

CITY OF KEIZER MISSION STATEMENT
***KEEP CITY GOVERNMENT COSTS AND SERVICES TO A MINIMUM BY PROVIDING
CITY SERVICES TO THE COMMUNITY IN A COORDINATED, EFFICIENT, AND LEAST
COST FASHION***

AGENDA

KEIZER CITY COUNCIL

REGULAR SESSION

Monday, June 1, 2009

7:30 p.m.

**Robert L. Simon Council Chambers
Keizer, Oregon**

1. CALL TO ORDER

2. ROLL CALL

3. PLEDGE OF ALLEGIANCE

4. PUBLIC TESTIMONY

*This time is provided for citizens to address the Council on any matters
other than those on the agenda scheduled for public hearing.*

5. PUBLIC HEARINGS

6. ADMINISTRATIVE ACTION

- a. ORDINANCE – Adopting the Updates to the Transportation System
Plan and Keizer Development Code Text Amendments (Second
Reading)**
- b. ORDINANCE – Providing for the Control and Removal of Noxious
Vegetation – Amendments to Noxious Vegetation Ordinance**

7. CONSENT CALENDAR

- a. RESOLUTION – Authorizing the City Manager to Enter Agreement for
Custodial Services**
- b. Approval of May 4, 2009 Regular Session Minutes**

8. **COMMITTEE REPORTS**

9. **OTHER BUSINESS**

This time is provided to allow the Mayor, City Council members, or staff an opportunity to bring new or old matters before the Council that are not on tonight's agenda.

- a. New Business or Old Business Issues

10. **WRITTEN COMMUNICATIONS**

To inform the Council of significant written communications.

11. **AGENDA INPUT**

June 8, 2009

5:45 p.m. – City Council Work Session

June 15, 2009

6:30 p.m. – Urban Renewal Agency Meeting

- Public Hearing and Adoption of 2009-2010 Urban Renewal Agency Budget
- Keizer Urban Renewal Board Appointment

7:00 p.m. City Council Meeting

- Public Hearing and Adoption of 2009-2010 City of Keizer Budget
- 911 Agreement
- Keizer Compass Visioning Presentation
- Response to Marion County Population Projections

July 6, 2009

7:00 p.m. City Council Meeting

12. **ADJOURNMENT**

COUNCIL MEETING: June 1, 2009

AGENDA ITEM NUMBER: _____

TO: CITY COUNCIL

**THROUGH: CHRIS EPPLEY, CITY MANAGER
NATE BROWN, COMMUNITY DEVELOPMENT DIRECTOR**

FROM: SAM LITKE, SENIOR PLANNER

**SUBJECT: UPDATE OF TRANSPORTATION SYSTEM PLAN (TSP) and
RELATED TEXT AMENDMENTS**

ISSUE:

On May 19th, the council voted 6-1 on the first reading to adopt the revised TSP. Staff was directed to delete specific language pertaining to evaluating connectivity on Rivercrest Drive and replace with general language to examine roads city-wide which currently do not provide through connectivity with an emphasis on improving bicycle and pedestrian safety. Deleted and new language is found on page 10-3 in Chapter 10. This is the section of the TSP that contains outstanding actions or projects which are considered to be outside the scope of the TSP requiring additional work in the future.

RECOMMENDATION:

Adopt the attached ordinance.

Miscellaneous Projects

The following roadway projects were also identified as requiring additional investigation or monitoring:

- Candlewood Drive/Cherry Avenue – monitor traffic operations to determine if improvements are needed; and
- Verda Lane/Alder Street/Claxter Road – evaluate traffic operations during school arrival and departure hours to identify if operational improvements are needed.
- Examine roads city-wide which currently do not ~~Rivercrest Drive to~~ provide through connectivity ~~along its entire length~~ with an emphasis on improving bicycle and pedestrian safety.

Pedestrian and Bicycle Projects

Kroc Center Connection

The Salvation Army Kroc Corps Community Center is in the process of constructing the Kroc Center as a major regional recreational facility for the community. The Kroc Center will be located south of the Salem Parkway in Salem, and within one mile of 2 elementary schools. City of Keizer staff and residents are keenly interested in exploring the opportunities for direct pedestrian and bicyclist accessibility between Keizer and the Kroc Center and will actively pursue funding, design, and approval with regional partners.

Local Street Pedestrian Facilities

The TSP has focused on higher order roads such as arterials and collectors. However, as identified by the Technical Advisory Committee there are a number of local streets within Keizer that do not currently have complete and/or connected pedestrian facilities. Members of the Technical Advisory Committee expressed an interest in developing a program to identify, prioritize and fund sidewalk maintenance or new construction on local roads. A particular interest was focused on the five areas bounded by:

- Cummings – River Rd – Chemawa – Delight
- Candlewood – Cherry – Alder
- Chemawa – Newberg – Lockhaven – Windsor island
- Dearborn – River – Dietz – 13th
- Verda – Keizer – Kennedy – Dearborn

City of Keizer staff will consider the feasibility of developing such a program.

1 BILL NO. ____

A BILL

ORDINANCE NO.

2009-_____

3 FOR

4 AN ORDINANCE

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6
7
8 ADOPTING THE CITY OF KEIZER TRANSPORTATION SYSTEM
9 PLAN (APRIL, 2009); AMENDING ORDINANCE NO. 87-077
10 (THE KEIZER COMPREHENSIVE PLAN) AND ORDINANCE
11 NO. 98-389 (THE KEIZER DEVELOPMENT CODE);
12 REPEALING ORDINANCE NO. 2000-425 (ADOPTING THE
13 KEIZER TRANSPORTATION SYSTEMS PLAN) AND
14 ORDINANCE NO. 2004-504 (AMENDING THE KEIZER
15 TRANSPORTATION SYSTEMS PLAN)
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17
18 WHEREAS, the Transportation Systems Plan was adopted on September 5, 2000

19 and amended on May 17, 2004;

20 WHEREAS, it is appropriate to review such Transportation Systems Plan (TSP)

21 for appropriate amendments and modifications;

22 WHEREAS, the Keizer Planning Commission and the Keizer City Council have

23 held hearings to consider a new Transportation Systems Plan;

24 WHEREAS, the City of Keizer makes findings referenced below regarding the

25 adoption of a new Transportation Systems Plan;

26 NOW, THEREFORE,

27 The City of Keizer ordains as follows:

1 Section 1. FINDINGS. The City of Keizer adopts the Findings set forth in
2 Exhibit "A" attached hereto and by this reference incorporated herein.

3 Section 2. ADOPTION OF THE CITY OF KEIZER TRANSPORTATION
4 SYSTEMS PLAN (APRIL, 2009). The City of Keizer hereby adopts the City of Keizer
5 Transportation Systems Plan (April, 2009) as set forth in Exhibit "B" attached hereto and
6 by this reference incorporated herein, and such City of Keizer Transportation Systems
7 Plan (April, 2009) is hereby made a part of the Keizer Comprehensive Plan.

8 Section 3. AMENDMENT OF THE KEIZER COMPREHENSIVE PLAN
9 (ORDINANCE NO. 87-077). Ordinance No. 87-077 (Keizer Comprehensive Plan) is
10 hereby amended by the addition of the City of Keizer Transportation Systems Plan
11 (April, 2009).

12 Section 4. AMENDMENT TO THE KEIZER DEVELOPMENT CODE
13 (ORDINANCE NO. 98-389). The Keizer Development Code (Ordinance No. 98-389) is
14 hereby amended as set forth in Exhibit "C" attached hereto, and by this reference
15 incorporated herein.

16 Section 5. REPEAL OF ORDINANCE NO. 2000-425 AND ORDINANCE
17 NO. 2004-504. Ordinance No. 2000-425 (Adopting the Keizer Transportation Systems
18 Plan) and Ordinance No. 2004-504 (Amending the Keizer Transportation Systems Plan)
19 are hereby repealed in their entirety.

1 Section 6. OFFICIAL RECORD. One copy of the City of Keizer
2 Transportation Systems Plan (April, 2009) referenced above shall be marked “Official
3 Text” and kept on file in the office of the City Recorder.

4 Section 7. SEVERABILITY. If any section, subsection, sentence, clause,
5 phrase, or portion of this Ordinance is for any reason held invalid or unconstitutional, or
6 is denied acknowledgment by any court or board of competent jurisdiction, including,
7 but not limited to the Land Use Board of Appeals, the Land Conservation and
8 Development Commission and the Department of Land Conservation and Development,
9 then such portion shall be deemed a separate, distinct, and independent provision and
10 such holding shall not affect the validity of the remaining portions hereof.

11 Section 8. EFFECTIVE DATE. This Ordinance shall take effect thirty (30) days
12 after its passage.

13 PASSED this _____ day of _____, 2009.

14

15 SIGNED this _____ day of _____, 2009.

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Mayor

City Recorder

Exhibit "A"

CITY OF KEIZER TRANSPORTATION SYSTEMS PLAN FINDINGS

The City of Keizer finds that:

General Findings.

- a. The Keizer Transportation Systems Plan (TSP) is a long-range (20-year) plan that provides the city with the goals and policies to guide development of all its transportation modes (pedestrian, bicycle, motor vehicles, etc.). The TSP establishes an interconnected network of arterial and collector streets that improve the operation of the transportation systems. It also outlines a Capital Improvement Program (CIP) that shows the construction work necessary to meet the goals of the TSP. The proposal to adopt the Keizer Transportation Systems Plan would amend the Comprehensive Plan to meet the requirements for the City of Keizer and to meet federal and state policies and regulations
- b. The Keizer Development Code contains the relevant regulations regarding the use and development of land within the city limits. Periodically it is updated to take into consideration new information.
- c. The city's last update of the TSP was in 2004. Since that time there have been a number of significant developments that were determined to warrant a re-examination of the TSP. Notable new developments include: the on-going development within the Keizer Station, the Keizer Rapids Park, and continuing commercial development and re-development along River Road.
- d. The particulars of this case are found within planning file Text Amendment 2009-01. Such information is incorporated herein by this reference.

The decision criteria for legislative text amendments are found in Section 3.111.04 of the Keizer Development Code. The specific criteria, and related findings, are noted below:

1. **A demonstrated need exists for the product of the proposed amendment – Section 3.111.04 B.**

FINDINGS: An update of the plan is needed to continue to develop a strategy to improve the public transportation facilities within the City in light of current information and conditions. The city's last update of the TSP was in 2004. Since that time there have been a number of significant developments that were determined to warrant a re-examination of the TSP. Examples of notable new developments include:

the on-going development within the Keizer Station, the Keizer Rapids Park, and continuing commercial developments and re-development along River Road. These and other developments, including on-going residential developments all justify the update of the city's TSP. For example, the Keizer Station was in the planning stages when the TSP was last updated. Now with Area A more than half developed it was considered that the update was an appropriate time to reevaluate the assumptions that were used and the conditions associated with its development. At the time of the last TSP update the Keizer Rapids Park, a regional natural park, did not exist and so its impact was obviously not considered. Finally, the development patterns, both residential and commercial continued strong in the years since the last update and it was determined that a reevaluation of the levels of service at a number of the city's intersections were in order. The need for the associated text amendments is specifically related to their relationship to the TSP. As part of the TSP update the consultant provided an audit of the city's development code regulations and determined that a number of provisions either were in conflict with state Transportation Planning Rule requirements or with provisions of the city's own regulations. For these reasons it was determined that the proposed TSP update and the text revisions complied with this criteria.

2. The proposed amendment complies with all the applicable Statewide Planning Goals and administrative rule requirements – Section 3.111.04.C.

Goal 1 - Citizen Participation: Consistent with local and state requirements, the Keizer Transportation Systems Plan was developed cooperatively with an technical advisory committee consisting of the Planning Commission, staff, residents, and members of other agencies such as Marion County, Oregon Department of Transportation, Department of Land Conservation and Development, City of Salem, and Mid Willamette Valley Council of Governments. Altogether 24 members made up the technical advisory committee. As a part of the Salem-Keizer Area Transportation Study (SKATS), the City of Salem participated and recommended the approval of the proposed Plan. The TSP was considered at public hearings before both the planning commission and the city council, with the final decision resting with the City Council. Citizens had an opportunity to comment and testify. The adoption of this ordinance followed notice to interested parties, a public process of decision making involving a public hearing, deliberation, and ordinance adoption. Public notice was provided in the Keizer Times. Public hearings were held before the planning commission in February, March, and April 2009 and before the city council in April 2009. Staff spent over 300 hours on this project, and 264 hours have been spent by the TAC and planning commission members on this review. There have been 9 TAC beginning in July 2007 (including subgroups) meetings. Two community open houses were held to solicit public comment. Almost 100 people attended these forums. Three planning commission meetings were dedicated to work on this TSP revision. A survey was developed and placed on the city's web page to solicit opinions on transportation related issues. More than 100 people responded to this survey. Citizens were afforded the opportunity to participate in the public process. The process used to update the TSP is consistent with the provision for providing an opportunity for

citizens to be involved in all phases of this planning process as required by this Goal and with implementing administrative rules within Oregon Administrative Rules.

Goal 2 – Land Use Planning: This ordinance updates the city’s TSP and also amends the Keizer Development Code. The adoption proceeding was conducted in a manner consistent with requirements of the Keizer Comprehensive Plan, Keizer Development Code, and applicable state law. Notice was published in the Keizer Times. Public hearings were conducted before both the planning commission and city council where opportunities for both verbal and written testimony were provided. The public was also given an opportunity to provide comments at each of the two public open houses. Therefore, the proposed update of the TSP and associate revisions to the zone code are consistent with this statewide planning goal and administrative rules.

Goal 3 - Farm Land: The purpose of this goal is to protect lands that are designated for agricultural uses. Within the city limits there is only one zone located in the northwest portion of the city near the city’s urban growth boundary that is designated to allow for commercial agricultural uses. The update of the TSP and the related development code amendment involves regulations within the boundaries of the city limits of Keizer. They will not impact any properties that are designated to allow for agricultural uses. Therefore, the proposed update of the TSP and the related development code amendments will comply with the Farm Land Goal and with any implementing administrative rules.

Goal 4 – Forest Land: The intent of this goal is to protect lands that are designated for commercial forest uses. There are no lands designated within the city limits to allow for commercial forestry. The update of the city’s TSP and the amendments to the zone code does not involve any land which is designated as Forest land, nor will this action impact the use of any forest lands. Therefore, this goal and implementing administrative rules are not applicable.

Goal 5 – Natural Resources: The intent of the Natural Resources Goal is to protect various natural resources such as wetlands, waterways, big game habitat, etc. The city established a Resource Conservation overlay zone to maintain, preserve and protect the natural features adjacent to Claggett Creek. The proposed update of the city’s TSP and amendments to the zone code regulations will not affect any of the city’s natural resources protection regulations or the lawful use of any properties that are within this overlay zone. One of the goals of the TSP is to encourage a reduction in vehicles miles traveled by encouraging the construction of sidewalks, and bicycle facilities and by providing greater opportunities for transit operations thereby reducing the amount of oil that is needed for vehicle operation. Therefore, the TSP update and the related zone code text amendments will be consistent with this goal and with administrative rules designed to implement this goal.

Goal 6 – Air, Water and Land Quality: The intent of this goal is to protect the city’s air, water and land qualities. The city provides its residents with city water from groundwater sources. New construction is required to be connected to the established sanitary sewer system reducing the likelihood of groundwater contamination from failing on-site septic

systems. The TSP contains a number of policies which will comply with this goal by encouraging the design and use of alternative storm water facilities, such as rain gardens, that will minimize potential water contamination issues resulting from storm drainage from new city streets. The update of the city's TSP and the revisions to the city's zone code will not impact the quality of air, water, or land resources and so complies with this goal and with administrative rules that implement this goal.

Goal 7 – Natural Hazards: The purpose of this goal is to protect life and property from hazards resulting from flooding, steep slopes or other natural occurrences. The city has floodplain regulations that govern the placement of structures including new transportation improvement projects within identified 100-year floodplains. There are minimal steep slopes within the city limits as the city is fairly flat. The update of the city's TSP and the proposed revisions to the zone code will neither impact this goal nor any administrative rules.

