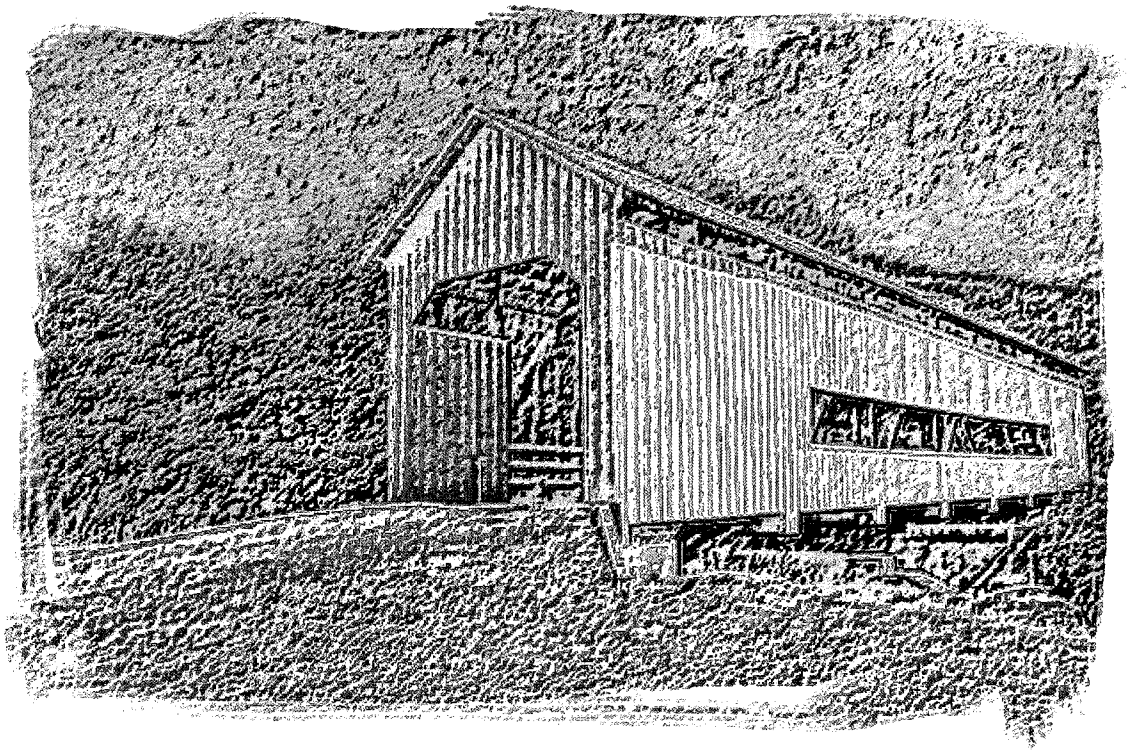
CITY OF MYRTLE CREEK



TRANSPORTATION SYSTEM PLAN

ADOPTED: JUNE 20, 2006

PREFACE
TO THE
TRANSPORTATION SYSTEM PLAN

The City of Myrtle Creek has an acknowledged Comprehensive Plan and a complete Transportation System Plan (TSP). The City's Transportation System Plan was adopted by the City Council on June 20, 2006.

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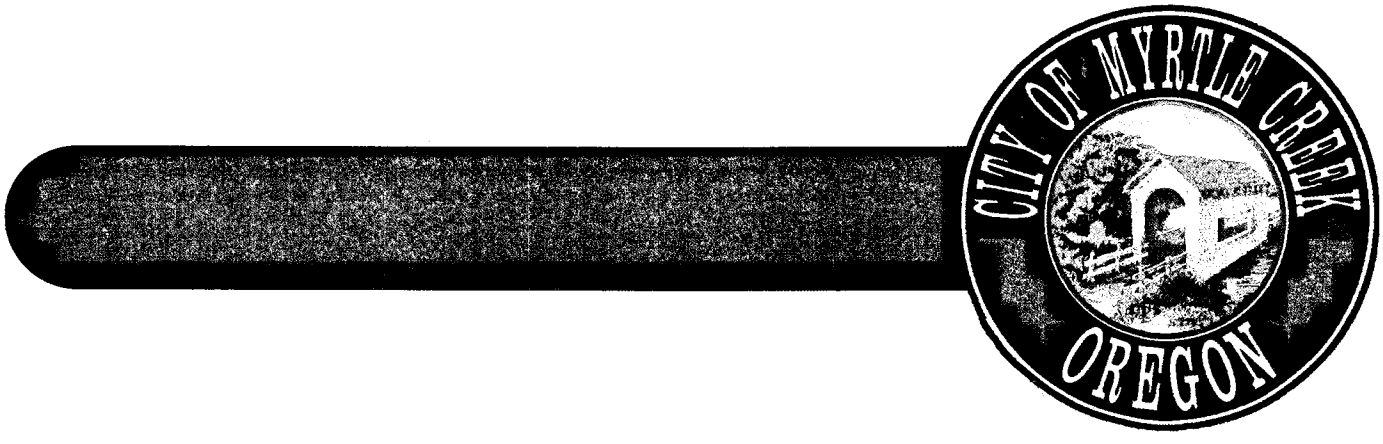
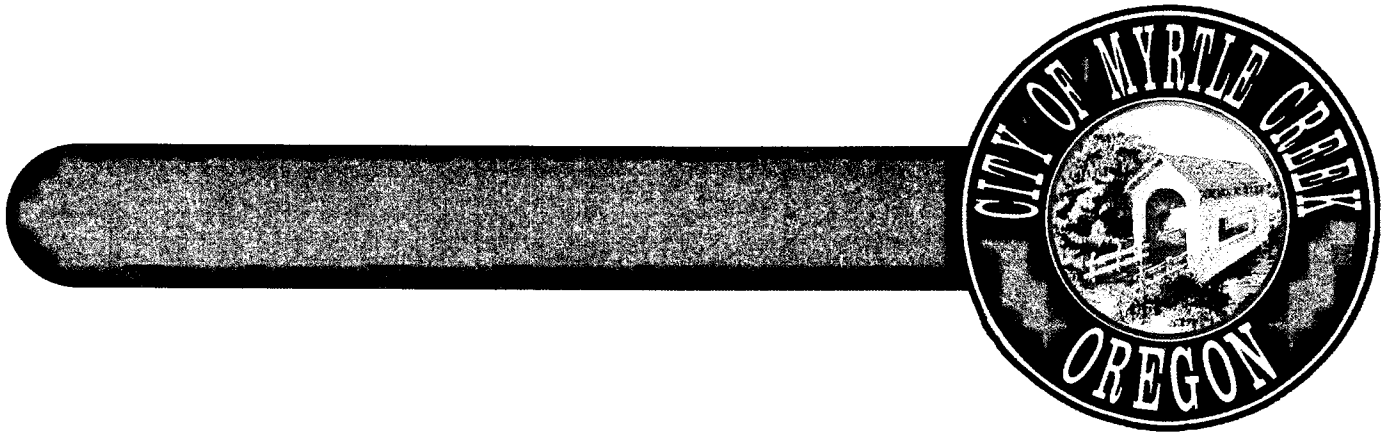
CHAPTER 1

MYRTLE CREEK COMPREHENSIVE PLAN



TRANSPORTATION



CHAPTER 11

TRANSPORTATION

SCOPE

The integration of transportation systems and land use in planning for Myrtle Creek's anticipated growth can benefit many aspects of life in the Myrtle Creek area. Transportation systems are both a product of and a determining factor in land use. Their interrelation has an effect on the appropriate location of many land uses which in turn affects the local and regional economy and general desirability of Myrtle Creek as a comfortable residential community.

This Chapter considers all modes of private and public transportation appropriate to the Myrtle Creek area, including automobile, bicycle, pedestrian, rail, bus and air and is intended to implement Statewide Planning Goal 12.

Policies recognize the need for an in depth study of the Myrtle Creek transportation network as well as specific suggestions for immediate improvement and enhancement of the system. Planning for an integrated transportation system will also reduce energy consumption.

VEHICULAR TRAVEL & STREET NETWORK

The road and street network necessary to accommodate the automobile, the major mode of local and long distance transportation, has long dominated urban land use and the rural landscape. It is important that provisions for an adequate street and road network be an integral part of planning for future growth in Myrtle Creek. It will be necessary to improve certain roads and streets to accommodate increased traffic volumes and improve circulation patterns within and through the City. There also is a need for planning and locating streets in a predetermined pattern as Myrtle Creek grows, so as to be compatible with the existing network.

There are three basic types of streets within the City network, each serving a different purpose and designed to handle different capacities. These are arterials, collectors and local streets. This street network describes how various streets function without regard to their design or condition.

The primary purpose of an arterial street is to provide through movement to traffic, distributing it to collector streets and principal highways while providing limited access to adjacent properties. Arterial streets should be designated to handle a concentration of through traffic volumes. Main Street (Old Pacific Highway – formerly State Highway 99) is the only arterial in the city.

Collector streets are those streets that collect and disperse traffic throughout the City. The primary function of a collector is to move traffic between local streets, collectors, and arterials, and provide access to property. There are two classes of collectors in Myrtle Creek- Major Collectors and Minor Collectors. Major collectors help define neighborhoods and land use patterns, and access to properties is often limited on these streets. Minor collectors often border neighborhoods, and property access onto minor collectors is typically allowed. Major collector streets include: Riverside Drive, Division Street, Springbrook Road, First Avenue, and Third Avenue. Minor collector streets

include: Dole Road (County Road #14), Johnson Street, Spruce Avenue (County Road # 15), Neal Lane, Second Avenue, Laurance Street, portions of Orchard Drive, Rice Street, and Days Creek Cutoff Road.

Local streets include all other developed streets within the City and are intended primarily to provide direct access to property. Some of the local streets are designated as Necessary Locals. This designation signifies that a street provides connections necessary for good circulation within the street network. Myrtle Creek also has some undeveloped streets. For a number of years a few platted streets have existed which were never developed. These generally appear on maps as "non-existent" or are indicated by a dashed line. These streets are not presently needed for access, however, many have lots fronting on them. Therefore, there are no plans to vacate these non-existent streets.

As a City evolves, circulation patterns may need to be altered to accommodate new growth and increased traffic over the original street design capacity. Problems arise when streets not intended for urban use become incorporated into the City street system without the necessary alterations. Circulation patterns may change and streets not designed for heavy use may become overloaded with increased traffic. Some existing traffic problems in Myrtle Creek are attributable to the evolution of the City and depict historic growth.

Principal access to the City from the north is from Interstate 5, which is served by the South Umpqua River bridge, a two-lane bridge constructed in 1927. The bridge is a part of the older Pacific Highway (State Route 99) which served as the major traffic link from California to the Northwest. As Old Pacific Highway passes through Myrtle Creek it performs a dual role, being both an arterial highway and Main Street, a major shopping street of the downtown central business district. Traffic and pedestrian problems exist because of this dual role.

The diagonal orientation of the streets in the downtown area is a product of the original town plat of the 1890's. As Myrtle Creek grew, the gridiron pattern was retained but altered to a north/south, east/west orientation producing a number of odd angled intersections at the fringe of the original townsite. These occur primarily on First, Second, Third and Fourth Avenues and intersecting streets. There is some confusion over the circulation pattern along these streets as all function as a link between the major collector of Division Street and the arterial of Main Street. For the purposes of this Plan, Third Avenue has been classified as a major collector because it is a truck route (County Road #15) and has a wider paved surface than First, Second, or Fourth Avenues. First Avenue suffers from inadequate right-of-way at its intersection with Division Street in addition to other limitations. Acquisition of this right-of-way is obstructed by the location of existing homes. The planned installation of a traffic signal at Third Avenue and Main Street should solidify the roadway's prominence as a truck route and may effectively alter the traffic pattern in the downtown area.

Many of Myrtle Creek's arterial and collector streets were designed as rural county roads and although they have been absorbed by the expanding City, they have not been upgraded to urban standards. These roads are narrow with limited shoulders and lack provisions for pedestrian or bicycle travel. They carry large volumes of traffic and future traffic predictions indicate that volumes will increase as the City expands and rural development continues.

Old Pacific Highway is an additional site of conflict as it plays a dual role. It functions as both an arterial highway link between Tri City and the Myrtle Creek freeway access and as Main Street, a major shopping street within Myrtle Creek's Central Business District. Proposals contained in the Douglas County Comprehensive Plan to develop an alternate north/south route and additional freeway access may lessen some of this congestion on Main Street. Transportation policies support these proposals which are consistent with the Future Street Plan & Functional Classification Maps showing where streets should be developed in the Myrtle Creek urban area. The Future Street Plan & Functional Classification Maps are consistent with the Tri City Street Plan developed by Douglas County. The overall goal is to alleviate existing inefficient or hazardous situations and to encourage the creation of an improved vehicular system that is safe, efficient and economical.

The Future Street Plan & Functional Classification Maps show where future streets will be constructed to maximize circulation and the functional classifications that will apply to those new streets and to existing streets. Circulation can be improved with construction of future streets that close gaps and provide alternate routes to existing streets. The functional classifications will promote efficient circulation by ensuring roadways are designed to serve the appropriate needs of an interconnected street network.

The Future Street Plan & Functional Classification Maps provide a map of where streets should be extended and developed as the Myrtle Creek area grows. It includes extensions of existing roadways as well as new collector and local streets. Future streets that will provide major improvements in connectivity include: the north-south minor collector east of Old Pacific Highway, the new connection between Fir Street and Days Creek Road, a new Spruce Avenue bridge, the Forest Avenue to Days Creek Road connection, and a new Weaver Road bridge. These improvements will improve circulation for bicycle, pedestrian, and public transportation, as well as motorized vehicles.

STREET CONDITIONS

Street conditions are a product of the original design, quality of construction, construction materials, amount of use and degree of maintenance. A field survey was conducted in 2004 to determine existing pavement conditions and to determine if roadways were built to an appropriate standards for their transportation function. In addition, the 2004 Pavement Management Report showed that roughly 75 percent of the streets in Myrtle Creek were in need of maintenance or they would not meet standards due to deterioration or poor current conditions.

City street widths range from 34 to 48 feet. The major streets are paved with asphalt concrete and are generally in good condition. On-street parking is allowed on many downtown streets.

Pavement conditions of the major roadways (arterials and collectors) for the study area were inventoried using field surveys and a review of past plans. The inventory found pavement conditions were good for all the streets within Myrtle Creek except for Darcie Way, Laurance Street, Springbrook Road, and two sections of Main Street (Old Pacific Highway). Main Street had poor pavement conditions between 4th Avenue and the Myrtle Creek Arch Bridge, and fair pavement conditions between 4th Avenue and Riverside Drive.

Within Tri City, Old Pacific Highway has recently been repaved and widened for most of its length and is in good condition. Many of the roads designated as collectors are in need of repair including: Meadow Lane, which is in poor condition, and Klimback Street, Walnut Street, Victor Street, Aker Street, Wecks Street, and Hill Street, which are cracking.

In addition to pavement conditions, many roads are considered substandard because they are not built to the appropriate design standards for their functional classification. The Transportation System Plan includes projects to upgrade these roadways.

TRAFFIC VOLUMES

A planning consideration that is inseparable from circulation patterns and street conditions is that of traffic volumes. Traffic volume information is an integral part of determining the function of various streets as well as helping to determine which streets are used beyond their design and condition capacity.

As part of the Transportation System Plan, traffic counts were taken in 2004 at various locations within the urban growth boundary. The average daily trips as well as the PM peak hour trips are depicted on maps in the Transportation System Plan.

The greatest volume of traffic travels on Main Street (Old Pacific Highway) between Interstate 5, Exit 108, and the area just west of Interstate 5, Exit 103. There is a greater volume of traffic at the southern city limits than at the west entrance to town. This would suggest that residents of Tri City and areas south travel to Myrtle Creek to shop because of its concentration of stores and services not available in the Tri City area. Residents of Myrtle Creek also use this route to travel to jobs located in the industrial areas of Riddle (south of Myrtle Creek).

Although many of these trips to and from Tri City originate or terminate in Myrtle Creek, there is a large volume of traffic crossing the Myrtle Creek/South Umpqua River bridge at I-5 exit 108. The nearest alternate freeway access is located approximately 6 miles south (exit 103). This means that as well as providing freeway access to the City of Myrtle Creek, Old Pacific Highway and the South Umpqua River bridge must also provide access to much of the growing Tri City area as well as surrounding rural lands.

The intersection of Main Street and First Avenue experiences the highest volumes. Traffic volume information indicates that First, Second and Third Avenues are all used as links between Main Street and Division Street.

There is one signalized intersection on Main Street at First Avenue. The rest of the intersections are uncontrolled (except for 1-way stop signs). Based on analysis in the TSP, a traffic control signal on Main Street and Third Avenue may be justified in the near future. It is predicted that a signal at Third Avenue would reduce the congestion and improve circulation.

The highest traffic volumes within the city limits occur on Main Street, 1st Avenue, Division Street, and Riverside Drive. The highest volumes in Tri City occur on Old Pacific Highway, Riddle Bypass/Pruner Road, Seeley Drive, and Chadwick Lane.

The Future Street Plan & Functional Classification Maps recognize a need for an additional north/south collector to link Division Street with Riverside Drive and alleviate congestion. Spruce Avenue has been identified as the most feasible location for a bridge across the creek to make the connection to the arterial of Riverside Drive, therefore, policies address acquiring the necessary right-of-way to extend to Spruce Avenue.

PEDESTRIAN TRAVEL

Sidewalks are located randomly throughout Myrtle Creek with concentrations located downtown and in new subdivisions. As the Subdivision Ordinance now requires developers to provide sidewalks, there are continuous sidewalks in all subdivisions approved after 1975. These sidewalks are often isolated and not part of a sidewalk network. The Pedestrian Plan Map identifies where sidewalks and multi-use paths should be built to improve pedestrian circulation and eliminate current gaps between pedestrian facilities that exist today.

BICYCLE TRAVEL

There are few existing bikeways within the City of Myrtle Creek. Bicycles as a means of transportation, for the most part, must use the limited sidewalks provided for pedestrian travel or compete for space on streets and roadways. This can create hazards on narrow or busy streets for riders, pedestrians and motorists. The Bicycle Plan Map includes projects to create a network of bicycle facilities comprised of bike lanes, shared bikeways, and multi-use paths throughout the Myrtle Creek/Tri City area.

PUBLIC TRANSPORTATION

Myrtle Creek benefits from the demand-responsive service provided by the nonprofit "Seniors Escorting Seniors" and Umpqua Transit. This plan supports the continuation and expansion of these services to provide trips to other transportation disadvantaged groups such as children and people without private automobiles. Although, there is currently no regularly scheduled, public transportation service in the Myrtle Creek/Tri City area, this plan calls for community support efforts to create intercity transit connections within Douglas County.

AIRPORT FACILITIES

The nearest airport facility is located approximately 3 miles south of the City, in the unincorporated Tri City area. **Access is by way of a frontage road paralleling Interstate 5. Small planes are** accommodated by a 2600 foot runway and several small hangers. A number of small private planes are based at the airport. In 1988, operation and ownership of this airport was transferred from the State of Oregon Aeronautics Division to the City of Myrtle Creek and the name was changed to the Myrtle Creek Municipal Airport. The "Five Year Improvement Plan" developed by the State Aeronautics Division has been adopted by the City as an airport expansion plan. An Airport Advisory Committee has been organized to promote expansion and development of the airport and policies

address the continued growth of the airport and its inclusion in the Myrtle Creek/Douglas County Urban Growth Area Management Agreement as an "Area of Mutual Interest".

There is an airport in Roseburg, 20 miles north, however, at present there is no regularly scheduled air service available. Residents must commute to Eugene or Medford for commercial airline service.

RAILROAD

The Central Oregon & Pacific Railroad (CORP) passes through Myrtle Creek near the east bank of the South Umpqua River. There is no depot nor any regular stops. There are presently no known products imported to or exported from Myrtle Creek by rail and there is no longer passenger service provided by rail along this route.

Freight service is a function of business demand within the area. The City should continue to work with prospective business tenants and CORP to develop rail service on an as-needed basis.

TRUCK AND PARCEL TRANSPORT

Several major trucking firms service the Myrtle Creek area including I-5, Delta, ONC and Pacific Motor Trucking Company. They transport general merchandise inter and intra state. They are not involved in product export from Myrtle Creek.

United Parcel Service and other carriers provide service in the Myrtle Creek area and there a few small parts suppliers who export products from Myrtle Creek through these services.

I-5 is the primary truck freight route in the area. However, at times, County and City roads will need to be used for moving freight. Five streets in the Myrtle Creek planning area are designated as truck routes: Riddle Bypass/Pruner Road, Old Pacific Highway (Main Street), Third Avenue, Dole Road, and Division Street. These facilities were chosen because they create an interconnected network and because of their unique characteristics. Riddle Bypass is a critical route for trucks entering and exiting the industrial area near Interchange 103. Old Pacific Highway is the major connection between the Tri City area and the City of Myrtle Creek. Third Street is slightly wider than First Street and can be used along with Division Street to move trucks east and west through the City of Myrtle Creek. Dole Road provides an alternate route north for bypassing the Myrtle Creek Curves.

CONCLUSION

If the Myrtle Creek/Tri City urban area is to continue to grow in an orderly and efficient manner, existing transportation systems and facilities must be well maintained and new streets and systems planned. Capital improvement costs are certain to continue their rapid rise in the future and a well coordinated construction program will be an inescapable prerequisite to future growth.

LOCAL TRANSPORTATION POLICIES

GOAL: TO PROVIDE AND ENCOURAGE A SAFE, CONVENIENT AND ECONOMIC TRANSPORTATION SYSTEM.

(1) To promote a safe, efficient, and economical overall transportation circulation system in the Myrtle Creek urban area, a the Future Street Plan & Functional Classification Maps shall be implemented which include provisions for automobile, pedestrian, and bicycle travel. The Future Street Plan & Functional Classification Maps shall be reviewed and updated during Periodic Review, or more frequently, if needed.

(2) All land division which is contiguous to streets proposed by the Future Street Plan & Functional Classification Maps shall incorporate within the development design street alignments consistent with the objectives of the Future Street Plan & Functional Classification Maps

(3) Standards shall be adopted for graduated street and right-of-way widths for local, collector and arterial streets within the circulation pattern.

(4) Restrict direct residential vehicular access onto existing arterial streets and discourage access onto existing collector streets through the use of side streets or service roads.

(5) Restrict direct residential vehicular access onto all new arterial and collector streets, wherever feasible.

(6) Encourage the combining of access drives into commercial and industrial development and restrict additional access on to Main Street, wherever feasible.

(7) Arterial and collectors streets shall be extended into developing areas in such a way as to be compatible with the existing and future street network. The Future Street Plan & Functional Classification Maps shall guide the type and location of streets proposed. The Future Street Plan & Functional Classification Maps will be used for determining whether roadways are adequate when reviewing and approving subdivisions and other development.

(8) Cul-de-sacs or permanent dead-end streets shall be discouraged except where topographical, environmental, or existing adjacent land use constraints make connecting streets impractical. Where cul-de-sacs are planned, accessways shall be provided connecting the ends of cul-de-sacs to each other, to other streets, or to neighborhood activity centers. Cul-de-sacs with the potential to serve 20 or more lots will be prohibited.

(9) Future development north of Lillian Street should have a street network that ties into North Myrtle Avenue rather than Lillian Street or Spruce Avenue to divert traffic away from the school grounds.

(10) Require adequate right-of-way dedication along existing roads prior to land division, development and/or annexation.

(11) Request Douglas County to acquire right-of-way dedication in accordance with City standards prior to approval of development within the Myrtle Creek Urban Growth Boundary and consistent with the Urban Growth Management Agreement.

(12) Continue the development of off-street public parking areas in the Central Business District.

(13) Support Federal and State improvements to the existing I-5 interchange and access at Myrtle Creek Exit 108.

(14) Support the development of additional freeway access to the Myrtle Creek/Tri City corridor by the connection of Pacific Highway to the Weaver Road exit (Exit 106).

(15) Develop a street upgrading priority schedule based on a sufficiency rating to be included in a Public Facilities Plan.

(16) The City will, as conditions of approval for private development or as an element of public urban upgrade projects, encourage landscaping along arterials and major collectors to improve the overall visual appearance, especially at the west entrance to Myrtle Creek.

(17) Encourage economic development which provides local employment, thereby reducing commuter traffic.

(18) Implement the Bicycle Plan Map and the Pedestrian Plan Map to create a bike/trail/sidewalk system linking parks, commercial areas, employment centers, and schools with residential areas. Acquire right-of-way, as needed for bicycle and pedestrian facilities, prior to development of abutting property.

(19) Work with Douglas County in the development of a bicycle route along Dole Road as shown in the Bicycle Plan Map extending through Round Prairie to Winston.

(20) Implement the Pedestrian Plan Map by including a priority schedule for identified sidewalk improvements in a capital improvement program.

(21) Continue to support volunteer programs for transportation of the elderly and the disabled.

(22) Encourage the reinstatement of intercity bus service to Myrtle Creek connecting with other parts of Douglas County. Support the local, demand-responsive, volunteer bus service currently serving seniors within the community.

(23) Initiate a study to identify areas used for carpool parking and investigate the potential of increasing usage by providing lighting, parking signs and/or police patrolling.

(24) Recognizing that the Myrtle Creek Municipal Airport is a regional asset, the City shall encourage acquisition of additional land for runway expansion, support development of hanger facilities and a fixed based operator, promote development on adjacent industrial land and explore the feasibility of developing the floodplain area for recreational use.

(25) The Five Year Improvement Plan developed by the State Aeronautics Division shall be adopted by the City as the Capital Improvement Plan for the Myrtle Creek Municipal Airport until a new Master Plan can be developed.

(26) The City shall adopt a Master Plan for development of improvements to the Myrtle Creek Municipal Airport that includes a strategy for funding.

(27) Conservation of energy shall be considered in the development of transportation and street plans.

(28) Improvements to existing local streets shall be shared by abutting property owners through the formation of Local Improvement Districts. Grants and other funding methods shall be utilized to improve collector and arterial streets. Improvement of streets and sidewalks in new developments shall be borne by the developer. However, the City may participate in the development if any arterial or collector streets are included in the development.

(29) Per the Future Street Plan & Functional Classification Maps, development of a bridge over North Myrtle Creek at the south end of Spruce Avenue should be encouraged to connect Spruce to Riverside Drive, thereby providing a second north/south collector for the east side of the City.

(30) Commercial and industrial land uses should be located on and adjacent to arterials and major collectors, wherever possible.

(31) The evaluation of all proposed plan amendments within the Urban Growth Boundary should include an assessment of the effect of the amendments on circulation in and through the Myrtle Creek area.

(32) Encourage the county to straighten the reverse curve on Main Street at the west entrance to town and correct the intersection with Dole Road.

(33) Per the Future Street Plan & Functional Classification Maps and the Tri City Circulation Plan, this document supports the Douglas County plan for an alternate north/south arterial route through Tri City to Myrtle Creek.

(34) Encourage Douglas County to develop sidewalks, bike paths and turn lanes along Pacific Highway in the unincorporated area south of Myrtle Creek.

(35) The City shall actively pursue the acquisition of right-of-way for collector and arterial streets of inadequate width or lengths.

(36) Prior to the next Periodic Review, the City shall develop a policy regarding improvements to and vacation of alleys.

(37) The City shall support preservation and use of the existing railroad system and encourage improvements that could benefit potential industrial development.

(38) Where possible, the timing of facility maintenance will be coordinated with other capital improvements to minimize cost and avoid extraordinary maintenance on a facility scheduled for reconstruction or replacement.

(39) The City will pursue funding sources or local funding mechanisms to protect and maintain the condition of existing and future arterial, collector and local streets which are affected by development, commerce or other industrial or economic development activities for all transportation facilities under the City's jurisdiction.

(40) The City will coordinate with Douglas County, ODOT and other transportation agencies to establish funding and maintenance agreements for routes within their jurisdiction to maintain a seamless arterial and collector system for roadways that are impacted by heavy truck traffic.

(41) The City shall protect the function of existing and planned roadways as identified in the Future Street Plan & Functional Classification Maps.

(42) The City shall include a consideration of the impact on existing or planned transportation facilities within the City or the portion of the Urban Growth Boundary within their jurisdiction in all land use decisions.

(43) The City shall protect the function of existing or planned roadways or roadway corridors through the application of appropriate land use regulations through the Zoning Ordinance and the Subdivision Ordinance.

(44) The City shall consider the potential to establish or maintain access ways, paths, or trails before the vacation of any public easement or right-or-way.

(45) The City shall preserve right-of-way for planned transportation facilities through exactions, voluntary dedication, or setbacks.

(46) The City shall encourage streets within new development to conform to a grid pattern where practical.

(47) Where practical, the City will require sidewalks on both sides of all future roadways, and to any major improvements to existing roadways, between neighborhoods and major destinations and in areas where the benefit to residents is the greatest.

(48) The City will promote and/or develop sidewalks on at least one side of all existing roadways.

(49) The City will require bike lanes in the construction of new and retrofitted arterial and major collector streets, and as appropriate in the construction of new and retrofitted collector streets.

(50) Bicycle parking facilities shall be provided at all new residential multi-family development of four units or more, commercial, industrial, educational, recreational, and institutional facilities.

(51) The City will continue to support volunteer and public/private funded transportation for the elderly, disabled and transportation disadvantaged, and encourage:

a. Use of private transportation services associated with residential developments, assisted living centers and other organizations which serve the needs of the elderly and disabled.

b. Opportunities to develop a dial-a-ride system and promote the staffing of such a system with community volunteers.

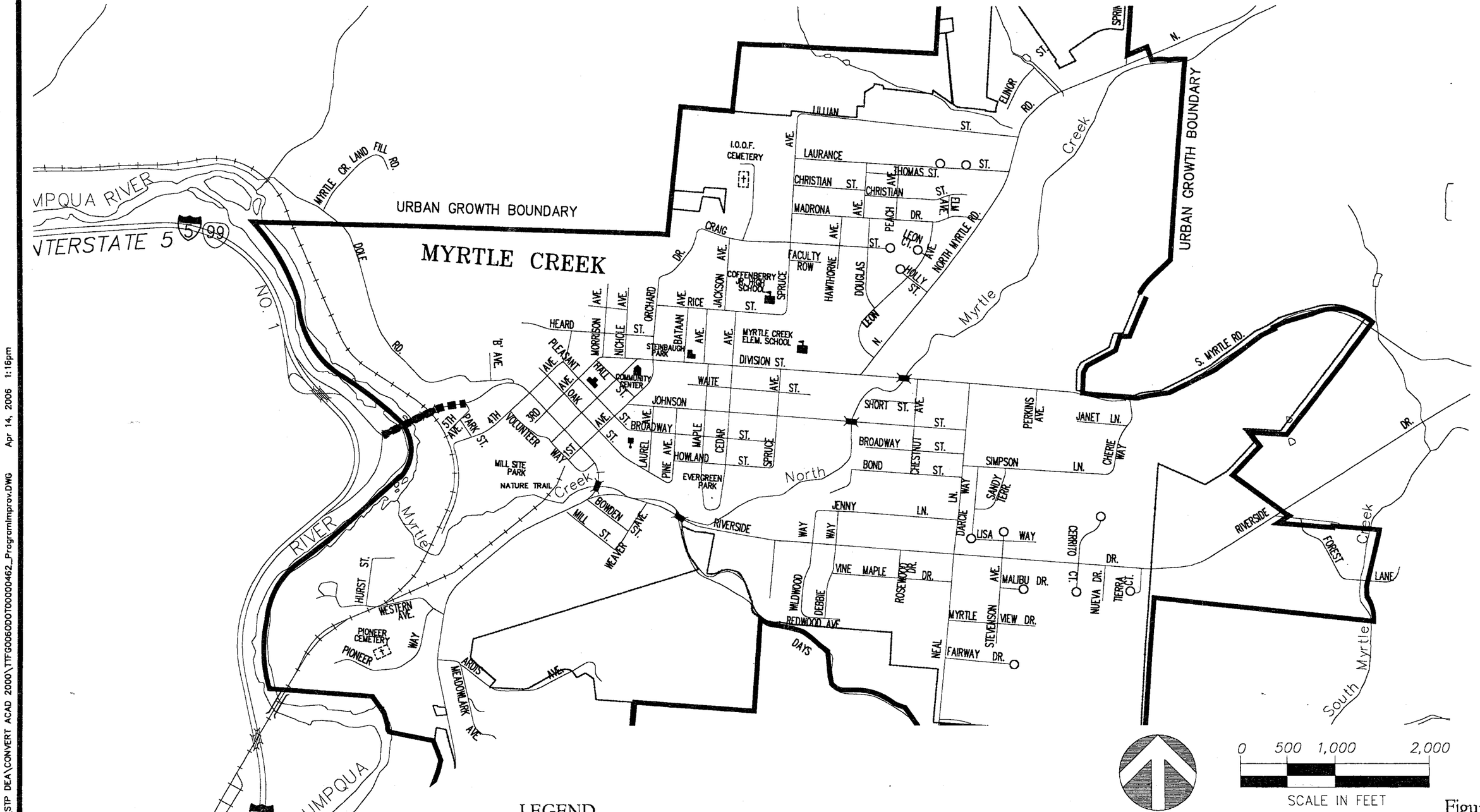
c. Carpools and vanpools and the development of park-and-ride facilities where practical to reduce the number of single occupancy vehicle originating in Myrtle Creek.

(52) The City will continue to coordinate with the regional public transportation provider to identify feasibility for a demand-response public transportation system in South Douglas County.

(53) The City supports telecommuting as a means of decreasing the need for expanding traditional transportation system infrastructure and encourages its use as an alternative to other travel modes.

(54) The evaluation of all proposed plan amendments within the Urban Growth Boundary should include a consideration of the effect of the amendments on circulation in and through the Myrtle Creek area.

COMPREHENSIVE PLAN MAPS



LEGEND

- INSTALL TRAFFIC SIGNAL
- UPGRADE WITH SIDEWALKS (COUNTY)
- BRIDGE AND/OR ON-RAMP RECONSTRUCTION (ODOT)
- NEW BRIDGE AND CONNECTION TO OLD PACIFIC HWY (COUNTY)
- CITY LIMIT

Figure 6-1a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PROGRAMMED IMPROVEMENT PROJECTS

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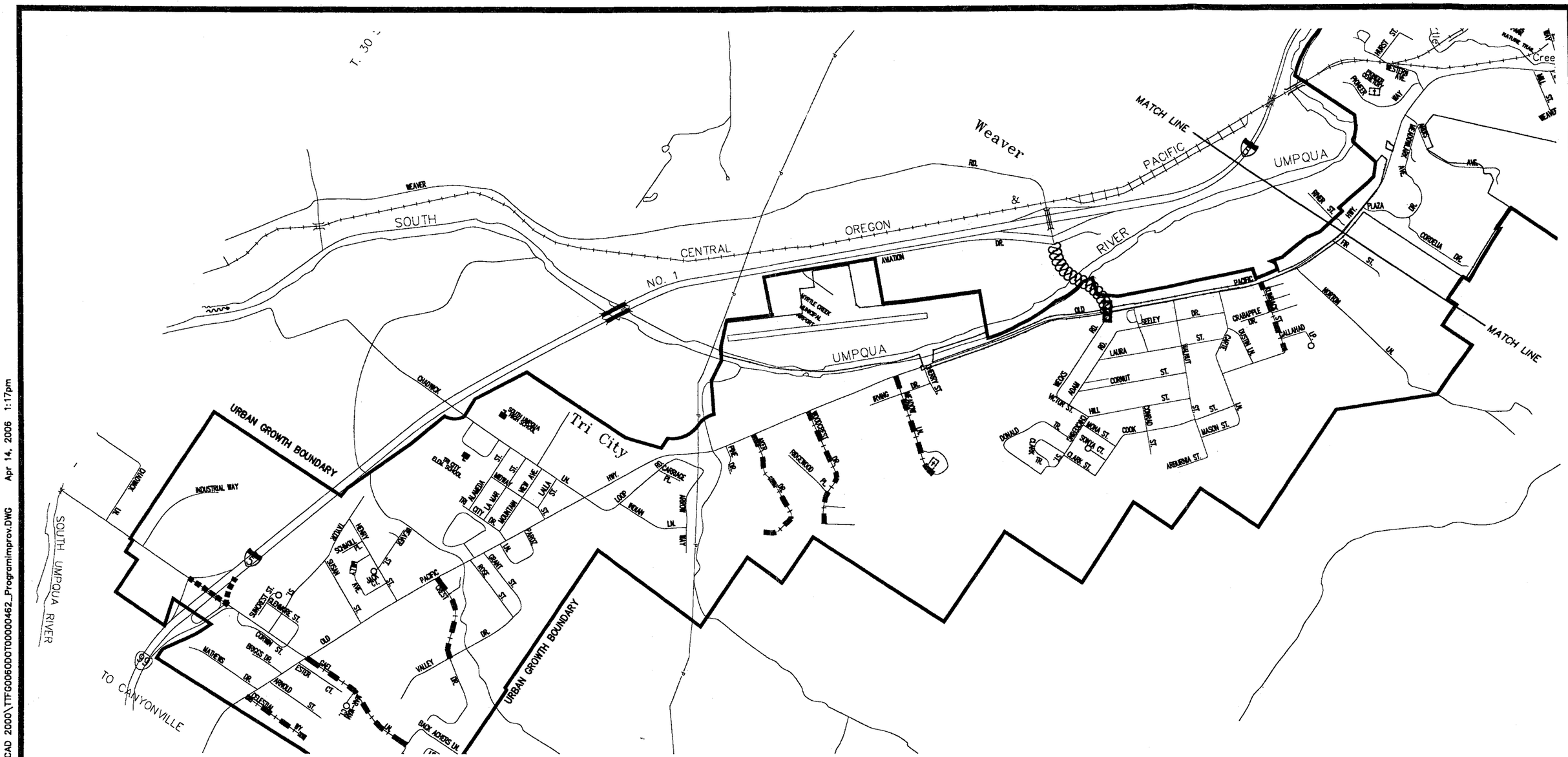

Figure 6-1b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PROGRAMMED IMPROVEMENT PROJECTS

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MYRTLE CREEK

URBAN GROWTH BOUNDARY

URBAN GROWTH BOUNDARY

LEGEND

- INSTALL TRAFFIC SIGNAL
- INSTALL ILLUMINATION
- ROAD WIDENING OR UPGRADE
- FUTURE STREETS
- SIDEWALK PROJECT
- BIKE LANE PROJECT
- RECOMMENDED STREET WHEN UGB EXPANDS
- CITY LIMIT

0 500 1,000 2,000

SCALE IN FEET

Figure 6-2a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PROPOSED IMPROVEMENT PROJECTS

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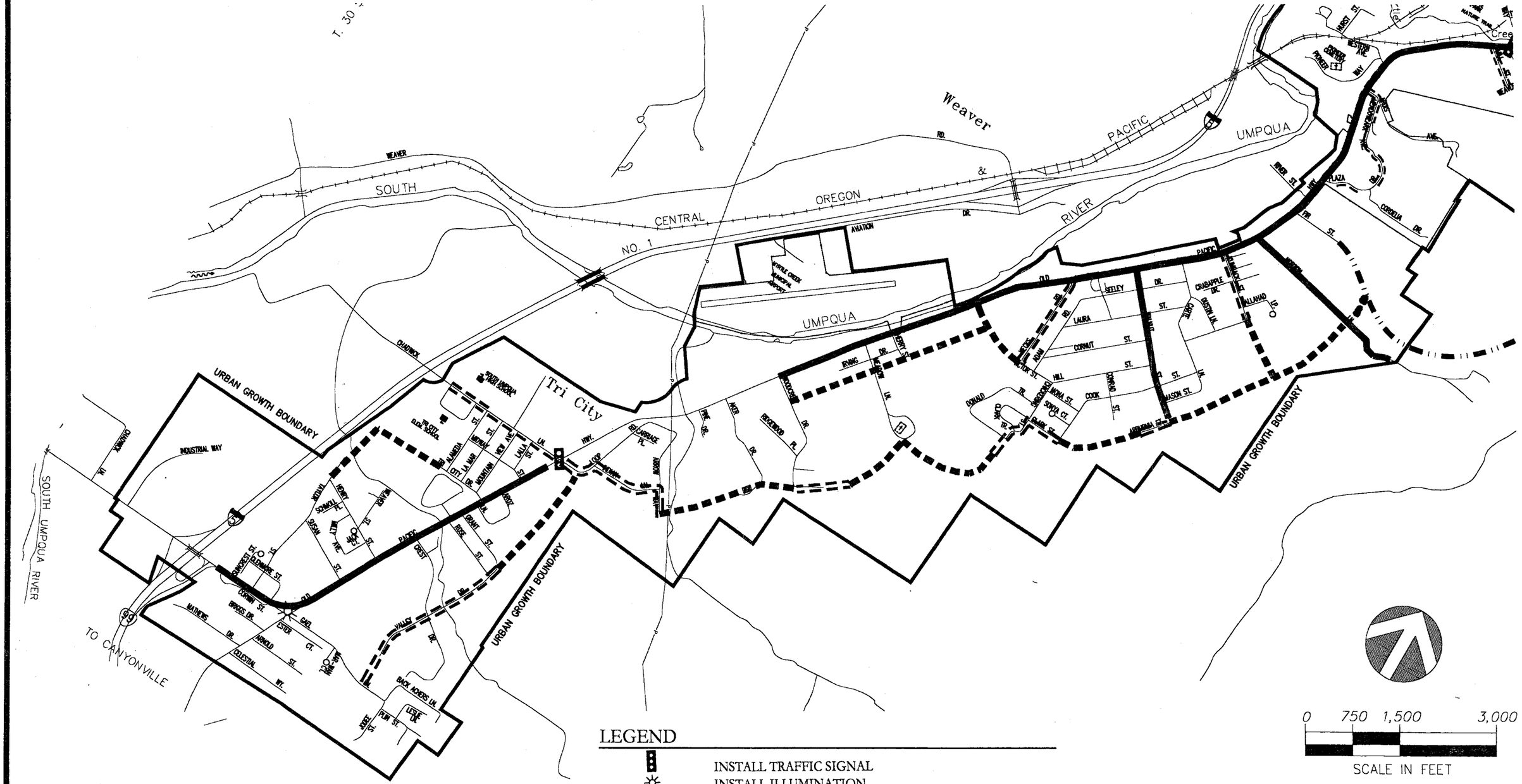

Figure 6-2b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PROPOSED IMPROVEMENT PROJECTS

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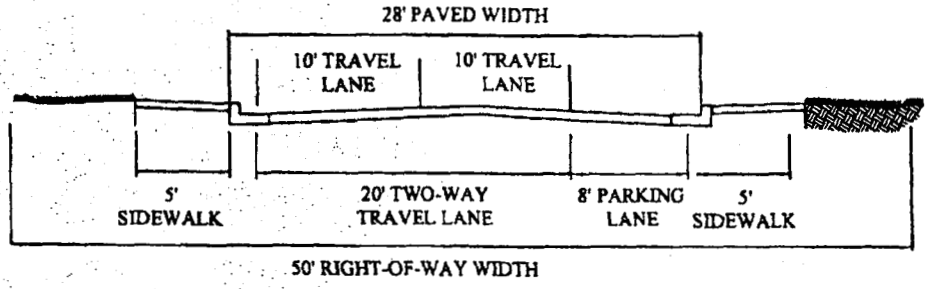
SECTION A : LOCAL

NOTES:

28' are allowed when the street is <2,400 feet in length and cannot be extended.
Curbside sidewalks may be allowed when ROW is insufficient for planting strips, or at the discretion of the City Engineer.

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.



SECTION B : MAJOR (NECESSARY) LOCAL

NOTES:

Parking may be restricted at intersections with Arterials and Major Collectors to provide turn lanes.
Curbside sidewalks may be allowed when ROW is insufficient for planting strips, or at the discretion of the City Engineer.

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.

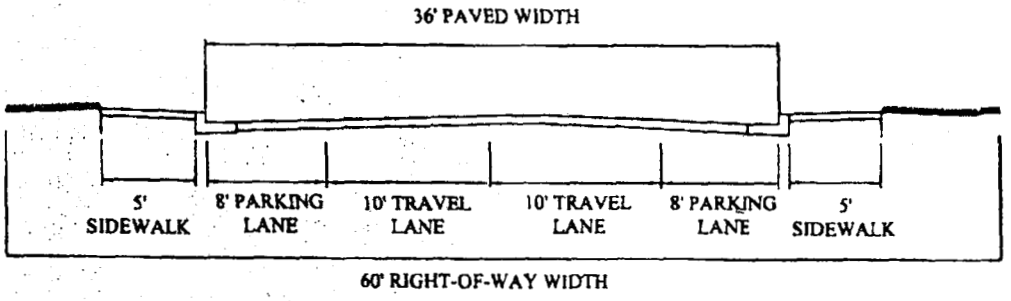


Figure 7-1

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

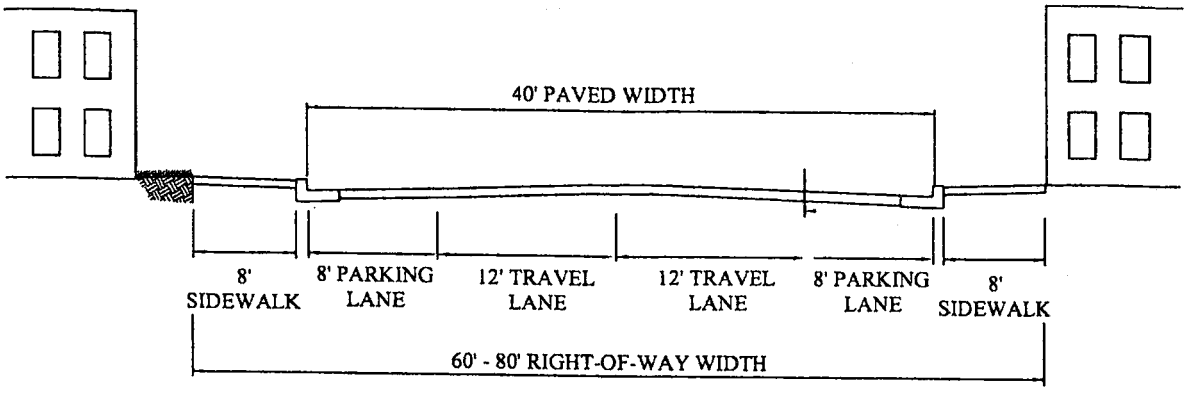
Local Streets
MYRTLE CREEK STANDARDS

SECTION C: MINOR COLLECTOR

NOTES:

8' sidewalks are standard in the CBD.

1st Avenue
2nd Avenue
3rd Avenue

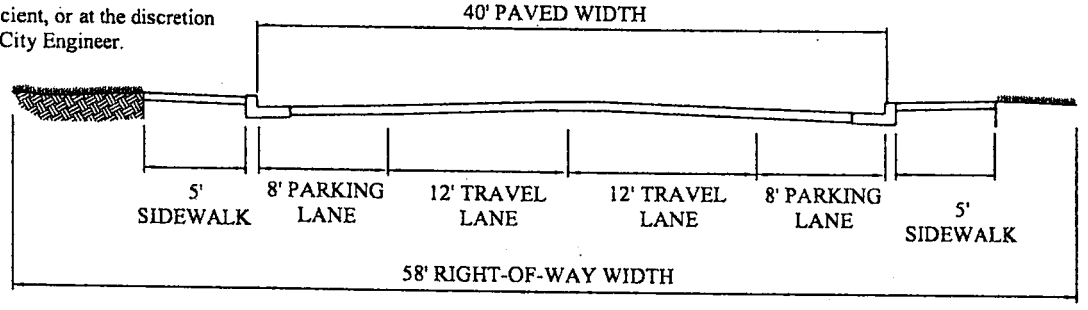


Spruce Avenue
Neal Lane
Neal Lane Extension
Rice Street
Laurance Street
Johnson Street

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.

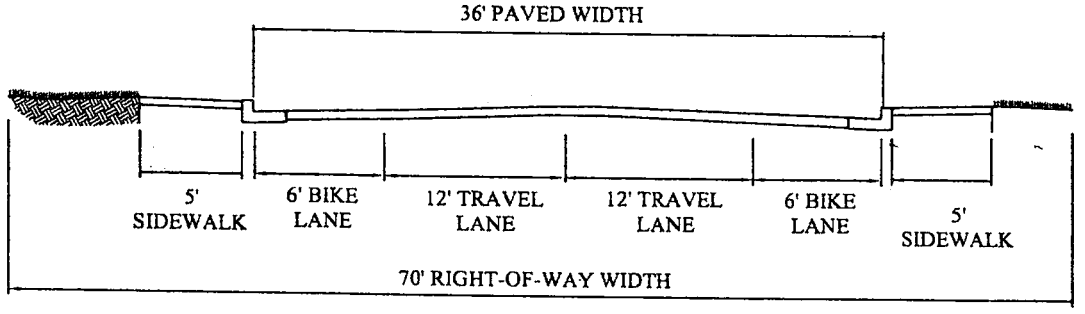
NOTES:

Curbside sidewalks may be allowed when ROW is insufficient, or at the discretion of the City Engineer.



Dole Road
Future Collector parallel to N. Myrtle Drive

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.



NOTES:

Curbside sidewalks may be allowed when ROW is insufficient, or at the discretion of the City Engineer.

Figure 7-2

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

Minor Collector Streets

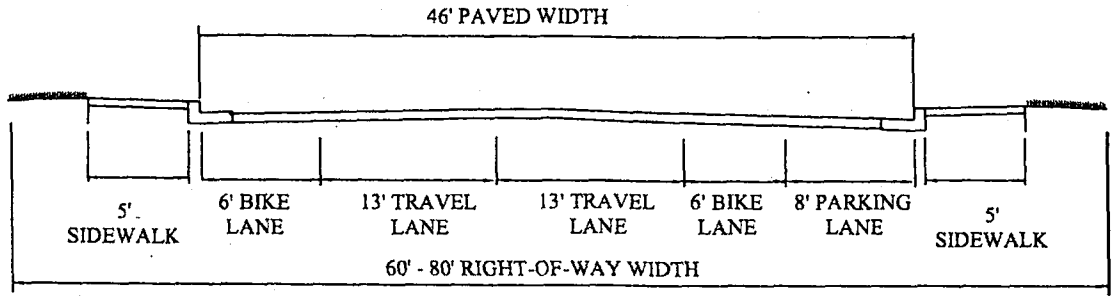
MYRTLE CREEK STANDARDS

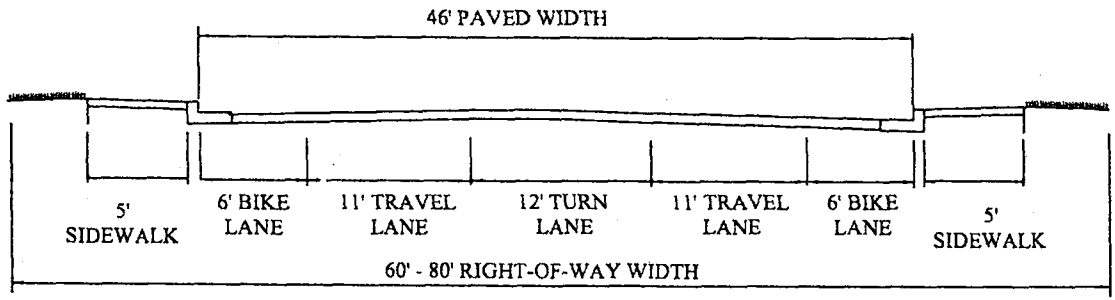
SECTION D: MAJOR COLLECTOR

Division Street - S. Myrtle Road
N. Myrtle Drive (from Division to Lillian)

NOTES:

Curbside sidewalks may be allowed when ROW is insufficient, or at the discretion of the City Engineer.





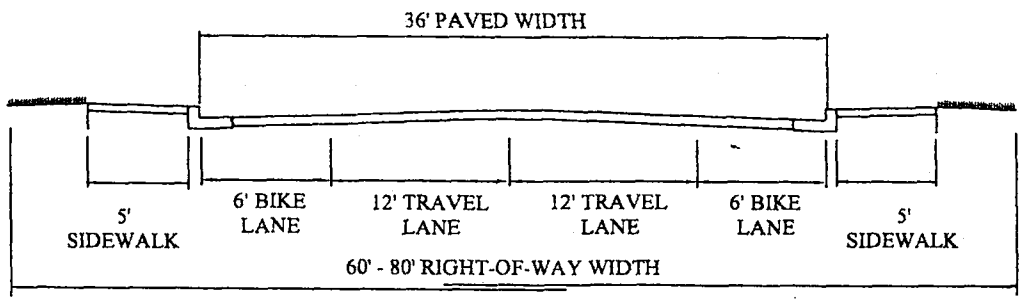


Figure 7-3

Riverside Drive
N. Myrtle Drive (from Lillian to City limits)

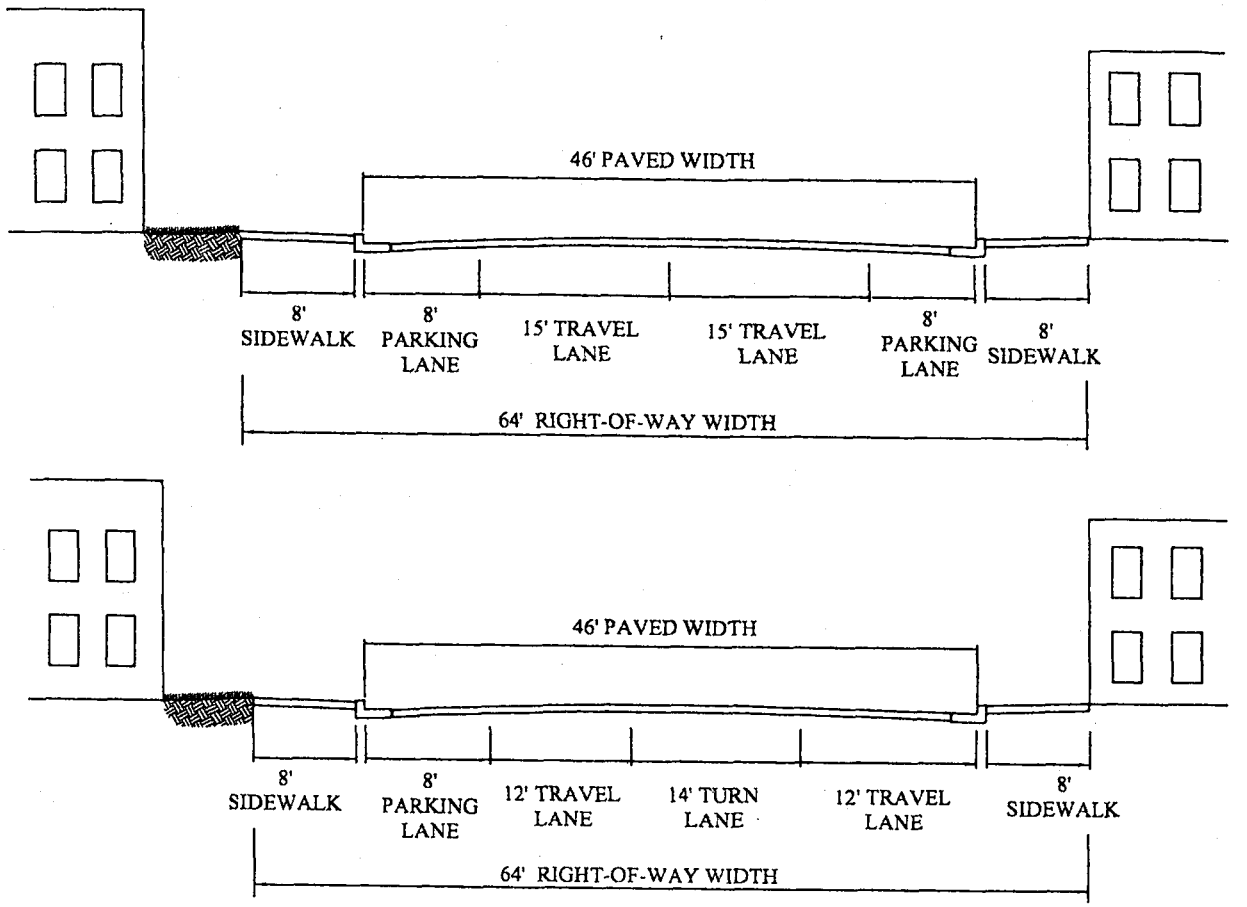
NOTES:

Curbside sidewalks may be allowed when ROW is insufficient, or at the discretion of the City Engineer.

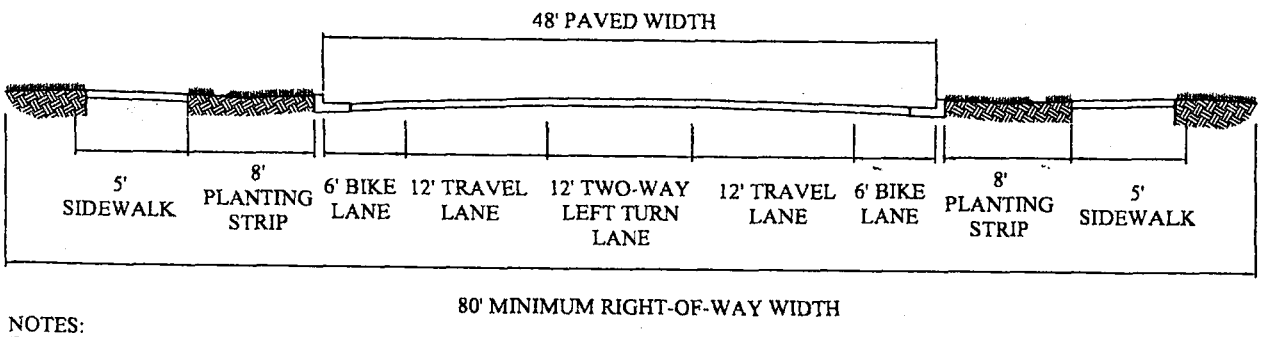
MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

Major Collector Streets
MYRTLE CREEK STANDARDS

SECTION E: ARTERIAL STREET (CBD)



SECTION F: ARTERIAL STREET (NON-CBD)



NOTES:

Curbside sidewalks may be allowed when the ROW is insufficient for planting strips.

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.

Figure 7-4

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

Arterial Streets

CBD And Non-CBD

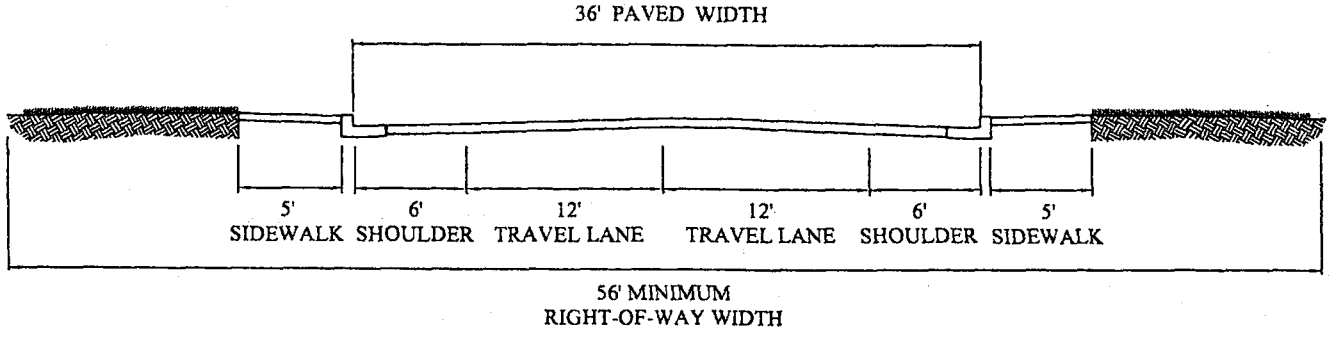
MYRTLE CREEK STANDARDS

URBAN LOCAL STREET

NOTE:

The provision for on-street parking will depend on traffic volumes, lane widths, design speeds, access control and land use.

This applies to necessary locals and standard locals.



LUDO CHAPTER 4 TABLE 1

URBAN COLLECTOR

Old Pacific Highway (Major Collector)
Plus 21 Minor Collectors

NOTES:

The provision for on-street parking will depend on traffic volumes, lane widths, design speeds, access control and land use.
Recommended number of lanes is between 2 and 4.
Left turn lane width is equal to 14' if required.

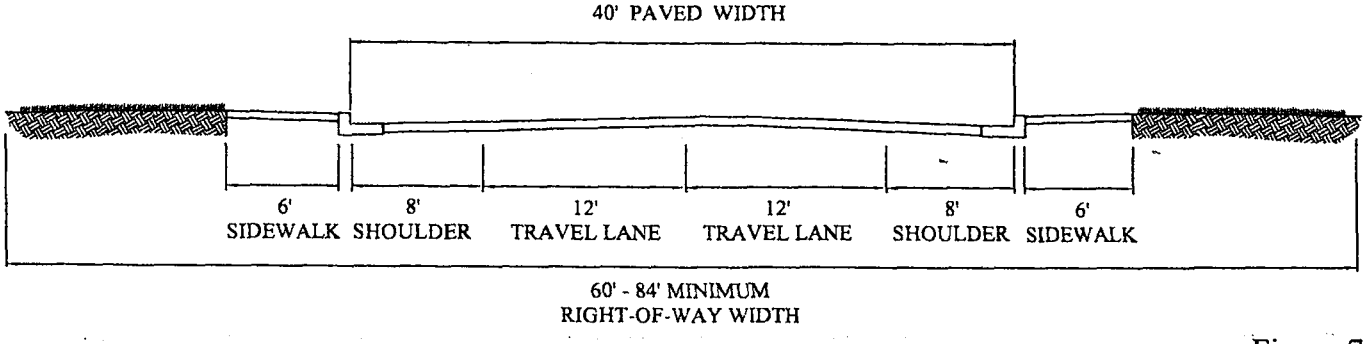


Figure 7-5

LUDO CHAPTER 4 TABLE 1

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

Urban Local And Urban Collector Streets

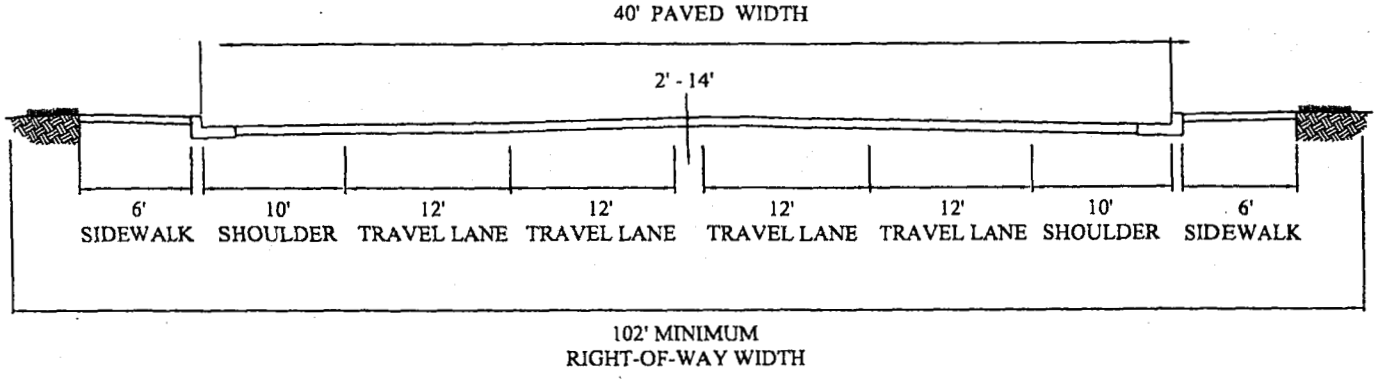
DOUGLAS COUNTY STANDARDS

URBAN ARTERIAL

There are currently no Douglas County urban arterials within the Myrtle Creek Urban Growth Boundary

NOTES:

The provision for on-street parking will depend on traffic volumes, lane widths, design speeds, access control and land use.
Left turn lane width is equal to 14' if required.



LUDO CHAPTER 4 TABLE 1

Figure 7-6

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

Urban Arterial Streets

DOUGLAS COUNTY STANDARDS

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URBAN GROWTH BOUNDARY

MYRTLE CREEK

URBAN GROWTH BOUNDARY

MATCH LINE

MATCH LINE

FUTURE EXTENSION OR IMPROVEMENT OF THESE FACILITIES OUTSIDE OF THE UGB WILL NEED TO OCCUR AS PART OF A SUBSEQUENT UGB EXPANSION OR THROUGH CO-ADOPTION WITH DOUGLAS COUNTY.

LEGEND

STATE
- Interstate
- Arterial
- Major Collector
- Minor Collector
- FUTURE Minor Collector
- Necessary Local
- FUTURE Necessary Local
- FUTURE Local

CITY
- Arterial
- Major Collector
- FUTURE Major Collector
- Minor Collector
- FUTURE Minor Collector
- Necessary Local
- FUTURE Necessary Local
- FUTURE Local

COUNTY
- City Limit
- UGB

ALL UNMARKED STREETS ARE MINOR LOCALS

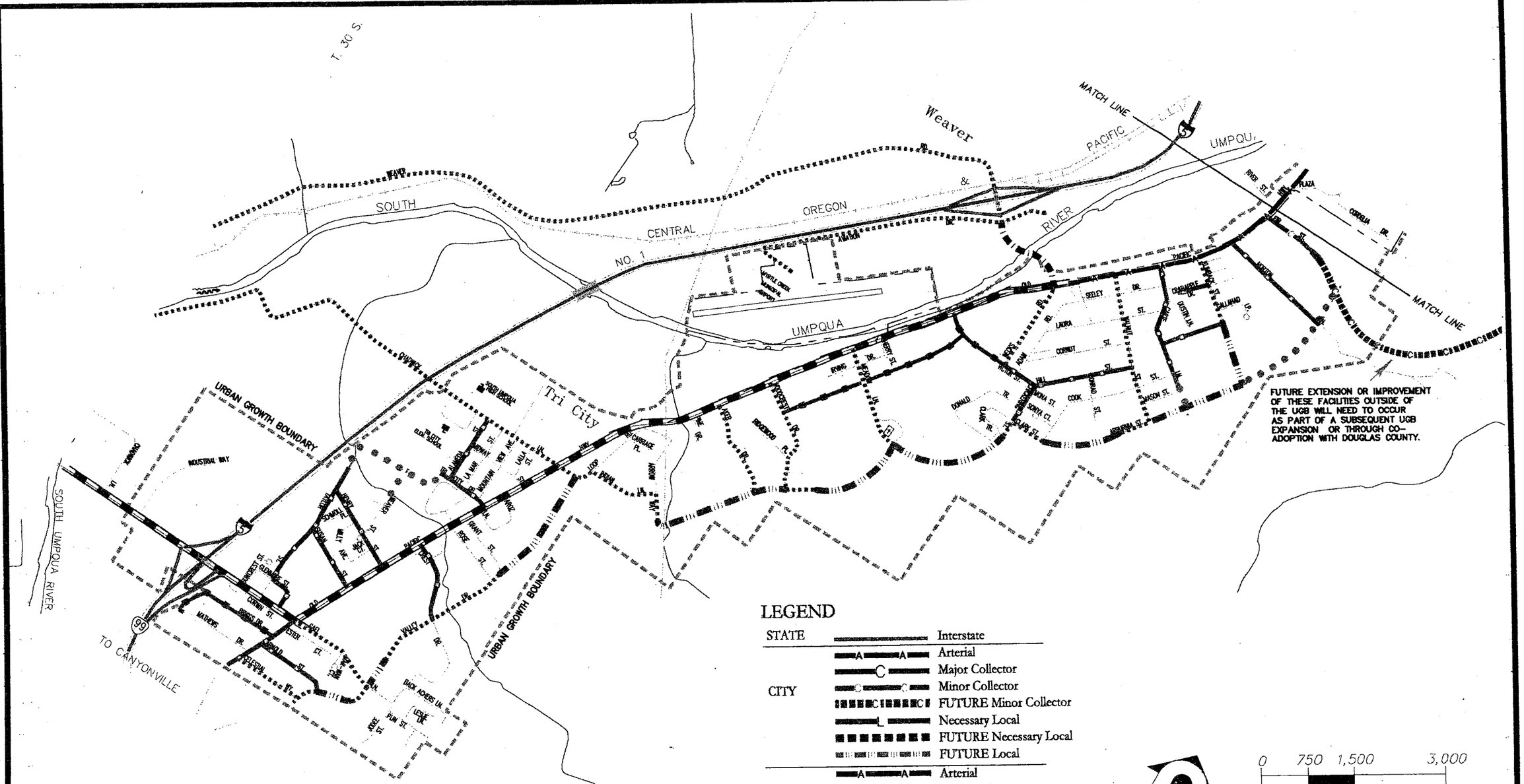
0 600 1,200 2,400

SCALE IN FEET

Figure 7-7a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

FUTURE STREET PLAN AND FUNCTIONAL CLASSIFICATIONS MAP



LEGEND

STATE		Interstate
CITY	A A	Arterial
	C	Major Collector
	C	Minor Collector
	C C	FUTURE Minor Collector
	L	Necessary Local
		FUTURE Necessary Local
		FUTURE Local
COUNTY	A A	Arterial
		Major Collector
		FUTURE Major Collector
		Minor Collector
		FUTURE Minor Collector
		Necessary Local
		FUTURE Necessary Local
		FUTURE Local
		City Limit
		UGB

ALL UNMARKED STREETS ARE MINOR LOCALS

0 750 1,500 3,000

SCALE IN FEET

Figure 7-7b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

FUTURE STREET PLAN AND FUNCTIONAL CLASSIFICATIONS MAP

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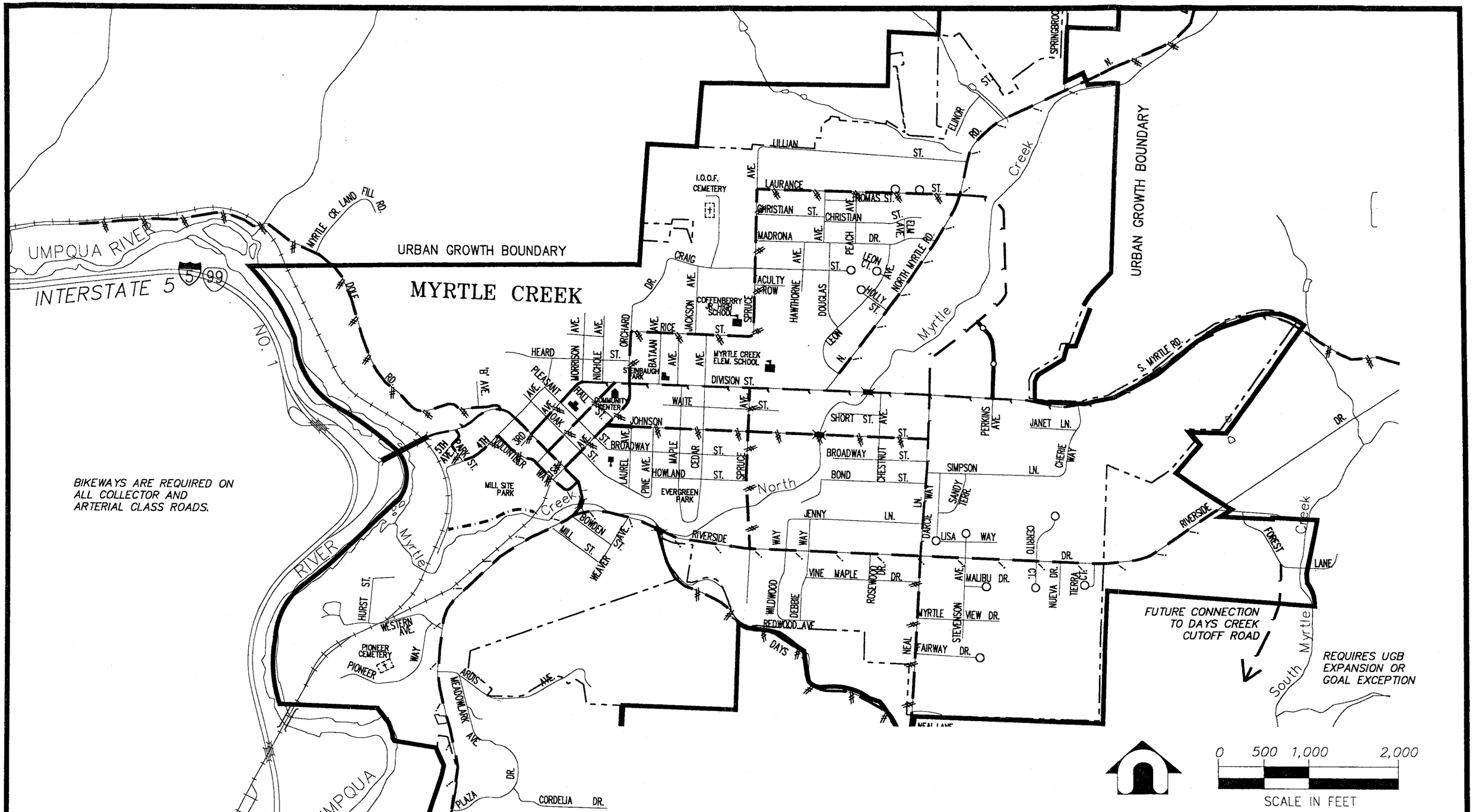

LEGEND

- EXISTING BIKE LANE
- PROPOSED BIKE LANE
- DESIGNATED SHARED BIKEWAY
- PROPOSED SHARED BIKEWAY
- EXISTING MULTI-USE TRAIL

Figure 7-8a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

BICYCLE PLAN

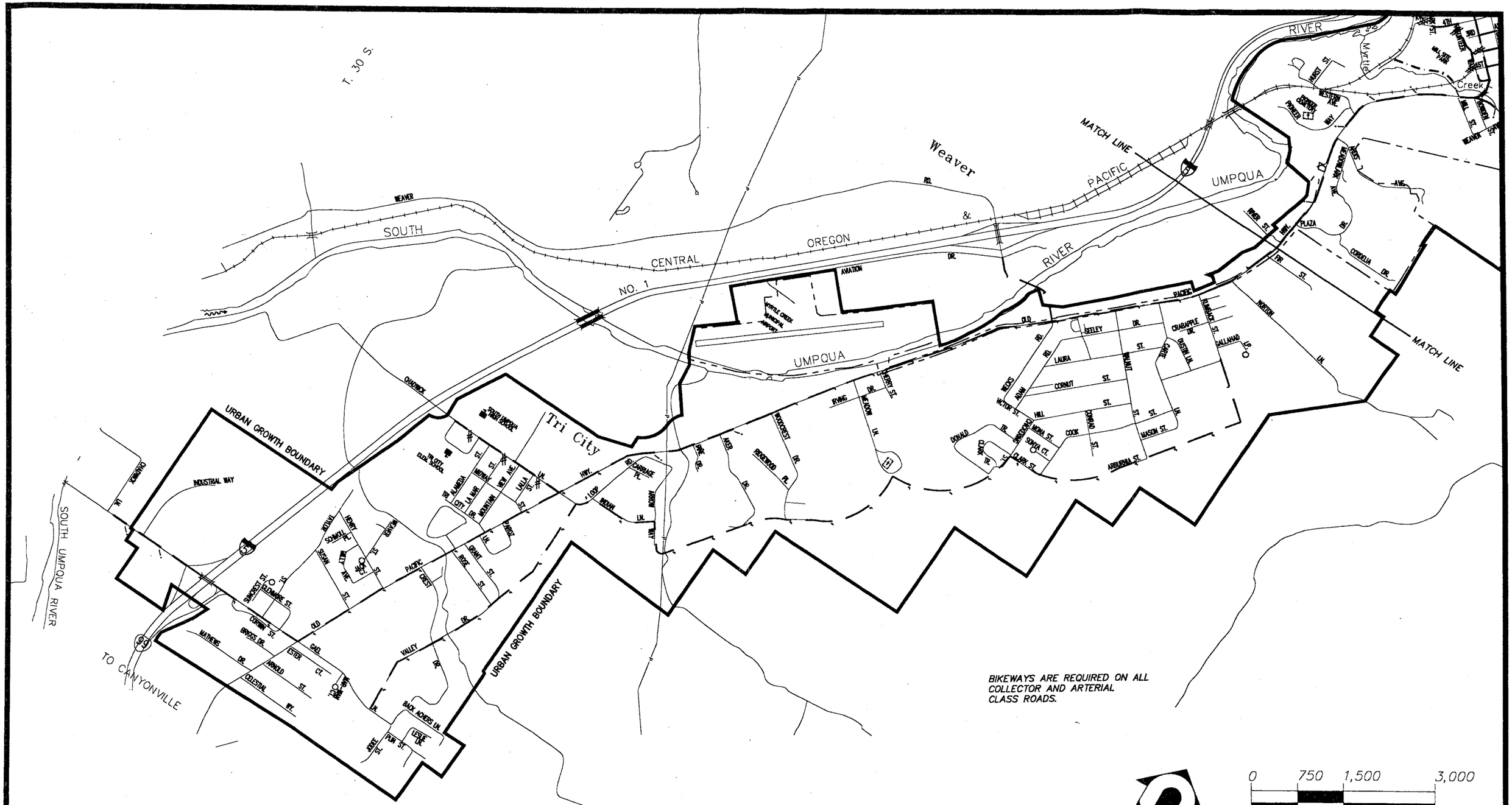

Figure 7-8b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

BICYCLE PLAN

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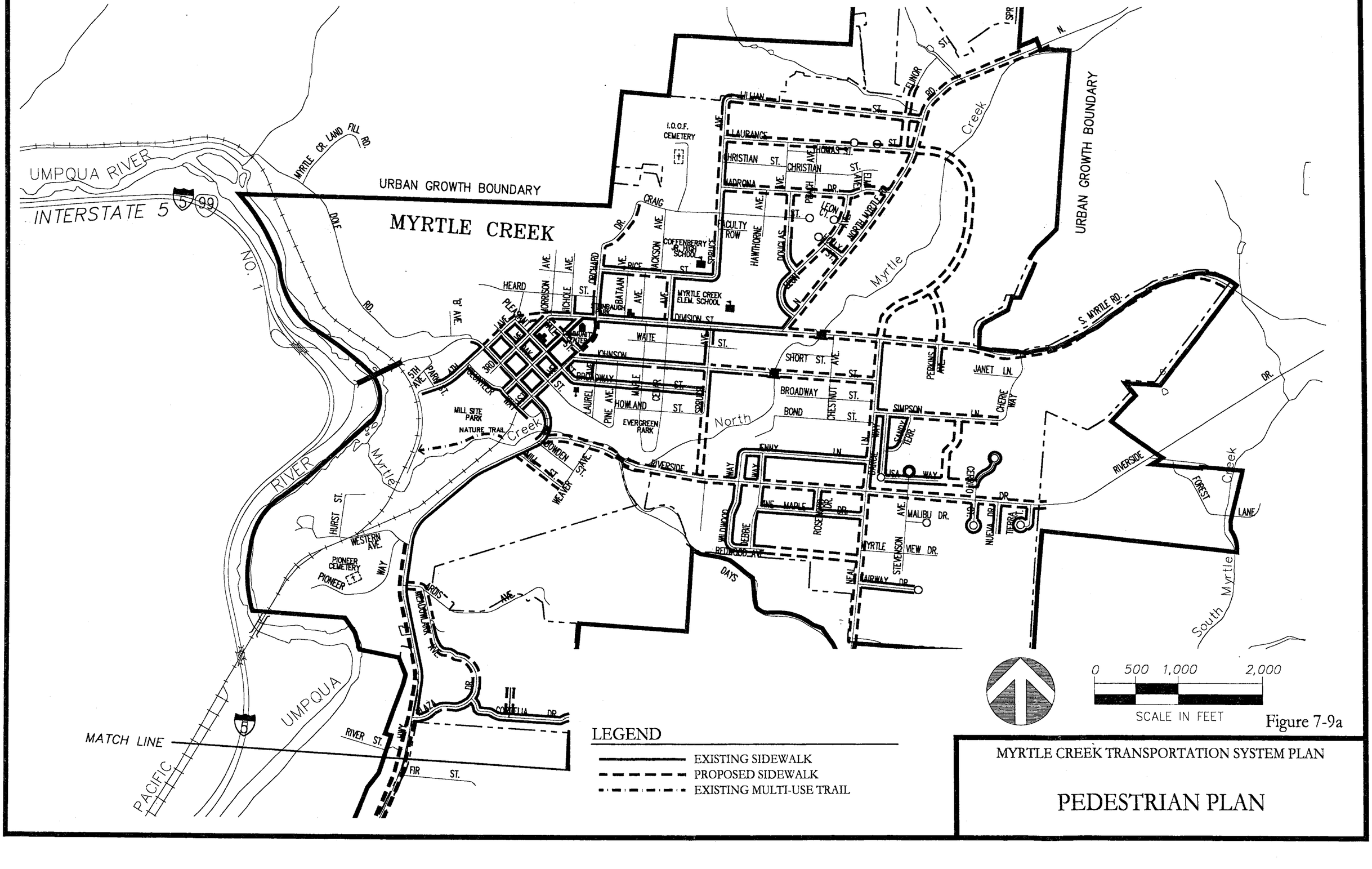

Figure 7-9a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PEDESTRIAN PLAN

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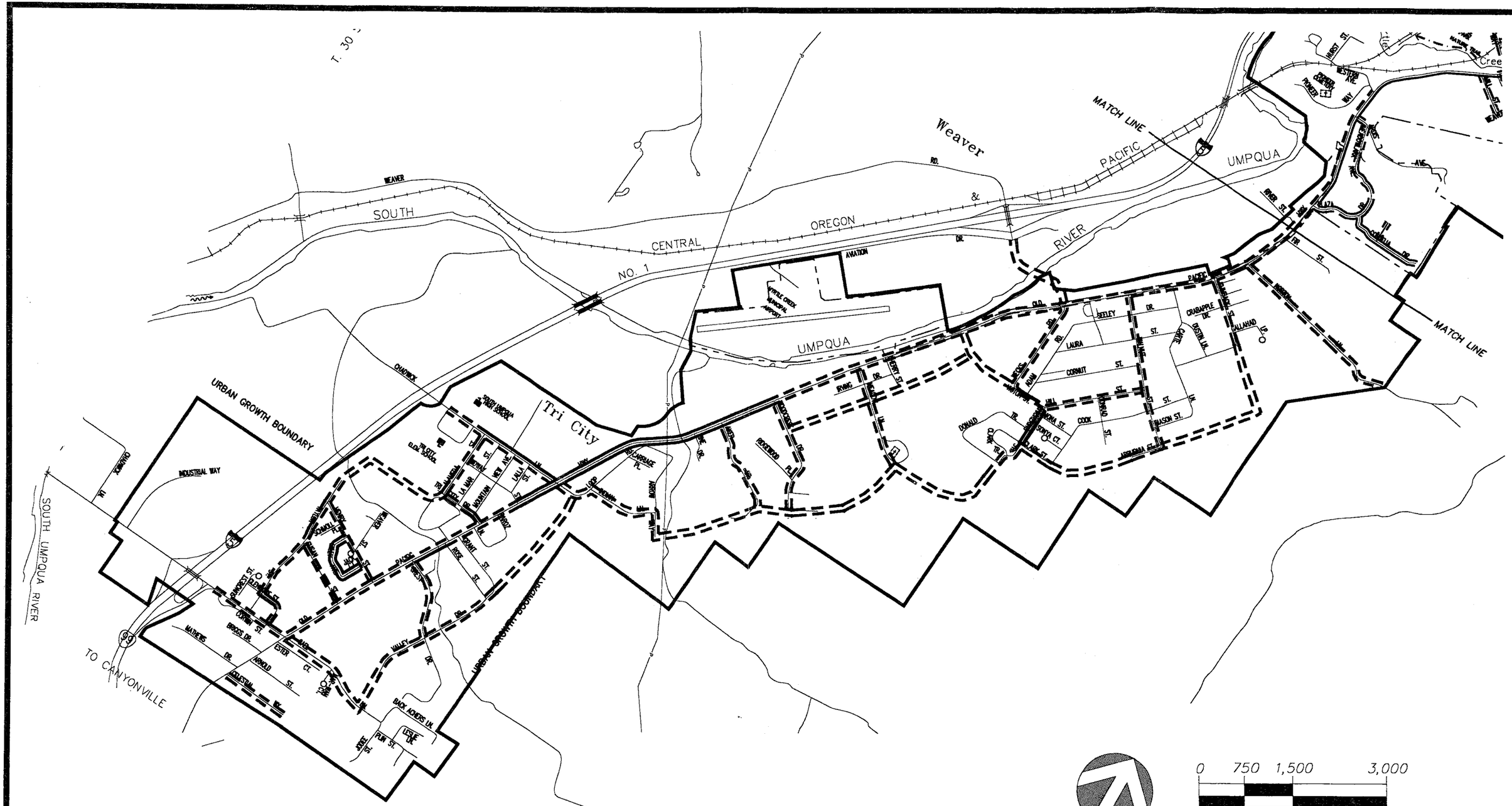

LEGEND

- EXISTING SIDEWALK
- PROPOSED SIDEWALK
- EXISTING MULTI-USE TRAIL

Figure 7-9b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PEDESTRIAN PLAN

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AIRPORT OVERLAY
FOR THE
MYRTLE CREEK
MUNICIPAL AIRPORT

(to be added and expanded at a later date)

CHAPTER 2

MYRTLE CREEK
ZONING ORDINANCE

SUPPLEMENTAL
DISTRICT REGULATIONS

SECTION 4.08.0 OFF-STREET PARKING AND LOADING.

