Area Covered: Grants Pass/Josephine County urban growth area

Synopsis

Based on recommendations in the transportation elements of the Grants Pass and Josephine County Comprehensive Plans, this plan was developed to provide for a system of bike trails within the urban growth boundary and nearby surrounding areas. The Bikeways Committed conducted a survey of local residents which was used to develop criteria for route selection and classification. These criteria were applied to establish a bikeways route map, together with recommendations on priorities and phasing for implementation. The plan also includes goals and policies and a discussion of potential funding sources.

Findings

Findings from the survey were:

- bicyclists ride primarily for recreation, but also for work, school, and shopping purposes
- many bicyclists wish to travel to the same destinations as autos, but are prevented from doing so because of heavy traffic or dangerous access
- significant road hazards include lack of shoulders, grates, and inattentive auto drivers
- hazardous areas include the 6th and 7th St. bridges, the South "Y" intersection, and Redwood Avenue
- the freeway at the north end of the City and the river at the south end form barriers to easy bicycle access to the City.

A list of bikeway design criteria was also assembled by the Committee and presented in the plan.

Recommendations

A recommended bikeway system map is presented, together with a phased implementation plan. Phase I is the skeleton of the entire network, Phase 2 includes all routes recommended for construction in the City and County comprehensive plans, and Phase III is routes which would open up further recreation possibilities for local residents. Potential funding sources are the State bicycle fund, obligation bonds, private funds, and bike fees. An effective public education program for both bicyclists and motorists is also recommended.

JOSEPHINE COUNTY BICYCLE GUIDE 1992

Author:	City of Grants Pass/Josephine County Bikeway Advisory Committee
Date:	1992
Document Type:	Public Information Pamphlet
Status:	Complete.
Planning Period:	Present.

Geographic Area Covered: Josephine County.

Synopsis

This is an update of the 1982 Josephine County Bikeways Master Plan. The guide shows roads most suitable for bicycle travel in Josephine County, and provides graphic information about accommodations for bicycles, including pavement and shoulder characteristics. No warranty about the safety of any facility is made or implied by the guide. The guide also identifies loop routes for bicycle touring, areas where off-road ("mountain biking) cycling is allowed, and locations of bicycle shops.

Findings

None.

Recommendations

None.

GRANTS PASS COMPREHENSIVE COMMUNITY DEVELOPMENT PLAN

Author: City of Grants Pass and Josephine County

Date: 1985

Document Type: Comprehensive Plan.

Status: Adopted

Planning Period: 1982 - 2000

Geographic Area Covered: Grants Pass urban area.

Synopsis

The plan contains a variety of elements that outline the direction of development in the Grants Pass urban area through 2000, including specific methods for fulfilling the plan goals. .The transportation element of the plan inventories the existing transportation system within the urban growth boundary, identifies existing transportation problems and needs, and projects future transportation needs. This element also defines goals and policies for improving transportation within the urban area, and implementing the recommendations of the element. Other elements that are relevant to the Grants Pass Urban Area Master Transportation Plan update are: population, economy, housing, and land use.

Findings

In 1980, the greatest number of vehicle trips per day were made by private automobiles. Vehicular traffic problems existed at four major locations within the urban growth boundary in 1980: downtown Grants Pass, Redwood Spur, Rogue River Highway, and the Northwest Sector. There are also several areas that are undesirable for bicycle and pedestrian travel due to lack of facilities. Few transportation choices are available to the transportation disadvantaged.

Projected traffic growth through 2000 will require two additional bridges over the Rogue River. Traffic volumes on 6th and 7th Streets will be about 10 percent higher in 2000. The addition of the bridges will improve circulation in the downtown, and slightly lower volumes on the existing bridges. The South Interchange will need major design modifications to handle anticipated traffic growth. Access management will be needed along Redwood Avenue to maintain capacity and safety. Parking and access changes will be needed along the Rogue River and Williams Highways.

Recommendations

Fourteen capital improvements are recommended in the CIP portion of the element to address existing and future transportation deficiencies. The element also recommends updating the functional classification designations of all streets in the City and adopting street design criteria, expanding the bicycle network, and providing more transportation services for the elderly and disabled.

AIRPORT MASTER PLAN FOR GRANTS PASS AIRPORT

Author: SFC Engineering Company

Date: October 1992

Document Type: Transportation Plan

Status: Adopted (?)