Goal 8 – Recreation: This goal requires the city to identify and plan for the current and future recreation needs of the residents of the city. There are a number of parks, playgrounds, and other recreational opportunities within the city limits. Currently there are a number of gaps in the city's sidewalk and bicycle system. One of the goals of the TSP is to provide pedestrian and bicycle connection to parks and other recreation sites. The TSP contains a 20-year project list for improvements to streets, pedestrian and bicycle facilities. There are a number of transportation improvement projects that have been identified that will expand this pedestrian and bicycle facilities and fill in the missing improvements along city streets and so provide needed access to many of the city's parks. An example of this are the projects such as the sidewalk improvement project along Chemawa Road west of River Road providing a connection to the Keizer Rapids Park; sidewalk project planned for Cummings lane that will provide a connection between Palma Ciea Park and Cummings School; sidewalk project planned along Delight Street providing a connection between Cummings and McNary High School. Several bicycle project seek to the same goal to provide connections to recreation areas. These include: Chemawa Road west of River Road providing a connection to the Keizer Rapids Park; sidewalk project planned for Cummings lane that will provide a connection between Palma Ciea Park and Cummings School; sidewalk project planned along Delight Street providing a connection between Cummings and McNary High School. The proposed TSP update and text amendments will have a positive impact on the recreational activities or uses within the city. Therefore, this goal and any related rules are satisfied.

Goal 9 – Economic Development: The intent of this goal is to ensure that the city plans for its overall economic vitality. The proposed amendment will allow for which will therefore have a positive impact on the economic development activities or uses within the city. The Keizer Transportation Systems Plan has the potential to improve economic activities in the city. Improvements to the transportation facilities within the City will improve access to sites with economic development opportunities and will also result in a more efficient movement of vehicles. Therefore, the proposed update of the city's TSP and the text revisions is consistent with this goal.

Goal 10 – Housing: This goal requires the city to plan and provide for the housing needs of its residents. By providing a more efficient transportation system, the TSP may enhance infill housing and other housing opportunities as it results in a greater number of sites more desirable on account of improved transportation facilities. The proposed update to the TSP and related text amendments will have no impact on either this goal or on any related rules.

Goal 11- Public Facilities and Services: The intent of this goal is to develop a timely, orderly and efficient arrangement of public facilities and services necessary to serve the residents of Keizer. The city provides its residents with water, sanitary sewer, has an established street system, administrative and police and public safety is also provided by the city. The Keizer Transportation Systems Plan outlines a Capital Improvement Program that shows the transportation improvements necessary to meet the goals within the Plan. The TSP identifies improvements to the street infrastructure within the City to meet existing and future traffic volumes at the end of a 20-year planning horizon. The adoption of the Keizer Transportation Systems Plan will not increase demand for public facilities. The proposed amendments will not impact any of the city's public facilities and services, and so this goal and any rules are not applicable.

Goal 12 - Transportation: The Keizer Transportation Systems Plan provides a framework of goals, objectives, and policies that will guide efforts for achieving an acceptable level of transportation facilities and services through the year 2031. In addition, the Plan will help guide use of resources in future transportation programs and infrastructure. The proposed amendment identifies policy and develops methodology to prioritize City transportation facility improvements to accommodate traffic generation and circulation patterns for future growth.

Chapter 1 is an introduction and Chapter 2 contains the State mandated transportation goals, objectives and policies. These are grouped into 10 sub-sections ranging from topics such as public involvement to streets, and pedestrians. These policies will be used to review future land use applications to determine appropriate design requirements, impact mitigation, and off-site improvement exactions. In addition, the language within this chapter will be used in grant applications for funding for transportation improvement projects.

Chapter 3 contains alternative mode performance measures. These detail various benchmarks and measures that will be used to increase opportunities for non-vehicular means of transportation. The 4 measures are: pedestrian, bicycle; transit / land use; and funding. Essentially, they seek to provide increased opportunities for pedestrians and bicyclists by increasing the amount of these facilities along streets in Keizer. These measures along with the projected funding level and future development percentage within a transit influenced area will be monitored every 5 years to ensure compliance with these performance measures.

Chapter 4 contains forecasts for future levels of service at various intersections and has 9 transportation improvement alternatives. These improvements include:

- I-5 on-ramp – This project is required by agreement with the state related to the development of the Keizer Station and involves the widening of the southbound on-ramp to two lanes.
- River Road / Manzanita Street – This design will move the intersection approximately 250 feet to the south; realign and reconstruct Manzanita Street and McNary Estate Drive approaches to River Road; and construct a separate westbound and through lane and right turn lane.
- River Road / Wheatland Road – Construct dual northbound left-turn lane; extend length of second southbound through lane.
- River Road / Lockhaven Drive – Convert westbound approach on Lockhaven to dual left-turn lanes; modify lanes to protected left-turn lanes; single through and separate right turn lane.
- Verda Lane extension – This design will allow for the continuation of Verda Lane north of Lockhaven Drive to connect with Harmony and Trail Avenue and then into River Road, with flexibility as to specific alignment.
- Lockhaven Drive / 14th Avenue – This alternative will construct a westbound right turn lane on Lockhaven and also make necessary improvements to the 14th Avenue section of the intersection.
- Chemawa Road/ Verda Lane – The design alternative is for a single lane roundabout located at this intersection. This design had probably the most interest of all of the options.
- Lockhaven Drive / Verda Lane – This design will include signalization of the intersection and will restrict north / south through movements on Verda Lane.
- Perform corridor studies of arterials to determine access management strategies that may be needed.

Chapter 5 outlines the existing pedestrian and bicycle facilities and planned improvements to these transportation facilities. Twenty three projects of the 32 total projects are planned to improve the city's sidewalks and bicycle system. This includes 11 bicycle projects for approximately \$2.5 million and 12 sidewalk projects totaling almost \$13 million. Together this accounts for almost 2/3 of the total expenditures of all transportation projects and represents a commitment on behalf of the city to increase these facilities.

Chapters 6, 7 and 8 contain the aspects related to transit, transportation demand management, and facilities that might not normally be considered as transportation facilities such as air, water, pipeline and rail. These chapters only minimally affect Keizer.

Chapter 9 details the project improvements and the estimated costs for these projects. The project list identifies 32 projects. Eight projects are identified needed in the immediate term (0-5 years); 11 in the near term (5-10 years); 7 as mid-term (10-15 years); and 6 as long term (15-20 years). The cost of the planned projects is projected to be \$24.2 million.

Chapter 10 contains a number of issues that are considered to be outstanding actions (potential UGB expansion) or projects (connection to Kroc Community Center across the Salem Parkway in Salem) that were considered to be outside the scope of the TSP at this time but may require additional work in the future.

The revisions to the development code include a provision to require a Traffic Impact Analysis from applicants of certain type of applications; access control provisions; notice provisions; compliance with State Transportation Planning Rule; and a number of development standards aimed to encourage transit use.

The proposed TSP update and text amendments are consistent with regional TSP and Transportation Planning Rule.

Goal 13 - Energy Conservation: This goal seeks to maximize the conservation of energy. All new construction requires compliance for review to applicable energy conservation standards. By providing a more efficient transportation system the TSP strives to enhance energy conservation. A major goal of the TSP is to identify gaps and missing segments within the pedestrian and bicycle transportation systems which strive to result in a reduction of vehicles miles traveled. Thereby reducing energy consumption. The proposed revision will be consistent with this goal and implementing administrative rules.

Goal 14 - Urbanization: The Keizer Transportation Systems Plan provides a framework of goals, objectives, and policies that will guide efforts for achieving an acceptable level of transportation facilities and services through the year 2020. Through the implementation of the Plan, the City will accommodate long-range urban population growth requirements consistent with Land Conservation and Development Commission goals.

Goal 15 - Willamette Greenway: This goal seeks to protect, conserve, maintain the natural, scenic, historical, agricultural, economic and recreational qualities of lands along the Willamette River. While the Willamette River is located along the western flanks of Keizer the proposed update of the TSP and the related text amendments will not impact the Willamette River. The revisions will have no impact on the ability of the city to regulate uses along the river or the Willamette River overlay zone regulations and so this goal is not applicable. The proposal does not impact this goal.

Goal 16 to 19 - Estuarine Resource, Coastal Shorelands, Beaches and Dunes, and, Ocean Resources: This proposal does not involve property subject to these goal requirements.

Based on the above findings, the proposal to update the city's TSP and the related revisions to the development code are consistent with the Statewide Land Use Goals.

3. **The amendment is appropriate as measured by at least one of the following criteria - Section 3.111.04.C :**
- a. It corrects identified error(s) in the provisions of the plan
 - b. It represents a logical implementation of the plan
 - c. It is mandated by changes in federal, state or local law
 - d. It is otherwise deemed appropriate by the council to be desirable, appropriate and proper.

FINDINGS: The city's last update of the TSP was in 2004. Since that time there have been a number of significant developments that were determined to warrant a re-examination of the TSP. Notable new developments include: the on-going development within the Keizer Station, the Keizer Rapids Park, and continuing commercial development and re-development along River Road. While these developments do not necessarily represent errors in the current TSP it was determined that they represent outdated information that should be updated in consideration of recent changes. The Keizer Transportation Systems Plan and the associated text amendment represent a logical implementation of Keizer Comprehensive Plan Chapter III, Section E: Public Facilities to Support Development.

The Keizer Transportation Systems Plan would amend the Comprehensive Plan to meet the requirements for the City of Keizer to meet the following federal and state policies and regulations: Transportation Efficiency Act for the 21st Century, 1998, Clear Air Act Amendments of 1990, American with Disabilities Act of 1990, Oregon Transportation Plan, Oregon Shines II, State Land Use Planning Goals, State Transportation Planning Rule (ORS 660-12), and the State Conformity Rule (ORS 340-02-0700).

The council has determined that it is desirable, appropriate and proper to adopt the proposed Keizer Transportation Systems Plan and the related revisions to the development code to provide the city with goals and policies to guide development of all its transportation modes (pedestrian, bicycle, motor vehicles, etc.).

Based on the above findings, the proposal complies with Statewide goals, administrative rules, and the decision criteria for the proposed TSP update and related text amendments to the Keizer Development Code.

2.301 GENERAL PROVISIONS

2.301.01 Purpose

The purpose of this Section is to: (5/98)

- A. Comprehensive Plan. Carry out the Comprehensive Plan with respect to development standards and policies. (5/98)
- B. Natural Areas. Insure that natural features of the landscape, such as land forms, natural drainage-ways, trees and wooded areas, are preserved as much as possible and protected during construction. (5/98)
- C. Energy Conservation. Promote energy conservation and efficiency in development through site planning and landscaping. (5/98)
- D. Healthy Environment. Promote and maintain healthy environments and minimize development impacts upon surrounding properties and neighborhoods. (5/98)
- E. Encourage quality development that contributes to the needs and character of the community. (5/98)

2.301.02 Application of Standards

- A. Application. The standards set forth in Section 2.3 shall apply to partitions; subdivisions; planned unit developments; commercial and industrial development; public and non-commercial development; single family dwellings, duplexes and multi-family structures. These regulations shall apply in all zones. (5/98)
- B. Modification to Standards. The application of these standards to a particular development shall be modified as follows: (5/98)
 - 1. Development standards that are unique to a particular use, or special use, shall be set forth within the district or in Section 2.4. (5/98)
 - 2. Those development standards that are unique to a particular district shall be set forth in the Section governing that district. (5/98)

2.301.03 Application of Public Facility Standards

Standards for the provision and utilization of public facilities or services available within the City of Keizer shall apply to all land developments in accordance with the following table of reference. No development permit, including building permit, shall be approved or issued unless the following improvements are provided prior to

occupancy or operation, or unless future provision is assured in accordance with Subsection 2.310.05.C or 2.310.06.O as applicable. (5/98)

Public Facilities Improvement Requirements Table

LAND USE	FIRE HYDRANT	STREET IMPROVE- MENT	WATER HOOK-UP (C-1)	SEWER HOOK-UP	STORM DRAIN	STREET LIGHTS
SFD/Duplex	No (If not required by U.F.C.	2 C-2	Yes	Yes	Yes	No
MFD	Yes	Yes	Yes	Yes	Yes	Yes
New Public, Commercial or Industrial	Yes	Yes	Yes	Yes	Yes	Yes
Public, Commercial or Industrial Expansion	C-2	C-3	Yes	Yes	Yes	Yes
Partition, Subdivision, PUD, MHP	Yes	Yes	Yes	Yes	Yes	Yes

Legend: No = Not required Yes = Required

C = Conditional, as noted: (5/98)

- C-1 When required, an approved water supply capable of supplying the required fire flow for fire protection shall be provided prior to the start of combustible construction. (5/98)
- C-2. Fire Hydrants including but not limited to Commercial or Industrial Expansions shall meet the requirements as set forth in Appendix III-B of the Uniform Fire Code, 1994 edition. (5/98)
- C-3. Street Improvements for Single Family Dwellings: New single family dwellings that require a street extension must provide street improvements, and right of way dedication where deemed necessary by the Department of Public Works, to City street standards. Street improvements are required when the improvement will extend an existing street improvement adjacent to the property. The improvements

that must be extended when they exist include street lanes to the same width as on adjacent property, curbs, gutters, storm drainage, and sidewalk. In all cases the improvements shall be done to Department of Public Works standards. (5/98)

- C-4. Lots Abutting a Partial Street. Development of property abutting an existing public street which does not meet the minimum right-of-way standards in Section 2.202 shall provide sufficient yard setback equal to the minimum yard requirements of the zoning district, plus, the additional land required to meet the minimum right-of-way width. (5/98)
- C-5. Street Improvements for Commercial or Industrial Expansions: Street access permits must obtain access permits from the Marion County Public Works Department. The City will require improvement to full City standards when the use meets any of the following criteria: (5/98)
- a. The use generates an average of 100+ trips per day per 1000 gross square feet of building as documented in the Trip Generation Manual of the Institute of Transportation Engineers or other qualified source; or
 - b. The use includes daily shipping and delivery trips by vehicles over 20,000 pounds gross vehicle weight. (5/98)

MFD = Multi-family dwelling (3 or more units)

MHP = Manufactured home park

PUD = Planned unit development

SFD = Single family dwelling

2.301.04 Traffic Impact Analysis (TIA).

- A. Purpose. The purpose of this section of the code is to implement Section 660-012-0045 (2) (e) of the State Transportation Planning Rule that requires the City to adopt a process to apply conditions to development proposals in order to minimize adverse impacts to and protect transportation facilities. This section establishes the standards for when a proposal must be reviewed for potential traffic impacts; when a Traffic Impact Analysis must be submitted with a development application in order to determine whether conditions are needed to minimize impacts to and protect transportation facilities; what must be in a Traffic Impact Study; and who is qualified to prepare the Study.

B. Typical Average Daily Trips. The latest edition of the Trip Generation manual, published by the Institute of Transportation Engineers (ITE) shall be used as standards by which to gauge average daily vehicle trips.

C. When Required. A Traffic Impact Analysis shall be required to be submitted to the City with a land use application, when the following conditions apply:

1. The development application involves one or more of the following actions:

a. A change in zoning or a plan amendment designation; or

b. The development shall cause one or more of the following effects, which can be determined by field counts, site observation, traffic impact analysis or study, field measurements, crash history, Institute of Transportation Engineers Trip Generation manual; and information and studies provided by the local reviewing jurisdiction and/or ODOT:

(i.) An increase in site traffic volume generation by 250 Average Daily Trips (ADT) or more (or as required by the City Engineer); or

(ii.) An increase in use of adjacent streets by vehicles exceeding the 20,000 pound gross vehicle weights by 10 vehicles or more per day; or

(iii.) The location of the access driveway does not meet minimum intersection sight distance requirements, or is located where vehicles entering or leaving the property are restricted, or such vehicles queue or hesitate, creating a safety hazard; or

(iv.) The location of the access driveway does not meet the access spacing standard of the roadway on which the driveway is located; or

(v.) A change in internal traffic patterns that may cause safety problems, such as back up onto the highway or traffic crashes in the approach area.

D. Traffic Impact Analysis Requirements.

1. Preparation. A Traffic Impact Analysis shall be prepared by a professional engineer in accordance with OAR 734-051-180. The traffic analysis will be paid for by the applicant.

2. Transportation Planning Rule Compliance. See Section 3.111.05 Transportation Planning Rule Compliance.

3. Pre-application Conference. The applicant will meet with Keizer Public Works prior to submitting an application that requires a Traffic Impact Analysis. The City has the discretion to determine the required elements of the TIA and the level of analysis expected.