At the time of the erection of any new building or other structure, or at the time of the enlargement in height or ground coverage or the intensification of the use of any existing building or other structure, the builder, owner, or other person at whose request the building, structure or improvement is made, shall provide parking, off-street vehicular parking spaces on or adjacent to the building premises to be used in connection with such building or other structure as set forth in Section 4.08.1 through 4.08.4.

SECTION 4.08.1 AUTOMOBILE PARKING SPACE REQUIREMENTS.

(1) Dwelling and Other Living Facilities.

(a) Apartments as a secondary use: One (1) space per bedroom.

(b) Dwelling, Single-family: Two (2) spaces per dwelling unit.

(c) Dwelling, Multi-family: Two (2) spaces per dwelling unit.

(d) Rooming and boarding House: Four (4) spaces per five guest accommodations.

(e) Nursing home, convalescent home, and sanitarium: One (1) space per two beds for patients.

(2) Clubs and Institutions.

(a) Clubs and associations: One (1) per three persons to the maximum capacity of each public meeting and/or banquet room plus 50% of the spaces otherwise required for accessory uses (e.g., restaurants, lounges, etc).

(b) Hospital: One (1) space per two beds plus one (1) space per staff doctor.

(c) Rehabilitation and correctional institution: One (1) space per 10 beds for patients or inmates.

(d) Community centers: One (1) space per 250 square feet of gross floor area or one (1) space per four patrons to the maximum capacity, whichever is greater.

(e) Mortuary or funeral home: One 91) space per four seats or eight feet of bench length in the chapel, whichever is greater.

(3) Commerce and Industry.

(a) Retail stores except as in Item (b): One (1) space per 125 square feet of patron service area.

(b) Service or repair shops and retail stores handling exclusively bulky merchandise such as automobiles or furniture: One (1) space per 500 square feet of gross floor area.

(c) Banks and business offices except medical and dental: One (1) space per 400 square feet of gross floor area plus one (1) space per employee on the largest work shift.

(d) Medical and dental offices and clinics: One (1) space per 150 square feet of gross floor area.

(e) Grocery or supermarket and convenience stores: One (1) space per 100 square feet of patron area plus (1) space per 200 square feet of gross floor area of storage.

(f) Restaurants (standard sit-down), taverns, night clubs and lounges: One (1) space per 100 square feet of gross floor area or one (1) space per three patron seats, whichever is greater.

(g) Restaurant (fast-food): One (1) space per 50 square feet of gross floor area plus one (1) space per employee on the largest work shift.

(h) Motels, hotels and tourist courts: One (1) space per guest room or suite, plus one (1) space per every three employees on the largest work shift.

(i) Automobile service station: One (1) space per every 2000 square feet of lot area, but in any case not less than four (4) spaces.

(j) Mortuary or funeral home: One (1) space per four seats or eight feet of bench length in the chapel, whichever is greater.

(k) Storage warehouse, wholesale; manufacturing; and freight terminals (air, rail and truck): One (1) space per employee plus one (1) space per 700 square feet of patron area.

(l) Business with fleet vehicles: One (1) space per company vehicle normally left on the premises plus spaces otherwise required.

(4) Commercial Amusement.

(a) Stadiums and race tracks: One (1) space per four seats or eight feet of bench length for spectators, whichever is greater.

(b) Indoor arenas and theaters: One (1) space per four seats or eight feet of bench length for spectators, whichever is greater.

(c) Bowling alley: Five (5) spaces per lane plus one (1) per employee on the largest work shift.

(d) Dance halls and skating rinks: One (1) space per 300 square feet of gross floor area.

(e) Golf driving range: One (1) space per tee plus one (1) space per employee on the largest work shift.

(f) Amusement park: One (1) space per 1000 square feet patron area.

(5) Churches, Schools and Other Places of Public Assembly.

(a) Library: One (1) space per 400 square feet of reading room plus (1) space for each two employees.

(b) Church: One (1) space per four seats or eight feet of bench length in main auditorium or sanctuary, whichever is greater.

(c) College and commercial or trade school for adults: One (1) space per five seats in classroom.

(d) Day care facility or nursery schools: One (1) space per teacher/employee on the largest shift plus one (1) off-street loading space per six students.

(e) High schools: One (1) space per classroom plus one (1) space per administrative employee plus (1) space for each six students or one (1) space per four seats or eight feet of bench length in the main auditorium, whichever is greater, provided that, if the requirements for the auditorium exceed the spaces otherwise required, the excess space may be provided in areas having other uses during regular school hours.

(f) Junior high, elementary and other children's schools: One (1) space per each classroom plus one (1) space per each administrative employee or one (1) space per four seats or eight feet of bench length in the auditorium or assembly room, whichever is greater, provided that, if the requirements for the auditorium exceed

the spaces otherwise required, the excess may be provided in areas having other uses during regular school hours.

(6) Unspecified Uses.

Any use not specifically listed in this section shall have a parking space requirement determined by the Planning Commission. Such requirements shall be based on the parking space requirement for comparable uses listed in this Section.

SECTION 4.08.2 BICYCLE & PEDESTRIAN CIRCULATION.

(1) On-site facilities shall be provided that 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.

(a) Single-family residential developments shall generally include streets and accessways. Pedestrian circulation through parking lots should generally be provided in the form of accessways.

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

(2) Bicycle parking facilities shall be provided as part of new multi-family residential developments of four units or more and new retail, office, and institutional development within Area 1 of the Urban Growth Boundary. The installation of bicycle parking facilities shall occur as follows:

USE	STANDARD
Multi-Family Residential – 4+	1 space per dwelling unit
Retail	1 space per 10 motor vehicle spaces, or 3,000± sq. ft.
Office	1 space per 10 motor vehicle spaces, or 3,000± sq. ft
Institutional:	
Elementary or Middle School	1 space per 10 students/employees
High School	1 space per 5 students/employees

(3) Bikeways shall be required along routes designated in the Bicycle Plan Map in the Comprehensive Plan. Refer to Table 9.2 in the Subdivision Ordinance for the affected street-types.

(4) Where off-site road improvements are otherwise required as a condition of development approval, they shall include facilities accommodating convenient pedestrian and bicycle travel.

SECTION 4.08.3 EXCEPTIONS FROM PARKING SPACE REQUIREMENTS.

(1) Joint Use

Owners of two or more uses, structures or parcels of land may utilize jointly the same parking area when the hours of operation do not overlap providing satisfactory evidence is presented in the form of deeds, leases or contracts or other instruments securing full access to such parking area of all parties jointly using them.

(2) Downtown Core Area Exemption

For the purpose of this Ordinance, the City of Myrtle Creek shall have a "Downtown Core Area" defined on the Official Zoning Map in which all uses except grocery and convenience stores shall be exempt from the off-street parking requirements of Section 4.08.0 and 4.08.1 provided that all off-street parking spaces existing at the passage of this Ordinance are retained. The "Downtown Core Area" shall be bounded on the west by Millsite Park and shall include all properties and buildings having frontage on streets within the following described area:

> Both sides of Third Avenue from Millsite Park to Oak Street, the west side of Oak Street between Third Avenue and First Avenue, both sides of First Avenue from Oak Street to Millsite Park and the east side of South Main Avenue from First Avenue south for a distance of 200 feet.

(3) C-1 Parking Consideration

Conversion to commercial usage of a residential structure existing on September 1, 1981 in the C-1 Zone (Central Business District) to certain retail, service or business usage shall be exempt from the specified parking space requirement of Section 4.08.1 provided that all of the following conditions exist:

(a) The proposed use of the existing structure is of a type specified in Section 4.08.1, Paragraph (3), Subsections (a), (b), (c) or (d) only.

(b) Structural changes shall not consist of an enlargement in height or ground coverage and shall be limited to reconditioning, rehabilitation and redecoration or

alterations that may be required for compliance with the Change of Occupancy provisions of the Building Code.

(c) One off-street parking space per employee and the necessary maneuvering room shall be provided on the premises in lieu of the applicable requirement of Section 4.08.1, Paragraph (3), Subsections (a), (b), (c) or (d).

SECTION 4.08.4 OFF-STREET LOADING FACILITIES.

Sufficient off-street loading facilities will be provided at the time of construction or structural alteration of any business so as not to utilize any public right-of-way for loading or unloading purposes, as follows:

(1) Loading Space Dimensions.

Every retail establishment, industrial, manufacturing, or public assembly use which requires deliveries or shipments shall provide an off-street loading space of not less than 10 feet in width by 25 feet in length and shall have an unobstructed height of 14 feet.

(2) Maneuvering Room.

All parking areas which will jointly serve off-street parking and off-street loading shall provide curves and corner of sufficient radius to permit the safe maneuvering of oversized vehicles through the parking area.

(3) Loading and Unloading.

At no time shall any part of a truck or van be allowed to extend into the right-of-way of a public street while the truck or van is being loaded or unloaded.

SECTION 4.08.5 OFF-STREET PARKING DESIGN STANDARDS.

All parking and loading areas shall be developed and maintained as follows:

(1) Location or Site.

Except for residential parking for four spaces or less, the required yard areas adjacent to a street shall not be used for parking or loading areas. All shall be physically separated from public streets or adjoining property by landscaped required yards, bumper rails or other effective and suitable barrier against un-channeled motor vehicles access or egress.

(2) Parking Space Dimensions.

Each required parking space shall be of usable shape and accessible from a public street. The minimum stall and aisle dimensions shall be as set forth in Table 4.08 "Typical Parking Layout".

(3) Access and Driveway Standards.

Driveway Widths*

Principal Use**	Minimum Width	Maximum Width
Single-family and two-family dwellings on a single lot	12 feet	20 feet
All other uses with less than ten parking spaces (one-way driveway)	12 feet	16 feet
(two-way driveway)	16 feet	28 feet
All other uses with ten or more parking spaces (one-way driveway)	12 feet	16 feet
(two-way driveway)	20 feet	32 feet

*As measured at the street right-of-way line.
** Width and design standards for approach roads providing access to large-scale commercial and mulit-family residential developments shall be determined during the Site Plan Review process.

Groups of three or more parking spaces, except those in conjunction with single-family or two-family dwellings on a single lot, shall be served by a service drive or maneuvering aisle so that no backward movement or other maneuvering of a vehicle within a street, other than an alley, will be required. In addition to the specific requirements of this Section, service drives and maneuvering aisles shall be designed and constructed to facilitate the flow of traffic, provide maximum safety in traffic access and egress and maximum safety of pedestrian and vehicular traffic on the site.

Driveways shall be aligned with maneuvering aisles so as to facilitate safe and convenient ingress and egress.

Access grades shall not exceed fifteen percent and shall be graded to allow clearance to pass a standard American automobile eighteen feet in length.

Access driveways to loading and service areas, and to parking areas having ten or more spaces, shall be located such that the near edge of the driveway is not less than 25 feet from the intersection of a side street right-of-way line or the curb return, whichever is nearer.

Access driveways shall not be located closer than 5 feet to an interior side lot line as measured at the street right-of-way line, except that common access driveways to two adjacent properties may be provided at the common lot line when a common driveway agreement is executed.

Access driveways and approach roads to parking areas having ten or more spaces shall be clearly marked to indicate one-way or two-way access. Two-way driveways shall have a painted centerline which is at least two and one half inches in width and at least ten feet in length beginning at the interior edge of the sidewalk along the intersecting street; or, where sidewalks are not present, at a point five feet from the intersecting curb line; or, where neither sidewalks or curbs are present, at a point five feet from the edge of the intersecting paved street surface.

One-way driveways to parking areas having ten or more spaces shall not be closer than 20 feet to any other one-way driveway, nor closer than 35 feet to any two-way driveway. Two-way driveways to parking areas having ten or more spaces shall not be closer than 50 feet from any other two way driveway, nor closer than 35 feet from a one-way driveway.

(4) Maneuvering Room.

All parking areas, except residential parking for four spaces or less, shall provide for the turning and maneuvering of the required number of vehicles on the lot. Notwithstanding the provisions of Section 4.08.3, Paragraph (2), all curves and corners shall be of a minimum turning radius of 15 feet or of sufficient radius to permit the safe operation of the standard size automobile.

(5) Surfacing.

All areas used for standing and maneuvering of vehicles shall be paved with concrete or asphalt, or such other hard surface, approved by the Planning Commission, which is durable, dustless, and can be maintained adequately for all weather use. All paved surfaces shall be so drained as to avoid flow of water across sidewalks or other public rights-of-way or private property. Storm and ground water shall not be drained into any sanitary sewer.

(6) Bumper Guards/Wheel Barriers.

Bumper guards or wheel barriers shall be so installed that no portion of a vehicle will project onto public right-of-way or over adjoining property and will be required when parking heads into a building. The area behind the wheel barriers or bumper guards shall either be paved or covered with evergreen ground cover.

(7) Landscaping.

All sites, regardless of other landscaping requirements, shall provide a minimum of 5% of the total parking area in landscaping. The undeveloped portion of rights-of-way shall either be landscaped or paved, preferably landscaped. The landscaping shall include at least one five-gallon tree for every 10 parking spaces. The remainder of the landscaping may be composed of other plant and landscaping materials, provided rock or other non-planted landscaping material is used only in conjunction with planted materials. All landscaping shall be provided with adequate underground irrigation and shall be maintained and kept free of trash and debris.

(8) Screening, Signs and Lighting.

(a) Parking areas adjacent to or within residential zones or adjacent to residential uses shall be designed to minimize disturbance of residents by screening, controlling signs, lighting, and other similar disturbances.

(b) Commercial or industrial parking areas shall be screened from adjacent residential districts by means of sight-obscuring screens or fences as described in Paragraphs (3) through (6) of Section 5.08.3, "Screening".

MINIMUM STALL AND AISLE DIMENSIONS

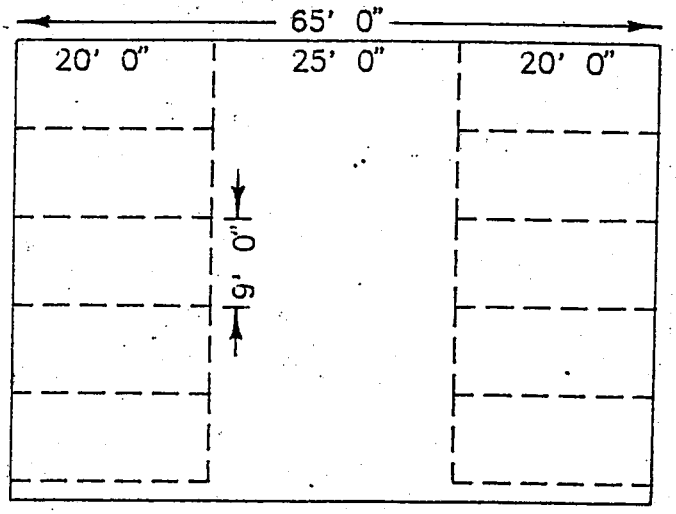
A	B	C	D	D	E	F	F	F	F
						Non-interlocking		Interlocking	
			One Way	Two Way		One Way	Two Way	One Way	Two Way
90°	9'	20'	25'	25'	9'	65'	65'		
60°	9'	21'10"	18'4"	22' min	10'5"	62'	65'8"	57'5"	61'1"
45°	9'	20'6"	12'8"	22' min	12'8"	53'8"	63"	47'3"	56'7"

TABLE 4.08 TYPICAL PARKING LAYOUT.

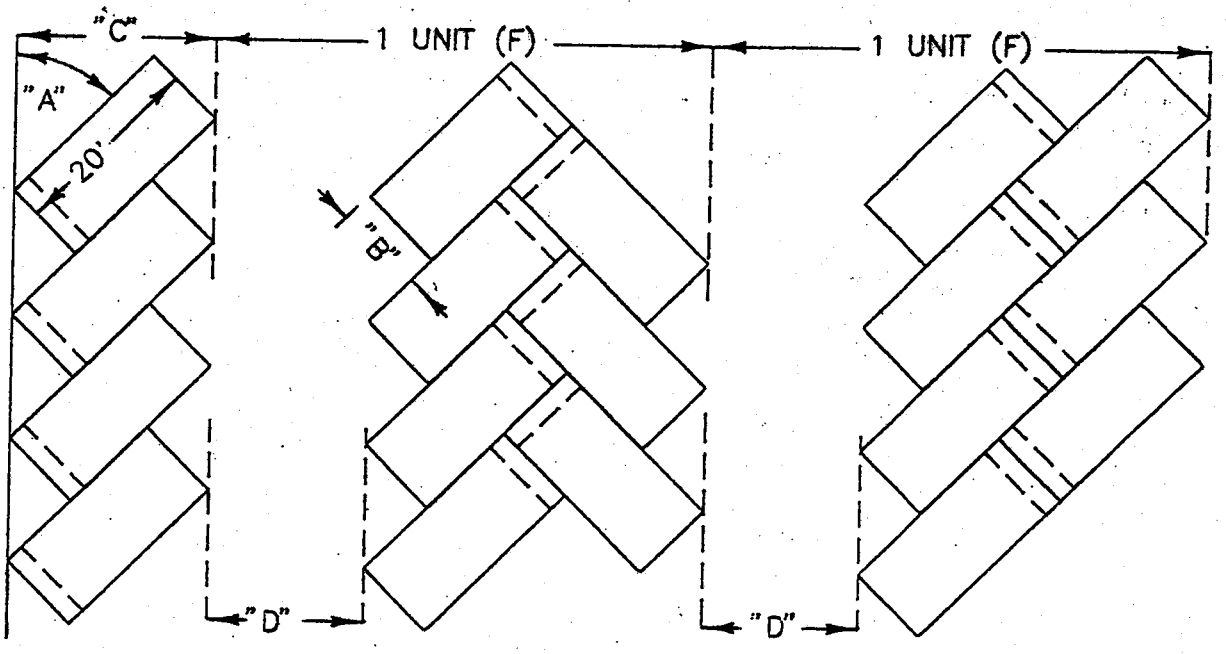
Minimum turning radius 15 feet

Ten foot stall width required adjacent to fence, wall or property line.

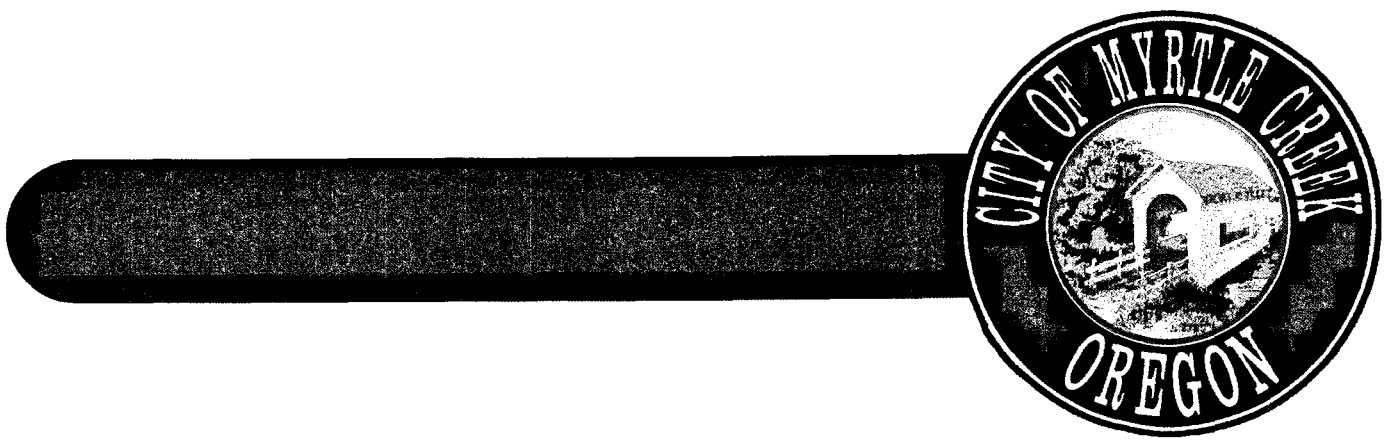
Parking spaces shall be designed in such manner as to permit and encourage vehicles to enter and exit the site driving in a forward direction. Spaces requiring backing into the roadway will not be permitted except for residential parking for four spaces or less.



All parking spaces shall provide access drives, maneuvering room, surfacing, drainage, wheel barriers, landscaping, lighting and screening in accordance with the design standards of Section 4.08.



SITE REVIEW
PROCEDURES
AND STANDARDS



ARTICLE V

SITE REVIEW PROCEDURES AND STANDARDS

SECTION 5.01.0 SITE REVIEW PROCEDURE.

No structure shall be erected, constructed, reconstructed, extended or moved and no land or building shall be occupied or used in whole or in part for any use whatsoever until the owner, tenants, contract purchaser, or authorized agent thereof, has received verification that the building or use complies with all zoning requirements.

At the time of the erection of any new commercial, industrial, or public/semi-public building, or any new multi-family residential development of three dwelling units are more, or at the time of substantial improvement of more than 50% of the gross floor area or more than 3000 square feet of increased parking area, whichever is greater, of any existing building, a site review shall be conducted. All applications and accompanying site plans shall be reviewed by the City Administrator or the City Administrator's designee and, when applicable, by the Planning Commission. To approve such application for development, it shall be determined that the proposed development maintains or improves the character, integrity, and harmonious development of the general area and provides a safe, stable, efficient and attractive on-site environment consistent with the intent of this Ordinance and the Comprehensive Plan. The criteria set forth in Section 5.01.1 and the applicable standards and procedures contained in this Article shall be utilized in making such determination. Such site review requests shall be reviewed and processed in accordance with the procedures detailed in Article IX. After the site plan is formally approved, a "Certificate of Plan Check" shall be issued.

To maintain a process for coordinated review of future land use decisions affecting transportation facilities, corridors and sites, the City shall provide notice to ODOT when the following applications for development have been received:

(a) Land use applications that require public hearings;

(b) Subdivision and partition applications;

(c) Developments generating more than 400 trips per day or accessing directly onto a state transportation facility;

SECTION 5.01.1 SITE REVIEW CRITERIA.

The site review shall be conducted in accordance with the criteria set forth herein. All applications and accompanying site plans shall be reviewed by the City Administrator or the City Administrator's designee and, when applicable, by the Planning Commission. Any development proposal which deviates from the established criteria shall be referred to the Planning Commission

for determination. The Planning Commission shall have the power to impose any or all of the supplemental conditions set forth in Section 5.01.2 in making their determination.

(1) Identify areas of potential natural hazards where area protection requirements shall be imposed and which shall include, but are not limited to, the following:

(a) Areas of mass movement and areas of greater than 25% slope shall require a written Site Investigation Report (Section 5.02.0) prior to any excavation or change in topography.

(b) Areas of potential flooding hazards where the floodplain site criteria of the Flood Hazard Area (SD-FHA) shall apply.

(c) Areas of lesser hazard where the imposition of supplemental conditions may be appropriate.

(2) Establish compliance with the use and dimensional standards of the District Regulations of Article III and the Supplemental Regulations of Article IV, including accessory use provisions and the provisions for off-street parking and loading.

(3) Establish compliance with the Functional Standards for Public Improvements contained in this Article.

(4) Establish compliance with the Protection Standards for Natural Features contained in this Article.

(5) Determine adequate sizing of water and sewer pipelines so as to meet the anticipated growth demands and fire protection requirements.

(6) Establish driveway and street grade limitations and traffic visibility on adjoining streets.

(7) Establish compliance with the applicable design standards and improvement requirements for a special district or use.

(8) Establish the adequacy of the grading and drainage plan for the collection and transmission of storm and ground water in order that the drainage from the proposed development will not adversely affect adjoining properties of public rights-of-way.

(9) Consider the effects of slope alteration (cut and fill) on erosion and run-off for surrounding properties and impose restrictions when appropriate.

(10) Determine that the privacy of nearby residents will not be substantially reduced nor will significant views from nearby properties be obstructed.

(11) Establish where the retention of existing vegetation and natural topographic features will be beneficial as a soil stabilizer or is of scenic significance and impose restrictions where appropriate.

(12) Consider the visual impact of the proposed development and the compatibility of the architectural features of the proposed structure(s) and impose restrictions, where appropriate, in order for the development to be harmonious with the character of the surrounding neighborhood or with the community as a whole.

(13) Identify any areas of historic significance where the imposition of protection requirements may be appropriate.

SECTION 5.01.2 SUPPLEMENTAL CONDITIONS.

When the imposition of supplemental standards or conditions is authorized by the various provisions of this Ordinance, any of the following conditions may be attached to the approval of an application for development in order to avoid detrimental impacts or to protect the best interest of the surrounding properties or the community as a whole; however, any conditions attached shall not be used (a) to intentionally exclude needed housing types, (b) to unnecessarily decrease allowed densities, or (c) to have the effect of discouraging needed housing through unreasonable cost or delay. It is recognized that not all of the following may be applicable to a particular proposal.

(1) Limit the time a certain activity may take place, and/or require restraints to minimize such environmental effects as noise, air pollution emissions, odor, vibration, dust, glare, heat, fire hazards, wastes, traffic generation and visual impact.

(2) Limit, or otherwise designate, the number, size, location, height and lighting of signs.

(3) Limit the location and intensity of outdoor lighting and require its shielding.

(4) Limit the height of a building or other structure or the location of mechanical roof facilities to protect view, privacy or access to sunlight of neighboring properties.

(5) Require sidewalks to be installed.

(6) Require diking, berming, screening, landscaping, or other facility to protect adjacent or nearby property and designate standards for its installation and maintenance.

(7) Establish a special yard or other open space or lot area or dimensions to serve as a buffer yard.

(8) Designate the size, height and materials for the fence.

(9) Impose measures to ensure protection, preservation or enhancement of existing trees over 12 inches caliper, riparian vegetation, water resource, wildlife habitat or other significant natural resource, including requiring a re-vegetation program where appropriate.

(10) Designate the size, location, screening, drainage, surfacing or other improvement of a parking area or truck loading area.

(11) Designate the size, number, location and nature of vehicle access points including requiring the combining of accesses into commercial and industrial development.

(12) Prohibit direct residential access onto arterials and collectors.

(13) Increase the amount of street dedication or roadway widths or specify improvements within the street right-of-way in accordance with the standards contained in Section 5.03.1.

(14) Require the planned development approach for just cause based on significant topographic features or open space needs.

(15) Establish the suitability of a site plan, grading and drainage plan, or other plan by having it prepared and certified by an appropriate licensed professional.

(16) Require a Site Investigation Report as described in Section 5.02.0 for just cause based on site hazards in situations not otherwise regulated.

(17) Require performance bonds, deed restrictions, and deed dedications to be posted or filed prior to issuance of a Building Permit.

(18) Specify other conditions where necessary to permit the development in conformity with the intent and purpose of this document and to avoid detrimental environmental impacts.

SECTION 5.02.0 SITE INVESTIGATION REPORT.

A Site Investigation Report shall be submitted as part of the site review process when the proposed development involves identified mass movement hazard areas or areas of greater than 25% slope. Also, the Planning Commission may require a Site Investigation Report to be submitted for development in other areas of potential natural hazards based on the recommendation of the City Engineer for just cause. The Site Investigation Report provides information on the site of development adjacent land that is likely to be affected by the proposed development. Unless the City Engineer determines that certain specifications are not required, the Report shall include the information described in Subsection (1) through (6) herein, together with appropriate identification of information sources; the date of information; the methods used in the investigation and approximate man hours spent on the site.

(1) Qualifications To Conduct A Site Investigation Report.

The Site Investigation Report shall be prepared by an engineering geologist or an engineer who certifies he is qualified to evaluate soils for stability or a person or team of persons qualified by experience and training to assemble and analyze physical conditions in flood or slope hazard areas. The person or team shall be employed by the applicant but shall be subject to approval as to qualifications by the City Administrator.

(2) Background Data In Report.

The Site Investigation Report shall contain the following information:

(a) A general analysis of the local and regional topography and geology including the faults, folds, geologic and engineering geologic units and any soil, rock and structural details important to engineering or geologic interpretations.

(b) A history of problems on and adjacent to the site, which may be derived from discussions with local residents and officials and the study of old photographs, reports and newspaper files.

(c) The extent of the surface soil formation and its relationship to the vegetation of the site, the activity of the land form and the location of the site.

(d) Ground photographs of the site with information showing the scale and date of the photographs and their relationship to the topographic map and profiles. The photographs will include a view of the general area, the site of the proposed development and unusual natural features which are important to the interpretation of the hazard potential of the site, including all sites of erosion or accretion.

(3) Topography Map.

A topographic base map (1 to 100 scale) with a contour interval of two feet (or as is otherwise recommended by the City Engineer) may be required identifying the following features and accompanied by references to the sources and date of information used.

(a) The position of the lot line.

(b) The boundaries of the property.

(c) Open areas and the boundaries and species identification of major plant communities.

(d) Any springs, streams, marshy areas or standing bodies of water.

(e) Areas subject to flooding, including those shown on the flood hazard maps prepared under the HUD National Flood Insurance Program.

(f) Cut terraces, erosion scarps and areas exhibiting significant erosion due to improper drainage and runoff concentration.

(g) Geological information, including lithologic and structural details important to engineering and geologic interpretation.

(4) Subsurface Analysis.

If, upon initial investigation, it appears there are critical areas where the establishment of geologic conditions at depth is required, a subsurface analysis obtained by drill holes, well logs and other geophysical techniques will be conducted by the person responsible for the Site Investigation Report and will include the following data as appropriate.

(a) The lithology and compaction of all subsurface horizons to bedrock.

(b) The depth, width, slope and bearing of all horizons containing significant amounts of silt and clay and any other subsurface layers.

(c) Underlying areas of buried vegetation.

(5) Development Proposal.

The Site Investigation Report may include the following information on the proposed development as applicable. The information will be shown on the topography map as described in (3) or appropriately referenced.

(a) Plans and profiles showing the position and height of each structure, paved area and area where cut and fill is required for the construction.

(b) The percent and location of the surface of the site which will be covered by impermeable or semi-permeable surfaces.

(c) A description of proposed measures which will protect critical biological habitats from any adverse impacts of the development.

(d) A revegetation program designed to return the land to a stable condition as soon as possible following construction and the period of time during which revegetated areas will receive revegetation maintenance.

(e) The time of commencement of revegetation planting. If this does not fall within the optimal revegetation period of November through April, special care of the plantings will be provided for until they are well established.

(6) Conclusions.

The Site Investigation Report is to include specific conclusions. The report and it's conclusions are a technical determination made by a qualified person, however, because of the potential complexity of many of the issues, the conclusions need not be accepted by the Planning Commission unless satisfied that all ordinance requirements and development standards are met. The conclusions will be based on data in the report and the sources of information and facts will be specifically referenced. The following conclusions should be stated:

(a) Whether the intended use of the land is or is not compatible with the conditions.

(b) Any existing or potential hazards noted during the investigation.

(c) The manner for achieving compliance with the ordinance and other requirements.

(d) Mitigating recommendations for specific areas of concern and the degree to which they mitigate the concerns.

SECTION 5.03.0 FUNCTIONAL STANDARDS FOR PUBLIC IMPROVEMENTS.

The general standards set forth in Section 5.03.1 through 5.03.6 apply to all development which may involve or affect public facilities.

(1) Water and sewer for all districts shall be provided by public or approved private systems. Any private system shall be authorized by the Planning Commission.

(2) Construction, reconstruction, repair of streets, sidewalks, sewers, water mains and other public improvements shall be in accordance with specifications adopted by the City and shall be coordinated with the City Engineer.

SECTION 5.03.1 STREET STANDARDS.

The location width and grade of streets shall be considered in their relation to existing and planned streets, to topographical conditions, and to the proposed use of land to be served by the streets. The street system shall be laid out in accordance with the Future Street Plan & Functional Classification Maps and designed to standards to assure adequate traffic circulation that is convenient and safe. Intersection angles, tangents and curves shall be appropriate for the traffic to be carried, considering the terrain. Street determinations shall be made in accordance with the street standards provided and the Future Street Plan & Functional Classification Maps. The criteria contained in the following paragraphs shall be consistent with adopted street standards as outlined in the Subdivision Ordinance and will consider both solar access to building sites and the need for utility location. Additional setbacks may be required as set forth in Section 6.02.1.

(1) Minimum Right-of-Way Width.

All existing continuous minor streets shall be deemed to have insufficient right-of-way if the right-of-way is presently less than 60 feet in width and the street exceeds or is expected to exceed 2,400 feet in length. All other streets in the City shall be deemed to have insufficient or incomplete right-of-way if they are presently less than the standards for the type of street set forth in the Subdivision Ordinance of the City.

(2) Protection From Arterial.

Where a development abuts or contains an existing or proposed arterial street, the development design shall provide adequate protection for residential properties and shall separate through and local traffic or, if separation is not feasible, shall minimize the traffic conflicts. The design requirements may include a street, parallel access street along the margin of the arterial, screen planting at the rear or side property lien to be contained in a non-access reservation along the arterial, or other treatment suitable to meet the objectives of this Section.

(3) Partial Width Streets.

A partial width street, while generally not acceptable, may be approved by the Planning Commission where reasonably essential to the development and when in conformity with other requirements of this Article and when it will be practical to require the dedication of the other portion when the adjoining property is developed. Reserve strips and street plugs may be required to preserve the objective of a partial width street.

(4) Future Extensions of Streets.

Where necessary to give access to or permit a satisfactory future division of adjoining land, a public street may be extended to the boundary of the development and the resulting dead-end street may be approved without a turnaround. A reserve strip or street plug may be required to preserve the objective of the street extension. The street shall be located to align with any future streets identified in the Future Street Plan & Functional Classification Maps.

(5) Street Improvements.

(a) Streets, including alleys, within a development and streets adjacent but only partially within a development, will be improved. Catch basins will be installed and connected to drainage tile leading to storm sewers or drainage ways. Upon completion of the street improvement, monuments will be re-established and protected in monument boxes at every public street intersection and all points of curvature and points of tangency of their centerlines.

(b) Street name signs will be installed at street intersections containing the name or number approved by the City Council.

(c) Street lights may be required and shall be served from an underground source of supply unless exception is made because other electrical lines are not underground.

(6) Bicycle Routes.

As identified in the Bicycle Plan Map, the installation of bicycle lanes within streets, separate bicycle paths, or bike route signage shall be required when developing new, or reconstructing existing streets. These new bicycle facilities will provide connections to improve the overall bicycle network for the community. Bicycle lanes shall be between 4- and 6-feet-wide and located on both sides of the street, where practical. Refer to Table 9.2 in the Subdivision Ordinance for affected street-types.

SECTION 5.03.2 SIDEWALKS.

The same sidewalk improvements shall be installed to serve each building site as is required for a subdivision unless alternative pedestrian routes are available and such facilities are not called for in the Pedestrian Plan Map. Required sidewalk widths will vary between 5 and 8 feet, depending

on the roadway's functional classification. Refer to Table 9.2 in the Subdivision Ordinance for affected street-types.

SECTION 5.03.3 SANITARY SEWERS.

Sanitary sewers will be installed to serve each building site to connect the development to existing mains. The City Engineer will take into account the capacity and grade to allow for future extension beyond the development. If required sewer facilities will, without further sewer connection, directly serve property outside the development, arrangements may be made to equitably distribute the cost.

SECTION 5.03.4 DRAINAGE.

An adequate system of storm drains will be installed to provide proper drainage for each new development and to connect the development to the existing downstream drainage system. If an upstream area discharges through the property proposed for development, the drainage system will provide capacity to receive the floodwater discharge from the upstream area. If the proposed development, or the ultimate development the proposed development will serve, will cause an increase in floodwater flow and the downstream drainage system is not sufficient to receive the increase, provisions will be made to increase the downstream capacity.

SECTION 5.03.5 WATER SYSTEM.

Waterlines shall be installed to serve each building site to connect the development to existing mains. The City Engineer will take into account the need for extension beyond the development and to adequately grid the water system. If a required water main will, without further construction, directly serve property outside the development, arrangements may be made to equitably distribute the cost. Water supply mains shall be designed to serve public fire hydrants and, if a building site is more than 500 feet from a fire hydrant, hydrants shall be provided as designated by the City Engineer.

SECTION 5.03.6 OTHER UTILITIES.

The developer will make necessary arrangements with utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including, but not limited to, communication, street lighting and cable television, will be placed underground unless the size of the development and the points of connection to existing overhead utility facilities make underground installation impractical.

SECTION 5.06.0 GENERAL STANDARDS FOR ACCESS AND CLEAR VISION.

Sections 5.06.1 through 5.06.3 impose general standards addressing access and areas of unobstructed view at intersections.

SECTION 5.06.1 ACCESS AND STREET CONNECTIVITY.

Every building hereafter erected or moved shall be on a lot adjacent to a public street, or with access to an approved private street within a Planned Development or a Mobile Home Park [see Sections 5.10.9(1), 5.11.13 (2) and 6.02.3]. All structures shall be located on lots so as to provide safe and convenient access for servicing, fire protection and required off-street parking and loading.

Access management, street connectivity, and driveway location will help manage access to land development while preserving the movement of people and goods in terms of safety, capacity, functional classification, and performance standards. This section shall apply to all arterials and major collectors within Myrtle Creek and to all properties that abut these roadways. These standards shall be applied to properties in Tri City if and when annexed into the City.

(1) Joint Use Driveways and Cross Access.

(a) Adjacent commercial or office properties classified as major traffic generators (i.e. developments generating more than 400 ADT) shall provide a cross access drive and pedestrian access to allow circulation between sites.

(b) A system of joint use driveways and cross access easements shall be established wherever feasible. The property owner/developer shall provide a development plan to be reviewed and approved by the City. The development plan shall include the following:

i. A continuous service drive or cross access corridor extending the entire length of each block served to provide for driveway separation.

ii. A design speed of 10 mph and a maximum width of 22 feet to accommodate two-way travel aisles designed to accommodate automobiles, service vehicles, and loading vehicles;

iii. Stub-outs and other design features to make it visually obvious that the abutting properties may be tied in to provide cross-access via a service drive;

iv. A unified access and circulation system plan for coordinated or shared parking areas.

v. Shared parking areas shall be permitted a 20 percent reduction in required parking spaces if peak demands do not occur at the same time periods.

(c) Pursuant to this section, property owners shall:

i. Record an easement with the deed for the property which allows cross access to and from other properties served by the joint use driveways and cross access or service drive;

ii. Record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners.

iii. Myrtle Creek may modify or waive the requirements of this section where the characteristics or layout of abutting properties would make the development of a unified or shared access and circulation system impractical.

(2) Access Connection and Driveway Design. Driveways shall meet the following standards:

(a) Access driveways to parking areas having ten (10) or more parking spaces shall be clearly marked to indicate one-way or two-way access.

(b) One-way driveways [one-way in or one-way out] shall have a minimum width of 12 feet.

(c) For two-way access, each lane shall have a minimum width of 10 feet.

(d) Driveway approaches must be designed and located to provide an exiting vehicle with an unobstructed view, meeting the requirements for clear vision areas. Construction of driveways along acceleration or deceleration lanes and tapers shall be avoided due to the potential for vehicular weaving conflicts.

(e) The length of driveways shall be designed to prevent vehicles from backing into the flow of traffic on the public street or causing unsafe conflicts with on-site circulation.

(3) Nonconforming Access Features. Legal access that does not conform with the standards herein are considered nonconforming features and shall be brought into compliance with applicable standards under the following conditions:

(a) When new access connection permits are requested;

(b) Changes in use, enlargements or improvements that necessitate a new access permit.

(4) Reverse Frontage Lots

(a) Lots that front on more than one street shall be required to locate motor vehicle accesses on the street with the lower functional classification. Direct access to arterials or major collector streets shall not be permitted for reverse frontage lots or parcels.

(5) Number and Location of Access Points

(a) Number of Accesses Permitted: Access point to a public street shall be the minimum necessary to provide reasonable access while not inhibiting the safe traffic circulation and carrying capacity of the street.

(i) Excepting single family dwellings and except as further restricted by this Chapter, properties of less than 100 feet of frontage which may be separate or contiguous, shall be limited to one access point.

(ii) Properties exceeding 100 feet of frontage shall be limited to one access point per each 100 feet of frontage, but not to exceed four access points.

(b) Driveway location in relation to Intersections. Access driveways to loading and service areas, and to parking areas having ten (10) or more spaces, the minimum distance between driveways and intersections shall be as provided below. Distances listed shall be measured from the stop bar at the intersection.

(i) At the intersection of a collector or arterial street, driveways shall be located a minimum of 50 feet from the intersection.

(ii) At the intersection of two local streets, driveways shall be located no closer than 30 feet from the intersection.

(iii) If the subject property is not of sufficient width to allow for separation between driveway and intersection as provided, the driveway shall be constructed as far from the intersection as possible, while maintaining the 5-foot setback between the driveway and property line as required.

(c) Driveway location in Relation to Intersections for Single Family Dwellings. The minimum distance between driveways and intersections shall be 30 feet.

(i) If the subject property is not of sufficient width to allow for separation between driveway and intersection as provided, the driveway shall be constructed as far from the intersection as possible, while maintaining the 5-foot setback between the driveway and property line as required.

(d) Driveway location in relation to Lot Lines. Access driveways shall not be located closer than five (5) feet to an interior side lot line, except that common access driveways (not exceeding forty (40) feet in width) to two adjacent properties may be provided at the common lot line when a common driveway agreement is executed and recorded with the City.

(6) Driveway location in Relation to Adjacent Driveways. One-way driveways to parking areas having ten (10) or more spaces shall not be located closer than twenty feet to any other one-way driveway, nor closer than thirty-five (35) feet to any two-way driveway. Two-way driveways to parking areas having ten or more spaces shall not be closer than fifty (50) feet from any other two-way driveway, nor closer than thirty-five (35) feet from any one-way driveway.

SECTION 5.06.2 CLEAR VISION AREAS.

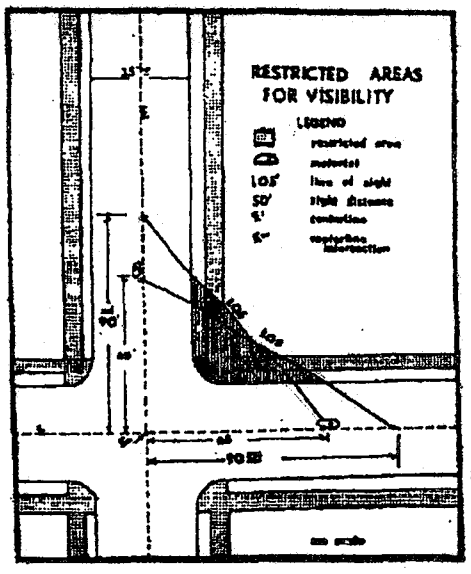
In order to provide a clear view of intersecting streets to motorists, there shall be a triangular area of clear vision maintained at the intersection of two residential streets or a street and a railroad.

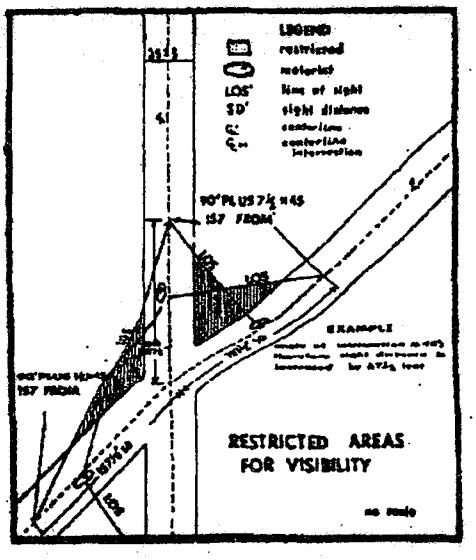
(1) Height Limit.

On any portion of a lot that lies within the triangular area described in Paragraph (2) and illustrated below, nothing shall be erected, placed, planted, or allowed to grow in such manner as to materially impede vision between a height of 2½ feet and 10 feet above the grade of the street centerline.

(2) Measurement of CVA.

The size of the triangular area is a function of traffic volume and speed and shall be measured as follows (see illustration below): From a point on each street centerline located 65 feet from the intersection of the street centerlines and a point on the intersecting street at a sight distance (LOS) of 90 feet from the intersection of the street centerlines and a third line connecting the two points. In a case where the street centerlines intersect at less than a 90 degree angle, then the sight distance shall be 90 feet plus 1 2 feet for every degree less than 90 degrees.





SECTION 5.06.3 ACCESS FOR FIRE VEHICLES AND APPARATUS.

(1) Purpose.

The purpose of this Section is to facilitate rapid and effective extinguishment of fires by ensuring that for all premises that a Fire Department may be called upon to protect and, in case of a fire, shall be readily accessible for effective Fire Department operations.

(2) Non-residential Uses.

Every non-residential use permitted by this Ordinance shall provide access for fire vehicles and emergency apparatus from a public street as follows:

(a) A dead-end access exceeding 300 feet in length shall be provided with a turnaround 90 feet in diameter at the closed end.

(b) A fire lane per Paragraph (4) of this Section shall be required to provide access to any portion of any structure which is:

(i) More than 150 feet from the nearest street right-of-way when the structure is 35 feet or less in height; or

(ii) More than 50 feet from the nearest street right-of-way when the structure exceeds 35 feet in height.

(c) When fire vehicles and apparatus are provided access to a structure by means of either buffer yard area or adjoining property, the requirements of Section 5.06.3, Paragraph (2)(b) shall not apply.

(3) Other Considerations.

In addition to the situations described in Paragraph (1) above, a fire lane to provide access to any part of a building may also be required:

(a) If it is determined that the distance of a structure from the nearest hydrant, the configuration of structures on a site, or other special characteristics of site otherwise inhibit rapid, effective fire extinguishment.

(b) In addition to private fire protection facilities required by the Building Code for any structure classified by the Building Code as a high hazard use, any structure to be occupied by uses which involve extreme risks of fire, smoke, explosion, or toxic gas or structures to be used as places of assembly for large congregations of people susceptible to panic.

(4) Fire Lane Standards.

A fire lane shall comply with the following standards:

(a) The fire lane shall provide clear, unobstructed access for vehicles and apparatus at all times.

(b) Signs prohibiting parking or standing of motor vehicles shall be required.

(c) Fire lanes shall be 18 feet in width.

(d) The fire lane surface shall be an all-weather roadway.

(e) Any alley may contribute all or part of a required fire lane if it meets all other requirements of this Section.

(5) In lieu of meeting the standards specified above, a developer may substitute alternative means of ensuring the access necessary for effective Fire Department operations (including, but not limited to, fire resistant roofs, fire separation walls, space separation and automatic fire extinguishing systems). Such alternative means shall suffice to meet the requirements of this Section, provided that the chief officer empowered to provide fire service in the City concurs.

SECTION 5.07.0 BASIC CHARACTERISTICS OF A RESIDENTIAL SITE.

A lot or parcel to be developed for residential use shall comply with the following:

(1) Lot Size & Shape.

The residential lot or parcel area shall be not less than 6000 square feet. The size, width, shape and orientation of the lot or parcel shall provide a building site that is appropriate in relation to adjacent land divisions, solar access, flood and other hazard conditions and the environmental protection requirements of this Ordinance.

(2) Side Lot Lines.

As far as practical, the side property line of a lot or parcel shall run at right angles to the street upon which it faces, except that on a curved street the side property line shall be radial to the curve. Where solar orientation is a consideration, a side lot line may vary from the above requirement if the variation will improve solar access.

(3) Through Lots.

Through lots or parcels shall have a rear setback area equal to the required front setback area within which no structure shall be erected. Access to through lots or parcels shall be via the street frontage on the front side of the lot or parcel; there shall be no right of access to a street via the rear frontage.

SECTION 5.07.1 LIMITATION ON BUILDINGS.

In residential zones there shall be permitted only one main building on a lot, however, multiple-family and single-family attached dwellings that are all part of a single development may be excepted.

SECTION 5.07.2 DESIGN STANDARDS FOR HILLSIDE DEVELOPMENT.

Building construction in the Residential Hillside District will be approved under conditions that do not adversely affect the visual and physical identity of the hills. The grading of land and the orientation and design of a building will avoid creating conditions that will cause erosion or modify drainage patters. Where there is some risk of these conditions occurring, certification will be obtained in accordance with Section 5.01.2, Paragraph (15) or (16) to ensure that the design and control measure will comply with this provision. The design standards specified herein shall be utilized in conjunction with the Residential Hillside District Regulations and the Protection Standards for Natural Features.

(1) Maximum retention of natural topographic features and qualities is encouraged to avoid modification of hill areas that create unnatural geologic conditions or visually unappealing hillside configurations.

(2) In the Residential Hillside District, buildings will be spaced and have roof types and exteriors to blend with the environment.

(3) Construction work shall be scheduled and conducted to avoid erosion and to permit any control measure involving vegetative plantings to take place during optimal revegetation periods and to avoid unprotected disturbance of the ground during the storm season. Temporary stabilization measures may be needed until permanent installations are accomplished.

(4) An access route within the Residential Hillside District will comply with the following:

(a) A road or pedestrian trail will be stabilized by planking, gravel or pavement.

(b) Vehicle access points to the development will be spaced the maximum distance that still permits reasonable access and will be located and designed to preserve the natural form and profile of the hillside affected by the access route.

(c) A roadway will be built without installation of fill or other forms of terracing unless certification is obtained assuring that such conditions will not be detrimental to the area of create unwarranted maintenance problems.

(d) The Planning Commission may authorize narrower pavement widths combined with parking bays, turning circles, and/or one-way traffic patterns to overcome a disadvantage of topography and to implement Paragraph (1) of this Section.

(5) Access to known wildlife nesting and breeding habitats will be restricted.

SECTION 5.08.0 STANDARDS FOR COMMERCIAL AND INDUSTRIAL USES.

The criteria set forth in the following Sections shall be utilized in considering an application for development of all commercial and industrial uses. The provisions of Section 5.08.1 through 5.08.4 specify standards for protection of the environment, including the landscaping requirements for non-residential uses.

SECTION 5.08.1 TRAFFIC

(1) The grouping of commercial uses into clusters or centers will be encouraged in order to avoid strip commercial development along arterials and highways, except in the downtown area where walkable "main streets" with pedestrian-oriented, strip commercial development is appropriate.

(2) In no case shall an industrial site be located where truck and employee traffic would be channeled onto local streets in residential areas.

SECTION 5.08.2 BUFFER YARDS.

A buffer yard is a unit of land together with the planting required thereon. Buffer yards shall be required to separate different land uses from each other in order to eliminate or minimize potential nuisances such as dirt, litter, noise, glare of lights, signs, and unsightly buildings or parking areas, or to provide spacing to reduce adverse impacts of noise, odor, or dangers from fires or explosion.

(1) Location of Buffer yards.

Buffer yards shall be located on the outer perimeter of a lot or parcel, extending to the lot or parcel boundary line. Buffer yards shall not be located on any portion of an existing or dedicated street or right-of-way and shall allow for adequate vision clearance at intersections and driveways.

(2) Requirements.

Wherever the provisions of this Ordinance require a buffer yard to protect adjoining residential districts or other uses, the required yard shall be landscape as follows:

(a) A minimum of one row of deciduous or evergreen trees or a mixture of each and/or one row of evergreen shrubs extending the full width of the buffer yard and placed not more than five feet apart which shall grow to form a continuous hedge at least five feet in height within three years of planting; and,

(b) Lawn, low growing evergreen shrubs, evergreen ground cover, vegetables or bark mulch covering the balance of the required landscaped yard; and,

(c) All landscaped areas shall be continuously maintained and kept free of trash and debris.

(3) Exception.

In order to deal more fairly with the uncertainty and timing of development of vacant land, the plant material required in a bufferyard which abuts vacant land may have the time period allowed for maturity extended, although the quantity and placement shall remain the same. This allows time for the plant material to reach a size comparable to that which is otherwise required.

SECTION 5.08.3 SCREENING.

(1) Industrial Sites.

Development of an industrial site which has frontage on an arterial street shall provide a sight-obscuring fence or sight-obscuring hedge placed on the setback line or building line of the industrial lot. There shall also be provided where an industrial use is adjacent to a residential district. Exception: The Planning Commission shall have the authority to determine that the buffer yard requirements satisfy the screening requirements or that the landscaping and architectural treatment of the site as a whole meets the intent of the screening requirements where arterial frontage is concerned.

(2) Storage Areas.

Where commercial and industrial uses have outside storage areas, including trash receptacles or compactors, the storage area shall be enclosed by a sight-obscuring fence or sight-obscuring hedge in order to screen storage from view, in the following instances:

(a) When the storage area abuts or faces a residential or other non-commercial, nonindustrial district;

(b) When the storage area abuts or faces a collector or arterial street;

(c) When the location of a storage area in a commercial district is neither of the above but is located as to be viewable by patrons of an adjacent commercial use, except that storage areas abutting storage areas of adjacent uses need not be screened from each other; and,

(d) Outdoor sales/display areas of a vehicle sales lot which is permitted by this Ordinance shall not be considered a storage yard and are therefore exempt from screening requirements.

(3) Screening Requirements.

(a) Sight-obscuring screening shall not be less than five feet in height except that screening within 20 feet of a street shall be a minimum of 2½ feet in height but no more than 3½ feet in height where necessary to allow for adequate vision clearance at intersections and driveways locations;

(b) Required screening shall be at least 80% opaque when view horizontally from between two and ten feet above average grade;

(c) Screen plantings shall be of such size as to provide the required degree of screening within 12 months after installation and shall be provided with adequate underground irrigation;

(d) Required landscaping, screening and fences shall be continuously maintained and kept free of trash and debris;

(e) Where fences are used to provide screening adjacent to the streets or where otherwise necessary, the undeveloped areas between the screening and curb or sidewalk shall be provided with a ground cover composed of plant materials or a combination of plant materials and bark mulch, rock or other non-planted landscaping material.

SECTION 5.08.4 ENVIRONMENTAL QUALITY.

No land or structure shall be used or occupied within the City of Myrtle Creek unless there is continuing compliance with the standards set forth in rules adopted by the State Department of or other appropriate agency. The following provisions shall apply to all industrial uses and conditions may be imposed prior to authorizing development in order to assure compliance.

(1) Air and Water Pollution.

The discharge into the air or a body of water of solids, liquids, or gases in such quantities as to be detrimental to the public health, safety and welfare by causing injury to human, plant or animal life, or to property, is prohibited.

(2) Waste.

Adequate provisions shall be provided for the disposal of sewage and waste materials. Such provisions shall meet the requirements of City ordinances and appropriate County and State agencies.

(3) Heat, Glare, Light.

Except for exterior lighting, operations producing heat or glare shall be conducted entirely within an enclosed building and the heat, glare or light shall not be discernible at or beyond the property line. Exterior lighting shall be directed away from and shall not reflect on adjacent properties.

(4) Noise and Vibration.

Noise shall be muffled and shall not be objectionable due to intermittence, beat frequency or shrillness. No noise or vibration shall be permitted which is discernible without instruments at or beyond the property line for the use concerned. Noise made by devices which are maintained and utilized solely to serve as warning devices and noise created by highway vehicles and trains are excluded from these regulations.

SECTION 5.12.0 ACCESS PERMITS & TRAFFIC STUDIES.

SECTION 5.12.1 ACCESS PERMITS.

1. Access Permits Required. Access to a public street requires an Access Permit in accordance with the following procedures.

   (a) Permits for access to City streets shall be subject to review and approval by the City's Public Works Department. An access permit may be in the form of a letter to the applicant, or it may be attached to a land use decision notice as a condition of approval.

   (b) Permits for access to State highways shall be subject to review and approval by Oregon Department of Transportation (ODOT).

   (c) Permits for access to County highways shall be subject to review and approval by Douglas County, except where the County has delegated this responsibility to the City, in which case the City shall determine whether access is granted based on adopted City standards.

SECTION 5.12.2 TRAFFIC IMPACT STUDIES.

A. An applicant shall submit a traffic impact study when a proposed land use action affects a transportation facility. The following vehicle trip generation thresholds shall determine the level and scope of transportation analysis required for a new or expanded development:

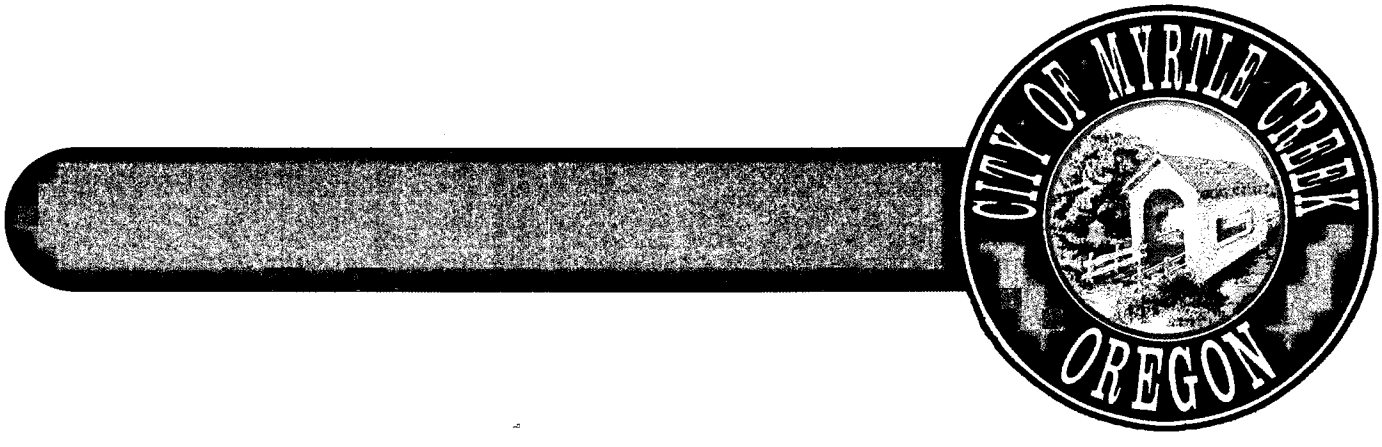
   1. Transportation Impact Study: If a proposed land division or development will generate 400 or more daily trip ends*, then a Transportation Impact Study (TIS) shall be required. The requirements of a TIS shall be established by ODOT and the County Public Works Department.

   2. Projects that generate less than 400 daily trip ends may also be required to provide a TIS or traffic analysis when, in the opinion of ODOT and the County Public Works Department, a capacity problem and/or safety concern is caused and/or is adversely impacted by the proposed development.

*Trip ends as defined by the Institute of Transportation Engineers (ITE), Trip Generation Manual, 6th Edition (or subsequent document updates), or trip generation studies of comparable uses prepared by an engineer.

CHAPTER 3

MYRTLE CREEK
SUBDIVISION ORDINANCE



CITY OF MYRTLE CREEK

SUBDIVISION ORDINANCE

REVISED July 18, 2006

SUBDIVISION ORDINANCE

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ARTICLE I

INTRODUCTORY PROVISIONS

SECTION 1.010. TITLE.

This ordinance shall be known as the City of Myrtle Creek Subdivision Ordinance of 1980. An Ordinance regulating the subdivision of land and other land partitioning standards and procedures and repealing all parts of Ordinances No. 327, 352, 368 and 411.

SECTION 1.020. PURPOSE AND INTENT.

This ordinance is enacted to establish procedures and standards for the partitioning and subdivision of land within the City of Myrtle Creek and to implement the Comprehensive Plan. These regulations prescribe the proper width and arrangement of streets, provisions for installation of public utilities and provision of adequate open space (for recreation and community facilities) with the aim of accomplishing:

1. The creation of satisfactory living conditions in new subdivisions.

2. A population density which is neither undue nor excessive.

3. The protection, conservation, and proper use of land.

4. The extension of public utilities without excessive expenditures.

5. The simplification and increased accuracy of land description.

6. The protection of land purchases from excessive assessment for further utility installations.

7. The protection of health, safety, and general welfare of the public.

SECTION 1.030. DEFINITIONS.

As used in this ordinance the following words and phrases shall have the following meanings:

BUILDING LINE: A line on a plat or map indicating the limit beyond which buildings or structures may not be erected.

BUILDING SITE: The ground area of a building or buildings, together with all open spaces required by the Zoning Ordinance.

CITY: The City of Myrtle Creek.

COMPREHENSIVE PLAN: A City plan for the guidance of growth and improvement of the City, including modifications or refinements which may be made from time to time.

EASEMENT: A grant of the right to use a strip of land for specific purposes not a transfer of ownership of that land.

LOT: A unit of land that is created by a subdivision of land.

A. CORNER LOT: A lot abutting on two or more streets other than alley, at their intersection. A lot abutting on a curved street or streets shall be considered a corner lot if straight lines drawn from the foremost points of the side lot lines to the foremost point of the lot meet at an interior angle of less than one hundred thirty five degrees (135°).

B. FLAG LOT: A lot which has its main building area not fronting on a street and that is connected to a street by a strip of land twenty-five feet (25') or more in width.

C. REVERSED CORNER LOT: A corner lot, the side street line of which is substantially a continuation of the front line of the first lot to its rear.

D. THROUGH LOT: A lot having frontage on two (2) parallel or approximately parallel streets other than alleys.

MAP: A final diagram, drawing or other writing concerning a land partition.

PARCEL: A unit of land that is created by a partitioning of land.

PARTITION: Either an act of partitioning land or an area of tract of land partitioned as defined in this Section.

PARTITION LAND: To divide an area or tract of land into two or three parcels within a calendar year when such area or tract of land exists as a unit or contiguous units of land under single ownership at the beginning of such year. "Partition Land" does not include divisions of land resulting from lien foreclosures; divisions of land resulting from the creation of cemetery lots; and divisions of land made pursuant to a court order, including, but not limited to, court orders in proceedings involving testate or intestate succession; and "partition land" does not include any adjustment of a lot line by the relocation of a common boundary where an additional parcel is not created, and where the existing parcel reduced in size by the adjustment is not reduced below the minimum lot standards of the Zoning Ordinance.

PEDESTRIAN WAY: A right-of-way for pedestrian traffic.

PERSON: A natural person, firm, partnership, association, social, or fraternal organization, corporation, trust, estate, receiver, syndicate, branch of government, or any group or combination acting as a unit.

PLANNED DEVELOPMENT: Is one which stays within the density requirements of area in which it is located for the overall project while allowing a degree of latitude in describing individual lot sizes and also has a percentage of its gross area devoted to recreational development or open space uses.

PLANNING COMMISSION: The Planning Commission of the City of Myrtle Creek.

PLAT: The final map, diagram, drawing, replat or other writing containing all the descriptions, locations, specifications, dedications, provisions and information concerning a subdivision.

PROPERTY LINE: The division line between two units of land.

PROPERTY LINE ADJUSTMENT: The relocation of a common property line between two abutting properties.

RIGHT-OF-WAY: The area between boundary lines of a street or other easement.

ROADWAY: The portion of a street right-of-way developed for vehicular traffic.

SIDEWALK: A pedestrian walkway with permanent surfacing.

STREET: An improved public or private right-of-way which provides access to adjacent properties for vehicular, pedestrian, public utilities and other such uses. The term "street" shall include such designations as highway, thoroughfare, parkway, throughway, road, avenue, boulevard, lane, court, place or other such terms. A right-of-way 20 feet or less in width shall not be recognized as a street (except for an alley).

A. ARTERIAL: A thoroughfare of considerable length primarily for providing through movement to traffic, distributing it to collector streets and principal highways, while providing limited access to adjacent properties. Arterials are designed to handle large volumes of traffic.

B. COLLECTOR: The primary function of a collector is to move traffic between arterials, collectors, and local streets, and to provide access to adjacent uses. Major collectors help define neighborhoods and land use patterns. Minor collectors move local traffic between minor collectors, major collectors and/or arterial streets. Property access onto minor collectors is typically allowed, while access is often limited along major collectors. Collector roads form barriers between neighborhoods and are designed for higher speeds and traffic volumes than are minor streets.

C. MAJOR (NECESSARY) LOCAL: A necessary local performs the function of a regular local street, except that it provides an essential connection between otherwise isolated areas. The primary function of local streets is to provide access to private dwellings and businesses. Local streets should focus on serving passenger cars, bicycles, and pedestrians. Generally, local streets have two lanes and can include parking on one or both sides. Transit and heavy truck traffic are generally discouraged from using local streets.

D. LOCAL: The primary function of local streets is to provide access to private dwellings and businesses. Local streets should focus on serving passenger cars, bicycles, and pedestrians. Generally, local streets have two lanes and can include parking on one or both sides. Short roads that are less than 2,400 feet in length and cannot be extended may have a narrower travel way with parking on one side.

E. CUL-DE-SAC: A short, dead-end minor street with vehicular turnaround at or near the dead-end.

F. DEAD-END STREET: Similar to cul-de-sac, usually longer, which may be extended, and with no turnaround at the present dead-end. (New dead-end streets require temporary turn-arounds.)

G. ALLEY: A narrow street through a block primarily for vehicular service access to the back or side of properties abutting on another street.

SUBDIVIDE LAND: To divide an area or tract of land into four or more lots within a calendar year when such area or tract of land exists as a unit or contiguous units of land under a single ownership at the beginning of such year.

SUBDIVISION: Either an act of subdividing land or an area or tract of land subdivided as defined in this Section.

SECTION 1.040. SCOPE OF REGULATIONS.

No land may be subdivided or partitioned except in accordance with these regulations and no person shall create a street or road for the purpose of partitioning an area or tract of land without the approval of the City. A person desiring to subdivide or partition land shall submit tentative plans and final documents for approval as provided by this ordinance and State law.

SECTION 1.050. FEES AND CHARGES.

1. PROCESSING FEE: Fees to defray the cost incurred in the review and investigation of and action upon proposed subdivisions and partitions submitted for approval pursuant to this ordinance shall be paid to the City Treasurer at the time of filing petitions and applications and shall be the City of Myrtle Creek's Handbook of Fees and Charges.

2. INSPECTION FEE: A service charge for inspection of improvement installed and any other services provided shall be paid to the City Treasurer prior to acceptance by the City of improvements in an amount not to exceed the actual cost of performing the inspection or other service which have been provided.

3. PLANNED DEVELOPMENT: A Planned Development, when individual parcels are created, is subject to the same processing and inspection fees as a subdivision or partition.

4. OTHER FEES: Any filing or recording fees required by Douglas County or the State of Oregon shall be paid by the applicant.

ARTICLE II

TENTATIVE SUBDIVISION PLAN

SECTION 2.010. SUBMISSION OF TENTATIVE SUBDIVISION PLAN.

A subdivider shall prepare a tentative plan together with improvement plans and other supplementary material as may be required to indicate the general program and objectives of the project, and shall submit ten (10) copies of the tentative plan to the City Administrator's office at least thirty (30) days prior to the Planning Commission meeting at which consideration of the plan is desired.

SECTION 2.011. SCALE.

The tentative plan of a subdivision shall be drawn on a sheet eighteen inches by twenty four inches (18"x24") or a multiple thereof at a scale of one inch equals fifty feet (1"=50') feet or, for areas over one hundred acres, one inch equals one hundred feet (1"=100'), or as otherwise approved by the City Engineer.

SECTION 2.020. GENERAL INFORMATION.

The following general information shall be shown on the tentative plan of a subdivision:

1. The proposed name of the subdivision, which shall be subject to approval by the County Surveyor. The name shall not duplicate nor resemble the name of another subdivision or as is otherwise provided by ORS 92.090.

2. Date, north point and scale of drawing.

3. Appropriate identification of the drawing as a "tentative plan".

4. Location of the subdivision sufficient to define its location and boundaries and a legal description of the tract boundaries.

5. Names and addresses of the owner, subdivider, and engineer or surveyor.

SECTION 2.021. EXISTING CONDITIONS.

The following existing conditions shall be shown on the tentative plan.

1. The location, widths and names of both opened and unopened streets within or adjacent to the tract, together with easements and other important features such as Section lines, Section corners, City boundary lines, and monuments.

2. Contour lines related to some U.S. Coast and Geodetic bench mark or other datum approved by the City Engineer and having two foot contour intervals.

3. The location of at least one temporary bench mark within the subdivision boundaries.

4. The identification of areas of potential natural hazards which shall include, but are not limited to, areas of greater than 25% slope, areas of mass movement, and areas of potential flooding hazards, where the special site criteria of Zoning District R-H or SD-FHA shall apply.

5. The location and direction of water courses and the identification of natural features such as rock outcroppings, marshes, wooded areas, orchards, isolated preservable trees, riparian vegetation, wildlife habitat or other significant natural resource.

6. Existing uses of the property and location of existing structures to remain on the property after platting.

7. Zoning within and adjacent to the tract.

8. The location and size, if known, of any existing water or sewer service lines, culverts and drainage way or other underground utilities within the parcel to be subdivided, or immediately adjacent, and the location of power poles.

9. The location of adjacent roadways or driveways on adjacent properties.

SECTION 2.022. PROPOSED PLAN OF SUBDIVISION.

The following information shall be included on the tentative plan of a subdivision.

1. The location, width, names, approximate grades and radii of curves of proposed streets. The relationship of streets to projected streets as shown the Future Street Plan & Functional Classification Maps.

2. The location, width and purpose of proposed easements.

3. The location and approximate dimensions of proposed lots and the proposed lot and block numbers and squares footage in each proposed lot.

4. Proposed sites, if any, allocated for purposes other than single-family dwellings.

SECTION 2.030. PARTIAL DEVELOPMENT.

If the subdivision proposal pertains to only part of the tract owned or controlled by the subdivider, a sketch of a tentative layout for streets in the unsubdivided portion shall be required.

SECTION 2.040. EXPLANATORY INFORMATION WITH TENTATIVE PLAN.

Any of the following information may be required. If it cannot be shown practicably on the tentative plan of a subdivision, it shall be submitted in separate statements accompanying the plan.

1. A vicinity map showing existing subdivisions and unsubdivided land ownerships adjacent to the proposed subdivision and showing how proposed streets and utilities may be extended to connect to existing streets and utilities.

2. Proposed deed restrictions, if any, in outline form.

3. The location within the subdivision, and in the adjoining streets and property, of existing sewers, water mains, culverts, drain pipes and electric lines.

SECTION 2.050. SUPPLEMENTAL PROPOSALS WITH TENTATIVE PLAN.

Any of the following may be required by the Planning Commission to supplement the plan of subdivision.

1. Approximate center line profiles with extensions for a reasonable distance beyond the limits of the proposed subdivision showing the finished grade of streets and the nature and extent of street construction.

2. A plan for domestic water supply lines and sewer service lines.

3. Proposals for storm water drainage and flood control, including profiles of proposed drainage ways.

4. If lot areas are to be graded, a plan showing the nature of cuts and fills and information on the character of the soil.

5. Proposals for other improvements such as electric services, telephone, gas, cable television, street lights and sidewalks.

SECTION 2.060. PRELIMINARY REVIEW OF TENTATIVE PLAN.

The developer shall provide the City Administrator and all agencies believed to have an interest with copies of the tentative plan. A coordination meeting of the City Administrator and the affected agencies, along with the developer and his engineer, shall take place prior to review by the Planning Commission.

SECTION 2.070. APPROVAL OF TENTATIVE SUBDIVISION PLAN.

1. Within 40 days following submission of a tentative plan, the Planning Commission shall conduct a Public Hearing thereon and shall review the plan for completeness and compliance with the Zoning Ordinance and other applicable regulations. Notice and conduct of hearing shall be in accordance with Section 9.040.0 of Ordinance No. 508. The Planning Commission may approve a tentative plan as submitted or as it may be modified. The Planning Commission shall take final action on an application for approval of a tentative plan within 180 days after the application is found to be complete.

2. Approval of the tentative plan shall not constitute final acceptance of the plat for recording, however, approval of the tentative plan shall be binding upon the City for the purposes of preparation of the plat and the City may require only such changes in the plat as are necessary for compliance with the terms of approval.

3. The action of the Planning Commission shall be noted on two copies of the tentative plan, including reference to any attached documents describing conditions. One copy shall be returned to the subdivider and the other shall be retained by the City.

4. The action or ruling of the Planning Commission may be appealed by an affected or aggrieved party to the City Council within ten(10) days after the Planning Commission has rendered its decision on the tentative plan. Written notice of the appeal shall be filed in accordance with Section 9.025 of this ordinance.

SECTION 2.080. STAGED DEVELOPMENT FOR SUBDIVISION.

When an applicant desires to record and develop subdivision plats covering portions of an approved tentative plan in stages, the Planning Commission may authorize a time schedule for platting up to as many as three stages in periods of time such as one (1) year for first stage, two (2) years for second stage, and three (3) years for third stage, but in no case shall the total time period for platting all stages be greater than four (4) years without resubmission of the tentative plan as a new application. Each stage so platted and developed shall conform to the applicable requirements of this ordinance. If any other secondary permits are required for the development, the time period shall be included in the initial approval of the permit applications. The City Administrator or the City Administrator's designee may extend authorization for an additional one (1) year provided a written request from the applicant is submitted prior to the expiration date, stating the reason(s) why an extension should be granted.

ARTICLE III

SUBDIVISION PLAT

SECTION 3.010. SUBMISSION OF THE SUBDIVISION PLAT.

Within one (1) year after approval of the tentative plan, the subdivider shall cause the subdivision or any part thereof to be surveyed and a plat prepared in conformance with the tentative plan as approved. The subdivider shall submit the original drawing, five (5) prints and any supplementary information to the City. The City Administrator or the City Administrator's designee may extend authorization for an additional one (1) year provided a written request from the applicant is submitted prior to the expiration date, stating the reason(s) why an extension should be granted. If the subdivider wishes to proceed with the subdivision after the expiration of the approval period of the tentative plan, he must submit a new tentative subdivision plan and application, and make any revision necessary to meet conditions.

SECTION 3.011. SCALE.

All plats, dedications of streets or roads or public parks and squares and other writings made a part of such plats offered for records shall be made in black India ink, upon material that is eighteen inches by twenty-four inches (18"x24") in size and is approved as suitable for binding and copying purposes (5 mil mylar or similar material). The plat shall be drawn to a scale of one inch equals fifty feet (1"=50') or one inch equals one hundred feet (1"=100'), and the lettering of approvals, and of the dedication and affidavit of the surveyor, shall be of such size or type as will be clearly legible, but not part shall come nearer to any edge of the sheet than 1 inch. All information on the plat shall be enclosed by a black border. The plat may be placed on as many sheets as necessary, but a face sheet and an index page shall be included for plats placed upon two or more sheets. Plat materials may be placed on both sides of a sheet.

SECTION 3.020. INFORMATION ON PLAT.

In addition to what may be otherwise specified by law, the following information shall be shown on the plat:

1. The name of the subdivision as approved (Reference Section 2.020, Paragraph 1).

2. Date, north arrow and scale of drawing.

3. Reference points of existing surveys identified, related to the plat by distances and bearing, and referenced to a field book or map as follows:

    A. Stakes, monuments or other evidence found on the ground and used to determine the boundaries of the subdivision.

    B. Adjoining corners of adjoining subdivisions.

C. Other monuments found or established in making the survey of the subdivision or required to be installed by provisions of this ordinance.

4. The exact location and width of streets and easements intercepting the boundary of the tract.

5. Tract, block and lot boundary lines and street right-of-way and center lines, with dimensions, bearings or deflection angles, radii, arcs, points of curvature and tangent bearings, and normal high water lines for any creek or other body of water. Tract boundaries and street bearings shall be shown to the nearest thirty (30) seconds with basis of bearings. Distances shall be shown to the nearest 0.01 feet. No ditto marks shall be used.

6. The width of the portion of streets being dedicated and the width of existing right-of-way. For streets on curvature, curve data shall be based on the street center line. In addition to the center line dimensions, the radius, tangent, long chord and central angle shall be indicated.

7. Easements denoted by fine dotted lines, clearly identified and, if already of record, their recorded reference. If an easement is not definitely located of record, a statement of the easement shall be given. The width of the easement, its length and bearing, and sufficient ties to locate the easement with respect to the subdivision shall be shown. If the easement is being dedicated by the map, it shall be properly referenced in the owner's certificate of dedication.

8. Lot numbers beginning with the number "1" and numbered consecutively in each block.

9. Block numbers beginning with the number "1" and continuing consecutively without omission or duplication throughout the subdivision. The numbers shall be solid, of sufficient size and thickness to stand out and so placed as not to obliterate any figure. Block numbers in an addition to a subdivision of the same name shall be a continuation of the numbering in the original subdivision.

10. Identification of land to be dedicated for any purpose, public or private, to distinguish it from lots intended for sale.

11. Building setback lines, if any, are to be made a part of the subdivision restrictions.

12. Names and addresses of the owner, subdivider, surveyor and engineer.

13. The following certificates (which may be combined where appropriate):

A. A certificate signed and acknowledged by all parties having any record title interest in the land, consenting to the preparation and recording of the plat.

B. A certificate signed and acknowledged as above, dedicating all land intended for public use except land which is intended for the exclusive use of the lot owners in the subdivision, their licenses, visitors, tenants and servants.

C. A certificate with the seal of and signed by the engineer and/or surveyor responsible for the survey and plat preparation.

D. Other certifications now or hereafter required by law.

14. A space for the date and signatures of the Planning Commission Chairman, City Council, City Recorder, and County Surveyor.

SECTION 3.030. SUPPLEMENTAL INFORMATION WITH PLAT.

The following data shall accompany the plat:

1. A preliminary title report issued by a Title Insurance Company in the name of the owner of the land, showing all parties whose consent is necessary and their interest in the premises.

2. Sheets and drawings showing the following:

   A. Traverse data including the coordinates of the boundary of the subdivision and ties to Section corners and Donation Land Claim corners, and showing the error of closure, if any.

   B. The computation of distances, angles and courses shown on the plat.

   C. Ties to existing monuments, proposed monuments, adjacent subdivisions, street corners and state highway stationing.

3. A copy of any deed restrictions applicable to the subdivision.

4. A copy of any dedication requiring separate documents.

5. A list of all taxes and assessments on the tract which have become a lien on the tract.

6. A certificate by the City Engineer that the subdivider has complied with the requirements of Article VI and Article VII.

SECTION 3.040. TECHNICAL PLAT REVIEW.

1. Upon receipt by the City, the plat and other data shall be reviewed by the City Engineer who shall examine them to determine that the subdivision as shown is substantially the same as it appeared on the approved tentative plan and that there has been compliance with provisions of the law and of this ordinance.

2. The City Engineer may make such checks in the field as are desirable to verify that the map is sufficiently correct on the ground and his representatives may enter the property for this purpose.

3. If the City Engineer determines that full conformity has not been made, he shall advise the subdivider of the changes or additions that must be made and shall afford the subdivider an opportunity to make the changes or additions.

SECTION 3.050. APPROVAL OF THE PLAT.

Upon receipt of the plat, the City Administrator or the City Administrator's designee shall determine whether the plat is in substantial conformance with the provisions of the tentative plan as approved. If the City Administrator or the City Administrator's designee does not approve the plat, the subdivider shall be advised of the changes or additions that must be made and shall be afforded an opportunity to make corrections. The City Administrator or the City Administrator's designee shall determines that the plat conforms to all requirements, and that the required supplemental documents and provisions for any necessary improvements have been satisfied. When compliance with conditions has been assured, the plat shall be signed by the City Administrator. The approval of the plat does not constitute or effect an acceptance by the City for maintenance of any dedicated street or easement shown on the plat.