Planning Period: Through 2010

Geographic Area Covered: Surrounding area within 30 minutes driving time

Synopsis

The Grants Pass Airport Master Plan is a long-term development program with the purpose of producing a safe, efficient, economical, and environmentally acceptable air transportation facility for the community. It provides a step-by-step phased outline of the recommended developments and identifies pending needs to aid in future scheduling and budgeting. The plan contains the following information: 1) Inventory and analysis of data pertinent to the airport; 2) Analysis of general economic factors and evaluation of area's aviation activity; 3) Forecasts of aviation activity through 2010; 4) Determination of airport facility requirements and their feasibility; 4) Investigation of alternatives to meet airport facility needs; 5) Airport layout plan and land use plan for the airport and its surrounding area; and 6) Scheduling priorities, phasing of proposed developments, and estimated development costs.

Findings

The planning analysis produced the following findings:

- Grants Pass Airport will experience continued growth in aircraft operations during the 20-year planning period.
- Based aircraft are expected to increase from 101 to 134 by 2010; annual aircraft operations are expected to increase from 26,800 to 40,200 by 2010.
- The airport will continue to accommodate primarily general aviation aircraft include in FAA Airplane Design Groups I and II.
- The runway and taxiway system has adequate capacity to accommodate forecast activity through the 20-year planning period and beyond.
- Noise impacts on areas surrounding the airport are minimal.
- The Airport Master Plan should be adopted by Josephine County as an element of its comprehensive plan and transportation plan.

Recommendations

The plan recommendations include a runway extension of 1,200 feet to a length of 5,200 feet to accommodate a wider variety of business aircraft, staged development of roughly 32 aircraft hangar positions during the planning period, extension or realignment of vehicle access to the western apron and hangar area to connect the development area with existing roadways, and extension of Flaming Road to connect with Paradise Ranch to provide access for long-term aviation-related development. The plan also encourages planned water and sewer improvements in the North Valley Industrial Area that would benefit airport users and long-term airport development and ensuring that compatible land uses are located in the immediate vicinity of the airport.

JOSEPHINE COUNTY ROADWAY AND TRAFFIC MANAGEMENT PLAN

Author: Josephine County

Date: 1982(?)

Document Type: Transportation Plan

Status: Complete.

Planning Period: 1982 - 2000

Geographic Area Covered: Josephine County

Synopsis

The plan was developed to provide Josephine County with a program to manage present and future traffic problems. The primary goal of the roadway network planning is to provide the planning criteria and design standards necessary to develop, construct, and maintain a safe, efficient, and economically feasible transportation system of county roads and streets. The plan presents six "action programs": Roadway Network Planning, Data Collection and Evaluation, Roadway and Traffic Improvement, Roadway Maintenance, Traffic Safety, and Project Implementation.

Findings

The plan includes a variety of facility- and location-specific findings. Please refer to the plan document for a complete listing.

Recommendations

The plan recommends development of the six action programs listed above. The plan identifies and recommends $2.7 million of street network improvement projects to address existing and immediate future conditions, and an additional $62.5 million to address growth through 2000. The plan also includes a rating system for prioritizing capital improvement projects.

JOSEPHINE COUNTY STANDARDS AND SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF COUNTY ROADS

Author: Josephine County

Date: September 1977

Document Type: Manual

Status: Adopted

Planning Period: Indefinite

Geographic Area Covered: Josephine County

Synopsis

This manual provides standards and specifications to be used in designing and constructing roads in the county road system and roads proposed for acceptance into the county road system. Design standards for rural roads and urban streets based on functional classification are presented. as well as supplemental factors affecting the selection of the road standard, and additional design criteria. Construction specifications are presented, including typical sections for each functional classification of rural roads and urban streets.

Findings

None.

Recommendations

None.

CITY OF GRANTS PASS MOBILE HOME PARK DEVELOPMENT GUIDELINES

Author: City of Grants Pass

Date: October 1977

Document Type: Development guidelines

Status: Adopted

Planning Period: Present.

Geographic Area Covered: City of Grants Pass

Synopsis

These guidelines define how mobile home parks can comply with zoning and development requirements. The guidelines state that mobile home parks should be located on major or collector streets. The guidelines also define street design, parking and pedestrian access standards for mobile home parks.