E. Approval Criteria.

1. Criteria. When a Traffic Impact Analysis is required, approval of the development proposal requires satisfaction of the following criteria:

a. The Traffic Impact Analysis was prepared by a professional engineer in accordance with OAR 734-051-180; and

- b. If the proposed development shall cause one or more of the effects in Section 2.301.03.C, above, or other traffic hazard or negative impact to a transportation facility, the Traffic Impact Analysis shall include mitigation measures that meet the City's Level-of-Service and Volume/Capacity standards and are satisfactory to the City Engineer, and ODOT when applicable; and
- c. The proposed site design and traffic and circulation design and facilities, for all transportation modes, including any mitigation measures, are designed to:
 - (i.) Have the least negative impact on all applicable transportation facilities; and
 - (ii.) Accommodate and encourage non-motor vehicular modes of transportation to the extent practicable; and
 - (iii.) Make the most efficient use of land and public facilities as practicable; and
 - (iv.) Provide the most direct, safe and convenient routes practicable between on-site destinations, and between on-site and off-site destinations; and
 - (v.) Otherwise comply with applicable requirements of the City of Keizer Development Code.
- F. Conditions of Approval. The City may deny, approve, or approve a development proposal with appropriate conditions.
 - 1. Where the existing transportation system will be impacted by the proposed development, dedication of land for streets, transit facilities, sidewalks, bikeways, paths, or accessways may be required to ensure that the transportation system is adequate to handle the additional burden caused by the proposed use.
 - 2. Where the existing transportation system is shown to be burdened by the proposed use, improvements such as paving, curbing, installation or contribution to traffic signals, construction of sidewalks, bikeways, accessways, paths, or streets that serve the proposed use may be required.

2.302 STREET STANDARDS

2.302.01 Purpose

- A. Safety. To provide for safe, efficient, and convenient vehicular movement in the City of Keizer. (5/98)
- B. Access. To provide adequate access to all proposed developments in the City of Keizer. (5/98)
- C. Public Facility Access. To provide adequate area in all public rights-of-way for sidewalks, sanitary sewers, storm sewers, water lines, natural gas lines, power lines and other utilities commonly and appropriately placed in such rights-of-way. (5/98)

2.302.02 Scope

The provisions of this Section shall be applicable for the following: (5/98)

- A. Land Divisions. The creation, dedication or construction of all new public or private streets in all subdivisions, partitions or other developments in the City. (05/98)
- B. Street Expansion. The extension or widening of existing public or private streets or rights-of-way, easements, or street improvements including those which may be proposed by an individual or the City, or which may be required by the City in association with other development approvals. (10/02)
- C. Utility Improvements. The construction or modification of any utilities or sidewalks in public rights-of-way, existing private street, or private access easements. (10/02)
- D. Street Trees. The planting of any street trees or other landscape materials in public rights-of-way. (5/98)
- E. Exceptions. Provisions of this Section do not apply in existing developed areas of the City. Improvements in these areas shall be based on standards adopted by the Department of Public Works. (5/98)
- F. Private Streets. Private streets and improvements on private streets are allowed only in the following situations:
 - 1. Improvements and/or widening of existing and allowed private streets.
 - 2. Creation of new private streets within an existing subdivision or PUD already containing approved private streets.
 - 3. Creation of new private streets in a proposed subdivision, PUD, or partition if the only access to the proposed subdivision, PUD, or partition is via existing and approved private streets. (10/02)

2.302.03 General Provisions

The following provisions shall apply to the dedication, construction, improvement or other development of all public streets in the City of Keizer: (5/98)

- A. General Requirement. The location, width, and grade of streets shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the streets. (5/98)
- B. Continuation of Streets. Development proposals, including subdivisions and partitions, shall provide for the continuation of, and connection to, streets where necessary to promote appropriate traffic circulation in the vicinity of the development. Where necessary to give access or permit a satisfactory future division of adjoining land, streets and utilities shall be extended to property boundaries to allow the future extension of streets and infrastructure. A temporary turnaround shall be constructed for stub streets in excess of 150 feet in length. (01/02)

No street or utility extensions are required when any of the following circumstances exist: (01/02)

- 1. Less than three additional existing or future lots on adjoining parcels would gain access from the extension. For purposes of this criterion, the size of said future lots shall be no greater than two times the minimum lot size of the zone. (01/02)
- 2. Parcel shape or size prevents new lots from meeting lot width or depth standards when a public street or infill street is proposed through the parcel. (01/02)
- 3. Partial-width streets where adjoining development would provide a full-width public street or infill street; does not eliminate the need for variances to lot depth or width requirements. (01/02)
- 4. Natural physical obstructions or barriers, such as parkland, floodplain, slopes, or significant trees, make access and connectivity unreasonable or impracticable. (01/02)
- 5. Providing access and connectivity to one or more adjoining parcel(s) would not be useful given that at least one of the following conditions exist: (01/02)
 - a. A future street plan demonstrates that adequate access and connectivity is provided from the adjacent parcel(s). (01/02)

- b. The development potential of the adjoining parcel(s) is (are) limited due to physical or jurisdictional constraints to such a degree that connectivity is unreasonable or impracticable. (01/02)
- C. Alignment. All streets other than minor streets or cul-de-sacs, as far as practical, shall be in alignment with existing streets by continuation of the existing centerlines. The staggering of street alignments resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 100 feet. (5/98)
- D. Future extension of streets. When it appears possible to continue a street, bicycle path and/or pedestrian accessway into a future subdivision, adjacent acreage or area attractors such as schools and shopping centers, streets, bicycle paths and/or pedestrian accessway facilities shall be platted and built to a boundary of the subdivision. The street may be platted without a turnaround unless the Public Works Department finds a turnaround is necessary for reasons of traffic safety. Any street extension exceeding 150 feet in length shall be provided with an approved turnaround as set forth in Section 902.2.2.4 "Dead Ends" of the Uniform Fire Code, 1994 edition. (5/98)
- E. Intersection angles. Streets shall be laid out to intersect at angles as near to right angles as practical, except where topography requires lesser angles. Intersections of less than 60 degrees shall require special intersection designs. Streets shall have at least 50 feet of tangent adjacent to intersections unless topography requires lesser distances. Intersections that are not at right angles shall have minimum corner radii of 15 feet. Major arterial intersections shall have curb radii of not less than 35 feet. Other street intersections shall have curb radii of not less than 20 feet. (5/98)
- F. Existing Streets. Whenever existing public streets adjacent to or within a tract are of a width less than the street design standards, additional right-of-way shall be provided at the time of subdivision, partitioning, or development. (5/98)
- G. Half-Streets. Half-streets may be approved where essential to the reasonable development of an area and when the City finds it to be practical to require the dedication of the other half when the adjoining property is developed. When a $\frac{3}{4}$ width street can reasonably be developed, as determined the Department of Public Works, a half street will be constructed with an additional 10 feet of pavement on the opposite side of the street from full improvement. (5/98)
- H. Cul-de-sacs. The maximum length shall be 800 feet. (5/98)
- I. Street Names. Street names and numbers shall conform to the established standards and procedures in the City. (5/98)

- J. Grades and Curves. Grades shall not exceed 7 percent on arterials, 10 percent on collector streets or 15 percent on any other street. Street grades of 15 percent shall not exceed 200 feet in length. To provide for adequate drainage, all streets shall have a minimum slope of 0.5 percent. On arterials there shall be a tangent of not less than 100 feet between reversed curves. (5/98)
- K. Frontage Streets. If a development abuts or contains an existing or proposed arterial or collector street, the City may allow frontage streets, or may require reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or such other treatment as may be necessary for adequate protection of residential properties, to afford separation of through and local traffic, and to preserve the capacity and safety of the collector or arterial street. (5/98)
- L. Alleys. Alleys shall be provided in commercial and industrial zones unless other permanent provisions for access to off-street parking and loading facilities are provided. The corners of alley intersections shall have radii of not less than 10 feet. (5/98)
- M. Street Landscaping. Where required as part of the right-of-way design, planting strips shall conform with the following standards: (5/98)
1. Street trees shall be planted at a ratio of no less than one tree per 30 feet of property frontage. Street trees shall conform with the list of acceptable trees included in the City's Street Tree Ordinance. Installation of street trees shall be included in any improvement agreement covering the installation of public facilities and services on a property. (5/98)
 2. Planting strips shall be planted and maintained in predominantly living groundcover materials with hard surfaces consisting of bricks, pavers, rocks, decorative concrete work, etc., only being included as part of an overall landscape design where living plant material is predominant. In no case shall asphalt be used within the planting strip. (5/98)
- N. Infill Streets. For streets serving infill development as defined under Section 2.316.03, the Infill Street and Access Easement Standards of Section 2.316.06 may be applied. (01/02)

O. Access Control Standards

The following access control standards apply to public, industrial, commercial and residential developments including land divisions. Access shall be managed to maintain an adequate level of service and to maintain the functional classification of roadways as required by the City of Keizer Transportation System Plan. Major roadways, including arterials and collectors, serve as the primary system for moving people and goods within and through the city. Access management is a primary concern on these roads. Local streets and alleys provide access to individual properties. If vehicular access and circulation are not properly

designed, these roadways will be unable to accommodate the needs of development and serve their transportation function.

The regulations in this section further the orderly layout and use of land, protect community character, and conserve natural resources by promoting well-designed road and access systems and discouraging the unplanned subdivision of land.

1. Traffic Impact Analysis Requirements. The City or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to determine access, circulation and other transportation requirements. (See also, Section 2.301.03 Traffic Impact Analysis.)
2. The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.
3. Access Options. When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the following methods (a minimum of 10 feet per lane is required; planned access shall be consistent with adopted public works standards for road construction). These methods are "options" to the developer/subdivider.
 - a. Option 1. Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not permitted.
 - b. Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., "shared driveway"). A public access easement covering the driveway shall be recorded in this case to assure access to the closest public street for all users of the private street/drive.
 - c. Option 3. Access is from a public street adjacent to the development parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the access spacing standards in Subsection 6, below.
4. Subdivisions Fronting Onto an Arterial Street. New residential land divisions fronting onto an arterial street shall be required to provide alleys or secondary (local or collector) streets for access to individual lots. When alleys or secondary streets cannot be constructed due to topographic or other physical constraints, access may be provided by consolidating driveways for clusters of two or more lots (e.g., includes flag lots and mid-block lanes).
5. Double-Frontage Lots. When a lot has frontage onto two or more streets, access shall be provided first from the street with the lowest classification. For example, access shall be provided from a local street before a collector or arterial street.

6. Access Spacing: The following minimum access spacing standards apply to public streets and driveways on arterial streets:

Arterial Access Spacing Standards

Posted Speed (miles per hour)	Minimum Spacing (feet)
25	150
30	150
35	150
40	185
45	230
50 or higher	275

7. Number of Access Points. For single-family (detached and attached), two-family, and three-family housing types, one street access point is permitted per lot, when alley access cannot otherwise be provided; except that two access points may be permitted for two-family and three-family housing on corner lots (i.e., no more than one access per street), subject to the access spacing standards in Subsection 6, above. The number of street access points for multiple family, commercial, industrial, and public/institutional developments shall be minimized to protect the function, safety and operation of the street(s) and sidewalk(s) for all users. Shared access may be required, in conformance with Subsection 8 below, in order to maintain the required access spacing, and minimize the number of access points.
8. Shared Driveways. The number of driveway and private street intersections with public streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The City shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes in accordance with the following standards:
- a. Shared driveways and frontage streets may be required to consolidate access onto a collector or arterial street. When shared driveways or frontage streets are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway or street temporarily ends at the property line, but may be extended in the future as the adjacent parcel develops. "Developable" means that a parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).

- b. Access easements (i.e., for the benefit of affected properties) shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.
 - c. Exception. Shared driveways are not required when existing development patterns or physical constraints (e.g., topography, parcel configuration, and similar conditions) prevent extending the street/driveway in the future.
9. Street Connectivity and Formation of Blocks Required. In order to promote efficient vehicular and pedestrian circulation throughout the City, land divisions and large site developments shall produce complete blocks bounded by a connecting network of public and/or private streets, in accordance with the following standards:
- Block Length. The maximum block length shall be consistent with 2.310.04 Additional Design Standards for Subdivisions.
 - Street Standards. Public and private streets shall also conform to Section 2.302 Street Standards in the City of Keizer Development Code (Table 4.1 Street Design Standards in the TSP).
 - Exception. Exceptions to the above standards may be granted when blocks are divided by one or more pathway(s), in conformance with the provisions of 2.310.04(C)(2)).
10. Pedestrian/Bicycle Accessways. Accessways shall be located to minimize out-of-direction travel by pedestrians and may be designed to accommodate bicycles.

2.302.04 General Right-of-Way and Improvement Widths

The following standards are general criteria for public streets in the City of Keizer. These standards shall be the minimum requirements for all streets, except where modifications are permitted under Subsection 2.202.05. ^(5/98)

The street design standards show five different options for local streets. These standards allow the City flexibility in the design of the street network.

Table 4.1 Street Design Standards

Functional Classification ¹	Number of Lanes	Parking	Bike Lanes ²	Roadway Width (ft) ³	Sidewalks ⁴	Right-of-Way Width (ft) ^{4, 5}	Maximum Dwelling Units Served
Major Arterial	5	No ⁶	Yes	50-72	Yes	84	-
Minor Arterial	3	No ⁶	Yes	36-50	Yes	72	-
Collector 2		No ⁶	Yes	36-50	Yes	68	-
Local V	2	Yes	No	34	Yes	48	-
Local IV	2	Yes	No	32	Yes	46	78
Local III	2	Yes	No	30	Yes	44	10
Local II	2	Yes	No	30	Yes	42	14
Local I	2	Yes ⁷	No	28	Yes ⁷	35	8

¹ All local street categories have a ten-foot public utility easement on both sides and a five-foot slope and utility easement on collectors and arterials.

² Standard bike lane widths are six feet; although five feet may be approved on a case-by-case basis.

³ Street improvement and right-of-way widths may be increased on a case-by-case basis as required by the city in accordance with Public Works Design Standards.

⁴ All streets will have five-foot wide sidewalks on both sides, unless noted. Meandering sidewalks may be considered/required on arterials and collectors.

⁵ Additional right-of-way may be required at intersections for additional turning lanes. Right-of-way at intersections is required to provide for a minimum 20-foot curb return radius.

⁶ Depending on installed improvements.

⁷ Parking/sidewalks only required on one side of street.

STREET STANDARDS

SERVICE-AREA (street must be under all three thresholds to be in a classification) (a);(b);(c);(d)	IMPROVE- MENT WIDTH CURB/CUR- B	FULL HEIGHT CURB (f);(g)	SIDEWAL- K (e)	TOTAL RIGHT-OF- WAY WIDTH	UTILITY EASEMENT (h) (Adjacent to R-O-W)
LOCAL STREET-I Up to 19 d/u or serving 190 ADT or 70,000 sq. ft.	Parking two sides: (5/08) 30 feet	6" each side (1 foot total)	5-foot curbline Two sides	44 feet	5 ft. minimum 40 ft. maximum
LOCAL STREET-II 20 to 70 d/u or 200 to 700 ADT or 70,000 to 310,000 sq. ft.	Parking two sides: (5/08) 32 feet	6" each side (1 foot total)	5-foot curbline Two sides	56 feet	5 ft. minimum 40 ft. maximum

LOCAL STREET III 80 or more d/u or 800 or more ADT or more than 320,000 sq. ft.	Parking two sides: (5/98) 34 feet	6" each side (1-foot total)	-5-foot curbline Two sides	58 feet	5 ft. minimum 10 ft. maximum
CUL-DE-SAC Max. length = 800 feet or less than 450 ADT or less than 183,999 sq. ft.	Width as above; (5/98) Min. Curb Radius 38 feet	6" each side (1-foot total)	-5-foot curbline for entire cul-de-sac	Width as above; (5/98) Min. ROW/ Radius: (5/98) 45 feet	5 ft. minimum 10 ft. maximum
COLLECTOR	64 to 68 feet	(i)	(i)	(i)	5 ft. minimum 10 ft. maximum
MINOR ARTERIAL	68 feet	(i)	(i)	(i)	5 ft. minimum 10 ft. maximum
MAJOR ARTERIAL	68 to 84 feet	(i)	(i)	(i)	5 ft. minimum 10 ft. maximum
(a) ADT = Average Daily Trips (ITE, Trip Generation Manual) (b) Trip Generation Rate for SFD = 10 ADT (c) Minimum Lot Size = 4,000 sq. ft.; Duplex = 7,000 sq. ft. (5/98) (d) Calculated per street entrance; use largest number. (5/98) (e) Required width around signs, mailboxes, utility poles, etc.		(f) Full curb height between driveways. (5/98) (g) Max. 2 weep holes through curb face per lot. (5/98) (h) Additional easements may be necessary. Widths may be reduced or increased on a case by case basis as determined by the Department of Public Works. (5/98) (i) Collector and arterial streets will be evaluated on an —individual basis.			