SECTION 3.060. FILING OF PLAT.

A subdivider shall, without delay, submit the plat for signatures of other public officials required by law. Approval of the plat shall be null and void if the plat is not recorded within ninety (90) days after the date of the last required approving signature. After filing and approval of the plat by the County, the subdivider shall submit one (1) print and one (1) 3-mil Mylar to the City.

SECTION 3.061. PAYMENT OF TAXES REQUIRED.

No plat shall be recorded unless all ad valorem taxes and all special assessment fees or other charges required by law to be placed upon the tax roll, have been paid in accordance with ORS 92.095.

ARTICLE IV

CREATION OF STREETS OUTSIDE A SUBDIVISION

SECTION 4.010. CREATION OF A PUBLIC STREET OUTSIDE A SUBDIVISION.

1. The creation of a public street and the resultant separate land parcels shall be in conformance with requirements for subdivision except, however, the Planning Commission shall approve the creation of a public street to be established by deed without full compliance with the regulations applicable to subdivisions provided any of the following conditions exist:

   A. The establishment of the public street is initiated by the City Council and is declared essential for the purpose of general traffic circulation and the partitioning of land is an incidental effect rather than the primary objective of the street.

   B. The tract in which the street is to be dedicated is a partition within an isolated ownership either of not over one (1) acre or of such size and characteristics as to make it impossible to develop more than three (3) building sites.

2. In those cases where approval of a public street is to be given without full compliance with the regulations applicable to subdivisions, a copy of a preliminary plan and the proposed deed shall be submitted to the Planning Commission at least ten (10) days prior to the Planning Commission meeting at which consideration is desired. The plan, deed and such information as may be submitted shall be reviewed by the Planning Commission and, if not in conflict with the standards of Article VII and Article VIII of these regulations, shall be approved with conditions necessary to preserve these standards.

SECTION 4.020. CREATION OF A PRIVATE STREET.

A street which is created in order to allow the partitioning of land of the purpose of transfer of ownership or building development, whether immediate or future, shall be in the form of a street in a subdivision or as provided in Section 4.010 of these regulations except that a private street which is not in full compliance with these regulations may be approved under the Planned Development provisions of the Zoning Ordinance.

ARTICLE V.

LAND PARTITIONING

SECTION 5.010. GENERAL REQUIREMENTS.

Whenever acreage tracts or parcels are to be partitioned, the following procedures shall apply:

1. The creation of one to three lots for the purpose of transfer of ownership or building development requires a Partition Map to be filed with the City.

SECTION 5.015. APPLICATION PROCEDURE.

Application for a Land Partition requires a completed application form and a suitable preliminary plan to be submitted to the City Administrator. The preliminary plan shall be drawn to scale on paper which is 8 1/2 inches by 11 inches, 11 inches by 14 inches, or 11 inches by 17 inches in size and shall include the following information:

1. The date, northpoint, scale and sufficient description to define the location and boundaries of the tract to be partitioned and its location.

2. The name and address of the record owner and of the person who prepared the preliminary plan.

3. The approximate acreage of the land under single ownership or, if more than one ownership is involved, the total contiguous acreage of the landowners directly involved in the partitioning.

4. The locations, names and width of existing streets; location and size of sewer lines, water lines, culverts and drainage ways or other underground utilities within the tract to be partitioned or immediately adjacent; and the location of power poles.

5. An outline and location of existing buildings to remain in place.

6. Parcel layout, including a plan of the proposed partitioning, showing lot dimensions and the relationship to existing streets and utility easements.

7. The location, widths, and names of all proposed streets and rights-of-way to be dedicated.

8. Such additional information as required by the Administrator.

SECTION 5.020. APPROVAL OF PRELIMINARY PLAN.

1. The Administrator shall review the preliminary plan for compliance with this ordinance, the Comprehensive Plan and the applicable zoning regulations of the City. The Administrator may require dedication of land and easements and may specify conditions or modifications in the preliminary plan as necessary to establish compliance. In no event, however, shall the Administrator require greater conditions than would be required of a subdivision.

2. The action of the Administrator shall be noted on two copies of the preliminary plan, including reference to any attached documents describing conditions of approval. One copy shall be returned to the partitioner and one copy shall be retained by the City.

3. Approval of the preliminary plan shall not constitute acceptance of the final map for recording, however, approval of the preliminary plan shall be binding upon the City for the purpose of preparation of the map and the City may require only such changes in the map as are necessary for compliance with the terms of approval.

4. Appeal:

   A. The action or ruling of the Administrator on a Land Partition may be appealed by an affected or aggrieved party to the Planning Commission within twelve (12) days after the Administrator has rendered its decision on the preliminary plan.

   B. Written notice of the appeal shall be filed in accordance with Section 9.025 of this ordinance.

SECTION 5.025. PREPARATION OF FINAL MAP.

1. Within one (1) year after approval of the preliminary plan by the Administrator there shall be submitted to the City a Final Map prepared in conformance with the preliminary plan as approved. The partitioner shall submit the original map and one print along with any supplemental information to the City. The City Administrator or the City Administrator's designee may extend authorization for an additional one (1) year provided a written request from the applicant is submitted prior to the expiration date, stating the reason(s) why an extension should be granted.

2. All maps and other writings made a part of such map offered for record shall be made in black India ink, upon material that is fifteen inches by eighteen inches (15"x 18") in size and is approved as suitable for binding and copying purposes (5 mil Mylar or similar material). The map shall be drawn to a scale of one inch equals fifty feet (1"=50'), one inch equals one hundred feet (1"=100'), one inch equals two hundred feet (1"=200'), or one inch equals four hundred feet (1"=400'). The lettering of approvals, and of the dedication and affidavit of the surveyor, shall be of such size or type as will be clearly legible, but no part shall come nearer any edge of the sheet than one inch. All information on the map shall be enclosed by a black border. The information shown on the final map shall be as follows:

A. Recorded reference of property (including Township, Range, Section) and description of each parcel partitioned.

B. North Arrow; Title Block; Scale and Date.

C. A plan of the proposed partitioning showing lot dimension (in feet and hundredths), bearings of all lines (in degrees and minutes) and area of each parcel.

D. A tie by actual survey to a Section or Donation Land Claim corner. When partitioning is a re-division of all or part of an existing subdivision, a tie shall be given to either the initial point or a block corner of the original subdivision.

E. A statement regarding contemplated water supply and sewage disposal for each lot.

F. Easements denoted by fine dotted lines, clearly identified and, if already of record, their recorded reference. If an easement is not definitely located of record, a description of the easement shall be given. The width of the easement, its length and bearing, and sufficient ties to locate the easement with respect to the property shall be shown. If an easement is to be dedicated, it shall be accomplished by separate document(s) accompanying the partition map and referenced in the owners certificate of dedication.

G. The location of existing permanent buildings, railroad rights-of-way, and other important features.

H. The location, widths and names of existing and/or platted streets or other public ways within or adjacent to the property. If a street is to be dedicated with a Land Partition, it shall be accomplished by separate document(s) accompanying the partition map and referenced in the owners certificate of dedication. For streets on a curvature, curve data shall be shown on the map and shall be based on the street centerline. In addition to the centerline dimensions, the radius, tangent, long chord and central angle shall be indicated.

I. A space for date and signatures of City Administrator indicating approval of the map. The City Administrator is authorized to endorse approval on behalf of the City Council for a Land Partition which includes the creation of a street.

J. A signature line indicating approval of map by the County Surveyor.

K. A certificate signed and acknowledged by all parties having any record title interest in the land, consenting to the preparation and recording of the map.

L. Documents, signed and acknowledged as above, dedicating all land for public use.

M. A certificate with the seal of and signed by the surveyor responsible for the survey and final map.

N. Other certificates now or hereafter required by law.

O. A copy of any dedication requiring separate documents and a list of all taxes and assessments on the property which have become a lien on the property shall accompany the map.

SECTION 5.030. APPROVAL OF FINAL MAP.

1. Upon receipt of the final map by the City, the map and other data shall be reviewed by the City Engineer who shall examine them to determine that the final plan as shown is substantially the same as it appeared on the approved preliminary plan and that there has been compliance with provisions of the law and of this ordinance.

2. The City Engineer may make such checks in the field as are desirable to verify that the map is sufficiently correct on the ground and his representative may enter the property for this purpose.

3. If the City Engineer determines that full conformity has not been made, he shall advise the partitioner of the changes or additions that must be made and shall afford the partitioner an opportunity to make the changes or additions.

4. The final map will then be forwarded to the Administrator and, when compliance with conditions has been assured, the map shall be signed by the Administrator. All copies shall be marked with the date of approval. Approval of a Land Partition shall be considered final. Approval of a Land Partition which includes the creation of a street requires the map to be submitted and endorsed by the City Administrator on behalf of City Council.

SECTION 5.040. FILING OF MAP.

The City shall submit the Partition Map to Douglas County for recording. Any fees required by the County shall be paid by the partitioner. Following recording of the map, one print and one reproducible copy (3 mil mylar) shall be returned to the City.

ARTICLE VI.

IMPROVEMENT GUARANTEE

SECTION 6.010. AGREEMENT FOR IMPROVEMENTS.

Before the approval of the City is certified on the final subdivision plat or partition map, the land divider shall either install required improvements and repair existing streets and other public facilities damaged in the development of the property or execute and file with the City an agreement between himself and the City, specifying the period within which required improvements and repairs shall be completed and providing, if the work is not completed within the period specified, that the City may complete the work and recover the full cost and expense together with court costs and attorney fees necessary to collect said amounts from the land divider. The agreement shall also provide for reimbursement to the City for the cost of inspection by the City which shall not exceed ten percent (10%) of the cost of the improvements to be installed.

SECTION 6.020. BOND.

1. The land divider shall file with the agreement, to assure his full and faithful performance thereof, one of the following:

   A. A surety bond executed by a surety company authorized to transact business in the State of Oregon in a form approved by the City Attorney.

   B. A personal bond co-signed by at least one (1) additional person together with evidence of financial responsibility and resources of those signing the bond sufficient to provide reasonable assurance of ability to proceed in accordance with the agreement.

   C. Currency or Certificate of Deposit to the City.

2. Such assurance of full and faithful performance shall be for a sum approved by the City as sufficient to cover the cost of the improvements and repairs, including related engineering and incidental expenses, and to cover the cost of City inspection.

3. If the land divider fails to carry out provisions of the agreement and the City has unreimbursed costs or expenses resulting from such failure, the City shall call on the bond or cash deposit for reimbursement. If the amount of the bond or cash deposit exceeds cost and expense incurred by the City, the City shall release the remainder. If the amount of the bond or cash deposit is less than the cost and expense incurred by the City, the land divider shall be liable to the City for the difference.

ARTICLE VII.

DESIGN STANDARDS

SECTION 7.010. PRINCIPLES OF ACCEPTABILITY.

A land division, whether by a subdivision, creation of a street, or a partitioning, shall conform to the Comprehensive Plan and it's implementing ordinances and shall conform to the design standards established by this ordinance.

SECTION 7.015 SUBDIVISION GENERAL STANDARDS

1. A subdivision shall conform to the following standards:

   A. Each proposed lot must be buildable in conformance with the requirements of this ordinance and all other applicable regulations.

   B. Each lot shall abut a public street for the required minimum lot frontage for the zoning district where the lots are located.

   C. If any lot abuts a street right-of-way that does not conform to the design specifications of this ordinance, the owner may be required to dedicate up to one-half of the total right-of-way required by this ordinance.

   D. Lot Width-to-Depth Ratios: To provide for proper site design and prevent the creation of irregularly shaped parcels, the depth of any lot or parcel shall not exceed 3 times its width (or 4 times its width in rural areas) unless there is a topographical or environmental constraint or an existing man-made feature such as a railroad line.

2. Further subdivision of the property shall be prohibited unless the applicant submits a plat or development plan in accordance with the requirements of this ordinance.

SECTION 7.020. STREETS.

1. General: The location width and grade of streets shall be considered in their relation to existing and planned streets, to topographical conditions, and to the proposed use of land to be served by the streets. The street system shall be laid out in accordance with the Future Street Plan & Functional Classification Maps to assure adequate traffic circulation that is convenient and safe. Intersection angles, tangents and curves shall be appropriate for the traffic to be carried, considering the terrain. Street determinations shall be made in accordance with the street standards provided in the Future Street Plan & Functional Classification Maps. The criteria contained in the following paragraphs shall be coordinated with adopted street standards as outlined in the Subdivision Ordinance and

will consider both solar access to building sites and the need for utility location. Additional setbacks may be required as set forth in Section 6.02.1 of the Zoning Ordinance. Where appropriate location of streets within and/or adjacent to a development is not shown in the Comprehensive Plan (Future Street Plan & Functional Classification Maps), the arrangement of streets shall either:

A. Provide for the continuation of appropriate projection of existing principal streets in surrounding areas; or

B. Conform to a plan for the neighborhood approved or adopted by the Planning Commission to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical.

2. Minimum Right-of-way and Roadway Width: Unless otherwise indicated in the Comprehensive Plan, the street right-of-way and roadway widths shall not be less than the minimum width in feet shown in the following table, except:

A. Where conditions, particularly topography or the size and shape of the tract, make it impractical to otherwise provide buildable sites, narrower right-of-way may be accepted, ordinarily not less than fifty (50) feet. If necessary, slope easements may be required.

B. Where it is determined that two-level streets best serve lots in the Residential Hillside District (R-H), the right-of-way shall be of sufficient width to provide, on each level, space for one sidewalk and a minimum width of twenty feet for pavement, curbs and drainage facilities. Between the two street levels and out to the right-of-way lines there shall be space for all cut and fill slopes.

C. Paths and Bicycle Ways: To provide appropriate circulation, an accessway for pedestrians and bicycles shall be required to connect to all cul-de-sacs. Accessways are also required to allow passage between unusually long or oddly shaped blocks.

3. Reverse Frontage Lots:

A. Lots that front on more than one street shall be required to locate motor vehicle accesses on the street with the lower functional classification. Direct access to arterials or major collector streets shall not be permitted for reverse frontage lots or parcels.

B. When a residential subdivision is proposed which abuts an arterial, it shall be designed so the lots abutting the arterial will only take access from a frontage road or interior local road. A planting screen easement or buffer yard at least ten (10) feet wide, across which there shall be no rights of access, may be required along the line of lots abutting such traffic arterial. Such area shall be considered the rear portion of the lot or parcel. The planting screen easement or buffer yard shall not be located within the public right-of-way.

4. Flag Lot Standards:

A. Flag lots shall not be permitted when the result would be to increase the number of properties requiring direct and individual access connections to the State Highway System or other arterials unless the property would otherwise be landlocked.

B. Flag lots may be permitted for residential development when necessary to achieve planning objectives, such as reducing direct access to roadways, providing internal platted lots with access to a residential street, or preserving natural or historic resources, under the following conditions:

(i) Flag lot driveways shall be separated by a minimum of 120 feet (twice the minimum lot width). Adjacent, or side-by-side, flag lot driveways shall not be permitted.

(ii) The flag lot driveway shall have a minimum width of 12 feet and maximum width of 20 feet.

(iii) In no instance shall flag lots constitute more than 10 percent of the total number of building sites in a recorded or unrecorded plat, or three lots or more, whichever is greater.

(iv) The lot area occupied by the flag driveway shall not be counted as part of the required minimum lot area of that zoning district.

(v) No more than one flag lot shall be permitted per private right-of-way or access easement.

TABLE 7.02. MINIMUM STREET WIDTHS

Type of Street	**Right-of-Way Width**	**Roadway Width**
Arterial		
-- within CBD (downtown)	64 feet	46 feet
-- Non-CBD	80 feet	48 feet
Collector		
-- Major Collector	60-80 feet	36-46 feet
-- Minor Collector	60 feet	36-40 feet
Local Street	60 feet	36 feet
-- Major (Necessary) Local		
-- Local Street (minor street less than 2,400 feet in length which cannot be extended)	50 feet	28 feet
Radius for turn-around at end of cul-de-sacs	50 feet	40 feet
Alleys	20 feet	20 feet

5. Reserve Strips: Reserve strips or plugs controlling access to streets will not be approved unless necessary for the protection of the public welfare or of substantial property rights and in these cases they may be required. The control and disposal of the land comprising such strips shall be placed with the jurisdiction of the City under conditions approved by the City Council.

6. Street Alignment: As far as is practical, streets other than minor streets shall be in alignment with existing streets by continuations of the center lines thereof. Staggered street alignment resulting in T intersections shall, wherever practical, leave a minimum distance of two hundred feet (200') between the center lines of streets having approximately the same direction and, in no case, shall be less than one hundred feet (100').

7. Future Extensions of Streets: Where necessary to give access to or permit a satisfactory future division of adjoining land, a public street will be extended to the boundary of the development and the resulting dead-end street may be approved without a turnaround. A reserve strip or street plug may be required to preserve the objective of the street extension. A turnaround will be required if the dead-end street is more than 100 feet from an intersection. The street shall be located to align with any future streets identified in the Future Street Plan & Functional Classification Maps.

8. Bicycle Routes: As identified in the Bicycle Plan Map, bicycle lanes within streets, separate bicycle paths, or bike route signage shall be required when developing new, or reconstructing existing streets. These new bicycle facilities will provide connections to improve the overall bicycle network for the community. Bicycle lanes shall be 4 to 6 feet wide and located on both sides of the street, where practical. Refer to Table 9.2 for affected street-types.

9. Sidewalks: Sidewalk improvements shall be installed to serve each building site as is required for a subdivision unless alternative pedestrian routes are available and such facilities are not called for in the Pedestrian Plan Map. Required sidewalk widths shall vary between 5 and 8 feet, depending on the roadway's functional classification. Refer to Table 9.2 for affected street-types.

10. Shared Access. Subdivisions with frontage on an arterial or major collector shall be designed to indirectly access the roadway via a secondary lower classification road. If access via a secondary road is infeasible, the partition or other land division shall utilize a single shared access onto the arterial or major collector.

11. Connectivity: The street system of proposed subdivisions shall be designed to connect with existing, proposed, and planned streets outside of the subdivision as identified in the Future Street Plan & Functional Classification Maps.

A. Wherever a proposed development abuts unplatted land or a future development phase of the same development, street stubs shall be provided to provide access to abutting properties or to logically extend the street system into the surrounding area. All street stubs more than 100 feet from an intersection shall be provided with a temporary turn-around, unless specifically exempted by the City Engineer, and the restoration and extension of the street shall be the responsibility of any future developer of the abutting land.

B. Collector and local residential streets shall connect with surrounding streets to permit the convenient movement of traffic between residential neighborhoods or facilitate emergency access and evacuation. Connections shall be designed to avoid or minimize through traffic on local streets.

12. Cul-de-sacs and Accessways:

A. Cul-de-sacs or permanent dead-end streets may be used as part of a development plan; however, through streets are encouraged except where topographical, environmental, or existing adjacent land use constraints make connecting streets infeasible. Where cul-de-sacs are planned, accessways shall be provided connecting the ends of cul-de-sacs to each other, to other streets, or to neighborhood activity centers.

B. A cul-de-sac shall be as short as possible and shall have a maximum length of four hundred feet (400') and serve building sites for not more than eighteen (18) dwelling units. A cul-de-sac shall terminate with a circular turnaround.

C. For subdivision developments creating blocks of 1,000 feet or more, accessways for pedestrians and bicyclists shall be 10 feet wide and located within a 20-foot-wide right-of-way or easement. If the streets within the subdivision are lighted, the accessways shall also be lighted. Stairs or switchback paths may be used where grades are steep.

13. Intersection Angles: Streets shall be laid out to intersect at angles as near to right angles as practical except where topography requires a lesser angle, but in no case shall the acute angle be less than eighty degrees (80°) unless there is a special intersection design. An arterial or collector street intersecting with another street shall have at least one hundred feet (100') of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least fifty feet (50') of tangent adjacent to the intersection unless topography requires a lesser distance. Intersections which contain an acute angle of less than eighty degrees (80°) or which include an arterial street shall have a minimum corner radius sufficient to allow for a roadway radius of twenty feet (20') and maintain a uniform width between the roadway and the right-of-way line. Ordinarily, the intersection of more than two streets at any one point will not be approved.

14. Existing Streets: Whenever existing streets adjacent to or within a tract are of inadequate width, additional right-of-way shall be provided at the time of the land division.

15. Street Names: Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of an existing street. Street names and numbers shall conform to the established pattern in the City and shall be subject to the approval of the City Administrator or the City Administrator's designee on behalf of the City Council.

16. Grades and Curves: Grades shall not exceed six percent (6%) on arterials, ten percent (10%) on collector streets or twelve percent (12%) on other streets. Center line radii of curves shall not be less than three hundred feet (300') on major arterials, two hundred feet (200') on secondary arterials or one hundred feet (100') on other streets, and shall be to an even ten (10) feet. Where existing conditions, particularly the topography, make it otherwise impractical to provide buildable sites, the City Council may accept steeper grades and sharper curves. In flat areas, allowance shall be made for finished street grades having a minimum slope, preferably, of at least 0.5 percent.

17. Streets Adjacent to Railroad Right-of-way: Wherever the proposed land division contains or is adjacent to a railroad right-of-way, provision may be required for a street approximately parallel to and on each side of such right-of-way at a distance suitable for the appropriate use of the land between the streets and the railroad. The distance shall be determined with due consideration at cross streets of the minimum distance required for approach grades to a future grade separation and to provide sufficient depth to allow screen planting along the railroad right-of-way.

18. Alleys: Alleys shall be provided in commercial and industrial districts, unless other permanent provisions for access to off-street parking and loading facilities are approved by the Planning Commission. The corners of alley intersections shall have a radius of not less than twelve feet (12').

SECTION 7.030. BLOCKS.

1. General: The length, width and shape of blocks shall take into account the need for adequate building site size and street width and shall recognize the limitations of the topography.

2. Size: No block shall be more than one thousand feet (1000') in length between corner lines unless it is adjacent to an arterial street or unless the topography or the location of adjoining streets justifies an exception. The recommended minimum length of blocks along an arterial street is one thousand eight hundred feet (1800'). A block shall have sufficient width to provide for two tiers of building sites unless topography or the location of adjoining streets justifies an exception.

3. Easements:

   A. Utility Lines: Easements for sewers, water mains, electric lines or other public utilities shall be dedicated wherever necessary. The easements shall be at least twelve feet (12') wide, except for utility pole tieback easements, which may be reduced to six feet (6') in width.

B. Water Courses: If a tract is traversed by a water course such as a drainage way, channel or stream, there shall be provided a storm water easement or drainage right-of-way conforming substantially with the lines of the water course, and such further width as will be adequate for the purpose. Streets or parkways parallel to the major water courses may be required.

C. Paths and Bicycle Ways: When desirable for public convenience, a pedestrian or bicycle way may be required to connect to a cul-de-sac or to pass through an unusually long or oddly shaped block or otherwise provide appropriate circulation.

SECTION 7.040. BUILDING SITES.

1. Size and Shape: The size, width, shape and orientation of building sites shall be appropriate for the location of the land division and for the type of development and use contemplated, and shall be consistent with the residential lot size provisions of the Zoning Ordinance with the following exception:

   Where property is zoned and planned for business or industrial use, other widths and areas may be permitted at the discretion of the Planning Commission. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street parking and parking facilities required by the type of use and development contemplated.

2. Access: Except as set forth in Section 4.020, each lot and parcel shall abut upon a street other than an alley for a width of at least twenty-five feet (25').

3. Through Lots and Parcels: Through lots and parcels shall be avoided except along streets that have been designated as limited access or restricted access streets, or where they are essential to provide separation of residential development from major traffic arteries or adjacent non-residential activities or to overcome specific disadvantages of topography and orientation. If through lots or parcels are created, the rear setback area shall be increased to equal the required front setback area. Access to through lots or parcels shall be via the street frontage on the front side of the lot or parcel; there shall be no right of access to a street via the rear frontage. In approving the creation of through lots or parcels, the Planning Commission may impose additional conditions or restrictions as may be found necessary to preserve or protect the character of the area.

4. Lot and Parcel Side Lines: The lines of lots and parcels, as far as is practicable, shall run at right angles to the street upon which they face except that on curved streets they shall be radial to the curve.

SECTION 7.041. GRADING OF BUILDING SITES.

Grading of building sites shall conform to the following standards unless physical conditions demonstrate the propriety of other standards:

1. Cut slopes shall not exceed two feet horizontally to one foot vertically.

2. Fill slopes shall not exceed two feet horizontally to one foot vertically.

3. The character of soil for fill and the characteristics of lots and parcels made usable by fill shall be suitable for the purpose intended.

SECTION 7.050. BUILDING LINES.

If special building setback lines are to be established in a subdivision, they shall be shown on the subdivision plat, or, if temporary in nature, they shall be included in the deed restrictions.

SECTION 7.060. LARGE BUILDING SITES.

In dividing tracts into large lots or parcels which, at some future time, are likely to be redivided, the Planning Commission may require that the blocks be of such size and shape so as to be suitable for redivision into building sites. They may contain such site restrictions as will provide for extension and opening of streets at intervals planned to permit a subsequent re-division of any tract into lots or parcels of smaller size.

SECTION 7.070. LAND FOR PUBLIC PURPOSES.

If the City has an interest in acquiring a portion of a proposed subdivision for a public purpose or if the City has been advised of such interest by a school district or other public agency and there is reasonable assurance that steps will be taken to acquire the land, then the Planning Commission may:

1. Require that those portions of the subdivision be reserved for public acquisition for a period not to exceed one (1) year, at a cost not to exceed the value of the land prior to subdivision, or

2. The Planning Commission may require a parcel of land of not more than six percent (6%) of the gross area of the subdivision to be set aside and dedicated to the public by the subdivider for purposes to serve the area containing the subdivision.

SECTION 7.080. SPECIAL DISTRICT - FLOOD HAZARD AREA.

All land division in the floodplain shall conform to the requirements of the Special District/Flood Hazard Area regulations contained in the Zoning Ordinance and shall provide for:

1. A minimum residential building site of 6000 square feet, exclusive of floodway.

2. Protection for streambank vegetation.

3. Open space dedication in accordance with the Greenway Proposal.

ARTICLE VIII.

IMPROVEMENTS

SECTION 8.010. IMPROVEMENT PROCEDURES.

In addition to other requirements, improvements installed by a land divider either as a requirement of these regulations or at his own option shall conform to the requirements of this ordinance and the improvement standards and specifications followed by the City and shall be installed in accordance with the following procedure.

1. Improvement work shall not commence until plans have been checked for adequacy and approved by the City. To the extent necessary for evaluation of the proposal, the plans may be required before approval of the tentative plan of a subdivision or partition.

2. Improvement work shall not commence until after the City is notified and, if work is discontinued for any reason, it shall not be resumed until after the City is notified.

3. Improvements shall be constructed under the inspection and to the satisfaction of the City. The City may require changes in typical sections and details, in the public interest, if unusual conditions arise during construction to warrant the change.

4. Underground utilities, sanitary sewers and storm drains installed in streets shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities and sanitary sewers shall be placed to a length obviating the necessity for disturbing the street improvements when service connections are made.

5. A map showing public improvements "As Built" shall be filed with the City upon completion of the improvements. These shall be drawn using good quality black ink on a twenty-four inch by thirty-six inch (24"x36") sheet of approved material (3 mil mylar or similar reproducible material).

SECTION 8.020. SPECIFICATIONS FOR IMPROVEMENTS.

The City Administrator shall cause to be prepared specifications to supplement the standards of this ordinance based on engineering standards appropriate for the improvements concerned. Specifications shall be prepared for the design and construction of required public improvements, such other public facilities as a developer may elect to install, and private streets.

SECTION 8.030. IMPROVEMENTS IN SUBDIVISIONS.

The following improvements shall be installed at the expense of the subdivider and at the time of subdivision.

1. Streets: Public streets, including alleys, within the subdivision and public streets adjacent but only partially within the subdivision shall be improved to street standards. Catch basins shall be installed and connected to drainage tile leading to storm sewers or drainage ways. Upon completion of the street improvement, monuments shall be re-established and protected in monument boxes at every public street intersection and all points of curvature and points of tangency of their center lines.

TABLE 9-2. MYRTLE CREEK STREET STANDARDS

Classification	Total Right-of-Way Width (feet)	Pavement Width (feet)	Number of Lanes	On-street Parking	Bike Lanes (feet)	Sidewalk Width (feet)
Arterial	80	48	3 (2 + 1 TWLTL[1])	None	6 - both sides	5 - both sides
Arterial (CBD)	64	46	2	8 - both sides	None	8 - both sides
Major Collector	60-80	46	2	8 - one side	4 to 6 - both sides	5 - both sides
Minor Collector	60	40	2	8 - both sides	None	5 - both sides
Necessary (Major) Local	60	36	2	8 - both sides	None	5 - both sides
Local[2]	50	28	2 - 10' Travelways	8 - one side	None	5 - both sides

1. TWLTL = two-way, left-turn lane.
2. 28' are allowed when the street is <2,400 feet in length and cannot be extended.

2. Access and Connectivity: Every building hereafter erected or moved shall be on a lot adjacent to a public street, or with access to an approved private street within a Planned Development or a Mobile Home Park [see Sections 5.10.9(1), 5.11.13 (2) and 6.02.3]. All structures shall be located on lots so as to provide safe and convenient access for servicing, fire protection and required off-street parking and loading.

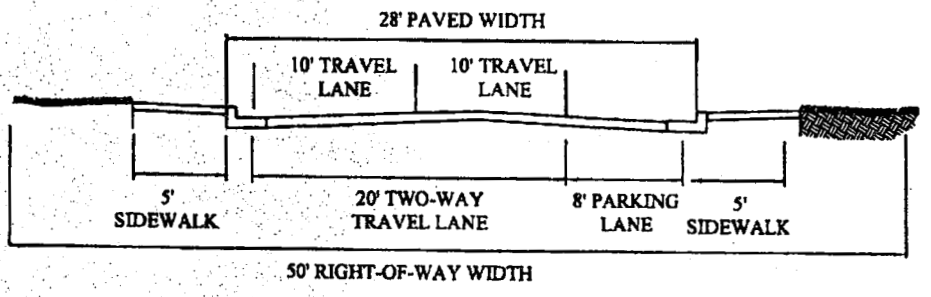
Access management, street connectivity, and driveway location will help manage access to land development while preserving the movement of people and goods in terms of safety, capacity, functional classification, and performance standards. This section shall apply to all arterials and major collectors within Myrtle Creek and to all properties that abut these roadways. These standards shall be applied to properties in Tri City if and when annexed into the City.

SECTION A : LOCAL

NOTES:

28' are allowed when the street is <2,400 feet in length and cannot be extended.
Curbside sidewalks may be allowed when ROW is insufficient for planting strips, or at the discretion of the City Engineer.

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.



SECTION B : MAJOR (NECESSARY) LOCAL

NOTES:

Parking may be restricted at intersections with Arterials and Major Collectors to provide turn lanes.
Curbside sidewalks may be allowed when ROW is insufficient for planting strips, or at the discretion of the City Engineer.

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.

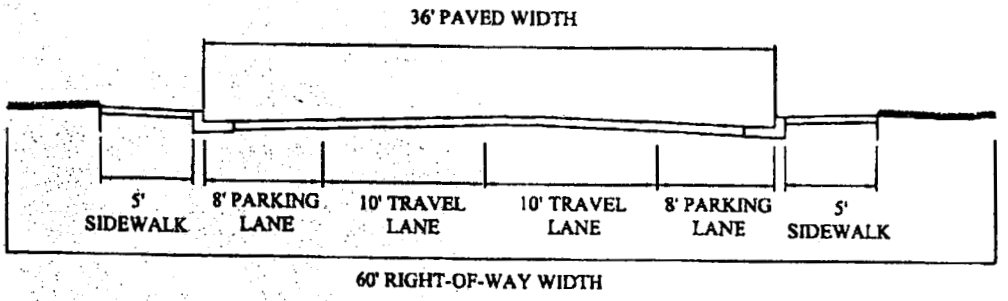


Figure 7-1

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

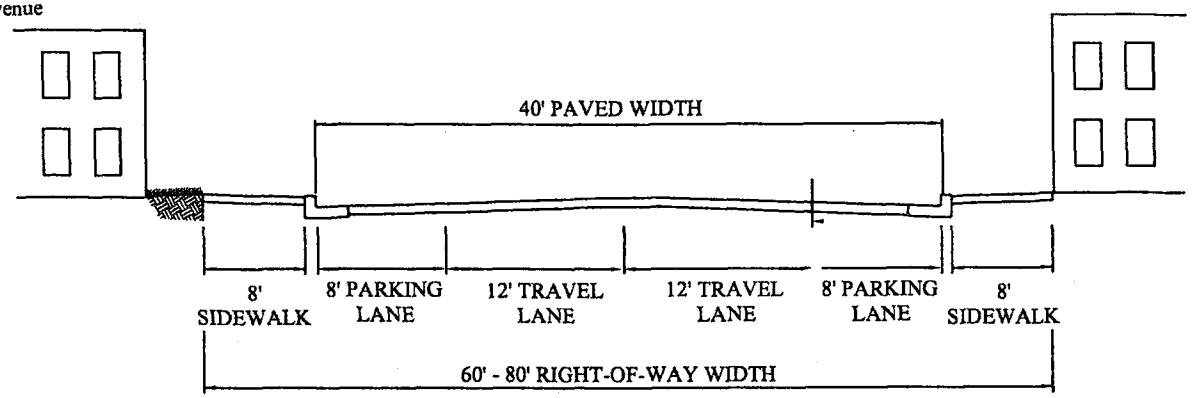
Local Streets
MYRTLE CREEK STANDARDS

SECTION C: MINOR COLLECTOR

NOTES:

8' sidewalks are standard in the CBD.

1st Avenue
2nd Avenue
3rd Avenue

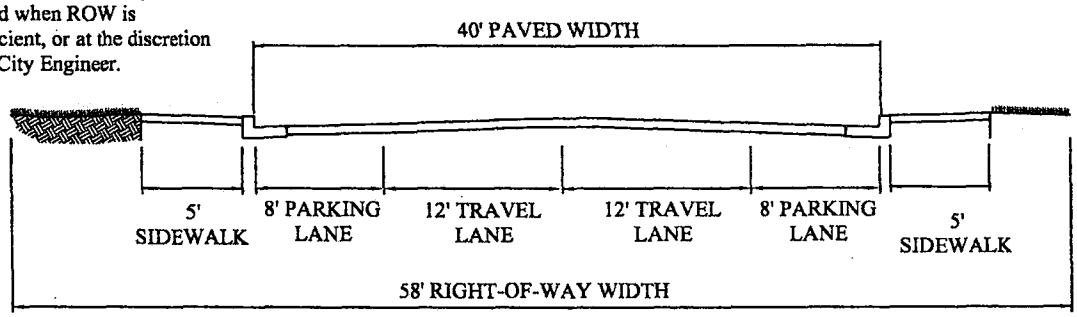


Spruce Avenue
Neal Lane
Neal Lane Extension
Rice Street
Laurance Street
Johnson Street

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.

NOTES:

Curbside sidewalks may be allowed when ROW is insufficient, or at the discretion of the City Engineer.



Dole Road
Future Collector parallel to N. Myrtle Drive

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.

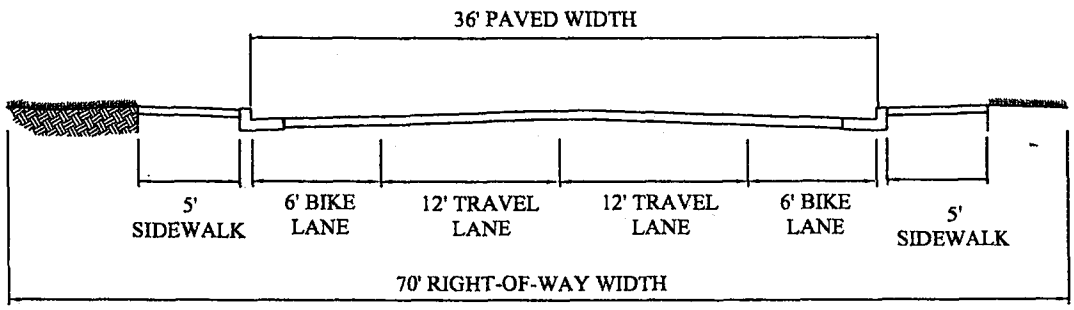


Figure 7-2

NOTES:

Curbside sidewalks may be allowed when ROW is insufficient, or at the discretion of the City Engineer.

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

Minor Collector Streets

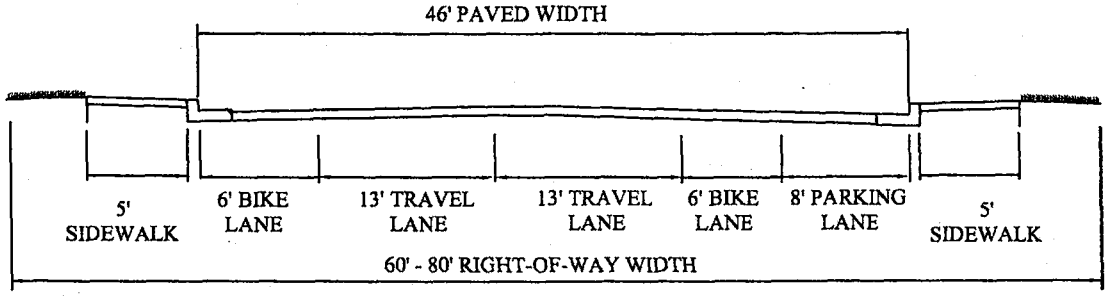
MYRTLE CREEK STANDARDS

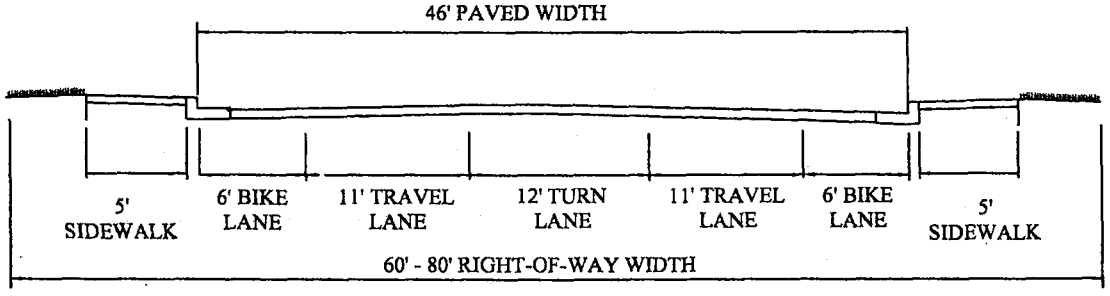
SECTION D: MAJOR COLLECTOR

Division Street - S. Myrtle Road
N. Myrtle Drive (from Division to Lillian)

NOTES:

Curbside sidewalks may be allowed when ROW is insufficient, or at the discretion of the City Engineer.





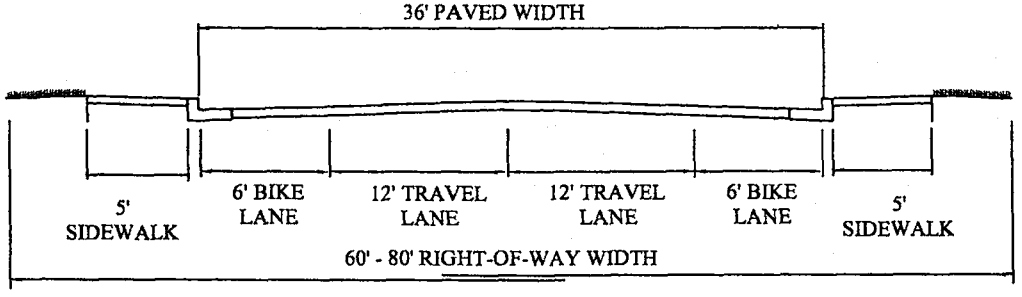


Figure 7-3

Riverside Drive
N. Myrtle Drive (from Lillian to City limits)

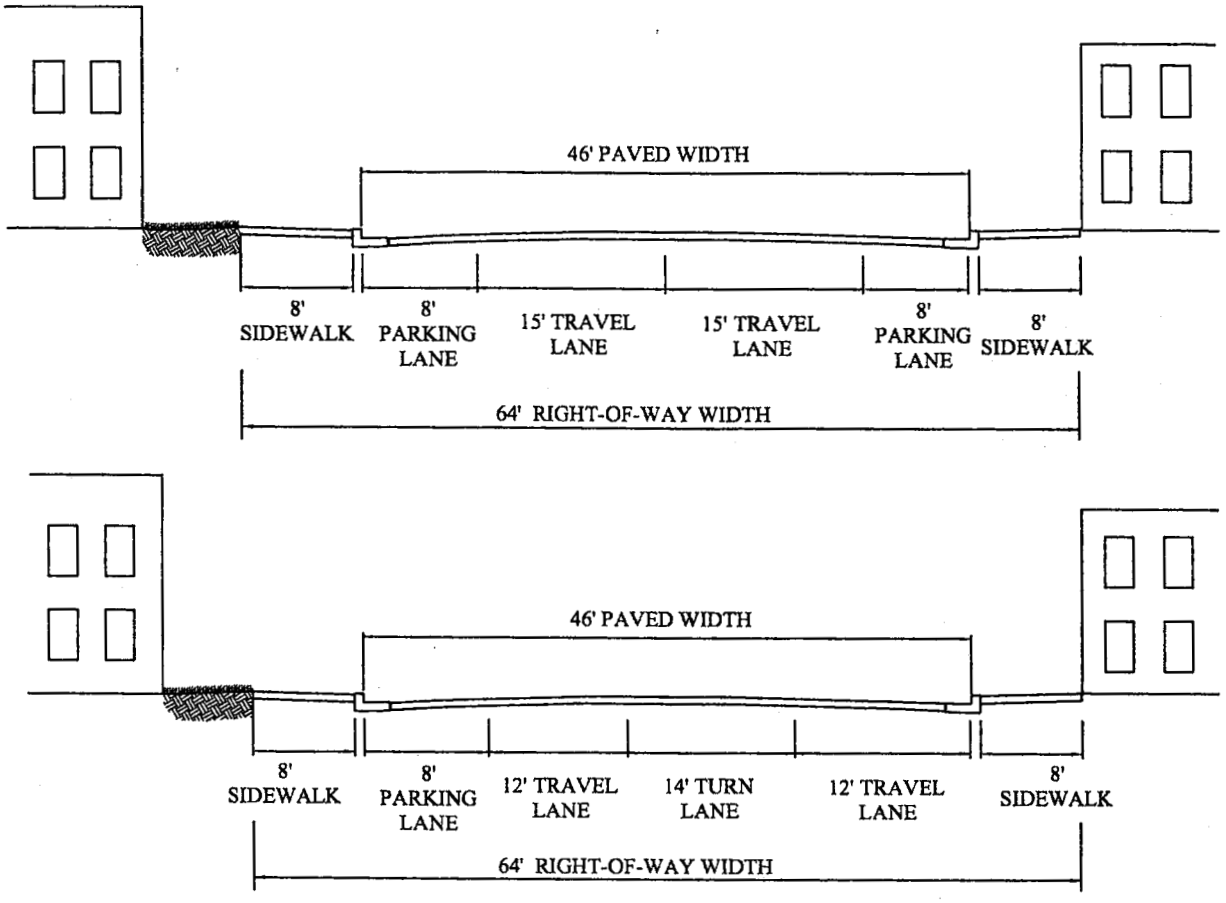
NOTES:

Curbside sidewalks may be allowed when ROW is insufficient, or at the discretion of the City Engineer.

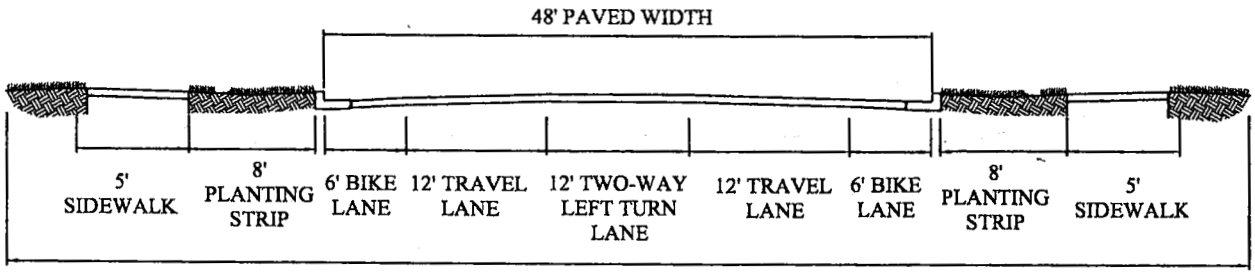
MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

Major Collector Streets
MYRTLE CREEK STANDARDS

SECTION E: ARTERIAL STREET (CBD)



SECTION F: ARTERIAL STREET (NON-CBD)



NOTES:

Curbside sidewalks may be allowed when the ROW is insufficient for planting strips.

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.

Figure 7-4

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

Arterial Streets

CBD And Non-CBD

MYRTLE CREEK STANDARDS

1. Joint Use Driveways and Cross Access:

(a) Adjacent commercial or office properties classified as major traffic generators (i.e. developments generating more than 400 ADT) shall provide a cross access drive and pedestrian access to allow circulation between sites.

(b) A system of joint use driveways and cross access easements shall be established wherever feasible. The property owner/developer shall provide a development plan to be reviewed and approved by the City. The development plan shall include the following:

i. A continuous service drive or cross access corridor extending the entire length of each block served to provide for driveway separation.

ii. A design speed of 10 mph and a maximum width of 22 feet to accommodate two-way travel aisles designed to accommodate automobiles, service vehicles, and loading vehicles;

iii. Stub-outs and other design features to make it visually obvious that the abutting properties may be tied in to provide cross-access via a service drive;

iv. A unified access and circulation system plan for coordinated or shared parking areas.

v. Shared parking areas shall be permitted a 20 percent reduction in required parking spaces if peak demands do not occur at the same time periods.

(c) Pursuant to this section, property owners shall:

i. Record an easement with the deed for the property which allows cross access to and from other properties served by the joint use driveways and cross access or

ii. Record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners.

iii. Myrtle Creek may modify or waive the requirements of this section where the characteristics or layout of abutting properties would make the development of a unified or shared access and circulation system impractical.

2. Access Connection and Driveway Design: Driveways shall meet the following standards:

(a) Access driveways to parking areas having ten (10) or more parking spaces shall be clearly marked to indicate one-way or two-way access.

(b) One-way driveways [one-way in or one-way out] shall have a minimum width of 12 feet.

(c) For two-way access, each lane shall have a minimum width of 10 feet.

(d) Driveway approaches must be designed and located to provide an exiting vehicle with an unobstructed view, meeting the requirements for clear vision areas. Construction of driveways along acceleration or deceleration lanes and tapers shall be avoided due to the potential for vehicular weaving conflicts.

(e) The length of driveways shall be designed to prevent vehicles from backing into the flow of traffic on the public street or causing unsafe conflicts with on-site circulation.

3. Number and Location of Access Points

(a) Number of Accesses Permitted: Access point to a public street shall be the minimum necessary to provide reasonable access while not inhibiting the safe traffic circulation and carrying capacity of the street.

(i) Excepting single family dwellings and except as further restricted by this Chapter, properties of less than 100 feet of frontage which may be separate or contiguous, shall be limited to one access point.

(ii) Properties exceeding 100 feet of frontage shall be limited to one access point per each 100 feet of frontage, but not to exceed four access points.

(b) Driveway location in relation to Intersections. Access driveways to loading and service areas, and to parking areas having ten (10) or more spaces, the minimum distance between driveways and intersections shall be as provided below. Distances listed shall be measured from the stop bar at the intersection.

(i) At the intersection of a collector or arterial street, driveways shall be located a minimum of 50 feet from the intersection.

(ii) At the intersection of two local streets, driveways shall be located no closer than 30 feet from the intersection.

(iii) If the subject property is not of sufficient width to allow for separation between driveway and intersection as provided, the driveway shall be constructed as far from the intersection as possible, while maintaining the 5-foot setback between the driveway and property line as required.

(c) Driveway location in Relation to Intersections for Single Family Dwellings. The minimum distance between driveways and intersections shall be 30 feet.

(i) If the subject property is not of sufficient width to allow for separation between driveway and intersection as provided, the driveway shall be constructed as far from the intersection as possible, while maintaining the 5-foot setback between the driveway and property line as required.

(d) Driveway location in relation to Lot Lines. Access driveways shall not be located closer than five (5) feet to an interior side lot line, except that common access driveways (not exceeding forty (40) feet in width) to two adjacent properties may be provided at the common lot line when a common driveway agreement is executed and recorded with the City.

(e) Driveway location in Relation to Adjacent Driveways. One-way driveways to parking areas having ten (10) or more spaces shall not be located closer than twenty feet to any other one-way driveway, nor closer than thirty-five (35) feet to any two-way driveway. Two-way driveways to parking areas having ten or more spaces shall not be closer than fifty (50) feet from any other two-way driveway, nor closer than thirty-five (35) feet from any one-way driveway.

3. Non-conforming Access Features: Legal access which does not conform with the standards herein are considered non-conforming features and shall be brought into compliance with applicable standards as practical under one of the following situations:

(a) When new access connection permits are requested;

(b) Changes in use, or significant enlargements or improvements that necessitate a new access permit.

4. Surface Drainage and Storm Sewer System: Drainage facilities shall be provided within the subdivision and to connect the subdivision drainage to drainage ways or storm sewers outside the subdivision. Design of drainage within the subdivision shall take into account the capacity and grade necessary to maintain unrestricted flow from areas draining through the subdivision and to allow extension of the system to serve such areas.

5. Sanitary Sewers: Sanitary sewers shall be installed to serve the subdivision and to connect the subdivision to existing mains. Design shall take into account the capacity and grade to allow for desirable extension beyond the subdivision. If required sewer facilities will, without further construction, directly serve property outside the subdivision, the following arrangements will be made to equitably distribute the cost:

   If the area outside the subdivision to be directly served by the sewer line has reached a state of development to justify sewer installations at the time, the Planning Commission may recommend to the City Council construction as an assessment project with such arrangement with the subdivider as is desirable to assure financing his share of the construction.

6. Water System: Water lines and fire hydrants serving each building site in the subdivision and connecting the subdivision to City mains shall be installed. The design shall take into account provisions for extension beyond the subdivision and to adequately grid the City system.

7. Sidewalks: Sidewalks shall be installed on both sides of a public street and in any special pedestrian way (accessway or multi-use path) within the subdivision per the Pedestrian Plan Map.

   (a) In the case of special type industrial districts, the Planning Commission may approve a subdivision without sidewalks if alternative pedestrians routes are available to the property.

8. Bicycle Routes: As outlined in the Bicycle Plan Map, the installation of bicycle lanes within streets, separate bicycle paths, or bike route signage shall be required when developing new, or reconstructing existing streets that are designated for such facilities as part of a subdivision. These new bicycle facilities will provide connections to improve the overall bicycle network for the community. Bicycle lanes shall be 4 to 6 feet wide and located on both sides of the street, where practical. Refer to Table 9.2 for affected street-types.

9. Street Name Signs: Street name signs shall be installed at all street intersections, the type and color as approved by the City.

10. Street Lights: Street lights shall be installed and shall be served from an underground source of supply.

11. Other: The developer shall make necessary arrangements with utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including, but not limited to, communication, street lighting and cable television, shall be placed underground.

SECTION 8.040. IMPROVEMENTS IN PARTITIONS.

The same improvements shall be installed to serve each building site of a partition as is required of a subdivision. However, if the Planning Commission finds that the nature of development in the vicinity of the partition makes installation of some improvements unreasonable, the Planning Commission may except those improvements. In lieu of excepting an improvement, the Planning Commission may recommend to the City Council that the improvement be installed in the area under special assessment financing or other facility extension policies of the City.

SECTION 8.050 PROPERTY LINE ADJUSTMENT.

The common property line between adjoining lots or parcels may be adjusted in accordance with this Section without partition, platting or replatting procedures in ORS 92.180 and 92.185 or the vacation procedures in ORS 368. Once a lot or parcel line has been adjusted, the adjusted line shall be the property line. The City Administrator has authority to approve a property line adjustment when all of the requirements of this Section have been satisfied.

1. Application: An application for a property line adjustment shall be filed by the owners of all lots or parcels affected. The application shall contain the following information:

   A. A brief statement explaining the reason for the adjustment.

   B. A vicinity map identifying the lots or parcels to be effected by the property line adjustment.

   C. A plot plan showing the existing property lines of the lots or parcels affected by the adjustment and the location of the proposed adjusted property line. The plot plan shall also show the location of all structures within twenty feet of the proposed adjusted property line.

2. Limitations and Exceptions:

   A. A property line adjustment is permitted only where an additional unit of land is not created and where the lot or parcel reduced in size by the adjustment will comply with the standards of the applicaple zoning district, or where no increase in an existing nonconformity will occur.

   B. A property line adjustment is permitted only where existing or planned structures will not encroach within required setback areas as measured from the adjusted property line.

   C. A property line adjustment is permitted only where the sale or transfer of ownership is made between adjacent owners within the same zoning district.

   D. A property line adjustment is permitted only where any lot changed will not adversely affect access, easements, or drainfields.

E. A property line adjustment is permitted only where off-street parking of any lot affected by the adjustment will not be reduced below the required number of spaces for the use of the lot.

3. Preliminary Approval:

A. Within ten days of receiving a complete application, the City Administrator shall notify the applicant in writing whether the proposed property line adjustment conforms with the requirements of this Section.

4. Final Approval and Filing Requirements:

A. Within six (6) months from the date of preliminary approval, the applicant shall submit a survey map which conforms with the requirements of Section 5.025 of this Ordinance, except that the final map shall indicate that it is for a property line adjustment which does not create a new lot or parcel.

B. Within ten days of receiving a complete survey map meeting the requirements of this Section, the City Administrator shall indicate final approval by signing the map and notifying the applicant in writing of the final approval.

C. The applicant shall submit the signed survey map to the Douglas County Surveyor, together with any required filing fee. When the map is filed, the County Surveyor shall indicate the filing information on the face of the map.

D. A property line adjustment shall be effective when the survey map is properly filed with the County Surveyor.

5. Exception For Adjustments of Even Width:

A. The survey and filing requirements of Subsection (4) above, shall not apply to a property line adjustment where the adjusted property line is a distance of even width along the entire common property line, or when the affected lots or parcels contain more than 10 acres before and after the adjustment.

6. Filing of Deed:

A. A deed of conveyance conforming to the approved property line adjustment shall be recorded with the Douglas County Clerk. A property line adjustment deed shall contain the names of the parties, the description of the adjusted line, references to original recorded documents and signatures of all parties with proper acknowledgments.

SECTION 8.060: REQUIREMENTS OF PHASED DEVELOPMENT PLANS

1. In the interest of promoting unified access and circulation systems, development sites under the same ownership or consolidated for the purposes of development and comprised of more than one building site shall be reviewed as single properties in relation to the access standards of this ordinance. The number of access points permitted shall be the minimum number necessary to provide reasonable access to these properties, not the maximum available for that frontage. All necessary easements, agreements, and stipulations shall be met. This shall also apply to phased development plans. Necessary street extensions per the Future Street Plan & Functional Classification Maps. will be planned for in all phases of development. The owner and all lessees within the affected area are responsible for compliance with the requirements of this ordinance and both shall be cited for any violation.

2. All access must be internalized using the shared circulation system of the principal development or retail center. Driveways shall be designed to avoid queuing across surrounding parking and driving aisles.

ARTICLE IX.

EXCEPTIONS, VARIANCES & ENFORCEMENT

SECTION 9.010. EXCEPTIONS IN CASE OF A PLANNED DEVELOPMENT.

The standards and requirements of these regulations may be modified by the Planning Commission in accordance with the Planned Development regulations of the Zoning Ordinance.

SECTION 9.015. CONDITIONS FOR REDUCED PAVEMENT WIDTH.

A variance which allows the pavement width on minor streets in residential districts to be reduced to less than twenty-eight feet (28') may be approved by the Planning Commission under the following conditions:

1. The street is less than 2400 feet in length, cannot be extended, and serves local traffic only.

2. All abutting lots are of sufficient size and shape to provide the additional off-street parking that may be required as a condition of approval.

3. If the right-of-way is to be reduced accordingly, it shall be of sufficient width to provide space for sidewalks, curbs, drainage and utilities and the lot sizes within the parcel to be subdivided shall be increased in direct relation to the land area released from the right-of-way requirement.

4. On-street parking restrictions shall be imposed and additional off-street parking shall be required for each lot through the use of deed restrictions as follows:

    A. Where on-street parking is to be allowed on one side of the street only, each unit shall provide three (3) off-street parking spaces.

    B. Where no on-street parking is to be allowed, each unit shall provide four (4) off-street parking spaces.

    C. In the case of "A" or "B" above, all required off-street parking spaces shall be set back a minimum of ten feet (10') from the front property line.

    D. Multiple carports may be used to provide the required off-street parking. An area twelve feet in width and 20 feet in depth (12'x20') shall be considered one space. Each separately enclosed garage shall be considered to provide one parking space for the purpose of this exception.

E. Parking bays may be dedicated in lieu of the additional off-street parking required by paragraph "A" or "B" above when the total number of spaces provided is equal to two spaces per unit within the subdivision. This shall not exclude each unit from providing the two off-street spaces per unit otherwise required.

5. A petition for variance is applied for and approved as provided by Section 9.020 herein.

SECTION 9.016. CONDITIONS FOR VARIANCES TO CITY ACCESS MANAGEMENT REQUIREMENTS

It is recognized that special circumstances occasionally occur which require deviations to the City's access management standards. In such circumstances, alternatives to the adopted standards must be carefully reviewed and proposed deviations clearly justified. Approval Criteria include (1) Only in cases where the authorized relaxation of the access management standards shall not be contrary to the public interest and (2) only where conditions exist which are particular to the property and which are not the result of the actions of the applicant shall variances be granted. Applications for variances shall be submitted as an element of the site development plan, shall be reviewed by the Planning Commission through the public hearing process, and shall be coordinated with the responsible agency for the affected facility. Variance requests shall satisfy the Access Management Variance Approval Criteria as discussed above.

SECTION 9.020. VARIANCE APPLICATION.

The Planning Commission may authorize conditional variances to requirements of this ordinance. Application for a variance shall be made by a petition of the land divider, stating fully the grounds of the application and the facts relied upon by the petitioner. The petition shall be filed with the tentative plan. A variance may be granted only in the event that all of the following circumstances exist:

1. Exceptional or extraordinary circumstances apply to the property which do not apply generally to other properties in the same vicinity and result from tract size or shape, topography or other circumstances over which the owners of a property, since enactment of this ordinance, have had no control.

2. The variance is necessary for the preservation of a property right of the applicant substantially the same as owners of other property in the same vicinity possess.

3. The variance would not be materially detrimental to the purposes of this ordinance, or to property in the same vicinity in which the property is located, or otherwise conflict with the objectives of any City plan or policy.

4. The variance requested is the minimum variance which would alleviate the hardship.

5. If the Planning Commission believes that a variance from requirements of the ordinance may be detrimental to a reasonable development and if the variance cannot be adequately supported by facts on the above circumstances, the Planning Commission may require the developer to proceed under the requirements for a Planned Development in the Myrtle Creek Zoning Ordinance.

SECTION 9.025. APPEAL PROCEDURE.

An action or ruling of the Planning Commission pursuant to this ordinance may be appealed by an affected or aggrieved party to the City Council within a specified time period as set forth in Section 2.070 and Section 5.020. Written notice of appeal shall be filed with the City Recorder accompanied by a service charge established by the City of Myrtle Creek's Handbook of Fees and Charges. If the appeal is not filed within the time period stated, the decision of the Planning Commission shall be final and binding on all parties concerned. If the appeal is filed, the City Council shall receive a report and recommendation thereon from the Planning Commission and shall hold a public hearing on the appeal. Notice and conduct of hearing shall be in accordance with Section 9.04.0 of Zoning Ordinance No. 508, however, the mailing of individual notice shall not be required.

SECTION 9.030. SEVERABILITY.

The provisions of this ordinance are severable. If a section, sentence, clause or phrase of this ordinance is adjudged by a court of competent jurisdiction to be invalid, the decision shall not affect the validity of the remaining portions of this ordinance.

SECTION 9.040. PENALTIES FOR VIOLATION.

In addition to penalties provided by State law, a person who violates or fails to comply with a provision of this ordinance shall, upon conviction thereof, be punished by a fine of not more than Five Hundred Dollars ($500.00) or by imprisonment for not more than one hundred (100) days, or both. A violation of this ordinance shall be considered a separate offense for each day the violation continues.

SECTION 9.050. AMENDMENTS.

Amendments to these regulations and notice of hearing thereon shall be in accordance with the procedures set forth in ORS 92.048.

SECTION 9.060. REPEAL OF CONFLICTING ORDINANCES.

Ordinance No. 327, adopted 3/12/68; Ordinance No. 352, adopted 6/9/70; Ordinance No. 368, adopted 9/14/71; Ordinance No. 411, adopted 5/21/75 and all ordinances or parts of ordinances in conflict with this ordinance, or inconsistent with the provisions of this ordinance are hereby repealed to the extent necessary to give this ordinance full force and effect.

PASSED BY THE COUNCIL AND APPROVED BY THE MAYOR THIS 15TH DAY OF JANUARY, 1980.

RECORD OF AMENDMENTS

ORDINANCE NO.	DATE ENACTED
572	July 19, 1988
609	November 19, 1991
742	October 18, 2005
747	June 20, 2006
749	July 18, 2006

APPENDIX:
DECEMBER 2005
TRANSPORTATION SYSTEM PLAN
SUPPORT DOCUMENT

MYRTLE CREEK
TRANSPORTATION SYSTEM PLAN

PREPARED FOR:

ODOT REGION 3

PREPARED BY:

DAVID EVANS AND ASSOCIATES, INC.

DECEMBER 2005

LIST OF ACRONYMS

ADT	Average Daily Traffic
CORP	Central Oregon & Pacific Railroad
DEA	David Evans and Associates, Inc.
DHV	Design Hour Volume
DLCD	The Department of Land Conservation and Development
EB	Eastbound
I-5	Interstate-5
LOS	Level-of-Service
MPO	Metropolitan Planning Organization
MUTCD	Manual on Uniform Traffic Control Devices
NB	Northbound
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
OTIA	Oregon Transportation Investment Act
OTP	Oregon Transportation Rule
SB	Southbound
STIP	Statewide Transportation Improvement Program
TAC	Technical Advisory Committee
TPR	Transportation Planning Rule
TSP	Transportation System Plan
UGB	Urban Growth Boundary
UGMA	Urban Growth Management Agreement
v/c	Volume-to-capacity
WB	Westbound

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CHAPTER 1: INTRODUCTION

The Myrtle Creek Transportation System Plan (TSP) guides the management of existing transportation facilities and the design and implementation of future facilities within the Myrtle Creek Urban Growth Boundary (UGB) for the next 20 years. This TSP constitutes the transportation element of the Myrtle Creek's Comprehensive Plan and supplements the Tri City section of the Douglas County TSP (the transportation element of the Douglas County Comprehensive Plan). This document satisfies the requirements of the Oregon Transportation Planning Rule established by the Department of Land Conservation and Development. It identifies and prioritizes transportation projects for inclusion in the Oregon Department of Transportation's (ODOT's) Statewide Transportation Improvement Program (STIP).

PLANNING AREA

The Myrtle Creek TSP covers the entire area within the City of Myrtle Creek's UGB including the Tri City area. Myrtle Creek is located in southwest Oregon in Douglas County approximately 20 miles south of Roseburg and two miles northeast of Riddle. The planning area had approximately 6,900 residents in 2000—about half living in the city and half in Tri City. The planning area covers close to ten square miles and is generally bordered by the South Umpqua River and Interstate-5 (I-5) to the west, and rolling hills to the east. (See Figure 1-1: Vicinity Map.)

The Myrtle Creek TSP area is planned by two jurisdictions, the City of Myrtle Creek and Douglas County. Per the Urban Growth Management Area (UGMA) agreement between the City and County (last amended November 1997), Douglas County retains full planning jurisdiction within the Tri City portion of the boundary ("Area 2" of Myrtle Creek's UGB). At the same time, the City of Myrtle Creek has planning jurisdiction over "Area 1" of Myrtle Creek's UGB, which primarily includes land within the city limits. (See **Appendix A**: Urban Growth Management Area Map.) In some areas, notably in the northeast, there are "islands" where properties outside of the city limits are surrounded by parcels that are within the city limits. These areas are also within the City's jurisdiction.

The UGMA defines the coordination efforts to be taken by the City and County for lands within the UGB. The City initially processes all plan and text map amendments and land use actions within Area 1 and must notify the County of each proposed action for comment.

The timber industry has played a significant role in the history of Myrtle Creek. Declines in the timber industry have resulted in employment losses and a corresponding decline in economic growth. Recent economic development efforts have focused on economic diversification including encouraging tourism and attracting light industry-related businesses to locate in Myrtle Creek.[1] Less than 20 miles south of employment centers in Roseburg and the Green Unincorporated Urban Area (UUA), Myrtle Creek is strategically located to become a "bedroom" community. The largest employers providing jobs to the residents of Myrtle Creek are located outside of the

[1] Information taken from *South Umpqua Valley Community* website, http://www.pioneer-net.com/~community/#MC.

city limits (in Riddle) and are timber-related: Roseburg Forest Products, DR Johnson Company (timber products, laminated beams), and C & D Lumber.

The city has a Central Business District that is developed with commercial and some residential uses. It is designed in a walkable, grid pattern with an historic character. Outside the Central Business District, commercial uses are concentrated on the south side of Division Street, at the intersection of Division and North Myrtle Road, and on Old Pacific Highway 99, in the southern part of the UGB–Tri City.

LAND USE AND TRANSPORTATION CONNECTION

The Myrtle Creek TSP needs to meet the requirements of Statewide Planning Goal 12 and its implementing division, the Transportation Planning Rule (OAR Chapter 660, Division 12). Goal 12 affects all levels of government, and requires that transportation plans be coordinated among all jurisdictions. The TSP was created with joint participation from the City of Myrtle Creek and Douglas County. As stated earlier, the City of Myrtle Creek has planning jurisdiction for the area within the city limits, and Douglas County has jurisdiction for Tri City. In addition to this intergovernmental coordination, Myrtle Creek and Douglas County are required to coordinate with ODOT. For example, the TSP must be coordinated with statewide transportation plans. The elements of the plans for these jurisdictions that pertain to Myrtle Creek are delineated in this chapter.

Goal 12

In the mid-1970s, Oregon adopted 19 Statewide Planning Goals to be implemented in comprehensive plans. The aim of Goal 12, Transportation is "to provide and encourage a safe, convenient, and economic transportation system."

Each community, region, and metropolitan area updated the transportation element of their comprehensive plans according to the following guidelines set forth in Goal 12:

> "A transportation plan shall (1) consider all modes of transportation including mass transit, air, water, pipeline, rail, highway, bicycle and pedestrian; (2) be based upon an inventory of local, regional and state transportation needs; (3) consider the differences in social consequences that would result from utilizing differing combinations of transportation modes: (4) avoid principal reliance upon any one mode of transportation; (5) minimize adverse social, economic and environmental impacts and costs; (6) conserve energy; (7) meet the needs of the transportation disadvantaged by improving transportation services; (8) facilitate the flow of goods and services so as to strengthen the local and regional economy; and (9) conform with local and regional comprehensive land use plans."

The Myrtle Creek Comprehensive Plan and the Douglas County Comprehensive Plan both include land use policies corresponding to the Transportation Planning Rule. The TSP furthers compliance with Goal 12.

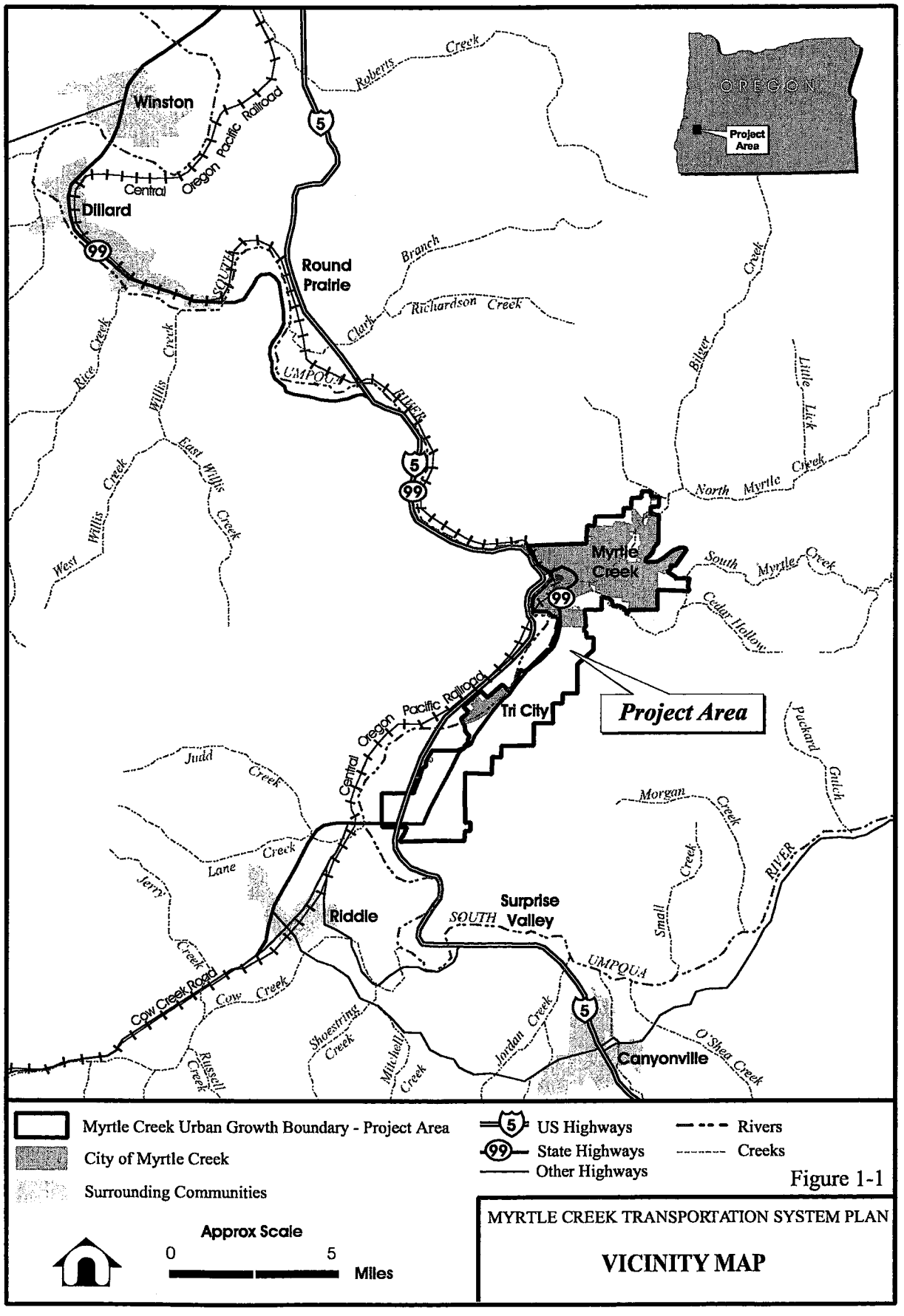

Figure 1-1

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

VICINITY MAP

The Transportation Planning Rule

The Department of Land Conservation and Development (DLCD) and ODOT developed the Transportation Planning Rule (TPR). It was adopted in April 1991, and has been revised several times since then. The TPR implements Goal 12.

Overview

The TPR requires that cities, counties, Metropolitan Planning Organizations (MPOs), and state agencies prepare and adopt TSPs. A TSP is "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."

The ultimate aim of the rule is to encourage a multi-modal transportation network throughout the state. A network that will reduce our reliance on the automobile and ensure that local, state, and regional transportation systems "support 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 following plan elements are provided in this document as required by the TPR.

1. Identification of transportation needs;
2. A street system plan for a network of arterial and collector roadways;
3. Bicycle and pedestrian plans;
4. A public transportation plan;
5. Air, rail, water, and pipeline plans;
6. Policies and land use regulations for implementing the TSP; and
7. A transportation financing program.

In addition, the TPR requires that local governments revise their land use regulations to implement the TSP in the following manner:

1. *Amend land use regulations to reflect and implement the Transportation System Plan.*
2. *Clearly identify which transportation facilities, services, and improvements are allowed outright, and which will be conditionally permitted or permitted through other procedures.*
3. *Adopt land use or subdivision ordinance measures, consistent with applicable federal and state requirements, to protect transportation facilities, corridors and sites for their identified functions, to include the following topics:*

   - access management and control;

   - protection of public use airports;

   - coordinated review of land use decisions potentially affecting transportation facilities;

   - conditions to minimize development impacts to transportation facilities;

- *regulations to provide notice to public agencies providing transportation facilities and services of land use applications that potentially affect transportation facilities;*
- *regulations assuring that amendments to land use applications, densities, and design standards are consistent with the Transportation System Plan.*

4. *Adopt land use or subdivision regulations for urban areas and rural communities to provide safe and convenient pedestrian and bicycle circulation and bicycle parking, and to ensure that new development provides on-site streets and accessways that provide reasonably direct routes for pedestrian and bicycle travel.*
5. *Establish street standards that minimize pavement width and total right-of-way.*

Amendments to the City of Myrtle Creek Comprehensive Plan, Zoning Ordinance, and Subdivision Ordinance are included in Chapter 9 to meet these requirements and ensure compliance and consistency with the TPR.

Oregon Transportation Plan

The Oregon Transportation Plan (OTP) was completed and adopted by the Oregon Transportation Commission in September 1992. Several alternative approaches to developing the transportation plan were evaluated as part of the OTP planning process. The preferred plan presented in the OTP followed the Livability Approach, which "depends heavily on the concept of minimum levels of service within each transportation mode to assure appropriate transportation alternatives to all areas of the state."

PLANNING PROCESS

The Myrtle Creek TSP was developed through a series of technical analyses combined with systematic input and review by the Transportation Advisory Committee (TAC), ODOT, and the public. The TAC consisted of staff from Myrtle Creek, Douglas County, ODOT, DLCD, elected and appointed officials, residents, tribal representatives, and business people from the County. Key elements of the process include:

- Involving the Myrtle Creek/Tri City community (Chapter 1; Appendix B);
- Defining goals and objectives (Chapter 2);
- Reviewing existing transportation conditions (Chapters 3 and 4; Appendices C, D, E, and F);
- Developing population, employment, and travel forecasts (Chapter 5; Appendices G and H);
- Developing and evaluating potential transportation system improvements (Chapter 6; Appendix I);
- Developing the Transportation System Plan (Chapter 7);
- Developing a Financing Plan (Chapter 8); and
- Developing policies and ordinances (Chapter 9).

Once approved by the City of Myrtle Creek and Douglas County and acknowledged by the Land Conservation and Development Commission, the TSP will bring the City into compliance with the TPR. The TSP includes the necessary comprehensive plan amendments and supporting ordinances to implement the TSP. This will help Myrtle Creek and Douglas County to more effectively focus future growth by establishing a consistent planning framework in alignment with community and state goals and policies.

Community Involvement

Community involvement is an integral component in the development of a TSP. Several different techniques were utilized to involve the local jurisdiction, ODOT, and the general public.

A 23-person Technical Advisory Committee (TAC) provided guidance on technical issues and direction regarding policy issues to the consultant team. Staff members from the local jurisdictions, DLCD, and ODOT served on this committee. This group met six times during the course of the project.

A group of local stakeholders also served on the TAC. These included representatives from: the Myrtle Creek Fire Department, the Myrtle Creek Police Department, Tri City Water and Sewer, the Tri City Fire Department, the Myrtle Creek Airport Support Group, the Myrtle Creek Airport Commission, the Douglas County Mail, the Myrtle Creek Chamber of Commerce, the Central Oregon & Pacific Railroad, the South Umpqua School District, Ireland Trucking, and Laidlaw Transportation.

Another part of the community involvement effort consisted of community meetings. The first public open house was held on September 30, 2004 at the Myrtle Creek City Hall. The general public was invited to learn about the TSP planning process and provide input on transportation issues and concerns. A second public open house was held on March 30, 2005 also at the Myrtle Creek City Hall. The public was notified of the public meetings through public announcements in the local newspapers, on the local radio stations, and on the local cable television station. Two newsletters were also produced and posted on the City website and posted at City Hall. This second public meeting presented proposed projects and solicited input priorities for a preferred plan.

Appendix B summarizes the community involvement effort. This appendix includes the names of those individuals who served on the TAC, a list of project meetings open to the public and the topics discussed, meeting summaries from the two public meetings, and the two project newsletters.

A joint workshop with the City of Myrtle Creek Planning Commission and City Council was held on July 20, 2005. A special presentation was given to the Myrtle Creek Planning Commission on December 19, 2005 to review the document. Also, a public hearing was held before the Myrtle Creek City Council on December 20, 2005.

Goals and Objectives

Based on input from the TAC and jurisdictions public, goals and objectives were defined for the TSP. These goals and objectives were used to make decisions about various potential improvement projects. They are described in Chapter 2.

Review and Inventory of Existing Plans, Policies, and Public Facilities

To begin the planning process, all applicable Myrtle Creek and Douglas County transportation and land use plans and policies were reviewed and an inventory of public facilities was conducted. The purpose of these efforts was to understand the history of transportation planning in the planning area, including the street system improvements planned and implemented in the past, and how the two jurisdictions are currently managing their ongoing development. Existing plans and policies are described in **Appendix C** of this report.

The inventory of existing facilities catalogs the current transportation system. The results of the inventory are described in Chapter 3, while Chapter 4 describes how the system operates. **Appendix D** summarizes the inventory of the existing highway and road systems. **Appendix E** describes the level-of-service (LOS) criteria for unsignalized intersections and two-lane rural highway sections. **Appendix F** contains the LOS and volume-to-capacity calculation summary sheets for the existing conditions.

Future Transportation System Demands

The TPR requires the TSP to address a 20-year forecasting period. Future traffic volumes for the existing plus committed transportation systems were projected using a multi-step approach based on population growth, ODOT's freeway volume projections, and zoning and vacant land analysis. The overall travel demand forecasting process is described in Chapter 5.

Appendix F contains future development and trip generation calculations for the Myrtle Creek/Tri City Area. **Appendix G** contains the LOS and volume-to-capacity calculation summary sheets for the future conditions.

Transportation System Potential Improvements

Once the travel forecasts were developed, it was possible to evaluate a series of potential transportation system improvements. The evaluation of the potential transportation improvements was based on a qualitative review of safety, environmental, socioeconomic, and land use impacts, as well as estimated cost. These improvements were developed with the help of the TAC, and they attempt to address the concerns specified in the goals and objectives (Chapter 2). After evaluating the results of the potential improvements analysis, a series of transportation system improvements were selected with input from the TAC (including Douglas County representatives), the Myrtle Creek Planning Commission and the Myrtle Creek City Council. The Myrtle Creek Planning Commission, Comprehensive Plan Advisory Committee (PAC), City Council, and Public Works also ranked the projects. The prioritization is reflected in the timeline for implementing the projects (short, medium, or long term). The planned improvements are described in Chapter 6.

Transportation System Plan

The TSP addresses each mode of transportation and provides an overall implementation program. The street system plan was developed from the forecasting and potential improvement evaluation described above. The bicycle and pedestrian plans were developed based on current usage, land use patterns, and the requirements set forth by the TPR. The public transportation, air, water, rail, and pipeline plans were developed based on discussions with the owners and operators of those facilities. Chapter 7 details the plan elements for each mode.

Funding Options

Douglas County and ODOT will need to work with ODOT to finance new transportation projects over the 20-year planning period. An overview of funding and financing options that might be available to the City of Myrtle Creek and Douglas County is described in Chapter 8.

Policies and Ordinances

Comprehensive Plan policies and zoning and subdivision ordinances are included in Chapter 2 (Goals and Objectives) and Chapter 9 (Implementation of the Transportation System Plan). These policies and ordinances are intended to support the TSP and satisfy the requirements of the TPR.

RELATED DOCUMENTS

The Myrtle Creek TSP addresses the regional and rural transportation needs in the Myrtle Creek UGB. There are several other documents that address specific transportation elements in the UGB. In addition, the TSP will need to be coordinated with many of the statewide plans.

Inventories and Plans

- City of Myrtle Creek Comprehensive Plan (1981, Revised 1991)
- Douglas County Comprehensive Land Use Plan (1980)
- Douglas County Transportation System Plan (1981, Revised 2003)
- Oregon Aviation Plan (2000)
- Oregon Rail Plan (2001)
- Oregon Bicycle and Pedestrian Plan (1993)
- Oregon Transportation Plan (1992)
- Oregon Highway Plan (1999)

CHAPTER 2: GOALS AND OBJECTIVES

The purpose of the TSP is to provide a guide for Myrtle Creek and Tri City (Douglas County) to meet their transportation goals and objectives. The following goals and objectives were developed from information contained in the Myrtle Creek Comprehensive Plan, the Douglas County TSP, and input from the TSP Technical Advisory Committee, the Myrtle Creek Comprehensive Planning Advisory Committee, and public concerns as expressed during public meetings. An overall goal was drawn from the plans, along with more specific goals and objectives. Throughout the planning process, each element of the plan was evaluated against these parameters.

OVERALL TRANSPORTATION GOAL

Provide Myrtle Creek with a safe, efficient, and economic transportation system for moving people and goods throughout the urban area.

Implementing Policies

A. The City shall encourage and support a safe, efficient, and economic transportation system.

B. The City will coordinate transportation planning and construction efforts with Douglas County and ODOT.

C. The City shall update its transportation goals and projects through the Transportation System Plan (TSP) through the TSP periodic review, and more frequently as necessary.

D. The City shall work to improve the functioning of existing facilities to address needs prior to developing new facilities.

E. Transportation and land use planning within the city will be coordinated to ensure that transportation facilities are not overwhelmed by inappropriate development and to minimize adverse impacts from transportation facilities on sensitive land uses.

F. The Myrtle Creek Zoning Ordinance and Myrtle Creek Subdivision Ordinance shall be revised where appropriate to add or improve transportation-related design standards and review criteria.

Goal 1

Preserve the function, capacity, level of service, and safety of the city streets, county streets, and state highways.