Findings

None.

Recommendations

None.

GRANTS PASS CARBON MONOXIDE PLAN

Author:	Rogue Valley Council of Governments
Date:	June 1986
Document Type:	Pollution Control Program Plan
Status:	Adopted
Planning Period:	1984 - 1990.

Geographic Area Covered: Grants Pass planning area, as defined in the plan. The central non-attainment area is the area of downtown Grants Pass bounded by 5th Street, "M" Street, 8th Street and "B" Street.

Synopsis

This plan establishes an action program for reducing carbon monoxide (CO) levels in the Grants Pass area. Grants Pass was designated "non-attainment" for CO by the U.S. Environmental Protection Agency in 1985. CO levels in the Grants Pass area must be reduced to meet health standards by December 1990, as required by the Clean Air Act. This plan analyzes several transportation improvement scenarios to accomplish this reduction.

Findings

Carbon monoxide (CO) concentrations in Grants Pass during 1983-1985 were about 30 percent above the eight hour CO health standard. In 1984, 75 percent of CO emissions in the Grants Pass urban area were caused by automobiles and trucks. The combination of newer, cleaner cars replacing older models and increased traffic is projected to result in a decrease of about 12 percent in CO emissions between 1984 and 1990. Implementation of the recommended control program will result in a CO emissions decrease of almost 50 percent by 1990, and CO levels will more than meet the CO health standard.

Recommendations

The selected CO control strategy for the Grants Pass area is the combination of the federal new car emission control program and the construction of a third bridge over the Rogue River in Grants Pass to reduce congestion and CO concentrations in the Grants Pass downtown area.

TECHNICAL DOCUMENT UPDATING THE POPULATION ELEMENT OF THE COMPREHENSIVE PLAN FOR THE CITY OF GRANTS PASS, OREGON

Author: University of Oregon

Date: August 1992

Document Type: Demographic Study Report.

Status: Complete. (copy reviewed was missing key pages)

Planning Period: 1992 - 2010.

Geographic Area Covered: City of Grants Pass, incorporated area.

Synopsis

This report documents the methodology and findings of a community planning workshop conducted by the University of Oregon at the request of the City of Grants Pass. The purpose of the workshop was to update the existing population element of the City's comprehensive plan, and provide a current basis for population forecasting. Historic trends, U.S. Census information, Bonneville Power Administration data, and Portland State University demographic research were analyzed to determine current population characteristics. Three annual population growth factors were used to "bracket" potential 2010 population levels.

Findings

The report presents several major findings based on 1990 Census data. Grants Pass' population is projected to grow from 17,488 in 1990 to as high as 25,481 by 2010, under the highest growth scenario. Under the medium growth scenario, the larger Grants Pass urban area is projected to grow from 25,069 in 1990 to 33,764 in 2010.

Recommendations

None.

ROADWAY AND TRAFFIC SAFETY MANAGEMENT PLAN FOR GRANTS PASS, OREGON

Author: Transportation Planning and Management, Inc.

Date: March 1981

Document Type: Transportation Plan

Status: Complete.

Planning Period: 1981 - 2000

Geographic Area Covered: Josephine County and Grants Pass

Synopsis

The plan was developed to provide the City of Grants Pass and Josephine County with a program to manage present and future traffic problems. Goals include reduction of accidents, and improvement of roadway conditions and traffic operations. The plan presents six "action programs" to achieve these goals: Transportation Planning, Data Collection and Evaluation, Roadway and Traffic Improvements, Street Maintenance, Traffic Safety, and Project Implementation.

Findings

The plan includes a variety of facility- and location-specific findings. Please refer to the plan document for a complete listing.

Recommendations

The plan recommends development of the six action programs listed above. The plan identifies and recommends almost $21 million of street network improvement projects to address existing conditions, and an additional $14.7 million to address growth over a five to ten year time frame. The plan also includes a rating system for prioritizing capital improvement projects.

A LAND ACCESS AND TRAFFIC MANAGEMENT PLAN - NORTHWEST SECTOR DEVELOPMENT (including Supplement and Addendum #1 - "F" St. Extension)

Author: Transportation Planning and Management, Inc.