2.302.05 Modification of Right-of-Way and Improvement Width

The City, pursuant to variance approval, may allow modification to the public street standards of Subsection 2.302.04, when the following criteria are satisfied: (5/98)

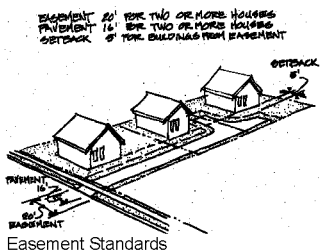
- A. Modification Permitted. The modification is necessary to provide design flexibility where: (5/98)
1. Unusual topographic conditions require a reduced width or grade separation of improved surfaces; or
 2. Parcel shape or configuration precludes accessing a proposed development with a street which meets the full standards of Section 2.302.04; or
 3. A modification is necessary to preserve trees or other natural features determined by the City to be significant to the aesthetic character of the area; or
 4. The modification of street standards is necessary to provide greater privacy or aesthetic quality to the development. (5/98)
- B. Vehicular Access Maintained. Modification of the standards of Section 2.302.04 shall only be approved if the City finds that the specific design proposed provides adequate vehicular access based on anticipated traffic volumes. (5/98)

2.302.06 Construction Specifications

Construction specifications for all public and private streets shall comply with the standards of the most recently adopted public works/street standards of the City of Keizer. Construction permits are required by the Public Works Department. (10/02)

2.302.07 Improvement Width for Private Streets (If allowed in Section 2.302.02F)

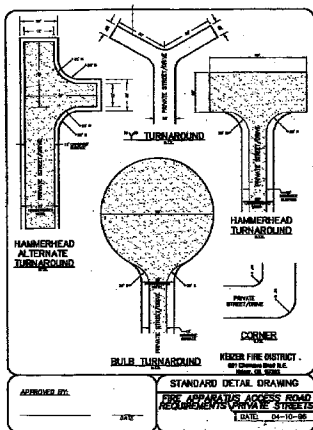
Private streets may be constructed to the same or greater width of the existing connecting private street. (10/02)



2.302.08 Private Access Easements

A private access easement created as the result of an approved partitioning or subdivision shall conform to the following: (5/98)

- A. Width. Private access easements shall only be allowed where the applicable criteria of Section 2.310.03.D., are satisfied. The easement shall comply with the following standards: (5/98)
1. Minimum width: 14 feet for 1 dwelling unit; 20 feet for two or more dwelling units with no on-street parking within the minimum required width.. (5/98)
 2. Minimum paved width: 12 feet for 1 dwelling unit; 16 feet for two or more dwelling units. (5/98)
 3. Maximum length: 300 feet
 4. No more than 4 dwelling units shall have their sole access to the easement
- B. Maintenance. Provision for the maintenance of the street shall be provided in the form of a maintenance agreement, home owners association, or other instrument acceptable to the City. (5/98)
- C. Turn-around. A turn-around shall be required for any access easement which is the sole access and which is in excess of 150 feet long or which serves two or more residences. Turnarounds shall be either a circular turn-around with a minimum paved radius of 38 feet, or a "tee" or "hammerhead" turn-around with a minimum paved dimension across the "tee" of 60 feet. (5/98)
- D. Parking
1. Fire Lanes. All private access easements serving as the sole access for two or more residences shall



Approved Turnaround Designs

be designated as fire lanes and shall display No Parking signs approved by the Fire District unless additional paved width is provided. (5/98)

2. For all private access easements serving more than 2 dwelling units, one parking space per dwelling unit, in addition to those required by 2.303 shall be provided adjacent to the easement or on each individual property. If the parking is parallel to and adjacent to the easement, its area shall be included within the maintenance agreement for the easement. (5/98)

2.303 OFF-STREET PARKING AND LOADING

2.303.01 Purpose

The purpose of this Section is to provide adequate areas for the parking, maneuvering, loading and unloading of vehicles for all land uses in the City of Keizer. (5/98)

2.303.02 Scope

The provisions of this Section shall apply to the following types of development: (5/98)

- A. New Building. Any new building or structure erected after the effective date of this Ordinance. (5/98)
- B. Expansion. The construction or provision of additional floor area, seating capacity, or other expansion of an existing building or structure. (5/98)
- C. Change in Use. A change in the use of a building or structure which would require additional parking spaces or off-street loading areas under the provisions of this Section. (5/98)

2.303.03 General Provisions Off-Street Parking and Loading

- A. Owner Responsibility. The provision and maintenance of off-street parking and loading space is a continuing obligation of the property owner. No building permit shall be issued until plans are presented that show property that is and will remain available for exclusive use as off-street parking and loading space. The subsequent use of property for which the building permit is issued shall be conditional upon the unqualified continuance and availability of the amount of parking and loading space required by this Ordinance. (5/98)
- B. Additional Parking Required Prior to Occupancy. Should the owner or occupant of any lot or building change the use to which the lot or building is used, thereby increasing off-street parking and loading requirements, it shall be unlawful and a violation of this ordinance to begin or maintain such altered use until such time as the increased off-street parking and loading requirements are observed. (07/06)
- C. Interpretation by Administrator. Requirements for types of buildings and uses not specifically listed herein shall be determined by the Zoning Administrator based upon the requirements of comparable uses listed and expectations of parking and loading need. The Zoning Administrator shall have the authority to make adjustments based on parking demand analysis prepared by an applicant. (07/06)

- D. Combined Uses. In the event several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of the several uses computed separately, unless a reduction is approved for shared parking pursuant to Subsection 2.303.05.
(5/98)
- E. Use of Parking Spaces. Required parking spaces shall be available for the parking of operable passenger automobiles of residents, customers, patrons or employees only, and shall not be used for storage of vehicles or materials including solid waste collection containers. Garages for single family and duplex dwelling units shall not be counted in determining required parking spaces. (5/98)

2.303.04 Location and Use Provisions

Off-street parking and loading areas shall be provided on the same lot with the main building or structure or use except that: (5/98)

- A. Residential Zone. In any residential zone, automobile parking areas may be located on another lot if the lot is within 200 feet of the lot containing the main building, structure or use and a parking agreement is recorded. (07/06)
- B. Non-residential Zone. In any non-residential zone, the parking area may be located off the site of the use if it is within 500 feet of such site and a parking agreement is recorded. (07/06)
- C. Accessory Parking Use, Non-residential. Parking of vehicles in a structure, or outdoors, is a permitted accessory or secondary use in non-residential zones. (07/06)
- D. Accessory Parking Use, Residential. Parking of vehicles in a structure or outdoors is a permitted accessory use in conjunction with a dwelling in any zone provided: (5/98)
 - 1. All of the vehicles are owned by the owner or lessee of the lot. (5/98)
 - 2. Vehicles parked outdoors in a residential zone may be parked in a space within the front yard meeting the requirements for required parking in this Section. In the RS zone no more than four total vehicles shall be parked outdoors on a property. (07/06)
 - 3. Vehicles parked on a lot in a residential zone shall be for the personal use of the occupants of the dwelling. One vehicle used in conjunction with a home occupation or other employment may be parked on the lot provided that in the RS, RL, RM, RH, RC and MU zones the vehicle shall be parked in an enclosed structure if it is rated at more than 1 ton capacity. (5/98)

- E. Yard Parking Restrictions. Exclusive of driveways, no parking vehicles, trailers, boats or recreational vehicles shall be allowed placed within the required front yard area or yards located adjacent to a street. The side yard and rear yard areas may be used for parking of vehicles, boats, trailers, or recreational vehicles unless otherwise prohibited by this Ordinance. (07/06)
- F. Storage Restrictions. The yard areas adjacent to a street, other than driveways, shall not be used for the permanent storage of utility trailers, house or vacation trailers, boats, or other similar vehicles, unless the storage area is screened by a six foot sight-obscuring fence, wall, or hedge. The fence, wall, or hedge shall comply with the provisions regarding the location for fences and maintaining a vision clearance area. (07/06)

2.303.05 Joint Use

Parking area may be used for a loading area during those times when the parking area is not needed or used. Parking areas may be shared subject to Zoning Administrator's approval for commercial and industrial uses where hours of operation or use are staggered such that peak demand periods do not occur simultaneously. Such joint use shall not be approved unless satisfactory legal evidence is presented which demonstrates the access and parking rights of parties. (07/06)

2.303.06 Off-Street Automobile Parking Requirements

Off-street parking shall be provided in the amount not less than listed below. (5/98)

A. Parking Requirements

LAND USE ACTIVITY	SPACES	HOW MEASURED*
Single Family and Duplex	2	2 per dwelling unit
All other dwelling types	2	Per dwelling unit
Hotel, motel	1	Per guest room
Club, lodge		Combination of heaviest uses being conducted: hotel, restaurant, etc.
Hospital	1	Per 2 beds
Nursing Home, convalescent home	1	Per 3 beds
Health service, medical or doctor's office	1	Per 350 square feet

House of worship, auditorium, stadium, theater	1	Per 4 seats or every 8 feet of bench length
Elementary, middle school	2 + 1	Per classroom + per 350 sq ft of administrative office
High school	1 + 1 + 1	Per classroom + per 10 students + per 350 sq ft of administrative office
Bowling alley, skating rink, community center, recreation facility	1	Per 200 square feet
Golf Course	4	Per green
Theater for movies or plays	1	Per 3 seats
Tennis courts, racquetball courts	2	Per court
Retail store	1	Per 300 square feet
Service repair center; retail store handling bulky merchandise (e.g. furniture, home furnishing, major equipment)	1	Per 900 square feet
Bank	1	Per 250 square feet
Office used for real estate, lawyer, insurance brokers	1	Per 500 square feet
General Office	1	Per 300 square feet
Eating and drinking establishment	1	Per 125 square feet
Wholesale establishment	1	Per 2,000 square feet
Government offices open to the general public	1	Per 500 square feet
Industrial, manufacturing, processing (0 - 24,999 sf)	1	Per 1,000 square feet
Industrial, manufacturing, processing (25,000 - 49,999 sf)	1	Per 1,000 square feet
Industrial, manufacturing, processing (50,000 - 79,999 sf)	1	Per 1,000 square feet
Industrial, manufacturing, processing (80,000 - 199,999 sf)	1	Per 2,000 square feet

Industrial, manufacturing, processing (200,000 sf and over)	1	Per 3,000 square feet
Warehousing and storage terminals 0 - 49,999 sf	1	Per 2,000 square feet
Warehousing and storage terminals 50,000 sf and over	1	Per 5,000 square feet

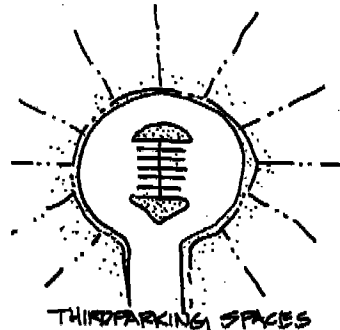
*Square footage = Gross floor area. (07/06)

B. Parking Reduction

The number of minimum required parking spaces may be reduced by up to 10% if transit related amenities such as transit stops, pull-outs, shelters, park and ride lots, transit oriented developments and is when abutting a street with transit service are available. (07/06)

C. Parking Increase

The number of minimum required parking spaces shall not be increased by more than 50%. (5/98)



3rd Parking Space in Cul-De-Sac



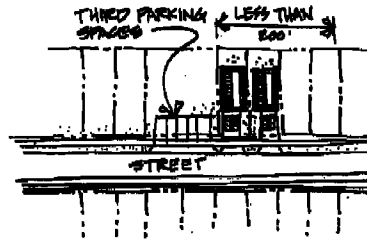
FIGURE 168110 AH 459
3.210.03 P – 3rd Parking Space
on Alley

2.303.07 Standards for Disabled Person Parking Spaces

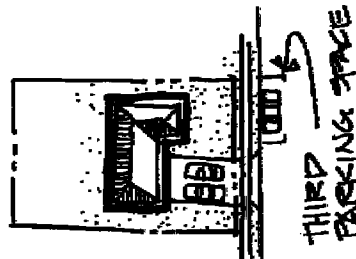
Disabled Person Parking Spaces shall comply with the requirements of the Uniform Building Code and ODOT standards. (5/98)

2.303.08 Bicycle Parking

- A Bicycle Parking Required. Bicycle Parking shall be required in all public and semi-public, commercial and industrial development as well as park-and-ride lots. Bicycle parking shall be provided in the following amounts: (5/98)



3rd Parking Space in Parking Bay

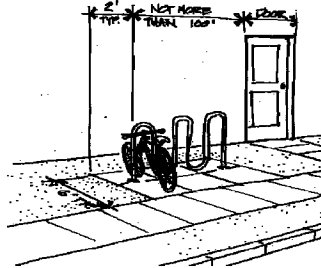


3rd Park Space Provided On-Street

LAND USE ACTIVITY	BICYCLE SPACES	HOW MEASURED
Multi-family apartments with 4 or more units	1	Per 2 units
Hotel, motel	1	Per 40 guest rooms
Hospital, nursing home, convalescent home	1	Per 50 beds
House of worship, auditorium, stadium, theater	1	Per 20 required vehicle parking spaces
Elementary school	1	Per classroom with a maximum of 10 required
Middle school	1	Per classroom with a maximum of 10 required
High school	1	Per classroom with a maximum of 10 required
Bowling center, skating rink, community center	1	Per 40 required vehicle parking spaces with a maximum of 6 required
Retail store	1	Per 10 required vehicle parking spaces with a maximum of 6 required
Service repair center; retail store handling bulky merchandise (e.g. furniture)	1	Per 30 required vehicle parking spaces with a maximum of 6 required
Bank, offices, medical clinic, government offices	1	Per 20 required vehicle parking spaces with a maximum of 6 required
Eating and drinking establishment	1	Per 20 required vehicle parking spaces with a maximum of 6 required
Wholesale establishment	1	Per 30 required vehicle parking spaces with a maximum of 6 required
Industrial, manufacturing, processing	1	Per 30 required vehicle parking spaces
Warehousing and storage terminals	1	Per 30 required vehicle parking spaces

B. Bicycle Parking Development Requirements

1. Space Size. Each bicycle parking space shall be a minimum of six feet long and two feet wide and be accessible by a minimum four foot aisle. (5/98)
2. Location. All bicycle parking areas shall be within 50 feet of a building entrance and located within a well-lit area. (07/06)
3. Rack Design. Bicycle racks must be designed to secure the bicycle frame and at least one wheel, and, accommodate a locking device. Racks, lockers or other related facilities shall be securely anchored to the ground or to a structure. As an alternative, the bicycle spaces can be provided within a secured compound. (5/98)
4. Access. Access to a public right-of-way and pedestrian access from the bicycle parking area to the building entrance must be provided. (5/98)



Bicycle Parking

C. Exemptions

The following uses are exempt from the bicycle parking requirements: (5/98)

1. Seasonal or temporary businesses. (5/98)
2. Drive-in theaters
3. Self-storage facilities
4. Automobile oriented businesses such as automobile service stations, automobile repair shops, restaurants without seating facilities (either indoors or outdoors), or oil and lubrication services, but excluding automobile retail businesses such as dealers or auto parts stores. (5/98)

2.303.09 Carpool and Vanpool Parking

New office or industrial development with 100 or more parking spaces shall designate at least 5% of the parking spaces for carpool or vanpool parking. These designated spaces shall be the closest parking spaces to the building entrance normally used by employees, with the exception of handicapped parking spaces. The carpool/vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only" along with specific hours of use. Any other use establishing car and vanpool spaces may reduce the minimum parking requirement by 3 spaces for each carpool/vanpool space created. (5/98)

2.303.10 Off-Street Loading Requirements

Off-street loading space shall be provided as listed below: (5/98)

- A. Commercial Office. Commercial office buildings shall require a minimum loading space size of 12 feet wide, 20 feet long and 14 feet high in the following amounts: for buildings over 5,000 square feet of gross floor area, 1 space; for each additional 40,000 square feet of gross floor area, or any portion thereof, 1 space. (5/98)
- B. Commercial and Industrial. All other commercial or industrial buildings shall require a minimum loading space of 12 feet wide, 30 feet long, and 14 feet high in the following amount: for buildings containing over 5,000 square feet of gross floor area, 1 space; for each additional 40,000 square feet of gross floor area, or any portion thereof, 1 space. (5/98)

2.303.11 Parking and Loading Area Development Requirements

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

- A. Surfacing. All driveways, parking and loading areas shall have a durable, hard, dust free surface built to Department of Public Works standards. (5/98)
- B. Parking Spaces
 - 1. Dimensions. Parking spaces shall be a minimum 9 feet wide and 18 feet in length.
 - 2. Compact Spaces. Compact parking spaces, at a reduced width of 8.5 feet, shall be permitted on sites with more than

five (5) parking spaces. No more than 30% of the required parking shall be compact spaces and each space must be identified as a "Compact Space."