Objectives:

a) Establish a comprehensive, hierarchical network of streets with arterials, collectors, and minor collectors.

b) Develop a Future Street Plan laying out the future street circulation routes for the Urban Growth Area.

c) Establish access management standards that meet the requirements of the Transportation Planning Rule and protect roadway function.

d) Encourage combined access drives for commercial and industrial development and restrict additional access onto Main Street, wherever feasible.

e) Consider the impact on existing or planned transportation facilities within the City or Urban Growth Boundary when making land use decisions.

f) Encourage the provision of a Weaver Road Bridge connecting Myrtle Creek more directly with the I-5 and the Myrtle Creek Airport.

g) Support Federal and State improvement to the existing I-5 interchanges and accesses at Exits 103 and 108 that are consistent with the Transportation System Plan.

h) Protect the function of existing or planned roadways or roadway corridors through the application of appropriate land use regulations.

i) Coordinate with Douglas County, ODOT and other transportation agencies to establish funding and maintenance agreements to maintain a seamless arterial and collector system for roadways that are impacted by heavy trucks.

j) Promote alternative modes of transportation on roadways.

k) Promote transportation demand management programs (i.e. ridesharing).

Goal 2

Improve traffic circulation and safety and preserve the level of service on local street systems.

Objectives:

a) The City's street system will include a network of collector streets that connect local traffic to the arterial street system.

b) Develop alternative parallel routes to serve local traffic needs as practical.

c) Identify truck routes to minimize truck through-traffic in urban areas.

d) Support the Douglas County plan for an alternate North/South arterial route through Myrtle Creek.

e) Cul-de-sacs should be discouraged.

f) Maintain strong connections between downtown Myrtle Creek and major transportation routes (I-5 in particular).

Goal 3

Identify roadway system needs to accommodate future populations and economic growth.

Objectives:

a) Identify future street connections that are necessary to improve circulation as development proceeds.

b) Integrate new arterials and collectors into a grid system where practical.

c) Integrate street standards into the land use development code to ensure street improvements concurrent with development.

d) Preserve right-of-way for planned transportation facilities through exactions, voluntary dedication, or setbacks.

e) Require that all land divisions incorporate proposed future streets as part of the development design and that alignments are consistent with the TSP objectives.

f) Require adequate right-of-way dedication along existing roads before land division, development, and/or annexation to accommodate necessary improvements pursuant to City street standards.

g) Request that Douglas County acquire right-of-way dedication in accordance with City standards prior to approval of development within the Myrtle Creek Urban Growth Boundary and consistent with the Urban Growth Management Agreement.

Goal 4

Promote increased use of alternative modes of transportation (walking, bicycling, rideshare/carpooling, and transit) through improved facilities and service.

Objectives:

a) Provide for sidewalks, bikeways, and safe crossings on arterial and collector streets.

b) Develop a city bicycle plan.

c) Promote alternative modes and rideshare/carpool programs through community awareness and education.

d) Promote the expansion and development of the Myrtle Creek Municipal Airport in accordance with adopted plans.

e) Support preservation and use of the existing railroad system and encourage improvements that could benefit potential industrial development.

f) Support telecommuting as an effective means of decreasing the need for expanding traditional transportation system infrastructure, and encourage its use as an alternative to other travel modes.

g) Encourage new development which can utilize or improve the existing transportation system.

h) Plan for future transit service by seeking state support.

i) The City shall consider the potential to establish or maintain access ways, paths, or trails before the vacation of any public easement or right-of-way.

CHAPTER 3: INVENTORY

As part of the planning process, an inventory of the existing transportation system in the Myrtle Creek UGB was conducted. This inventory covered the street system as well as the pedestrian, bikeway, public transportation, rail, air, water, and pipeline systems as they apply to the planning area.

STREET SYSTEM

The most common understanding of transportation is of roadways carrying cars and trucks. Most transportation dollars are devoted to building, maintaining, or planning roads to carry automobiles and trucks. The mobility provided by the personal automobile has resulted in a great reliance on this form of transportation. Likewise, the ability of trucks to carry freight to nearly any destination has greatly increased their use.

Encouraging the use of cars and trucks must be balanced against costs, livability factors, the ability to accommodate other modes of transportation, and negative impacts on adjacent land uses; however, the basis of transportation in all American cities is the roadway system. This trend is clearly seen in the existing Myrtle Creek planning area transportation system, which consists predominantly of roadway facilities for cars and trucks. The street system will most likely continue to be the basis of the transportation system for at least the 20-year planning period; therefore, the emphasis of this plan is on improving the existing street system for all users.

The existing road system inventory was reviewed for all highways (arterials) and county roadways within the Myrtle Creek UGB that are included in the TSP planning area. **Appendix D: Street Inventory Table** lists characteristics of the major roadways (collectors, arterials, and highways) prepared by DEA. DEA did not conduct inventories of the local roadways, but did conduct an inventory of existing bicycle and pedestrian facilities in the project area.

Connectivity

The roadway system configuration is a grid in the downtown with strong connectivity. In Tri City, it the system tends to be linear with Old Pacific Highway running north-south and multiple minor roadways coming off of it. The road system is typically suburban in the eastern part of the city with cul-de-sac residential streets coming off collectors. Connectivity in the study area is strong in downtown, but constrained by North Myrtle Creek and South Myrtle Creek that run through the middle of the city, the South Umpqua River and I-5 that run along the west side of the city and Tri City, and the hills north and south of Myrtle Creek and east of Tri City.

Functional Classification

The planning area includes the entire Myrtle Creek UGB, including the City of Myrtle Creek and the Tri City area, as shown on **Figures 3-1a** and **Figure 3-1b: Planning Area** and existing roadways. Within the study area, there are three different roadway functional classification systems: the City of Myrtle Creek, Douglas County, and the Oregon Department of Transportation. Standards for each functional classification are discussed in detail in Chapter 7: Transportation System Plan.

The Myrtle Creek functional classification system was based on the 1997 Myrtle Creek Local Street Network Plan and is modified based on this planning process. The Douglas County functional classification system is outlined in the 2001 Tri City Circulation Plan, which is part of the Douglas County TSP. It includes Principal Highway, Arterial, Major Collector, Minor Collector, and Necessary Local designations. The ODOT classification system applies only to I-5 in this study area. The highway is designated as an Interstate.

General Street Characteristics

City street widths range from 34 to 48 feet. The streets are paved with asphalt concrete and are generally in good condition. On-street parking is allowed on many downtown streets as well as on many residential streets.

Pavement conditions of the major roadways (arterials and collectors) for the study area were inventoried using field surveys and a review of past plans. The inventory found pavement conditions were fair for all the streets within Myrtle Creek except for Darcie Way, Laurance Street, Road, and two sections of Main Street (Old Pacific Highway). Main Street had poor pavement conditions between 4th Avenue and the Myrtle Creek Arch Bridge, and fair pavement conditions between 4th Avenue and Riverside Drive. In addition, the north section of town has many streets such as Madrona Drive, Peach Street, Christian Street, Lillian Street, and Thomas Street, which were developed many years ago and do not meet current city standards

Within Tri City, Old Pacific Highway has recently been repaved and widened for most of its length and is in good condition. Many of the roads designated as collectors are in need of repair including: Meadow Lane, which is in poor condition, and Klimback Street, Walnut Street, Victor Street, Aker Street, Wecks Street, and Hill Street, which are cracking.

State Highways

Myrtle Creek's primary highway route is I-5. Highway 99 also follows the interstate alignment through the study area. The 1991 Oregon Highway Plan (OHP) classifies the state highway system into four levels of importance: interstate, statewide, regional, and district. ODOT has established primary and secondary functions for each type of highway and objectives for managing the operations of each one, listed in Appendix C of the OHP. Since ODOT maintains jurisdiction over its facilities, this plan will not assign operational standards or design standards to the interstate facilities.

I-5 follows a winding north-south route to the west of Myrtle Creek. There are three interchanges that service the study area: 103, 106, and 108.

Interchange 103 provides connections to the Riddle Bypass and the Tri City area. Much of the traffic volume using the ramps appears to be tied to the truck stop on the west side of the interchange and adjacent commercial establishments.

Interchange 106 connects to the Myrtle Creek Municipal Airport and to Weaver Road on the west side of the South Umpqua River. There is no direct connection to the Myrtle Creek or Tri City from this interchange.

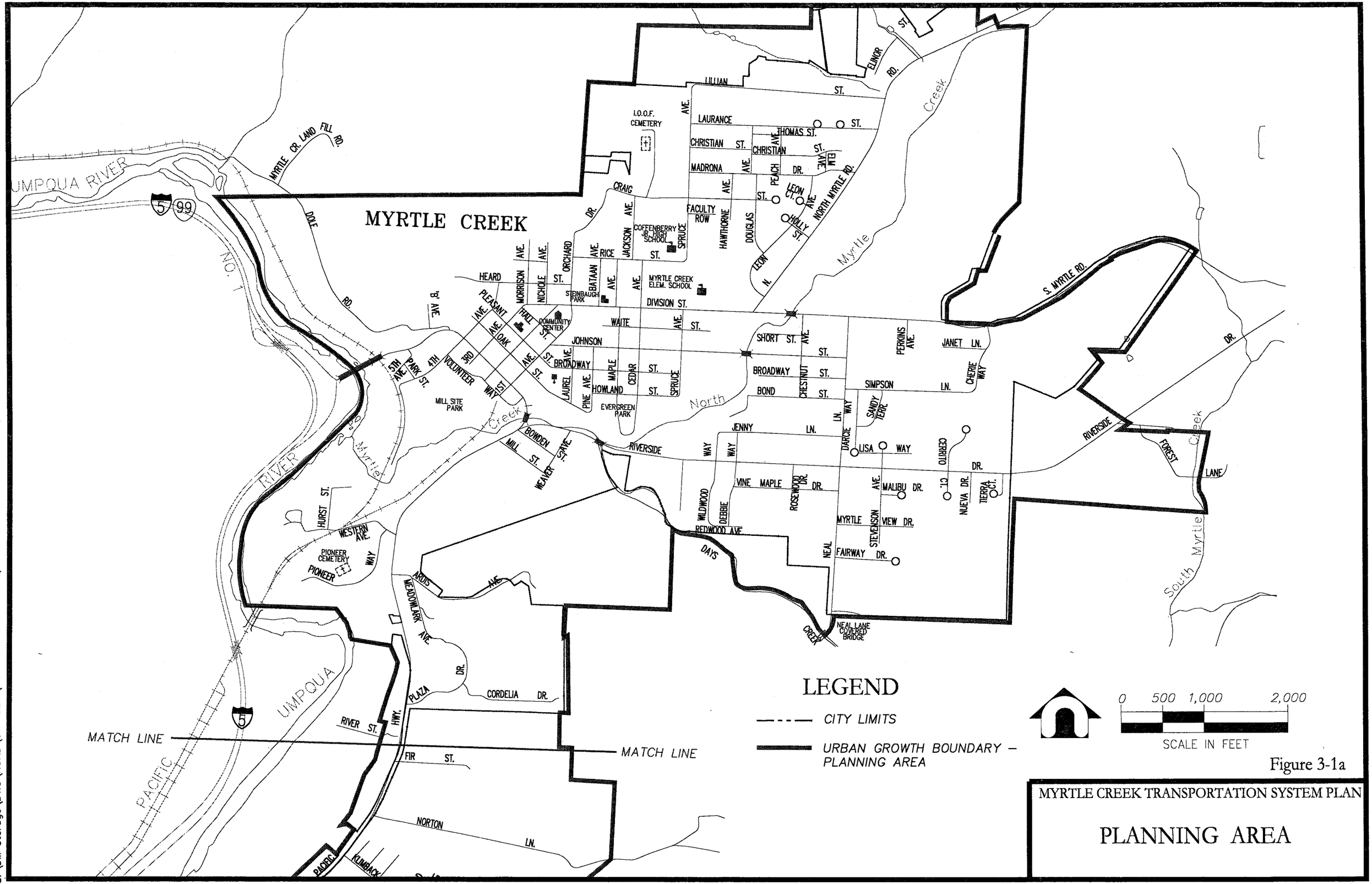

Figure 3-1a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PLANNING AREA

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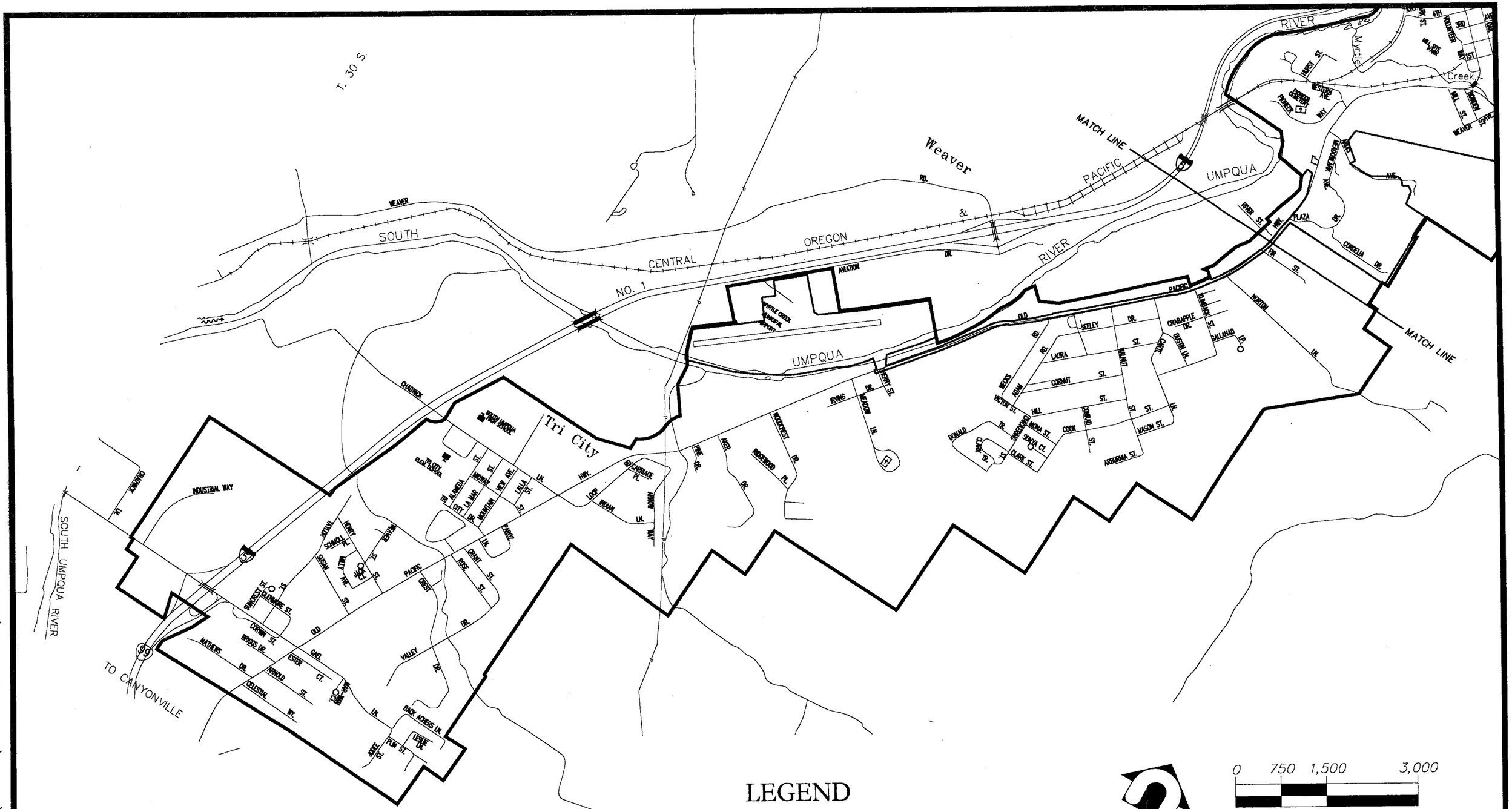


LEGEND

- CITY LIMITS
- URBAN GROWTH BOUNDARY – PLANNING AREA

Figure 3-1b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PLANNING AREA

Interchange 108 serves as the primary access for the City of Myrtle Creek. It provides a connection to the downtown area as well as many of the rural roads to the north and east.

Bridges

Table 3-1 summarizes characteristics of bridges within the UGB and also those that serve I-5 in the immediate vicinity of the study area. Three of the bridges are recommended for replacement in ODOT's Economic and Bridge Options Report with Specific Bridge Improvement Recommendations by Stage.

Table 3-1. Bridge Inventory

#	Roadway	Location	Juris-diction	Yr. Built	Design Load	Vertical Clearance	Rec. Action*
08024	Riddle Rd. (Pruner Rd.)	over I-5 at MP 103.9	ODOT	1958	HS-20	NB 17'6" SB 17'10"	-
08023	Chadwick Ln.	over I-5 at MP 104.8	ODOT	1958	HS-20	NB 17'6" SB 17'11"	-
07931	I-5	over Missouri Bottom at MP 105.4	ODOT	1958,2000	HS-20	-	Replace
07953	Weaver Rd.	over I-5 at MP 106.7	ODOT	1958	HS-20	NB 17'03" SB 17'01"	-
07952	I-5	over CORP at MP 107.5	ODOT	1958,2000	HS-20	-	Replace
07950	I-5	over Myrtle Creek Ramps at MP 108.31	ODOT	1958,2000	HS-20	-	Replace
19C513	Old Hwy. 99 (Myrtle Creek Arch)	South Umpqua River	City	1922	2 H15	-	-
371007	Neal Ln.	South Myrtle Creek	County	1929	-	12'8"	-
19C514	Old Hwy. 99 (Dairy Queen)	Myrtle Creek	City	1930	2 H15	-	-
19C340	Riverside Dr.	Myrtle Creek	County	1981	5 HS-20	-	-
26T10	Johnson St.	North Myrtle Creek	City	1976	4 H20	-	-
19C035	Division St.	North Myrtle Creek	County	1957	4 H20	-	-

*The recommended action is based on ODOT's Economic and Bridge Options Report with Specific Bridge Improvement Recommendations by Stage (2003). The list includes bridges that have been identified for improvement within the next 10 years as part of the Cracked Bridge Program.

PEDESTRIAN AND BICYCLE SYSTEM

The most basic transportation option is walking. Walking is one of if not the most popular forms of exercise in the United States and can be performed by people of all ages and all income levels. However, it is not often considered a means of travel. This is mainly because pedestrian facilities such as sidewalks, multi-use paths, and adequate roadway shoulders are generally an afterthought and not planned as an essential component of the transportation system.

Myrtle Creek is fortunate to have a fairly developed pedestrian network. Sidewalks are provided on many of the streets in the downtown area and major roadways within the city limits. In addition, Old Pacific Highway in the city and Tri City area, has recently been improved to include sidewalks on both sides. Within the remaining Tri City area, sidewalks are almost non-existent.

Like pedestrians, bicyclists are often overlooked when considering transportation facilities. Bicycles take up little space on the road or parked, do not contribute to air or noise pollution, and offer relatively higher speeds than walking. The Myrtle Creek TSP study area contains multiple bicycling facilities.

The existing bicycle system consists of three key streets with bike lanes, and a fairly extensive network of designated shared bikeways. Bike lanes are located on North Myrtle Road between Leon Avenue and the UGB. They are also on Riverside Drive from the UGB to Old Pacific Highway, and the lanes continue down Old Pacific Highway to Plaza Drive. There is also a short stretch with bike lanes near Aker Drive on Old Pacific Highway. Bike lanes will be extended on Old Pacific Highway as the planned street improvements are implemented.

Douglas County has designated several regional bikeway routes that pass through the study area. These routes are considered Class III bikeways, which are recognized because they provide important transportation linkages. Class III bikeways are signed but bicyclists share the road with automobiles. Identified bikeways run from Dole Road, through downtown Myrtle Creek, north to North Myrtle Road via the junior high school, south to Days Creek Cut-off Road along Neal Lane, and east on Division Street. In Tri City, Old Pacific Highway is designated as a bikeway as is the segment of Chadwick Lane connecting the high school to Old Pacific Highway.

OTHER TRANSPORTATION SERVICES

Air Service

The Myrtle Creek Municipal Airport is located off of I-5 near Interchange 106. The airport is classified as a Category 4 Airport according to the Oregon Aviation Plan (2000), meaning it is intended to accommodate general aviation users and local business activities.

This airport has one runway that is 2,600 feet long. The runway is rated for 12,000 pounds and operates under visual approach. It has some navigational aides (runway lights, a white-green beacon, and a precision-approach path indicator). There is estimated to be 3,925 annual aircraft operations, most of which are single-engine aircraft at the airport. All of the flights are for private use.

There is a larger airport located in Roseburg 20 miles north, however, there are no regularly scheduled flights there. Residents must travel to Eugene or Medford for commercial airline service.

The airport functions as an alternate landing site for United Parcel Service and Federal Express planes when weather conditions close the Roseburg airport. In the near future, the Myrtle Creek airport has plans to lengthen the runway by 1,000 feet to the north. The work is intended to rectify deficiencies identified in the Oregon Aviation Plan.

Public Transportation

No regularly-scheduled, general public transportation service is available in the project area making mobility difficult for those without access to a private vehicle.

Paratransit services are offered through a non-profit organization called "Seniors Escorting Seniors" and Umpqua Transit. Both programs are primarily demand-responsive and provide service to senior and disabled populations. Seniors Escorting Seniors uses two vans. The 14-passenger van that is used to take riders from Myrtle Creek, Riddle, Tri City, and Canyonville to lunch at the community center in Riddle on Tuesday, Thursday, and Friday. There are three different drivers for this service and usually six to eight riders each day. The second van is wheelchair-accessible and is used by appointment only with five different drivers. This van typically serves one to two calls per day.

Umpqua Transit is operated by the Umpqua Regional Council of Governments and provides varying levels of transit service within Douglas County. Service to Myrtle Creek is limited to demand-responsive medical rides where volunteers use their own vehicles to provide senior and disabled residents rides to medical appointments and shopping trips. Umpqua Transit provides curb-to-curb transportation to Roseburg shopping destinations twice a month (on Wednesdays) for senior and disabled residents of Myrtle Creek, Canyonville, and the Riddle area.

Residents enrolled in the Oregon Health Plan Plus program are also provided with medical trip service through Translink. These trips are available to any plan member without transportation regardless of age or ability. Umpqua Transit is under contract with Translink to provide these trips to Myrtle Creek residents.

Intercity Bus Service

Greyhound Lines operates approximately five intercity bus trips per day along the I-5 corridor. There is currently no service to the project area. The nearest terminals are in Grants Pass and Roseburg.

Railroad Passenger Service

There is no rail passenger service in the project area. The nearest service is provided by Amtrak from stations in Eugene and Chemult.

Rail Freight Service

Rail freight service in Myrtle Creek is provided by the Central Oregon & Pacific Railroad (CORP). CORP is headquartered in Roseburg and is Oregon's only Class II railroad. Class II railroads have more than 350 track miles and annual operating revenues of between $40 and $250 million. It operates along the Siskiyou Line, which follows the South Umpqua River through the Myrtle Creek area.

The rail line has one spur in Myrtle Creek that begins near the wastewater treatment plant and terminates in the area of the Mill Site Park. CORP currently has no customers in Myrtle Creek. The closest customers are Roseburg Forest Products in Dillard and three lumber mills in the Riddle area.

The only at-grade crossing within the study area appears to be on Western Avenue near the sewage treatment plant. The crossings at the South Umpqua River bridge of Old Highway 99, I-5, and Weaver Road are all grade-separated.

Truck Freight Service

Freight movement is an important part of the Myrtle Creek area economy. A variety of trucking companies transport general merchandise within the study area. Truck traffic is heaviest near Interchange 103. High truck traffic at Interchange 103 is likely due to its proximity to the Riddle mills, the South Umpqua Industrial Park with WinCo Food Distribution, and a truck stop.

Table 3-2 summarizes some vehicle classification data from the August 2004 traffic counts.

Table 3-2. PM Peak Hour (4:00 to 5:00) Truck Percentages

Roadway	Location	Direction	Light Trucks	Medium Trucks	Heavy Trucks	Med+Hvy Trucks
Interstate-5	North of 106	NB	4.5%	3.8%	17.2%	21.0%
		SB	3.4%	2.9%	16.7%	19.6%
Main St. – Old Pacific Hwy. 99	South Umpqua River Bridge	EB	4.4%	5.2%	1.0%	6.3%
		WB	5.7%	5.7%	0.4%	6.1%
Main St. – Old Pacific Hwy. 99	at Riverside Dr	NB	0.7%	2.5%	0.0%	2.5%
		SB	0.4%	2.9%	0.0%	2.9%
Main St. – Old Pacific Hwy. 99	at 3rd Avenue	NB	2.1%	2.8%	0.0%	2.8%
		SB	0.6%	2.6%	0.0%	2.6%
Main St. – Old Pacific Hwy. 99	at Gael Lane	SB	1.4%	1.4%	0.0%	1.4%
Gael Lane	at Old Hwy. 99	EB	1.5%	2.8%	0.6%	3.8%
Riverside Drive	at Main St.	WB	0.0%	6.8%	0.0%	6.8%
3rd Avenue	at Main St.	WB	1.1%	4.3%	0.0%	4.3%

Notes: Light Trucks are defined as a single-unit truck with two axles, Medium Trucks are also single-unit with three or more axles, and Heavy Truck is anything larger than a single-unit.

Water Transport

There are no navigable waterways for transporting freight in the Myrtle Creek area.

Pipeline Service

There are several regional pipelines in the area of Myrtle Creek. A natural gas pipeline runs under I-5 from the west and under Dole Road. The water systems for Myrtle Creek and Tri City are also connected. In the event that one of the communities loses water, the interconnect can be opened to provide service to the adjoining area.

Cultural and Historic Features

The Myrtle Creek Comprehensive Plan has recognized the significance of the Neal Lane covered bridge. This covered bridge is of cultural value and it is to be preserved. In addition, the Comprehensive Plan recognizes the portion of Dole Road that has been identified as part of the Applegate State Road as a local historic resource appropriate as a scenic drive.

CHAPTER 4: EXISTING CONDITIONS

As part of the planning process, the current operating conditions for the transportation system were evaluated. This evaluation focused primarily on street system operating conditions since the automobile is by far the dominant mode of transportation in Myrtle Creek. It also examined connectivity within the street network to determine gaps in circulation and accident data to identify hazardous locations. Lastly, census data were examined to determine travel mode distributions.

CONNECTIVITY

Connectivity refers to how well a system provides links between origins and destinations. For a street system, it refers to the location and density of connections. A well-connected street network has many short links, numerous intersections, and minimal dead-ends.

Good connectivity provides three major benefits for a community: shorter trips, a wider variety of travel choices, and more cost-effective public services and infrastructure. Good connectivity increases route options (reducing problems when a particular route is closed or experiencing congestion), decreases travel times, improves emergency response times, and increases efficiency of services such as garbage collection and street sweeping.

The level of connectivity in the Myrtle Creek TSP street system varies by location. The downtown is comprised of a grid with short, walkable blocks; the older, residential neighborhoods near the downtown are comprised of grids with longer blocks and some cul-de-sac development; and the area east of downtown has longer streets with more dead-ends and cul-de-sacs. In Tri City, the street network is linear with Old Pacific Highway providing the main thoroughfare running roughly north-south, and many lower volume streets running east-west off that facility. Most of the east-west streets serve one or two residential streets terminating in dead-ends with two major exceptions. The residential area east of Old Pacific Highway between Wecks Road and Klimback Street is a rough grid serving multiple local streets, as is a small area on the south side of Chadwick Street near the Tri City Elementary School.

Connectivity within the City of Myrtle Creek is fairly good. The few notable gaps in circulation occur where North Myrtle Creek and South Myrtle Creek cut through the city and where residential streets dead-end near the golf course. The diagonal orientation of the streets in the downtown area does create a number of odd-angled intersections at the fringe where the streets take a north-south and east-west orientation. Connectivity in Tri City is constrained by the South Umpqua River and I-5 to the west, and steep slopes to the east. The most prominent deficiency in the street network is the lack of alternative north-south routes to Old Pacific Highway.

TRAFFIC VOLUMES

Average Daily Traffic Volumes

Average Daily Traffic (ADT) represents the typical average volume of traffic in all lanes passing a given roadway location in both directions over a 24-hour period. The ADT is measured for some period of time greater than one day and less than one year and provides a snapshot of the magnitude of use along a particular roadway.

The design hourly volume (DHV) is the hourly volume that is used for design. For any roadway, it represents the 30th highest hourly traffic volume recorded along the roadway segment throughout the year. For example, if the total number of vehicles in both directions is counted at a specific roadway location for every hour throughout the year and then the hourly volumes are ranked from highest to lowest, the 30th highest hourly volume of the year would represent the DHV. Past examples have shown that the 30th highest hourly volume as a percentage of ADT fluctuates minimally each year, even in cases of significant ADT variations. Typical values for the 30th highest hourly volumes range from approximately 10 to 20 percent of the ADT.

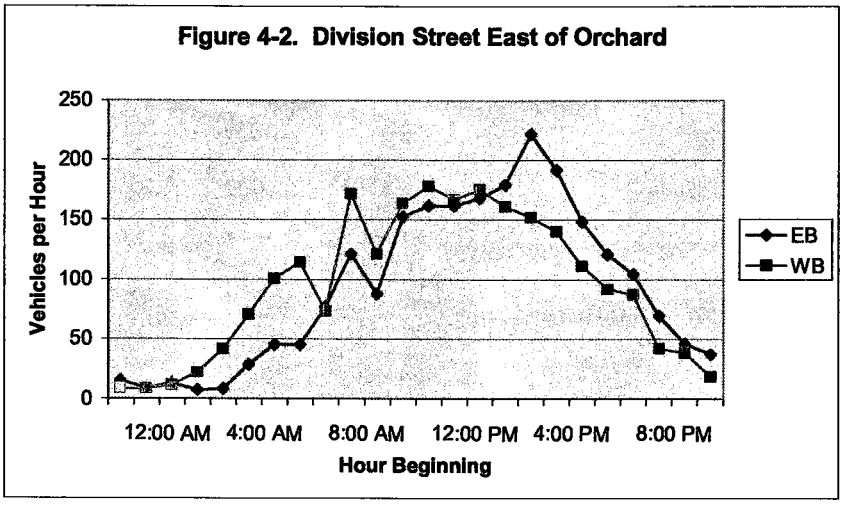
The ADT counts on select streets in Myrtle Creek are shown in **Figures 4-1a** and **4-1b**: 2004 Average Daily Traffic Volumes. Traffic volumes are highest on the Riddle Bypass west of Interchange 103, on Old Pacific Highway near Meadowlark Lane and near Norton Lane, on Main Street between 3rd and 4th streets, and on the Myrtle Creek arch bridge leading to Interchange 108.

Hourly Traffic Patterns

Roadways in the Myrtle Creek area generally have two peaks—a small one representing the morning peak, and a larger one in late afternoon. After the morning peak, traffic volumes appear to increase steadily until reaching the late afternoon peak hour.

Division Street is one of the major east-west streets in town and carries some of the highest traffic volumes. This roadway has a prominent PM peak for the eastbound (EB) direction, as drivers head away from downtown. The westbound (WB) direction carries more traffic during the AM peak hour.

Figure 4-2. Division Street East of Orchard



MYRTLE CREEK

UMPQUA RIVER

MYRTLE CR. LAND FILL RD.

DOLE RD.

No. 1

I.O.O.F. CEMETERY

LILLIAN ST.

ELINOR RD.

SPRINGBROOK

LAURANCE

THOMAS ST.

CHRISTIAN ST.

MADRONA

CRAIG DR.

FACULTY ROW

COFFENBERRY JR. HIGH SCHOOL

NORTH MYRTLE RD.

HEARD

MYRTLE CREEK ELEM. SCHOOL

DIVISION ST.

WAITE

JOHNSON

BROADWAY

SHORT ST.

JANET LN.

SIMPSON LN.

BOND ST.

JENNY LN.

LISA WAY

VINE MAPLE DR.

MALIBU DR.

MYRTLE VIEW DR.

FAIRWAY DR.

REDWOOD AVE.

HURST ST.

WESTERN AVE.

PIONEER CEMETERY

ARDIS AVE.

MEADOWLARK AVE.

PLAZA DR.

CORDELIA DR.

RIVER ST.

FIR ST.

NORTON

MILL SITE PARK

EVERGREEN PARK

BOWDEN MILL ST.

WEAVER CREEK

RIVERSIDE

DAYS CREEK CUTOFF

NEAL LANE COVERED BRIDGE

FOREST LANE

North Myrtle Creek

South Myrtle Creek

Myrtle Creek

HWY. 5

PACIFIC HWY. 99

MATCH LINE

MATCH LINE

SITE PARK

0 500 1,000 2,000

SCALE IN FEET

Figure 4-1a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

2004 AVERAGE DAILY TRAFFIC VOLUMES

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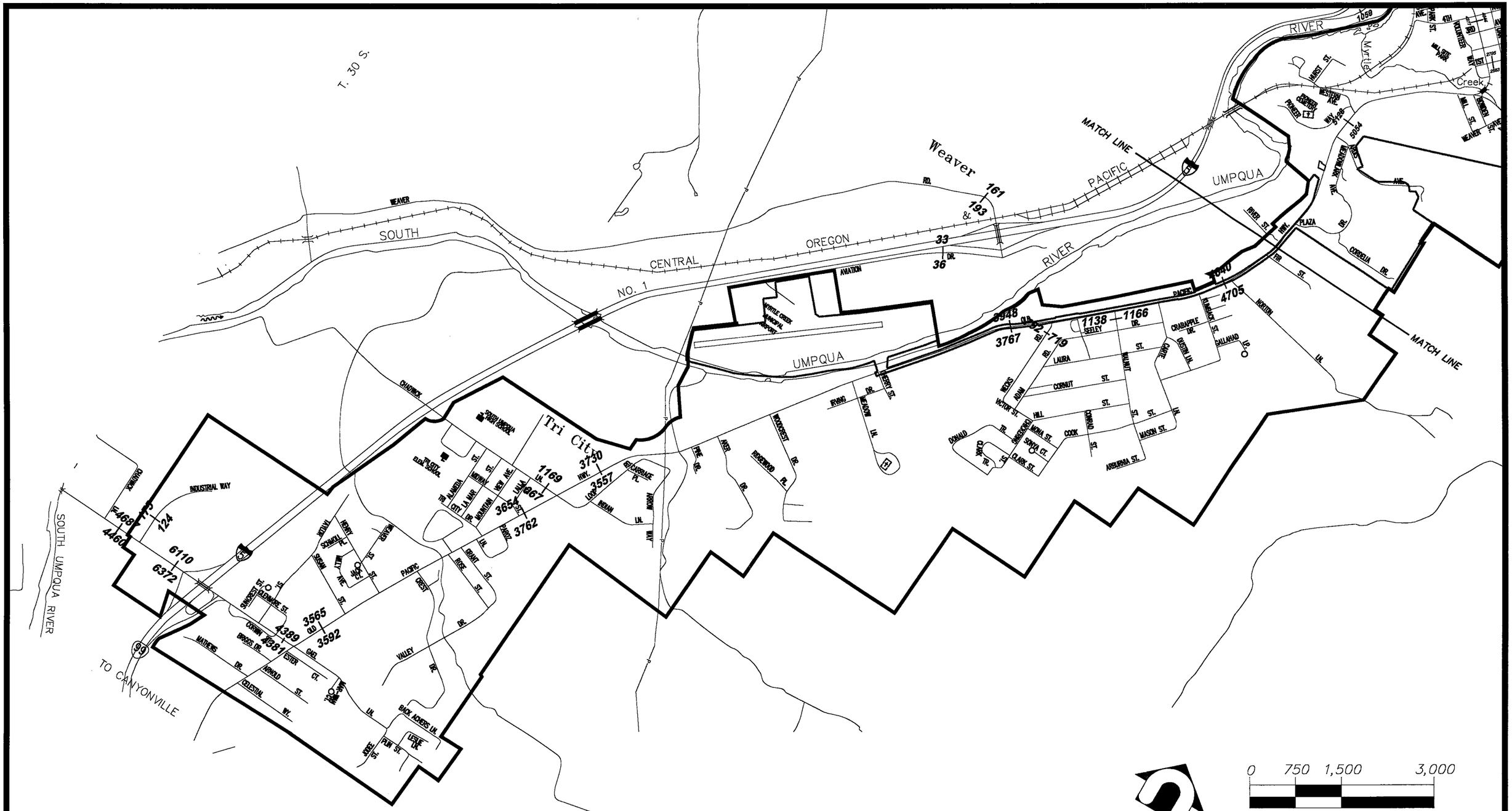

Figure 4-1b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

2004 AVERAGE DAILY TRAFFIC VOLUMES

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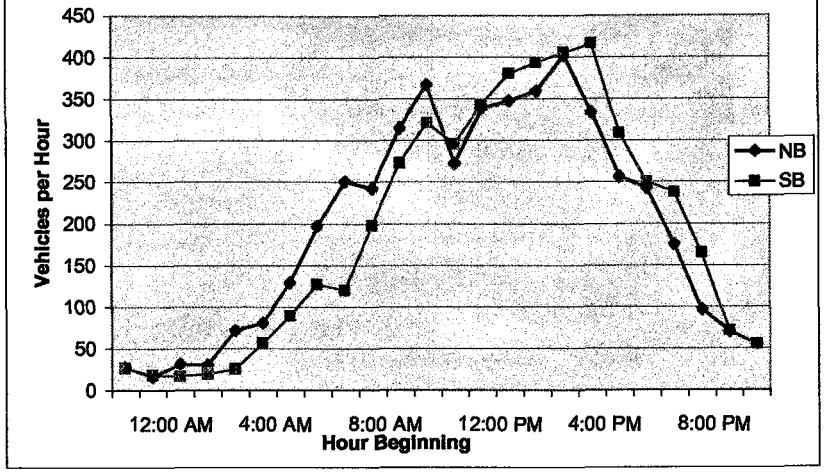
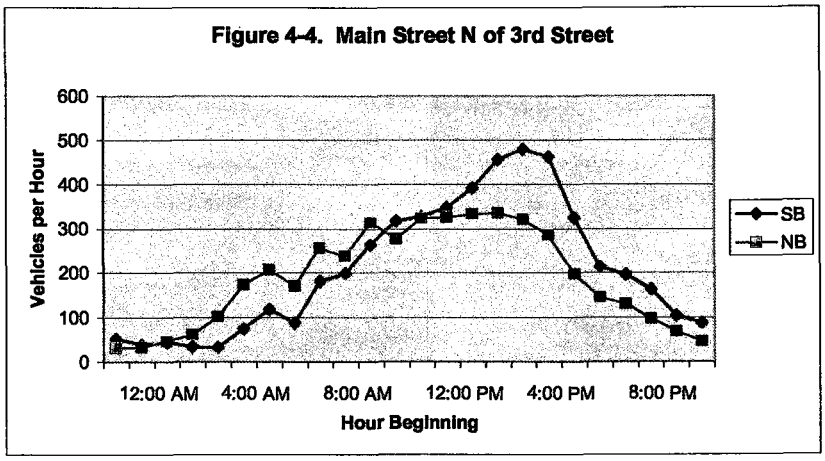
Figure 4-3. Old Pacific HWY South of Norton Street



Old Pacific Highway parallels I-5 and carries traffic between Myrtle Creek, Tri City, and Riddle. This arterial has the most prominent morning and afternoon peak hours, with little difference in directional volumes.

Figure 4-4. Main Street N of 3rd Street



Main Street is the major north-south route passing through downtown Myrtle Creek. On the south side of downtown it becomes Old Pacific Highway, and on the north end it connects to I-5 at mile 108. This roadway exhibits a large difference in northbound (NB) and southbound (SB) volumes during the PM peak hour. The SB direction carries significantly more traffic between noon and 4:00 p.m.

Weekday PM Peak Hour Volumes

Based on the data collected throughout the study area, the system PM peak hour is 4:00-5:00. Overall, the PM peak hour represents approximately 8 percent of the day's total traffic. The peak hour volumes are shown on **Figures 4-5a** and **4-5b**: 2004 Peak Hour Traffic Volumes.

TRAFFIC OPERATIONS AND STREET CAPACITY

LOS and V/C Standards

Traffic conditions are evaluated using two criteria: Level-of-Service (LOS) and Volume to Capacity (v/c) ratio. The City of Myrtle Creek follows the standards as set forth by Douglas County for how well traffic should operate on a given class of roadway. These are standards described in **Table 4-1**.

Table 4-1. Douglas County V/C Standards

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

Source: Douglas County Transportation System Plan, December 2001.

LOS D is the lowest acceptable LOS for signalized and unsignalized intersections. **Table 4-2** summarizes the descriptions of LOS for roadways. The corresponding v/c ratio is also provided.

Table 4-2. Level of Service Descriptions

LOS	Typical Traffic Flow Conditions
A	Relatively free flow of traffic with some stops at signalized or stop sign controlled intersections. Average speeds would be at least 30 mph.
B	Stable traffic flow with slight delays at signalized or stop sign controlled intersections. Average speed would vary between 25 and 30 mph.
C	Stable traffic flow with delays at signalized or stop sign controlled intersections. Delays are greater than at level B but still acceptable to the motorist. The average speeds would vary between 20 and 25 mph.
D	Traffic flow would approach unstable operating conditions. Delays at signalized or stop sign controlled intersections would be tolerable and could include waiting through several signal cycles for some motorist. The average speed would vary between 15 and 20 mph.

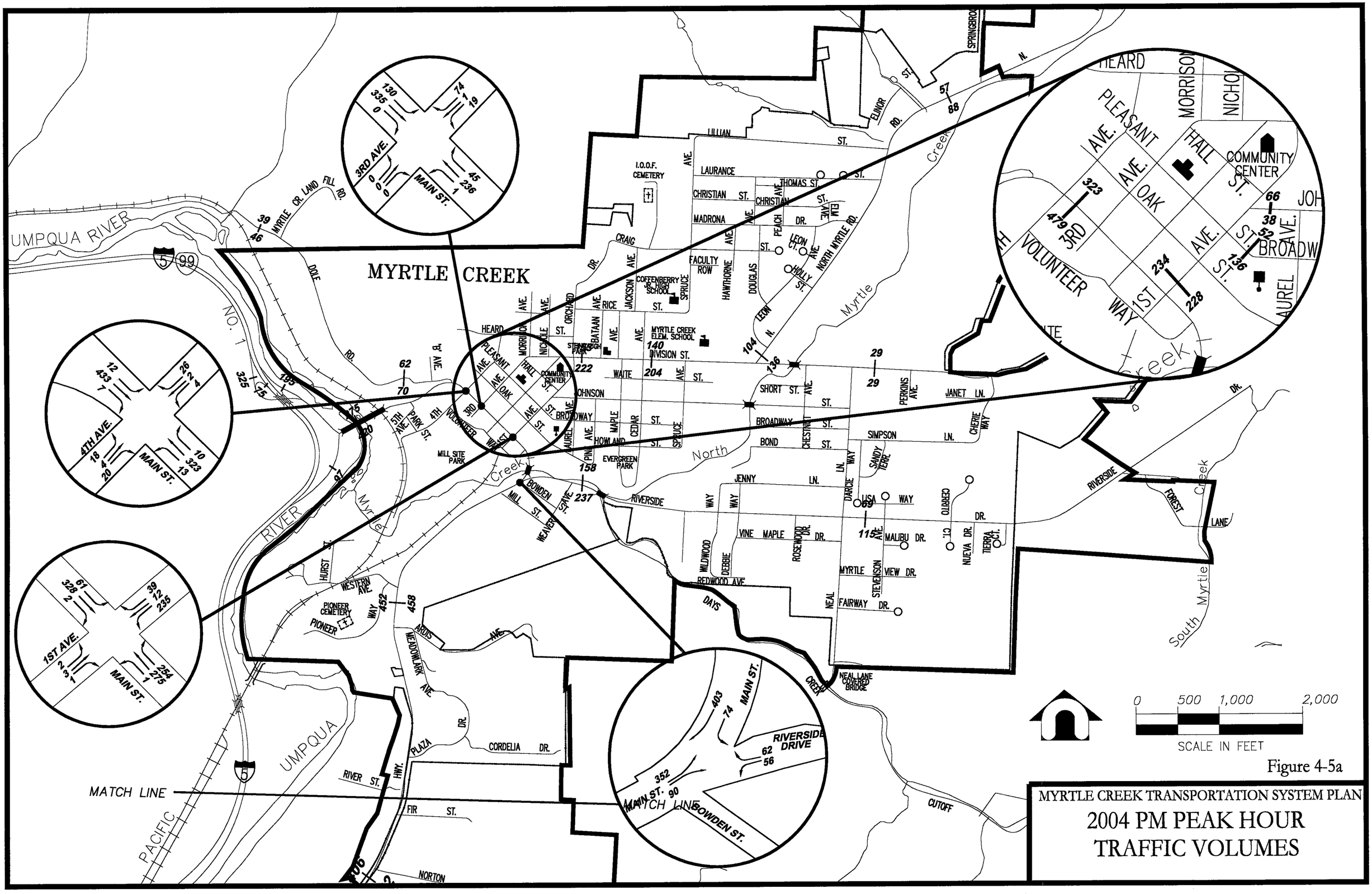


Figure 4-5a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

2004 PM PEAK HOUR TRAFFIC VOLUMES

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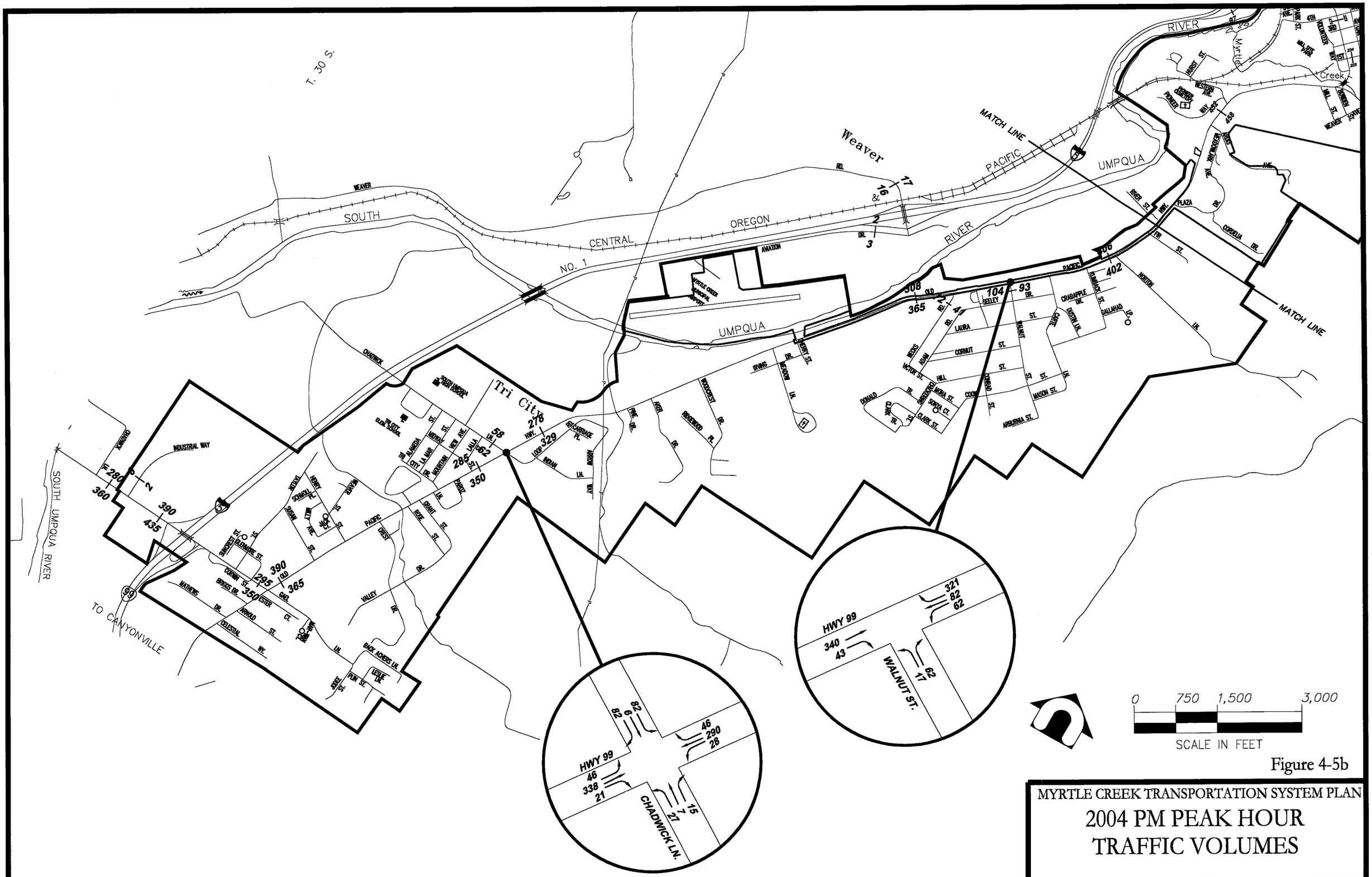

Figure 4-5b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

2004 PM PEAK HOUR TRAFFIC VOLUMES

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E	Traffic flow would be unstable with congestion and intolerable delays to motorist. The average speed would be approximately 10 to 15 mph.
F	Traffic flow would be forced and jammed with stop and go operating conditions and intolerable delays. The average speed would be less than 10 mph.

Source: Adapted from Highway Capacity Manual, 2000, Exhibit 15-2 Urban Street LOS by Class.

Intersection LOS

The PM peak hour LOS was analyzed for five intersections of concern within the study area. The HCS2000 software was used for the analysis. **Table 4-3** summarizes the results.

Table 4-3. PM Peak Hour Intersection Level-of-Service

Location	Type of Control	LOS (sec. Delay)	V / C	Movement
Fourth Ave. / Main St.	Two-way stop	C (17.8)	0.14	EB all
Third Ave. / Main St.	Two-way stop	B (13.9)	0.20	WB all
First Ave. / Main St.	Signal	B (14.3)	0.65	All
Riverside / Main St.	Two-way stop	C (19.8)	0.34	WB all
Walnut / Old Pacific Hwy.	Two-way stop	B (13.6)	0.17	WB all
Chadwick / Old Pacific Hwy.	Two-way stop	C (24.7)	0.50	EB all

Signal Warrant Analysis

Existing traffic counts were used to analyze traffic signal warrants for the intersections of Riverside at Main Street and Chadwick at the Old Pacific Highway. Signal warrants are checked if an intersection is expected to be operating at a poor LOS and are used to determine if a traffic signal is needed. Intersections are only required to meet one signal warrant. However, the MUTCD states that the satisfaction of one warrant does require the installation of a signal. An engineering study should accompany a signal warrant analysis to determine if a traffic signal shall be installed.

Only Warrant 1–Eight-Hour Volume and Warrant 2–Four-Hour Volume were evaluated. The warrant thresholds used in the analysis reflect values that are 70 percent of the full thresholds in recognition of the city of Myrtle Creek having a population less than 10,000. The following describes the conditions under which each warrant is satisfied:

- Warrant 1 (Eight-Hour Vehicular Volume). This warrant is satisfied if either of the two following conditions are met:

A) The minimum vehicular volume warrant is satisfied when, for each of any eight hours of an average day, the combined intersection approach volumes along the major street exceeds 350 vph and volumes along the higher volume minor street exceeds 105 vph for a one-lane approach and 140 vph for a two-lane approach.

B) The interruption of continuous traffic warrant is satisfied when, for each of any eight hours of an average day, the combined intersection approach volumes along the major street exceeds 525 vph and volumes along the higher minor street approach exceeds 53 vph for a one-lane approach and 70 vph for a two-lane approach.

- Warrant 2 (Four-Hour Vehicular Volume). This warrant is satisfied when, during each of any four hours of an average day, the combined intersection approach volumes along the major street and volumes along the higher minor street approach exceed levels outlined in Figure 4C-2 of the MUTCD.

Table 4-4 summarizes a preliminary warrant analysis for the intersections of Riverside/Main Street and Chadwick/Old Pacific Highway. **Table 4-4** shows that both intersections will satisfy the four-hour vehicular volume warrant under existing traffic volumes.

Table 4-4. 2004 Warrant Analysis

Location	Warrant Met?
Riverside/Main St.	Close to meeting Warrant 1 Meets Warrant 2 under the 70% condition
Chadwick/Old Pacific Hwy.	Meets Warrant 2 under the 70% condition

CRASH ANALYSIS

The study area for the analysis includes the city of Myrtle Creek, I-5 from MP 102.5 to MP 110, and Old Pacific Highway (Highway 99) through the rural and urban areas of Myrtle Creek. Old Pacific Highway starts at Interchange 103, passes through Myrtle Creek and then ends at Interchange 108. Crash data for the study area was provided by ODOT. Data was analyzed for a period from January 1, 2001 through December 30, 2003. The analysis included all the major arterials in the city, intersections on the highways, freeway ramps, and ramp terminals.

Table 4-5 summarizes the type and number of accidents recorded for the three-year period.

Table 4-5. Crashes by Category, 2001-2003

Crash Type	Number of Accidents
Fatal	0
Non-Fatal Injury	229
Property Damage Only	115
Total	**229**

Intersections

Crash rates were calculated for intersections within the study area. The rate takes into account the number of crashes, traffic volumes, time period examined, and the length of the corridor (if applicable). The standard units are either crashes per million vehicle miles of travel, or for intersections, crashes per million entering vehicles. **Table 4-6** summarizes the intersections with an average crash rate of one crash per year or more.

Table 4-6. Intersection Crash Rates

Location	Average Crashes per Year (2001-2003)
1st Ave. / Oak St.	1.3
Division St. / North Myrtle Rd.	1.0
4th Ave. / Main St.	1.0
2nd Ave. / Main St.	1.0
1st Ave. / Main St.	1.0
Riverside Dr. / Main St.	1.3
Mill St. / Old Pacific Hwy.	1.3
Western Ave. / Old Pacific Hwy.	1.0
Ardis St. / Old Pacific Hwy.	1.3
Plaza Dr. / Old Pacific Hwy.	1.7
Klimbeck St. / Old Pacific Hwy.	1.3
Dustin-Carte Ln. / Old Pacific Hwy.	1.3
Walnut St. / Old Pacific Hwy.	1.3
Wecks Rd. / Old Pacific Hwy.	2.0
Woodcrest Dr. / Old Pacific Hwy.	1.0
Tri City Dr. / Old Pacific Hwy.	1.0
Henry St. / Old Pacific Hwy.	1.0
Susan St. / Old Pacific Hwy.	1.0

Each of these intersections has a low number of crashes occurring over the last three years. The ADT along Old Pacific Highway is approximately 7,200. With the low number of crashes and the ADT in the Myrtle Creek area, the crash rate at each of these intersections would be less than one per million total entering vehicles. Given that the intersections have relatively low crash rates, none of these intersections is identified as a hazardous location requiring further analysis.

Interstate 5

The information on statewide average crash rates was obtained from a September 2003 report prepared by the Transportation Development Division of ODOT. The statewide average for average crashes on freeways in the state of Oregon is 0.42 crashes per million vehicle miles traveled (VMT). There are two segments on I-5 in the study area that have higher crash rates than the statewide average for freeways. (See **Table 4.7.** Interstate 5 Crash Rates.) The segment from near interchange 108 has a crash rate over five times higher than the statewide average with 2.38 crashes per million VMT. This location is known as the Myrtle Creek curves because the I-5 mainline winds around the hillside through the area. The crash rate for the segment near interchange 103 is slightly higher than the statewide average.

Table 4-7 summarizes the crash rates on I-5.

Table 4-7. Interstate-5 Crash Rates (MP 102-110)

Segment	Crashes per Million VMT (2001-2003)
102.5 – 103.0	0.08
103.0 – 103.5	**0.45**
103.5 – 104.0	0.15
104.0 – 104.5	0.08
104.5 – 105.0	0.0
105.0 – 105.5	0.3
105.5 – 106.0	0.15
106.0 – 106.5	0.08
106.5 – 107.0	0.14
107.0 – 107.5	0.14
107.5 – 108.0	0.14
108.0 – 108.5	**2.38**
108.5 – 109	0.29
109 – 109.5	0.22
109.5 – 110	0.14
110 – 110.5	0.22

Note: **Bold text** denotes locations that exceed the statewide average crash rate for interstate highways.

Table 4-8. Cause of Crashes (MP 107.9-108.5)

Cause	Percent of Total Crashes
Driving too fast for conditions	53.85%
Driving unsafe vehicle	7.69%
Did not have right-of-way	17.95%
Failed to avoid parked or stopped vehicle	5.13%
Ran off road	7.69%
Others	7.68%
Total	**100%**

Table 4-8. Shows that speeding is the primary cause of crashes through the Myrtle Creek curves.

In the spring of 2004, ODOT enhanced the signing through the curves in an effort to reduce speeds and crashes. Vehicles entering the curves now have their speed read with radar, then displayed on the overhead variable message sign with the message "YOUR SPEED IS XX." Although crash data is not yet available to monitor the effectiveness of this treatment, local residents indicate that it influences them to drive slower through the curves.

TRANSPORTATION MODE CHOICE AND WORK TRAVEL

The US Census provides information on when and how people in the study area travel to work. Statistics from the 2000 Census show the spread of Departure to Work times over a 24-hour period (see **Table 4-9**). Almost 23 percent of drivers depart for work between 7:00 and 8:00 a.m., .and another 12.7 percent depart between 8:00 and 9:00 a.m. Overall, 59 percent of drivers have departed for work by 9:00 a.m.

Table 4-9. Departure to Work by Time of Day from 2000 Census

Departure Time	Trips	%
5:00 a.m. to 5:59 a.m.	90	6.7%
6:00 a.m. to 6:29 a.m.	130	9.7%
6:30 a.m. to 6:59 a.m.	96	7.1%
7:00 a.m. to 7:29 a.m.	125	9.3%
7:30 a.m. to 7:59 a.m.	183	13.6%
8:00 a.m. to 8:29 a.m.	83	6.2%
8:30 a.m. to 8:59 a.m.	87	6.5%
9:00 a.m. to 11:59 a.m.	113	8.4%
12:00 p.m. to 3:59 p.m.	161	12.0%
All other times	275	20.5%
Total	**1,343**	**100%**

The automobile is the primary mode of travel for most residents of the Myrtle Creek area with a small percentage of residents using alternative modes. The 2000 Census data include statistics for journey-to-work trips as shown in **Table 4-10**. In 2000, 95 percent of all trips to work were in a private vehicle. Trips in single-occupancy vehicles made up 82.7 percent of all trips, and carpooling accounted for 12.8 percent.

Table 4-10. Journey-to-Work Trips in Myrtle Creek from 2000 Census

Trip Type	Trips	%
Private Vehicle	1,325	95.5%
Drive Alone	1,147	82.7%
Carpooled	178	12.8%
Public Transportation (includes Taxi)	5	0.4%
Motorcycle	0	0.0%
Bicycle	5	0.4%
Walk	8	0.6%
Other	0	0.0%
Work at Home	44	3.2%
Total	**1,387**	**100%**

Table 4-11 summarizes the Travel Time to Work statistics from the 2000 census. The data shows that 53.6 percent of drivers travel less than 19 minutes between home and work. Another 27.9 percent report travel times between 20 and 29 minutes, which likely represents commuters to Roseburg, 18 miles north of Myrtle Creek.

Table 4-11. Travel Time to Work from 2000 Census

Departure Time	Trips	%
Less than 10 minutes	238	17.7%
10 to 14 minutes	264	19.7%
15 to 19 minutes	217	16.2%
20 to 24 minutes	248	18.5%
25 to 29 minutes	126	9.4%
30 to 34 minutes	82	6.1%
35 to 44 minutes	42	3.1%
45 to 59 minutes	32	2.4%
60 to 89 minutes	12	0.9%
90 or more minutes	82	6.1%
Mean Travel Time to Work	**25.9**	

CHAPTER 5: FUTURE TRAVEL DEMAND

This chapter explains how the future travel demand for the Myrtle Creek TSP study area was forecast, the future traffic conditions, and anticipated deficiencies in the system. It provides a summary of the methodology used for forecasting traffic at the study area intersections and on the roadway segments and specific traffic volumes by location. The projected traffic volumes provide a basis for determining which projects are important for improving future operations within the Myrtle Creek area.

FORECASTING METHODOLOGY

A multi-step approach was used for development of 2025 forecast traffic volumes.

1. A background growth rate was applied to all roadways outside of the area. Based on the relatively low predicted population growth rates, a base rate of 0.75% increase in traffic volumes per year was used.

2. A freeway volume growth rate of 1.7% per year was used based on ODOT's forecast volumes. The base growth rate for freeway ramps was the average of 0.75% and 1.7%, or 1.23%.

3. Future land use was analyzed. Locations, sizes, and zoning of vacant residential and industrial property clusters were available from the Umpqua Regional Council of Governments website (created in 2001 and updated periodically), discussions with City staff, and research by Angelo Eaton and Associates. Expected areas of 20-year growth were mapped and then used to develop future volume estimates using average trip generation rates and average densities according to zoning. Daily and peak hour trips were distributed to adjacent roadways and intersections of interest for site-specific growth.

4. The background and site-specific growth were added to existing traffic volumes.

BACKGROUND DATA

Numerous sources of background data were reviewed to determine population and traffic trends for the forecasting effort. These included US Census Data, past studies (2002 Myrtle Creek TSP draft), the Douglas County Comprehensive Plan, and ODOT traffic counts and forecasts.

Historic Population

Table 5-1 summarizes the historic population data for the study area. Population growth has averaged 1.07% per year during the past decade.

Table 5-1. Study Area Population (1993-2004)

	City of Myrtle Creek			Unincorporated Area (Tri-City)		
Year	**Population**	**Change from Previous Year**	**Change from 1993 to 2004**	**Population**	**Change from Previous Year**	**Change from 1993 to 2004**
1990	3,063	-	-	3,585	-	-
1993	3,105	0.3%		-	-	
1994	3,190	2.7%		-	-	
1995	3,290	3.1%		-	-	
1996	3,410	3.6%		-	-	
1997	3,475	1.9%		-	-	
1998	3,600	3.6%	1.07% per year	-	-	-
1999	3,670	1.9%		-	-	
2000	3,419	-6.9%		3,519	-	
2001	3,410	-0.3%		-	-	
2002	3,460	1.5%		-	-	
2003	3,480	0.6%		-	-	
2004	3,490	0.3%		-	-	

Source: Portland State University Center for Population Research, Census 1990, and Census 2000. The 2004 population is a preliminary estimate.

Draft 2002 Myrtle Creek Transportation Plan

Although the draft 2002 Myrtle Creek Transportation Plan was never formally adopted, it provided research on growth in the area. The draft Transportation Plan recommends using the state-approved average annual growth rate for Myrtle Creek of 2.5% per year, for both the City and the unincorporated areas outside of the City limits.

Douglas County Comprehensive Plan

The Douglas County Comprehensive Plan includes a section on population forecasts. It projects future population for the entire county, and also for the sub-areas of Coastal, North, Central, and South Douglas County. Myrtle Creek is included in the South sub-area. The predicted countywide growth rate is 1.19%-1.57% per year. For the South sub-area, population growth is predicted at 1.07%-1.38% per year.

Interstate 5

Average daily traffic (ADT) volumes for I-5 were taken from the Grave Creek and Roseburg count stations. The counters indicate that traffic volumes have increased by 2.0%-2.5% per year over the past decade.

Table 5-2. I-5 Annual Average Daily Traffic (AADT)

	Grave Creek 17-001			Roseburg 10-005		
Year	ADT	Change from Previous Year	Change from 1994 to 2003	ADT	Change from Previous Year	Change from 2000 to 2003
1994	17,553	-		-	-	
1995	17,777	1.3%		-	-	
1996	17,662	-0.6%		-	-	
1997	18,467	4.5%		-	-	
1998	19,177	3.8%	2.4% per year	-	-	2.2% per year
1999	19,968	4.1%		-	-	
2000	20,354	1.9%		29,881	-	
2001	20,599	1.2%		29,871	0.0%	
2002	21,648	5.1%		31,532	5.5%	
2003	21,819	0.8%		31,953	1.3%	

Source: ODOT permanent count stations.

ODOT provides 20-year forecasts for all primary and secondary highways in the state. Forecast volumes for this segment of I-5 are shown in Table 3.

Table 5-3. I-5 Forecasts

Year	MP 103.65 S/o Riddle Road	MP 106.41 S/o Weaver Road	MP 107.91 S/o Myrtle Creek	MP 109.86 S/o Boomer Hill Road
2002	26,000	25,900	26,100	30,700
2023	36,100	37,200	37,100	44,100
Growth Rate (linear)	1.84%	2.10%	2.00%	2.10%

Source: www.oregon.gov/ODOT/TD/TP/docs/TADR/Primary2023FVT.pdf.

FUTURE DEVELOPMENT

Growth in the study area is somewhat limited by the natural features of the hillsides and the South Umpqua River. **Figures 5-1a** and **5-1b** show the vacant or partially vacant areas with potential for future development in the study area. The amount and type of development likely for each area and the resulting forecast traffic generated by this development is discussed below.

Trip Generation–Residential

The trip generation characteristics for each area is outlined in **Table 5-4**. Generally, the area acreage, zoning, percent built-out, and any development restrictions were available. An estimate was made for the number of residential units that could be added within 20 years. (The estimates took into consideration constraints and existing development and did not equal full build out.) PM peak hour and daily trips were calculated from these units. In some cases, plans have already been submitted for subdivision projects, so the number of planned units was used.

Table 5-4. 2025 Residential Growth by Area

Area	Acreage	Zoning (lot size)	Vacant	Hillside	Floodplain	# of New Units
1	57	Large	Partial	Y	N	36
2	21	Small	Y	Partial	N	80
3	26	Large	Partial	Partial	N	177
4	3	Small	Y	N	N	9
5	86	Large	Partial	Partial	Partial	47
6	54	Large	Partial	Partial	N	5
7	38	Large	Partial	Partial	N	28
8	11	Small	Y	Y	N	61
9	32	Large	Partial	N	N	0
10	7	Small	Y	N	N	13
11	17	Large	Partial	N	Partial	52
12	2	Small	Y	N	Partial	12
13	90	Large	Y	Partial	N	69
14	6	Small	Y	Partial	N	24
15	10	Large	Partial	Y	Partial	5
16	61	Large	Partial	Partial	N	3
17	69	Large	Partial	Partial	N	50
18	4	Small	Y	N	N	8
19	3	Small	Y	N	N	14
20	15	Large	Y	Partial	N	14
21	98	Large	Partial	Partial	Partial	61
22	74	Large	Partial	Partial	Y	7
23	7	Small	Y	Partial	Partial	29
24	11	Small	Partial	Partial	N	22
25	9	Small	Partial	Partial	N	8
26	39	Large	Partial	Y	N	16
27	2	Small	Y	Partial	N	20
28	18	Large	Partial	N	Y	12
29	35	Large	Partial	N	N	21
30	6	Small	Y	N	N	15
31	19	Large	Partial	Partial	N	2
32	4	Small	Y	N	N	14
33	3	Small	Y	N	N	15
34	15	Large	Partial	N	N	12

The Douglas County Comprehensive Plan predicts a population growth rate of 1.07%-1.38% per year for the South sub-area.

New Houses	**960**
Added persons	2,593
2004 Population	7,050
2025 Population	**9,643**
Avg. Annual Growth	**1.58%**

Notes: For calculation purposes, zoning lot sizes were broken into large and small lots. Small lot is defined as 4.5 units/acre, large lot is 1 unit/acre. In some cases, the number of lots was defined by subdivision applications.

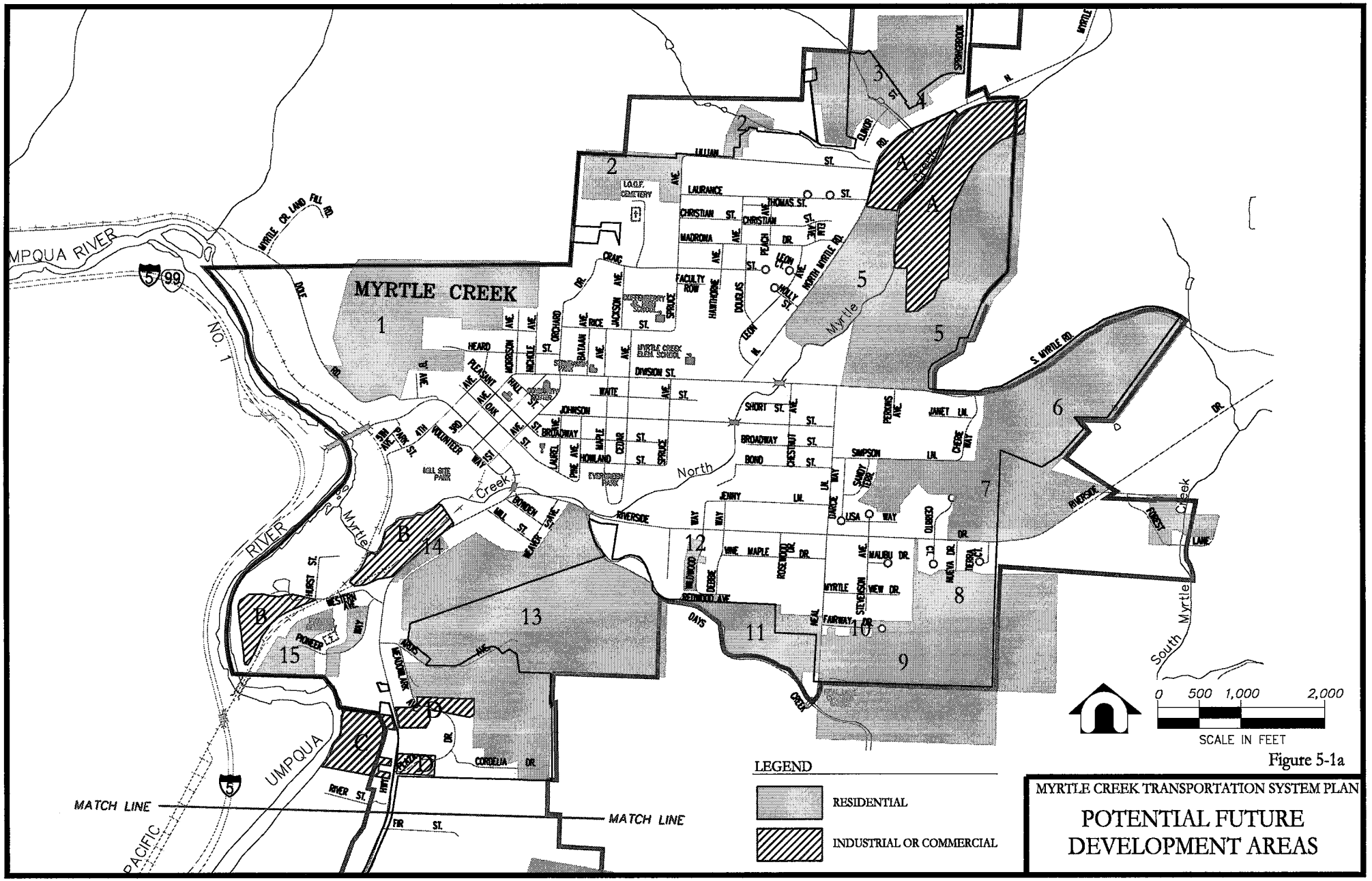

Figure 5-1a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

POTENTIAL FUTURE DEVELOPMENT AREAS

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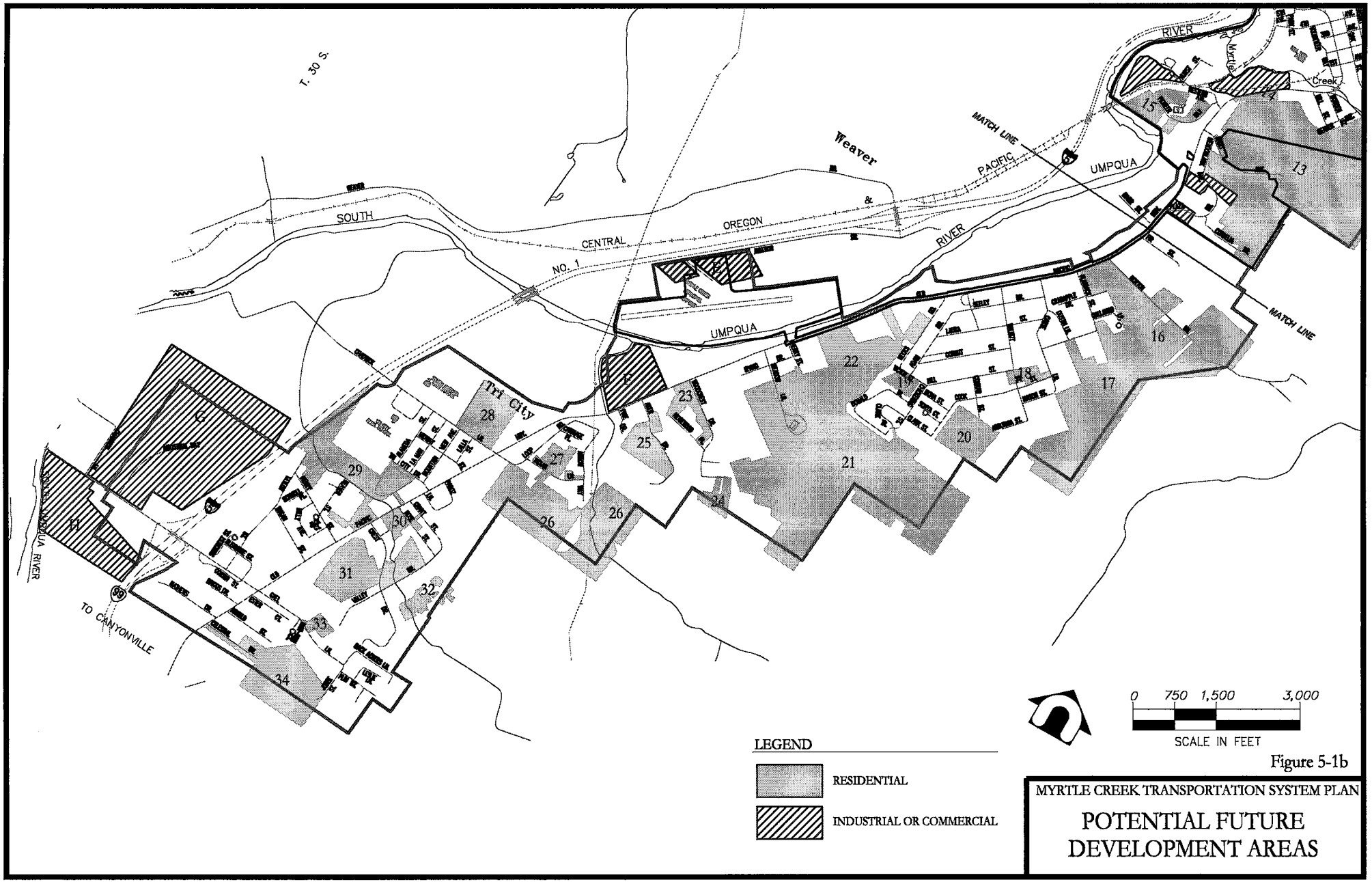

Figure 5-1b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

POTENTIAL FUTURE DEVELOPMENT AREAS

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Trip Generation–Commercial/Industrial

The trip generation characteristics for each of the areas are outlined in **Table 5-5**. The acreage, zoning, and percent built-out were available. Trip generation was based on the acreage and zoning to calculate PM peak hour and ADT trips. The percentage of built-out commercial and industrial property is estimated.

The areas of land assumed to be developed include: portions of the Industrial Park, property along North Myrtle Road, some small commercial parcels along Old Pacific Highway, property near the airport, and some parcels near Interchange 103 that are owned by the Cow Creek Tribe.

Reasonableness of Estimates

The residential development is expected to add approximately 2,593 persons and the industrial and commercial development is expected to add approximately 1,295 PM peak hour trips. Assuming that commuters make 80% of PM trips, this translates to a ratio of 0.40 employees per population.

Trip Distribution

Trips from these new development projects were distributed throughout the study area. The distribution was based on field observations of local traffic patterns, discussions with TAC members, and existing turning movement counts.

Table 5-5. Commercial/Industrial Growth by Area

Area	Acreage	Zoning	% Built Out during 20 years	ITE Daily Trips per acre	Added ADT
A	59	GM	80%	38	1,798
B	28	GM	80%	38	860
C	13	C3	80%	195	2,104
D	25	C3	80%	195	3,850
E	17	M2	80%	20	268
F	19	M2	80%	20	302
G	85	GM,M,I	50%*	20	846
H	30	C3	50%	195	2,925

Zoning:
GM = General manufacturing (wood products, electronics, pharmaceuticals, publishing, automotive)
M2 = Medium Industrial (freight or truck yards, welding /machine shops, concrete batching, wholesale business)
C3 = General Commercial
ITE Daily Trips per Acre:
GM is based on Manufacturing (ITE Land Use 140)
M2 and M is based on estimate in-between Heavy and Light Industrial (ITE Land Uses 120 and 110)
C3 is based on Office Park (ITE Land Use 750)

* The Industrial Park is already partially built out.

2025 VOLUMES

The 2025 ADT and PM peak hour volumes are shown on **Figures 5-2a** and **5-2b** and **Figures 5-3a** and **5-3b**. For comparison purposes, the 2004 ADT and PM peak hour volumes are also provided in **Figures 4-1b** and **4-5b** in Chapter 3 of this document.

In summary, the forecast volumes are based upon the following:

- A 0.75% background growth rate for the local roads, and a 1.7% growth rate for Interstate 5.
- Additional traffic from new residential development resulting in a 1.1% increase in population.
- Additional traffic from specific commercial/industrial development.

Overall, the average annual traffic growth rate ranges from 1% to 3% at most locations. This is consistent with the recommendations of the 2002 draft Myrtle Creek Transportation Plan.

This section discusses the results of the 2025 traffic operations analysis and general transportation deficiencies for vehicular, pedestrian, and bicycle traffic.

TRAFFIC OPERATIONS AND STREET CAPACITY

LOS and V/C Standards

Roadway traffic conditions are evaluated using two criteria: Level of Service (LOS) and volume to capacity (v/c) ratio. The TSP planning area includes areas under both Douglas County's and Myrtle Creek's jurisdiction. Douglas County mobility standards are included in the Douglas County TSP. The City of Myrtle Creek generally follows the guidelines set forth by Douglas County. These are described in **Table 5-6**.

Table 5-6. Douglas County v/c Standards

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

Source: Douglas County Transportation System Plan, December 2001.

The v/c ratios described apply to all county roads. The Douglas County TSP states that when two county roads intersect, the v/c ratio of the higher county classification shall be used.