Date: 1981

Document Type: Traffic Impact Analysis

Status: Complete

Planning Period: 1981

Geographic Area Covered: Northwest Sector and adjacent areas

Synopsis

This report studied and evaluated existing land use, street usage and traffic movement characteristics, potential land use, and traffic management within and adjacent to the northwest sector of Grants Pass. Travel forecasting included trip generation from potential development, directional distribution, and traffic assignments onto various land access alternatives. Traffic impacts on existing and proposed new streets were evaluated for two basic alternatives, each with two principal features: extend existing streets into the northwest sector and construct "Upland Drive" as a new local collector.

Findings

With the extension of existing streets. it would be necessary to limit development to 657 dwelling units (9,500 total vehicles per day) to keep traffic loadings acceptable on each street. Without this constraint, "buildout" development would be 743 dwelling units (10,210 total vehicles per day). resulting in unacceptable loadings on several streets. Construction of a new local collector with no access to existing streets would provide 912 new dwelling units, or 11.560 total vehicles per day on the new collector, which would exceed the limits recommended in the Urban Area Traffic Management Plan. With indirect access to local streets, acceptable loadings on existing streets and the new collector could be attained with this alternative.

Recommendations

The development scenarios which would result in unacceptable traffic loadings on existing streets or the new collector would not be desirable with regard to land access and traffic distribution. Construction of a new collector with indirect access to local streets is recommended because it provides better traffic distribution and emergency access, and allows full potential land development.

GRANTS PASS CONVENTION CENTER TRAFFIC IMPACT ANALYSIS

Author: JRH Transportation Engineering

Date: February 1989

Document Type: Traffic Impact Analysis

Status: Complete.

Planning Period: 1991 - 2015

Geographic Area Covered: Area between Lewis Street and the Rogue River, west of 6th Street.

Synopsis

Report analyzes current and future traffic impacts of the planned Grants Pass Convention Center Complex. Five intersections were analyzed. Projected traffic growth due to general area development and its impact on intersection levels of service was also assessed.

Findings

The Complex is estimated to generate about 6,000 new trips per day, of which 580 will occur during the afternoon peak period. Major traffic impacts were identified at the intersections of Lewis/Park Streets. 6th Street/northbound Highway 99/238, and 7th/Park Streets.

Recommendations

Several improvements are recommended to mitigate the traffic impacts of both the Convention Complex and surrounding development. The study recommends seven roadway improvement projects to mitigate project build conditions in 1991, three more to address conditions in 2001, and two more in 2015. Additionally, the following are recommended:

- Provide an additional 100 parking stalls.
- Accomplish all work on Highway 199 at the time improvements are made to the 6th Street/Hwy. 238 and Hwy. 199 intersection.
- Construct all modifications by 2001.

GRANTS PASS SPORTS COMPLEX TRAFFIC IMPACT ANALYSIS

Author: JRH Transportation Engineering

Date: March 1990

Document Type: Traffic Impact Study

Status: Complete.

Planning Period: 1990 - 2005.

Geographic Area Covered: Site on the east side of Lincoln Road and on the south side of Lower River Road.

Synopsis

Report analyzes the traffic impacts of a proposed Community Sports Complex. Site development would occur in two phases during 1990. Impacts were analyzed for both phases in 1990, and for full build out in 2005. The 2005 analysis examines impacts both with and without the proposed Fourth Bridge over the Rogue River. Both capacity and operational analyses were performed.

Findings

'G' Street, Bridge Street and Lincoln Road would experience significant increases in traffic due to the project. The 1990 analyses show that there would be no immediate adverse traffic impacts because facility capacities are sufficient to handle the increased traffic. Only minor improvements would be needed to accommodate 2005 traffic levels.

Recommendations

Two operational improvements are recommended during Phase I development, and two more operational improvements are recommended during Phase II. Detailed signal warrant analysis is recommended to track the need for a signal at Lincoln Road and 'G' Street in the future. More extensive traffic modeling is recommended to determine intersection capacity expansion needs in the future at 6th and 'M' Streets. Signalization changes at this intersection are recommended in the short term.

JOSEPHINE COUNTY FAIRGROUNDS AND GRANTS PASS RIVERFRONT TRANSPORTATION SYSTEM ANALYSIS

Author: JRH Transportation Engineering

Date: June 1990

Document Type: Consultant Study

Status: Draft.

Planning Period: 1990 - 2015.