C. Aisle

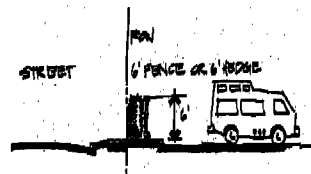
The following minimum aisle dimensions shall apply: (5/98)

1. Without adjacent parking:
 - a. Single family residence: 12 feet
 - b. One-way: 12 feet
 - c. Two-way: 22 feet
2. With adjacent parking: (07/06)

PARKING ANGLE	AISLE WIDTH
0 to 40	14 feet
41 to 55	15 feet
56 to 70	18 feet
71 to 90	24 feet

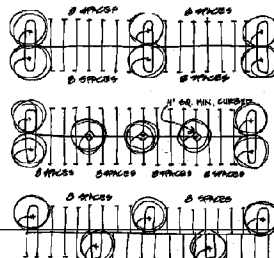
- D. Screening. When any parking or loading area abuts a residential zone, the parking or loading area shall be screened or buffered as is required in Section 2.309.05. (07/06)

- E. Lighting. All lighting shall be directed entirely onto the loading or parking area and away from any residential use. The lighting shall not cast a glare or reflection onto the public rights-of-way. (5/98)



Parking Lot Screening

- F. Landscaping. A tree shall be planted for every eight lineal parking spaces not located adjacent to a building. The planting space shall measure no less than 4 feet square and be surrounded by concrete curbing.



The plant shall be of a species that the root system will not interfere with underground utilities or the parking surface, and, is capable of achieving a 15 foot radius. (07/06)

- G. Traffic Flow. Service drives to off-street parking areas shall be designed and constructed to allow flow of traffic, provide maximum safety of traffic access and egress and the maximum safety of pedestrians and vehicular traffic on the site. (5/98)
- H. Entrance/Exits. Service drive exits shall have a minimum vision clearance area of 15 feet from the intersection of the street and driveway. (5/98)
- I. Bumper Rails. Parking spaces along the outer boundaries of a parking area shall be contained by a curb or a bumper rail to prevent a motor vehicle from extending over an adjacent property, a street, or a sidewalk. The bumper shall be at least 4" high and located a minimum of 3 feet from the property line. (5/98)
- J. Existing development may redevelop a portion of existing parking areas in order to accommodate or provide transit-related amenities such as transit stops, pull-outs, shelters, and park and ride stations. The number of parking spaces may be reduced by up to 10% of the minimum required parking spaces for that use.

2.315 DEVELOPMENT STANDARDS

2.315.01 Purpose

The Development Standards herein called Standards are intended to implement the Keizer Comprehensive Plan and the purpose of each zoning district. They do this by promoting functional, safe, and attractive developments that maximize compatibility with surrounding uses and commercial corridors, and that are compatible with and enhance the transportation system. The Standards mitigate potential conflicts and problems, and maximize harmonious relationships.

Alternatives to the Standards on a case-by-case basis may be reviewed and approved as a land use action. In such cases, the purpose of this ordinance shall be met through factual findings and conclusions about the proposed design, and attachment of specific conditions if necessary, by the review body.

Application of the Standards does not evaluate the proposed use, nor the specific architectural style or design. Rather, the Standards focus on the structural elements of texture, color, and materials, and on the site elements of building placement. (01/04)

2.315.02 Applicability

- A. Exterior changes to all buildings in matters relating to color or facade materials only shall comply with the applicable or relevant development standards found in Section 2.315.08.B(4) and (5) of this code. (01/04)
- B. Serial additions, alterations or expansions as defined in Section 1.2 of this code shall be limited so that the standards specified in Section 2.315.03.A and B are not exceeded in a 3-year period. (01/04)
- C. The provisions of this section shall apply to all development as defined in Section 1.2 of this code. (01/04)

2.315.03 Exemptions

The following are exempt from the Standards: (01/04)

- A. Structural additions, alterations, or expansions which are 25 percent or less of existing building(s) gross floor area and/or impervious surface area are affected; **OR**, when 500 square feet or less of an existing building(s) gross floor area and/or impervious surface area, whichever is less, is affected. (01/04)

- B. Exterior changes involving the addition, alteration or moving of a door, window, porch, canopy, or awning where the combined area of change is less than 500 square feet in area in a 3-year period. (01/04)
- C. Repainting of exterior walls due to minor repairs or vandalism, which is 25% or less, or no more than 100 sq. ft. (01/04)
- D. Agricultural uses (01/04)
- E. Any residential building housing three or fewer dwelling units (01/04)
- F. Accessory structures of less than 500 square feet. (5/98)
- G. Any interior remodeling (01/04)
- H. A temporary business (01/04)

2.315.04 Administration of the Development Standards

These Standards are intended to be objective and to serve as a guide to designers of developments. The Standards are applied in one of four ways: (01/04)

- A. The Standards embodied in this ordinance are administratively reviewed at the time of a building permit application. Compliance to the Standards is a condition of building permit approval. (01/04)
- B. In instances where conformance to the standards is outside of the scope of a building permit, such as repainting a building, the owner shall be responsible for conformance with these Standards as contained in Section 2.315.02. (01/04)
- C. The Standards embodied in this ordinance are to be perpetually maintained on all properties. This particularly applies to color and facade materials, which may change without requiring a building permit. (01/04)
- D. In the event a development proposal or a change to an existing building does not conform to the standards contained in this ordinance due to an applicant wishing to propose alternatives, the applicant may choose to apply for approval of a Development Standards Alternative application. A Development Standards Alternative application shall comply with the same procedures as a Conditional Use Permit in Section 3.103, with the initial decision rendered by the Planning Commission (Section 3.103.06.C.). No building permit will be issued for a use requiring Development Standards Alternative approval until the application is approved. (01/04)

2.315.05 Non-Conforming Buildings

Any building that did not conform to the Standards on May 18, 1998 is considered a legally non-conforming building as-regulated within this Code. (01/04)

2.315.08 Development Standards

All applicable development must meet the following standards: (5/98)

- A. Pedestrian Circulation. As used herein "walkway" means a hard surfaced area intended and suitable for use by pedestrians, including both public and private sidewalks. (01/04)
1. Connection Required. The-pedestrian circulation system for the proposed development must connect uses, building entrances, adjacent streets, and, nearby existing and planned (as adopted in the City Transportation System Plan) transit stops-facilities within 600 feet of the site. (01/04)
 2. Walkway Location and Design. Walkway(s) shall be located so that a pedestrian can conveniently walk between a transit street and the entrance(s) to a building(s). Except where it crosses a driveway, a walkway shall be separated by a raised curb or other physical barrier from the auto travel lane and parking. If a raised path is used the ends of the raised portions must be equipped with curb ramps which comply with Oregon State Building Code Requirements. (01/04)
 3. Additional Street Access. A walkway from a building entrance to a public street shall be provided for every 300 feet of street frontage. (01/04)
 4. Driveway Crossings. Driveway crossings shall be a maximum of 36 feet in width. Where the pedestrian system crosses driveways, parking areas and loading areas, the system must be clearly identifiable through the use of elevation changes, a different paving material, texture, or other similar method. (01/04)
 5. Lighting. Lighting shall be provided for all walkways. Pedestrian walkways must be lighted to a level where the system can be used at night by employees and customers. (01/04)
 6. Walkway Coverage.

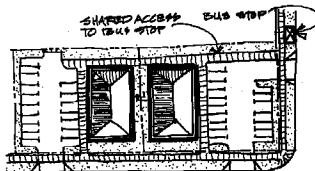


Figure 1 – Pedestrian Access Standards

- a. Any portion of a walkway located within three feet of a building frontage shall be covered with awnings or building overhangs. The minimum vertical clearance shall be 9 feet for awnings and building overhangs. The maximum vertical clearance shall be 15 feet. (01/04)
 - b. In the EG zone, Any portion of a walkway located within three feet of a building frontage shall be covered with awnings or building overhangs as provided in Subsection a, except for buildings, which have greater than 300 feet of lineal frontage, where this requirement shall apply to at least 33 percent of the building frontage. The maximum vertical clearance shall be 15 feet. (01/04)
 7. Dimensions. Walkways shall be at least five feet in paved unobstructed width. Walkways that serve multiple uses or tenants shall have a minimum unobstructed width of eight feet. (01/04)
 8. Stairs or ramps shall be in place where necessary to provide a direct route between the transit street and the building entrance. Walkways without stairs shall comply with the accessibility requirements of the Oregon State Building Code. (01/04)
 9. Access to Adjacent Property. If the proposed development has the potential of being a significant attractor or generator of pedestrian traffic, potential pedestrian connections between the proposed development and existing or future development on adjacent properties other than connections via the street system shall be identified. (01/04)
 10. The building permit application or Development Standards Alternative-application shall designate walkways and pedestrian connections on the proposed site plan. If the applicant considers walkways are infeasible or proposed findings shall be submitted demonstrating that the walkway or connection is infeasible. The findings will be evaluated in conjunction with the building permit or Development Standards Alternative process. (01/04)
- B. Building Design
1. Ground floor windows
 - a. In the CM, CR, and MU zones, all street-facing elevations containing permitted uses as listed under Sections 2.110.02 F, G, H, I, J and K shall have no less than 50 percent of the

ground floor wall area with windows, display areas or doorway openings. (5/98)

- b. In the EG zone, one elevation of any building with more than 100,000 square feet of floor area, which contains permitted uses listed under Sections 2.119.05 F, G, H, I, J, and K,

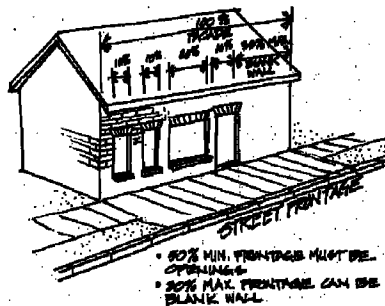


Figure 2 – Façade Standards

shall have no less than 33 percent of the ground floor wall area, defined from the ground to the height of the awning, with windows or window facsimiles or other architectural features that simulate windows, display areas or doorway openings. The location of this elevation shall be determined as part of the required Site Master Plan review described in Chapter 2.125 of this Zoning Ordinance. (01/04)

2. Building facades

- a. In the CM, CR, and MU zones, facades that face a public street shall extend no more than 30 feet without providing a variation in building materials, a building off-set of at least 2 feet, or a wall area this is entirely separated from other wall areas by a projection, such as a porch or a roof over a porch. No building facade shall extend for more than 300 feet without a pedestrian connection between or through the building, provided that there is a pedestrian purpose being served. (01/04)
- b. In the EG zone, facades facing a public street shall extend no more than 60 feet without providing a variation of building materials for buildings over 20,000 square feet. In the EG zone, no building facade shall extend for more than 400 feet without a pedestrian connection between or through the building, provided that there is a pedestrian purpose being served. (01/04)

3. Awnings – Awnings or canopies, shall be provided along building storefronts abutting a public sidewalk. Awnings and canopies shall

be constructed of canvass, acrylic fabric, laminated vinyl, metal or similar standard material. Awnings and canopies of corrugated fiberglass or polycarbonate roofing shall be prohibited. Awnings and canopies shall not be back lit. (01/04)

4. Materials and Texture

a. Building Materials. (01/04)

1. All buildings shall have wood, brick, stone, or stucco siding, or vinyl siding made to look like wood siding. Metal siding as described in this section shall be allowed. (5/98) In the EG zone, all buildings shall have wood, brick, stone, architectural block, slump stone, architectural concrete or stucco siding, or vinyl siding made to look like wood siding. (01/04)
2. Metal siding other than corrugated or reflective material are allowed except for residential buildings housing 3 or more dwellings and buildings within the EG zone metal siding is allowed with the exception of corrugated or reflective metal. (01/04)
3. Plain concrete block, plain concrete, plywood and sheet press board may not be used as exterior finish materials. (01/04)

b. Trim Material. (01/04)

Building trim shall be wood, brick, stone, stucco, vinyl siding material made to look like wood, or metal. (01/04)

c. Roofing Material. (01/04)

Any roofing material is allowed including metal roofs. (5/98)

d. Foundation Material. (01/04)

Foundation material may be plain concrete or plain concrete block where the foundation material is not revealed for more than 3 feet. (5/98)

5. Color

- a. Any portion of a building that is painted or stained may use as the main color, and roof color for all portions of the roof visible from the ground, any color which meets all of the following criteria: (01/04)
 1. The Red-Green-Blue factors (also known as XYZ factors) shall not exceed a saturation level of 20%. (01/04)
 2. Each component factor, as a percentage of the whole component value, shall equal or exceed 38%, with no greater than a 20% difference between any of the three values. (01/04)
 3. Light Reflectance Value (LRV) of any color shall be between the values of 30 and 85. (01/04)
 4. The finish shall be either matt or satin. (01/04)
 - b. For the purpose of this ordinance, "main color" is the principal color of the building which must be at least 75% of the surface of the building excluding windows; the trim colors of all buildings may be any color. (01/04)
 - c. In no case shall the main color or the trim color of any structure be "florescent", "day-glo", or any similar bright color. (01/04)
6. Roof Lines - Roof lines shall establish a distinctive "top" to a building. When flat roofs are proposed, a cornice a minimum 12 inches high projecting a minimum 6 inches from the wall at the top of the wall or parapet shall be provided. (5/98)
 7. Roof-mounted equipment – In a CM, CR, CO, EG or MU zone, all roof-mounted equipment, including satellite dishes and other communication equipment, must be screened from view from adjacent public streets. Solar heating panels are exempt from this standard. (01/04)

E. Accessory Structures

Accessory Structures including buildings, sheds, trash receptacles, mechanical devices, and other structures outside the main building, shall either be screened from view by the public by either a hedge or fence: **OR**, with the exception of trash receptacles, accessory structures including buildings, sheds, mechanical devices, and other structures outside the

main building must be screened by painting them the same color as the main color of the building. (01/04)

F. Alternative Design Solutions. (01/04)

Depending upon the applicable review process identified in this code, the Planning Commission or City Council may approve design alternatives to the Standards in this chapter, or approve them with conditions, if it finds the alternative design can meet the purpose and intent of this ordinance and be successfully applied to a particular property. (01/04)

G. Transit Facility Requirement. New retail, office and institutional buildings at, or within 600 feet of an existing or planned transit facility, as identified in the city TSP, shall provide either the transit facility on site or connection to a transit facility along a transit route when the transit operator requires such an improvement.

H. Transit Access. New retail, office and institutional buildings within 600 feet of a transit facility, as identified in the city TSP, shall provide for convenient pedestrian access to transit through the measures listed in Subsections 1. and 2. below.

1. Walkways shall be provided connecting building entrances and streets adjoining the site;
2. Pedestrian connections to adjoining properties shall be provided except where such a connection is impracticable. Pedestrian connections shall connect the on site circulation system to existing or proposed streets, walkways, and driveways that abut the property. Where adjacent properties are undeveloped or have potential for redevelopment, streets, accessways and walkways on site shall be laid out or stubbed to allow for extension to the adjoining property;
3. In addition to Subsections 1. and 2. above, sites at transit facilities must provide the following:
 - a. Either locate buildings within 20 feet of the transit facility, a transit street, or an intersecting street or provide a pedestrian plaza at the transit facility or a street intersection;
 - b. A reasonably direct pedestrian connection between the transit facility and building entrances on the site;
 - c. A transit passenger landing pad accessible to disabled persons;
 - d. An easement or dedication for a passenger shelter if requested by the transit provider; and
 - e. Lighting at the transit facility.