A second measure of effectiveness is the LOS. For road segments, LOS is based on average travel speeds. For signalized and unsignalized intersections, LOS is based on control delay per vehicle. The 2000 Highway Capacity Manual describes six different types of LOS for each type of facility. The six different LOS levels range from LOS A to LOS F. LOS A represents the best operating conditions (free flow travel) and LOS F represents the worst operating conditions (lots of delay). LOS is described in detail in Chapter 4 **Table 4-2.**

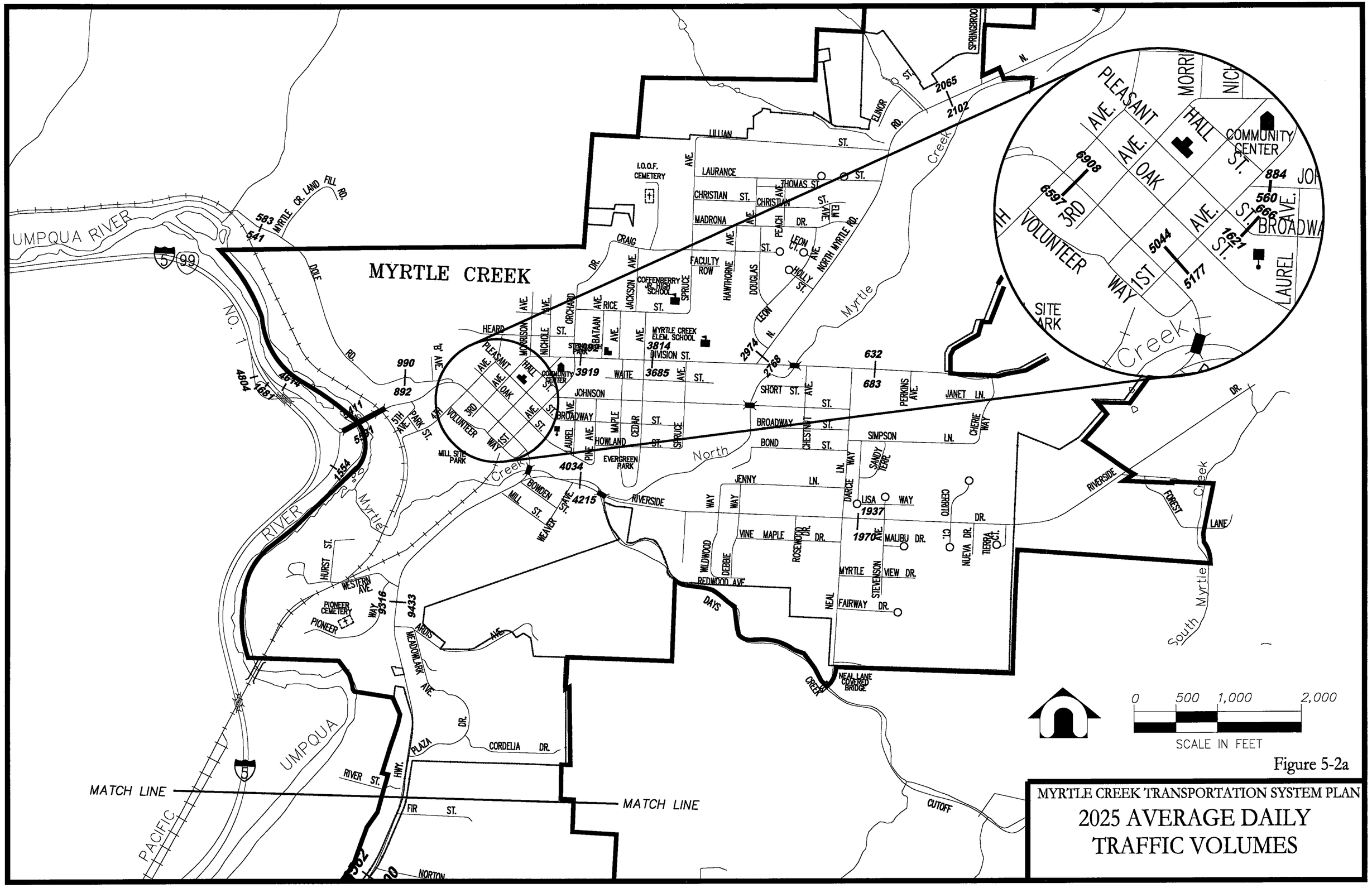

Figure 5-2a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

2025 AVERAGE DAILY TRAFFIC VOLUMES

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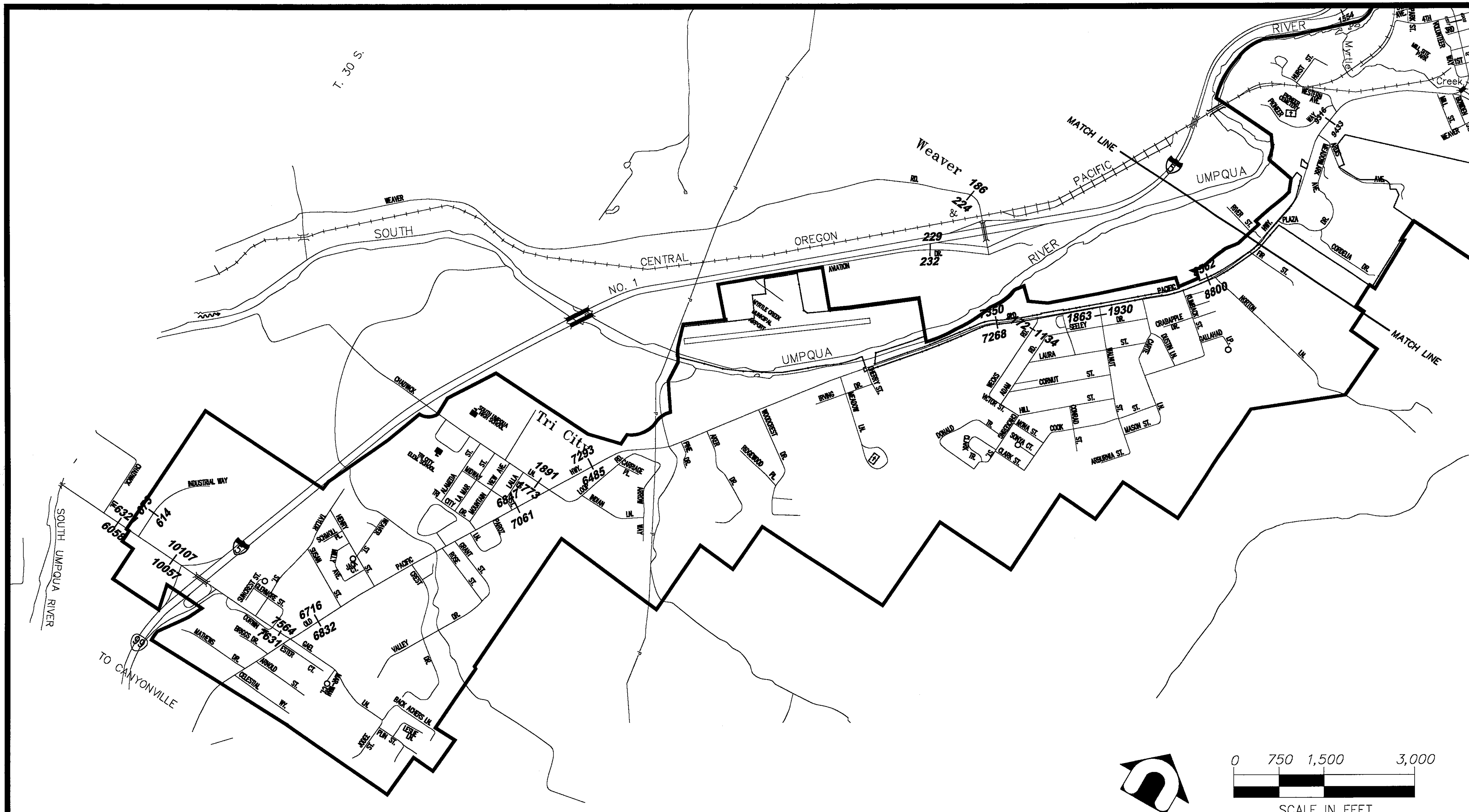

Figure 5-2b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

2025 AVERAGE DAILY TRAFFIC VOLUMES

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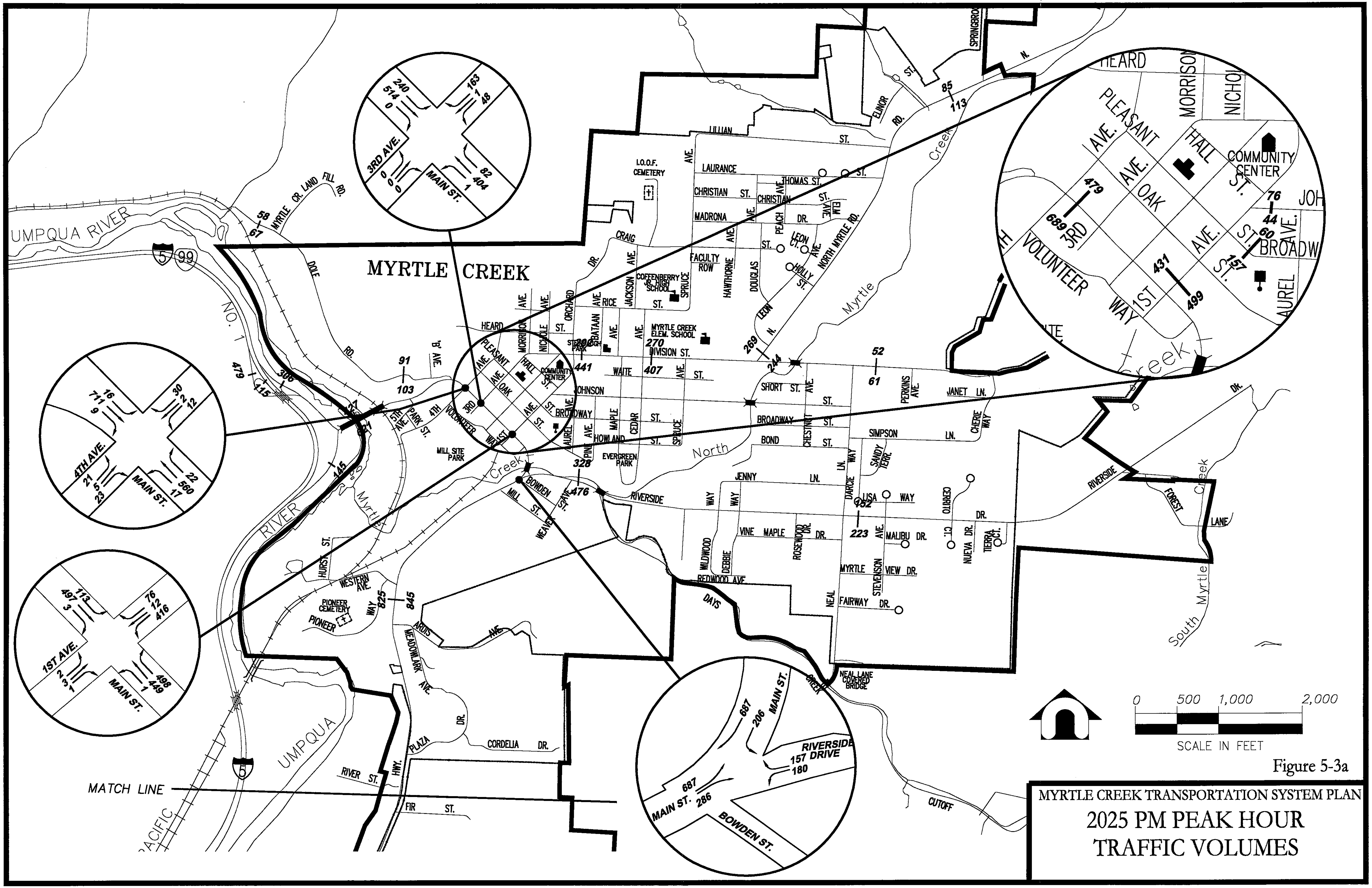

Figure 5-3a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

2025 PM PEAK HOUR TRAFFIC VOLUMES

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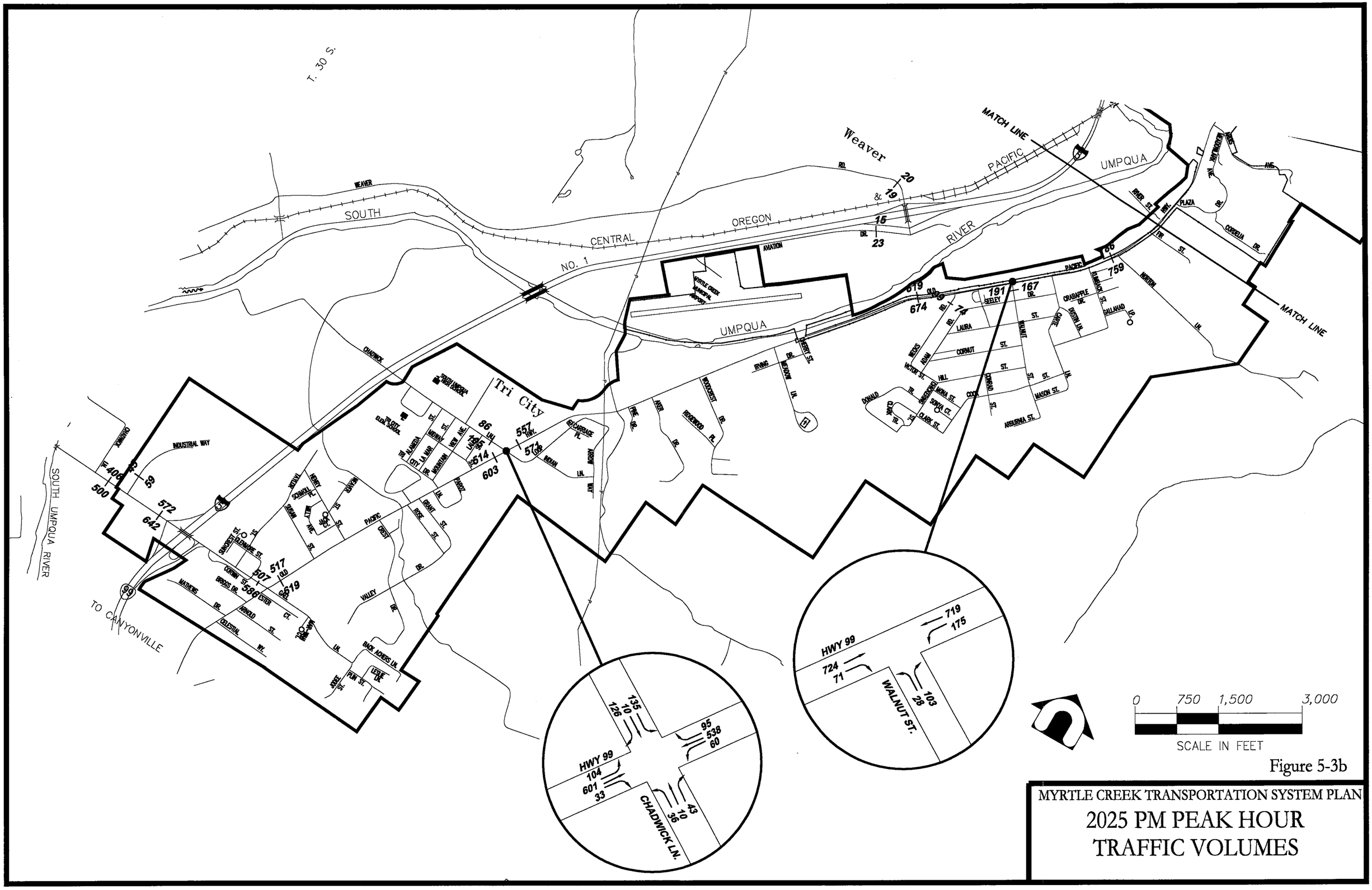

Figure 5-3b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

2025 PM PEAK HOUR TRAFFIC VOLUMES

Intersection LOS

The AM and PM peak hour LOS was analyzed for six intersections of concern within the study area. These intersections were identified by the City of Myrtle Creek and the TAC as locations where existing deficiencies were noticed, or where growth was likely to occur and cause future deficiencies. The HCS2000 software was used for the analysis. **Table 5-7** summarizes the results. Queue lengths were calculated using the HCS Software package for unsignalized intersections and using the ODOT 2-minute rule. The ODOT 2-minute rule refers to twice the number of vehicles arriving on that approach during a 2-minute period in the peak hour times the vehicle length.

Table 5-7. Peak Hour Intersection Level of Service

Location	2004 Type of Control	2004 LOS (sec. Delay)	2004 V/C	2025 LOS (sec. Delay)	2025 V/C	2025 Movement	2025 V/C Standard
AM Peak Hour							
Fourth Ave./Main St.	Two-way	C (15.6)	0.13	C (23.6)	0.23	EB all	0.80
Third Ave./Main St.	Two-way	B (10.2)	0.12	B (14.0)	0.31	WB all	0.80
First Ave./Main St.	Signal	B (10.9)	0.39	B (18.1)	0.75	All	0.80
Riverside/Main St.	Two-way	B (12.6)	0.20	**F (79.5)**	**0.98**	WB all	0.80
Walnut/Old Pacific Hwy.	Two-way	B (11.8)	0.17	C (21.7)	0.45	WB all	0.80
Chadwick/Old Pacific Hwy.	Two-way stop	D (30.8)	0.60	**F (422.3)**	**1.77**	EB all	0.85
PM Peak Hour							
Fourth Ave./Main St.	Two-way	C (17.8)	0.14	E (46.4)	0.39	EB all	0.80
Third Ave./Main St.	Two-way	B (13.9)	0.20	**F (168.8)**	**1.18**	WB all	0.80
First Ave./Main St.	Signal	B (15.3)	0.65	**F (112.3)**	**1.23**	All	0.80
Riverside/Main St.	Two-way	C (19.8)	0.34	**F (>500)**	**4.89**	WB all	0.80
Walnut/Old Pacific Hwy.	Two-way	B (13.6)	0.17	**F (127.1)**	**1.01**	WB all	0.80
Chadwick/Old Pacific Hwy.	Two-way	C (24.7)	0.50	**F (>500)**	**4.79**	EB all	0.85

Note: Bold text denotes areas that do not meet Douglas County mobility standards.

Each of the intersections included in **Table 5-7** will experience traffic congestion in 2026. They will all have a PM peak hour LOS of E or F, and with the exception of 4th Avenue/Main Street, all will have a v/c ratio greater than 1.00. For each of the intersections with a v/c ratio greater than 1.0, a detailed discussion of intersection operations is included below.

Third Avenue at Main Street

The intersection of 3rd Avenue with Main Street is a two-way, stop-controlled intersection. This intersection is expected to have a v/c ratio of 1.18 in the year 2025, and be operating at LOS F. Based on uniform annual traffic growth, the v/c standard of 0.80 is predicted to be exceeded by 2022. It is also expected that this intersection will meet Signal Warrant #2 under the 70% condition in the year 2025 (See Signal Warrant Analysis for detailed discussion). The eastbound approach on 3rd Street is expected to have long queue lengths of 175 feet (HCS) to 375 feet (2-minute rule).

One alternative for improving the v/c ratio at this intersection would be to install a traffic signal. The installation of a traffic signal with a 120-second cycle length would provide an overall v/c ratio of 0.94. To get the overall v/c ratio below the Douglas County Standard of 0.80, a left-turn lane would have to be added on the approach to the north. This would require the removal of some on-street parking or the widening of the roadway. Neither of these is a viable option, as there is insufficient room to widen the street and on-street parking is vital to the downtown area of Myrtle Creek.

First Avenue at Main Street

This intersection is expected to be operating at a LOS of F with a v/c ratio of 1.23 in 2025. The current cycle length is set at 55 seconds. Based on uniform annual traffic growth, the v/c standard of 0.80 is predicted to be exceeded by 2010. A queuing analysis at this intersection using the ODOT 2-minute rule revealed that under 2025 traffic conditions, a queue of 825 feet would be expected for the westbound approach on 1st Avenue. Increasing the cycle length to 110 seconds would reduce the v/c ratio to 1.07, but it would still be greater than 1.0. Additional lanes would be required to meet the Douglas County standard of 0.80. Further study would need to be performed in the downtown area of Myrtle Creek to determine if lane widening is a possible option for the community of Myrtle Creek.

Riverside Drive at Main Street

The intersection of Riverside Drive with Main Street is stop-controlled on the westbound approach. This intersection is expected to have a v/c ratio of 4.89 in the year 2025 and be operating at LOS F. Based on uniform annual traffic growth, the intersection is predicted to exceed a v/c of 0.80 in the year 2011. It is also expected that this intersection will meet Signal Warrant #1 and Warrant #2 in the year 2025 (See Signal Warrant Analysis for detailed discussion). The westbound approach on Riverside Drive is expected to have queue lengths of 50 feet (HCS) to 550 feet (2-minute rule).

One alternative for improving the v/c ratio at this intersection would be to install a traffic signal. The installation of a traffic signal with a 110-second cycle length would provide an overall v/c ratio of 0.91. This would require left-turn lanes for both the southbound and westbound approaches.

Walnut Street at Old Pacific Highway

The intersection of Walnut Street with Old Pacific Highway is expected to be operating at a LOS of F with a v/c ratio of 1.01 on the westbound approach. Based on uniform annual traffic growth, it is predicted that the v/c standard will be exceeded in the year 2023. Currently, this is a stop-controlled intersection of Walnut Street. It is recommended that the portion of the Old Pacific Highway near Walnut Street be upgraded to a three-lane section with a two-way left-turn lane. By adding a two-way, left-turn lane, the v/c ratio on Walnut Street will be reduced to 0.64 with a LOS of E.

Chadwick Lane at Old Pacific Highway

The intersection of Chadwick Lane at Old Pacific Highway is stop-controlled on Chadwick Lane. This intersection is expected to have a v/c ratio of 4.79 in the year 2025 and be operating at LOS F. Based on uniform annual traffic growth, this intersection is predicted to exceed a v/c ratio of 0.80 in 2015. It is also expected that this intersection will meet Signal Warrant #1 and Warrant #2 in the year 2025 (See Signal Warrant Analysis for detailed discussion). The eastbound and westbound approaches on Chadwick Lane are expected to have queue lengths of 50 feet (HCS) to 450 feet (2-minute rule) and 25 feet (HCS) to 450 feet (2-minute rule), respectively. One alternative for improving the v/c ratio at this intersection would be to install a traffic signal. The installation of a fully actuated signal would provide an overall v/c ratio of 0.71.

Signal Warrant Analysis

Table 5-8 summarizes a preliminary warrant analysis for three of the intersections based on traffic volumes. Only Warrant 1–Eight Hour Volume and Warrant 2–Four Hour Volume were evaluated. As stated in Chapter 4, signal warrants are checked if an intersection is expected to be operating at a poor LOS and are used to determine if a traffic signal is needed. Intersections are only required to meet one signal warrant. However, the MUTCD states that the satisfaction of one warrant does require the installation of a signal. An engineering study should accompany a signal warrant analysis to determine if a traffic signal should be installed. Warrant 1 and Warrant 2 are described in greater detail in Chapter 4.

Table 5-8. Signal Warrant Analysis

	Warrant Met?	
Location	**2004**	**2025**
Third Ave./Main St.	-	Meets Warrant 2 under 70% condition.
Riverside/Main St.	Close to meeting Warrant 1. Meets Warrant 2 under 70% condition.	Meets Warrant 1 80% combination. Meets Warrant 2 under 70% condition.
Chadwick/ Old Pacific Hwy.	Meets Warrant 2 under 70% condition.	Meets Warrant 1. Meets Warrant 2 under 70% condition.

Roadway Segments

Table 5-9 summarizes a roadway segment analysis for the major through street in the study area, Main Street-Old Pacific Highway. The hourly capacity of the corridor is an estimate only. Roadway capacity is influenced by the presence of signals, left-turn lanes, traffic composition, number of access points, and shoulders, and is not easily quantified on urban roadways. The purpose of this analysis is to determine whether any roadway may require widening within the 20-year study period.

Table 5-9. No Build Roadway Segment Analysis

Roadway	Segment	2004 PM Peak Volume	2004 V / C	2025 PM Peak Volume	2025 V / C	Estimated Hourly Capacity	V /C Standard
Main Street	4th to 1st	802	0.44	1.168	0.65	1.800	0.80
	1st to Riverside	856	0.47	1,800	**1.00**	1,800	0.80
Old Pacific Highway	Riverside to Plaza	910	0.45	1,670	**0.84**	2,000	0.80
	Plaza to Walnut	808	0.40	1,545	0.77	2,000	0.80
	Walnut to Woodcrest	673	0.34	1,293	0.65	2,000	0.80
	Woodcrest to Chadwick	607	0.25	1,128	0.47	2,400	0.80
	Chadwick to Crest	635	0.26	1,117	0.47	2,400	0.80
	Crest to Gael	755	0.37	1,136	0.57	2,000	0.80

Notes: Estimated capacity is the sum of both travel directions. 1,800 is for downtown areas, 2,000 for two-lane, and 2,400 for two-lane with center or left-turn pockets. **Bold text** denotes areas that do not meet Douglas County mobility standards.

Table 5-9 shows all the segments analyzed currently meet the traffic operations standards for their functional classification with very low levels of congestion. However, by 2025, one roadway segment on Old Pacific Highway/Main Street from 1st Street to Plaza will exceed the capacity of the section by 2025. The volume was estimated for a v/c equal to 0.80 for each segment and using linear growth between 2004 and 2025, it was estimated when the v/c standard would be met. For the segment from 1st Street to Riverside, it is predicted the standard will be exceeded in the year 2017. Upgrading Old Pacific Highway between Riverside and Plaza to a three-lane section with a continuous two-way, left-turn lane is predicted to meet Douglas County's mobility standard.

Roadway Segments with Weaver Road Bridge Connection

Douglas County is pursuing a project to add a Weaver Road bridge over the South Umpqua River connecting Tri City to I-5 at Interchange 106. The bridge project is earmarked in the federal transportation bill that has recently been passed by the US Congress. Travel patterns and roadway operations would change with the provision of a third connection to I-5. These operations are being analyzed as part of the Interchange Area Management Plan (IAMP) for the three Myrtle Creek area interchanges (103, 106, and 108). The TSP and IAMP planning effort have been extensively coordinated.

Table 5-10 summarizes a roadway segment analysis for the major through street in the study area, Main Street/Old Pacific Highway with the addition of a Weaver Road bridge. The hourly capacity of the corridor is an estimate only. Roadway capacity is influenced by the presence of signals, left-turn lanes, traffic composition, number of access points, and shoulders, and is not easily quantified on urban roadways. For this analysis, it was assumed that Old Pacific Highway would be widened to include a two-way, left-turn lane from Riverside to Gael.

Table 5-10. Roadway Segment Analysis with Weaver Road Bridge Connection

Roadway	Segment	2004 PM Peak Volume	2004 V / C	2025 PM Peak Volume	2025 V / C	Estimated Hourly Capacity	V / C Standard
Main Street	4th to 1st	802	0.44	780	0.43	1,800	0.80
	1st to Riverside	856	0.47	1,410	0.78	1,800	0.80
Old Pacific Highway	Riverside to Plaza	910	0.45	1,600	0.67	2,400	0.80
	Plaza to Walnut	808	0.40	1,600	0.67	2,400	0.80
	Walnut to Wecks	673	0.34	1,675	0.70	2,400	0.80
	Wecks to Woodcrest	673	0.34	1,290	0.54	2,400	0.80
	Woodcrest to Chadwick	607	0.25	955	0.40	2,400	0.80
	Chadwick to Crest	635	0.26	940	0.39	2,400	0.80
	Crest to Gael	755	0.37	1,125	0.47	2,400	0.80

Notes: Estimated capacity is the sum of both travel directions. 1,800 is for downtown areas, 2,000 for two-lane, and 2,400 for two-lane with center or left-turn pockets.

The analysis shows that by adding a third connection to I-5 from the Myrtle Creek/Tri City area, traffic patterns would change. Comparing PM peak hour volumes from Tables 5-9 and 5-10, one can see that 2025 volumes vary by less than 10% between the no build scenario and the Weaver Road bridge scenario. The greatest differences are predicted to occur north of Riverside where the proposed bridge is predicted to result in lower traffic volumes.

As shown in Table 5-10, the plan assumes that Old Pacific Highway is upgraded to a three-lane section with a continuous two-way, left-turn lane from Riverside to Gael. With this improvement, the entire length of Old Pacific Highway is predicted to meet Douglas County's mobility standard.

CHAPTER 6: IMPROVEMENTS

As required by the Oregon TPR, transportation alternatives were formulated and evaluated for the Myrtle Creek TSP. These potential improvements were developed to address the concerns identified in the goals and objectives (Chapter 2), the inventory (Chapter 3), evaluation of the existing operating conditions (Chapter 4), traffic forecasts (Chapter 5), and meetings with the Myrtle Creek TSP TAC and the public.

METHODOLOGY

Each of the proposed projects was developed to address specific deficiencies, safety issues, or access concerns. Projects were not limited to roadway issues, although most projects are roadway-related. Several of the projects discussed in this chapter are already listed in related transportation plans, such as the 1997 Myrtle Creek Local Street Network Plan, the 2001 Douglas County Transportation Plan, and the unfinished 2002 Myrtle Creek TSP.

In addition, improvements to the three I-5 interchanges in the area are being determined through the Interchange Area Management Plan (IAMP) efforts for interchanges, 103, 106, and 108. The TSP has been closely coordinated with the IAMP and shares the TAC. The IAMP will determine appropriate solutions for the interchanges. Where the improvements are inside the UGB, they will be adopted as part of this TSP.

Programmed Projects

Programmed projects include those on an agency's improvement program list, have funding, and are generally expected to be built within the next five years. These projects are shown on **Figures 6-1a** and **6-1b**: Programmed Improvement Projects.

Proposed Projects

These projects have been proposed based on previous transportation plans, the analysis supporting this transportation plan, or suggestions from the TAC and community residents. These projects are shown on **Figures 6-2a** and **6-2b**: Proposed Improvement Projects.

PROJECT CHARACTERISTICS

Pavement Rehabilitation

Includes inexpensive improvements such as crack sealing to more costly slurry seals and asphalt overlays.

Pavement Reconstruction

Streets needing reconstruction have typically deteriorated to the extent that the existing street must be removed and the roadbed completely rebuilt.

Street Connectivity

Provides new roads or extends existing roads to eliminate gaps in the existing street network, provide alternative routes, and improve overall circulation.

Capacity Improvement

Generally includes widening the street to accommodate new turn lanes or installation of a traffic signal. For those intersections where a traffic signal is installed, capacity will be increased for the approaches that currently have stop signs. Those movements that are presently free-flowing will experience a decrease in capacity.

Upgrade

Improves an existing street by adding curb, gutter, drainage facilities, sidewalks, and bike lanes (if applicable). May involve some widening to meet new standards.

Safety Improvement

Indicates that one primary reason for completing the project is to correct an existing or future safety concern.

Sidewalk Construction

Indicates that the project will install sidewalks. This may be through a full street upgrade or just building sidewalks along streets that already have curb and gutter.

Bike Lanes

Indicates that the project will install bike lanes either through widening or by re-striping the roadway.

DETAILED DISCUSSION OF SELECT PROJECTS

#P1 – Interchange 103 Bridge Reconstruction and NB On-Ramp (Previously Programmed)

The existing interchange at milepost 103 is a folded diamond on the northbound ramps and a standard diamond on the southbound ramps. The I-5 overcrossing bridge will be replaced with a three-lane structure and a new northbound ramp will be added. In addition, all ramps will be reconstructed to meet Riddle Bypass at 90-degree angles. This project is funded through the Oregon Transportation Investment Act (OTIA) III and scheduled to be constructed within the next five years.

#P2 – I-5 Mainline: Myrtle Creek Curves (Previously Programmed, But No Longer Funded in the 2006-2009 STIP)

The I-5 mainline follows a windy path around the steep hillside near Interchange 108. This area, referred to as the Myrtle Creek curves, has a crash rate much higher than the statewide average. This project intended to improve safety on I-5 by creating a new, straighter alignment through the

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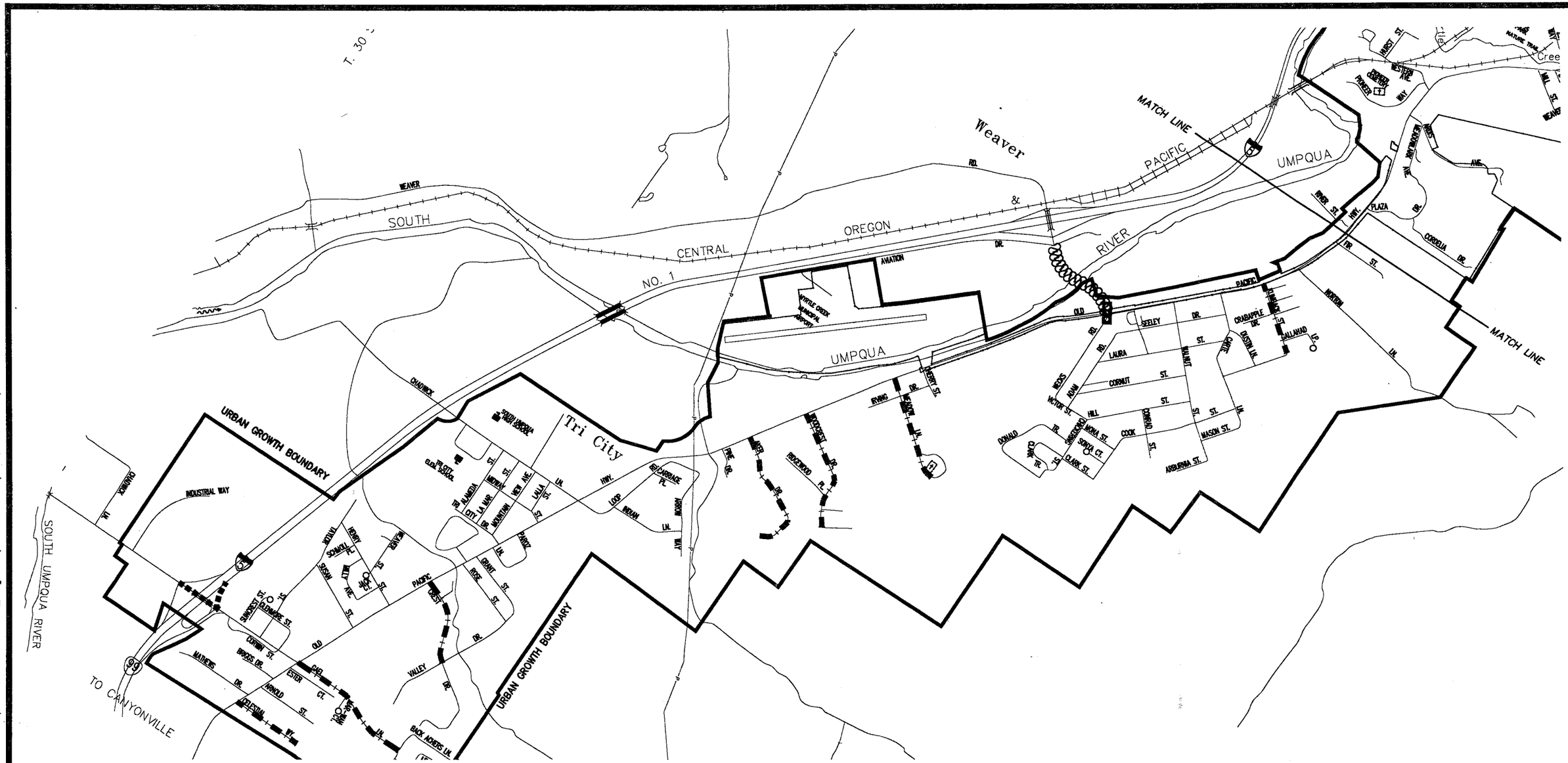

LEGEND

- INSTALL TRAFFIC SIGNAL
- UPGRADE WITH SIDEWALKS (COUNTY)
- BRIDGE AND/OR ON-RAMP RECONSTRUCTION (ODOT)
- NEW BRIDGE AND CONNECTION TO OLD PACIFIC HWY (COUNTY)
- CITY LIMIT

Figure 6-1b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PROGRAMMED IMPROVEMENT PROJECTS

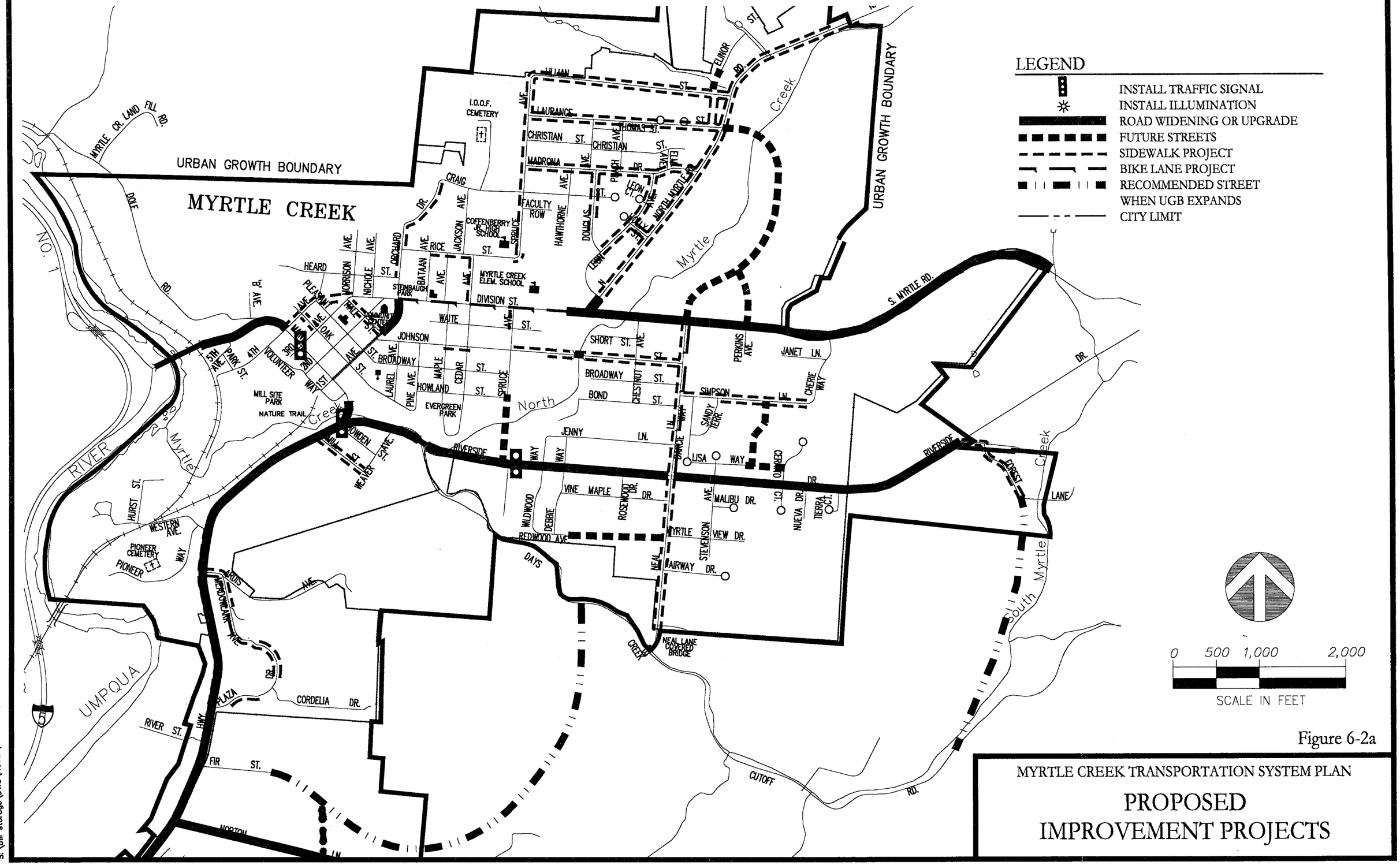

Figure 6-2a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PROPOSED IMPROVEMENT PROJECTS

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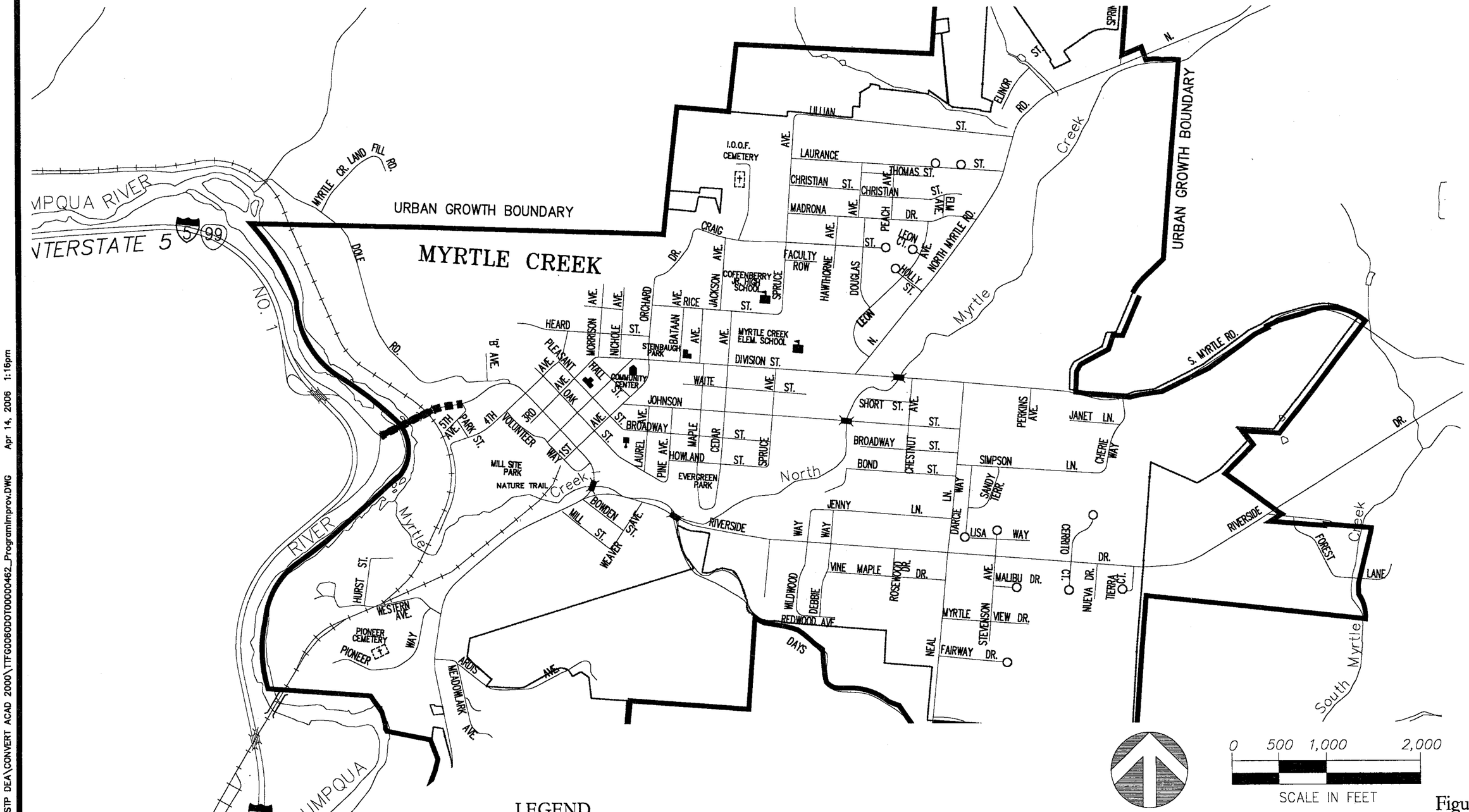

LEGEND

- INSTALL TRAFFIC SIGNAL
- UPGRADE WITH SIDEWALKS (COUNTY)
- BRIDGE AND/OR ON-RAMP RECONSTRUCTION (ODOT)
- NEW BRIDGE AND CONNECTION TO OLD PACIFIC HWY (COUNTY)
- CITY LIMIT

Figure 6-1a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PROGRAMMED IMPROVEMENT PROJECTS

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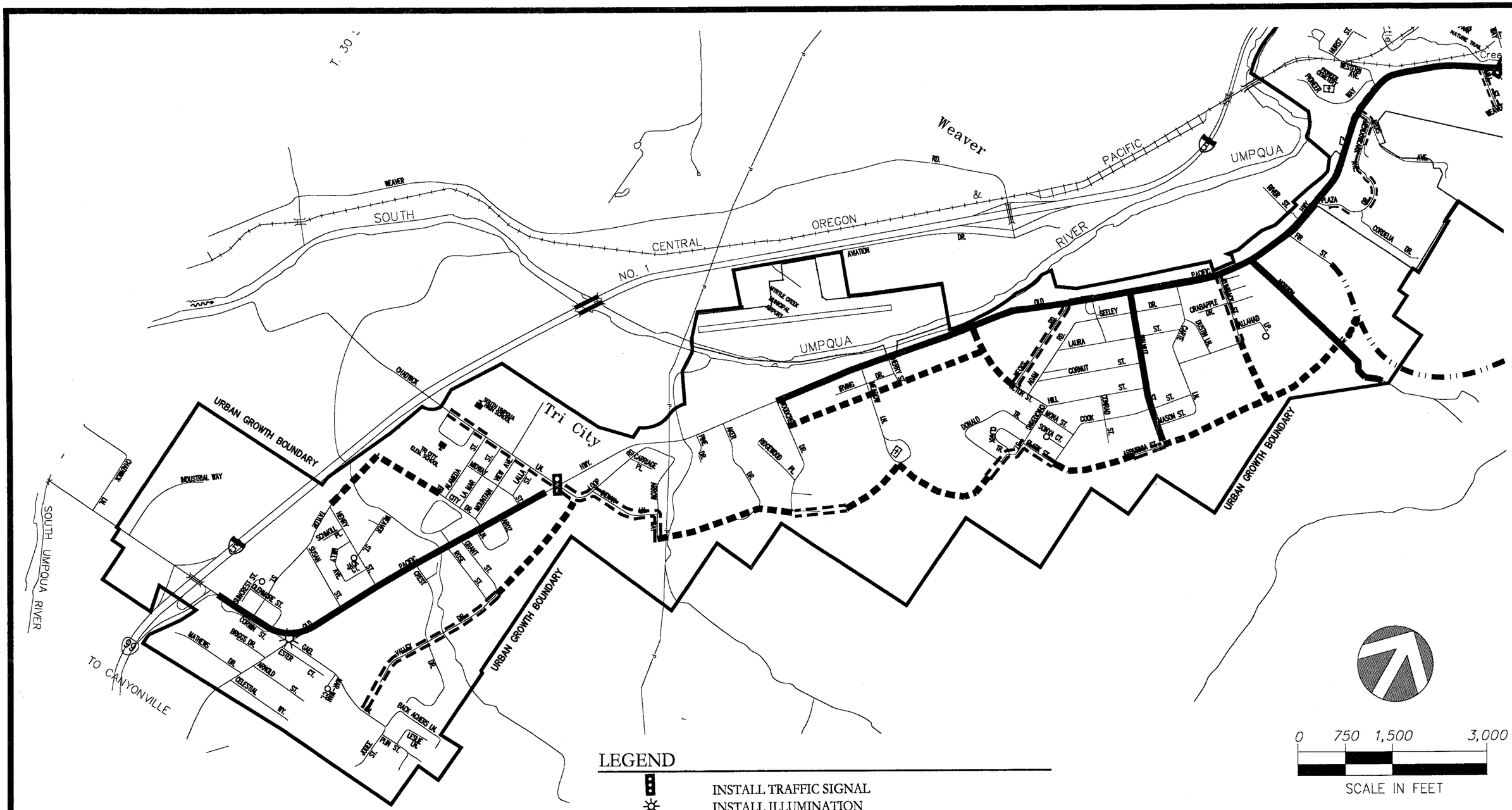

LEGEND

- INSTALL TRAFFIC SIGNAL
- INSTALL ILLUMINATION
- ROAD WIDENING OR UPGRADE
- FUTURE STREETS
- SIDEWALK PROJECT
- BIKE LANE PROJECT
- RECOMMENDED STREET WHEN UGB EXPANDS
- CITY LIMIT

Figure 6-2b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PROPOSED IMPROVEMENT PROJECTS

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mountain located west of Myrtle Creek. The project is identified in the Myrtle Creek Comprehensive Plan and was planned to be included as a modernization project in the 2006 and 2009 STIP. Various smaller projects have tried to improve the safety with little results. Such things as reduced speed, advanced warning signs, and improvements to the super-elevation have all failed to reach the desired level of crash reductions. The project is estimated to cost approximately $35 million with funding from Interstate Maintenance, Operations, OTIA III, and other sources. The project was scheduled to go to design in 2006 with construction beginning in 2009. This project is no longer funded in the 2006-2009 STIP. The City of Myrtle Creek has an interest in keeping this programmed item as a long term project, but recognizes that it will not be funded in the 2006-2009 STIP.

#P3, P4, P5, P6, P7, P8 - Tri-City Collector Street Improvements (Previously Programmed)

Douglas County has plans to initiate a street improvement test project in Tri City with the overall purpose of enhancing mobility, improving the urban setting, and facilitating and stimulating new urban development. Subject to budget approval, the County will construct six streets in Tri City, with the public expenditure being reimbursed by developers as they create new developments accessing one of the six identified streets. Under this policy, the County will construct these streets in the following order of priority: Klimback Street, Gael Lane, Woodcrest Drive, Meadow Lane, Aker Drive, and Celestial Way. The limits of these construction projects will be from Old Pacific Highway to the planned parallel minor collector.

The improvement project is designed to recover a portion of the public cost for development of these streets. Individuals or businesses who receive approval through the development review process for a subdivision, partition, or planned development that will gain access from one of the six identified streets shall reimburse Douglas County for the cost of improving 12 feet of roadway for each lot or parcel created. To further stimulate and encourage new development, the private reimbursement shall be paid at 80% of the public cost. The right-of-way acquisition and completion of construction for each street is expected to occur within ten years from policy adoption in December 2003.

#P9 – Umpqua River Bridge Rehabilitation (Previously Programmed)

The Myrtle Creek Arch Bridge is scheduled to be widened and strengthened as part of the OTIA III bonding package under the direction of the Governor and Legislature. The project will enhance the historical features of the bridge, and will double the width of the deck. The bridge will remain a two-lane facility, but the deck widening will provide 7-foot shoulders for emergency work and pedestrian facilities. Currently, this bridge is weight restricted and is eligible for listing on the National Historic Register.

The two main goals of the project are to widen the structure to current standards and strengthen the superstructure enough to remove the weight restriction limits. Douglas County's project team decided to concurrently improve Old Highway 99 east of the bridge to tie the bridge improvements into recently improved Main Street.

Bridge improvements are as follows:

- Build a twin structure on the upstream side. This structure will be the stronger of the two and thereby relieve some burden of the old structure, and provide needed seismic resistance. Construct a railroad crash wall at the east bent.
- Strengthen the old structure's approach girders where load cannot be transferred to the new structure.
- Tie the old and new deck together to provide a total of two 12-foot travel lanes and two 7-foot multi-use shoulders. Construct a deck overlay, install new bridge joints to limit water infiltration.
- Replace existing concrete bridge rail with historically similar, but crashworthy rails.
- Replace existing luminaries with more appropriate period lighting.

Roadway improvements are as follows:

- Widen the road (Old Highway 99) from the east end of bridge to station 42+30 (end of recently constructed south side sidewalk). The road section will have two 12-foot lanes, two 5-foot bike lanes, and one 6-foot sidewalk on south side, from 5th Street to station 42+30.
- Road widening will occur mostly on the north side of road. This will correct sight distance and cross-slope issues. Curb and gutter will be installed, and a new road surface will be laid down.
- Close the 5th Street access point onto Old Highway 99 to motorized vehicles, but leave it open to pedestrians and bicycles. Close the one private access on south side of Old Highway 99 at station 42+00. This is a secondary residential access and the owners have it chained off.

The estimated cost of this project is $8 million. The project is anticipated to be constructed under a design-build contract. It is scheduled to begin March 2006 and run until August 2007. Through much of the construction, the bridge will be restricted to one lane, and a full closure is expected for four months in spring 2007.

#P11 – Weaver Road Connection from Interchange 106 to Old Pacific Highway (Previously Programmed)

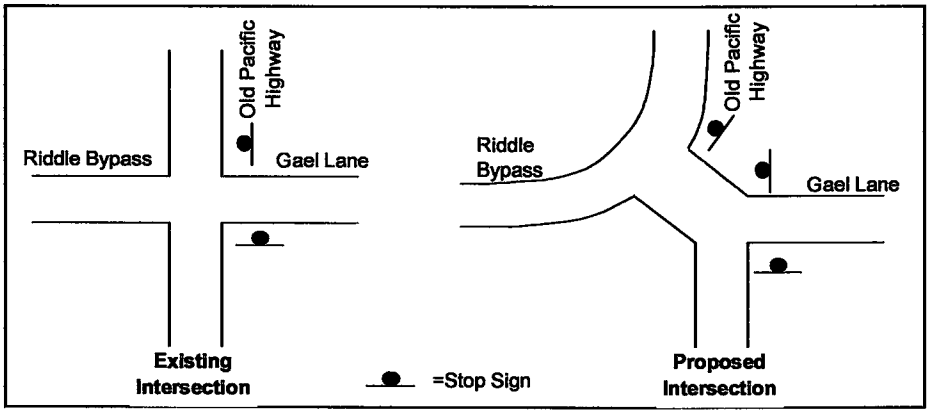
This project calls for a new bridge over the South Umpqua River connecting Weaver Road to Old Pacific Highway, and consequently, connecting Tri City to I-5 at Interchange 106. This will add a third interchange connection to the Myrtle Creek community. This project is earmarked in the 2005 SAFETEA-LU federal transportation bill. Any geometric improvements to Interchange 106 will need to be coordinated with this effort.

Concerns were raised at the TAC meetings over the location of this new arterial roadway in relation to the planned extension of the runway at the Myrtle Creek Municipal Airport. The City's Airport Layout Plan calls for the extension of the existing runway by 1,000 feet to the north. The glide slope (20:1) will move to the north with the extension. This area must be free of obstructions for safe airport operation. At the point of intersection of the glide slope and the proposed location of the bridge, there is approximately 50 feet of vertical availability for structures without interference. The 50 feet is measured from the current ground elevation. It is expected that the roadway would sit at least 10 to 15 feet above the existing ground elevation to connect with the Interchange 106 overpass and the planned Umpqua River Bridge. The design process must ensure the proposed roadway will not encroach on the runway glide slope. This project is largely outside of the UGB, but will impact areas within the UGB (including the airport).

#44 – Intersection of Riddle Bypass Road/Old Pacific Highway (New)

The intersection of Riddle Bypass and Old Pacific Highway is currently a two-way stop-controlled intersection with the northbound and eastbound approaches being stop-controlled. The proposed project will realign the intersection by adding a curve from the west leg to the north leg. The south and east legs will intersect just east of the curve and have one approach at the curve for accessing Riddle Bypass and Old Pacific Highway. The reconfiguration will allow the major movement (Riddle Bypass to Old Pacific Highway) to occur without having to stop. **Figure 6-3** shows the proposed realignment of Riddle Bypass and Old Pacific Highway. In addition to the realignment, the installation of illumination at this intersection would improve the overall safety of the intersection.

Figure 6-3. Riddle Bypass/Old Pacific Highway Improvements



#46 – Intersection of Riverside Drive/Old Pacific Highway (New)

The intersection of Riverside Drive and the Old Pacific Highway should be reconstructed. Currently, this intersection is stop-controlled on the approach of Riverside Drive. Reconstructing the intersections would provide the opportunity to widen the roadway and install a traffic signal. Sidewalks and bike lanes would also improve the safety of the intersection for bicyclists and pedestrians.

Table 6-1. Previously Programmed Projects

Roadway or Intersection	Location	Project #	Project Characteristics: Pavement Rehabilitation	Pavement Reconstruction	Street Connectivity	Capacity Improvement	Upgrade	Safety Improvement	Adds Sidewalk	Adds Bike Lanes	Description
I-5 Interchange 103	NB Ramp and bridge	P1				X			X	X	ODOT project. Add new northbound ramp, widen bridge, and build full diamond configuration. Funded through OTIA III.
I-5 Mainline	Myrtle Creek curves	P2						X			ODOT project. Straighten out mainline of I-5. *Project is no longer funded in 2006-2009 STIP*
Aker Drive	Old Pacific Hwy. to new collector	P3					X		X		County project. Upgrade road section.
Celestial Way	Old Pacific Hwy. to new collector	P4					X		X		County project. Upgrade road section.
Crest Drive	Old Pacific Hwy. to Valley Dr.	P5					X		X		County project. Upgrade road section.
Gael Lane	Old Pacific Hwy. to new collector	P6					X		X		County project. Upgrade road section.
Klimback Street	Old Pacific Hwy. to new collector	P7					X		X		County project. Upgrade road section.
Meadow Lane	Old Pacific Hwy. to new collector	P8					X		X		County project. Upgrade road section.
Umpqua River Bridge	Between I-5 and downtown Myrtle Creek	P9		X				X			ODOT sponsored bridge rehabilitation. Funded through OTIA III.
Woodcrest Drive	Old Pacific Hwy. to new collector	P10					X		X		County project. Upgrade road section.
Weaver Road	Interchange 106 to Old Pacific Highway	P11			X	X			X	X	County project. Build new bridge over South Umpqua River to provide connection between 106 and Old Pacific Hwy. Funding is earmarked SAFETEA-LU Legislation.

Table 6-2. New Projects

Roadway or Intersection	Location	Project #	Timeframe	Project Characteristics: Pavement Rehabilitation	Pavement Reconstruction	Street Connectivity	Capacity Increase	Upgrade	Safety Improv.	Adds Sidewalk	Adds Bike Lanes	Description
1st Ave.	Main St. to Hall St.	1	S	X								City is applying for overlay grant.
1st Ave.	Hall St. to Division St.	2	M					X		X		Upgrade road section, add sidewalk.
3rd Ave. / Main St.	Intersection	3	L				X					Install traffic signal.
Ardis Ave.	Old Pacific Hwy. To Meadowlark Ave.	4	L							X		Construct sidewalk on both sides.
Cedar Ave.	Rice St. to Division St.	5	M							X		Construct sidewalk on west side.
Chadwick Ln. / Old Pacific Hwy.	Intersection	6	M				X		X			Install traffic signal.
Chadwick Ln.	Elementary School to Old Pacific Hwy.	7	M							X		Construct sidewalk on south side. Also on north side where needed.
Chadwick Ln.	Old Pacific Hwy. To Indian Ln.	8	M							X		Construct sidewalk both sides.
Christian St.	Spruce to Douglas	9	L							X		Construct sidewalk on both sides.
Division St./ North Myrtle Rd.	Intersection	10	L				X		X	X	X	Reconstruct intersection. Install traffic signal, add bike lanes, sidewalk.
Division St.	Orchard Dr. to N. Mytle Dr.	11	L									Remove on-street parking and add bike lanes.
Division St.- S. Myrtle Rd.	North Myrtle Rd. to Perkins Ave.	12	L					X		X	X	Upgrade road section and widen if needed to add bike lanes and sidewalk.
Division St. – S. Myrtle Rd.	Perkins Ave. to City Limits	13	L					X		X	X	Upgrade road section and widen if needed to add bike lanes and sidewalk.
Elinor St. Ext.	Continue to Lillian St.	14	M			X				X		New Local
Fir Street Ext.	Continue to Days Creek Cut Off*	15	M			X	X					New Minor Collector , Recommended*
Forest Ln. Ext.	Riverside Dr. to Days Creek Cutoff Rd.*	16	L			X				X	X	Construct new Minor Collector, Recommended*
Hall St.	3rd Ave. to 1st Ave.	17	L							X		Construct sidewalk on both sides.

Project Characteristics

Roadway or Intersection	Location	Project #	Timeframe	Pavement Rehabilitation	Pavement Reconstruction	Street Connectivity	Capacity Increase	Upgrade	Safety Improv.	Adds Sidewalk	Adds Bike Lanes	Description
Indian Ln.	Chadwick Ln. to Arrow Way	18	L								X	Construct sidewalk on both sides.
Johnson St.	Spruce Ave. to Neal Ln.	19	S	X						X		Pavement rehabilitation. Construct sidewalk where needed, both sides.
Laurance St.	Spruce Ave. to North Myrtle Rd.	20	L		X			X		X		Reconstruct street. Existing pavement section is 2" asphalt over dirt. Construct sidewalk on both sides.
Lillian St.	Spruce Ave. to North Myrtle Rd.	21	L					X		X		Construct sidewalk on both sides.
Lisa Way Ext.	Existing end to Cerrito Ct.	22	L			X				X		New Local
Madrona Dr.	Spruce Ave. to North Myrtle Rd.	23	L							X		Construct sidewalk on both sides.
Main St.	South Umpqua bridge to 4th Ave.	24	L		X			X		X	X	Upgrade road section, re-pave, provide 2 lanes, bike lanes and sidewalks.
Meadowlark Ave.	Ardis Ave. to Cordelia Dr.	25	L							X		Construct sidewalk where needed, both sides.
North Myrtle Rd.	City limits to Laurance St.	26	L					X		X		Construct sidewalk on both sides.
North Myrtle Rd.	Laurance St. to Division St.	27	L					X		X		Construct sidewalk on both sides.
Neal Ln.	Division St. to Riverside Dr.	28	L							X	X	Construct sidewalk on west side. Remove parking on east side and stripe bike lanes.
Neal Ln.	Riverside Dr. to Days Creek Cutoff Rd.	29	S				X	X		X		Upgrade and widen road section, construct sidewalk on both sides.
Neal Ln. Ext.	Division St. to North Myrtle Rd./Laurance St.	30	L			X				X	X	New Minor Collector with bike lanes.
Norton Ln.	Old Pacific Hwy. To UGB	31	L					X		X		Upgrade road section and provide sidewalks.
Old Pacific Hwy.	Riverside Dr. to Ardis Ave.	32	M				X			X	X	Upgrade road section and widen to provide 3 lanes, bike lane, sidewalk.
Old Pacific Hwy.	Ardis Ave. to Plaza Dr.	33	M				X			X	X	Upgrade road section and widen to provide 3 lanes, bike lane, sidewalk.
Old Pacific Hwy.	Plaza Dr. to approx. Wecks Rd.	34	M				X			X	X	Upgrade road section and widen to provide 3 lanes, bike lane, sidewalk.

Project Characteristics

Roadway or Intersection	Location	Project #	Timeframe	Pavement Rehabilitation	Pavement Reconstruction	Street Connectivity	Capacity Increase	Upgrade	Safety Improv.	Adds Sidewalk	Adds Bike Lanes	Description
Old Pacific Hwy.	Creek crossing to Chadwick Ln.	35	M				X			X	X	Upgrade road section and widen to provide 3 lanes, bike lane, sidewalk.
Old Pacific Hwy.	Chadwick Ln. to Midway St.	36	M				X			X	X	Upgrade road section and widen to provide 3 lanes, bike lane, sidewalk.
Old Pacific Hwy.	Midway St. to Gael Ln.	37	M				X			X	X	Upgrade road section and widen to provide 3 lanes, bike lane, sidewalk.
Orchard Dr.	Craig St. to Rice St.	38	L							X		Construct sidewalk on east side.
Orchard Dr.	Rice St. to Heard St.	39	L							X		Construct sidewalk on west side.
Perkins Ave. Ext.	Division St. to Neal Ln. Ext.	40	L			X				X		New Necessary Local
Plaza Dr.	Old Pacific Hwy. To Cordelia Dr.	41	L							X		Construct sidewalk where needed on south side.
Redwood Ave. Ext.	Existing end to Myrtle View Dr. / Neal Ln.	42	L			X				X		New Necessary Local
Rice St.	Bataan Ave. to Cedar Ave.	43	M							X		Construct sidewalk on south side.
Riddle Bypass Rd. / Old Pacific Hwy.	Intersection	44	L		X		X		X			Install illumination and reconstruct intersection to have a curve between the west and north legs.
Riddle Bypass Rd.	Interchange 103 to Old Pacific Hwy.	45	L				X			X	X	Upgrade road section and widen add bike lanes and sidewalk.
Riverside Dr./ Main-Old Pacific	Intesection	46	M						X	X		Reconstruct intersection and install signal. Add turn lanes, bike lanes, and sidewalk.
Riverside Dr. at Fire Station	-	47	L				X		X			Install Emergency Vehicle Signals
Riverside Dr.	Main St. to Days Creek Cutoff	48	L				X		X	X	E	Upgrade road section and widen if needed to maintain bike lanes and add sidewalk.
Riverside Dr.	Days Creek Cutoff to Neal Ln.	49	L				X		X	X	E	Upgrade road section and widen if needed to maintain bike lanes and add sidewalk.

Project Characteristics

Roadway or Intersection	Location	Project #	Timeframe	Pavement Rehabilitation	Pavement Reconstruction	Street Connectivity	Capacity Increase	Upgrade	Safety Improv.	Adds Sidewalk	Adds Bike Lanes	Description
Riverside Dr.	Neal Ln. to Forest Ln.	50	L				X		X	X	E	Upgrade road section and widen if needed to maintain bike lanes and add sidewalk.
Simpson Ln.	Neal Ln. to Cherie Way	51	S		X			X		X		Reconstruct pavement and upgrade road section, add sidewalk where needed on both sides.
Spruce Ave. Ext.	Howland St. to Riverside Dr.	52	L			X				X		New Minor Collector and bridge over Myrtle Creek. Connection to Fire Department.
Tri-City Collector	Norton Ln. to Gael Ln.	53	L			X				X	X	New Minor Collector where needed. Construct sidewalks where needed.
Unnamed Local	Simpson Ln. to Lisa Way Ext.	54	L			X				X		New Necessary Local
Unnamed Local	Woodcrest Dr. to Victor St.	55	L			X						New Necessary Local
Valley Dr.	Gael Ln. to Grant	56	L							X		Construct sidewalk on both sides.
Victor St. Ext.	Old Pacific Hwy to Victor	57	L			X				X		New Local
Walnut St.	Old Pacific Hwy. to Arburnia St.	58	L				X			X		Upgrade road section and provide sidewalks.
Wecks Rd.	Old Pacific Hwy. to Victor St.	59	L							X		Construct sidewalk on both sides.

Notes:
E – Existing
X – Project adds this feature
S – Short Term (1-5 years)
M – Medium Term (6-10 years)
L – Long Term (11-20 years)
*Projects 15 and 16 are recommended only. Cannot be programmed until UGB is expanded, or a goal exception is granted; should be co-adopted by Douglas County for incorporation into their TSP.

CHAPTER 7: TRANSPORTATION SYSTEM PLAN

The purpose of this chapter is to provide a detailed transportation system plan that will achieve the goals and objectives set forth by the Myrtle Creek/Tri City community. The TSP includes modal plans for streets, public transportation, bicycles, pedestrians, aviation, railroads, freight, water, and pipelines. The modal plans address improvements or strategies to meet the needs of all transportation modes appropriate for the Myrtle Creek planning area. The street system plan covers street standards, access management guidelines, and projects comprising the Future Street Plan. It is expected that Myrtle Creek will ultimately adopt this TSP as the transportation component of its Comprehensive Plan, and that Douglas County will adopt it as a supplement to its TSP and Comprehensive Plan.

STREET SYSTEM PLAN

The street system plan includes street standards (functional classification and paving standards), a Future Street Plan (showing future street locations and roadway classifications), and roadway projects that will improve the operations of the street network.

Street Standards

Functional street classifications reflect both the design characteristics of streets and the type of service the streets are intended to provide. Functional classifications form a hierarchy of streets ranging from those that are primarily for travel mobility (arterials) to those that are primarily for access to property (local streets). The functional classification system is developed with the recognition that individual streets do not act independently of each other but form a network of streets that work together to serve travel needs. The street plan is intended to make sure that gaps in the system are minimized and that streets are adequate to serve existing and planned land uses.

Roadway design standards are created to ensure that roadway designs are appropriate for each functional classification. The design must account for operational characteristics such as traffic volume, operating speed, safety, and capacity. Street standards are necessary to provide a community with roadways that are relatively safe, aesthetic, and easy to administer when new roadways are planned or constructed. They are based on experience and policies and publications of the profession. Within the generally accepted range of standards, communities have some flexibility in adopting specific design requirements to match the planned roadways under their jurisdiction with adjacent land uses.

In the past, roads were built to guidelines provided in City or County Development Codes. Existing roads in the Myrtle Creek/Tri City area are generally two lanes wide. The existing right-of-way along the roads is generally between 40 and 60 feet wide.

The following summarizes the function for each roadway classification:

Arterial: The primary function of an arterial is to provide through movement to traffic, distributing it to collector streets and principal highways, and providing limited access to adjacent properties. The Transportation Planning Rule (TPR) requires that bikeways and sidewalks be provided along arterials [OAR 660-012-0045 (3) (b) (B)].

Major Collector: The primary function of a collector is to move traffic between arterials, collectors, and local streets, and to provide access to adjacent uses. Major collectors help define neighborhoods and define land use patterns. Access to properties is often limited along major collectors. The TPR requires that bikeways and sidewalks be provided along major collectors [OAR 660-012-0045 (3) (b) (B)].

Minor Collector: The primary function of a minor collector is to move local traffic between minor collectors, major collectors or arterial streets. Property access onto minor collectors is typically allowed. Minor collectors often border neighborhoods. The TPR requires that sidewalks be provided along minor collectors [OAR 660-012-0045 (3) (b) (B)].

Necessary (Major) Local: A necessary local performs the function of a regular local street, except that it provides an essential connection between otherwise isolated areas. The primary function of local streets is to provide access to private dwellings and businesses. Local streets should focus on serving passenger cars, bicycles, and pedestrians. Generally, local streets have two lanes and can include parking on one or both sides. Transit and heavy truck traffic are generally discouraged from using local streets.

Local Streets: The primary function of local streets is to provide access to private dwellings and businesses. Local streets should focus on serving passenger cars, bicycles, and pedestrians. Generally, local streets have two lanes and can include parking on one or both sides. Short roads that are less than 2,400 feet in length may have a narrower travel way with parking on one side.

The Myrtle Creek TSP planning area includes roadways that fall under two jurisdictions (city and county). The functional classification standards vary slightly between the jurisdictions. At their discretion, Myrtle Creek and Douglas County may choose to deviate from the adopted design standards for those roadways under City/County control. Table 7-1 shows the adopted street standards for Myrtle Creek.

TABLE 7-1. EXISTING MYRTLE CREEK STREET STANDARDS

Classification	Additional Description	Roadway Width (feet)	Right-of-Way Width (feet)
Arterial	-	40-52	80-120
Collector	-	36-48	60-80
Minor Street	Continuous	34-36	50-60
	Less than 2,400 feet that cannot be extended	28	50
Alleys	-	20	20

Source: City of Myrtle Creek Development Code.

Table 7-2 shows adopted Douglas County Street Standards for Urban Roadways taken from the Douglas County Land Use and Development Ordinance (LUDO).

TABLE 7-2. EXISTING DOUGLAS COUNTY STREET STANDARDS FOR URBAN ROADWAYS

Classification	Travel Lane Width (feet)	Shoulder Width (feet)	Right-of-Way Width (feet)	Sidewalk Width (feet)
Arterial	12	10	102	6
Collector	12	8	60-84	6
Local Street	12	6	56	5

Source: Chapter 4, Douglas County Land Use and Development Ordinance.

The City of Myrtle Creek and Douglas County recognize that some existing roads do not meet these standards. Therefore, these standards shall be applied to newly constructed or reconstructed City and County roads. All new roads shall not have a grade greater than six percent. All public roads, except state highways, not owned by the City of Myrtle Creek or Douglas County must be maintained by private property owners along the road.

Transportation System Plan Functional Classifications and Standards

Different standards will apply to streets within the City of Myrtle Creek and to those within the Tri City area (Douglas County). Streets within the City of Myrtle Creek should follow standards recommended in this TSP. Streets within the Tri City area should follow standards adopted in the Douglas County TSP.

The new Myrtle Creek street standards provide additional functional classifications and more detail regarding cross section design. (See Table 7-3 below.) The TSP provides separate standards for arterials within and outside of the central business district (CBD). It also differentiates between major and minor collector and local streets. The new standards clarify requirements for travel lanes, on-street parking, bike lanes, and sidewalks. Planting strips may be added, but are not required to be installed.

TABLE 7-3.
2005 Myrtle Creek Street Standards

Classification	Total Right-of-Way Width (feet)	Pavement Width (feet)	Number of Lanes	On-street Parking	Bike Lanes (feet)	Sidewalk Width (feet)
Arterial	80	48	3 (2 + 1 TWLTL[1])	None	6 - both sides	5 - both sides
Arterial (CBD)	64	46	2	8 - both sides	None	8 - both sides
Major Collector	60-80	46	2	8 - one side	4 to 6 - both sides	5 - both sides
Minor Collector	60	40	2	8 - both sides	None	5 - both sides
Necessary (Major) Local	60	36	2	8 - both sides	None	5 - both sides
Local[2]	50	28	2 - 10' Travelways	8 - one side	None	5 - both sides

1. TWLTL = two-way, left-turn lane.
2. 28' are allowed when the street is <2,400 feet in length and cannot be extended.

Figures 7-1 through **7-4** show cross-sections of the Myrtle Creek street standards for this plan. The City of Myrtle Creek believes that street standards play an important role in maintaining livability and functionality of their semi-rural community. Narrow street standards are seen as inconsistent with the lifestyle and character of the community. Maintaining width of local streets is also important for emergency access. **Figures 7-5** and **7-6** show cross sections for Douglas County street standards based on Chapter 4 of the Land Use and Development Ordinance. These Douglas County standards have not changed from **Table 7-2** and will continue to apply to streets in the Tri City area.

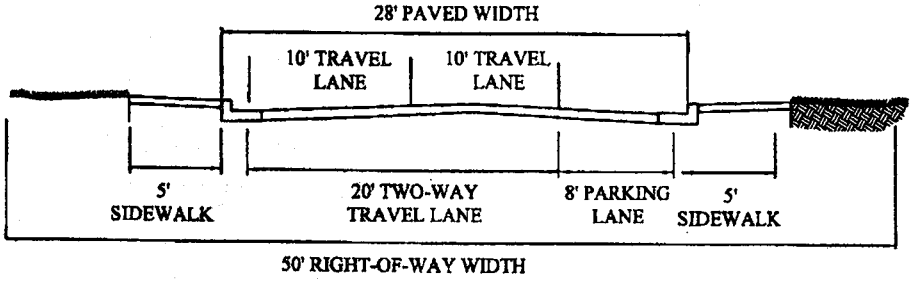
It should be noted that although the functional classification for Old Pacific Highway is an Urban Collector within Tri City, and a City Arterial within Myrtle Creek, the two classifications are compatible. This is because the Douglas County Major Collector classification allows for a street design that is compatible with the more prescribed, City Non-CBD Arterial standard.

SECTION A : LOCAL

NOTES:

28' are allowed when the street is <2,400 feet in length and cannot be extended.
Curbside sidewalks may be allowed when ROW is insufficient for planting strips, or at the discretion of the City Engineer.

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.



SECTION B : MAJOR (NECESSARY) LOCAL

NOTES:

Parking may be restricted at intersections with Arterials and Major Collectors to provide turn lanes.
Curbside sidewalks may be allowed when ROW is insufficient for planting strips, or at the discretion of the City Engineer.

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.

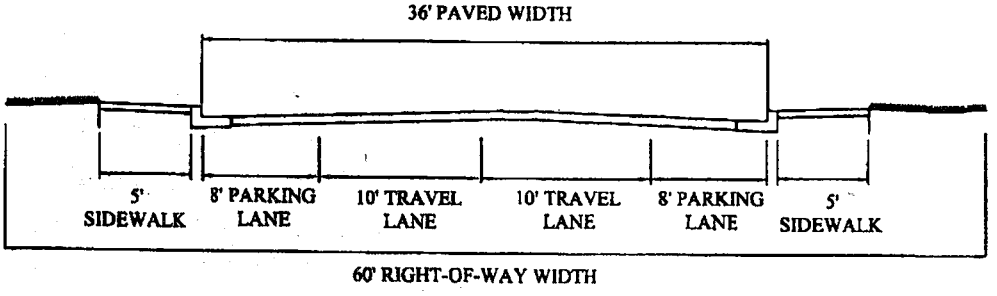


Figure 7-1

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

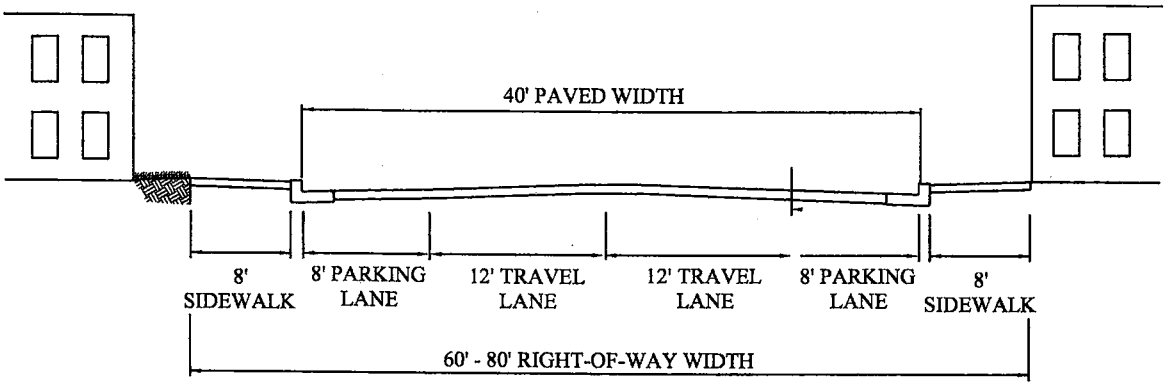
Local Streets
MYRTLE CREEK STANDARDS

SECTION C: MINOR COLLECTOR

NOTES:

8' sidewalks are standard in the CBD.

1st Avenue
2nd Avenue
3rd Avenue



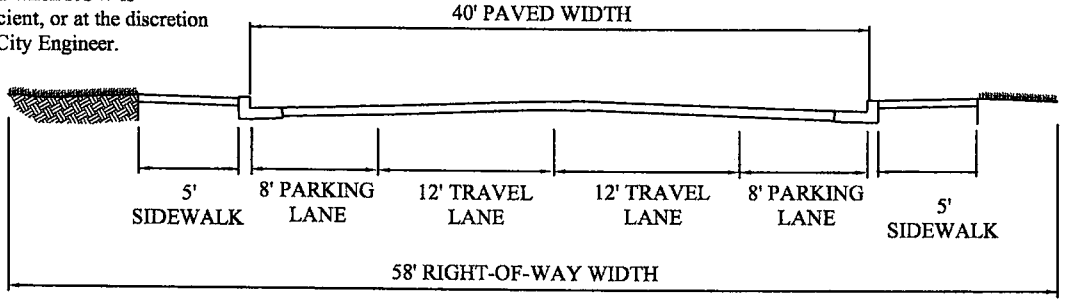
Spruce Avenue
Neal Lane
Neal Lane Extension

Rice Street
Laurance Street
Johnson Street

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.

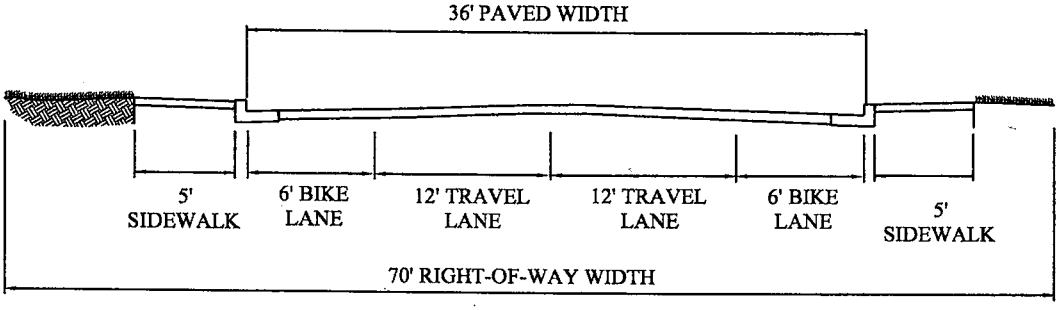
NOTES:

Curbside sidewalks may be allowed when ROW is insufficient, or at the discretion of the City Engineer.



Dole Road
Future Collector parallel to N. Myrtle Drive

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.



NOTES:

Curbside sidewalks may be allowed when ROW is insufficient, or at the discretion of the City Engineer.

Figure 7-2

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

Minor Collector Streets

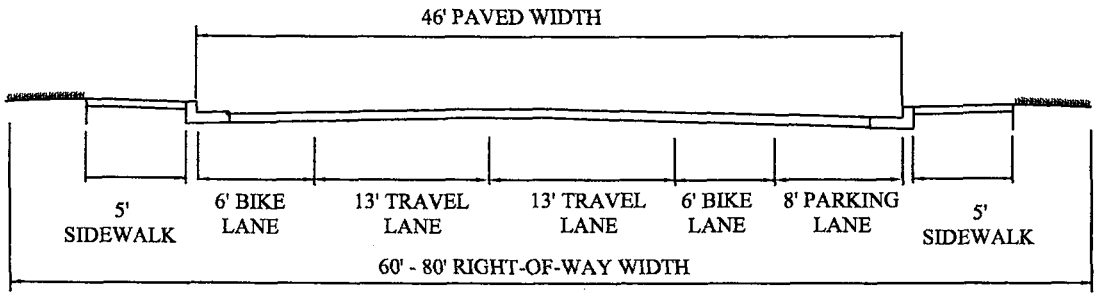
MYRTLE CREEK STANDARDS

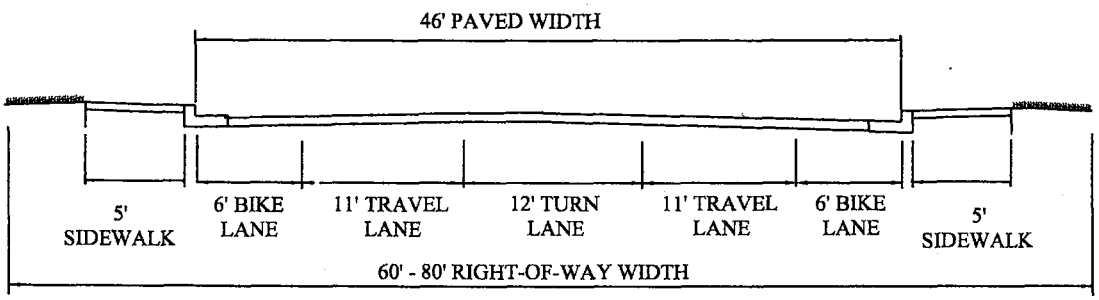
SECTION D: MAJOR COLLECTOR

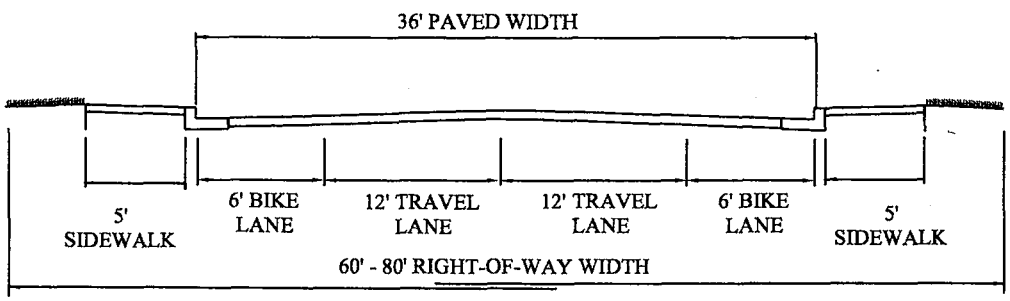
Division Street - S. Myrtle Road
N. Myrtle Drive (from Division to Lillian)

NOTES:

Curbside sidewalks may be allowed when ROW is insufficient, or at the discretion of the City Engineer.







Riverside Drive
N. Myrtle Drive (from Lillian to City limits)

NOTES:

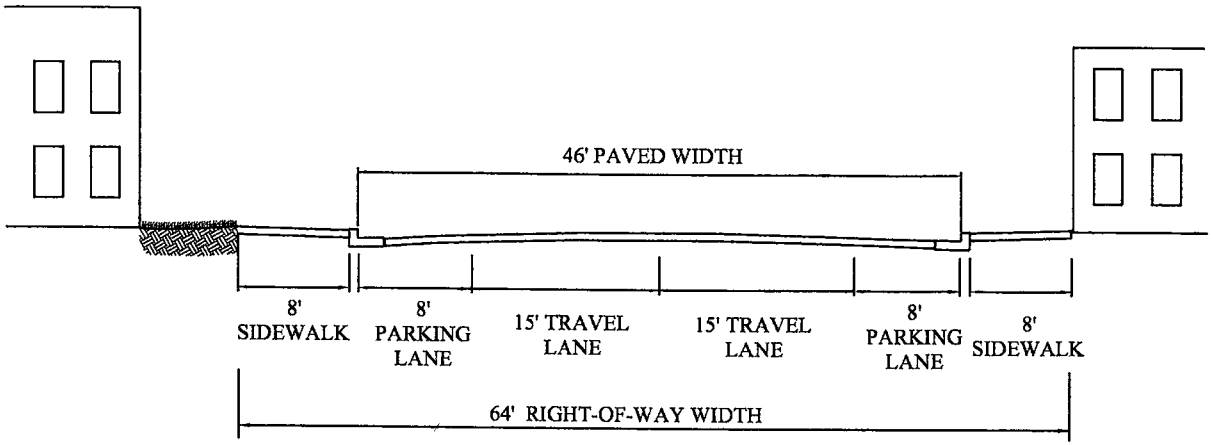
Curbside sidewalks may be allowed when ROW is insufficient, or at the discretion of the City Engineer.