Geographic Area Covered: Fairgrounds and riverfront areas.

Synopsis

The report presents analysis of transportation issues associated with the Josephine County Fairgrounds and Rogue River Riverfront Development area. Major issues include: Fourth Bridge/Allen Creek Road corridor; Fairgrounds/Riverfront area street network; Fairgrounds entryways; and South "Y" (Redwood Highway) interchange needs.

Findings

Fourth Bridge/Allen Creek Road Corridor: Construction of the Fourth Bridge linking Lincoln Road to Allen Creek Road at Redwood Highway will provide an important alternative route for significant amounts of traffic using the South "Y" interchange. Other improvements in the Allen Creek corridor would increase the use of this alternative route and reduce congestion at the South "Y."

Fairgrounds/Riverfront Area Street Network: The Riverfront Development Area is well served by arterial streets and highways. With improvement to collectors and local streets, the potential for full development of land in this area will be enhanced.

Fairgrounds Entryways: Development of the plaza adjacent to the main Fairgrounds entrance at Fairgrounds Rd. and Redwood Hwy. will create access difficulties in and around the Fairgrounds entrance. Closure of Fairgrounds Rd. to through traffic will require modifications to Ringuette and Redwood Hwy. to handle additional traffic.

South "Y" (Redwood Highway) Interchange Needs: Improvements to this interchange are being constructed as part of the Grants Pass Parkway project.

Recommendations

Fourth Bridge/Allen Creek Road Corridor: Re-align Redwood Ave. at Allen Creek Rd. to line up with the proposed Fairgrounds driveway. Maintain Redwood Ave. as a collector arterial. Terminate Redwood Ave. in a cul-de-sac east of Allen Creek Rd. Construct Allen Creek Rd. as a 5-lane facility between Redwood Ave. and Redwood Hwy. with signals. Connect Allen Creek Rd. to Hwy. 238 at New Hope Rd.

Fairgrounds/Riverfront Area Street Network: Install the pedestrian and bicycle facilities recommended in the Riverfront and Fairgrounds master plans as land development permits. Tie local streets to the collector system formed by East and West Park Streets to enhance access to the river and developments within the area. Extension of Tussy Lane from West Park to Lewis St. and realignment of Lewis with East Park at 6th St. Retain the offset between East and West Park Streets. Connect West Park St. with Pansy Lane west of the Fairgrounds. Minimize the number of accesses onto Allen Creek Rd. between Redwood Ave. and the River.

Fairgrounds Entryways: Maintain internal Fairgrounds circulation routes to allow existing south frontage entrances to continue to serve as main access points. Test the impact of closing Fairgrounds Rd. with a temporary closure. Restrict turning movements at the west driveway to right-in and right-out only.

South "Y" (Redwood Highway) Interchange Needs: Construct improvements recommended as part of the Grants Pass Parkway project. Further study is recommended after the Parkway project is completed.

AM/PM MINI MARKET TRANSPORTATION IMPACT ANALYSIS - GRANTS PASS PARKWAY & TERRY LANE

Author: Kittelson & Associates, Inc.

Date: September 1993

Document Type: Traffic Impact Analysis

Status: Complete

Planning Period: 1993

Geographic Area Covered: Intersections in immediate site vicinity

Synopsis

This report evaluates the expected on-site and off-site transportation impacts associated with the proposed construction of an Arco AM/PM Mini-Market at the southwest quadrant of the Grants Pass Parkway/Terry Lane intersection. The following intersections in the immediate site vicinity were analyzed: Grants Pass Parkway/Beacon Drive, Grants Pass Parkway/Terry Lane, Spalding Road/Beacon Drive, and Site Access/Terry Lane. All analyses were based upon average weekday peak hour conditions and it was assumed that no site-generated person trips would be made by transit. Level-of-service analysis was performed for 1993 existing conditions and the 1993 "with project" case.

Findings

The analysis produced the following findings:

- All intersections in the study area currently operate at an acceptable level-of-service (LOS D), except the intersection of Grants Pass Parkway/Terry Lane.
- The proposed project will generate approximately 200 p.m. peak hour trips. Roughly 75% of these trips will be diverted from the existing traffic stream and 25% will be new trips.
- In the near future, all intersections will continue to operate at an acceptable level-of-service, except the Grants Pass Parkway/Terry Lane intersection..
- Although northbound motorists on Terry Lane attempting to enter onto Grants Pass Parkway may experience long delays, alternative access to the site is available via Beacon Drive.
- The north site driveway will be right-in, right-out only and will operate acceptably in the proposed location.