2.315.09 Determination of Conformance to Development Standards as Part of Building Permit Review

The Zoning Administrator, or designee, during the normal course of reviewing a building permit application, shall include as part of that review, a determination of the proposal's conformance with the provisions of this chapter. Corrections may be noted on the plans, or required to be submitted as amended plans, to assure conformance to the standards or a design alternative, which was approved by the planning Commission or City Council. Building plans shall not be approved unless there is conformance with the provisions of this chapter. (01/04)

2.315.10 Criteria for Development Review

The Planning Commission, or Council upon appeal, may approve the proposed design alternatives, or approve them with conditions, if it finds the alternative design can meet the purpose and intent of this ordinance and be successfully applied to a particular property. (5/98)

3.108 SUBDIVISIONS, PLANNED UNIT DEVELOPMENTS, AND MANUFACTURED HOME PARKS

3.108.01 Purpose

The development standards in this Development Code protect the public health, safety and welfare by establishing standard setbacks, minimum lot areas, density, and other development standards that apply to various uses. Development standards for Subdivisions are provided for the orderly, safe, efficient and livable development of land within the City of Keizer. Planned Unit Development standards allow flexibility and encourage a more creative approach in the development of land. Manufactured Home Park standards are developed to protect the public health, safety and welfare by establishing standard setbacks, minimum lot areas, density, and other applicable development standards. (2/01)

3.108.02 Application and Fee

An application for a Subdivision, Planned Unit Development or Manufactured Home Park shall be filed with the City and accompanied by the appropriate fee. It shall be the applicant's responsibility to submit a complete application in accordance with Section 3.201.03 and that addresses the review criteria of this Section. (2/01)

3.108.03 Applicability

A subdivision (or planned unit development) is required for any land division that creates more than three parcels in a calendar year. A Manufactured Home Park approval is required for establishing such a park. (2/01)

3.108.04 Submittal Requirements

- A. Application Process. Applications for all subdivisions, planned unit developments, and manufactured home parks shall be submitted on forms provided by the City and accompanied by the appropriate fee. It shall be the applicant's responsibility to submit a complete application, and to assure that it addresses the review criteria of this Section. (2/01)
- B. Submittal Material. The following submittal requirements shall apply to all Preliminary Plan applications for subdivisions, planned unit developments, and manufactured home parks. (5/98)
 - 1. All applications shall be submitted on forms provided by the City to the City along with the appropriate fee. It shall be the applicant's responsibility to submit a complete application that addresses the review criteria of this Section. (5/98)

2. Submittal Requirements. Each application shall be accompanied by a preliminary plat drawn to scale of not less than one inch equals 50 feet nor more than one inch equals 200 feet, and containing at a minimum, the following: (5/98)
 - a. Appropriate identification stating the drawing is a preliminary plan. (5/98)
 - b. North point, scale and date. (5/98)
 - c. Name and addresses of land owner, applicant, engineer, surveyor, planner, architect or other individuals responsible for the plan. (5/98)
 - d. Assessor Map and tax lot number of subject property. (2/01)
 - e. The property lines and approximate area of the subject property. (2/01)
 - f. Dimensions and size in square feet or acres of all proposed parcels. (5/98)
 - g. The approximate location of existing streets, easements or right-of-ways adjacent to, or within, the subject property, and, existing improvements on the property and important features such as section, political boundary lines. (5/98)
 - h. The name, address and phone number of the applicant engineer, land surveyor, or person preparing the application; (5/98)
 - i. Name of the PUD, subdivision, or manufactured home park. (5/98)
 - j. Date the drawing was produced. (2/01)
 - k. Vicinity sketch showing location of the proposed land division. (5/98)
 - l. Identification of each lot or parcel and block by number. (5/98)
 - m. Gross acreage of property being subdivided or partitioned. (5/98)
 - n. Direction of drainage and approximate grade of abutting streets. (5/98)

- o. Streets proposed and their names, approximate grade, and radius of curves. (5/98)
 - p. Any other legal access to the subdivision, PUD, manufactured home park, or partition other than a public street. (5/98)
 - q. Contour lines at two foot intervals if 10% slope or less, five foot intervals if exceeding 10% slope, and a statement of the source of contour information. (5/98)
 - r. All areas to be offered for public dedication. (5/98)
 - s. Future Street Plan. Applicants for a subdivision, planned unit development, or manufactured home park shall submit as a part of their application, a future street plan. The future street plan shall show the pattern of existing and future streets from the boundaries of the proposed land division and shall include other parcels within 500 feet of the proposed land division property line. The City may determine future neighborhood street connections. A future street proposal may be modified when subsequent development proposals are submitted. (01/02)
- C. Supplemental Information. The following supplemental information shall be required for all PUD Preliminary Plan applications: (2/01)
 - 1. Calculations justifying the proposed density of development. (5/98)
 - 2. Proposed uses of the property, including sites, if any, for attached dwelling units, recreational facilities, parks and playgrounds or other public or semi-public uses. Clearly indicate the purpose, conditions and limitations of such reservations. (2/01)
 - 3. The approximate location and dimensions of all commercial or multi-family structures proposed to be located on the site. (5/98)
 - 4. Written statement identifying improvements to be made or installed including streets, sidewalks, bikeways, trails, lighting, tree planting, landscaping, and time such improvements are to be made or completed. (2/01)
 - 5. Written statement outlining proposals for ownership and maintenance of all open space areas, private streets and any commonly owned facilities. (5/98)
- 6. Traffic Impact Analysis, if required pursuant to Section 2.301.03 of this code.

3.108.05 Review Procedures

- A. Hearings Officer. All Preliminary Plans for subdivisions, PUDs, and manufactured home parks shall be heard by the Hearings Officer pursuant to the procedures set forth in Section 3.202.04. (2/01)
- B. Time Limit. Approvals of any preliminary plans for a subdivision, PUD, or manufactured home park shall be valid for one year after the date of the written decision. A Final Plat for a subdivision shall be recorded within this time period or the approvals shall lapse. PUDs or manufactured home parks, which do not involve the subdivision of property, shall show substantial progress toward the construction of the project within the one year period or the approval shall lapse. (2/01)
- C. Time Extension. The City staff may extend the approval period for any subdivision, PUD, or manufactured home park for not more than 1 additional year at a time. Requests for extension of approval time shall be submitted in writing thirty days prior to the expiration date of the approval period. (5/98)
- D. Reapplication Required. If the approval period is allowed to lapse, the applicant must resubmit the proposal, including all applicable fees, for public hearing before the Hearings Officer. The applicant will be subject to all applicable standards currently in effect. (5/98)

3.108.06 Review Criteria

Approval of a subdivision, PUD, or manufactured home park shall require compliance with the following: (2/01)

- A. The proposal shall comply with the applicable development standards in Section 2.405 and Section 2.3, as appropriate, including provisions for streets and utilities. (5/98)
- B. Each lot shall satisfy the dimensional standards and density standard of the applicable zoning district, unless a variance from these standards is approved. (5/98)
- C. Adequate public facilities shall be available and shall serve the existing and newly created parcels. (2/01)
- D. Rough Proportionality. Improvements or dedications required as a condition of development approval, when not voluntarily accepted by the applicant, shall be roughly proportional to the impact of development. Findings in the development approval shall indicate how the required improvements or dedications are roughly proportional to the impact. (01/02)

3.108.07 Form of Final Subdivision Plat

- A. Final Plat Requirements. The final plat shall be prepared in a form and with information consistent with ORS 92.010-92.160, and approved by the County Surveyor. (2/01)
- B. Owners Association. Where applicable, all Owners Agreements, Articles and By-Laws shall be submitted with the final plat for review by the City Attorney. (5/98)
 - 1. The Zoning Administrator, until the Owners Association Agreement, Articles and By-Laws are approved shall not approve the final plat. (5/98)
 - 2. The Owner's Association Agreement shall be consistent with Chapter 94, Oregon Revised Statutes. (5/98)
 - 3. A Certificate of Formation of a non-profit corporation, with a State seal, for the Owners Association, shall be submitted with the final plat for review by the Planning Commission. (5/98)
 - 4. Signed, original documents of the Owners Association Agreement, Articles and By-Laws and the Certificate of Formation described in (3) above, shall be recorded with the final plat. (5/98)
- C. Subdivision Names. All plat names shall conform to ORS 92.090. (5/98)

3.108.08 Final Plat Review of Subdivisions

- A. Final Review. The final subdivision or planned unit development plat shall be submitted to the City staff for review. Staff shall review the plat to assure compliance with the approved preliminary plat and with the conditions of approval. The Zoning Administrator shall signify staff approval of the final plat by signing the final plat. (2/01)
- B. Filing Final Plat. The final subdivision plat shall be filed with the Marion County Clerk's Office. (5/98)

3.111 TEXT AMENDMENTS

3.111.01 Purpose

The purpose of this chapter is to provide standards and procedures for legislative and quasi-judicial amendments to this Code and the land use district map. These will be referred to as “map & text amendments.” Amendments may be necessary from time to time to reflect changing community conditions, needs and desires, to correct mistakes, or to address changes in law. (2/01)

3.111.02 Process

Amendments to the Comprehensive Plan and Development Ordinance texts shall be reviewed in accordance with Type IV procedures specified in Section 3.203. Type IV reviews shall also apply to Comprehensive Plan amendments and Zone Changes involving more than 5 adjacent land ownerships, or, non-adjacent properties. (2/01)

3.111.03 Application and Fee

A Plan or Ordinance text amendment can be initiated by staff, the Planning Commission or City Council. Upon initiation of an amendment staff shall establish a file and set a schedule to review the proposed changes before the Planning Commission and the City Council. No fee is required. (07/06)

3.111.04 Criteria for Approval

Amendments to the Comprehensive Plan or Development Ordinance text shall be approved if the evidence can substantiate the following. Amendments to the map shall be reviewed for compliance with each of the following, while text amendments shall only be reviewed for compliance with B, C, and D: (07/06)

- A. Impact of the proposed amendment on land use and development patterns within the city, as measured by: (5/98)
 - 1. Traffic generation and circulation patterns; (5/98)
 - 2. Population concentrations; (5/98)
 - 3. Demand for public facilities and services; (5/98)
 - 4. Maintenance of public health and safety; (5/98)
 - 5. Level of park and recreation facilities; (5/98)
 - 6. Economic activities; (5/98)
 - 7. Protection and use of natural resources; (5/98)

8. Natural hazards and constraints;
9. Compliance of the proposal with existing adopted special purpose plans or programs, such as public facilities improvement programs. (5/98)
- B. A need exists for the proposed amendment. (07/06)
- C. The proposed amendment complies with all applicable Statewide Planning Goals and applicable administrative rule requirements. (07/06)
- D. The amendment is appropriate as measured by at least one of the following criteria: (5/98)
 1. It corrects identified error(s) in the provisions of the plan. (5/98)
 2. It represents a logical implementation of the plan. (5/98)
 3. It is mandated by changes in federal, state, or local law. (5/98)
 4. It is otherwise deemed by the council to be desirable, appropriate, and proper. (5/98)

3.111.05 Transportation Planning Rule Compliance

- A. Review of Applications for Effect on Transportation Facilities. A proposed comprehensive plan amendment, zone change or land use regulation change, whether initiated by the City or by a private interest, shall be reviewed to determine whether it significantly affects a transportation facility, in accordance with Oregon Administrative Rule (OAR) 660-012-0060 (the Transportation Planning Rule – “TPR”). “Significant” means the proposal would:
1. Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);
 2. Change standards implementing a functional classification system; or
 3. As measured at the end of the planning period identified in the adopted transportation system plan:
 - a. Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;
 - b. Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP; or
 - c. Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum

acceptable performance standard identified in the TSP or comprehensive plan.

- B. Amendments That Affect Transportation Facilities. Amendments to the comprehensive plan and land use regulations that significantly affect a transportation facility shall ensure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the TSP. This shall be accomplished by one or a combination of the following:
1. Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.
 2. Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of Section -0060 of the TPR.
 3. Altering land use designations, densities, or design requirements to reduce demand for vehicle travel and meet travel needs through other modes of transportation.
 4. Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.
- C. Traffic Impact Analysis. A Traffic Impact Analysis shall be submitted with a plan amendment or zone change application. (See Section 2.301.03 Traffic Impact Analysis (TIA)).

3.202 GENERAL PROCEDURES – TYPES I, II, AND III ACTIONS

3.202.01 Procedure for Type I-A Review

(Type 1-A: Temporary Use Permit, Floodplain Development permit excluding variances or conditional uses, Signs excluding variances or conditional uses)

Applications subject to a Type I-A administrative review shall be reviewed and decided by the Zoning Administrator. (5/98)

- A. Initial Review. Upon receipt of an application for a Type I-A land use action, the City staff shall review the application for completeness. (5/98)
 - 1. Incomplete applications shall not be reviewed until the applicant has submitted all required information. (5/98)
 - 2. If incomplete, the applicant shall be notified and provided additional time of up to 30 days to submit supplemental information as necessary. (5/98)
- B. Complete Application. The application shall be deemed complete for the purposes of processing the application and all related timing provisions either:
(5/98)
 - 1. Upon receipt of the additional information; or, if the applicant refuses to submit the information; (5/98)
 - 2. On the 31st day after the original submittal the application shall be deemed complete for review purposes. (5/98)
- C. Staff Review. Within thirty (30) days of receipt of a complete application or such longer period mutually agreed to by both staff and the applicant, staff shall review the application and shall make a decision based on an evaluation of the proposal and on applicable criteria as set forth in this Ordinance; (5/98)
- D. Conditions. Approvals of a Type I-A action may be granted subject to conditions. The following limitations shall be applicable to conditional approvals: (2/01)
 - 1. Conditions shall be designed to protect public health, safety and general welfare from potential adverse impacts caused by a proposed land use described in an application. Conditions shall be related to the following:
(2/01)
 - a. Ensure that the standards of the development code are met; or, (2/01)
 - b. Fulfillment of the need for public service demands created by the proposed use. (2/01)

2. Changes of alterations of conditions shall be processed as a new administrative action. (2/01)
- E. Notice. Notice shall be provided to the applicant consistent with Section 3.204.01. (5/98)
- F. Appeals. A Type I-A land use decision may be appealed by the applicant to the Hearings Officer, except that Site plan Reviews shall be appealed to the Planning Commission. The appeal shall be filed within 10 days from the date of mailing of the decision, pursuant to the provisions of Section 3.205. (5/98)
- G. Final Decision. The final land use decision, including all appeals, shall be completed within 120 days as per the requirements in Section 3.202.05 (2/01)

3.202.02 Procedure for Type I-B and I-D Review

(Type I-B: Minor Variance, Lot Line Adjustment, Conditional Use, Partition, Greenway Development Permit) (Type I-D Major Variance)

Applications subject to administrative review shall be reviewed and decided by the Zoning Administrator. (5/98)

- A. Initial Review. Upon receipt of an application for a Type I-B or I-D land use action, the City staff shall review the application for completeness. (07/07/03)
 1. Incomplete applications shall not be reviewed until the applicant has submitted all required information. (5/98)
 2. If incomplete, the applicant shall be notified and provided additional time of up to 30 days to submit supplemental information as necessary. (5/98)
- B. Complete Application. The application shall be deemed complete for the purposes of scheduling the hearing and all related timing provisions either: (5/98)
 1. Upon receipt of the additional information; or, if the applicant refuses to submit the information; (5/98)
 2. On the 31st day after the original submittal the application shall be deemed complete for review purposes. (5/98)
- C. Agency Referrals. Referrals may be sent to interested agencies such as City departments, police and fire departments, school district, utility companies, and applicable city, county, and state agencies at the Director's option. Referrals will be sent to affected neighborhood associations. (5/98)
- D. Staff Review. Within thirty (30) days of receipt of a complete application or such longer period mutually agreed to by both staff and the applicant, staff shall

review the application and shall make a decision based on an evaluation of the proposal and on applicable criteria as set forth in this Ordinance; The Administrator shall have the option of referring a type I-B application to the Hearings Officer or City Council for the initial decision. The Administrator shall have the option of referring a type I-D application to the Planning Commission or City Council for the final decision. (07/07/03)

- F. Conditions. Approvals of a Type I-B and I-D action may be granted subject to conditions. The following limitations shall be applicable to conditional approvals: (07/07/03)
1. Conditions shall be designed to protect public health, safety and general welfare from potential adverse impacts caused by a proposed land use described in an application. Conditions shall be related to the following: (2/01)
 - a. Ensure that the standards of the development code are met; or, (2/01)
 - b. Fulfillment of the need for public service demands created by the proposed use. (5/98)
 2. Changes of alterations of conditions shall be processed as a new administrative action. (5/98)
 3. Performance bonding to comply with applicable conditions of approval shall comply with the provisions in Section 3.202.05B. (2/01)
- G. Notice. Notice of the decision shall comply with the provisions in Section 3.204.01. (5/98)
- H. Appeals. A Type I-B land use decision may be appealed to the Hearings Officer, by either the applicant or persons receiving notice of the decision. A Type I-D land use decision may be appealed to the Planning Commission, by either the applicant or persons receiving notice of the decision. (07/07/03)
- The appeal shall be filed within 10 days from the date of the mailing of the decision, pursuant to the provisions of Section 3.205. (5/98)
- I. Time Limit. The final land use decision, including all appeals, shall be completed within 120 days as per the requirements in Section 3.202.05. (5/98)

3.202.03 Procedure for Type I-C Review

- A. Initial Review. Upon receipt of an application for a Type I-C land use action, the City staff shall review the application for completeness. (2/01)