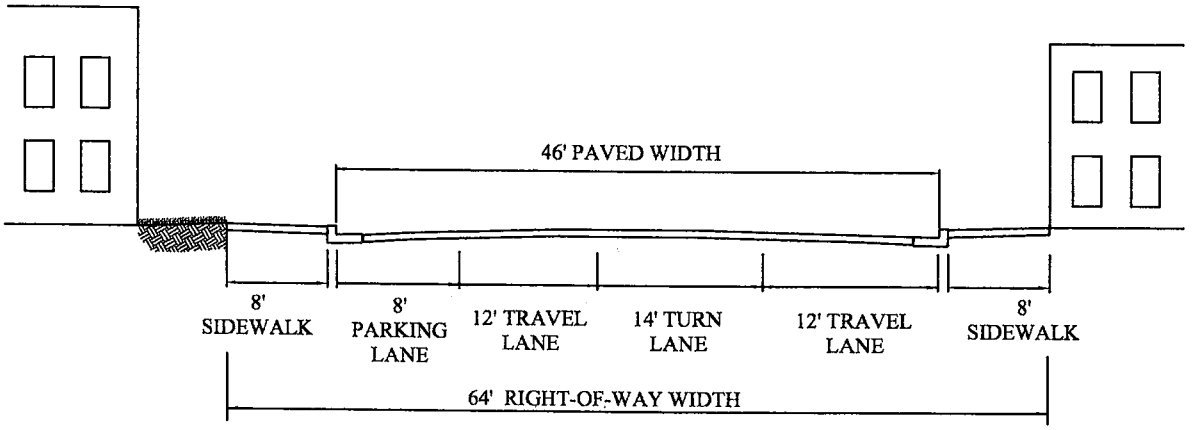
Figure 7-3

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

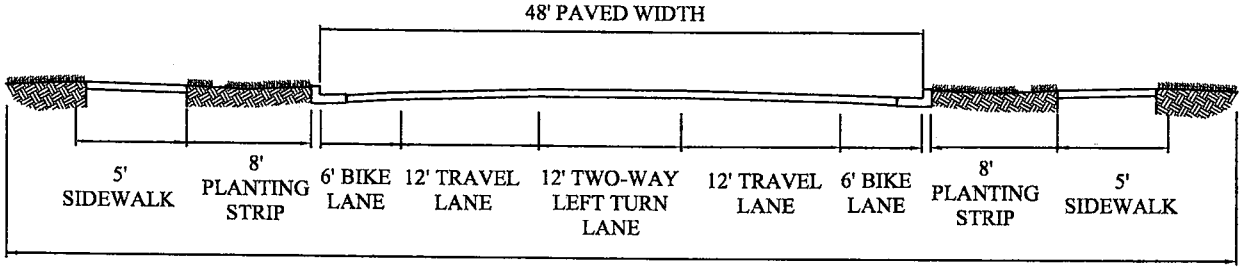
Major Collector Streets
MYRTLE CREEK STANDARDS

SECTION E: ARTERIAL STREET (CBD)





SECTION F: ARTERIAL STREET (NON-CBD)



NOTES:

Curbside sidewalks may be allowed when the ROW is insufficient for planting strips.

PLANTING STRIPS ARE OPTIONAL; NOT REQUIRED.

Figure 7-4

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

Arterial Streets

CBD And Non-CBD

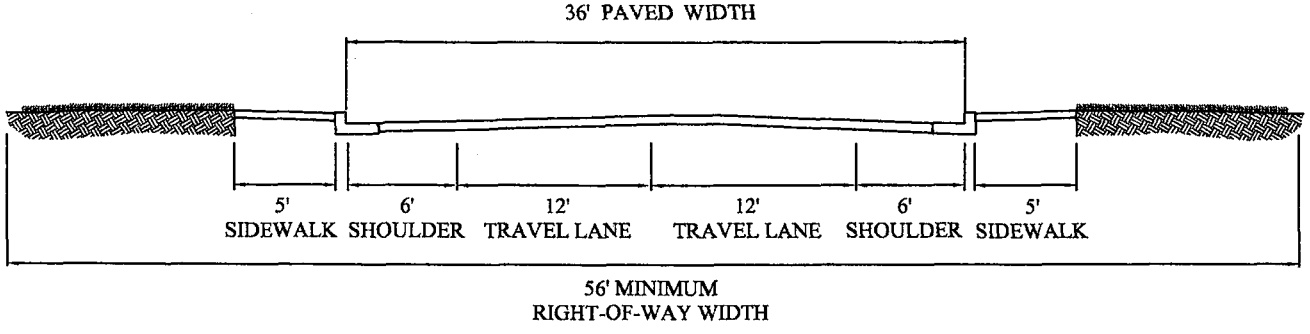
MYRTLE CREEK STANDARDS

URBAN LOCAL STREET

NOTE:

The provision for on-street parking will depend on traffic volumes, lane widths, design speeds, access control and land use.

This applies to necessary locals and standard locals.



LUDO CHAPTER 4 TABLE 1

URBAN COLLECTOR

Old Pacific Highway (Major Collector)
Plus 21 Minor Collectors

NOTES:

The provision for on-street parking will depend on traffic volumes, lane widths, design speeds, access control and land use.
Recommended number of lanes is between 2 and 4.
Left turn lane width is equal to 14' if required.

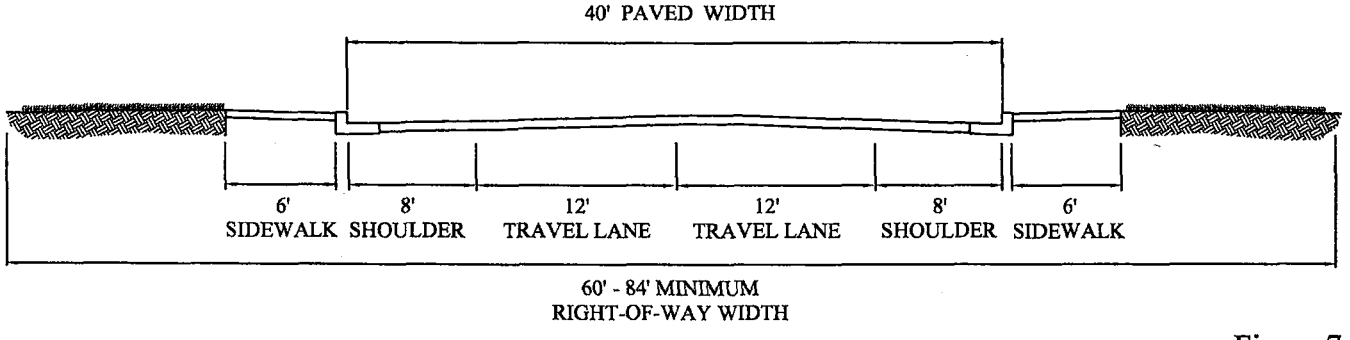


Figure 7-5

LUDO CHAPTER 4 TABLE 1

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

Urban Local And Urban Collector Streets

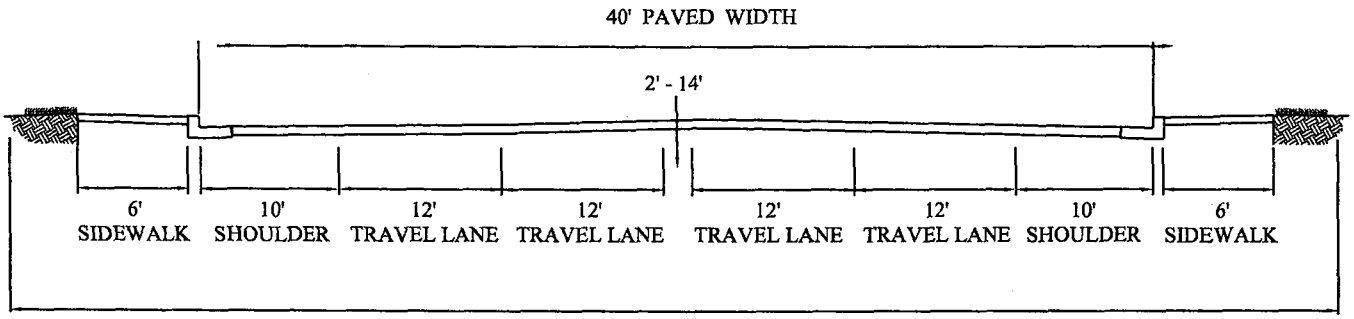
DOUGLAS COUNTY STANDARDS

URBAN ARTERIAL

There are currently no Douglas County urban arterials within the Myrtle Creek Urban Growth Boundary

NOTES:

The provision for on-street parking will depend on traffic volumes, lane widths, design speeds, access control and land use.
Left turn lane width is equal to 14' if required.



LUDO CHAPTER 4 TABLE 1

Figure 7-6

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

Urban Arterial Streets

DOUGLAS COUNTY STANDARDS

Pavement Design

Pavement design standards address the material type and depth of the various roadway layers (e.g., pavement surface, base rock, etc.). Pavement design is sensitive to key design parameters such as heavy truck volumes, environmental conditions, and soil conditions. Pavement designs may differ based on many variables including the types of materials used, the design truck volumes to be served, and the desired pavement design life. Because of greater traffic volumes, and specifically truck volumes, state highways (e.g. arterials) would be expected to have a thicker section than paved or gravel county roadways.

As a planning document, the development of detailed pavement design standards is outside the scope of this TSP. Development of such standards constitutes a separate and detailed evaluation. Detailed pavement designs may follow procedures outlined in the 1993 AASHTO Guide for Design of Pavement Structures published by the American Association of State Highway Transportation Officials or the 1998 Asphalt Paving Design Guide published by the Asphalt Pavement Association of Oregon.

Future Street Plan

A Future Street Plan shows where future streets will be constructed to maximize circulation and the functional classifications that will apply to those new streets and to existing streets. Circulation can be improved with construction of future streets that close gaps and provide alternate routes to existing streets. The functional classifications will promote efficient circulation by ensuring roadways are designed to serve the appropriate needs of an interconnected street network. (See **Figure 7-7**: Future Street Plan and Functional Classifications Map.)

Existing gaps in the system are largely due to natural features such as the North Myrtle Creek and South Myrtle Creek and steep slopes to the south, the east, and north of the community. Consequently, even with implementation of this plan, some gaps in circulation will remain. Future streets that will provide major improvements in connectivity include: the north-south minor collector east of Old Pacific Highway, the new connection between Fir Street and Days Creek Cutoff Road, a new Spruce Avenue bridge, the Forest Avenue to Days Creek Cutoff Road connection, and a new Weaver Road bridge. Although the Fir Street to Days Creek Cutoff Road and Days Creek Cutoff Road to Forest Avenue projects would improve connectivity, these occur outside of the City's adopted urban growth boundary. Therefore, these projects are currently recommended and will not be implemented until the urban growth boundary is expanded to include their locations or a land use goal exception is granted. The future street connections will improve circulation for bicycle, pedestrian, and public transportation, as well as motorized vehicles. These future planned projects outside of the UGB should be co-adopted by Douglas County to be incorporated into the County's Transportation System Plan.

Street Projects

The Myrtle Creek/Tri City roadway system plan encompasses all of the roadway and bridge projects identified to date by Myrtle Creek, Douglas County and ODOT over the 20-year planning horizon. It provides a consolidated list of the many projects that have been identified by various sources. The primary sources of identified roadway and bridge projects include ODOT's Statewide Transportation Improvement Program, the Douglas County Capital Improvement

Program, and input from the City of Myrtle Creek, public involvement process, the Technical Advisory Committee and technical analysis.

Projects identified under ODOT's STIP and the Douglas County CIP are already funded and scheduled to be constructed, and are included in the 20-year transportation project list. Projects identified through the TSP public involvement process were evaluated in Chapter 6.

The TSP projects are listed by the likely timeframe for implementation: Short Term (0-5 years), Medium Term (6-10 years), or Long Term (11-20 years) implementation. The timing of these projects is based on need and funding. It is an estimate and may change to reflect revised priorities, new development pressures, and funding availability. Two road extension projects include improvements outside of the UGB. Therefore these projects are recommended, logical extensions to the planned roadway network; they are not, however, planned facilities within this TSP. Land use decisions to authorize these planned facilities or improvements would need to occur as part of a subsequent UGB expansion or exception process. These future projects outside the UGB should be co-adopted by Douglas County to be incorporated into the County's TSP. Therefore, these projects will not be completed by the City unless the UGB is moved, regardless of the timeline presented. The following sections outline the identified projects from the sources listed above. Cost estimates for each of these projects can be found in Chapter 8.

Statewide Transportation Improvement Program (STIP) Projects

The 2002-2005 Statewide Transportation Improvement Program (STIP) is the state's transportation capital improvement program, listing the schedule of transportation projects for the four-year period from 2004 to 2007. Projects in the STIP are funded mainly through federal and state gas tax revenues, but also include local government funding and other state and federal funding sources. The STIP includes projects on the state, city, and county transportation systems as well as projects in the National Parks, National Forests, and Indian Reservations. This program is updated every two years. The STIP lists specific projects, the counties in which they are located, their construction year, and estimated cost.

The current 2004-2007 STIP and the 2006-2009 Draft STIP identifies three projects within the Myrtle Creek/Tri City area. These projects are as follows:

- **I-5 Interchange 103 (Short Term, 2004-2007 & 2006-2009):** This project will remove the existing reconfigure the interchange to improve northbound access and geometric deficiencies.
- **I-5 Mainline (Short Term, 2006-2009):** This project will straighten out the mainline of I-5 near Interchange 108. Due to geotechnical and cost issues, this project is no longer programmed and funded in the 2006-2009 STIP. The City has an interest in keeping this a long-term project, but recognizes that it is not currently funded.
- **Weaver Road (Short Term, 2006-2009):** This project is a county project to build a new bridge over the South Umpqua River to provide a connection between Interchange 106 and Old Pacific Highway. Funding for this project is earmarked in the 2005 federal transportation bill.

Improvements to Interchange 103 will be determined through IAMP planning process currently underway. The improvements that occur within the Myrtle Creek UGB will be adopted as part of this plan.

Douglas County Capital Improvement Program

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MYRTLE CREEK

URBAN GROWTH BOUNDARY

URBAN GROWTH BOUNDARY

FUTURE EXTENSION OR IMPROVEMENT OF THESE FACILITIES OUTSIDE OF THE UGB WILL NEED TO OCCUR AS PART OF A SUBSEQUENT UGB EXPANSION OR THROUGH CO-ADOPTION WITH DOUGLAS COUNTY.

MATCH LINE

MATCH LINE

LEGEND

STATE	Interstate
CITY	Arterial
	Major Collector
	Minor Collector
	FUTURE Minor Collector
	Necessary Local
	FUTURE Necessary Local
	FUTURE Local
COUNTY	Arterial
	Major Collector
	FUTURE Major Collector
	Minor Collector
	FUTURE Minor Collector
	Necessary Local
	FUTURE Necessary Local
	FUTURE Local
	City Limit
	UGB

ALL UNMARKED STREETS ARE MINOR LOCALS

0 600 1,200 2,400

SCALE IN FEET

Figure 7-7a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

FUTURE STREET PLAN AND FUNCTIONAL CLASSIFICATIONS MAP

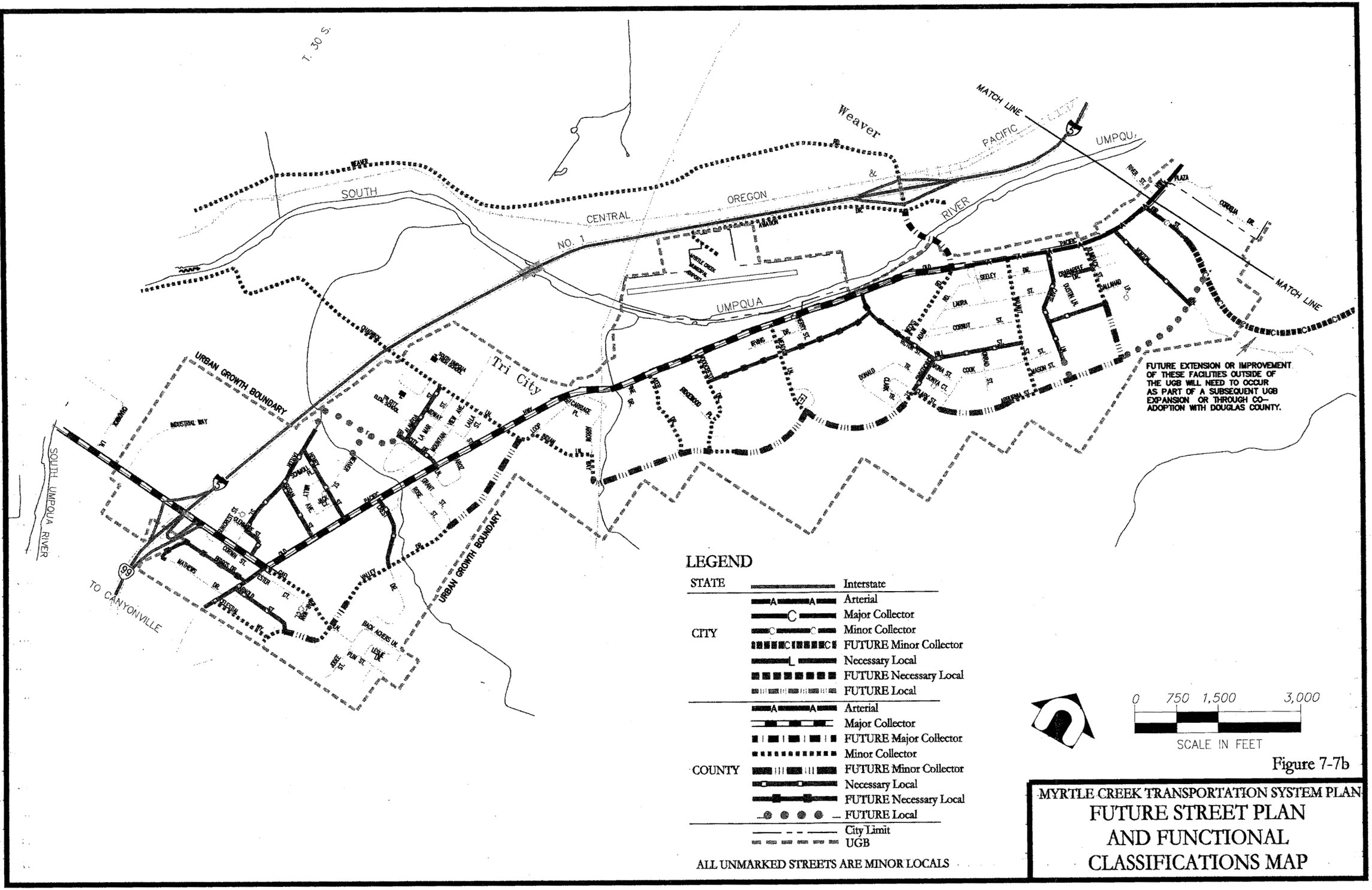

Figure 7-7b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

FUTURE STREET PLAN AND FUNCTIONAL CLASSIFICATIONS MAP

Douglas County has a capital improvement program (CIP) that lists the schedule of transportation projects. Projects in the CIP are funded mainly through federal and state gas tax revenues, but also include local government funding and other state and federal funding sources such as Federal Timber Receipts. The Douglas County CIP has six projects in the CIP. These projects are as follows:

- **Klimback Street (Short Term):** This project will upgrade the road section from the Old Pacific Highway to the new collector and add sidewalks.
- **Gael Lane (Short Term):** This project will upgrade the road section from the Old Pacific Highway to the new collector and add sidewalks.
- **Woodcrest Drive (Medium Term):** This project will upgrade the road section from the Old Pacific Highway to the new collector and add sidewalks.
- **Meadow Lane (Medium Term):** This project will upgrade the road section from the Old Pacific Highway to the new collector and add sidewalks.
- **Aker Drive (Medium Term):** This project will upgrade the road section from the Old Pacific Highway to the new collector and add sidewalks.
- **Celestial Way (Medium Term):** This project will upgrade the road section from the Old Pacific Highway to the new collector and add sidewalks.

Other Sources

The remainder of the projects were developed with input from the City of Myrtle Creek, Douglas County, the public involvement process, the Technical Advisory Committee, and the technical analysis performed for determining traffic operations. The consultant provided technical input for why projects would be appropriate (e.g.. a traffic signal at Third and Main would address congestions concerns for an intersection anticipated to meet signal warrants) and would further the goals of the TSP. Myrtle Creek's Planning Commission, City Council, and Comprehensive Plan Advisory Committee (PAC) all weighed in on the projects. The City ranked the projects into three categories. This prioritization was used to determine the desired timeline for implementation. The following table shows projects that were not included in the STIP or Douglas County CIP:

SHORT TERM (0 – 5 YEARS)

- 1st Avenue: Main Street to Hall Street
- Johnson Street: Spruce Avenue to Neal Lane
- Neal Lane: Riverside Drive to Days Creek Cutoff Road
- Simpson Lane: Neal Lane to Cherrie Way

MEDIUM TERM (6-10 YEARS)

- 1st Avenue: Hall Street to Division Street
- Cedar Avenue: Rice Street to Division Street
- Elinor Street: Connect to Lillian Street
- *Fir Street Extension: New Minor Collector (Recommendation only, until UGB expanded or goal exception; should be co-adopted by Douglas County for their TSP)*
- Riverside Drive at Old Pacific Highway
- Chadwick Lane at Old Pacific Highway
- Old Pacific Highway: Plaza Drive to approximately Wecks Road
- Old Pacific Highway: Creek Crossing to Chadwick Lane
- Old Pacific Highway: Chadwick Lane to Midway Street
- Old Pacific Highway: Midway Street to Gael Lane

LONG TERM (11-20 YEARS)

- 3rd Avenue at Main Street
- Laurance Street: Spruce Avenue to North Myrtle Rd.
- Lisa Way Extension: Existing end to Cerrito Court
- Perkins Avenue Extension Riverside Drive to Neal Lane Extension
- Redwood Avenue Extension: Existing end to Myrtle View Drive
- Spruce Avenue Extension: Howland Street to Riverside Drive
- Unnamed Local: Simpson Lane to Lisa Way Extension
- Division Street at North Myrtle Rd.
- Division Street/S. Myrtle Drive: North Myrtle Rd. to Perkins Avenue
- Division Street/S. Myrtle Drive: Perkins Avenue to City Limits
- *Forest Lane Extension: Riverside Drive to Days Creek Cutoff Road (Recommendation only, until UGB expanded or goal exception; should be co-adopted by Douglas County for their TSP)*
- Main Street: South Umpqua bridge to 4th Avenue
- Neal Lane Extension: Division St. to North Myrtle Rd.
- Norton Lane: Old Pacific Highway to UGB
- Riddle Bypass Road at Old Pacific Highway
- Riddle Bypass Road: Interchange 103 to Old Pacific Highway
- Riverside Drive at Fire Station
- Riverside Drive: Main Street to Days Creek Cutoff
- Riverside Drive: Days Creek Cutoff to Neal Lane
- Riverside Drive: Neal Lane to Forest Lane
- Tri City Collector: Norton Lane to Gael Lane
- Unnamed Local: Woodcrest Drive to Victor Street
- Victor Street Extension: Old Pacific Highway to Arburnia Street
- Walnut Street: Old Pacific Highway to Arburnia Street

These projects have range in scope from upgrading the road to building new roads and bridges. Some projects also contain safety improvements such as adding a traffic signal or installing illumination. Projects that included only adding a bikelane or sidewalk can be found in the Bikeway Plan or the Pedestrian Plan. For a project-by-project description, refer to **Table 6-2** in Chapter 6. Cost estimates for each project can be found in **Table 8-9** of Chapter 8.

Access Management Recommendations

As the City of Myrtle Creek UGB has continued to increase in population, development standards which address appropriate access to the City and County collector and arterials have assisted the two jurisdictions in maintaining adequate levels of service while enhancing mobility and safety on streets within the community. In order to enhance the future capacity and safety of the arterials and collector streets as well as to satisfy Oregon's Transportation Planning Rule requirements, expansion of the City's access management policies are appropriate and founded.

A City objective through adoption of the Myrtle Creek Transportation System Plan (TSP) is to preserve the level of service on local street systems and maintain an acceptable level of mobility. As stated in the Goals and Objectives Chapter of the TSP, applying adequate access management principles, policies and practices can provide safer and more efficient traffic operations and help minimize local costs for traffic capacity improvements. Through encouragement toward combining accesses for new development, providing for direct mobility between adjoining developments, requiring minimum spacing between intersections and private driveways, particularly along arterials and some collectors, the advantages of access management can continue to benefit the community into the future.

Access management is an important tool for managing a transportation network. It provides a framework to control the location, spacing, design and operation of driveways, median openings, interchanges, and street connections. It also encompasses roadway design treatments such as medians and auxiliary lanes, and the appropriate spacing of traffic signals. Effective access management can increase public safety, extend the life of major roadways, reduce traffic congestion, and support alternative forms of transportation such as walking and bicycling.

Along state facilities ODOT applies access management standards. Within the Myrtle Creek UGB, the City of Myrtle Creek standards rule within Area 1 of the UGMA (the city limits and a few surrounding areas) and Douglas County standards apply within Area 2 (Tri City).

Tools that should be used to manage access on arterials and collectors within the planning area include: allowing only one access to a development, requiring properties take access from lower class streets when they have frontage on more than one street, combining access points, and requiring adequate spacing between accesses. Chapter 9 discusses how the Myrtle Creek Development Code can incorporate access management standards into its permit review process.

PUBLIC TRANSPORTATION PLAN

Generally, public transportation needs fall into two categories, depending on population and density, the need to provide accessibility to jobs and services in urban areas; and, the need to overcome isolation and ensure mobility in rural areas. ODOT's Transportation System Planning Guidelines outline four major functions of public transportation- mobility, mode choice, reduction of environmental impact, and adding travel capacity to congested streets. In smaller communities such as Myrtle Creek/Tri City, the main function is to provide mobility. Mobility is especially critical to the elderly, disabled, and to others who do not own, or cannot use a private automobile.

Currently, the general population is not served by public transportation within the Myrtle Creek UGB. Services are limited to a volunteer demand-responsive service, a twice-monthly shopping trip, and medical trips for Oregon Health Plan members.

Transit/Dial-A-Ride

Limited services are offered through a non-profit organization called "Seniors Escorting Seniors" and through Umpqua Transit. The Seniors Escorting Seniors program is primarily demand-responsive providing rides to lunch at the community centers and rides to shopping and appointments. Umpqua Transit is operated by the Umpqua Regional Council of Governments and provides demand-responsive medical rides and twice monthly shopping trips to Roseburg for Myrtle Creek's senior and disabled residents. Also, transportation disadvantaged residents enrolled in the Oregon Health Plan Plus program are provided with medical trip service through Translink regardless of age or ability.

Myrtle Creek should support the continued provision existing transportation services to the community and look for opportunities to bolster service to include other transportation disadvantaged populations such as children and people without access to private automobiles.

Due to the community's small size, regularly-scheduled, transit service within the Myrtle Creek/Tri City urban area is not practical.

Intercity Bus Service

Fixed-route intercity transit service provided by the Umpqua Regional Council of Governments was terminated due to low ridership to and from the Myrtle Creek area. However, the City of Myrtle Creek should continue to seek agreements for transit service, under contract with social service agencies and transit providers in Douglas County. As the population of Myrtle Creek grows, this form of public transportation will become more viable.

Park-and-Ride

The area at the west end of North Main Street bridge over the South Umpqua River is an unofficial park-and-ride area. Area residents meet in the area to park vehicles and then carpool to Roseburg Forest Products in Dillard and elsewhere. The City may wish to collaborate with ODOT and pursue the designation of this area as an official park-and-ride location.

BIKEWAY PLAN

The Bikeway Plan addresses bicycle facility needs within the Myrtle Creek/Tri City area along county and city roads. Bicycles provide an inexpensive and effective mode of transportation, especially for short trips within a community. A network of connected bike facilities will provide a convenient, healthful alternative to driving an automobile.

Bicycle facilities are divided into four categories based on their level of separation from motorized vehicles:

> Class I Bikeway: A separate trail for joint use of bicyclists and pedestrians. It may be entirely independent of other transportation facilities.
>
> Class II Bikeway: A bikeway that is adjacent to the travel lane of motorized traffic, but provides a physically separated through lane for bicycles and pedestrians.

Class III Bikeway: A bikeway that shares the roadway with motor vehicles. Routes are designated only by signing, striping and other visual markings.

Class IIIs Bikeway: A bikeway which is signed only.

Figure 7-8 shows the Bicycle Plan for the Myrtle Creek community. As is required by the TPR, the plan calls for bike lanes on all arterial and collector streets. The plan shows two types of facilities: Bike Lanes and Shared Bikeways. The definitions of these facilities and their corresponding class were taken from the Douglas County Transportation System Plan.

Bike Lane: A Class III bikeway where a portion of the roadway has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists allowing one-directional bicycle traffic only.

Shared Bikeway: A Class III or IIIs Bikeway. Any road, path or way which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Class II bikeways are adjacent to motorized vehicle traffic, but are physically separated from the motorized vehicles. Class II bikeways are generally undesirable by Douglas County and were not included in the Douglas County TSP.

The primary improvements called for include: bike lanes on Old Pacific Highway (creating continuous bike lanes from Bowden Street to the UGB near Interchange 103), on Division Street, Darcie Way, South Myrtle Road, and on the future collector anticipated to parallel Old Pacific Highway to the east through Tri City. Also, a more complete system of shared bikeways will be instituted throughout the urban area. A complete list of projects including bicycle improvements in the Myrtle Creek/Tri City area is provided in below.

- Division Street at S. Myrtle Drive
- Division Street/S. Myrtle Drive: North Myrtle Rd. to Perkins Avenue
- Division Street/S. Myrtle Drive: Perkins Avenue to City Limits
- Main Street: South Umpqua bridge to 4th Avenue
- Neal Lane: Division Street to Riverside Drive
- Neal Lane Extension: Division Street to North Myrtle Road
- Old Pacific Highway: Plaza Drive to approximately Wecks Road
- Old Pacific Highway: Chadwick Lane to Midway Street
- Old Pacific Highway: Midway Street to Gael Lane
- Riddle Bypass Road: Interchange 103 to Old Pacific Highway
- Riverside Drive at Main/Old Pacific Highway

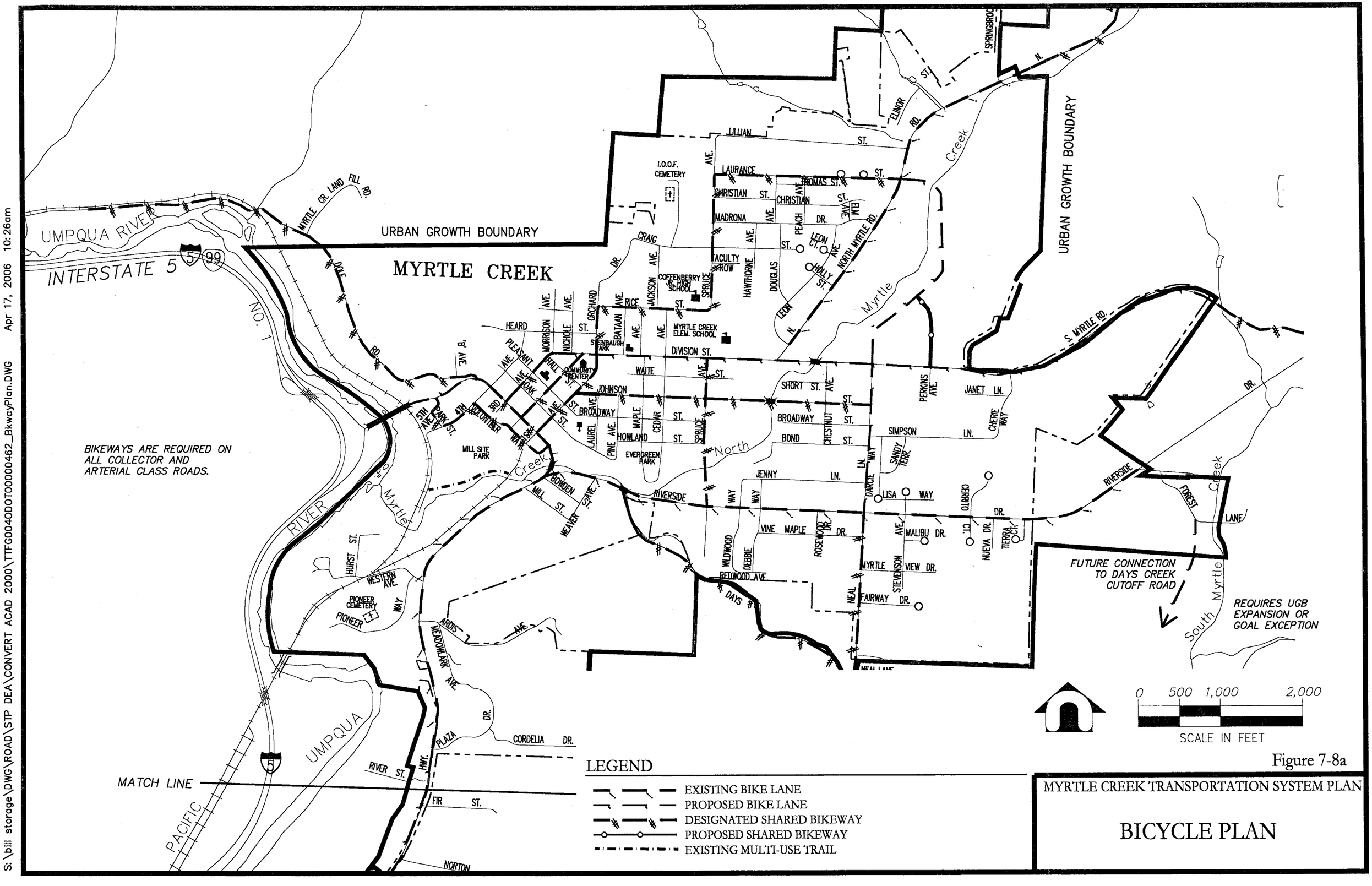

Figure 7-8a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

BICYCLE PLAN

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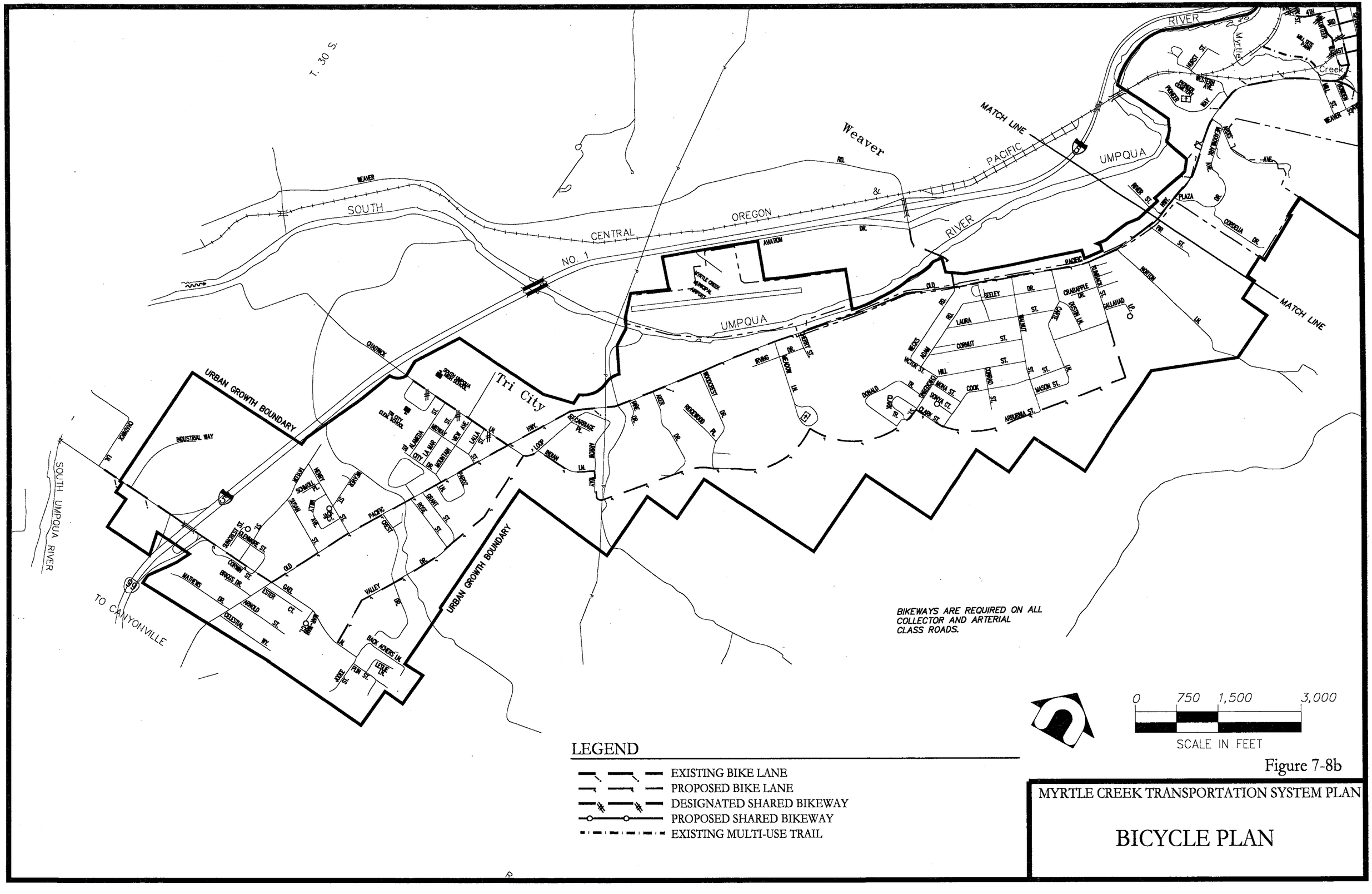

LEGEND

- EXISTING BIKE LANE
- PROPOSED BIKE LANE
- DESIGNATED SHARED BIKEWAY
- PROPOSED SHARED BIKEWAY
- EXISTING MULTI-USE TRAIL

Figure 7-8b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

BICYCLE PLAN

PEDESTRIAN PLAN

The primary goal of establishing a pedestrian system is to improve pedestrian safety; however, an effective sidewalk system has several qualitative benefits as well. Providing adequate pedestrian facilities increases the livability of a city. When pedestrians can walk on a sidewalk, separated from vehicular street traffic, it makes the walking experience more enjoyable and may encourage walking, rather than driving, for short trips. Sidewalks enliven a downtown and encourage leisurely strolling and window shopping in commercial areas. This "Main Street" effect improves business for downtown merchants and provides opportunities for friendly interaction among residents. It may also have an appeal to tourists as an inviting place to stop and walk around.

As future traffic congestion and its related side effects increase, the commitment to encourage walking as an alternative to driving is essential. Implementation of the commitment becomes the hurdle that the community must clear to effectively promote walking as an alternative mode of transportation.

In evaluating pedestrian system improvement alternatives, the improvement to the pedestrian system should be weighed against economic and other impacts. The City of Myrtle Creek prioritizes pedestrian improvement projects based on the following criteria: pedestrian flows, pedestrian safety, importance to the pedestrian system network, implementation cost, coordination with roadway improvement projects, the availability of alternate routes and topographical limitations.

A prime example of a project that satisfies this criteria would be the installation of sidewalks between the residential area off Division Street east of the North Myrtle Road intersection to the established sidewalk system on Division beginning at North Myrtle Road. This would provide safe and direct facility for pedestrians (including children) between their homes, shopping, schools, library, and public swimming pool.

The sidewalk and trail system in the Pedestrian Plan was generated from the recommendations of Myrtle Creek's Local Street Network Plan, Technical Advisory Committee comments, public comments, and a deficiency analysis. The proposed system includes sidewalks on many of the major streets in the city, and provides important pedestrian links between neighborhoods and major destinations.

In addition to those identified in the improvement projects section, sidewalks should be constructed on all future roadways and should be considered on any urban upgrade or improvement project on existing streets. New sidewalks should be constructed according to the standards set forth in this Transportation System Plan, the City of Myrtle Creek Zoning Ordinance, the City of Myrtle Creek Subdivision Ordinance, the Douglas County Transportation System Plan, and the Douglas County Land Use and Development Ordinance.

Figure 7-9 shows the Pedestrian Plan for the Myrtle Creek/Tri City area. All new facilities must be in compliance with the Americans with Disabilities Act (ADA). The following is a list of projects that have been identified to include pedestrian improvements:

- 1st Avenue: Hall Street to Division Street
- Ardis Avenue: Old Pacific Highway to Meadowlark Avenue

- Cedar Avenue: Rice Street to Division Street
- Chadwick Lane: Elementary School to Old Pacific Highway
- Chadwick Lane: Old Pacific Highway to Indian Lane
- Christian Street: Spruce to Douglas
- Division Street at North Myrtle Rd.
- Division Street/S. Myrtle Drive: Perkins Avenue to City Limits
- Hall Street: 3rd Avenue to 1st Avenue
- Indian Lane: Chadwick Lane to Arrow Way
- Johnson Street: Spruce Avenue to Neal Lane
- Laurance Street: Spruce Avenue to North Myrtle Rd.
- Lillian Street: Spruce Avenue to North Myrtle Rd.
- Madrona Drive: Spruce Avenue to North Myrtle Rd.
- Main Street: South Umpqua bridge to 4th Avenue
- Meadowlark Avenue: Ardis Avenue to Cordelia Drive
- North Myrtle Rd.: City Limits to Laurance Street
- North Myrtle Rd.: Laurance Street to Division Street
- Neal Lane: Division Street to Riverside Drive
- Neal Lane: Riverside Drive to Days Creek Cutoff Road
- Norton Lane: Old Pacific Highway to UGB
- Old Pacific Highway: Riverside Drive to Ardis Avenue
- Old Pacific Highway: Ardis Avenue to Plaza Drive
- Old Pacific Highway: Plaza Drive to approximately Wecks Road
- Old Pacific Highway: Creek Crossing to Chadwick Lane
- Old Pacific Highway: Chadwick Lane to Midway Street
- Old Pacific Highway: Midway Street to Gael Lane
- Orchard Drive: Craig Street to Rice Street
- Orchard Drive: Rice Street to Heard Street
- Plaza Drive: Old Pacific Highway to Cordelia Drive
- Rice Street: Bataan Avenue to Cedar Avenue
- Riddle Bypass Road: Interchange 103 to Old Pacific Highway
- Riverside Drive at Main/Old Pacific Highway
- Riverside Drive: Main Street to Days Creek Cutoff

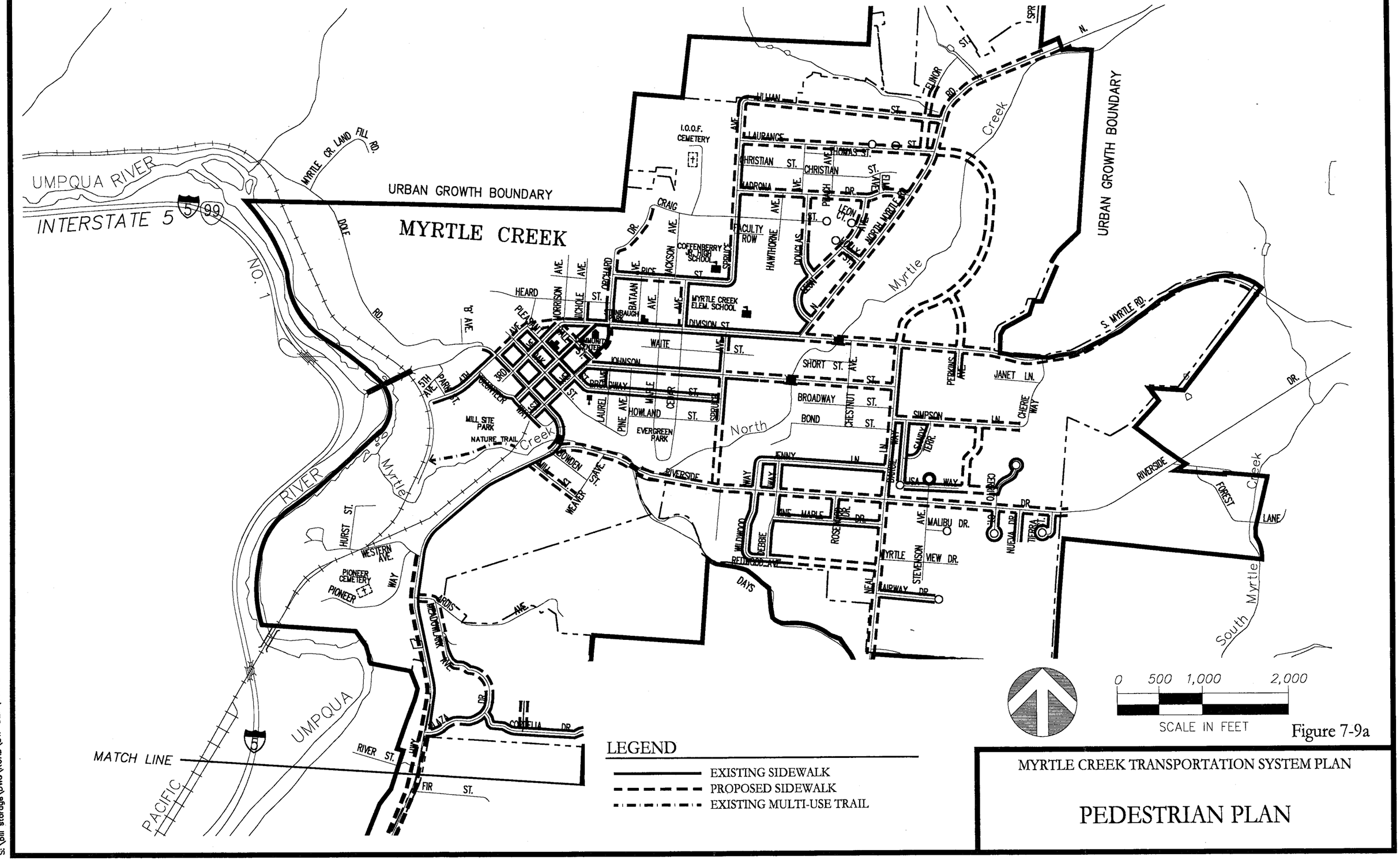

Figure 7-9a

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PEDESTRIAN PLAN

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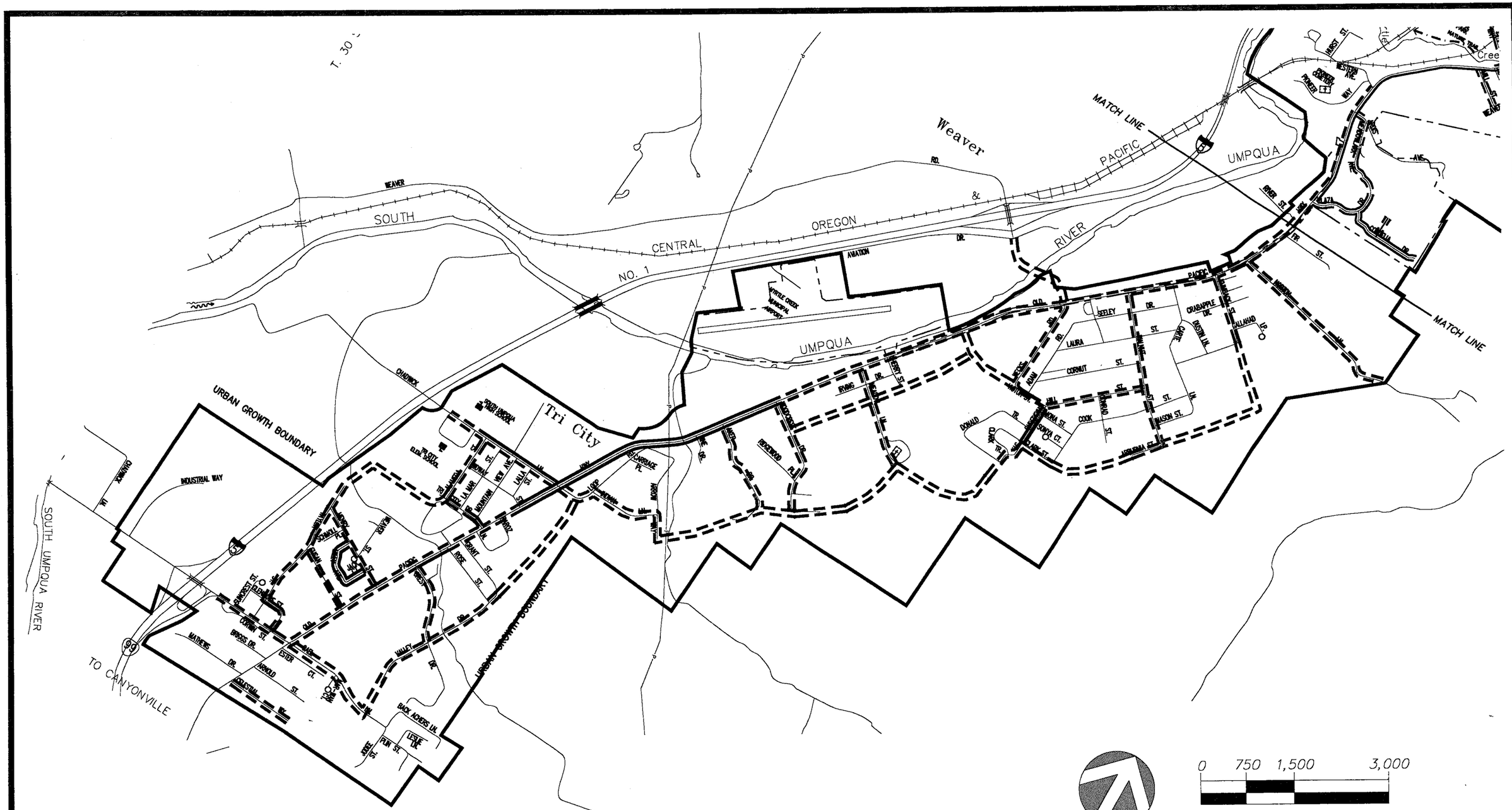

LEGEND

- EXISTING SIDEWALK
- PROPOSED SIDEWALK
- EXISTING MULTI-USE TRAIL

Figure 7-9b

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN

PEDESTRIAN PLAN

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- Riverside Drive: Days Creek Cutoff to Neal Lane
- Riverside Drive: Neal Lane to Forest Lane
- Simpson Lane: Neal Lane to Cherrie Way
- Valley Drive: Gael Lane to Grant
- Walnut Street: Old Pacific Highway to Arburnia Street
- Wecks Road: Old Pacific Highway to Victor Street

RAIL, AVIATION, AND FREIGHT PLAN

Railroads

Freight Service

Rail freight service in Myrtle Creek is provided by the Central Oregon & Pacific Railroad (CORP) on the Siskiyou Line, which follows the South Umpqua River through the Myrtle Creek area. The rail line currently has no customers in Myrtle Creek.

The rail line has one spur in Myrtle Creek that begins near the wastewater treatment plant and terminates in the area of the Mill Site Park. CORP currently has no customers in Myrtle Creek. The closest customers are Roseburg Forest Products in Dillard and three lumber mills in the Riddle area.

Provision of freight service in Myrtle Creek is a function of demand. The City should continue to work with prospective business tenants and CORP to develop rail service on an as-needed basis.

Passenger Service

There is currently no intercity passenger service in the vicinity of Myrtle Creek. Future Amtrak service increases will most likely be focused on the urban markets of Eugene and Portland. As Douglas County grows, the opportunity for a bus-based rail link service between Eugene and Roseburg exists.

Aviation

The Myrtle Creek Municipal airport has been in aeronautical use since 1968 and was originally owned and operated by State of Oregon Department of Transportation - Aeronautics. The state transferred ownership to the City of Myrtle Creek in 1989. The name of the airport was changed from Tri City State Airport to Myrtle Creek Municipal Airport following transfer to the City. The airport is situated on a 80.6-acre site located between Interstate 5 and the South Umpqua River in the most southwestern portion of the city limits. The airport has a 2,600 foot by 50 foot asphalt runway with no lighting.

Fuel sales, aircraft rental, and flight instruction are available. Eleven aircraft were based at the airport in 1995. A total of 2,200 local itinerant operations occurred at the airport in 1995.

In 1995, the City of Myrtle Creek and ODOT Aeronautics completed the Airport Layout Plan report in order to examine the existing configuration of the airport and to provide direction for future airport development. The development of the Airport Layout Plan Report reflects recognition by the City of Myrtle Creek of a need to improve basic airfield facilities, operation efficiency, and safety while providing opportunities for private investment in aviation facilities.

The Myrtle Creek Municipal Airport Plan projects that by the year 2013, the number of based aircraft at Myrtle Creek will total 31 aircraft and the number of annual operations will reach 6,250. The annual capacity for this airport is 54,800 annual operations. Improvements identified to accommodate future demand predominantly involve a runway extension of 1000 feet, the addition of a taxiway, the addition of medium intensity runway lighting and apron improvements and the acquisition of 15 acres for clear zone approach.

The "Five Year Improvement Plan" developed by the State Aeronautics Division has been adopted by the City as an airport expansion plan. An Airport Advisory Committee has been organized to promote expansion and development of the airport and policies addressing the continued growth of the airport and its inclusion in the Myrtle Creek/Douglas County Urban Growth Management Agreement as an "area of Mutual Interest."

There is an airport in Roseburg, 20 miles north. However, there is no regularly scheduled air service available. Residents must commute to Eugene or Medford for commercial airline service. Aviation activity and the possibility of commercial service, will continue to increase at Roseburg. If commercial service is instituted, some form of shuttle between Roseburg Airport and Myrtle Creek may be feasible.

Oregon Aviation System Plan. The Oregon Aviation System Plan (OASP) includes 165 existing or proposed airports as part of its system. Myrtle Creek Municipal Airport is included in OASP. Airports are included in the state plan based on consideration of the following factors: safety, ground access, environmental impacts, and cost factors. Inclusion in OASP makes Myrtle Creek Municipal Airport eligible for state financial assistance for airport improvements.

National Aviation System Plan. The federal government has established the National Airport System Plan (NASP) in which Myrtle Creek Municipal Airport is included. Inclusion qualifies the airport for federal financial assistance for airport improvements. Under NASP, the Myrtle Creek Municipal Airport has been classified as a General Aviation/Basic Utility Airport.

Truck Freight

Truck freight movement is an important part of the Myrtle Creek/Tri City economy and may grow in importance as industrial sites are developed near I-5 Interchange 103. The most important truck freight route in the area is I-5. However, at times trucks will need to travel through the Myrtle Creek urban area on county and city roads. Keeping truck freight on designated facilities will help eliminate the problem of heavy trucks disrupting residential areas and damaging street pavements not designed for heavy loads.

This plan designates five streets in the planning area as truck routes: Riddle Bypass/Pruner Road, Old Pacific Highway (Main Street), Third Avenue, Dole Road, and Division Street. These facilities were chosen because they create an interconnected network and because of their unique characteristics. Riddle Bypass is a critical route for trucks entering and exiting the industrial area near Interchange 103. Old Pacific Highway is the major connection between the Tri City area and the City of Myrtle Creek. Third Street is slightly wider than First Street and can be used along with Division Street to move trucks east and west through the City of Myrtle Creek. Dole Road provides an alternate route north for bypassing the Myrtle Creek Curves.

Water

Transportation using navigable waterways is not feasible to develop within Myrtle Creek's urban growth area.

Pipeline Service Plan

There are several regional pipelines in the area of Myrtle Creek. A natural gas pipeline runs under I-5 from the west and under Dole Road. The water systems for Myrtle Creek and Tri-City are also connected. In the event that one of the communities loses water, the interconnect can be opened to provide service to the adjoining area. No additional infrastructure is anticipated in the Myrtle Creek/Tri City Area.

CHAPTER 8: FUNDING OPTIONS AND FINANCIAL PLAN

The Transportation Planning Rule requires TSPs to include an evaluation of the funding environment for improvements. This evaluation must include a listing of all transportation improvement projects, estimated costs to implement those improvements, and a review of potential funding mechanisms. Myrtle Creek's TSP identifies 70 specific capital improvement projects over the next 20 years for the Myrtle Creek Urban Area. This section of the TSP provides an overview of some funding and financing options that may be available to Myrtle Creek and Douglas County to fund these improvements.

Although many parts of Oregon are experiencing increased development pressure, many of the transportation projects needed to support the resulting increases in population and traffic remain unfunded. Myrtle Creek will need to work with Douglas County and ODOT to secure and allocate the necessary funds for any proposed new transportation projects over the 20-year planning horizon, which will be determined by the rate of population and employment growth experienced by the community. This TSP assumes the Myrtle Creek Urban Area will grow at the rate forecast by the State of Oregon Office of Economic Analysis over the next 20 years. If population growth exceeds this rate, the improvements may need to be accelerated. Slower than expected growth will relax the improvement schedule.

HISTORICAL STREET IMPROVEMENT FUNDING SOURCES

In Oregon, state, county, and city jurisdictions work together to coordinate transportation improvements. **Table 8-1** shows the distribution of road revenues for the different levels of government within the state by jurisdiction level. Although these numbers were collected and tallied in 1991, ODOT estimates that these figures accurately represent the current revenue structure for transportation-related needs.

TABLE 8-1. SOURCES OF ROAD REVENUES BY JURISDICTION LEVEL

Revenue Source	Jurisdiction Level			Statewide Total
	State	County	City	
State Road Trust	58%	38%	41%	48%
Local	0%	22%	55%	17%
Federal Road	34%	40%	4%	30%
Other	8%	0%	0%	5%

Source: ODOT 1993 Oregon Road Finance Study

At the statewide level, nearly half (48 percent in Fiscal Year 1991) of all road-related revenues are allocated from the State Highway Fund (State Road Trust), which includes funds from fuel taxes, weight-mile taxes on trucks, and vehicle registration fees. As shown in **Table 8-1**, the State Road Trust is a considerable source of revenue for all levels of government. Federal sources (generally the Federal Highway Trust account and Federal Forest Revenues) comprise another 30 percent of all road-related revenue. The remaining sources of road-related revenues are generated locally and include property taxes, Local Improvement Districts (LIDs), bonds, traffic impact fees, road user taxes, general fund transfers, receipts from other local governments, and other miscellaneous sources.

The State of Oregon generates 94 percent of its highway revenues from user fees, compared to an average of 78 percent among all other states. This fee system, including fuel taxes, weight distance charges, and registration fees, is regarded as equitable, because it places the greatest financial burden upon those who create the greatest need for road maintenance and improvements. Unlike many states that have indexed user fees to inflation, Oregon has static road-revenue sources. For example, rather than assessing fuel taxes as a percentage of price per gallon, Oregon's fuel tax is a fixed amount (currently 24 cents) per gallon.

The City of Myrtle Creek funds transportation projects from the City Street Fund. The revenues for this fund come from several different sources as discussed below. In addition, Douglas County maintains and funds projects for several of the streets within the city limits of Myrtle Creek and all transportation projects in the Tri City area.

This chapter describes existing sources of transportation funding in Myrtle Creek and Douglas County, the outlook for revenue from those funding sources, and potential sources of additional transportation revenue.

Transportation Funding in the City of Myrtle Creek

Historically, sources of road revenue for Myrtle Creek has included state highway taxes, Douglas County grants, State Special City Allotment grants, and other sources. Transportation revenues and expenditures for Myrtle Creek are shown in Table **8-2** and Table **8-3**.

Table 8-2. Myrtle Creek Transportation-Related Revenues

	2001-2002 Actual	2002-2003 Actual	2003-2004 Adopted	2004-2005 Adopted
Street Fund Revenue				
Beginning Fund Balance	$133,468	$177,653	$207,194	$220,000
Highway Taxes	$141,614	$139,385	$132,415	$162,648
Highway Taxes-Bike Trails	$0	$0	$0	$1,643
Grants	$73,900	$137,350	$262,500	$95,000
User Fees – Paint Striper	$0	$0	$0	$0
Miscellaneous	$0	$831	$500	$500
Interest	$4,773	$5,867	$2,800	$2,800
Transfer – General Fund	$10,000	$0	$0	$0
Total Revenue	**$363,755**	**$461,086**	**$605,409**	**$482,591**

Source: City of Myrtle Creek Fiscal Year 2004/2005 Budget

As shown in **Table 8.2**, revenues were increasing from 2001-2004. A drop in total revenue occurred between the 2003-2004 budget and the 2004-2005 budget. The actual revenue in the 2003-2004 budget was $605,409 compared to the adopted 2004-2005 budget that forecasts $482,591. The major decrease in Myrtle Creek revenue came from a significant reduction in grant funding from 2003-2004. Overall, funding was similar to 2002-2003.

The major revenue sources for the City of Myrtle Creek are Highway Taxes and Grants. These revenue sources have contributed between 96 and 99% of the total revenues for the street funds. In the 2004-05 budget, the amount of revenue coming from grants dropped to $95,000 from $262,000 in 2003-04.

Transportation-related expenditures are shown in **Table 8.3**. The proposed 2004-05 budget distributes Myrtle Creek expenditures as follows:

- Salary & Benefits (23% of proposed budget). This line item has increased from $87,667 in 2001-02 to $109,686 in 2004-05.
- Materials and Services (26% of proposed budget). This line item has increased from $98,434 in 2001-02 to $125,915 in 2004-05.
- Capital Outlay (22% of proposed budget). Capital improvements have fluctuated between $0 in 2001-02 to $306,500 in 2003-04.
- Operating Contingency (12% of proposed budget). This line item has increased from $0 in 2001-02 to $60,000 in 2004-05.
- Transfer to Other Funds (9% of proposed budget). This line item has increased from $0 in 2001-02 to $43,334 in 2004-05.
- Reserve-Bike Trails (0.3% of proposed budget). This line item has increased from $0 in 2003-04 to $1,680 in 2004-05.
- Ending Fund Balance (7% of proposed budget). This line item has increased from $25,070 in 2003-04 to $35,976 in 2004-05.

Table 8-3. Myrtle Creek Transportation-Related Expenditures

	2001-2002 Actual	2002-2003 Actual	2003-2004 Adopted	2004-2005 Adopted
Salary & Benefits	$87,667	$91,528	$104,771	$109,686
Materials and Services	$98,434	$75,777	$99,068	$125,915
Capital Outlay	$0	$77,979	$306,500	$106,000
Operating Contingency	$0	$0	$70,000	$60,000
Transfer to Other Funds	$0	$0	$0	$43,334
Reserve-Bike Trails	$0	$0	$0	$1,680
Ending Fund Balance	$0	$0	$25,070	$35,976
Total Expenditures including Ending Fund Balance	**$186,101**	**$245,284**	**$605,409**	**$482,591**

Source: City of Myrtle Creek Fiscal Year 2004/2005 Budget.

Transportation Funding in Douglas County

Historically, sources of road revenue for Douglas County have included Federal Forest Receipts, State Motor Vehicle Fees, interest, and other sources. Douglas County transportation revenues and expenditures for the last four fiscal years are shown in **Table 8-4** and **Table 8-5**.

Table 8-4. Douglas County Transportation-Related Revenues

	2001-2002 Actual	2002-2003 Actual	2003-2004 Adopted	2004-2005 Adopted
Beginning Fund Balance	**$74,272,258**	**$76,294,675**	**$73,000,000**	**$72,000,000**
Local Revenue				
Charges, Fines, Fees	$598,348	$620,400	$332,600	$349,300
Interest	$3,494,157	$2,636,786	$2,104,000	$2,314,000
Notes/Contract Collections	$0	$47,990	$0	$6,000
Total Local Revenue	**$4,092,505**	**$3,305,176**	**$2,436,600**	**$2,669,300**
Intergovernmental Revenue				
Federal Forest Receipts	$13,530,798	$13,639,044	$13,775,000	$13,940,740
State Motor Vehicle Fees	$5,136,948	$5,058,013	$5,100,000	$5,392,850
Other	$1,054,733	$363,610	$8,000	$20,742,000
Total Intergovernmental Revenue	**$19,722,479**	**$19,060,667**	**$18,883,000**	**$40,075,590**
Transfer from Other Funds				
Total Revenue from Other Funds	**$2,200,000**	**$2,200,000**	**$500,000**	**$0**
Total Revenue including Beginning Fund Balance	**$100,287,242**	**$100,860,518**	**$94,819,600**	**$114,744,890**

Source: Douglas County Fiscal Year 2004/2005 Budget.

As shown in **Table 8-4**, revenues have varied over the last several years. The major increase in Douglas County revenue comes from intergovernmental revenue in the adopted 2004-05 budget.

Douglas County's primary income source has been federal forest receipts, which has remained fairly constant over the last four years at $13 to $14 million (12-15% of total budget). Other significant sources of revenue are the State Motor Vehicle Fund (approximately $5 million per year) and interest earned.

Transportation-related expenditures are shown in **Table 8-5**. The proposed 2004-05 budget distributes Douglas County expenditures as follows:

- Personal Services (6% of proposed budget). This line item has increased from $6.8 million in 2001-02 to $7.4 million in 2004-05.
- Materials and Services (9% of proposed budget). This line item has increased from $6.7 million in 2001-02 to $9.8 million in 2004-05.
- Capital Outlay (7% of proposed budget). Capital improvements have fluctuated between $4.4 million in 2001-02 and $8.5 million in 2004-05.
- Operating Transfers Out (4% of proposed budget). This line item has fluctuated between $1.9 million in 2002-03 and $ 6.0 million in 2003-04.
- Operating Contingency (3% of proposed budget). This line item has increased from $0 in 2001-02 to $ 3,000,000 in 2004-05.
- Additions to Notes Receivable (0.1% of proposed budget). This line item has increased from $0 in 2001-02 to $ 150,000 in 2004-05.
- Interfund Loans (0% of proposed budget). This line item has decreased from $2.2 million in 2001-02 to $0 in 2004-05.
- Ending Fund Balance (71% of proposed budget). This line item has increased from $76.3 million in 2001-02 to $81.2 million in 2004-05.

Table 8-5 Douglas County Transportation-Related Expenditures

	2001-2002 Actual	2002-2003 Actual	2003-2004 Adopted	2004-2005 Adopted
Personal Services	$6,781,562	$7,014,659	$7,504,228	$7,435,922
Materials and Services	$6,717,260	$7,256,486	$7,959,891	$9,851,992
Capital Outlay	$4,414,316	$7,757,437	$6,469,164	$8,539,877
Operating Transfers Out	$3,879,429	$1,949,327	$5,997,561	$4,598,512
Operating Contingency	$0	$0	$3,000,000	$3,000,000
Additions to Notes Receivable	$0	$0	$150,000	$150,000
Interfund Loans	$2,200,000	$500,000	$500,000	$0
Ending Fund Balance	$76,294,675	$76,264,995	$62,238,756	$81,168,587
Total Expenditures including Ending Fund Balance	**$100,287,242**	**$100,860,518**	**$94,819,600**	**$114,744,890**

Source: Douglas County Fiscal Year 2004/2005 Budget.

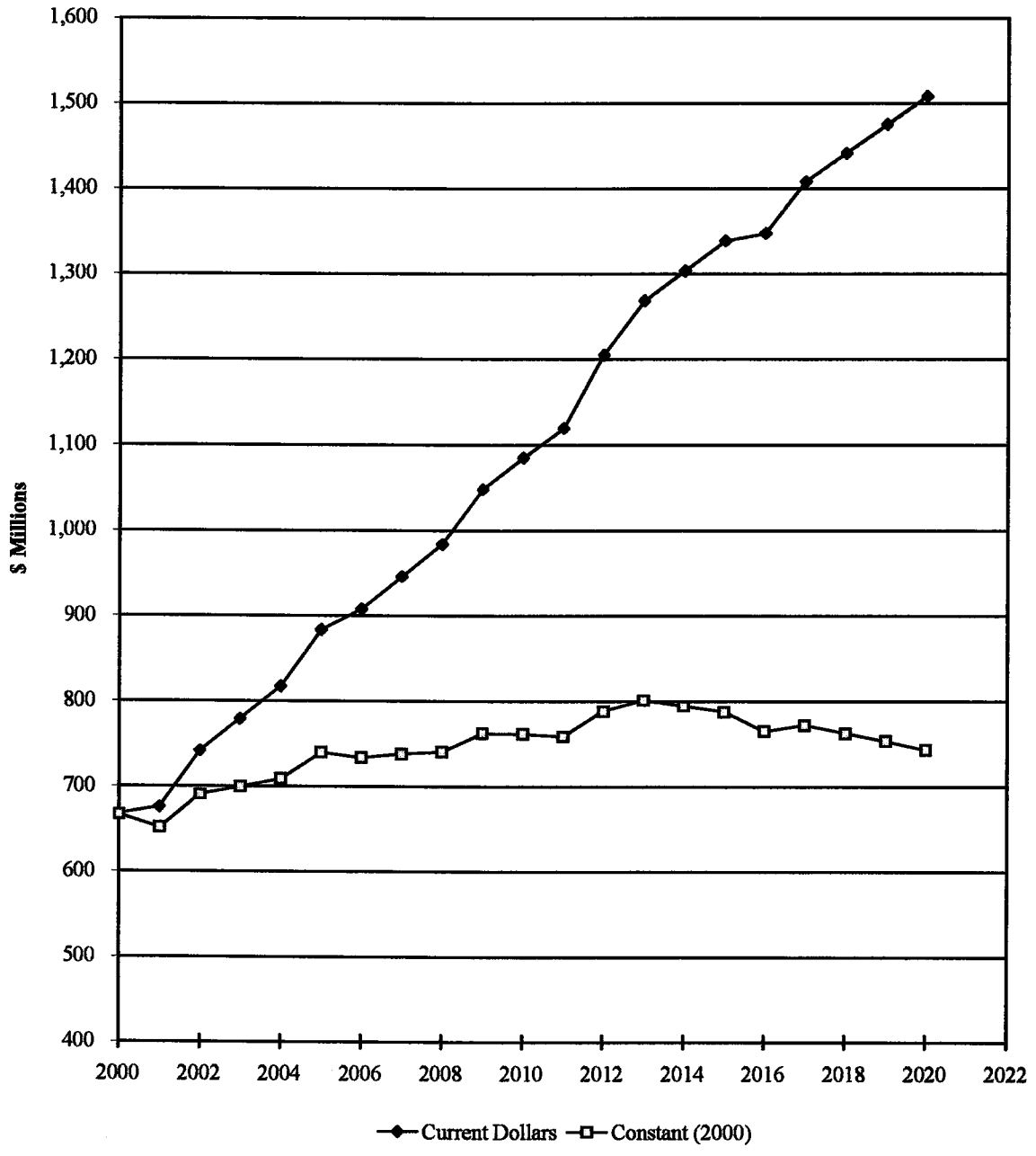
Transportation Revenue Outlook in Myrtle Creek

ODOT's policy section recommends certain assumptions in the preparation of transportation plans. In its Financial Assumptions document prepared in May 1998, ODOT projected the revenue of the State Highway Fund through year 2020. The estimates are based on not only the political climate, but also the economic structure and conditions, population and demographics, and land use patterns. The latter is particularly important for state-imposed fees because one of the goals of Oregon's Transportation Planning Rule (TPR) requires a ten-percent reduction in per-capita vehicle miles of travel (VMT) in Metropolitan Planning Organizations (MPO) planning areas by 2015, and a 20-percent reduction by 2025. This requirement will affect the 20-year forecast for fuel tax revenue in and outside of the MPO planning areas. ODOT recommends the following assumptions:

- Fuel tax will increase by one cent per gallon per year (beginning in year 2002), with an additional one cent per gallon every fourth year;
- Vehicle registration fees would be increased by $10 per year in 2002, and by $15 per year in year 2012;
- Revenues will fall halfway between the revenue-level generated without the TPR and the revenue level if TPR goals were fully met; and
- The revenues will be shared among the state, counties, and cities on a "50-30-20 percent" basis rather than the previous "60-24-16 percent" basis;
- Inflation occurs at an average annual rate of 3.6 percent (as assumed by ODOT).

Figure 8-1: State Highway Fund (in Millions of Dollars) shows a 1998 forecast from ODOT in 2000 dollars and inflation-adjusted constant (2000) dollars. As highlighted by the constant-dollar data, the highway fund is expected to grow more slowly than inflation early in the planning horizon until fuel-tax and vehicle-registration fee were increased 2002, then increase somewhat faster than inflation through year 2015, then (again) more slowly than inflation. It should be noted that as of 2005, there has been no increase in the state fuel tax (24 cents per gallon). However, vehicle registration fees increased from $30 to $54 every two years in 2004.

Douglas County is highly susceptible to changes in the Federal Timber Receipts program and State Highway Fees because it is expected to remain a significant source of funding for the county. The amount actually received from the State Highway Fund will depend on a number of factors, including the amount of revenue generated by state gasoline taxes, vehicle registration fees, and other sources. It will also depend on population growth in Douglas County because the distribution of state highway funds is based on an allocation formula that includes population as a variable.



Source: Oregon Department of Transportation (1998)

FIGURE 8-1

State Highway Fund
(in Millions of Dollars)

MYRTLE CREEK TSP

Criteria for Choosing Potential Funding Sources

Transportation improvements are funded by a wide variety of programs and sources at the State and local levels. Potential funding sources are evaluated by two primary criteria: *financial capacity* (can the source pay for the improvements?) and *political acceptability* (is the source politically acceptable to the citizens of Myrtle Creek and the Tri City area?). A critical issue for political acceptability is who pays for the funding sources. In general, citizens of Myrtle Creek and Tri City will prefer Federal and State funding for improvements to local sources. If local sources must be used, a basic principle of public finance is that the people should pay based on either the costs they impose or the benefits they receive, unless they belong to some group that deserves special treatment. The public is much more likely to support programs such as System Development Charges or assessments that place the financial burden on those who benefit most from an improvement. If charging people who benefit from an improvement is not feasible or the benefits are widespread, funding sources that spread the cost out among a large number of people may be acceptable because of the low cost to individuals.

The standard criteria for evaluating potential funding sources also include legal authority, stability, and administrative costs. The legal authority and administrative feasibility criteria are addressed by considering only funding sources currently used in Oregon, and assessing the financial capacity of funding sources in this section.

Given the consideration of who pays and the perspective of citizens in the Myrtle Creek urban area, the City and County should pursue funding sources for transportation improvements in the following order:

- Use Federal and State funds first. Try to get more projects or funds from ODOT (which distributes State and Federal funds), or tie what might otherwise be local projects (e.g. sidewalks and bike paths) to Federal or State highway projects.
- For the remaining projects that primarily benefit specific areas, charge property owners (through local improvement districts or special assessments) or new development (through land use requirements and System Development Charges) where possible and appropriate.
- For remaining projects that do not directly benefit property owners or new development that is willing to pay for the project, make sure that they are needed and that the design options have considered lower-cost alternatives.
- Pay for remaining projects out of existing revenue sources, if possible.
- If additional revenue is needed beyond existing revenue sources, implement new funding mechanisms, based on a consideration of financial capacity, who pays, and the other criteria described above. Some new fees or taxes (such as tolls, vehicle registration fees, street utility fees, and fuel taxes) are based on use of the transportation system, while others (such as property taxes) charge residents regardless of their use of the transportation system. Some funding sources (such as tolls and fuel taxes) spread some of the cost to non-residents. Many new funding mechanisms need voter approval.
- If raising additional revenue is not politically acceptable, scale back or eliminate the proposed improvements.

REVENUE SOURCES

Financing the transportation system improvements requires expenditure of capital resources, so it is necessary to consider a range of funding sources. A number of *potential* revenue sources are described in this section. Not all revenue sources may be appropriate for the Myrtle Creek UGB, but they are provided to illustrate the range of options currently available to finance transportation improvements during the next 20 years. Specific matches between projects and revenue sources are made in a later section of this chapter.

Property Taxes

Property taxes have historically been the primary revenue source for local governments. Most counties and cities in Oregon avoid using general property tax revenues to fund transportation maintenance, but occasionally use property tax revenue to fund capital improvements for transportation. This limitation, in addition to the passage of Ballot Measures 5 and 47 that significantly reduced property tax revenue, have forced jurisdictions to search for alternative funding sources. The dependence of local governments on this revenue source is partly due to the fact that property taxes are easy to implement and enforce. Property taxes are based on real property (i.e., land and buildings) which has a predictable value and appreciation. In contrast, income and sales taxes can fluctuate with economic trends or unforeseen events.

Property taxes can be levied through: 1) tax base levies, 2) serial levies, and 3) bond levies. The most common method uses tax base levies that do not expire and are allowed to increase by six percent per year, whereas serial levies are limited to a fixed amount of money and time period. Bond levies are designated for specific projects and are limited by time based on the debt load of the local government or the project.

The historic dependence on property taxes has changed with the passage of Ballot Measure 5 in 1990. Ballot Measure 5 amended the Oregon Constitution to limit the property tax rate for purposes other than payment of certain voter-approved general obligation debts. Under full implementation, the tax rate for all local taxing authorities is limited to $15 per $1,000 of assessed valuation. As a group, all non-school taxing authorities are limited to $10 per $1,000 of assessed valuation. All tax base, serial, and special levies are subject to the tax rate limitation. Ballot Measure 5 requires that all non-school taxing district's property tax rate be reduced if together they exceed $10 per $1,000 per assessed valuation by the county. If the non-debt tax rate exceeds the constitutional limit of $10 per $1,000 of assessed valuation, then all of the taxing districts' tax rates are reduced on a proportional basis. The proportional reduction in the tax rate is commonly referred to as compression of the tax rate.

Oregon voters passed Ballot Measure 47, an initiative petition, in November 1996, which is a constitutional amendment that reduces and limits property taxes and limits local revenue and replacement fees. The measure limits 1997-98 property taxes to the lesser of the 1995-96 tax minus 10 percent, or the 1994-95 tax. It limits future annual property tax increases to three percent, with some exceptions. Local governments' lost revenue may be replaced only with state income tax, unless voters approve replacement fees or charges. Tax levy approvals in certain elections require 50 percent voter participation.

The state legislature created Ballot Measure 50, which retains the tax relief of Measure 47 but clarifies some legal issues. Voters approved this revised tax measure in May 1997.

The League of Oregon Cities (LOC) estimated that direct revenue losses to local governments, including school districts, totaled $467 million in fiscal year 1998, $553 million in 1999, and increasing thereafter, although the actual revenue losses to local governments depends on actions of the Oregon Legislature. LOC also estimates that the state had revenue gains of $23 million in 1998, $27 million in 1999, and increasing thereafter because of increased personal and corporate tax receipts due to lower property tax deduction.

These measures have a direct impact on the ability of cities to pay for transportation improvements out of general funds or other funds created through property taxes. In addition, it may affect cities' abilities to create alternative funding sources if those sources are perceived to be in replacement of property tax revenue.

Franchise Fees

These are annual fees paid by TV cable, electricity, and telephone utilities for the use of the City or County right-of-way. Ashland is an example of a local jurisdiction that imposes these fees; in Ashland, they total approximately $350,000 annually.

Utility Fees

A street utility fee would charge businesses and residences in Myrtle Creek/Tri City a fee for use of streets, based on the amount of use typically generated by each type of land use. This fee is similar to those charged for water and sewer utility service, and it would not be subject to the limits of Measure 5. Cities in Oregon that charge a street utility fee include Ashland and Medford, and a typical fee is $2/month for a single-family residence. Revenue from this source can only be used for maintenance of streets, but this would free up other funds to use for capital improvements such as the projects in the TSP.

System Development Charges

System Development Charges (SDCs) are becoming increasingly popular for funding public works infrastructure needed for new local development. Generally, the purpose of a SDC is to allocate portions of the costs associated with capital improvements onto the developments that increase demands on transportation, sewer or other infrastructure systems.

Local governments have the legal authority to charge property owners and/or developers fees for improving local public works infrastructure to meet the projected demand resulting from their developments. By statute, SDC fees must be related to improvements serving new development. In other words, there must be a documented relationship between the need for capital outlays and the development being charged. Charges are most often targeted toward improving community water, sewer, or transportation systems. To collect SDCs, cities and counties must have specific infrastructure plans in place that comply with state guidelines.

Typically, an SDC is collected when new building permits are issued. The SDCs help fund the construction of transportation facilities necessitated by new development. The amount of the SDC is calculated three separate ways depending on the type of development:

- Transportation SDCs are based on trip generation of the proposed development.
- Residential calculations are based on the assumption that a typical household will generate a given number of vehicle trips per day.

- Nonresidential use calculations are typically based on square footage and number of employees for the type of business or industrial uses.

SDCs could be applied in the Myrtle Creek/Tri City urban area to help pay for capacity increases needed to accommodate project growth. SDCs applied to new development would capture funding to pay for the impact of that development. Typically, the developer is charged for each additional peak-hour trip associated with the development.

A review of the projected traffic growth in the 20-year planning timeframe demonstrates revenue that could be generated using SDCs for new residential development. A total of 960 new residential PM peak-hour trips are anticipated by year 2025. If an SDC of $1,000 per trip were applied, the charges would net the community $960,000 to pay for projects dealing with capacity, access, and safety.

Forecasts of future development can be used to estimate the total amount of SDCs that could be raised to pay for improvements within the planning area. Development forecasts are discussed in detail in Chapter 5 of this report. For residential growth, an estimate was made for the number of residential units that could be added within 20 years. Then, anticipated PM peak hour and daily trips were calculated based on the number of units anticipated. For commercial and industrial development forecasts, the number of trips anticipated was based on the available acreage, type of zoning, and condition of the growth areas (for example if the area was constrained or already developed). Overall, the average annual traffic growth rate ranges from 1-3% at most locations

System Development Charges for the Myrtle Creek/Tri City area could help fund potential future projects in the area. Table 8.6 below shows the estimated amount of funds that could be received based on $1,000 per PM Peak Hour Trip. Estimates were rounded to the nearest $10,000.