Recommendations

The study recommends that on-site signage in the gasoline pump area should be provided to encourage drivers to use the forwardmost pump. The new road/Terry Lane intersection should be striped to provide an eastbound left turn lane and an eastbound through-right lane. Also, adequate sight lines should be maintained to allow motorists exiting the north site driveway to see vehicles turning from Grants Pass Parkway.

TRANSPORTATION ANALYSIS FOR GRANTS PASS RETAIL CENTER

Author: Associated Transportation Engineering & Planning

Date: August 1991

Document Type: Traffic Impact Analysis

Status: Complete

Planning Period: 2015

Geographic Area Covered: Redwood Highway Spur between Agnes Ave. and Beacon Rd.

Synopsis

This report describes the results of a transportation analysis for a proposed 149,00 s.f. retail center development located on the southeast quadrant of the intersection of Grants Pass Parkway/Terry Lane. Traffic impacts are identified for four locations along Grants Pass Parkway in the immediate project vicinity for three cases: existing conditions, 1991 with project, and 2015 with project.

Findings

The existing (1991) level-of-service at the locations analyzed is very good, with the exception of the Grants Pass Parkway/Terry Lane intersection, which operates at LOS "F". The proposed project will generate approximately 9,600 daily vehicle trips and 760 p.m. peak hour vehicle trips. It is estimated that 35% of the total project trips will be pass-by trips, or trips already in the traffic stream. The project will have a substantial impact on the Grants Pass Parkway/Terry Lane intersection.

Recommendations

Three improvements are recommended in order to mitigate project impacts at the Grants Pass Parkway/Terry Lane intersection:

- The project should be served by three full access driveways - two on Terry Lane and one on Spalding.
- The proposed driveways should have two exit lanes and one entrance lane.
- A traffic signal should be installed at the Grants Pass Parkway/Terry Lane intersection, with a left turn lane and through-right turn lane on the northbound approach.

REDWOOD NEIGHBORHOOD PLAZA MASTER PLAN

Author: DIRA Associates, Inc.

Date: July 1981

Document Type: Development Master Plan

Status: Complete

Planning Period: Indefinite

Geographic Area Covered: Project site

Synopsis

This report provides information on a planned 68-acre mixed use development to the south of the Josephine County Fairgrounds. It contains project objectives, master plan elements (land use and development standards, utilities, and traffic access and parking), and a project construction phasing plan.

Findings

None.

Recommendations

The plan contains a variety of proposed on-site transportation improvements related to driveways, on-site access/circulation, parking, and pedestrian and bicycle movements. Please see the full document for detailed descriptions of these improvements.

REDWOOD NEIGHBORHOOD PLAZA TRAFFIC IMPACT REPORT

Author: PRC Vorhees, Inc.

Date: July 1981

Document Type: Traffic Impact Analysis

Status: Complete

Planning Period: Through 2000

Geographic Area Covered: Immediate project vicinity

Synopsis

This report documents the traffic impacts of the proposed Redwood Neighborhood Plaza development on the surrounding local street network for the years 1990 and 2000. It contains an analysis of existing (1981) intersection level-of-service conditions, traffic model forecasts without the proposed project, project traffic estimates (trip generation, distribution, and assignment), future year intersection levels-of-service with and without the proposed project, and recommended mitigation improvements.

Findings

The proposed project would generate roughly 14,500 average daily trips. Year 2000 intersection levels-of-service for the "with project" case would either be the same or degraded by one letter level-of-service compared to the "without project" case. Without improvements, three of the intersections analyzed would operate at an unacceptable level-of-service (LOS "D" or worse) for both cases by 2000. With improvements, all intersections would operate at an acceptable level-of-service for both cases by 2000 .

Recommendations

The report recommends a set of roadway improvements for the "without project" and "with project" cases. Please refer to the full document for a detailed description of these improvements.