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1. Incomplete applications shall not be scheduled for Type I-C review until all required information has been submitted by the applicant. (2/01)
2. If incomplete, the applicant shall be notified and provided additional time of up to 30 days to submit supplemental information as necessary. (2/01)
- B. Complete Application. The application shall be deemed complete for the purposes of scheduling the hearing and all related timing provisions either: processing the application and all related timing provisions either: (2/01)
 1. Upon receipt of the additional information; or, if the applicant refuses to submit the information; (2/01)
 2. On the 31st day after the original submittal the application shall be deemed complete for review purposes. (2/01)
- C. Staff Review. Within thirty (30) days of receipt of a complete application or such longer period mutually agreed to by both staff and the applicant, staff shall review the application and shall make a decision based on an evaluation of the proposal and on applicable criteria as set forth in this Ordinance; (2/01)
- D. Conditions. Approvals of a Type I-C action may be granted subject to conditions. The following limitations shall be applicable to conditional approvals: (2/01)
 1. Conditions shall be designed to protect public health, safety and general welfare from potential adverse impacts caused by a proposed land use described in an application. Conditions shall be related to the following: (2/01)
 - a. Ensure that the standards of the development code are met; or, (2/01)
 - b. Fulfillment of the need for public service demands created by the proposed use. (2/01)
 2. Changes of alterations of conditions shall be processed as a new administrative action. (2/01)
- E. Notice. Notice shall be provided to the applicant consistent with Section 3.204.01. (2/01)
- F. Appeals. A Type I-C land use decision may be appealed by the applicant to the Planning Commission. The appeal shall be filed within 10 days from the date of mailing of the decision, pursuant to the provisions of Section 3.205. (2/01)
- G. Final Decision. The final land use decision, including all appeals, shall be completed within 120 days as per the requirements in Section 3.202.05 (2/01)

3.202.04 Procedures for Type II and Type III Actions

*(Type II. Subdivision, Planned Unit Development and Manufactured Home Parks)
(Type III. Annexation, Zone Changes involving 5 or fewer adjacent land ownership and Comprehensive plan Map Amendments involving 5 or fewer adjacent land ownerships)*

- A. Initial Review. Upon receipt of an application for Type II or Type III land use action, the City staff shall review the application for completeness. (5/98)
 - 1. Incomplete applications shall not be scheduled for Type II or Type III review until all required information has been submitted by the applicant. (5/98)
 - 2. If incomplete, the applicant shall be notified and provided additional time of up to 30 days to submit supplemental information as necessary. (5/98)
- B. Complete Application. The application shall be deemed complete for the purposes of scheduling the hearing and all related timing provisions either:
 - 1. Upon receipt of the additional information; or, if the applicant refuses to submit the information;
 - 2. On the 31st day after the original submittal the application shall be deemed complete for scheduling purposes only. (5/98)
- C. Agency Referrals. Referrals will be sent to interested agencies such as City departments, police and fire ~~departments~~ districts, school district, utility companies, and applicable city, county, and state agencies. Affected jurisdictions and agencies could include the Department of Environmental Quality, the Oregon Department of Transportation, Salem-Keizer Transit District, and the City of Salem. Notice of projects affecting state transportation facilities will be sent to ODOT. Referrals will be sent to affected neighborhood associations. (5/98)
- D. Public Hearing. The Public Hearing shall be scheduled and notice shall be mailed to the applicant and adjacent property owners. Notice requirements shall comply with Section 3.204.02. (5/98)
- E. Staff Review. Staff shall prepare and have available within 7 days of the scheduled hearing a written recommendation concerning the proposed action. This report shall be mailed to the applicant and available at City Hall for all interested parties. The Zoning Administrator may refer the initial decision to the City Council. (5/98)
- F. Notice of Application. Notice of a subdivision application shall be mailed to owners of property within 250 feet of the site and neighborhood association representatives. The notice to owners and neighborhood association

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members will invite the submittal of written comments on the proposal to the City within 10 days. (01/02)

- G. Hearings Procedures. The public hearing before the Hearings Officer shall comply with the provisions in Section 3.205. (2/01)
- H. Conditions. Approvals of any Type II or Type III action may be granted subject to conditions. The following limitations shall be applicable to conditional approvals: (5/98)
 - 1. Conditions shall be designed to protect public health, safety and general welfare from potential adverse impacts caused by a proposed land use described in an application. Conditions shall be related to the following: (5/98)
 - a. Protection of the public from the potentially deleterious effects of the proposed use; or, (5/98)
 - b. Fulfillment of the need for public service demands created by the proposed use. (5/98)
 - 2. Changes of alterations of conditions shall be processed as a new administrative action. (5/98)
 - 3. Performance bonding for applicable conditions shall comply with the provisions in Section 3.202.05B. (2/01)
- I. Notice. The applicant shall be notified, in writing, of the Hearings Officer's decision or recommendation. In addition, notice of the decision shall be mailed to individuals who request such notice at the public hearing, or, by those individuals who submitted a written request for notice prior to the public hearing. (5/98)

- J. Appeals. A Type II land use decision may be appealed to the City Council by either the applicant, persons receiving notice of the decision or the Administrator. The appeal shall be filed within 10 days from the date of the mailing of the decision, pursuant to the provisions of Section 3.205. Type III land use applications are automatically reviewed by the City Council. (5/98)
- K. Time Limit. The final land use decision, including all appeals, shall be completed within 120 days as per the requirements in Section 3.202.05. (2/01)

3.202.05 Special Procedural Requirements

A. 120 Day Time Limit

If for any reason it appears that such final action may not be completed within the 120 day period, unless the applicant voluntarily extends the time period, the following procedures shall be followed regardless of other processes set forth elsewhere in this Ordinance. (5/98)

1. The City staff shall notify the City Council of the timing conflict by the 95th day. The City Council shall, in accordance with its own procedures, set a time for an emergency meeting within the 120 day period. (5/98)
2. Public notice shall be mailed to affected parties as specified in Section 3.204.02. (5/98)
3. The City Council shall hold in a public hearing on the specified date, in accordance with the provisions of Section 3.204 and render a decision approving or denying the request within the 120 day period. Such action shall be the final action by the City on the application. (5/98)

B. Performance and Maintenance Bonding (2/01)

Conditions of approval required by the City shall be completed prior to the issuance of any building permit within a residential subdivision or partitioning, or an occupancy permit for any other use. When an applicant provides information which demonstrates that it is not practical to fulfill all conditions prior to issuance of such permit, the City may require a performance bond or other guarantee to ensure compliance with zoning regulations or fulfillment of required conditions. (2/01)

1. Types of Guarantees - Performance guarantees may be in the form of performance bond payable to the City of Keizer, cash, certified check, time certificate of deposit, or other form acceptable to the City. The City Attorney must approve the form and appropriate documents

filed with the City Recorder. Agreements may be recorded to restrict building permits. (2/01)

2. Amount of Guarantee - The amount of the guarantee must be equal to at least one-hundred-ten percent (110%) of the estimated cost of the performance. The applicant must provide a written estimate acceptable to the City, which must include an itemized estimate of all materials, labor, equipment and other costs of the required performance. (5/98)
3. Completion of Performance - All improvements shall be completed within one year of filing the performance guarantee. The Administrator may extend this time limit for up to one additional year. (2/01)
4. Maintenance Bonds for public improvements of 40% of the total cost of improvements is required for one year warranty. (2/01)

3.204 PUBLIC NOTICE REQUIREMENTS

3.204.01 Type I-A, Type I-B and Type I-D Actions

- A. Type I-A. Written notice of any Type I-A decision shall be mailed or delivered to the applicant. The notice shall be sufficient to indicate approval or denial of the request. (5/98)
- B. Type I-B and I-D. Written notice of any Type I-B and I-D decision shall be mailed to the applicant, all property owners within 250 feet of the subject property, and any affected neighborhood association. An affected neighborhood association is one containing the subject property, or within 250 feet of the subject property regardless of the jurisdiction. Written notice for a Type I-B and I-D shall be a summary of the application and the decision, plus a notice that the recipient may request a copy of the full decision, which shall include the following: (07/07/03)
 - 1. Summary of the request. (5/98)
 - 2. Relevant decision criteria. (5/98)
 - 3. Findings of fact indicating how the request does or does not comply with the decision criteria. (5/98)
 - 4. Conclusionary statement indicating approval or denial of the request. (5/98)
 - 5. Information regarding the appeal process including whom may appeal, where appeal must be submitted, fees and the appeal deadline. (5/98)
- A. Type I-C. Written notice of any Type I-C decision shall be mailed or delivered to the applicant. The notice shall be sufficient to indicate approval or denial of the request. Upon appeal of a Type I-C action, notice shall be sent to the applicant, all property owners within 250 feet of the subject property, and any affected neighborhood association. An affected neighborhood association is one containing the subject property, or within 250 feet of the subject property regardless of the jurisdiction. (2/01)

3.204.02 Type II and Type III Actions

- A. Written Notice. Written notice of any public hearing shall be mailed at least 10 days prior to the hearing date to the applicant, owners of property within 250 feet of the boundaries of the subject property, and any affected neighborhood association. An affected neighborhood association is one containing the subject property, or within 250 feet of the subject property regardless of the jurisdiction. (5/98)

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B. Posting Notice.

1. For application-initiated proceedings, including appeal from or review of administrative decisions, it shall be the applicant's responsibility to provide a sign frame and to place the notice. The City shall provide the notice to be attached to the frame. The applicant must post the notice on the subject property at least 10 days prior to the initial public hearing. At least five days prior to the hearing, the applicant shall file an affidavit with the Administrator that such posting has occurred. (01/07)
2. Notice of public hearing for legislative zone changes shall be given by posting in accordance with subsection 3.204.02B3. Each individual property need not be posted so long as there is such notice posted on each property or group of properties, which is not contiguous with other properties so posted. (2/01)
3. Notices shall be posted facing all streets adjoining the subject property so as to be visible from the street. If no street abuts the subject property, the notice shall be placed in such a manner as near as possible to the subject property that can be readily seen by the public. The posted notice shall include the following: (2/01)
 - a. The proposed action. (2/01)
 - b. Land use case number. (2/01)
 - c. The date, time and place of the public hearing. (2/01)
 - d. Name and phone number of the City representative to contact where additional information may be obtained. (2/01)

- C. Published Notice. Notice of the time, place and purpose of the Hearings Officer, Planning Commission, or City Council hearings shall be given by publication of a notice in a newspaper of general circulation in the City not less than ten days prior to the date of the initial hearing before the Hearings Officer, Planning Commission, or City Council. (01/07)

3.204.03 Type IV Actions

Notice of the time, place and purpose of the Planning Commission or City Council hearings shall be given by publication of a notice in a newspaper of general circulation in the City not less than ten days prior to the date of the hearing before the Planning Commission or City Council. (01/07)

3.204.04 Notice of Public Hearing

Notice of a hearing for any Type II, III or IV proposal that includes a new transportation facility or improvement, and where these facilities or improvements include or may impact a collector or arterial street, will be sent to the Oregon Department of Transportation and any special interest transportation groups as appropriate. Special interest transportation groups could include trucking organizations, bicycle and pedestrian interest groups, and disabled persons interest groups. Information that should be conveyed with the notice includes the following:

- (a) Project location
- (b) Proposed land use action
- (c) Location of project access point(s)

3.204.04-05 Notice for Appeals

An appeal to either the Hearings Officer, Planning Commission or City Council the city shall provide written notice at least 10 days prior to hearing to the appellant, the applicant and any other individuals who received notice of the original decision. (01/07)

3.204.05-06 Public Hearing Notice Requirements

Public notice shall: (5/98)

- A. Explain the nature of the application and the proposed use or uses which could be authorized; (5/98)
- B. Cite the applicable criteria from the ordinance and the plan that apply to the application at issue; (5/98)
- C. Set forth the street address or other easily understood geographical reference to the subject property; (5/98)
- D. State the date, time and location of the hearing; (5/98)
- E. State that failure of an issue to be raised in a hearing, in person or by letter, or failure to provide sufficient specificity to afford the decision maker an opportunity to respond to the issue precludes appeal to the Land Use Appeals Board of Appeals; (5/98)
- F. Include the name and phone number of the City representative where additional information may be obtained; (5/98)
- G. State that a copy of the application, all documents and evidence relied upon by the applicant and application criteria are available for inspection at no cost and a copy will be available at reasonable cost; (5/98)

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- H. State that a copy of the staff report will be available for inspection at no cost at least seven days prior to the hearing and a copy will be provided at reasonable cost; (5/98)
- I. Include a general explanation of the requirements for submission of testimony (5/98)

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Transportation System Plan

City of Keizer Transportation System Plan

Part 1 of 2: Plans and Policies



Keizer, Oregon

April, 2009



City of Keizer Transportation System Plan

Part I – Plans and Policies

Keizer, Oregon

Prepared For:
City of Keizer
930 Chemawa Road NE
Keizer, Oregon 97303
(503) 390-3700

Prepared By:
Kittelson & Associates, Inc.
610 SW Alder, Suite 700
Portland, OR 97205
(503) 228-5230

Project No. 8310.5

April 2009

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PREFACE

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City of Keizer Management Team

Sam Litke	Nate Brown
Senior Planner	Planning Director

ODOT Management Team

Dan Fricke
Senior Transportation Planner

Technical Advisory Committee (Keizer Citizens and Staff from City of Keizer, City of Salem and Marion County)

Jacque Moir Keizer City Council	Cathy Clark Keizer City Council
Holly Graf City of Keizer Planning Commission	Doug Schneider City of Keizer Planning Commission
Rob Kissler City of Keizer Public Works	Karen Odenthal Marion County
Ray Jackson Mid-Willamette Valley Council of Governments	Dave Baltz City of Salem
Dorothy Upton Oregon Department of Transport Transportation Planning Analysis Unit	Don Jordan Oregon Department of Transport District 3
Jason Locke Department of Land Conservation and Development	Matt Crall Department of Land Conservation and Development
Glen Hadley Salem-Keizer Transit District	Darlene Taylor Bikeways Committee
Steve Prothero Traffic Safety Commission	David Rios Traffic Safety Commission
Ron Anderson Bikeways Committee	Robert Fox Bikeways Committee

Mark Caillier
Business Representative

William Galligan
Interested Citizen

Joe Egil
Chamber Representative

Stan Compton
Business Representative

Tim Smith
Interested Citizen

Victoria Shinn
Chamber Representative

The Technical Advisory Committee members and City of Keizer staff devoted a substantial amount of time and effort to the development of the City of Keizer Transportation System Plan (TSP), and their participation was instrumental in the development of the recommendations that are presented in this report.

Consultant Team

Kittelson & Associates, Inc.
Elizabeth Wemple, PE
Dan Seeman, AICP
Dave Daly
Kirsty Bilton

Angelo Planning Group
Darci Rudzinski
Frank Angelo

Chapter 1

Introduction

INTRODUCTION

This document is an update to the September 2000, amended in 2004, City of Keizer Transportation System Plan (TSP). The purpose of the Keizer TSP Update (hereafter referred to as the TSP) is to provide a framework of goals, objectives, and recommended policies that will guide efforts for achieving an acceptable level of transportation facilities and services through the year 2031. This updated TSP replaces the 2004 TSP in-full.

The Keizer TSP update is organized into two parts. Part I is an explanation of the goals, objectives and policies for the TSP, an explanation of the performance measures for evaluating success of the TSP, and an explanation of the existing system and recommended improvements for each transportation mode. Part I is intended to be an applications document containing all information necessary for the TSP to be used on a daily basis. Part II contains all supplemental information regarding the TSP assumptions, calculations, methodologies, and evolution of ideas. Part II is intended to be supporting documentation and technical information necessary for Part I.

The TSP will be used by City staff, and policy makers to set guiding principles for the future growth and development of the City of Keizer. Citizens, stakeholders, and developers within the community can use this document to develop an understanding for the City's plans for transportation.

Process

The TSP Update process has been an 18 month process with key milestones to incorporate City staff input and Technical Advisory Committee (TAC) input. Membership on the TAC included citizens, representatives from City Council and Planning Commission, the City of Salem, and Marion County. In addition, other service districts (transit, fire) and stakeholders periodically attended the TAC meetings. Key milestones for the project included:

- TAC meeting #1 (July 2007) – Project kick-off and discussion of the draft goals and objectives.
- TAC meeting #2 (August 2007) – Draft policy changes, code and ordinance revisions, and implementation strategies for consistency with the TPR.
- TAC meeting #3 and Open House #1 (December 2007) – The existing conditions analysis and preliminary needs of the Keizer transportation system.
- TAC meeting #4 and Open House #2 (April 2008) – Future transportation system needs and alternatives.
- TAC meeting #5 (September 2008) – Draft alternative performance measures.
- TAC meeting #6 (December 2008) – Revised draft alternative performance measures, project needs, project funding, and draft TSP.

TSP Elements

The development of the Keizer TSP began with a review of the existing September 2000 TSP document (amended in 2004) that currently guides land use and transportation planning in Keizer. The outcome of this activity is documented in **Chapter 2** which summarizes the updated TSP goals, objectives and policies. This update is drawn from the goals identified in the previous TSP, conversations with City of Keizer staff and interactions with the TSP's Technical Advisory Committee.