Table 8-6: Projected System Development Charge Funds Available Based on Future Development

Land Use Development Type	WITHIN MYRTLE CREEK		Within UGB, Outside City	
	2025 PM Peak Hour Trips	Potential SDCs	2025 PM Peak Hour Trips	Potential SDCs
Residential	390	$390,000	570	$570,000
Commercial	600	$600,000	120	$1,300,000
Industrial	290	$290,000	290	$2,260,000
Total	**1,280**	**$1,280,000**	**980**	**$4,130,000**
Total SDCs for Urban Area			**$5,410,000**	

Note: Assumes System Development Charges of $1,000 per PM Peak Hour Trip

The projects included in this TSP for the next 20 years are estimated to cost $10,535,000 within the City's jurisdiction, and $60,245,000 within the County's jurisdiction. If SDCs of $1,000 per PM peak hour trip were charged to developers, SDCs could provide approximately 12 percent of the cost for the City jurisdiction improvements, and seven percent of the County jurisdiction projects. These funds could also supply money for matching funds required for other sources of revenue.

Some economists have criticized the prevalent SDC methodology, which charges property owners rather than road users. The road users, the argument goes, are the ones who receive the benefit of traveling by road, and therefore ought to be the ones who pay for the roads, rather than the property owners whose activities generate or attract traffic.

State Gas Taxes, License Fees, and Vehicle Weight/ Mile Taxes

The State of Oregon allocates gas tax revenue to cities and counties for road construction and maintenance projects. The state collects gas taxes, vehicle registration fees, overweight/overheight fines and weight/mile taxes and then distributes a portion of the revenue to incorporated cities and counties through an allocation formula that is based on population. Oregon's vehicle registration fee, at $54 every two years, is a relatively minor source of revenue for highways and roads, generating less than 10 percent of the total highway user tax and fee revenue. Compared to other states, Oregon's registration fee is low; registration fees in other states range from $8.00 annually in Arizona to $125 annually in Minnesota.

Local Gas Taxes

The Oregon Constitution permits counties and incorporated cities to levy additional local gas taxes with the stipulation that the money generated from the taxes will be dedicated to street-related improvements and maintenance within the jurisdiction. As of 2002, only a few local governments (including the cities of Woodburn and The Dalles and Multnomah and Washington Counties) levy a local gas tax. Myrtle Creek may consider raising its local gas tax as a way to generate additional street improvement funds. However, with relatively few jurisdictions exercising this tax, an increase in the cost differential between gas purchased in Myrtle Creek and gas purchased in neighboring communities may encourage drivers to seek less expensive fuel elsewhere. Any action will need to be supported by careful analysis to minimize the unintended consequences of such an action. Local option gas taxes are often strongly opposed by area gasoline retailers who fear the tax will reduce sales. Voter approval is required for gas taxes approval, and for the most part voters have not approved the proposed local option gas taxes.

Local gas taxes typically range from $0.01 to $0.03 per gallon (compared to $0.183 per gallon Federal and $0.24 per gallon State). Revenues from a gas tax are typically substantial and relatively stable. A $0.01 tax in the City of Woodburn generates over $97,000 per year. Non-residents passing through pay a portion of this funding.

Vehicle Registration Fees

Oregon Revised Statutes (ORS) grant counties and special districts the right to establish registration fees for vehicles, although cities currently do not have the legislative authority to impose local registration fees. Counties and districts are limited to a maximum of $54 for a two-year period on allowed classes of motor vehicles. To establish an ordinance imposing the fee, the county must first obtain the approval of the county electors. The ordinance must be filed with the Department of Transportation. The governing body of the county must enter into an intergovernmental agreement with the department outlining the rules for administration of laws authorizing county and district registration fees and for the collection of the fees. The owner of any vehicles subject to multiple fees is allowed a credit or credits with respect to such fees so that the total of such fees does not exceed $54.

Although vehicle registration fees have not yet been imposed by any local jurisdictions in the state, Myrtle Creek or Douglas County could impose a registration fee for all passenger cars and other specified classes of vehicles licensed within the city or county. The county must pay at least 40 percent of the money to cities within the county unless a different distribution is agreed to between the county and the cities within the jurisdiction of the county. The funds may be used for any purpose for which the money for registration fees may be used.

Local Improvement Districts

The Oregon Revised Statutes allow local governments to form Local Improvement Districts (LIDs) to construct public improvements. LIDs are most often used by cities to construct localized projects such as streets, sidewalks or bikeways. The statutes allow formation of a district by either the local government or property owners. Cities that use LIDs are required to have a local LID ordinance that provides a process for district formation and payback provisions. Through the LID process, the costs of local improvements are generally spread out among a group of property owners within a specified area. The costs can be allocated based on property frontage or other methods such as trip generation. The types of allocation methods are only limited by the Local Improvement Ordinance. The cost of LID participation is considered an assessment against the property which is a lien equivalent to a tax lien. Individual property owners typically have the option of paying the assessment in cash or applying for assessment financing through the local government. Since the passage of Ballot Measure 5, cities have most often funded local improvement districts through the sale of special assessment bonds.

Federal Timber Receipts

On October 30, 2000, President Clinton signed the Secure Rural Schools and Community Self-Determination Act. This legislation is expected to stabilize, and in some cases significantly increase, federal timber sale payments to state and county governments through 2006. This source of funding will have to be reevaluated after expiration or reauthorization of this act. This law replaces the previous system that tied annual timber receipts to how much money was allocated to counties. The new plan is expected to distribute funds based on the amount counties received during the three peak years of public timber harvests between 1986 and 1999, which will also include cost of living adjustments. As a result of this legislation, Douglas County has received approximately $13.9 million from this plan for road projects. Funding through this program will be available through September 2006, when the program terminates and any remaining money is returned to the U.S. Treasury. This funding source will need to be revisited upon renewal or termination of this act.

For more information, contact the Oregon Association of Counties at (503) 585-8351.

Special City Allotment Fund

Myrtle Creek has been successful at obtaining funds from the Special City Allotment Fund. The Legislature mandated $1 million in state gas taxes to be distributed annually among cities with populations of less than 5,000. Half of the funds come from the cities' share of gas tax revenues and the half comes from ODOT's share of the State Highway Fund. Payments are included in the expenditure budget for Local Government in the Highway Program.

Public Lands Highway Discretionary Program

The Public Lands Highways Program was originally established in 1930 by the Amendment Relative to Construction of Roads through Public Lands and Federal Reservations. Funding was provided from the General Fund of the Treasury. The intent of the program is to improve access to and within the Federal lands of the nation. The Federal-Aid Highway Act of 1970 changed the funding source for the program from the General Fund to the Highway Trust Fund, effective in fiscal year (FY) 1972. The program has been continued with each highway or transportation act since then, and the latest transportation act, the Surface Transportation Equity Act of 2004, Part V (STEA of 2004, Public Law 108-310) has continued the program through this year. It is expected that this program will be continued by Congress in the new transportation bill which is pending in congress.

Any kind of transportation project eligible for assistance under Title 23, U.S.C., that is within, adjacent to, or provides access to Federal public land areas is eligible for this program. No local match required.

For more information, contact Larry Beidel at the FHWA Public Lands Highway Division at (202) 366-4653.

Grants and Loans

There are a variety of grant and loan programs available, most with specific requirements related to economic development or specific transportation issues, rather than for the general construction of new streets. Many programs require a match from the local jurisdiction as a condition of approval. Because grant and loan programs are subject to change as well as statewide competition, they should not be considered a secure long-term funding source for Myrtle Creek or Douglas County. Most of the programs available for transportation projects are funded and administered through ODOT and/or the Oregon Economic and Community Development Department (OECDD). Some programs that may be appropriate for Myrtle Creek or Douglas County are described below.

Public Transportation Discretionary Grant Program

The Discretionary Grant Program combines multiple sources of public transportation-related funding into a single application process. Funding sources include capital funds in the Federal Transit Administration (FTA) Section 5310 program (Elderly and Disabled Capital Assistance), FTA Section 5311 program (Small City General Public), Oregon's Special Transportation Fund (STF) program for elderly and disabled residents, and federal Surface Transportation Program. All funding is awarded on a project by project basis with matching funds from the applicant often required. Funds are added to the program as they are available.

Projects are selected for funding through a process that includes community involvement via advisory committees. This helps ensure projects have strong community support. All projects selected for funding are included in Oregon's Statewide Transportation Improvement Program. Myrtle Creek and Douglas County could be eligible for these funds if public transportation systems are implemented.

For more information, contact ODOT's Public Transit Division at (503) 986-3300.

Bike-Pedestrian Grants

By law (ORS 366.514), all road street or highway construction or reconstruction projects must include facilities for pedestrians and bicyclists, with some exceptions. ODOT's Bike and Pedestrian Program administers two programs to assist in the development of walking and bicycling improvements: local grants, and Small-Scale Urban Projects. Cities and counties with projects on local streets are eligible for local grant funds. A local match is not required to receive the grants; however, the chance of receiving a grant improves as the voluntary local match increases. Myrtle Creek has been successful in receiving a Bike-Pedestrian Grant in the past. Eligible projects include curb extensions, pedestrian crossings and intersection improvements, shoulder widening and restriping existing roads for bike lanes. The program is limited to projects costing up to $100,000. Projects that cost more than $100,000, require ROW acquisition, or generate environmental impacts should be submitted to ODOT for inclusion in the STIP.

For more information, contact ODOT's Bicycle and Pedestrian Program at (503) 986-3555.

Transportation Enhancement Program

This federally-funded program earmarks 10% of state Surface Transportation Program (STP) funds, up to $8 million annually in Oregon, for projects that relate to 12 categories in the Transportation Equity Act for the 21st Century (TEA-21). Projects must demonstrate a link to the intermodal transportation system, compatibility with approved plans, and local financial support. A 10 percent local match is required for eligibility. Each proposed project is evaluated against all other proposed projects in its region. Within the five Oregon regions, the funds are distributed on a formula based on population, vehicle miles traveled, number of vehicles registered and other transportation-related criteria. TEA-21 has expired, but has been extended. A new transportation bill is underway and may change access too these funds.

For more information, contact ODOT's TEA-21 Enhancement Program at (503) 986-3528.

Highway Bridge Rehabilitation or Replacement Program

The Highway Bridge Rehabilitation or Replacement Program (HBRR) provides federal funding for the replacement and rehabilitation of bridges of all functional classifications. A portion of the HBRR funding is allocated for the improvement of bridges under local jurisdiction. A quantitative ranking system is applied to the proposed projects based on their sufficiency rating, cost factor, and load capacity. They are ranked against other projects statewide, and require either a 20% local match or state and local matches of 10 percent each. The percentage required to be matched will depend on the Inter Governmental Agreement. The HBRR includes the Local Bridge Inspection Program and the Bridge Load Rating Program.

For more information, contact ODOT's Highway Bridge Rehabilitation or Replacement Program.

Transportation Safety Grant Program

Managed by ODOT's Transportation Safety Section (TSS), this program's objective is to reduce the number of transportation-related crashes and fatalities by coordinating a number of statewide programs. These funds are intended to be used as seed money, funding a program for three years. Eligible programs include those relating to impaired driving, occupant protection, youth, pedestrians, speed, enforcement, and bicycle and motorcycle safety. Capital construction is not considered for funding.

Every year, TSS produces a Highway Safety Plan that identifies the major safety programs, suggests countermeasures, and lists successful projects selected for funding, rather than granting funds through an application process. The program requires a sliding scale local match.

For more information, contact ODOT's Transportation Safety Grant Program.

Special Transportation Fund

The Special Transportation Fund (STF) awards funds to maintain, develop, and improve transportation services for people with disabilities and people over 60 years of age. Financed by a two-cent tax on each pack of cigarettes sold in the state, the annual distribution of funds is approximately $5 million. Three-quarters of these funds are distributed to mass transit districts, transportation districts, and, where no such districts exist, to counties, on a per-capita formula. The remaining funds are distributed on a discretionary basis.

For more information, contact ODOT's Special Transportation Fund.

County Allotment Program

The County Allotment Program distributes funds to counties on an annual basis; the funds distributed in this program are in addition to the regular disbursement of State Highway Fund resources. The program determines the amount of total revenue available for roads in each county and the number of centerline road miles (not lane miles) of collectors and arterials under each county's jurisdiction. Using these two benchmarks, a "resource-per-equivalent" ratio is calculated for each county. Resources from the program are provided to the county with the lowest resource-per-equivalent road-mile ratio until they are funded to the level of the next-lowest county. The next-lowest county is then provided resources until they are funded to the level of the third-lowest county, and so on, until the fund is exhausted.

For more information, contact ODOT's County Allotment Program.

Surface Transportation (STP) Funds

TEA-21, the Federal Transportation Efficiency Act for the 21st Century, funds programs for highways and transit, and permits surface transportation program funding flexibility between modes. This gives the state more latitude in selecting the modal alternatives that would best address local congestion problems. TEA-21 expired in September of 2003, but has been extended the last couple of years. The STP can be seen as a source of potential funding, but should be reviewed upon passage of a new transportation act. STP funds are generally limited to capital projects with a few exceptions.

For more information, contact ODOT Long Range Capital Planning.

Immediate Opportunity Grant Program

The Oregon Economic and Community Development Department (OECDD) and ODOT collaborate to administer a grant program designed to assist local and regional economic development efforts. The program is funded through state gas tax revenues. The following are primary factors in determining eligible projects:

- Improvement of public roads;
- Inclusion of an economic development-related project of regional significance;
- Creation or retention of primary employment; and
- Ability to provide local funds (50/50) to match grant.

The maximum amount of any grant under the program is $500,000. Local governments that have received grants under the program include Washington County, Multnomah County, Douglas County, the City of Hermiston, Port of St. Helens, and the City of Newport.

For more information, contact ODOT's Immediate Opportunity Grant Program

Oregon Special Public Works Fund

The Special Public Works Fund (SPWF) program was created by the 1995 State Legislature as one of several programs for the distribution of funds from the Oregon Lottery to economic development projects in communities throughout the State. The program provides grant and loan assistance to eligible municipalities primarily for the construction of public infrastructure that supports commercial and industrial development and results in permanent job creation or job retention. To be awarded funds, each infrastructure project must support businesses wishing to locate, expand, or remain in Oregon. The SPWF funds can be used for improvement, expansion, and new construction of public sewage treatment plants, water supply works, public roads, and transportation facilities.

While SPWF program assistance is provided in the form of both loans and grants, the program emphasizes loans in order to assure that funds will return to the State over time for reinvestment in local economic development infrastructure projects. Jurisdictions that have received SPWF funding for projects that include some type of transportation-related improvement include the Cities of Baker City, Bend, Cornelius, Forest Grove, Madras, Portland, Redmond, Reedsport, Toledo, Wilsonville, Woodburn, and Douglas County.

The state legislature has recently added a new component to this program, which allows loans for "community facility projects." The criteria are less stringent, and projects that are not necessarily economic development-related may be awarded loans.

For more information, contact ODOT's Oregon Special Public Works Fund.

Oregon Transportation Infrastructure Bank

The Oregon Transportation Infrastructure Bank (OTIB) program is a revolving loan fund administered by ODOT to provide loans to local jurisdictions, including cities, counties, special districts, transit districts, tribal governments, ports, and state agencies. Eligible projects include construction of federal-aid highways, bridges, roads, streets, bikeways, pedestrian accesses, and right-of-way costs for all federal-aid (Title 23) projects (major collector or higher roads). Capital outlays such as buses, light-rail cars and lines, maintenance yards, and passenger facilities (under Title 49) are also eligible. This funding source may not be available in the future, as this program is being phased out.

For more information, contact ODOT's Oregon Transportation Infrastructure Bank.

National Scenic Byway Program

The National Scenic Byway Program was established by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), and continued as part of the Transportation Equity Act for the 21st Century (TEA-21). The purpose of the program is to recognize and enhance roads, which have outstanding scenic, historic, cultural, natural, recreational, and archaeological qualities, and support State scenic byway initiatives. TEA-21 expired in September of 2003, but has been extended the last several years. The National Scenic Byway Program can be seen as a source of potential funding, but should be reviewed upon passage of a new transportation act.

National Scenic Byways discretionary funds are available to undertake eligible projects. TEA-21 authorized $26.5 nationally million in FY 2003 for grants and technical assistance related to designated scenic byways.

For more information, contact FHWA's National Scenic Byways Program

Oregon Transportation Investment Act III (OTIA III)

The Oregon Transportation Investment Act was passed by the legislature in 2003 to finance $2.46 billion in Transportation projects. OTIA III funding comes from increased motor vehicle fees. Of the $2.46 billion, $300 million is for city and county owned bridges, $500 million is for projects that will add capacity to the transportation system in the state, and $361 million is for city and county pavement maintenance and preservation projects. Funds for pavement and maintenance preservation projects are distributed by a formula, 40 percent to cities and 60 percent to counties. Local governments select individual projects for city and county roads.

OTIA funds identified for Douglas County projects total $20,226,000, while those identified for within the City of Myrtle Creek total $1,763,000. OTIA projects are adopted in the Statewide Transportation Improvement Program discussed below.

ODOT Statewide Transportation Improvement Program Funding Options

The State of Oregon provides funding for all highway related transportation projects through (STIP) administered by ODOT. The STIP outlines the schedule for ODOT projects throughout the state. The STIP, which identifies projects for a four-year funding cycle, is updated each biennium. In developing this funding program, ODOT must verify that the identified projects comply with the Oregon Transportation Plan (OTP), ODOT Modal Plans, Corridor Plans, local comprehensive plans, local Transportation System Plans (TSP), and TEA-21 Planning Requirements. The STIP must fulfill TEA-21 planning requirements for a staged, multi-year, statewide, intermodal program of transportation projects. Specific transportation projects are prioritized based on a review of the TEA-21 planning requirements and the different state plans. ODOT consults with local jurisdictions before highway related projects are added to the STIP.

Projects identified in the Myrtle Creek TSP may be considered for future inclusion on the STIP. The timing of including specific projects will be determined by ODOT based on an analysis of all the project needs within ODOT Region 3. Myrtle Creek, Douglas County and ODOT will need to communicate on a biennium basis to review the status of the STIP and the prioritization of individual projects within the project area. Ongoing communication will be important for the city, county, and ODOT to coordinate the construction of both local and state transportation projects.

ODOT also implements some highway improvements as part of its ongoing highway maintenance program. Types of road construction projects that can be included within the ODOT maintenance programs are intersection realignments, additional turn lanes, shoulder widening, and striping for bike lanes. Maintenance related construction projects are usually conducted by ODOT field crews using state equipment. The maintenance crews do not have the staff or specialized road equipment needed for large construction projects.

An important change that occurred with the passage of ISTEA and TEA-21 was the widening of criteria for federal funding. ODOT now has the authority and ability to use federal dollars for transportation projects that are located outside the boundaries of the highway corridors. Many programs can now be used to fund local system improvements that reduce traffic on state highways or reduce the number of access points for future development along state highways. The pending federal transportation bill is likely to continue with this funding criteria.

FINANCING TOOLS

In addition to funding options, the improvements listed in this plan may be completed using a variety of financing options. Although often used interchangeably, the words financing and funding are not the same. Funding is the actual generation of revenue by which a jurisdiction pays for improvements. Some examples of funding include the sources discussed above (e.g. property taxes, SDCs, fuel taxes, vehicle registration fees, LIDs, and various grant programs). In contrast, financing refers to the collecting of funds through debt obligations.

There are a number of debt financing options available to Myrtle Creek and Douglas County. The use of debt to finance capital improvements must be balanced with the ability to make future debt service payments and to deal with the impact on its overall debt capacity and underlying credit rating. Again, debt financing should be viewed not as a source of funding, but as a time shifting of funds. The use of debt to finance these transportation-system improvements is appropriate since the benefits from the transportation improvements will extend over a period of years. If such improvements were to be tax financed immediately, a large short-term increase in the tax rate would be required. By utilizing debt financing, local governments spread the burden of the costs of these improvements to more of the people who are likely to benefit from the improvements and lower immediate payments.

General Obligation Bonds

General obligation (GO) bonds are voter-approved bond issues, which represent the least expensive borrowing mechanism available to municipalities. General obligation bonds are typically supported by a separate property tax levy specifically approved for the purposes of retiring debt. The levy does not terminate until all debt is paid off. The property tax levy is distributed equally throughout the taxing jurisdiction according to assessed value of property. General obligation debts are typically used to make public improvement projects that will benefit the entire community.

State statutes require that the general obligation indebtedness of a jurisdiction not exceed three percent of the real market value of all taxable property in its boundary. Since general obligation bonds would be issued subsequent to voter approval, they would not be restricted to the limitations set forth in Ballot Measures 5, 47, and 50. Although each new bond must be voter approved, Ballot Measure 47 and 50 provisions are not applicable to outstanding bonds, unissued voter-approved bonds, or refunding bonds.

Ballot Measure 50, approved in 1997 by Oregon voters, allows local taxing districts to seek voter approval of a local option property tax levy that exceeds the district's permanent limit but is within the limits of Measure 5. Except in general elections in even-numbered years, approval of a local option property tax levy would require a "double majority": 50% of registered voters participating in the election, and a majority of voters approving the levy.

Limited Tax Bonds

Limited tax general obligation bonds (LTGOs) are similar to general obligation bonds in that they represent an obligation of the municipality. However, a municipality's obligation is limited to its current revenue sources and is not secured by the public entity's ability to raise taxes. As a result, LTGOs do not require voter approval. However, since the LTGOs are not secured by the full taxing power of the issuer, the limited tax bond represents a higher borrowing cost than general obligation bonds. The municipality must pledge to levy the maximum amount under constitutional and statutory limits, but not the unlimited taxing authority pledged with GO bonds. Because LTGOs are not voter approved, they are subject to the limitations of Ballot Measures 5, 47, and 50.

Bancroft Bonds

Under Oregon Statute, municipalities are allowed to issue Bancroft bonds, which pledge the city's full faith and credit to assessment bonds. The bonds become general obligations of the city but are paid with assessments. Historically, these bonds provided cities with the ability to pledge their full faith and credit in order to obtain a lower borrowing cost without requiring voter approval. However, since Bancroft bonds are not voter approved, taxes levied to pay debt service on them are subject to the limitations of Ballot Measures 5, 47, and 50. As a result, since 1991, Bancroft bonds have not been used by municipalities that are required to compress their tax rates.

FUNDING REQUIREMENTS

Myrtle Creek's TSP identifies capital improvements for the next 20 years to address safety and access problems and to expand the transportation system to support a growing population and economy. This TSP identifies 70 projects classified into three implementation phases based on need and funding availability:

- Short Term: 0-5 years
- Medium Term: 5-10 years; and
- Long Term: 10-20 years.

Estimated costs summarized by project and by implementation phase are shown in **Table 8-7**. Project costs are estimated by what it would cost to construct them this year, so the project costs are in 2005 dollars. The overall estimated project costs associated with Myrtle Creek's 20-year transportation project list is $81,900,000.

Table 8-7
Summary of project costs in Myrtle Creek/Tri-Cities tsp (2005 dollars)

Project Timing/Priority	State Jurisdiction Costs	County Jurisdiction Costs	City Jurisdiction Costs	Total (2005 $)
Short Term	$10,500,000	$21,910,000	$1,240,000	$33,650,000
Medium Term	$0	$9,980,000	$2,050,000	$12,030,000
Long Term	$0	$28,975,000	$7,245,000	$36,220,000
Total	**$10,500,000**	**$60,865,000**	**$10,535,000**	**$81,900,000**

MYRTLE CREEK URBAN AREA PROJECT ESTIMATES

This section will include a list of prioritized capital improvement programs for the Myrtle Creek/Tri City area as established in the TSP. The projects are grouped by Short Term, Medium Term, and Long Term projects. Projects are then broken down by who has jurisdiction of the roadway or facility. This does not mean that the jurisdiction will necessarily be responsible for funding the project. Funding for these projects will often come from multiple sources.

The costs were developed using unit cost estimates by improvement type and cross section. The estimated unit costs are included in **Table 8.8**.

Table 8-8
Unit Cost Estimates (2005 dollars)

ITEM	COST	UNITS
New traffic signal installation	$200,000	per intersection
New 5' sidewalk	$209,000	per mile per side
New 5' sidewalk, curb and gutter	$315,000	per mile per side
Add 5' bike lane, curb and gutter, and 5' sidewalk	$370,000	per mile per side
Repave	$268,000	per mile
Reconstruct Roadway	$1,452,000	per mile
Remove and replace Striping	$3	per lane per foot
Obliterate 30' rural roadway	$385,000	per mile
Remove existing 30' rural roadway for reconstruction	$112,500	per mile
New bridge structure	$100	per square foot
New Residential Local	$2,842,000	per mile
Widen 20' Road to Necessary Local	$877,000	per mile
New Minor Collector	$3,281,000	per mile
Widen 20' Road to Minor Collector	$953,000	per mile
Widen 40' Road to Minor Collector	$700,000	per mile
Widen 20' Road to Major Collector	$1,031,000	per mile
Widen 35' Road to Major Collector	$842,000	per mile
New 3 Lane Arterial	$3,098,000	per mile
Widen 25' Road to 3 lane Arterial	$1,016,000	per mile

Using the project list detailed in Chapter Six, estimated project lengths, and the unit cost estimates in the table above, project costs were estimated to the nearest $5,000. Once a project is selected, further detail will need to be done in developing cost estimates by Myrtle Creek, Douglas County, and the Oregon Department of Transportation. **Table 8.9** shows the projects and their estimated costs. Project numbers coincide with those provided with detailed descriptions in Chapter Six.

TABLE 8-9 PRIORITIZED CAPITAL IMPROVEMENT PROJECTS

Project Number/Description		Total Cost (Year 2005)	Potential Sources of Funding
Short Term (2006-2010)			
City Jurisdiction			
1	1st Avenue: Main Street to Hall Street	$45,000	• State Gas Taxes
19	Johnson Street: Spruce Avenue to Neal Lane	$240,000	• Bike-Pedestrian Grants • LID • State Gas Taxes
29	Neal Lane: Riverside Drive to Days Creek Cutoff Road	$340,000	• Special City Allotment Fund • Bike-Pedestrian Grants
51	Simpson Lane: Neal Lane to Cherie Way	$615,000	• Special City Allotment Fund • State Motor Vehicle Fees • Bike-Pedestrian Grants
County Jurisdiction			
P5	Crest Drive: Old Pacific Hwy to Valley Drive	$340,000	• Federal Timber Receipts • State Motor Vehicle Fees • SDCs
P6	Gael Lane: Old Pacific Hwy to New Collector	$325,000	• Federal Timber Receipts • State Motor Vehicle Fees • SDCs
P7	Klimback Street: Old Pacific Hwy to New Collector	$925,000	• Federal Timber Receipts • State Motor Vehicle Fees • SDCs
P9/P11	Umpqua River Bridge Rehab., Weaver Road Bridge and extension	$20,320,000[1]	• STIP (2006-09 Draft) • OTIA III
State Jurisdiction			
P1	I-5 Interchange 103	$10,500,000	• STIP (2006-09 Draft) NB Ramp • OTIA III Stage 1A
P2	I-5 Mainline: M.C. Curves *This item no longer programmed and funded in 2006-2009 STIP*	~~$35,000,000~~[1]	~~• STIP (2006-09 Draft)~~
Total Short Term Projects		**$33,650,000**	
Medium Term (2011-2015)			
City Jurisdiction			
2	1st Avenue: Hall Street to Division Street	$60,000	• State Gas Taxes • Bike-Pedestrian Grant
5	Cedar Avenue: Rice Street to Division Street	$25,000	• Bike-Pedestrian Grant • SDCs
14	Elinor Street: Connect to Lillian Street	$380,000	• LID • SDCs • Special City Allotment • Bike-Pedestrian Grant
43	Rice Street: Bataan Avenue to Cedar Avenue	$20,000	• Bike-Pedestrian Grant

Project Number/Description		Total Cost (Year 2005)	Potential Sources of Funding
46	Riverside Drive at Old Pacific Hwy	$1,565,000	• Special City Allotment
County Jurisdiction			
P3	Aker Drive: Old Pacific Hwy to New Collector	$210,000	• Federal Timber Receipts • State Motor Vehicle Fees • SDCs
P4	Celestial Way: Old Pacific Hwy to New Collector	$185,000	• Federal Timber Receipts • State Motor Vehicle Fees • SDCs
P8	Meadow Lane: Old Pacific Hwy to New Collector	$280,000	• Federal Timber Receipts • State Motor Vehicle Fees • SDCs
P10	Woodcrest Drive: Old Pacific Hwy to New Collector	$310,000	• Federal Timber Receipts • State Motor Vehicle Fees • SDCs
6	Chadwick Lane at Old Pacific Highway	$200,000	• Federal Timber Receipts • Transportation Safety Grant Program
7	Chadwick Lane: Elementary School to Old Pacific Hwy	$100,000	• Bike-Pedestrian Grants
8	Chadwick Lane: Old Pacific Hwy to Indian Lane	$50,000	• Bike-Pedestrian Grants
15	Fir Street Extension: Old Pacific Highway to Days Creek Cut Off Rd. (RECOMMENDED ONLY)	$5,635,000	• Federal Timber Receipts • County Allotment Program • State Gas Taxes • SDCs
32	Old Pacific Hwy: Riverside Dr. to Ardis Avenue	$480,000	• Bike-Pedestrian Grants
33	Old Pacific Hwy: Ardis Avenue to Plaza Dr.	$305,000	• Bike-Pedestrian Grants
34	Old Pacific Hwy: Plaza Dr. to approximately Wecks Road	$855,000	• Bike-Pedestrian Grants
35	Old Pacific Hwy: Creek crossing to Chadwick Lane	$415,000	• Federal Timber Receipts • County Allotment Program • State Gas Taxes
36	Old Pacific Hwy: Chadwick Lane to Midway Street	$135,000	• Federal Timber Receipts • County Allotment Program • State Gas Taxes
37	Old Pacific Hwy: Midway Street to Gael Lane	$820,000	• Federal Timber Receipts • County Allotment Program • State Gas Taxes
Total Medium Term Projects		**$12,030,000**	
Long Term (2016-2026)			
City Jurisdiction			
3	3rd Avenue/Main Street: Install Traffic Signal	$200,000	• Transportation Safety Grant Program
4	Ardis Avenue: Old Pacific Hwy to Meadowlark Avenue	$20,000	• Bike-Pedestrian Grants
9	Christian Street: Spruce to Douglas	$60,000	• Bike-Pedestrian Grants
17	Hall Street: 3rd Avenue to 1st Avenue	$35,000	• Bike-Pedestrian Grants

Project Number/Description		Total Cost (Year 2005)	Potential Sources of Funding
20	Laurance Street: Spruce Avenue to North Myrtle Rd.	$890,000	• LID • Special City Allotment • SDCs
21	Lillian Street: Spruce Avenue to North Myrtle Rd.	$275,000	• Bike-Pedestrian Grants • SDCs
22	Lisa Way Extension: Existing end to Cerrito Court	$240,000	• Special City Allotment • SDCs
23	Madrona Drive: Spruce Avenue to North Myrtle Rd.	$160,000	• Bike Pedestrian Grants
25	Meadowlark Avenue: Ardis Avenue to Cordelia Drive	$105,000	• Bike Pedestrian Grants
28	Neal Lane: Division Street to Riverside Drive	$75,000	• Bike Pedestrian Grants
38	Orchard Drive: Craig Street to Rice Street	$40,000	• Bike Pedestrian Grants
39	Orchard Drive: Rice Street to Heard Street	$15,000	• Bike Pedestrian Grants
40	Perkins Avenue Extension: Riverside Drive to Neal Lane Extension	$415,000	• Special City Allotment
41	Plaza Drive: Old Pacific Hwy to Cordelia Drive	$10,000	• Bike-Pedestrian Grants
42	Redwood Avenue Extension: Existing end to Myrtle View Drive	$620,000	• Special City Allotment • SDCs
52	Spruce Avenue Extension: Howland Street to Riverside Drive	$3,680,000	• Special City Allotment • HBRR • SDCs
54	Unnamed Local: Simpson Lane to Lisa Way Extension	$405,000	• Special City Allotment • State Gas Taxes • SDCs
County Jurisdiction			
10	Division Street/North Myrtle Rd.: Reconstruct Intersection	$275,000	• Transportation Safety Grant Program • Bike-Pedestrian Grants
11	Division Street: Orchard Drive to North Myrtle Rd. (shared with city)	$10,000	• Bike-Pedestrian Grants
12	Division Street/S. Myrtle Drive: North Myrtle Rd. to Perkins Avenue	$360,000	• Federal Timber Receipts
13	Division Street/S. Myrtle Drive: Perkins Avenue to City Limits	$745,000	• Federal Timber Receipts
16	Forest Lane Extension: Riverside Drive to Days Creek Cutoff Road (RECOMMENDED ONLY)	$1,695,000	• Federal Timber Receipts • County Allotment Program • SDCs
18	Indian Lane: Chadwick Lane to Arrow Way	$90,000	• Bike-Pedestrian Grants
24	Main Street: South Umpqua bridge to 4th Avenue	$8,000,000	• Federal Timber Receipts • County Allotment Program
26	North Myrtle Rd.: City Limits to Laurance Street	$260,000	• Bike-Pedestrian Grants
27	North Myrtle Rd.: Laurance Street to Division Street	$320,000	• Bike-Pedestrian Grants
30	Neal Lane Extension: Division Street to North Myrtle Road	$2,245,000	• Federal Timber Receipts • County Allotment Program • SDCs

Project Number/Description		Total Cost (Year 2005)	Potential Sources of Funding
31	Norton Lane: Old Pacific Hwy to UGB	$1,615,000	• Bike-Pedestrian Grants
44	Riddle Bypass Road/Old Pacific Hwy: Install Illumination & Upgrade Road	$475,000	• Transportation Safety Grant Program • SDCs
45	Riddle Bypass Road: Interchange 103 to Old Pacific Hwy	$265,000	• Bike-Pedestrian Grants • Federal Timber Receipts • SDCs • LID
47	Riverside Drive at Fire Station	$200,000	• Transportation Safety Grant Program
48	Riverside Drive: Main Street to Days Creek Cutoff	$155,000	• Federal Timber Receipts • County Allotment Program
49	Riverside Drive: Days Creek Cutoff to Neal Lane	$475,000	• Federal Timber Receipts • County Allotment Program
50	Riverside Drive: Neal Lane to Forest Lane	$560,000	• Federal Timber Receipts • County Allotment Program
53	Tri City Collector: Norton Lane to Gael Lane	$7,685,000	• Federal Timber Receipts • County Allotment Program • State Gas Taxes • SDCs
55	Unnamed Local: Woodcrest Drive to Victor Street	$1,980,000	• LID • SDCs
56	Valley Drive: Gael Lane to Grant	$235,000	• Bike-Pedestrian Grants
57	Victor Street Extension: Old Pacific Hwy to Victor	$730,000	• Federal Timber Receipts • SDCs • LID
58	Walnut Street: Old Pacific Hwy to Arburnia Street	$475,000	• Federal Timber Receipts • Bike-Pedestrian Grants
59	Wecks Road: Old Pacific Hwy to Victor Street	$125,000	• Bike-Pedestrian Grants
Total Long Term Projects		**$36,220,000**	
TOTAL OF ALL PROJECTS		**$81,900,000**	

1. Funding for Weaver Road Bridge project is pending passage of transportation bill.

FUNDING OPTIONS CONCLUSION

The numerous projects identified for this TSP have access to a variety of potential funding sources. The highway projects, including improvements to the interchange areas, are scheduled to receive federal and state funding. The local projects are candidates for numerous funding sources. However, traditional funding sources will not be adequate to cover costs of projects desired.

In addition to traditional property taxes and funding from the State Highway Fund, the Myrtle Creek urban area will need to evaluate the availability of alternative funding sources. Debt financing, system development charges, local improvement districts, and state and federally sponsored funding programs are some of the financing options that may be available. Although there is a wide range of possible funding options, the selected option must address all applicable requirements. Two promising possibilities for helping to fill the funding gap is the application of systems development charges to new development and creating local improvement districts

CHAPTER 9: IMPLEMENTATION OF TRANSPORTATION SYSTEM PLAN

Implementation of the Myrtle Creek Transportation System Plan (TSP) requires changes to the city comprehensive plan, zoning code, and subdivision ordinance and will provide input for the 20-year capital improvement plan. These actions will enable Myrtle Creek to address both existing and emerging transportation issues throughout the Myrtle Creek/Tri City urban area in a timely and cost-effective manner. This implementation program is geared towards providing Myrtle Creek and Douglas County with the tools to amend their comprehensive plans and zoning and subdivision ordinances to conform with the Oregon Transportation Planning Rule and to fund and schedule transportation system improvements.

The City of Myrtle Creek shall take the following actions to adopt and implement the TSP.

- Amend findings and policies of the City of Myrtle Creek Comprehensive Plan as detailed in this chapter.
- Amend the City of Myrtle Creek Zoning Ordinance as detailed in this chapter.
- Amend the City of Myrtle Creek Subdivision Ordinance as detailed in this chapter.
- Incorporate the prioritized projects, detailed in Chapter 7, into a Capital Improvement Plan.

The Myrtle Creek TSP does not include changes to standards or functional classifications in the adopted Douglas County TSP (per the direction of Douglas County and the Myrtle Creek TSP Technical Advisory Committee.) Therefore, there are no text edits required for either the Douglas County TSP or the Douglas County Land Use and Development Ordinance. As areas within Tri City are incorporated into the City of Myrtle Creek, the city standards outlined in this plan, the City's Comprehensive Plan, and the City's zoning and subdivision ordinances shall be applied to the newly incorporated areas.

Douglas County action to adopt and implement applicable provisions of the TSP will be taken separately. Douglas County adoption is not part of this document. Douglas County will integrate the Myrtle Creek TSP into its TSP in their annual legislative plan amendments scheduled for Fall 2006.

ELEMENTS REQUIRED BY THE TRANSPORTATION PLANNING RULE

In 1991, the Oregon Transportation Planning Rule was adopted to implement State Planning Goal 12 — Transportation (amended in May and September 1995). The Transportation Planning Rule requires counties and cities to complete a TSP that includes policies and ordinances to implement the TSP.

The applicable portion of the Transportation Planning Rule is found in Section 660-12-045—*Implementation of the Transportation System Plan.* In summary, the Transportation Planning Rule requires that local governments revise their land use regulations to implement the TSP in the following manner:

- Amend land use regulations to reflect and implement the Transportation System Plan.
- Clearly identify which transportation facilities, services, and improvements are allowed outright, and which will be conditionally permitted or permitted through other procedures.
- Adopt land use or subdivision ordinance measures, consistent with applicable federal and state requirements, to protect transportation facilities, corridors and sites for their identified functions, to include the following topics:
  - access management and control;
  - protection of public use airports;
  - coordinated review of land use decisions potentially affecting transportation facilities;
  - conditions to minimize development impacts to transportation facilities;
  - regulations to provide notice to public agencies providing transportation facilities and services of land use applications that potentially affect transportation facilities;
  - regulations assuring that amendments to land use applications, densities, and design standards are consistent with the Transportation System Plan.
- Adopt land use or subdivision regulations for urban areas and rural communities to provide safe and convenient pedestrian and bicycle circulation, and to ensure that new development provides on-site roads and accessways that provide reasonably direct routes for pedestrian and bicycle travel.
- Establish road standards that minimize pavement width and total right-of-way.

In addition, state regulations in ORS 836.600 to 836.630 and OAR 660-013 encourage and support the continued operation of Oregon's airports by mandating planning for and recognition of airports consistent with their function in the state airport system. The regulations require local governments with jurisdiction over airports to amend their comprehensive plans and zoning regulations to:

- Create an Aviation System Plan;
- Identify and classify airports in their jurisdictions;
- Acknowledge permitted uses on public use airports; and
- Implement land use compatibility and safety requirements.

Myrtle Creek's Comprehensive Plan, Subdivision Ordinance, Zoning Ordinance and street standards were reviewed to determine where the language or standards should be amended to implement the policies and standards contained in the TSP. The changes to each document are outlined in separate text amendments, which are being adopted separately, but concurrently, with the Transportation System Plan. Amendments related to the Myrtle Creek Airport are being deferred for adoption until a later date, with the City's 2006 Fall Legislative Plan Amendments.

APPENDIX A
Urban Growth Management Agreement Map

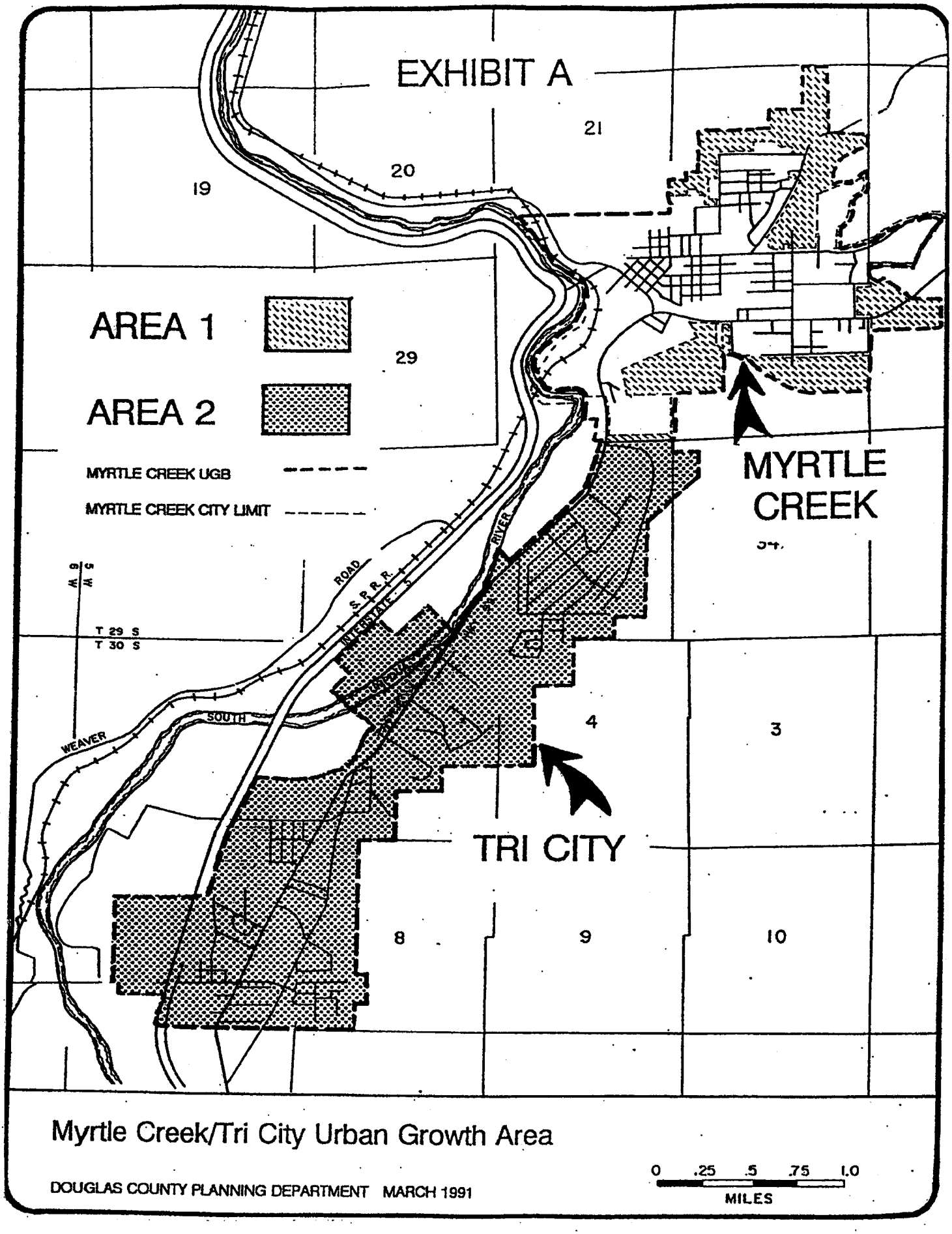


EXHIBIT A
21
20
19
AREA 1
29
AREA 2
MYRTLE CREEK UGB
MYRTLE CREEK CITY LIMIT
MYRTLE CREEK
ROAD
S.P.R.R.
INTERSTATE 5
RIVER
T 29 S
T 30 S
SOUTH
WEAVER
4
3
TRI CITY
8
9
10
Myrtle Creek/Tri City Urban Growth Area
DOUGLAS COUNTY PLANNING DEPARTMENT MARCH 1991
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MILES

Joint TAC Membership - Myrtle Creek TSP and Interchange 103/106/108 IAMP
TAC Contact List

Name	Title	Agency/Organization
Lisa Cortes	Project Manager	ODOT Region 3
Doug Norval		ODOT TPAU
Mike Luttrell		Douglas County Public Works
Kelly Niemeyer		Douglas County Planning
Phil Stenbeck		Douglas County Planning
Pat Jones	Commissioner	Myrtle Creek Planning
Les Wilson	City Planner	Myrtle Creek Planning
Steve Johnson	Director	Myrtle Creek Public Works
Bill Leming	Fire Chief	Myrtle Creek Fire Department
Tommy Earp	Police Chief	Myrtle Creek Police Department
Resha Cason		Tri City Water & Sewer
Windel Benson		Tri City Fire Department
Bill Redmond		Springbrook Road District
Chuck Ireland		Ireland Trucking
Dean Hesse		Myrtle Creek Airport Support Group
Richard Bitrich		Myrtle Creek Airport Commission
Bob Chaney	Publisher	Douglas County Mail
Bob Chaney	President	Myrtle Creek Chamber of Commerce
Mark Wallers		Central Oregon & Pacific Railroad
Steve Lambertsen		South Umpqua School District
Sherry Hamlon		South Umpqua School District
Kit Agee		Laidlaw Transportation, Inc
John Renz		Dept. of Land Conservation & Development

Myrtle Creek TSP Meetings

The Myrtle Creek TSP outreach included five TAC meetings, two public open houses, one joint Planning Commission/City Council workshop, a special Planning Commission meeting, and a public hearing to the City Council. Many of the meetings covered both the Myrtle Creek TSP and the concurrent planning effort for the I-5 Interchange 103/106/108 Interchange Area Management Plan.

Myrtle Creek Transportation System Plan	
• Kick-off Meeting/ Technical Advisory Committee (TAC)#1	July 28, 2004
• Public Meeting #1 and TAC Meeting #2 and Presentation to Public Works -Transportation System Inventory and Draft Goals and Objectives	September 30, 2004
• TAC Meeting #3 -Current Transportation Conditions and Deficiencies	December 6, 2004
• TAC Meeting #4 -Future Conditions	February 22, 2005
• Public Meeting #2 and TAC Meeting #5 -Draft Transportation System Alternatives and Preferred Alternative presented, comments taken	March 30, 2005
• Joint Workshop Planning Commission and City Council -Draft Transportation System Plan	July 20, 2005
• Planning Commission Meeting -Review Final TSP	December 19, 2005
• City Council Hearing -Adopt Final TSP	December 20, 2005

City of Myrtle Creek

207 NW Pleasant, PO Box 940 · Myrtle Creek, OR 97457
Phone: 1-541-863-3171, Fax: 1-541-863-7155

Volume I
September 2004

Transportation System Plan (TSP)

New I-5 Interchanges near Myrtle Creek

The Myrtle Creek Transportation System Planning (TSP) effort is underway. The TSP outlines a 20-year plan to guide transportation improvements and enhance general mobility throughout the Myrtle Creek area. The TSP is required by the State Planning Goal 12 (the Transportation Planning Rule) and must address all travel modes for both people and commodities including:

- Cars and trucks
- Public transit
- Bicycles
- Pedestrians
- Rail
- Aviation
- Water and Pipelines

The TSP will describe the existing transportation system and its improvement needs, set goals, policies and implementation strategies, and forecast community growth and future travel demands including street improvement recommendations.

Throughout the planning process opportunities for public input will become available through public meetings held by the Planning Commission and City Council. The first public meeting is scheduled for Thursday, September 30th. The meeting will discuss some of the transportation issues and concerns of the City and for the I-5 Interchanges. Goals and objectives for both the TSP and the Interchange Area Management Plan (described below) will also be discussed.

Interchange Area Management Plan (IAMP)

New I-5 Interchanges near Myrtle Creek

The Interchange Area Management Plan (IAMP) is planning for three I-5 interchanges near Myrtle Creek at mileposts 103, 106, and 108. Operations of these three interchanges are being considered together since they jointly serve the Myrtle Creek/Tri-City community.

Since the transportation systems are interrelated, the TSP is being closely coordinated with the IAMP currently underway with the Oregon Department of Transportation (ODOT).

Getting

Public Meeting Wednesday, September 30th

The upcoming public meeting will discuss some of the transportation issues and concerns of the City and for the I-5 Interchanges. Goals and objectives for both the TSP and the Interchange Area Management Plan will also be discussed.

Contact Information

To become involved in the Myrtle Creek Transportation Plan and/or to find more information, please contact:

Transportation System Plan

Steve Johnson
Myrtle Creek Public Works Director
Myrtle Creek City Hall
PO Box 940
Myrtle Creek, OR 97457
Phone: (541) 863-3171
Email: mcworks@pioneer-net.com

103/106/108
Interchange Area Management Plan

Lisa Cortes
Project Manager
ODOT Region 3
3500 NW Stewart Parkway
Roseburg, OR 97470
Phone: 541-957-3643
Email: lisa.cortes@odot.state.or.us

Myrtle Creek Transportation System Plan (TSP) and I-5 Interchanges 103, 106, and 108 Interchange Area Management Plan

Public Meeting #1

September 30, 2004
6:00 to 8:00 pm
Myrtle Creek City Hall
207 Pleasant Street, Myrtle Creek

SUMMARY

Presentation to Public Works Commission and the Public and Project Discussion

Lisa Cortes made introductions and John Stutesman presented an overview of both the Myrtle Creek Transportation System Plan and the Interchange Area Management Plans. A general discussion with the public regarding project concerns followed.

Topic	Meeting Presentation/Discussion
Project Overview	DEA presented what a TSP and an IAMP are and what will be included in the study, and how the public can be involved.
Project Goals/Objectives	DEA presented the draft goals and objectives of the TSP and the IAMP.
Existing Conditions and Concerns	Lisa Cortes and John Stutesman discussed issues surrounding the interchanges and Myrtle Creek such as bridge weight limits and interchange deficiencies.
Interchange 103	The public commented on the need for correcting the northbound on ramp. The sharp degree of curve and the short acceleration length can make this ramp unsafe.
Interchange 106	The topic of where a bridge connecting Old Highway 99 and Weaver Road might be located was discussed. One possible location could be near Wecks Road. Lisa Cortes mentioned that the bridge over 106 is identified as a goal in the Douglas County TSP. The TSP does not describe the potential time frame, funding, or design of the project. Consequently, the County will need to amend their TSP to include more detail for the project and a goal exception will be required.
Interchange 108	Lisa Cortes mentioned that the state is looking at straightening the curves near interchange 108. This caused some public concern. Residents of Myrtle Creek are concerned with the effects on their city if any of the Interchange on- or off-ramps are removed as part of the I-5 improvement project. The status of the historic bridge across the Umpqua River was also mentioned.
Comment Cards	Four comment cards were collected. Comments focused on correcting the Interchange 103 northbound on-ramp, effects of airport improvements, and access issues relating to a new subdivision.

Volume II
March 2005

City of Myrtle Creek

207 NW Pleasant, PO Box 940 · Myrtle Creek, OR 97457
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Myrtle Creek Transportation System Plan (TSP) Update

TSP and IAMP – *Ready for Solutions*

Where are we in the process?

The City has been working with the ODOT, Douglas County, advisory committees, consultants and the general public to determine existing and future transportation issues affecting Myrtle Creek and the I-5 interchange study areas. The project team has held four Technical Advisory Committee meetings and one general public meeting. The project team has inventoried and analyzed transportation conditions. Goals have been drafted, and existing conditions and future needs have been identified.

Potential solutions have been identified, but we need your input. A public meeting will be held to discuss current and future needs and potential projects and solutions, on March 30th. Please come out and let us know your opinions on what will improve your community.

What are current conditions? Anticipated issues?

- Interchange 103 has tight curves, sight distance issues, weight limit restrictions, and growth pressure
- I-5 near interchange 108 has a high accident rate.
- Access from IC 106 to Tri City/Myrtle Creek is desirable
- North-South circulation is constrained
- Turning from Chadwick onto Old Pac. Hwy. is difficult
- Growth will add to congestion at major intersections
- Pedestrian and bicycle networks have gaps

What are some possible Improvements/Solutions?

- Reconfigure interchange 103 to standard diamond
- New Weaver Road bridge to Tri City from interchange 106
- New sidewalks, bike lanes, and paths
- New Spruce Street bridge to Riverside Avenue
- New traffic signals at trouble intersections
- New north-south arterial parallel to Old Pacific Highway
- Work with Douglas Co. on developing intercity transit service
- Straighten I-5 curves near interchange 108

Get Involved

Public Meeting
Wednesday, March 30th
5:00-7:00 PM
Myrtle Creek City Hall,
Council Chambers
207 Pleasant Street,
Myrtle Creek

Contact Information

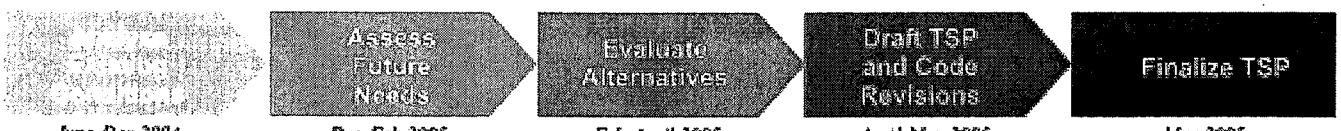
To become involved in the Myrtle Creek Transportation Plan and/or to find more information, please contact:

Transportation System Plan

Steve Johnson
Myrtle Creek Public Works Director
Myrtle Creek City Hall
PO Box 940
Myrtle Creek, OR 97457
Phone: (541) 863-3171
Email: mcworks@pioneer-net.com

I-5 Interchanges 103/106/108 Interchange Area Management Plan

Lisa Cortes
Project Manager
ODOT Region 3
3500 NW Stewart Parkway
Roseburg, OR 97470
Phone: 541-957-3643
Email: lisa.cortes@odot.state.or.us



Myrtle Creek Transportation System Plan (TSP) and I-5 Interchanges 103, 106, and 108 Interchange Area Management Plan

Public Meeting #2

March 30, 2005
5:00 to 7:00 pm
Myrtle Creek City Hall
207 Pleasant Street, Myrtle Creek

SUMMARY

Presentation and Open House Discussion

Elizabeth Mros-O'Hara made introductions and discussed the informal open house style of the meeting. John Replinger explained the how the displays presented showed potential projects and standards for both the Interchange Area Management Plan and the Myrtle Creek Transportation System Plan. Representatives from ODOT and the City of Myrtle Creek answered questions about the projects and plans in one-on-one discussions with the attendees.

Subject	Meeting Comments/Discussion
Street Standards	Developers are required to make street improvements when putting in subdivisions in Tri City. There is a concern that street standards make sense for these areas. The project team explained that current standards apply to current development, but adopted standards could vary and impact future development costs.
Programmed and Proposed Projects	The Myrtle Creek Airport runway extension will need to be factored in to any design for realigning Aviation Way and a new Weaver Road bridge.
Interchange 103 Concept Plan	The diamond configuration of interchange 103 was seen as a positive improvement for correcting deficiencies. The public reiterated that sight distance is an issue at the southbound off ramp. The need to maintain access is to the tribal land south of McDonalds was mentioned.
Interchange 106	Any conflicts with future airport improvements will need to be addressed in the upcoming County planning effort for this interchange. Two people mentioned that the connection over the river has been needed for some time.
Interchange 108	Lisa Cortes mentioned that there will be a public meeting to discuss the state plan for straightening the curves near interchange 108.
Comment Cards	One card was collected with three comments that urged the project team to construct the projects at interchanges 103 project the 106, and standardize collector streets.

ANGELO ◈ EATON
& Associates

MYRTLE CREEK TRANSPORTATION SYSTEM PLAN
REVIEW OF TRANSPORTATION AND LAND USE
EXISTING PLANS, POLICIES & STANDARDS

TECHNICAL MEMORANDUM
June 8, 2005

Prepared for:
ODOT Region 3
3500 NW Stewart Parkway
Roseburg, Oregon

Prepared by:
Angelo Eaton & Associates
In association with:
David Evans and Associates, Inc.

I Introduction

This memorandum summarizes relevant state and local plans, policies and standards (Task 1.3) pertaining to land use and transportation, relevant to the development of a transportation system plan for the City of Myrtle Creek.

In 1991, the Oregon Transportation Planning Rule (TPR) was adopted to implement State Planning Goal 12, Transportation (amended in May and September 1995). The Transportation Planning Rule, OAR 660 Division 12, requires jurisdictions throughout Oregon to prepare and adopt a local Transportation System Plan, including policies and ordinances to implement that plan. While Myrtle Creek has a current population of less than 10,000 and is eligible for a whole or partial exemption from the requirements of this Division, the City has elected to prepare and adopt a TSP through this current planning process.

A number of plans and policies are applicable to the development, completion and adoption of the Myrtle Creek Transportation System Plan.

The plans and policies that are reviewed here include:

Executive Orders on Quality Development (EO 00-23) and Sustainability (EO 03-03)

Transportation Planning Rule

Oregon Transportation Plan (OTP)
- Oregon Highway Plan (OHP)
- Oregon Bicycle Pedestrian Plan
- Oregon Aviation Plan (2000)
- Oregon Rail Plan (2001)

Freight Moves the Oregon Economy Report (1999)

OAR 734, Division 51 (Access Management)

ODOT Highway Design Manual

City of Myrtle Creek Comprehensive Plan (1990-2010)

Douglas County Comprehensive Plan (2003)

City of Myrtle Creek Zoning Ordinance (2004)

Douglas County Land Use and Development Ordinance (2003)

II. State Policies and Standards

Transportation Planning Rule

Statewide Planning Goal 12, Transportation, requires cities, counties, metropolitan planning organizations and ODOT to provide and encourage a safe, convenient and economic transportation system. This is accomplished through development of Transportation System Plans (TSPs) based on inventories of local, regional and state transportation needs.

Goal 12 is implemented through OAR 660, Division 12, the Transportation Planning Rule (TPR). The TPR contains numerous requirements governing transportation planning and project development, several of which warrant comment in this report.

The TPR requires local governments to adopt land use regulations consistent with state and federal requirements "to protect transportation facilities, corridors and sites for their identified functions OAR 660-012-0045(2)."

The applicable portion of the Transportation Planning Rule is found in OAR Section 660-12-045, Implementation of the Transportation System Plan. In summary, the Transportation Planning Rule requires that local governments revise their land use regulations to implement the Transportation System Plan (TSP) in the following manner:

- *Amend land use regulations to reflect and implement the Transportation System Plan.*
- *Clearly identify which transportation facilities, services, and improvements are allowed outright, and which will be conditionally permitted or permitted through other procedures.*
- *Adopt land use or subdivision ordinance measures, consistent with applicable federal and state requirements, to protect transportation facilities, corridors and sites for their identified functions, to include the following topics:*
  - *access management and control;*
  - *protection of public use airports;*
  - *coordinated review of land use decisions potentially affecting transportation facilities;*
  - *conditions to minimize development impacts to transportation facilities;*
  - *regulations to provide notice to public agencies providing transportation facilities and services of land use applications that potentially affect transportation facilities;*
  - *regulations assuring that amendments to land use applications, densities, and design standards are consistent with the Transportation System Plan.*
- *Adopt land use or subdivision regulations for urban areas and rural communities to provide safe and convenient pedestrian and bicycle circulation and bicycle parking, and to ensure that new development provides on-site streets and accessways that provide reasonably direct routes for pedestrian and bicycle travel.*
- *Establish street standards that minimize pavement width and total right-of-way.*

Governor's Executive Orders

Executive Order No. EO 03-03: A Sustainable Oregon for the 21st Century

Governor Kulongoski's "sustainability" executive order states that economic recovery "will be aided by establishing a commitment to lasting solutions that simultaneously address economic, environmental and community well-being." It charges state government to "define sustainability, produce goals within state government to achieve sustainability, identify challenges to achieving sustainability and measure (sic) performance based on sustainability." In keeping with the goals of the Oregon Sustainability Act adopted by the 2001 Legislature, the City's TSP should support this state initiative to move Oregon closer to a "sustainable" state.

Executive Order No. EO 00-23: Use of State Resources to Encourage the Development of Quality Communities

Former Governor Kitzhaber signed the "quality communities" executive order that communicates the state goal of accommodating growth and development in a manner that "promotes quality communities, protects the land base for our farm and forest industries, and reduces the cost of public facilities and services". This executive order acknowledges the necessity of coordinating state and local community development objectives. The directive is to ensure that state programs and activities help build and maintain quality communities, in part through development patterns that minimize public services costs and achieving a mix of land uses that support a balanced transportation system. The Quality Development Objectives are intended to be used in "combination with state and local partnership principles and local development objectives to help build healthy and diverse communities and regions throughout Oregon. They include:

1) *Promote compact development within urban growth boundaries to minimize the costs of providing public services and infrastructure and to protect resource land outside urban growth boundaries.*
2) *Give priority to a quality mix of development that addresses the economic and community goals of a community and region.*
3) *Encourage mixed use, energy-efficient development designed to encourage walking, biking and transit use (where transit is available).*
4) *Support development that is compatible with a community's ability to provide adequate public facilities and services.*
5) *Facilitate development that is compatible with community and regional environmental concerns and available natural resources (e.g., available water, air quality, etc.)*
6) *Support development that provides for a balance of jobs and affordable housing within a community to reduce the need to commute long distances between home and work, thereby minimizing personal commuting costs as well as the public and societal costs of expanding the transportation infrastructure.*
7) *Promote sustainable local and regional economies in order to provide jobs for residents and financial support for community services.*

The local TSP policies and implementation measures should support and complement these objectives by promoting "quality development" within the City of Myrtle Creek.

Oregon Transportation Plan

The Oregon Transportation Plan (OTP), adopted in 1992, is the state's 20-year multimodal plan for the statewide transportation system. The plan includes policies for bicycle and pedestrian facilities, public transportation, highways, waterways, airports and railroads. It considers private and public facilities and the local, regional and state elements of the system. The OTP is the guiding document for the state modal plans and local transportation system plans.

1999 Oregon Highway Plan (OHP)

The 1999 Oregon Highway Plan (OHP), an element and modal plan of the state's comprehensive transportation plan (OTP), guides the planning, operations, and financing of ODOT's Highway Division. Policies in the OHP emphasize the efficient management of the highway system to increase safety and to extend highway capacity, partnerships with other agencies and local governments, and the use of new techniques to improve road safety and capacity. These policies also link land use and transportation, set standards for highway performance and access management, and emphasize the relationship between state highways and local road, bicycle, pedestrian, transit, rail, and air systems.

- Policy 1A: State Highway Classification System,
- Policy 1B: Land Use and Transportation,
- Policy 1C: State Highway Freight System,
- Policy 1F: Highway Mobility Standards,
- Policy 1G: Major Improvements,
- Policy 2F: Traffic Safety,
- Policy 3A: Classification and Spacing Standards,
- Policy 3C: Interchange Access Management Areas, and
- Policy 4A: Efficiency of Freight Movement.

Policy 1A: State Highway Classification System. The state highway classification system includes five classifications: Interstate, Statewide, Regional, District, and Local Interest Roads. Additionally, there are four special purpose categories: land use, statewide freight route, scenic byways, and lifeline routes. I-5 is classified an Interstate Highway and is part of the National Highway System. The primary function of an Interstate Highway is to provide connections to major cities, regions of the state, and other states with the primary objective being to provide mobility. A secondary function, and one with significance for Myrtle Creek and the Tri City area, is to provide connections for regional trips within a metropolitan area.

Policy 1B – Land Use and Transportation

Policy 1B *Land Use and Transportation* applies to all state highways, and recognizes that collaboration is necessary between local governments responsible for planning and managing local land uses and transportation systems and ODOT whose state highways run through local jurisdictions. Collaboration is necessary to create consistency between city, county, regional, and state transportation system plans, to preserve the mobility and safety of state highways, to most efficiently build and manage public infrastructure, to create transportation alternatives, and to promote compact, livable, and economically vibrant communities.

Policy 1F – Highway Mobility Standards

Policy 1F promotes the preservation of highway mobility by supporting the establishment of levels of service standards. These standards are to be used to assess and guide transportation and land use planning activities as well as operations issues, including access management and traffic control systems. The policy specifies maximum volume to capacity ratios for peak hour operations on an Interstate Highway and Statewide (NHS) Expressway inside an Urban Growth Boundary, outside a Metropolitan Planning Organization (MPO) jurisdiction, as 0.70.

Highway mobility standards should apply to amendments to transportation plans, acknowledged comprehensive plans, and land use codes.

The policy allows for the adoption of alternative highway mobility standards in cases such as metropolitan areas trying to strictly manage their growth, Special Transportation Areas (STAs), and in areas with unique environmental and land use constraints.

Policy 3C: Interchange Access Management Areas

This policy addresses management of grade-separated interchange areas to ensure safe and efficient operation between connecting roadways. Action items include developing interchange area management plans to protect the function of the interchange, to provide safe and efficient operations between connecting roadways, and to minimize the need for major improvements of existing interchanges. The local jurisdiction's role in access management is stated in Policy 3C as follows: "necessary supporting improvements, such as road networks, channelization, medians and access control in the interchange management area must be identified in the local comprehensive plan and committed with an identified funding source, or must be in place (Action 3C.2)."

Access management standards are detailed in Policy 3C and include the distance required between an interchange and approaches and intersections. Table 16 contains the minimum spacing standards applicable to freeway interchanges that have a two-lane crossroad. The spacing standards in an urban area for this type of interchange are:

1 mile (1.6 km)	Distance between the start and end of tapers of adjacent interchanges.
1,320 feet (400 M)	Distance to the first major intersection or approach (no left turns allowed).
990 feet (300 m)	Distance between the last right in/right out approach road and the start of the taper for the on-ramp.

Oregon Bicycle and Pedestrian Plan

The Oregon Transportation Commission adopted the Oregon Bicycle and Pedestrian Plan in 1995. This planning and design manual for pedestrian and bicycle transportation in Oregon is a modal element of the OTP. It contains the standards used on State Highway projects and provides guidance to cities in establishing facilities on local transportation systems. These standards are recommended but not required for use by local jurisdictions in Oregon.

The plan consists of two sections: *Policies and Implementation Strategies* and *Design, Maintenance and Safety*. The policy section contains relevant state and federal laws. This plan will be used in the development of the bicycle and pedestrian element of Myrtle Creek's TSP.

Oregon Aviation Plan

The airport in Myrtle Creek has been in aeronautical use since 1968, and was originally owned and maintained by the State of Oregon Department of Transportation. In 1989, the state transferred ownership to the City and its name changed from Tri-City State Airport to Myrtle Creek Municipal Airport. The airport has one runway and is used as an alternative landing facility during periods of inclement weather for aircraft operating at the Roseburg Regional Airport, located 14.5 nautical miles north-northwest.[1] The Oregon Department of Aviation estimates French Field has 3,925 annual aircraft operations (sampling from October 1, 2001 to September 30, 2002). City policies support the airport's continued growth and expansion and encourage the development and adoption of an airport Master Plan. (See City of Myrtle Creek Comprehensive Plan policies 25-27.)

The 2000 Oregon Aviation Plan provides an overview of the airports in the state system and the jurisdictional responsibilities at all levels of government for the management, maintenance, operation, and funding of Oregon's airports. The plan includes policies and investment strategies for airports in Oregon. Myrtle Creek Municipal Airport is listed as a "Category 4" in Oregon's "core system" of airports. Categorization of airports based on services and functional roles. Category 4 airports serve the needs of general and business aviation users and activities within the local area. The airports have the airfield facilities and services necessary to accommodate general aviation users, in light single- and multi-engine aircraft weighing12,500 pounds and less.

The "Air" transportation element of the Myrtle Creek TSP must include policies for this facility. The planning area for airports includes all areas within airport imaginary surfaces and other areas covered by state or federal regulations. Policies for the Myrtle Creek Municipal Airport must be consistent with the Oregon Aviation Plan.

Oregon Rail Plan

The Central Oregon & Pacific Railroad runs through the City of Myrtle Creek, passes under I-5, and parallels the highway south of the City. The Douglas County TSP, Rail Transportation section, identifies

[1] Information taken from the City of Myrtle Creek's municipal website.

the Central Oregon Pacific Railroad as providing an important service to the region by providing a lower cost option for freight shipments.

The Oregon Rail Plan, adopted 2001, is a modal element of the OTP. It is intended to implement the OTP's long-range vision of a viable freight and passenger rail system in Oregon. A relevant policy to the Myrtle Creek TSP is as follows:

> *The State of Oregon will work with other state agencies, regional and local jurisdictions and the general public to integrate rail freight and passenger elements into land use and transportation planning processes. This will include working with private companies and public sector agencies to operate the rail system in safe manner for the users of the system and public in general.*

Chapter 1, Rail Policies and Planning, includes federal requirements for rail freight. This chapter includes a section addressing compliance with Statewide Planning Goals. ODOT's certified State Agency Coordination (SAC) Program and Oregon Administrative Rules Chapter 31, Division 15 describe the procedures that ODOT will follow when developing and adopting plans to assure that they comply with the statewide planning goals and are compatible with acknowledged comprehensive plans. Relevant to the development of a TSP for Myrtle Creek, the stated focus of ODOT's efforts to establish compatibility with acknowledged comprehensive plans will be at the facility planning and project planning stages of the planning program. Policy 1 under Freight Rail is "increase economic opportunities for the State by having a viable and competitive rail system." Regarding passenger rail policy, the OTP supports intercity rail passenger service as part of a balanced transportation system. Convenient connections with other modes should integrate passenger train service into a network linking all areas of the state, nation and the world.

Chapter 2 is the Freight Element of the Oregon Rail Plan. This section includes information on the Central Oregon & Pacific Railroad (CORP). The activities of the regional carrier dominate railroad operations in Southwestern Oregon. This includes the CORP main line south from Eugene through Medford (the Siskiyou Line), a line that was purchased from Southern Pacific in 1995. The Siskiyou Line operations on CORP are basically divided into two major segments; a large wood products operation at Dillard (just south of Roseburg) contributes the bulk of the traffic on the northern end of the line. CORP operates into and out of UP's yard at Eugene. The Freight Element identifies funding sources and contains Rail Plan Freight Advisory Committee recommendations.

The Passenger Element is in Chapter 3. The Rail Plan identifies criteria that could be used to evaluate potential passenger rail services including patronage, cost recovery, and running time. The Plan identifies improvements needed for passenger stations, primarily in the Willamette Valley, as well as improvements to throughway bus stops. This Chapter provides useful information for passenger rail planning, but requirements in the Passenger Element are associated with the Eugene-Portland Union Pacific (UP) main line being a high speed rail corridors per the Intermodal Surface Transportation Efficiency Act (ISTEA) and are not relevant to the Myrtle Creek TSP (Chapter 1, p.1).

Freight Moves the Economy Report (1999)

This report summarizes a variety of information about issues and needs surrounding the transport of freight by roads, rail lines, waterways, aircraft, and pipelines. This report's stated intent is to implement the OTP and several of its goals, especially those related to economic development. Freight Moves the Oregon Economy also helps implement several plans that support the Oregon Transportation Plan, including the 1999 Oregon Highway Plan, that includes a directive to prepare a statewide freight study. Freight Moves the Oregon Economy is consistent with efforts by the U.S. Department of Transportation to broaden its programs to better address freight mobility. ODOT 's future efforts to address the movement of freight are partially outlined in Chapter IV of this report. Deficiencies and identified improvements to the freight system identified in this report, specifically those related to I-5 and rail in the vicinity of Myrtle Creek, will be important considerations in the development of the Myrtle Creek.

OAR 734, Division 51 (Access Management)

This Administrative Rule defines the State's role in managing access to highway facilities in order to maintain functional use, safety and preserve public investment. The provisions of Division 51 apply to future investments on I-5 and interchanges in the vicinity of Myrtle Creek. The Rule's "General Policy" states:

> *Where the Department makes a significant public investment to construct highway improvements identified in the State Transportation Improvement Program, the Department shall adhere to the highway classification and highway segment designation objectives, highway mobility standards, spacing standards or approved deviation, and safety criteria (OAR 734-051-0050).*

Section 734-051-0200 outlines how the State will manage grade-separated interchange areas to ensure safe and efficient operation between connecting roadways. An important component of the State strategy is the development of interchange area management plans (IAMPs). ODOT is in the process of preparing IAMPs for Interchanges 103, 106 and 108 in the vicinity of Myrtle Creek. These plans are describe in the following section of Division 51:

> *(4) Interchange area management plans. Interchange area management plans describe the roadway network, right-of-way, access control, and land parcels in the analysis area of an existing or planned interchange. An interchange area management plan is required for any new interchange or significant modifications to an existing interchange. Both the Department and local governmental agencies are encouraged to develop interchange area management plans with the goal to protect the function of interchanges by maximizing the capacity of the interchanges for safe movement from the mainline facility, to provide safe and efficient operations between connecting roadways and to minimize the need for major improvements of existing interchanges. Also see Access Management Plans, as set forth in OAR 734-051-0360, and Project Development, as set forth in OAR 734-051-0370. Interchange Area Management Plans:*

(a) Should be developed in coordination with the affected local government;
(b) Should be performed in concert with transportation system plans, corridor plans and local comprehensive plans;
(c) Shall be in conformance with transportation system plans, corridor plans and local comprehensive plans;
(d) Should contain short, medium and long-range actions to improve operations and safety in the interchange area;
(e) Should be developed no later than the time the interchange is designed or being redesigned; and
(f) Shall include current and future traffic volumes and flows, roadway geometry, traffic control devices, current and planned land uses and zoning, and the location of all current and planned approaches. The study area shall be sufficient to provide adequate assurance of the safe operation of the facility through the design traffic forecast period, typically 20 years. Interchange area management plans shall contain short, medium and long-range actions to improve operations and attain spacing standards, and such actions shall address roadway improvement actions, including local street network improvements and construction as well as driveway consolidations and shared approaches.

Division 51 also contains the Oregon highway system spacing standards for interchanges. Where interchange area management plans are included in transportation system plans, they must be consistent with the spacing standards. Interchange access management spacing standards must be applied to the improvement of an existing interchange (734-051-0200, 5-7).

Section–0360 identifies when, how and why ODOT will develop access management plans for particular sections of a highway. The rule states that:

Priority will be placed on those facilities with high volumes or providing important statewide or regional connectivity:
(a) Where existing developments do not meet spacing standards;
(b) Existing development patterns, land ownership patterns, and land use plans are likely to result in requests for deviations; or
(c) An access management plan would preserve or enhance the safe and efficient operation of a state highway.
(2) Access management plans prepared pursuant to this rule shall:
(a) Be prepared for a logical segment of the state highway and include sufficient surrounding area to address highway operation and safety issues, and development of adjoining properties including local access and circulation;
(b) Include local governments and property owners in the affected area;
(c) Be developed in coordination with the local government;
(d) Be consistent with and implement the adopted Transportation System Plan (TSP) for the area or propose amendments to the TSP; and
(e) Consider including planning for local streets.
(3) Access management plans prepared pursuant to this rule shall be designed to accomplish the following:

(a) Promote safe and efficient operation of the state highway consistent with the highway classification and the highway segment designation;
(b) Provide for reasonable use of the adjoining property consistent with the comprehensive plan designation and zoning of the area; and
(c) Provide a comprehensive, area-wide solution for local access and circulation that minimizes use of the state highway for local access and circulation.

ODOT 2002 Highway Design Manual

The Highway Design Manual implements Oregon Highway Plan policies and is a multi-modal design manual. Chapter 9, Intersection and Interchange Design, covers the design standards, guidelines, and processes for designing road approaches, signalized and unsignalized at-grade intersections, and interchanges for State Highways. Improvements to I-5 interchanges will need to be consistent with the standards in this manual.

State Transportation Improvement Program (STIP)

The Statewide Transportation Improvement Program (STIP) is Oregon's four-year transportation capital improvement program. It is the document that identifies the funding for, and scheduling of, transportation projects and programs. It includes projects on the federal, state, city and county transportation systems, multimodal projects, and projects in the National Parks, National Forests and Indian tribal lands. Oregon's STIP covers a four-year construction period but is updated every two years in accordance with federal requirements. Programs and projects funded through the STIP must comply with state and local land use laws. Projects are developed in accordance with federal planning regulations, and the goals, policies and guidance set forth in the Oregon Transportation Plan, the policy document that directs state transportation investments.

Federal regulations require that all federally funded transportation projects and all "regionally significant" transportation projects be identified in the STIP. Regionally significant refers to projects with air quality impacts, such as adding more lanes, building a bypass, or installing a new signal. Regionally significant also refers to projects that are of significant interest to the local community.

III. Local Policies and Standards

County and Local Comprehensive Plan Policies

Douglas County Comprehensive Plan (Adopted 1981, revised 2003)

The Douglas County TSP was last revised in December 2003. Several roadways within the City of Myrtle Creek are within the County's jurisdiction as they serve needs beyond those of the City. These include Main Street/Old Pacific Highway (County Road #386 - arterial), North Myrtle Road (County

Road #15 - arterial), and Third Avenue/Dole Road (County Road #14 – arterial/major collector). The County has coordinated their functional classification system and design standards with the local jurisdictions in which their roads are located.

The County's Comprehensive Plan includes many transportation-related policies that apply to the development of roadways in designated forest and natural resource areas, recreational and scenic trails, the Countywide Bicycle system, and the development of lower classification roadways (not arterials and major collectors) in rural areas. These policies have been reviewed, but as they are not directly relevant to the Myrtle Creek TSP, they have not been included in this report.

Policies in the Douglas County Comprehensive Plan that are relevant to Myrtle Creek's TSP relate to County roadway classifications, non-motorized modes of transportation, and coordination between the County, ODOT and local jurisdictions. These policies include:

Energy Conservation Element (Transportation Subsection)

(15) Encourage access and development of bike and walkways in densely developed areas.
(16) Encourage placement of bike and pedestrian equipment (e.g., bike racks and covers) along routes of heavy traffic and at termini (e.g., shopping centers, governmental buildings and schools).

Park and Recreation Element

(17) The County shall encourage the implementation of a Countywide bike trail system.
(23) The County shall encourage the implementation of a mass transit system throughout the County, where feasible. The system should be designed to transport citizens of various population centers to particular recreation areas and facilities.
(24) The County shall encourage the residents of Douglas County to form "car pools" when visiting various recreational areas within the county.

Policy Implementation:
(6) The County shall provide assistance in formulating a bike trail system where appropriate.

Transportation Element

***Goal:** To provide and encourage a safe, convenient and economical transportation system.*
***Objective A:** To accommodate existing and projected transportation demand in Douglas County.*

(3) Existing and planned transportation facilities and corridors shall be protected from conflicting land uses.

Objective B: *To develop and utilize development standards for road construction which promote vehicular safety and economy of construction*

(1) The following classification system will be used for the planning and maintenance of all roads within the County maintenance system.
a. Principal Highway
b. Arterial
c. Major collector
d. Minor Collector
e. *Local*

(3) Pursuant to the Oregon Highway Plan, direct access to state managed interstate highway and interchanges shall be prohibited. Direct access to remaining principal highways and arterial roadways should be discouraged to avoid conflicts with through traffic.

(4) Direct access to non-interstate Principal Highways should be provided within unincorporated communities at levels which are consistent with land use classifications and facility operations.

(5) Access to state roads is the jurisdiction of Oregon Department of Transportation.

(6) Direct property access from major collector roads may be allowed as design features permit.

(8) On-street parking should only be permitted in areas where it would not interfere with the movement of through traffic.

(9) For those roads located within city UGBs, the County shall coordinate road classifications and construction standards with the affected cities.

(11) Bicycle and /or pedestrian ways shall be provided to accommodate access from commercial or high density residential developments to adjacent residential areas, transit stops, and neighborhood activity centers within one-half mile of development in the Urban Unincorporated Area of Green or in UGBs where Urban Growth Management Agreements require improvements.

Objective C. *To encourage energy conservation through promotion of means other than the private automobile for transportation*

(1) Efforts to decrease the dependence of the private automobile shall be encouraged.

Objective D. *To improve transportation availability to the transportation disadvantaged.*

(1) The transportation disadvantaged shall be considered in the design of transportation facilities and alternative transportation modes.

Objective E. *To provide for the timely, economic and efficient implementation of the County road system.*

(5) The cost of installation of street improvements to a standard higher than that for minor collector streets shall be borne by the County.

(6) Douglas County shall work with appropriate cities to develop means for the surrender of jurisdiction of County roads within city limits.

(9) The County supports the upgrading of all public roads to County standard.

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

(10) The County shall encourage the reestablishment of bus service to all cities in the County.
(11) Sidewalks shall be constructed along arterials, major collectors and minor collectors as part of new subdivisions, multi-family developments, planned developments and development within commercial districts. The sidewalk requirement is applicable within the Urban Unincorporated Area of Green and UGBs as implemented through the Urban Growth Management Agreement. If UGMA supplemental standards exist which address public sidewalks, those standards shall apply.

Bicycle Transportation

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

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

City of Myrtle Creek Comprehensive Plan (1978-95, last amended 1991)

The City of Myrtle Creek Comprehensive plan is a general policy guide in which the City and Douglas County jointly set forth major policies concerning desirable future growth within the Myrtle Creek/Tri City Urban Growth Area for a 20-year planning horizon. In addition to the Transportation Element (Chapter 11), the Plan contains background information on vehicular travel and the city street network, street conditions, traffic volumes, pedestrian and bicycle travel, public transportation, airport facilities, rail facilities, and truck and parcel transport. Other transportation-related policies reside in Chapter 3 (Open Spaces, Scenic and Historic Areas and Natural Resources), Chapter 12 (Energy Conservation) and Chapter 14 (Land Use and Urbanization). Overall, the Plan's policy guidance focuses on street rights-of-way, but the policies also consider all transportation modes to meet Statewide Planning Goal 12, including automobile, bicycle, pedestrian, rail, bus, and air.

Chapter 3 – Open Spaces, Scenic and Historic Areas and Natural Resources

GOAL: To identify, preserve and protect open space, natural, scenic, cultural and historic resources.

(6) Every effort shall be made to protect the Neal Lane covered bridge. If future development in the area threatens preservation, attempts shall be made to acquire the bridge from Douglas County for relocation to a protected site.