THE THIRD BRIDGE CORRIDOR DEVELOPMENT PLAN (AND REPORT)

Author: The Third Bridge Corridor Development Agency

Date: 1987

Document Type: Urban Renewal Plan

Status: Adopted

Planning Period: Indefinite

Geographic Area Covered: Third Bridge Corridor Development Area

Synopsis

The purpose of the Third Bridge Corridor Development Plan is to accomplish the mission of the Development Agency, which is to eliminate blight and depreciating property values within the development area. The plan contains a land use plan, six development plan projects comprised of specific improvement activities, and a discussion of project financing. The accompanying report contains a description of the physical, social, and economic conditions of the area, a description of the relationship between each project to be undertaken and the existing conditions, and the estimated total cost and completion date of each project and project activity and the sources of money to pay such costs.

Findings

The Third Bridge over the Rogue River will cause development pressure in the development area where existing streets are inadequate to accommodate additional traffic. A substantial number of existing streets have inadequate rights-of-way and driving surfaces. Curbs, gutters, and sidewalks do not exist on a majority of the streets. Large areas of land are currently unserved by local or collector streets. Grade separated railroad crossings are needed within the development area. A bike lane is needed on the 7th St. Bridge. The estimated total cost of the roadway improvements is $22.6 million.

Recommendations

A list of specific roadway and bike/pedestrian path improvements is presented. Please refer to the full document for a complete description of these projects.

JOSEPHINE COUNTY FAIRGROUNDS MASTER PLAN

Author: Cameron & McCarthy

Date: 1990

Document Type: Development Master Plan

Status: Complete

Planning Period: Indefinite

Geographic Area Covered: Project site

Synopsis

The report contains information on the redevelopment of the Josephine County Fairgrounds site.

Findings

None.

Recommendations

The plan contains a recommended parking plan. No other specific transportation recommendations are provided, but a list of transportation issues is presented. These issues and others were to be addressed in a transportation system study for the Fairgrounds and Riverfront Development Area.

GRANTS PASS SOUTH UNION LOCAL IMPROVEMENT DISTRICT TRANSPORTATION SYSTEM ANALYSIS (AND ADDITIONAL RELATED ANALYSIS)

Author: JRH Transportation Engineering

Date: February 1992

Document Type: Transportation Plan

Status: Complete

Planning Period: Indefinite (buildout)

Geographic Area Covered: South Union LID

Synopsis

This report provides a transportation system analysis for a proposed South Union Local Improvement District (LID). The LID is comprised of roughly 250 acres located south of Redwood Highway 199 and west of Jacksonville Highway 238. It is bounded on the west by Allen Creek Rd. and on the south by West Harbeck Lane. The goal of the analysis was to identify transportation system needs expected to result from full development of land within the LID as presently zoned and to consider the potential impacts of increased Industrial Park zoning. Two issues were addressed: the provision of adequate routes to the LID from the surrounding region, and provision of adequate access to, and circulation among, the variously zoned areas within the LID.

Findings

At buildout, the developments within the LID will generate roughly 37,000 trips per day. Two major access routes to the LID, Redwood Highway 199 and Jacksonville Highway 238, currently operate well below capacity. Their overall ability to meet future needs will be determined by regional traffic demand rather than by trips generated by the LID. The trip generation data for the LID show that the capacity of these routes would not be exceeded with full development of the LID in 1992. Quality of service to the LID provided by these routes will be determined largely by the traffic performance at major access points, however.

Recommendations

A series of improvements are recommended both for LID access routes and the internal streets system. Please refer to the full document for a detailed description of these improvements.

GRANTS PASS SIGNAL STUDY

Author: CRS Group Engineers, Inc.

Date: September 1981

Document Type: Traffic Operations Study

Status: Complete.

Planning Period: 1981 - 2000

Geographic Area Covered: Redwood Ave. corridor from River Ave. to NE "B" Street between SW 3rd Street and SE 9th Street.

Synopsis

The study analyzes the condition and performance of existing traffic signals in the study area, analyzes several new signal systems, and recommends an appropriate signal system for the area. The study also includes recommendations for optimized signal timings for several alternative traffic conditions in 2000.

Findings

Changes to signal configurations, interconnections and timings are necessary in the study area to accommodate both existing and forecast traffic levels.

Recommendations

The study recommends installation of a new traffic-adjusted signal system on 6th and 7th Streets in Grants Pass. The system includes an on-street master controller and hardware interconnect, with complete replacement of the existing signals. Total cost to implement the recommended system is $1.265 million.