(7) That portion of Dole Road which has been identified as part of the Applegate Stage Road shall be marked as a local historic resource and shall be promoted as a scenic drive to accommodate pedestrian, bicycle and/or equestrian traffic as demand increases.

Chapter 11 – Transportation

GOAL: To provide and encourage a safe, convenient and economic transport system.

(1) To promote a safe, efficient, and economical overall transportation circulation system both within and throughout Myrtle Creek, a Future Street Plan shall be adopted which includes provisions for automobile, pedestrian and bicycle travel. The Future Street Plan shall be review and updated during Periodic Review, or more frequently, if needed.
(2) A study of circulation patterns shall be undertaken to develop the Future Street Plan which shall include actual traffic counts.
(3) All land division which is contiguous to streets proposed by the Future Street Plan shall incorporate within the development design street alignments consistent with the objectives of the Future Street Plan.
(4) Standards shall be adopted for graduated street and right-of-way widths for local, collector and arterial streets within the circulation pattern.
(5) Restrict direct residential vehicular access onto existing arterial streets and discourage access onto collector streets thru the use of side streets or service roads.
(6) Restrict direct residential vehicular access onto all new arterial and collectors streets, wherever feasible.
(7) Encourage the combining of access drives into commercial and industrial development and restrict additional access on to Main Street, wherever feasible.
(8) Arterial and collectors streets shall be extended into developing areas in such a way as to be compatible with the existing street network. The Future Street Plan shall be the guideline utilized when reviewing and approving subdivisions and other development.
(9) Cul-de-sac's shall be discouraged from developing directly off of arterial roads and encouraged to feed into internal collectors. Creation of cul-de-sac's with the potential to serve 20 or more lots shall be avoided.
(10) Future development north of Lillian Street should have a street network that ties into North Myrtle Avenue rather than Lillian Street or Spruce Avenue to divert traffic away from the school grounds.
(11) Require adequate right-of-way dedication along existing roads prior to land division, development and/or annexation.
(12) Request Douglas County to acquire right-of-way dedication in accordance with City standards prior to approval of development within the Myrtle Creek Urban Growth Boundary and consistent with the Urban Growth Management Agreement.
(13) Continue the development of off-street public parking areas in the Central Business District.
(14) Support Federal and State improvements to the existing I-5 interchange and access at Myrtle Creek Exit 108.
(15) Support the development of additional freeway access to the Myrtle Creek/Tri City corridor by the connection of Pacific Highway to the Weaver Road exit (Exit 106).

(16) Develop a street upgrading priority schedule based on a sufficiency rating to be included in a Public Facilities Plan.
(17) Encourage landscaping along arterials to improve the overall visual appearance, especially at the west entrance to Myrtle Creek.
(18) Encourage economic development which provides local employment, thereby reducing commuter traffic.
(19) Develop a bike/trail system linking the parks and schools with residential areas and acquire right-of-way, as needed, prior to development of abutting property.
(20) Work with Douglas County in the development of a bicycle route along Dole Road extending through Round Prairie to Winston.
(21) Initiate a study of sidewalk needs and develop a priority schedule for sidewalk improvements to be included in a capital improvement program.
(22) Continue to support volunteer programs for transportation of the elderly and the disabled.
(23) Encourage the continuation of commercial bus service to Myrtle Creek and support development of a local bus service system and other-transportation alternatives.
(24) Initiate a study to identify areas used for carpool parking and investigate the potential of increasing usage by providing lighting, parking signs and/or police patrolling.
(25) Recognizing that the Myrtle Creek Municipal Airport is a regional asset, the City shall encourage acquisition of additional land for runway expansion, support development of hanger facilities and a fixed based operator, promote development on adjacent industrial land and explore the feasibility of developing the floodplain area for recreational use.
(26) The Five Year Improvement Plan developed by the State Aeronautics Division shall be adopted by the City as the Capital Improvement Plan for the Myrtle Creek Municipal Airport until a new Master Plan can be developed.
(27) The City shall adopt a Master Plan for development of improvements to the Myrtle Creek Municipal Airport that includes a strategy for funding.
(28) Conservation of energy shall be considered in the development of transportation and street plans.
(29) Improvements to existing local streets shall be shared by abutting property owners through the formation of Local Improvement Districts. Grants and other funding methods shall be utilized to improve collector and arterial streets. Improvement of streets and sidewalks in new developments shall be borne by the developer, however, the City may participate in the development if any arterial or collector streets are included in the development.
(30) Development of a bridge over North Myrtle Creek at the south end of Spruce Avenue should be encouraged to connect Spruce to Riverside Drive, thereby providing a second north/south collector for the east side of the City.
(31) Commercial and industrial land uses should be located on and adjacent to arterials and major collectors, wherever possible.
(32) The evaluation of all proposed plan amendments within the Urban Growth Boundary should include an assessment of the effect of the amendments on circulation in and through the Myrtle Creek area.
(33) Encourage the county to straighten the reverse curve on Main Street at the west entrance to town and correct the intersection with Dole Road.
(34) Support the Douglas County plan for an alternate north/south arterial route through Tri City to Myrtle Creek.

(35) Encourage Douglas County to develop sidewalks, bike paths and turn lanes along Pacific Highway in the unincorporated area south of Myrtle Creek.
(36) The City shall actively pursue the acquisition of right-of-way for collector and arterial streets of inadequate width or lengths.
(37) Prior to the next Periodic Review, the City shall develop a policy regarding improvements to and vacation of alleys.
(38) The City shall support preservation and use of the existing railroad system and encourage improvements that could benefit potential industrial development.

Chapter 12 – Energy Conservation

GOAL: To maximize the conservation and efficient utilization of both renewable and non-renewable energy within the framework of sound land use and economic principles.

(7) The development of transportation alternatives, i.e., bike paths, shall be promoted.

Chapter 14 – Land Use and Urbanization

GOAL: To manage growth in the Myrtle Creek/Tri City urban area through the cooperative efforts between the City of Myrtle Creek and Douglas County to insure the quality of life of present and future residents of the area.

(12) Consideration of the street design and area circulation shall be a part of the approval process for any partitioning or subdividing within the City. Appropriate and necessary conditions shall be applied as part of the approval process.

Local and County Development Ordinances

City of Myrtle Creek Zoning Ordinance (2004)
The following summarizes, by Ordinance section, the standards relevant to the development of the Myrtle Creek TSP.

Article II., Section 2.03.0 - Definitions
The Definitions section of the Myrtle Creek Zoning Ordinance lists several definitions that pertain to transportation standards and policies. These include definitions for the following: access, aircraft landing field, easement, frontage, reserve strip, right-of-way, and streets (arterial, collector, cul-de-sac, dead-end street, minor street, parallel access street).

Article III. District Regulations
Article III of the Zoning Ordinance contains regulations for the City's zoning districts. In general, the zoning districts do not contain transportation-related development standards. Transportation facilities and improvements are not specified in the districts' lists of "permitted" and "conditional" uses. Zoning districts for City of Myrtle Creek are as follows:

Section 3.01 - Residential Hillside (RH) (Ultra low density residential zone for steep slopes)
Section 3.02 -Low Density Residential (R-1)
Section 3.03 - Medium Density Residential (R-2):
Section 3.04 - High Density Residential (R-3):

Section 3.10 - Central Business District (C-1)
Section 3.12 - Neighborhood Business District (C-2)
Section 3.14 - General Commercial (C-3)

Section 3.20 - General Manufacturing (GM)

Section 3.30 - Special District – Community Services (SD/CS) (primarily public uses and facilities such as parks) designated through a zone change
Section 3.40 - Special District – Flood Hazard Area (SD/FHA)

Article V. Site Review Procedures and Standards
Article V contains site review criteria pertaining to the approval of development applications by the Planning/Engineering Department or the Planning Commission.

Section 5.01.1. Site Review Criteria

(6) Establish driveway and street grade limitations and traffic visibility on adjoining streets.

(8) Establish the adequacy of the grading and drainage plan for the collection and transmission of storm and ground water in order that the drainage from the proposed development will not adversely affect adjoining properties of public rights-of-way.

Section 5.01.2. Supplemental Conditions

(5) Require sidewalks to be installed.

(11) Designate the size, number, location and nature of vehicle access points including requiring the combining of accesses into commercial and industrial development.

(12) Prohibit direct residential access onto arterials and collectors.

(13) Increase the amount of street dedication or roadway widths or specify improvements within the street right-of-way in accordance with the standards contained in Section 5.03.1.

Section 5.03.0. Functional Standards for Public Improvements
This section includes standards that apply to development which involves or affects public facilities. The section requires that construction, reconstruction, repair of streets, sidewalks, sewers, water mains and other public improvements be in accordance with specifications adopted by the City and be coordinated with the City Engineer.

Section 5.03.1. Street Standards
This section includes the City's standards for the location, width and grade of streets to meet city needs and goals. The section references the City Subdivision Ordinance.

Minimum Right-of-Way Width
All existing continuous minor streets shall be deemed to have insufficient right-of-way if the right-of-way is presently less than 60 feet in width. All other streets in the City shall be deemed to have insufficient or incomplete right-of-way if they are presently less than the standards for the type of street set forth in the Subdivision Ordinance of the City.

Protection from Arterial
Where a development abuts or contains an existing or proposed arterial street, the development design shall provide adequate protection for residential properties and shall separate through and local traffic or, if separation is not feasible, shall minimize the traffic conflicts. The design requirements may include a street, parallel access street along the margin of the arterial, screen planting at the rear or side property lien to be contained in a non-access reservation along the arterial, or other treatment suitable to meet the objectives of this Section.

Partial Width Streets
Partial width streets are generally not acceptable, but may be approved by the Planning Commission where reasonably essential to the development and when in conformity with other requirements of this Article and when other conditions are met.

Future Extension of Streets
Where necessary to give access to or permit a satisfactory future division of adjoining land, a public street may be extended to the boundary of the development and the resulting dead-end street may be approved without a turnaround. A reserve strip or street plug may be required to preserve the objective of the street extension.

Street Improvements.
This section lays out when streets have to be improved. Streets, including alleys, that are within a development and streets adjacent but only partially within a development, will be improved. The section also contains provisions for the installation of street lighting and street name signs.

Bicycle Routes.
The city may require the installation of marked bicycle lanes on streets, or separate bicycle paths if appropriate to the extension of a system of bicycle routes, existing or planned.

Section 5.03.2. Sidewalks
The same sidewalk improvements shall be installed to serve each building site as is required for a subdivision unless alternative pedestrian routes are available or there is no evidence of special pedestrian activity along the streets involved.

Section 5.06.0. General Standards for Access and Clear Vision
This section contains standards for general and emergency vehicle access to lots, lot frontage and clear vision (areas of unobstructed view) at intersections.

Section 5.07.2. Design Standards for Hillside Development
This section lays out some specific standards for access routes within the RH zoning district, including stabilization, access spacing, and special authorization for narrower pavement widths to overcome topographical disadvantages.

Section 5.08.0. Standards for Commercial and Industrial Uses

Traffic
Commercial uses are encouraged to be grouped into clusters or centers in order to avoid strip commercial development along arterials and highways. Additionally, in no case shall an industrial site be located where truck and employee traffic would be channeled onto local streets in residential areas.

Article VI. Non-Conformities, Exceptions and Variances
Article VI contains supplemental standards related to yards.

Section 6.02.1. Yards Abutting Streets/Insufficient Right-of-Way
This section requires the setbacks to be increased over the required yard dimension on certain streets that are heavily traveled or have insufficient right of way. Additionally, in commercial and industrial districts (except the C-1), the distance from the centerline and building line must be a minimum of 40 feet.

Article VII. Conditional Use Permits & Temporary Use Permits

Section 7.01.2. Criteria for Conditional Use Permit
The following is a transportation (parking) related approval criterion for a Conditional Use Permit:

> *(6) The property in question is reasonably suited for the use requested in regards to location, topography and other physical features, safe and efficient access, adequate area to provide for off-street parking and loading and available utilities and services.*

Douglas County Land Development Ordinance

The Douglas County Land Development Ordinance Chapter 4 (Land Divisions) contains standards for urban roadways in Table 1 (*included on next page*). However, the table accompanying Figure 1 (Urban Roadway Section), which is located in the same chapter (*included here below Table 1*), contains additional standards that differ from Table 1. For example, Figure 1 includes standards for major and minor collectors, cul-de-sacs and residential loops but does not call out the number of travel lanes or sidewalk widths which are described in Table 1. Figure 1 also contains roadbed specifications and median requirements. Clarification regarding which set of standards apply should be obtained from the County.

Table 1. Design Standards for Urban Roadways (1)				
Design Features	Principal Highway	Arterial	Collector	Local Street
Minimum ROW Width (2)	102'	102'	60' – 84'	56'
Travel Lane Width	12'	12'	12'	12'
Shoulder Width	10'	10'	8'	6'
Left Turn Lane Width (3)	14'	14'	14'	--
Recommended number of travel lane widths	4	4	2 – 4	2
Sidewalk width	6'	6'	6'	5'
Median width	14'	2' – 4'	--	--
Parking on-street	*The provision for on-street parking will depend on traffic volumes, lane widths, design speeds, access control and use.*			

(1) Standards will vary according to terrain and usage
(2) Minimum right-of-way may be increased by the PW Director in all instances where necessary to obtain one half the required ROW from the centerline of an existing road.
(3) Where turn lanes are required, ROW and roadbed width must be increased.

Figure 1. Urban Roadway Sections
Note: [roadway section not included]

TYPE OF STREET	RIGHT OF WAY	ROADBED	TRAVELED WAY	SHOULDER	MEDIAN	PARKWAY STRIP
PRINCIPAL HIGHWAY (LIMITED ACCESS)	102'	82'	24'	10'	14'	10'
ARTERIAL	102'	70' - 82'	24'	10'	2' - 14'	10'
MAJOR COLLECTOR	A = 84' B = 74'	40'/64'	12'/24'	8'	0'	10'
MINOR COLLECTOR	60'	40'	12'	8'	0'	10'
LOCAL	56'	36'	12'	6'	0'	10'
RESIDENTIAL CUL-DE-SAC	54'	34'	12'	5'	0'	10'
RESIDENTIAL LOOP	54'	34'	12'	5'	0'	10'

NOTES:
(1) WHERE ADDITIONAL ROADWAY IS REQUIRED, RIGHT OF WAY AND ROADBED MUST BE INCREASED.
(2) ADDITIONAL RIGHT OF WAY MAY BE REQUIRED DUE TO EXTENSIVE CUT AND FILL.
(3) SIDEWALKS SHALL BE CONSTRUCTED WHEN REQUIRED.
(4) SEE DOUGLAS COUNTY STANDARD DRAWINGS FOR SIDEWALK, CURB AND ROADWAY DETAILS.
(5) ROW MAY BE INCREASED IN ALL INSTANCES BY THE PUBLIC WORKS DIRECTOR, WHERE NECESSARY TO OBTAIN ONE HALF OF THE REQUIRED RIGHT OF WAY WIDTH FROM THE CENTERLINE OF AN EXISTING ROAD.

2004 Roadway Inventory
City of Myrtle Creek Transportation System Plan

Street	Jurisdiction (Legal/Maintenance)	State Classification	County Classification	City Classification	Speed Limit (mph)	ROW Width (feet)	Pavement Width (feet)	Shoulder Width (feet)	No of Travel Lanes	Center Turn Lane	Pavement Type (AC or PCC)	Pavement Condition (good, poor, rutted, etc.)	Sidewalks	Bike Lanes	
Lillian St.															
Spruce Ave. to N. Myrtle Dr.	City/City	Minor Collector	-	Major Local	25	[illegible]	[illegible]	0	2	No	AC	[illegible]	None	None	No on street parking
Laurence St.															
Spruce Ave. to N. Myrtle Dr.	City/City	Local	-	Collector	25	50-60	[illegible]	0	2	No	AC	Drainage Prob	None	None	No on street parking
Madrona Dr.															
Spruce Ave. to N. Myrtle Dr.	City/City	Minor Collector	-	Minor Local	25	50-60	[illegible]	0	2	No	AC	Good	None	None	No on street parking
Rice St.															
Orchard Dr. to Spruce Ave.	City/City	Minor Collector	-	Collector	25	50-60	31	0	2	No	AC	Good	Both None	None	No on street parking
Division St.															
Morrison Ave. to Orchard Dr.	City/City	Urban Collector	-	Arterial	25	50-60	43	0	2	No	-	Good	Yes	No	Parking on both sides of the street
Orchard Dr. to 275 ft. east of Spruce St.	City/City	Urban Collector	-	Arterial	25	50-60	43	0	2	No	-	Good	Yes	No	Parking on both sides of the street
275 ft. east of Spruce St. to Myrtle Dr.	City/County	Urban Collector	-	Arterial	25	50-60	43	0	2	No	-	Good	Yes	No	Parking on both sides of the street
Myrtle Dr. to Neal Lane	City/County	Urban Collector	-	Arterial	25	50-60	20	0	2	No	AC	Good	No	No	Parking on both sides of the street
Neal Lane to City Limits	City/County	Urban Collector	-	Collector	25/Not Posted	50-60	20	0	2	No	AC	Good	No	No	
2nd Ave.															
Main St. To Division St.	City/City	Urban Collector	-	Collector	25	50-60	42	0	2	No	AC	Good	Both Sides	None	Parking on both sides of the street
3rd Ave.															
Main St. To Division St.	City/County	Local	-	Arterial	25	50-60	44	0	2	No	AC	Good	Both Sides	None	Parking on both sides of the street
Johnson St.															
1st Ave. to Neal Lane	City/City	Local	-	Collector	25	50-60	32-39	0	2	No	AC	Good	Both Sides between 1st & MC Bridge	None	Parking on both sides of the street
Riverside Drive															
Main St. to Neal Lane	City/County	Urban Collector	-	Collector	30	50-60	34	0	2	No	AC	Good	None	Both Sides	No on street parking
Neal Lane to City Limits	City/County	Urban Collector	-	Collector	30	50-60	34	0	2	No	AC	Good	None	Both Sides	No on street parking
City Limits to UGB	County/County	Urban Collector	-	Collector	55	50-60	34	0	2	No	AC	Good	None	Both Sides	No on street parking
Days Creek Cutoff Rd.															
Riverside Dr. to City Limit	City/City	Minor Collector		Collector	Not Posted	60 or more	20	2	2	No	AC	Good	None	None	No on street parking
City Limit to Neal Lane	County/County	Minor Collector		Minor Local	Not Posted	60 or more	24	2	2	No	AC	Good	None	None	No on street parking
Fir St.															
Old Pacific Hwy. To end	County/County	Local	Minor Collector	Minor Local											Recommend classifing as a local road. 15 foot gravel road.
Norton Lane															
Old Pacific Hwy. To end	County/County	Local	Local Road	-											Classified as local road. (Conversation with Phil Stenbeck - Sr Planner Douglas Coun
Klimback St.															
Old Pacific Hwy. To end	County/County	Local	Minor Collector	-	25	50-60	20	0	2	No	AC	Cracking	None	None	No on street parking
Walnut St.															
Old Pacific Hwy. To end	County/County	Local	Minor Collector	-	25	50-60	20	0	2	No	AC	Cracking	None	None	Some parking in front of residences
Victor St.															
Weeks Rd. to Chickering St.	County/County	Local	Minor Collector	-	25	50-60	20	0	2	No	AC	Cracking	None	None	No on street parking
Clark St.															
Chickering St. to Cook St.	County/County	Local	Minor Collector	-											Recommend classifing as a local road. 15 foot gravel road.
Meadow Lane															
Old Pacific Hwy. To end	County/County	Local	Minor Collector	-	Not Posted	50-60	20	0	2	No	AC	Poor	None	None	Pot holes; No on street parking
Woodcrest Dr.															
Old Pacific Hwy. To end	County/County	Local	Minor Collector	-	Not Posted	50-60	20	0	2	No	AC	Good	None	None	No on street parking
Aker Dr.															
Old Pacific Hwy. To end	County/County	Local	Minor Collector	-	Not Posted	50-60	20	0	2	No	AC	Good	None	None	No on street parking
Chadwick Lane															
Old Pacific Hwy to Alameda St.	County/County	Minor Collector	Minor Collector	-	25	50-60	38	0	2	No	AC	Good	Yes	Yes	Shared on st parking with bike lane on south side of chadwick
Alameda St. to End	County/County	Minor Collector	Minor collector	-	25	50-60	23	0	2	No	AC	Good	None	None	No on street parking
Tri-City Dr.															
Alameda St. to Old Pacific Hwy	County/County	Local	Minor Collector	-	25	50-60	30	0	2	No	AC	Cracking	None	None	Parking Both Sides
Crest Dr.															
Old Pacific Hwy. To Valley Dr.	County/County	Local	Minor Collector	-	25	50-60	20	0	2	No	AC	Patch	None	None	No on street parking
Henry St.															
Taylor St. to Old Pacific Hwy.	County/County	Local	Minor Collector	-	Not Posted	50-60	20	0	2	No	AC	Good	None	None	No on street parking
Susan St.															
Taylor St. to Old Pacific Hwy.	County/County	Local	Minor Collector	-	Not Posted	50-60	20	0	2	No	AC	Good	None	None	No on street parking
Gael Lane															

2004 Roadway Inventory
City of Myrtle Creek Transportation System Plan

Street	Jurisdiction (Legal/Maintenance)	State Classification	County Classification	City Classification	Speed Limit (mph)	ROW Width (feet)	Pavement Width (feet)	Shoulder Width (feet)	No of Travel Lanes	Center Turn Lane	Pavement Type (AC or PCC)	Pavement Condition (good, poor, rutted, etc.)	Sidewalks	Bike Lanes	
UGB to I-5	County/County	Urban Collector	Major Collector	-	45	50-60	36	2-4	2	Yes	AC	Good	None	None	No on street parking
I-5 to Old Pacific Hwy	County/County	Urban Collector	Major Collector	-	45	60 or more	24	2-4	2	No	AC	Good	None	None	No on street parking
Weaver Road															
Weaver Rd. Inchg. To Gael Lane	County/County	Major Collector	Minor Collector	-	Not Posted	40 or less	20	0	2	No	AC	-	None	None	No on street parking
I-5															
Gael Lane Inchg. To Weaver Rd. Inchg.	ODOT	Interstate	Principal Highway	-	**65**	250?	**40**	10	**2**	None	AC		None	None	
Weaver Rd. Inchg. To 99 Inchg.	ODOT	Interstate	Principal Highway	-	**65/50**	250?	**40**	10	**2**	None	AC		None	None	
Aviation Drive															
Weaver Rd. to airport	County/County	Local	Minor Collector	-	Not Posted	40 or less	20	0	2	No	AC	-	None	None	No on street parking
Dole Rd.															
City Limits to Old Pacific Hwy.	City/County	Urban Collector	-	Collector	25	50-60	22	0	2	No	AC	-	None	None	No on street parking
Taylor St.															
Henry St. to Gael Ln.	County/County	Local	Minor Collector	-	Not Posted	50-60	20	0	2	No	AC	Good	None	None	No on street parking
Alamedia St.															
Chadwick Lane to Tri City Dr.	County/County	Local	Minor Collector	-	25	50-60	30	0	2	No	AC	Cracking	None	None	No on street parking
Old Pacific Highway (Also called Main St w/in MC)															
Umpqua Bridge to 4th Ave	City/County	Urban Collector	-	Arterial	**20**	**50-60**	**24**	2	2	No	AC	Poor	None	None	No on street parking
4th Ave to Riverside DR.	City/County	Urban Collector	-	Arterial	**20**	**60 or more**	**48**	2	2	No	AC	Cracking	Yes	None	Parking on both sides
Riverside Dr. to Norton Lane	City/County	Urban Collector	Arterial	Arterial	45	**50-60**	32	2	2	No	AC	Good	None	None	No on street parking
Norton Lane to Wecks Rd.	City/County	Urban Collector	Major Collector	-	45	50-60	32	2	2	No	AC	Good	None	None	No on street parking
Wecks Rd. to City Limits	City/County	Urban Collector	Major Collector	-	45	50-60	32	2	2	No	AC	Construction	None	None	Left turn lane onto chadwick. No on street parking
City Limits to Chadwick Lane	County/County	Urban Collector	Major Collector	-	45	50-60	32	2	2	No	AC	Construction	None	None	Left turn lane onto chadwick. No on street parking
Chadwick Lane to 479' N of Crest Dr.	County/County	Urban Collector	Major Collector	-	45	50-60	32	2	2	No	AC	Good	None	None	Left turn lane onto chadwick. No on street parking
479' N of Crest Dr. to Gael Lane	County/County	Urban Collector	Major Collector	-	45	50-60	41	2	2	No	AC	Good	None	None	No on street parking
Valley Dr.															
Grant St. to end	County/County	Local	Minor Collector	-	25	50-60	20	2 (Gravel)	2	No	AC	Good	None	None	Gravel from crest to the end. No parking some cracking
Wecks Rd.															
Old Pacific Hwy. To Victor St.	County/County	Local	Minor Collector	-	25	40-50	20	0	2	No	AC	Cracking	None	None	No on street parking
Hill St.															
Walnut St. to Victor St.	County/County	Local	Minor Collector	-	25	50-60	20	0	2	No	AC	Cracking	None	None	No on street parking
Arburnia St.															
Walnut St. to end	County/County	Local	Minor Collector	-											Recommend classifying as a local street
Orchard Drive															
Rice St. to Division St.	City/City	Minor Collector	-	Collector	25	40 or less	36	0	2	No	AC	None	Far Both	None	Parking on both sides. Sidewalks vary. See figure 4.
Spruce Avenue															
Lillian St. to Laurance St.	City/City	Minor Collector	-	Major Local	Not Posted	**40 or less**	20	0	2	No	AC	Good	-	None	No on street parking
Laurance St. to Rice St.	City/City	Minor Collector	-	Collector	Not Posted	**40-50**	30	0	2	No	AC	Good	East	East	
Division St. to Howland St.	City/City	Local	-	Collector	Not Posted	50-60	37	0	2	No	AC	Good	East	None	On street parking to madrona and south
North Myrtle Drive															
City Limits to Lillian St.	City/County	Urban Collector	-	Arterial	45	50-60	36	0	2	No	AC	Patch	None	Both	
Lillian St. to Madrona Dr.	City/County	Urban Collector	-	Arterial	45	50-60	36	0	2	No	AC	Patch	None	Both	
Madrona Dr. to Division St.	City/County	Urban Collector	-	Arterial	45	50-60	36	0	2	No	AC	Patch	None	Both	
Neal Lane															
Division St. to Riverside Dr.	City/City	Minor Collector	-	Collector	25	50-60	40	0	2	No	AC	Cracking	East Side	None	Parking both sides
Riverside Dr. to Days Creek Cutoff	County/County	Minor Collector	-	Collector	25/Not Posted	50-60	24	0	2	No	AC	None	None	None	no parking / 1 lane bridge at stop at Days Creek Cutoff

Data Sources

1997 Kimley-Horn Transp. Plan
County Transportation Plan
ODOT Map
Field Observation
Aerial photos / Assessor maps
Assumption
city revision

Draft TSP
Base Map - Provided by Myrtle Creek

APPENDIX E
LEVEL OF SERVICE CRITERIA DESCRIPTIONS

This appendix describes the level-of-service (LOS) criteria for unsignalized intersections, signalized intersections and two-lane rural roadway sections.

Unsignalized Intersections

The operational characteristics of selected unsignalized intersections within Myrtle Creek/Tri City were evaluated using procedures outlined in the 2000 Highway Capacity Manual for unsignalized intersections. There were six intersections in the Myrtle Creek/Tri City located along Main Street/The Old Pacific Highway were analyzed using design hour volumes for existing and future volume conditions. Unsignalized intersections include Two-Way Stop-Controlled (TWSC), All-Way Stop Controlled (AWSC), and Roundabouts. This program calculates delay and LOS for the critical movements of an intersection, based on the control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The LOS criteria for unsignalized intersections are presented in **Table E-1**.

It should be noted that the LOS criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less onerous than at unsignalized intersections.

For example, drivers at signalized intersections are able to relax during the red interval, while drivers on the minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections than signalized intersections. For these reasons, it is considered that the total delay threshold for any given LOS is less for an unsignalized intersection than for a signalized intersection. While overall intersection LOS is calculated for AWSC intersections, LOS is only calculated for the minor approaches and the major street left turn movements at TWSC intersections. No delay is assumed for the major street through movements. For TWSC intersections, the overall intersection LOS is defined by the movement having the worst LOS (typically a minor street left turn).

TABLE E-1
LEVEL-OF-SERVICE CRITERIA
FOR TWO-WAY UNSIGNALIZED INTERSECTIONS

Level of Service	Delay Range
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

Source: Transportation Research Board, Highway Capacity Manual 2000, page 17-2.

Signalized Intersections

Signalized intersection analysis is based on Chapter 16 of the 2000 Highway Capacity Manual. This program calculates delay and LOS for the critical lane groups, intersection approaches, and the overall intersection, based on the control delay. Control delay is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay and is measured in terms of seconds per vehicle. The LOS criteria for signalized intersections are presented in **Table E-2.**

TABLE E-2
LEVEL-OF-SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS

Level of Service	Delay Range
A	≤10
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80

Source: Transportation Research Board, Highway Capacity Manual 2000, page 16-2.

Two-lane Rural Roadways

The six LOS grades are described qualitatively for two-lane roadways in **Table E-3** below.

TABLE E-3. LEVEL OF SERVICE CRITERIA FOR TWO-LANE ROADWAYS

Service Level	Typical Traffic Flow Conditions
A	Primarily free-flow operations at average travel speeds, usually about 90 percent of the FFS for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream.
B	Reasonably unimpeded operations at average travel speeds, usually about 70 percent of the FFS for the street class. The ability to maneuver within the traffic stream is only slightly restricted.
C	Describes stable operations; however, ability to maneuver and change lanes in midblock locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the FFS for the street class.
D	Borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of FFS.

TABLE E-3. LEVEL OF SERVICE CRITERIA FOR TWO-LANE ROADWAYS

Service Level	Typical Traffic Flow Conditions
E	Characterized by significant delays and average travel speeds of 33 percent or less of the FFS. Such operations are caused by a combination of adverse progression, high signal density, high volumes, and extensive delays at critical intersections and inappropriate signal timing.
F	Characterized by urban street flow at extremely low speeds, typically one-third to one-fourth of the FFS. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.

Source: Transportation Research Board, Highway Capacity Manual, 2000, page 10-5..

APPENDIX F
Existing LOS and Volume-to-Capacity Summary Sheets

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	4th/Main
Agency/Co.	DEA	Jurisdiction	Myrtle Creek
Date Performed	12/1/2004	Analysis Year	2004
Analysis Time Period	AM PEAK		
Project Description	ODOT00000462 Myrtle Creek TSP		
East/West Street:	4th	North/South Street:	Main
Intersection Orientation:	North-South	Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	6	319	5	2	171	9
Peak-Hour Factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76
Hourly Flow Rate, HFR	7	419	6	2	225	11
Percent Heavy Vehicles	1	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	4	0	53	25	2	12
Peak-Hour Factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76
Hourly Flow Rate, HFR	5	0	69	32	2	15
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (vph)	7	2		74			49	
C (m) (vph)	1337	1145		604			389	
v/c	0.01	0.00		0.12			0.13	
95% queue length	0.02	0.01		0.42			0.43	
Control Delay	7.7	8.1		11.8			15.6	
LOS	A	A		B			C	
Approach Delay	--	--	11.8			15.6		
Approach LOS	--	--	B			C		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*IMN*	Intersection	*3rd Ave. / Main - Old 99*
Agency/Co.	*David Evans & Associates*	Jurisdiction	*Myrtle Creek*
Date Performed	*9/22/2004*	Analysis Year	*2004*
Analysis Time Period	*AM Peak 8:00-9:00*		
Project Description	*ODOT0000-0462 Myrtle Creek TSP*		
East/West Street:	*3rd Avenue*	North/South Street:	*Main Street - Old Hwy. 99*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*2*	*169*	*29*	*41*	*105*	*0*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*2*	*198*	*34*	*48*	*123*	*0*
Percent Heavy Vehicles	*0*	--	--	*5*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*8*	*0*	*69*	*0*	*0*	*1*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*9*	*0*	*81*	*0*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*1*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*2*	*48*		*90*			*1*	
C (m) (vph)	*1469*	*1318*		*779*			*926*	
v/c	*0.00*	*0.04*		*0.12*			*0.00*	
95% queue length	*0.00*	*0.11*		*0.39*			*0.00*	
Control Delay	*7.5*	*7.8*		*10.2*			*8.9*	
LOS	*A*	*A*		*B*			*A*	
Approach Delay	--	--	*10.2*			*8.9*		
Approach LOS	--	--	*B*			*A*		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	IMN	Intersection	1st Ave. / Main Street
Agency or Co.	David Evans and Associates	Area Type	CBD or Similar
Date Performed	9/25/2004	Jurisdiction	Myrtle Creek
Time Period	AM Peak Hour	Analysis Year	2004
		Project ID	ODOT0000-0462 Myrtle Creek TSP

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	1	0	1	0	0	1	0
Lane group		LTR			LT	R		LTR			LTR	
Volume, V (vph)	0	1	2	99	1	38	0	209	94	17	116	0
% Heavy vehicles, %HV	0	0	0	0	0	0	3	3	3	6	6	6
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0	2.0		2.0			2.0	
Extension of effective green, e		2.0			2.0	2.0		2.0			2.0	
Arrival type, AT		3			3	3		3			3	
Unit extension, UE		3.0			3.0	3.0		3.0			3.0	
Filtering/metering, I		1.000			1.000	1.000		1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0	0.0		0.0			0.0	
Ped / Bike / RTOR volumes	0	0	0	0	0	0	2	0	0	0	0	0
Lane width		12.0			12.0	12.0		12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0	0		0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 14.9	G =	G =	G =	G = 29.1	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =

Duration of Analysis, T = 0.25 | Cycle Length, C = 55.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		3			114	43		345			151	
Lane group capacity, c		422			337	394		841			804	
v/c ratio, X		0.01			0.34	0.11		0.41			0.19	
Total green ratio, g/C		0.27			0.27	0.27		0.53			0.53	
Uniform delay, d_1		14.6			16.1	15.1		7.8			6.8	
Progression factor, PF		1.000			1.000	1.000		1.000			1.000	
Delay calibration, k		0.50			0.50	0.50		0.50			0.50	
		0.0			2.7	0.6		1.5			0.5	

Incremental delay, d_2												
Initial queue delay, d_3												
Control delay		14.7			18.8	15.6		9.3			7.3	
Lane group LOS		B			B	B		A			A	
Approach delay	14.7			17.9			9.3			7.3		
Approach LOS	B			B			A			A		
Intersection delay	10.9			X_c = 0.39			Intersection LOS			B		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	WALNUT/OLD PACIFIC HIGHWAY
Agency/Co.	DEA	Jurisdiction	Myrtle Creek
Date Performed	12/1/2004	Analysis Year	2004
Analysis Time Period	AM PEAK		

Project Description: ODOT00000462 Myrtle Creek TSP

East/West Street: WALNUT | North/South Street: OLD PACIFIC HIGHWAY

Intersection Orientation: North-South | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	195	15	23	201	0
Peak-Hour Factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Hourly Flow Rate, HFR	0	246	18	29	254	0
Percent Heavy Vehicles	0	--	--	4	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	30	0	59	0	0	0
Peak-Hour Factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Hourly Flow Rate, HFR	37	0	74	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (vph)		29		111				
C (m) (vph)		1278		641				
v/c		0.02		0.17				
95% queue length		0.07		0.62				
Control Delay		7.9		11.8				
LOS		A		B				
Approach Delay	--	--	11.8					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*IMN*	Intersection	*Riverside / Main - Old 99*
Agency/Co.	*David Evans & Associates*	Jurisdiction	*Myrtle Creek*
Date Performed	*9/22/2004*	Analysis Year	*2004*
Analysis Time Period	*AM Peak 8:00-9:00*		
Project Description	*ODOT0000-0462 Myrtle Creek TSP*		
East/West Street:	*Riverside Drive*	North/South Street:	*Main Street - Old Hwy. 99*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*224*	*49*	*36*	*147*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.86*	*0.86*	*0.86*	*0.86*	*0.95*
Hourly Flow Rate, HFR	*0*	*260*	*56*	*41*	*170*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*50*	*0*	*50*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.86*	*0.86*	*0.86*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*58*	*0*	*58*	*0*	*0*	*0*
Percent Heavy Vehicles	*2*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LTR*				
v (vph)		*41*		*116*				
C (m) (vph)		*1256*		*592*				
v/c		*0.03*		*0.20*				
95% queue length		*0.10*		*0.72*				
Control Delay		*8.0*		*12.6*				
LOS		*A*		*B*				
Approach Delay	--	--	*12.6*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	CHADWICK/OLD PACIFIC HWY
Agency/Co.	DEA	Jurisdiction	Myrtle Creek
Date Performed	12/1/2004	Analysis Year	2004
Analysis Time Period	AM PEAK		

Project Description	ODOT00000462 Myrtle Creek TSP
East/West Street:	CHADWICK
North/South Street:	OLD PACIFIC HIGHWAY
Intersection Orientation:	North-South
Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	158	137	6	4	119	148
Peak-Hour Factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74
Hourly Flow Rate, HFR	213	185	8	5	160	199
Percent Heavy Vehicles	1	--	--	3	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	12	11	7	67	8	74
Peak-Hour Factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74
Hourly Flow Rate, HFR	16	14	9	90	10	99
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	213	5		39			199	
C (m) (vph)	1205	1374		232			332	
v/c	0.18	0.00		0.17			0.60	
95% queue length	0.64	0.01		0.59			3.68	
Control Delay	8.6	7.6		23.6			30.8	
LOS	A	A		C			D	
Approach Delay	--	--	23.6			30.8		
Approach LOS	--	--	C			D		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	*4th/Main*
Agency/Co.	*DEA*	Jurisdiction	*Myrtle Creek*
Date Performed	*12/1/2004*	Analysis Year	*2004*
Analysis Time Period	*PM PEAK*		
Project Description	*ODOT00000462 Myrtle Creek TSP*		
East/West Street: *4th*		North/South Street: *Main*	
Intersection Orientation: *North-South*		Study Period (hrs): *0.25*	

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*13*	*323*	*10*	*12*	*433*	*7*
Peak-Hour Factor, PHF	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*
Hourly Flow Rate, HFR	*14*	*367*	*11*	*13*	*492*	*7*
Percent Heavy Vehicles	*1*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*4*	*2*	*26*	*18*	*4*	*20*
Peak-Hour Factor, PHF	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*
Hourly Flow Rate, HFR	*4*	*2*	*29*	*20*	*4*	*22*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*14*	*13*		*35*			*46*	
C (m) (vph)	*1070*	*1186*		*516*			*327*	
v/c	*0.01*	*0.01*		*0.07*			*0.14*	
95% queue length	*0.04*	*0.03*		*0.22*			*0.48*	
Control Delay	*8.4*	*8.1*		*12.5*			*17.8*	
LOS	*A*	*A*		*B*			*C*	
Approach Delay	--	--	*12.5*			*17.8*		
Approach LOS	--	--	*B*			*C*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*IMN*	Intersection	*3rd Ave. / Main - Old 99*
Agency/Co.	*David Evans & Associates*	Jurisdiction	*Myrtle Creek*
Date Performed	*9/22/2004*	Analysis Year	*2004*
Analysis Time Period	*PM Peak 4:00-5:00*		
Project Description	*ODOT0000-0462 Myrtle Creek TSP*		
East/West Street:	*3rd Avenue*	North/South Street:	*Main Street - Old Hwy. 99*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*1*	*236*	*45*	*130*	*335*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*1*	*251*	*47*	*138*	*356*	*0*
Percent Heavy Vehicles	*0*	–	–	*1*	–	–
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*19*	*1*	*74*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*20*	*1*	*78*	*0*	*0*	*0*
Percent Heavy Vehicles	*5*	*0*	*8*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*1*	*138*		*99*			*0*	
C (m) (vph)	*1208*	*1265*		*501*				
v/c	*0.00*	*0.11*		*0.20*				
95% queue length	*0.00*	*0.37*		*0.73*				
Control Delay	*8.0*	*8.2*		*13.9*				
LOS	*A*	*A*		*B*				
Approach Delay	–	–	*13.9*					
Approach LOS	–	–	*B*					

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	IMN	Intersection	1st Ave. / Main Street
Agency or Co.	David Evans and Associates	Area Type	CBD or Similar
Date Performed	9/25/2004	Jurisdiction	Myrtle Creek
Time Period	PM Peak Hour	Analysis Year	v/c 0.80
		Project ID	ODOT0000-0462 Myrtle Creek TSP

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	1	0	1	0	0	1	0
Lane group		LTR			LT	R		LTR			LTR	
Volume, V (vph)	2	3	1	203	10	34	1	275	254	61	328	2
% Heavy vehicles, %HV	0	0	0	0	0	0	2	2	2	9	9	9
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0	2.0		2.0			2.0	
Extension of effective green, e		2.0			2.0	2.0		2.0			2.0	
Arrival type, AT		3			3	3		3			3	
Unit extension, UE		3.0			3.0	3.0		3.0			3.0	
Filtering/metering, I		1.000			1.000	1.000		1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0	0.0		0.0			0.0	
Ped / Bike / RTOR volumes	1	0	0	0	0	0	5	0	0	0	0	0
Lane width		12.0			12.0	12.0		12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0	0		0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 14.9	G =	G =	G =	G = 29.1	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =

Duration of Analysis, T = 0.25 | Cycle Length, C = 55.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		6			217	35		541			399	
Lane group capacity, c		417			339	394		827			715	
v/c ratio, X		0.01			0.64	0.09		0.65			0.56	
Total green ratio, g/C		0.27			0.27	0.27		0.53			0.53	
Uniform delay, d_1		14.7			17.7	15.0		9.3			8.7	
Progression factor, PF		1.000			1.000	1.000		1.000			1.000	
Delay calibration, k		0.50			0.50	0.50		0.50			0.50	
		0.1			8.9	0.4		4.0			3.1	

Incremental delay, d_2												
Initial queue delay, d_3												
Control delay		14.7			26.6	15.4		13.3			11.8	
Lane group LOS		B			C	B		B			B	
Approach delay	14.7			25.1			13.3			11.8		
Approach LOS	B			C			B			B		
Intersection delay	15.3			X_c = 0.65			Intersection LOS			B		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*IMN*	Intersection	*Riverside / Main - Old 99*
Agency/Co.	*David Evans & Associates*	Jurisdiction	*Myrtle Creek*
Date Performed	*9/22/2004*	Analysis Year	*2004*
Analysis Time Period	*PM Peak 4:00-5:00*		
Project Description	*ODOT0000-0462 Myrtle Creek TSP*		
East/West Street:	*Riverside Drive*	North/South Street:	*Main Street - Old Hwy. 99*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*352*	*90*	*74*	*403*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*0*	*370*	*94*	*77*	*424*	*0*
Percent Heavy Vehicles	*0*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*56*	*0*	*62*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*58*	*0*	*65*	*0*	*0*	*0*
Percent Heavy Vehicles	*5*	*0*	*8*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LTR*				
v (vph)		*77*		*123*				
C (m) (vph)		*1103*		*365*				
v/c		*0.07*		*0.34*				
95% queue length		*0.22*		*1.45*				
Control Delay		*8.5*		*19.8*				
LOS		*A*		*C*				
Approach Delay	--	--	*19.8*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	WALNUT/OLD PACIFIC HIGHWAY
Agency/Co.	DEA	Jurisdiction	Myrtle Creek
Date Performed	12/1/2004	Analysis Year	2004
Analysis Time Period	PM PEAK		

Project Description: ODOT00000462 Myrtle Creek TSP

East/West Street: WALNUT | North/South Street: OLD PACIFIC HIGHWAY

Intersection Orientation: North-South | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	340	43	82	321	0
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	0	369	46	89	348	0
Percent Heavy Vehicles	0	--	--	5	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	17	0	62	0	0	0
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	18	0	67	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (vph)		89		85				
C (m) (vph)		1114		503				
v/c		0.08		0.17				
95% queue length		0.26		0.60				
Control Delay		8.5		13.6				
LOS		A		B				
Approach Delay	--	--	13.6					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	CHADWICK/OLD PACIFIC HWY
Agency/Co.	DEA	Jurisdiction	Myrtle Creek
Date Performed	12/1/2004	Analysis Year	2004
Analysis Time Period	PM PEAK		

Project Description: ODOT00000462 Myrtle Creek TSP

East/West Street: CHADWICK | North/South Street: OLD PACIFIC HIGHWAY

Intersection Orientation: North-South | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	40	292	18	24	251	40
Peak-Hour Factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81
Hourly Flow Rate, HFR	49	360	22	29	309	49
Percent Heavy Vehicles	3	--	--	1	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	23	6	13	71	5	71
Peak-Hour Factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81
Hourly Flow Rate, HFR	28	7	16	87	6	87
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	49	29		51			180	
C (m) (vph)	1187	1176		278			359	
v/c	0.04	0.02		0.18			0.50	
95% queue length	0.13	0.08		0.66			2.69	
Control Delay	8.2	8.1		20.8			24.7	
LOS	A	A		C			C	
Approach Delay	--	--	20.8			24.7		
Approach LOS	--	--	C			C		

Future Forecasts and Trip Generation (Industrial and Commercial Development)

GM = General Manufacturing (wood products, electronics, pharmaceuticals, publishing, automotive
M2 = Medium Industrial (freight or truck yards, welding and machine shops, concrete batching, wholesale businesses)
C3 = General Commercial

Parcel #	Acreage	Zoning	% Built Out in Forecast Year	Trip Gen Rate	Added ADT	PM Peak	AM Peak	Major Street
A	59	Gm	80%	38	1798	180	90	North Myrtle Road
B	28	Gm	80%	38	860	86	43	Old Pacific Highway near treatment plant
E	17	M2	80%	20	268	27	13	Aviation Drive
F	19	M2	80%	20	302	30	15	Old Pacific Highway
G	85	M, In, Gm	50%	20	846	85	42	Industrial Park, west of Ichang 103*
D	25	C3	80%	195	3850	385	193	Plaza Dr.
C	13	C3	80%	195	2104	210	105	Plaza Dr.
H	30	C3	50%	195	2925	293	146	South of Riddle Bypass

*The industrial park is already partially built-out

ITE Trip Generation Rates
Heavy Industrial - 6.75 trips per day per acre
Light Industrial - 51.8 trips per day per acre
Manufacturing - 38.0 trips per day per acre
Commercial - 195.0 trips per day per acre. Based on LU 750

Future Forecasts and Trip Generation (Residential Development)

Residential Parcel #	Acreage	Lot Size	Ideal Density	% Vacant		% Steep		% Floodplain	# Units Added	% Built Out in Forecast Year	Units for Trip Gen	Added ADT	PM Peak	AM Peak	Major Street
1	56.7	L	1	80%	45	100%	36	1%	36	100%	36	363	36	18	Dole Road
2	21	S	4.5	100%	95	76%	80	1%	80	100%	80	801	80	40	Spruce/Lillian Ave
3	26.3	L	1	10%	3	46%	2	1%	177	100%	177	1774	177	89	
4	3.3	S	4.5	100%	15	1%	15	1%	15	100%	9	90	9	5	N. Myrtle Drive
5	85.7	L	1	10%	9	62%	8	61%	47	100%	47	473	47	24	N. Myrtle Drive/S. Myrtle Road
6	54.2	L	1	10%	5	49%	5	0%	5	100%	5	49	5	2	S. Myrtle Drive
7	38.1	L	1	90%	34	90%	28	0%	28	100%	28	281	28	14	Riverside Drive/ Simpson Lane
8	11.3	S	4.5	100%	51	100%	41	0%	61	100%	61	607	61	30	Nueva Drive
9	31.8	L	1	10%	3	0%	3	0%	53	100%	0	0	0	0	Fairway Drive/Golf Course
10	6.9	S	4.5	100%	31	0%	31	0%	31	100%	13	130	13	7	Fairway Drive
11	17	L	1	10%	2	0%	2	80%	52	100%	52	516	52	26	Redwood Ave/Days Creek
12	2	S	4.5	100%	9	0%	9	40%	9	100%	12	120	12	6	Wildwood Way
13	89.5	L	1	95%	85	95%	69	0%	69	100%	69	689	69	34	Days Creek/Weaver Ave/Ardis Ave
14	5.7	S	4.5	100%	26	40%	24	0%	24	100%	24	240	24	12	Pacific Hwy
15	9.8	L	1	70%	7	100%	5	50%	5	100%	5	54	5	3	Pioneer Way
16	61	L	1	6%	4	39%	3	0%	3	100%	3	34	3	2	Pacific Hwy/Norton Ln/Klimback St
17	69	L	1	80%	55	50%	50	0%	50	100%	50	497	50	25	Klimback/Carte
18	3.6	S	4.5	100%	16	0%	16	0%	16	100%	8	80	8	4	cook st
19	3.1	S	4.5	100%	14	0%	14	0%	14	100%	14	140	14	7	Victor St
20	15	L	1	100%	15	30%	14	0%	14	100%	14	141	14	7	Clark/Cook St.
21	98	L	1	75%	74	80%	62	20%	61	100%	61	611	61	31	meadow lane
22	73.7	L	1	10%	7	20%	7	100%	7	100%	7	67	7	3	pacific highway
23	7.1	S	4.5	100%	32	50%	29	5%	29	100%	29	287	29	14	woodcrest
24	11.3	S	4.5	50%	25	70%	22	0%	22	100%	22	219	22	11	woodcrest
25	8.7	S	4.5	25%	10	80%	8	0%	8	100%	8	82	8	4	aker drive
26	39.1	L	1	50%	20	100%	16	0%	16	100%	16	156	16	8	Chadwick
27	1.6	S	4.5	100%	7	5%	7	0%	7	100%	20	200	20	10	Indian Lane
28	17.8	L	1	70%	12	0%	12	100%	12	100%	12	118	12	6	Chadwick
29	34.66	L	1	60%	21	0%	21	0%	21	100%	21	208	21	10	Tri-City Dr/Henry St.
30	6.2	S	4.5	100%	28	0%	28	0%	28	100%	15	150	15	8	pacific highway
31	19	L	1	10%	2	75%	2	0%	2	100%	2	16	2	1	Crest Dr
32	3.9	S	4.5	100%	18	0%	18	0%	18	100%	14	140	14	7	Crest Dr
33	3.4	S	4.5	100%	15	0%	15	0%	15	100%	15	153	15	8	Gael Lane
34	15	L	1	80%	12	0%	12	0%	12	100%	12	120	12	6	Celestial Way
											960	**9605**			

Assumptions:
PM Peak is 10% of ADT
50% Entering, 50% Exiting
Large Lot 1 units / acre
Small Lot 4.5 units / acre
X indicates that the acreage was already broken down into a specific number of lots on the map

Average persons / home	2.7
Added persons	2593
2000 Population	6938
2004 Population	7050 approx
2024 Population	9643
Avg Annual Growth Rate	**1.58%**

Douglas County comprehensive plan predicts 1.07%-1.38% per year for South sub-area

APPENDIX H
Future LOS and Volume-to-Capacity Summary Sheets

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	4th/Main
Agency/Co.	DEA	Jurisdiction	Myrtle Creek
Date Performed	12/1/2004	Analysis Year	2025 No Build
Analysis Time Period	AM PEAK		
Project Description	ODOT00000462 Myrtle Creek TSP		
East/West Street:	4th	North/South Street:	Main
Intersection Orientation:	North-South	Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	10	495	10	5	290	10
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	11	582	11	5	341	11
Percent Heavy Vehicles	1	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	10	0	60	30	5	15
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	11	0	70	35	5	17
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (vph)	11	5		81			57	
C (m) (vph)	1212	993		434			250	
v/c	0.01	0.01		0.19			0.23	
95% queue length	0.03	0.02		0.68			0.86	
Control Delay	8.0	8.6		15.2			23.6	
LOS	A	A		C			C	
Approach Delay	--	--	15.2			23.6		
Approach LOS	--	--	C			C		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*IMN*	Intersection	*3rd Ave. / Main - Old 99*
Agency/Co.	*David Evans & Associates*	Jurisdiction	*Myrtle Creek*
Date Performed	*9/22/2004*	Analysis Year	*2025 No Build*
Analysis Time Period	*AM Peak 8:00-9:00*		
Project Description	*ODOT0000-0462 Myrtle Creek TSP*		
East/West Street:	*3rd Avenue*	North/South Street:	*Main Street - Old Hwy. 99*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*5*	*260*	*45*	*85*	*185*	*0*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*5*	*305*	*52*	*99*	*217*	*0*
Percent Heavy Vehicles	*0*	–	–	*5*	–	–
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*25*	*0*	*130*	*0*	*0*	*5*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*29*	*0*	*152*	*0*	*0*	*5*
Percent Heavy Vehicles	*0*	*0*	*1*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*5*	*99*		*181*			*5*	
C (m) (vph)	*1358*	*1181*		*581*			*823*	
v/c	*0.00*	*0.08*		*0.31*			*0.01*	
95% queue length	*0.01*	*0.27*		*1.32*			*0.02*	
Control Delay	*7.7*	*8.3*		*14.0*			*9.4*	
LOS	*A*	*A*		*B*			*A*	
Approach Delay	–	–	*14.0*			*9.4*		
Approach LOS	–	–	*B*			*A*		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	IMN	Intersection	1st Ave. / Main Street
Agency or Co.	David Evans and Associates	Area Type	CBD or Similar
Date Performed	2/9/2004	Jurisdiction	Myrtle Creek
Time Period	AM Peak Hour	Analysis Year	2025 No Build
		Project ID	ODOT0000-0462 Myrtle Creek TSP

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	1	0	1	0	0	1	0
Lane group		LTR			LT	R		LTR			LTR	
Volume, V (vph)	0	5	5	220	5	65	0	335	210	40	225	0
% Heavy vehicles, %HV	0	0	0	0	0	0	3	3	3	6	6	6
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0	2.0		2.0			2.0	
Extension of effective green, e		2.0			2.0	2.0		2.0			2.0	
Arrival type, AT		3			3	3		3			3	
Unit extension, UE		3.0			3.0	3.0		3.0			3.0	
Filtering/metering, I		1.000			1.000	1.000		1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0	0.0		0.0			0.0	
Ped / Bike / RTOR volumes	0	0	0	0	0	0	2	0	0	0	0	0
Lane width		12.0			12.0	12.0		12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0	0		0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 14.9	G =	G =	G =	G = 29.1	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 55.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		12			256	74		620			301	
Lane group capacity, c		432			335	394		832			739	
v/c ratio, X		0.03			0.76	0.19		0.75			0.41	
Total green ratio, g/C		0.27			0.27	0.27		0.53			0.53	
Uniform delay, d_1		14.7			18.4	15.4		10.1			7.8	
Progression factor, PF		1.000			1.000	1.000		1.000			1.000	
Delay calibration, k		0.50			0.50	0.50		0.50			0.50	
		0.1			15.2	1.1		6.0			1.7	

Incremental delay, d_2												
Initial queue delay, d_3												
Control delay		14.8			33.7	16.5		16.1			9.4	
Lane group LOS		B			C	B		B			A	
Approach delay	14.8			29.8			16.1			9.4		
Approach LOS	B			C			B			A		
Intersection delay	18.1			X_c = 0.75			Intersection LOS			B		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*IMN*	Intersection	*Riverside / Main - Old 99*
Agency/Co.	*David Evans & Associates*	Jurisdiction	*Myrtle Creek*
Date Performed	*2/9/2004*	Analysis Year	*2025 No Build*
Analysis Time Period	*AM Peak 8:00 - 9:00*		

Project Description *ODOT0000-0462 Myrtle Creek TSP*

East/West Street: *Riverside Drive* | North/South Street: *Main Street - Old Hwy. 99*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*355*	*100*	*70*	*325*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.86*	*0.86*	*0.86*	*0.86*	*0.95*
Hourly Flow Rate, HFR	*0*	*412*	*116*	*81*	*377*	*0*
Percent Heavy Vehicles	*0*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*155*	*0*	*125*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.86*	*0.86*	*0.86*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*180*	*0*	*145*	*0*	*0*	*0*
Percent Heavy Vehicles	*2*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LTR*				
v (vph)		*81*		*325*				
C (m) (vph)		*1044*		*333*				
v/c		*0.08*		*0.98*				
95% queue length		*0.25*		*10.55*				
Control Delay		*8.7*		*79.5*				
LOS		*A*		*F*				
Approach Delay	--	--		*79.5*				
Approach LOS	--	--		*F*				

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	WALNUT/OLD PACIFIC HIGHWAY
Agency/Co.	DEA	Jurisdiction	Myrtle Creek
Date Performed	2/9/2004	Analysis Year	2025 No Build
Analysis Time Period	AM PEAK		

Project Description: ODOT00000462 Myrtle Creek TSP

East/West Street: WALNUT | North/South Street: OLD PACIFIC HIGHWAY

Intersection Orientation: North-South | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	410	25	55	400	0
Peak-Hour Factor, PHF	0.79	0.85	0.85	0.85	0.85	0.79
Hourly Flow Rate, HFR	0	482	29	64	470	0
Percent Heavy Vehicles	0	--	--	4	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	45	0	105	0	0	0
Peak-Hour Factor, PHF	0.85	0.79	0.85	0.79	0.79	0.79
Hourly Flow Rate, HFR	52	0	123	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (vph)		64		175				
C (m) (vph)		1036		388				
v/c		0.06		0.45				
95% queue length		0.20		2.27				
Control Delay		8.7		21.7				
LOS		A		C				
Approach Delay	--	--	21.7					
Approach LOS	--	--	C					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	CHADWICK/OLD PACIFIC HWY
Agency/Co.	DEA	Jurisdiction	Myrtle Creek
Date Performed	2/9/2004	Analysis Year	2025 No Build
Analysis Time Period	AM PEAK		

Project Description	ODOT00000462 Myrtle Creek TSP
East/West Street: CHADWICK	North/South Street: OLD PACIFIC HIGHWAY
Intersection Orientation: North-South	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	225	280	10	20	265	220
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	264	329	11	23	311	258
Percent Heavy Vehicles	1	--	--	3	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	20	15	20	100	10	115
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	23	17	23	117	11	135
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	264	23		63			263	
C (m) (vph)	1008	1214		111			149	
v/c	0.26	0.02		0.57			1.77	
95% queue length	1.05	0.06		2.71			19.35	
Control Delay	9.8	8.0		73.4			422.3	
LOS	A	A		F			F	
Approach Delay	--	--	73.4			422.3		
Approach LOS	--	--	F			F		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	4th/Main
Agency/Co.	DEA	Jurisdiction	Myrtle Creek
Date Performed	12/1/2004	Analysis Year	2025 No Build
Analysis Time Period	PM PEAK		

Project Description	ODOT00000462 Myrtle Creek TSP
East/West Street: 4th	North/South Street: Main
Intersection Orientation: North-South	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	560	20	15	710	10
Peak-Hour Factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Hourly Flow Rate, HFR	17	636	22	17	806	11
Percent Heavy Vehicles	1	--	--	1	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	10	5	30	20	5	25
Peak-Hour Factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Hourly Flow Rate, HFR	11	5	34	22	5	28
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (vph)	17	17		50			55	
C (m) (vph)	815	935		198			140	
v/c	0.02	0.02		0.25			0.39	
95% queue length	0.06	0.06		0.96			1.68	
Control Delay	9.5	8.9		29.2			46.4	
LOS	A	A		D			E	
Approach Delay	--	--	29.2			46.4		
Approach LOS	--	--	D			E		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*IMN*	Intersection	*3rd Ave. / Main - Old 99*
Agency/Co.	*David Evans & Associates*	Jurisdiction	*Myrtle Creek*
Date Performed	*9/22/2004*	Analysis Year	*2025 No Build*
Analysis Time Period	*PM Peak 4:00-5:00*		
Project Description	*ODOT0000-0462 Myrtle Creek TSP*		
East/West Street:	*3rd Avenue*	North/South Street:	*Main Street - Old Hwy. 99*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*5*	*405*	*80*	*240*	*515*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*5*	*430*	*85*	*255*	*547*	*0*
Percent Heavy Vehicles	*0*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*50*	*5*	*165*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*53*	*5*	*175*	*0*	*0*	*0*
Percent Heavy Vehicles	*5*	*0*	*8*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*5*	*255*		*233*			*0*	
C (m) (vph)	*1027*	*1052*		*198*				
v/c	*0.00*	*0.24*		*1.18*				
95% queue length	*0.01*	*0.95*		*11.79*				
Control Delay	*8.5*	*9.5*		*168.8*				
LOS	*A*	*A*		*F*				
Approach Delay	--	--	*168.8*					
Approach LOS	--	--	*F*					

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	IMN	Intersection	1st Ave. / Main Street
Agency or Co.	David Evans and Associates	Area Type	CBD or Similar
Date Performed	9/25/2004	Jurisdiction	Myrtle Creek
Time Period	PM Peak Hour	Analysis Year	2025 No Build
		Project ID	ODOT0000-0462 Myrtle Creek TSP

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	1	0	1	0	0	1	0
Lane group		LTR			LT	R		LTR			LTR	
Volume, V (vph)	5	5	5	415	10	75	5	450	500	115	495	5
% Heavy vehicles, %HV	0	0	0	0	0	0	2	2	2	9	9	9
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0	2.0		2.0			2.0	
Extension of effective green, e		2.0			2.0	2.0		2.0			2.0	
Arrival type, AT		3			3	3		3			3	
Unit extension, UE		3.0			3.0	3.0		3.0			3.0	
Filtering/metering, I		1.000			1.000	1.000		1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0	0.0		0.0			0.0	
Ped / Bike / RTOR volumes	1	0	0	0	0	0	5	0	0	0	0	0
Lane width		12.0			12.0	12.0		12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0	0		0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 14.9	G =	G =	G =	G = 29.1	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 55.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		15			433	77		974			627	
Lane group capacity, c		343			333	394		820			562	
v/c ratio, X		0.04			1.30	0.20		1.19			1.12	
Total green ratio, g/C		0.27			0.27	0.27		0.53			0.53	
Uniform delay, d_1		14.8			20.1	15.4		13.0			13.0	
Progression factor, PF		1.000			1.000	1.000		1.000			1.000	
Delay calibration, k		0.50			0.50	0.50		0.50			0.50	
		0.2			155.5	1.1		96.7			73.8	

Incremental delay, d_2												
Initial queue delay, d_3												
Control delay		15.0			175.5	16.5		109.6			86.8	
Lane group LOS		B			F	B		F			F	
Approach delay	15.0			151.5			109.6			86.8		
Approach LOS	B			F			F			F		
Intersection delay	112.3			X_c = 1.23			Intersection LOS			F		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*IMN*	Intersection	*Riverside / Main - Old 99*
Agency/Co.	*David Evans & Associates*	Jurisdiction	*Myrtle Creek*
Date Performed	*9/22/2004*	Analysis Year	*2025 No Build*
Analysis Time Period	*PM Peak 4:00-5:00*		
Project Description	*ODOT0000-0462 Myrtle Creek TSP*		
East/West Street:	*Riverside Drive*	North/South Street:	*Main Street - Old Hwy. 99*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*685*	*285*	*205*	*685*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*0*	*721*	*300*	*215*	*721*	*0*
Percent Heavy Vehicles	*0*	--	--	*1*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*180*	*0*	*155*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*189*	*0*	*163*	*0*	*0*	*0*
Percent Heavy Vehicles	*5*	*0*	*8*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LTR*				
v (vph)		*215*		*352*				
C (m) (vph)		*684*		*72*				
v/c		*0.31*		*4.89*				
95% queue length		*1.34*		*38.43*				
Control Delay		*12.7*		*1866*				
LOS		*B*		*F*				
Approach Delay	--	--		*1866*				
Approach LOS	--	--		*F*				

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	WALNUT/OLD PACIFIC HIGHWAY
Agency/Co.	DEA	Jurisdiction	Myrtle Creek
Date Performed	12/1/2004	Analysis Year	2025 No Build
Analysis Time Period	PM PEAK		

Project Description: ODOT00000462 Myrtle Creek TSP

East/West Street: WALNUT | North/South Street: OLD PACIFIC HIGHWAY

Intersection Orientation: North-South | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	725	70	175	720	0
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	0	788	76	190	782	0
Percent Heavy Vehicles	0	--	--	5	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	30	0	125	0	0	0
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	32	0	135	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (vph)		190		167				
C (m) (vph)		757		166				
v/c		0.25		1.01				
95% queue length		0.99		7.98				
Control Delay		11.3		127.1				
LOS		B		F				
Approach Delay	--	--	127.1					
Approach LOS	--	--	F					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	CHADWICK/OLD PACIFIC HWY
Agency/Co.	DEA	Jurisdiction	Myrtle Creek
Date Performed	12/1/2004	Analysis Year	2025 No Build
Analysis Time Period	PM PEAK		

Project Description	ODOT00000462 Myrtle Creek TSP
East/West Street:	CHADWICK
North/South Street:	OLD PACIFIC HIGHWAY
Intersection Orientation:	North-South
Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	105	600	35	60	540	95
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	123	705	41	70	635	111
Percent Heavy Vehicles	3	--	--	1	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	35	10	45	135	10	125
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	41	11	52	158	11	147
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	123	70		104			316	
C (m) (vph)	852	862		55			66	
v/c	0.14	0.08		1.89			4.79	
95% queue length	0.50	0.26		10.02			34.67	
Control Delay	9.9	9.5		580.6			1830	
LOS	A	A		F			F	
Approach Delay	--	--	580.6			1830		
Approach LOS	--	--	F			F		

APPENDIX I

Future Improvements LOS and Volume-to-Capacity Summary Sheets

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	CMG	Intersection	Main Street & 3rd Ave
Agency or Co.	Myrtle Creek TSP	Area Type	CBD or Similar
Date Performed	05/12/2005	Jurisdiction	
Time Period	5:00 pm	Analysis Year	2025 Signaled Intersection
		Project ID	

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group		LTR			LTR			LTR			LTR	
Volume, V (vph)	0	0	0	50	5	165	5	405	80	240	515	0
% Heavy vehicles, %HV	0	0	0	5	0	8	0	0	0	1	1	1
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Pretimed (P) or actuated (A)	A	A		A	A	A	P	P	P	P	P	
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			2			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			0.365			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	2		0	3	0	101	3	0	6	2		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 14.6	G =	G =	G =	G = 87.4	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =

Duration of Analysis, T = 0.25 | Cycle Length, C = 110.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		0			126			515			803	
Lane group capacity, c		203			162			1185			837	
v/c ratio, X		0.00			0.78			0.43			0.96	
Total green ratio, g/C		0.13			0.13			0.79			0.79	
Uniform delay, d_1		41.4			46.1			3.5			9.8	
Progression factor, PF		1.000			1.000			2.129			1.000	
Delay calibration, k		0.11			0.33			0.50			0.50	
Incremental delay, d_2		0.0			21.0			0.4			22.7	

Initial queue delay, d_3												
Control delay		41.4			67.1			8.0			32.4	
Lane group LOS		D			E			A			C	
Approach delay				67.1			8.0			32.4		
Approach LOS				E			A			C		
Intersection delay	26.7			X_c = 0.93			Intersection LOS			C		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	CMG	Intersection	Riverside Drive & Old Pacific H2025 Signalized
Agency or Co.	Myrtle Creek TSP	Area Type	All other areas
Date Performed	05/12/2005	Jurisdiction	
Time Period	5:00 pm	Analysis Year	2025 Signalized
		Project ID	Myrtle Creek TSP

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	0	0	1	0	1	0	1	0	1	1	0
Lane group				L		R		TR		L	T	
Volume, V (vph)				180		155		685	285	205	685	
% Heavy vehicles, %HV				5		8		0	0	1	1	
Peak-hour factor, PHF				0.95		0.95		0.95	0.95	0.95	0.95	
Pretimed (P) or actuated (A)				A		A		P	P	A	P	
Start-up lost time, l_1				2.0		2.0		2.0		2.0	2.0	
Extension of effective green, e				2.0		2.0		2.0		2.0	2.0	
Arrival type, AT				3		3		3		2	4	
Unit extension, UE				3.0		3.0		3.0		3.0	3.0	
Filtering/metering, I				1.000	1.000	1.000		1.000		0.090	0.090	
Initial unmet demand, Q_b				0.0		0.0		0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0			0		140	0	0	13			
Lane width				12.0		12.0		12.0		12.0	12.0	
Parking / Grade / Parking	N		N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B				0		0		0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2					

Phasing	WB Only	02	03	04	SB Only	NS Perm	07	08
Timing	G = 15.7	G =	G =	G =	G = 8.9	G = 73.4	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y = 4	Y =	Y =

Duration of Analysis, T = 0.25 | Cycle Length, C = 110.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v				189		16		1007		216	721	
Lane group capacity, c				220		191		1091		418	1320	
v/c ratio, X				0.86		0.08		0.92		0.52	0.55	
Total green ratio, g/C				0.14		0.14		0.67		0.78	0.78	
Uniform delay, d_1				46.1		40.9		15.9		6.2	4.5	
Progression factor, PF				1.000		1.000		1.000		2.059	0.267	
Delay calibration, k				0.39		0.11		0.50		0.12	0.50	
				27.2		0.2		14.1		0.1	0.1	

Incremental delay, d_2												
Initial queue delay, d_3												
Control delay				73.3		41.1		29.9		12.8	1.3	
Lane group LOS				E		D		C		B	A	
Approach delay				70.8			29.9			4.0		
Approach LOS				E			C			A		
Intersection delay	22.5			X_c = 0.92			Intersection LOS			C		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*CMG*	Intersection	*WALNUT/OLD PACIFIC HIGHWAY*
Agency/Co.	*DEA*	Jurisdiction	*Myrtle Creek*
Date Performed	*12/1/2004*	Analysis Year	*2025 Old-Pacific Improvements*
Analysis Time Period	*PM PEAK*		

Project Description	*ODOT00000462 Myrtle Creek TSP*
East/West Street: *WALNUT*	North/South Street: *OLD PACIFIC HIGHWAY*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*725*	*70*	*175*	*720*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*788*	*76*	*190*	*782*	*0*
Percent Heavy Vehicles	*0*	--	--	*5*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*30*	*0*	*125*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*32*	*0*	*135*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (vph)		*190*		*167*				
C (m) (vph)		*757*		*291*				
v/c		*0.25*		*0.57*				
95% queue length		*0.99*		*3.33*				
Control Delay		*11.3*		*32.8*				
LOS		*B*		*D*				
Approach Delay	--	--	*32.8*					
Approach LOS	--	--	*D*					

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	CMG	Intersection	Chadwick Lane & Old Pacific Hig2025 Signalized
Agency or Co.	Myrtle Creek TSP	Area Type	All other areas
Date Performed	05/12/2005	Jurisdiction	
Time Period	5:00 pm	Analysis Year	2025 Signalized
		Project ID	Myrtle Creek TSP

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	135	10	125	35	10	45	105	600	35	60	540	95
% Heavy vehicles, %HV	0	0	0	0	0	0	3	3	3	1	1	1
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival type, AT		3			3		3	3		3	3	
Unit extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	3	0	58	6	0	39	5	0	4	4	0	11
Lane width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0		0	0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 11.9	G =	G =	G =	G = 25.5	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =

Duration of Analysis, T = 0.25 — Cycle Length, C = 45.4

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		250			60		124	742		71	734	
Lane group capacity, c		365			383		248	1028		247	1035	
v/c ratio, X		0.68			0.16		0.50	0.72		0.29	0.71	
Total green ratio, g/C		0.26			0.26		0.56	0.56		0.56	0.56	
Uniform delay, d_1		15.1			12.9		6.1	7.3		5.2	7.2	
Progression factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay calibration, k		0.25			0.11		0.11	0.28		0.11	0.27	
		5.3			0.2		1.6	2.5		0.6	2.3	

Incremental delay, d_2												
Initial queue delay, d_3												
Control delay		20.3			13.1		7.7	9.9		5.8	9.5	
Lane group LOS		C			B		A	A		A	A	
Approach delay	20.3			13.1			9.5			9.2		
Approach LOS	C			B			A			A		
Intersection delay	10.9			X_c = 0.71			Intersection LOS			B		

APPENDIX J

Transportation Plan Consistency with Transportation Planning Rule and other Plans

Appendix J: Transportation System Plan Compatibility With State Transportation Planning Rule and Other Plans

TPR Requirements/Recommendations	Myrtle Creek Transportation System Plan
Public and Interagency Involvement	
□ Establish Advisory Committees	An 23-member Transportation Advisory Committee (TAC) was established to provide project guidance. The City led a concurrent process of review of the Comprehensive Plan involving a Comprehensive Plan Advisory Committee (PAC) composed of citizens. The PAC was regularly briefed on TSP progress by the City and provided input to the staff on the TSP. Douglas County was extensively involved in all aspects of the project and was represented on the TAC.
□ Develop Information Material	Materials including reports, tables, and maps were prepared for public and agency review of the various TSP components. The Roseburg News-Review periodically wrote articles on the plan. Myrtle Creek posted two newsletters on their website, at the City Hall, and sent them to news sources. Informational packets were also prepared and made available to the general public attending meetings.
□ Schedule Meetings and Public Hearings	The TAC met five times June 2004 through March 2005. Following that, a workshop with the Myrtle Creek Planning Commission and City Council was held to review work products and provide input on public comments. Two public open houses were held to allow the public to review various aspects of the plan.
□ Develop Other Methods to Involve the Community	Staff made a presentation to the City's Public Works Department Two public meetings were held providing opportunities for the public to participate verbally and in writing.
□ Coordinate the Plan With Other Agencies	The TSP was coordinated closely with the City of Myrtle Creek, Douglas County, Oregon Department of Transportation (ODOT), and the Department of Land Conservation and Development. Representatives of these organizations were members of the TAC. The plan was sent to the Department of Conservation and Development, which provided comments.
Review Existing Plans, Policies, and Standards	
□ Review and Evaluate Existing Comprehensive Plan and state and federal plans	The following plans were reviewed in the TSP: • Executive Orders on Quality Development (EO 00-23) and Sustainability (EO 03-03) • Transportation Planning Rule • Oregon Transportation Plan (OTP) • Oregon Highway Plan (OHP) • Oregon Bicycle Pedestrian Plan • Oregon Aviation Plan (2000) • Oregon Rail Plan (2001) Freight Moves the Oregon Economy Report (1999) • OAR 734, Division 51 (Access Management)

TPR Requirements/Recommendations	Myrtle Creek Transportation System Plan
	• ODOT Highway Design Manual • City of Myrtle Creek Comprehensive Plan (1990-2010) • Douglas County Comprehensive Plan (2003) • City of Myrtle Creek Zoning Ordinance (2004) • City of Myrtle Creek Subdivision Ordinance • Douglas County Land Use and Development Ordinance (2003)
☐ Analyze Existing Land Uses and Vacant Lands	Existing land uses and vacant lands within the TSP study area were updated. Maps and associated data were produced and analyzed by growth area.
☐ Review Population and Employment Forecasts	Population and employment data were updated and new forecasts developed. A base growth rate was created based on past growth and to be consistent with past forecasts. Then housing by development type and employment by sector were allocated to vacant and underdeveloped lands to create a more accurate measure of where the growth would occur. These data were used in the TSP forecasting effort. The forecasts were compared to earlier data for consistency.
☐ Review Existing Ordinances and Zoning, Subdivision, and Engineering Standards	The Myrtle Zoning Ordinance and Subdivision Ordinances were reviewed for consistency with the TPR. Street standards and other engineering standards were analyzed for consistency with new TSP policies. Amendment language for these documents is in Chapter 9 of the TSP. The Douglas County Comprehensive Plan and Land Use and Development Ordinance were reviewed for the Tri City portion of the plan. Appendix C provides a review of these plans.
☐ Review Significant Transportation Studies	The Myrtle Creek TSP was closely coordinated with the ongoing Interchange Area Management Plan for I-5 Interchanges 103, 106, and 108. Information gathered and conclusions from the IAMP were included in the TSP.
☐ Review Existing Capital Improvements and/or Public/Facilities Plans	The Myrtle Creek budget and the Douglas County budget and capital improvement and public facility plans were reviewed for spending and projects within the urban growth boundary.

Inventory Existing Transportation System	
□ Street system (number of lanes, lane widths, traffic volumes, level of service, traffic signal location and jurisdiction, pavement conditions, functional classification and jurisdiction, truck routes, access points, and safety issues.)	A complete inventory of Myrtle Creek's major roadways and Douglas County's existing street network within the UGB is included in Appendix D.
□ Bicycle Ways (type, location, width, condition, ownership/jurisdiction).	Chapter Three of the TSP describes the existing bicycle system.
□ Pedestrian Ways (location, width, condition, ownership/jurisdiction).	Chapter Three describes the existing pedestrian system.
□ Public Transportation Services (transit, intercity bus, passenger rail, special transit services).	A summary of existing public transportation service is provided in Chapter Three.
□ Air Transportation	A summary of the air transportation service is provided in Chapter Three.
□ Freight Rail Transportation	A summary of freight rail transportation services is provided in Chapter Three.
□ Water Transportation	There are no navigable waterways in the planning area.
□ Pipeline Transportation	A summary of pipeline transportation services is provided in Chapter Three.
□ Environmental Constraints	A discussion of historic and cultural transportation features is provided in Chapter Three. The TSP does not modify the environmental inventory or resource inventories of the Douglas County Comprehensive Plan or Myrtle Creek Comprehensive Plan for the Urban Growth Area.
□ Existing Population and Employment	Existing and projected population and employment is included in Chapter 5 of the TSP.

Determine Transportation Needs	
☐ Population and Employment Forecasts	Population and employment forecasts are included in Chapter 5. A multi-step approach was used for development of 2025 forecast traffic volumes. 1. A background growth rate was applied to all roadways outside of the area. Based on the relatively low predicted population growth rates, a base rate of 0.75% increase in traffic volumes per year was used. 2. A freeway volume growth rate of 1.7% per year was used based on ODOT's forecast volumes. The base growth rate for freeway ramps was the average of 0.75% and 1.7%, or 1.23%. 3. Future land use was analyzed. Locations, sizes, and zoning of vacant residential and industrial property clusters were available from the Umpqua Regional Council of Governments website (created in 2001 and updated periodically), discussions with City staff, and research by Angelo Eaton and Associates. Expected areas of 20-year growth were mapped and then used to develop future volume estimates using average trip generation rates and average densities according to zoning. Daily and peak hour trips were distributed to adjacent roadways and intersections of interest for site-specific growth. 4. The background and site-specific growth were added to existing traffic volumes. The results of the forecast are included in Chapter 5.
☐ Determine Transportation Capacity Needs	A Level 2 analysis was conducted to project traffic volumes to the year 2025. This information is included in Chapter Five and Appendix F.
☐ Other Roadway Needs (safety, bridges, reconstruction, operation/maintenance)	The TSP includes an assessment of transportation deficiencies, including connectivity, intersection operations, safety, and traffic levels. These are included in Chapters Four, Five and Six.
☐ Freight Transportation Needs	The proposed TSP will provide for adequate freight movement by rail and highway.
☐ Public Transportation Needs (special transportation needs, general public transit needs)	The proposed TSP identifies existing public transportation system needs in Chapter Three.
☐ Bikeway and Pedestrian Needs	Bikeway and pedestrian system needs are described in Chapter Three

Develop and Evaluate Alternatives	
☐ Evaluate and Develop Transportation Goals	Goals were established as part of the TSP development contained in Chapter 2.
☐ Establish Evaluation Criteria	The established goals formed the basis for evaluating projects. These are present in Chapter 2.
☐ Develop and Evaluate Alternatives (no-build system, transportation system management, transportation demand management, transit feasibility, improvements to roadway system, land use alternatives, and combination alternatives).	Chapters 3 and 4 generally identify the need for future projects. Chapters 5 and 6 discuss the appropriateness of projects proposed in the TSP.
☐ Select Recommended Alternative	The preferred plan alternative is contained in Chapters Five and Six. The TAC, the Myrtle Creek Planning Commission, and the Myrtle Creek City Council reviewed and prioritized projects into short, medium, and long-range priorities. Project lists were also reviewed by the public at open houses.
Produce a Transportation System Plan	
☐ Transportation Goals, Objectives, and Policies	Transportation goals and policies are contained Chapter Two.
☐ Street Plan Element (function street classification and design standards, proposed facility improvements, access management plan, truck plan safety improvements)	All of these elements are contained in Chapter Six and Seven of the TSP.
☐ Public Transportation Element	A transit plan is contained in Chapter Seven.
☐ Bikeway Element	The bike plan is contained in Chapter Seven.
☐ Pedestrian System Element	The pedestrian system plan is contained in Chapter Seven of the plan.
☐ Air, Rail, Water, and Pipeline	The air, rail, and pipeline plans are contained in Chapter Seven. There is no navigable water system in the city.
Plan Review and Coordination	
☐ Consistent with ODOT, Douglas County, and other applicable plans	Representatives from Douglas County, ODOT and the Department of Land Conservation and Development were members of the TAC. In addition, the draft plan was reviewed by the Department of Land Conservation and Development.
Implementation	
☐ Ordinances (facilities, services, and improvements; land use or subdivision regulations)	Implementing Ordinances including amendments to the Myrtle Creek Comprehensive Plan, Zoning Ordinance and Subdivision Ordinance were developed as part of the TSP.
☐ Transportation Financing/Capital Improvements Program	Capital projects are contained in Chapter Six and the financing Plan in contained in Chapter Eight of the TSP.

Myrtle Creek Comprehensive Plan

The Myrtle Creek Transportation System Plan (TSP) is consistent with the Myrtle Creek Comprehensive Plan and the Douglas County Comprehensive Plan. The TSP is adopted as an amendment to the Myrtle Creek Comprehensive Plan and the TSP goals and policies replace transportation-related goals and policies contained in the Myrtle Creek Comprehensive Plan. Myrtle Creek Comprehensive Plan language amendments presented in Chapter Nine will be incorporated as amendments to that document upon adoption of this TSP. The remainder of the TSP, including appendices, is adopted as background information to the Comprehensive Plan.

Myrtle Creek Zoning Ordinance

The Myrtle Creek Zoning Ordinance language amendments presented in Chapter Nine will be incorporated as amendments to that document upon adoption of this TSP.

Myrtle Creek Subdivision Ordinance

The Myrtle Creek Subdivision Ordinance language amendments presented in Chapter Nine will be incorporated as amendments to that document upon adoption of this TSP.

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