Chapter 3 summarizes the alternative mode performance measures that will be used by the City to monitor advancement toward the community's goals and objectives. The current status and targets related to each performance measure, a brief summary of tools/methods for calculating each measure, as well as a brief summary of how each measure relates to the project goals and objectives is included in this chapter. Chapter 3 is intended to connect the performance measures to the TSP recommendations and to long term implementation and monitoring of TSP progress and success.

Chapter 4 addresses the street system element of the TSP. This element includes the roadway inventory, functional classification, design standards, operation standards, access management criteria, and near term, mid-term, and long term roadway improvement projects.

Chapter 5 provides a summary of existing pedestrian and bicycle facilities, the status of pedestrian and bicycle travel within the City, and near term, mid-term, and long term pedestrian and bicycle projects.



Chapter 6 addresses the transit element of the TSP and provides a summary of existing public transportation facilities, current programs encouraging use of transit, primary purposes for using public transportation within the City, and information related to future transit planning within the City.

Chapter 7 outlines transportation demand management (TDM) and includes existing programs, a list of potential strategies that the City can adopt in the future, and scenarios to successfully implement these TDM strategies.

Chapter 8 discusses all other transportation modes including air, water, pipeline, rail, and freight. This chapter summarizes local public and private airport facilities, water transportation, pipeline facilities, rail facilities, and freight facilities and routes.

Chapter 9 addresses the finance and funding element of the TSP and provides a discussion and comprehensive list of the recommended improvement projects as well as information related to current and possible future funding availability.

Chapter 10 summarizes outstanding projects and/or studies that were identified for future investigation by the City. Some of these projects and studies are currently being completed, while others are identified as possible needs.

Chapter 2

Goals, Objectives, and Policies

GOALS, OBJECTIVES, AND POLICIES

This chapter provides the goals, objectives, and policies for the future of Keizer's transportation system. The goals, objectives, and policies for the City's transportation system guide the development of the transportation system in the City. Objectives and policies for each goal are provided to identify and clarify the course of action to achieve each goal. The goals, objectives, and policies are based on those identified in the previous TSP, conversations with City of Keizer staff, and interactions with the project Technical Advisory Committee.

Public Involvement

Goal 1: Continued coordination with all residents of Keizer for regular monitoring and improvement of the Transportation System.

- Policy 1: Revisions to the TSP shall require a public hearing consistent with state and local requirements.
- Policy 2: The public shall be given an opportunity to comment on various transportation improvements projects through open house presentations and City Council meetings where public input will be considered.

Environment

Goal 2: Provide for a sustainable transportation system which respects the environment and community.

- *Objective 1: Minimize adverse effects on environmentally sensitive areas and water quality.*
 - Policy 1: Along existing streets which do not have storm drainage systems environmentally sensitive techniques such as the use of rain gardens shall be encouraged.
 - Policy 2: Analysis of all potential transportation improvements shall include potential impacts to wetlands and threatened or endangered species.
 - Policy 3: The planning and construction of future roads shall meet the requirements of applicable federal, state, and local environmental legislation.
 - Policy 4: Potential impacts from increased surface run-off associated with all transportation improvements shall be evaluated when comparing projects, options, or alternatives.
 - Policy 5: Road modernization and construction improvements shall be in compliance with all federal, state, and local water quality regulations.

Policy 6: Recommended improvements shall meet the requirements stipulated in the Clean Air Act Amendments of 1990 and the Oregon State Conformity Rule (OAR Section 340-20-700, et. seq.)

- *Objective 2: Minimize adverse effects (e.g. noise, air, speed) on neighborhoods.*
- *Objective 3: Consider opportunities to minimize impervious surfaces through alternative material use and pavement width reductions while still meeting the necessary standards.*

Policy 1: Where possible, such as on in-fill streets, the use of pervious surfaces shall be encouraged.

Streets

Goal 3: Maximize the efficiency of the existing transportation system.

- *Objective 1: Provide a street system emphasizing connectivity that minimizes travel time and congestion while being compatible with other modes of transportation.*

Policy 1: The city shall periodically review street classifications to ensure that all streets are correctly classified.

Policy 2: New development shall be required to connect to existing streets wherever possible and should avoid new cul-de-sacs unless it is determined through the review of the land use proposal to be impractical.

Policy 3: New development which will adversely impact the street system shall be required to make necessary improvements or mitigation measures that are determined to be roughly proportional to the new development.

Policy 4: Identify, designate, and adopt functional classifications for city streets.

Policy 5: Higher accident locations will be periodically evaluated for potential safety improvements.

Policy 6: Safety issues will be considered when evaluating improvement projects.

Policy 7: Minimize through traffic infiltration in residential neighborhoods by the application of the appropriate road standards and other measures.

Policy 8: Minimize disruption of neighborhoods when designing and constructing new roads.

Policy 9: The pedestrian, bicycle, and street system shall provide connectivity and continuity of travel between city entrance and exit points and major destinations and activity centers. The purpose is to minimize out-of-direction travel and circuitous routing.

- *Objective 2: Maximize available system capacity.*

- Policy 1: Street cross section design may be modified by the City without the need for a variance for City initiated street improvement projects.
 - Policy 2: The City shall consider measures such as signal coordination to maintain an efficient street system.
 - Policy 3: As much as practical, maintain a street inventory that satisfies planning and decision-making needs. The inventory and/or portions thereof should be updated on a regular basis.
 - Policy 4: Techniques that improve capacity shall be used within existing rights of way to the extent practical.
 - Policy 5: When appropriate, access management strategies should be employed on arterials to improve safety and facilitate through traffic flow.
 - Policy 6: Consider installation of the appropriate bikeway, pedestrian, and public transportation amenities and facilities during design of new streets or major improvements.
 - Policy 7: The City shall inventory unused rights of way to determine the viability of certain sections of this portion of the transportation system.
- *Objective 3: Maintain the physical integrity of existing roads to preserve and maximize infrastructure investments.*
 - Policy 1: The City shall periodically review its maintenance schedule to ensure the street system is adequately maintained.
 - Policy 2: The costs associated with maintaining the existing roads at an acceptable condition shall be determined and addressed prior to the allocation of funds for all improvements.
 - *Objective 4: Manage on and off-street parking to support community needs.*
 - *Objective 5: Maintain an acceptable level of service within the transportation system.*
 - Policy 1: Signalized intersections will operate at Level of Service "D" or better during weekday peak hour conditions. Unsignalized intersections will operate at LOS "E" or better during weekday peak hour conditions. Intersections of two arterial streets will also operate with a volume-to-capacity ratio less than 0.95.

Comprehensive, Connected, and Multimodal

Goal 4: Provide efficient and comprehensive linkages between all modes of transportation.

- *Objective 1: Develop paths, connections, and facilities to provide simple access between modes at different parts of work, shopping, or recreational trips.*
 - Policy 1: Support development of an appropriate transportation infrastructure that is comprehensive, connected, and multimodal.
 - Policy 2: Work with surrounding jurisdictions to provide improvements to the regional bicycle system.
 - Policy 3: Support the incorporation of multimodal connections and modal balance into local transportation facilities.
- *Objective 2: Safety must be an underlying concept for any element of the transportation system.*

Pedestrians and Cyclists

Goal 5: Develop a comprehensive system of pedestrian and bicycle facilities for the City of Keizer.

- *Objective 1: Establish a continuous, direct, and safe system of bicycle and pedestrian facilities within the Keizer urban area and connect it to the greater regional system.*
 - Policy 1: The City shall continue to work with pedestrian and bicycle groups to evaluate improvements to these facilities.
 - Policy 2: New developments shall be required to provide for pedestrian and bicycle facilities along the property frontage and connect to adjacent or nearby facilities.
 - Policy 3: The City shall evaluate strategies such as the formation of a local improvement district (LID) as a means to fill in the gaps in the pedestrian and bicycle system.
 - Policy 4: All bicycle facilities shall be constructed in accordance with ODOT bicycle facility standards where applicable.
 - Policy 5: Project designs that accommodate bicycle facilities within the roadway rights of way shall be implemented where practical.
 - Policy 6: The bicycle facilities inventory shall be updated on a regular basis to maintain accuracy.
 - Policy 7: Bicycle safety devices such as bicycle-proof drain grates, rubberized pads at railroad crossings, and appropriate signage shall be utilized.
 - Policy 8: Pedestrian issues shall be included in the prioritization of projects for allocation of all city funds.

- Policy 9: Support continuation of current (or equivalent) federal, state, and local funding sources to construct or improve pedestrian facilities.
- Policy 10: Encourage the timely repair and maintenance of existing pedestrian facilities including those identified as regionally significant.
- Policy 11: Ensure that all pedestrian facilities are accessible and constructed in accordance with ADA and City sidewalk standards, including reasonable grades and adequate clearances.
- Policy 12: The City shall work toward the completion of the street lighting system, designed to City illumination standards, on all arterial and collector streets. Through the use of neighborhood street lighting districts, property owners shall be encouraged to provide street lighting, designed to City illumination standards, on all public local streets.
- Policy 13: Support an urban design that adequately considers pedestrian needs.
- Policy 14: Where appropriate, such as on steep slopes or in environmentally sensitive areas, natural material in pedestrian facilities may be considered.
- Policy 15: Pedestrian facilities that are not located within the right of way shall be within an easement granting the public the right to use the facility.
- Policy 16: Designate a continuous and direct system of bicycle facilities that provides access to activity centers, schools, and other major destinations.
- Policy 17: Identify necessary facility improvements on the bicycle system to ensure adequate bicycle access to activity centers, schools, and other major destinations.
- Policy 18: The City will evaluate the feasibility and opportunity for Safe Routes to Schools programs in Keizer.
- Policy 19: The city has identified in its Parks Master Plan a priority for multi-use paths adjacent to green spaces.

Objective 2: Achieve greater public awareness of safe pedestrian, bicycling, and motoring practices, procedures, and skills.

Policy 1: The City shall monitor pedestrian and bicycle crash data to formulate ways to reduce pedestrian and bicycle crashes.

Policy 2: Encourage the delineation of safe pedestrian ways, emphasizing separation from vehicular areas using planting strips, crosswalks, and increased lighting where appropriate.

Transit

Goal 6: Support a public transit system for all Keizer residents focusing on accessibility and mobility.

- *Objective 1: Facilitate public transit services throughout the urbanized portions of the Keizer area that ensures convenient accessibility to a variety of destinations at different times of the day. Advocate affordable transit service and increase ridership.*

Policy 1: The City will work with the Transit District to assure continued high quality transit system responsive to local community needs.

Policy 2: Support the implementation of region-wide transportation system efficiency strategies and activities that encourage the diversion of commuter trips away from the single-occupant vehicle.

Policy 3: Encourage preferential transit treatments, transit-related facility improvements, and appropriate transit-supportive land uses and development along the regional transit corridors.

Policy 4: Support incremental increases in the frequency and capacity of service in the regional transit corridors as warranted by demand.

Policy 5: Support regional efforts to identify and implement transit funding strategies and programs that will provide adequate, long-term, stable revenue source(s) for the public transportation system.

Policy 6: Support ongoing review and analysis of farebox revenues, ridership levels, and service costs to optimize the transit fare structure.

- *Objective 2: Encourage a transit system which offers connectivity between activity centers, such as schools, parks, shopping centers, and residences with a minimum of transfers.*
 - Policy 1: Future development in Keizer Station in Area C may require the development of a commuter rail link and/or a satellite transit connection.
 - Policy 2: Establish a transit station to serve the needs of the community. The site should accommodate the proposed use and provide adequate buffering and screening to mitigate any impacts on adjacent properties.
 - Policy 3: Consider transit operations in the design of street infrastructure and land use developments wherever practical.
- *Objective 3: Support transit programs that serve transportation disadvantaged citizens consistent with Americans with Disabilities Act (ADA) requirements.*
 - Policy 1: Support continued development and implementation of accessible fixed-route and appropriate complementary paratransit services as identified in the ADA Transit Plan.
 - Policy 2: Consider supporting efforts of the Special Transportation Advisory Committee or its successors in implementing the RTP and/or similar efforts to improve transportation for the transportation disadvantaged.

Supplementary Transportation Resources

Goal 7: Collaborate with lead agencies (jurisdictions or organizations who lead the efforts to manage the various systems) to support development and maintenance of an adequate aviation, maritime, pipeline, and rail system to serve area demand.

- *Objective 1: Collaborate with lead agencies to support cost-effective regional aviation system operations and facilities adequate to serve area demand.*
 - Policy 1: Support appropriate, cost-effective improvements to the region's aviation and related facilities based on sound economic analysis.
 - Policy 2: Support efforts to renew commercial airline service to McNary Field as demand and financial considerations warrant.
 - Policy 3: Support maintenance efforts that will preserve the region's general aviation facility in a manner that makes resumption of commercial aviation activities viable.

- Policy 4: Support development of an appropriate multimodal transportation infrastructure that provides adequate access to the regional aviation facility, including a transit drop point at the terminal when scheduled commercial service becomes available.
- *Objective 2: Collaborate with lead agencies to support restoration of commercial and recreational navigation through the upper Willamette River where environmental impacts can be mitigated or minimized and economic justification exists.*
- Policy 1: Support the design and development of a boat ramp for recreational users to be located in Keizer Rapids Park.
- Policy 2: Provide appropriate assistance to further efforts to restore commercial navigation in the upper Willamette River through the SKATS area as warranted.
- *Objective 3: Collaborate with lead agencies to support a safe pipeline system that provides an adequate level of service for the movement of natural gas into, within, and through the Keizer area.*
- Policy 1: Support activities that maintain adequate pipeline operations and services into, within, and through the Keizer area.
- Policy 2: Support activities and procedures that ensure compliance with federal and state regulations pertaining to the safety of pipeline facilities and operations in the Keizer area.
- *Objective 4: Collaborate with lead agencies to support an adequate level of service to passenger and freight rail consumers within the Mid-Willamette Valley Council of Government area.*
- Policy 1: Support the development of a commuter rail station as shown in the Keizer Station Master Plan to be provided in Area C of Keizer Station. While no specific design or analysis has been done, this facility is to be either provided or an area set aside for its future development within Area C, unless it can be shown that a better location can be provided that will satisfy the design specifications for a commuter rail station, parking and associated facilities.
- Policy 2: Encourage continued and improved rail service to and from the Salem-Keizer metropolitan area.
- Policy 3: Support the continued improvement of the region's existing rail infrastructure and facilities.
- Policy 4: Encourage the development and implementation of adequate infrastructure and facilities to address the needs of both passenger and freight movements in the region.

- Policy 5: Encourage improvements to the regional transportation system that enhance rail safety as well as safety between railroads and other transportation modes.
- Policy 6: Encourage actions that maximize efficient use of existing rail infrastructure and improved service levels to address Salem-Keizer metropolitan area rail transportation needs.
- Policy 7: Designate all rail corridor rights of way as "Transportation Corridor Preserves" pending results of alignment specific suitability studies.
- Policy 8: Promote infrastructure upgrades to the passenger rail terminal.
- Policy 9: Promote and support intercity and intracity public transportation system connections to the passenger rail terminal.

Funding

Goal 8: Provide adequate funding to meet current and future capital, maintenance, and operations needs of Keizer's transportation system.

- *Objective 1: Strive to meet the current and future capital improvement needs of the transportation system through an optimum mix of funding sources.*
 - Policy 1: As defined by Oregon Revised Statutes and City Ordinances, Systems Development Charges may be collected by the City to mitigate impacts placed on area-wide transportation facilities.
 - Policy 2: As authorized in the Keizer Development Code and Oregon Revised Statutes, those responsible for new development will mitigate their development's impacts on the transportation system concurrent with the development of the property.
 - Policy 3: Seek federal funding for capital improvements projects through participation in the MPO or other designated distribution process.
 - Policy 4: Continue to set aside one (1) percent of its allocation of State Highway Gas Tax funds for creation of on-street bicycle and pedestrian facilities.
 - Policy 5: Whenever possible, reserve funds for acquisition of property for future right of way opportunities.
 - Policy 6: Assuming no changes in state funding mechanisms, the primary funding sources for street system maintenance activities shall be the City's allocation of the State Highway Fuel Tax.

Policy 7: Continue to participate in cooperative agreements with other state and local jurisdictions for maintenance and operations activities based on equitable determinations of responsibility and benefit.

Policy 8: Transportation improvement projects identified on the Projects List in the TSP reflect the planning project list for these improvements. It is understood that this list is not the City's Capital Improvement Project list but is to be used as guidance as to the funding of transportation projects. While the City is not bound to fund all projects on this list it shall endeavor to complete as many projects within the specified time periods as is possible.

- *Objective 2: Strive to secure adequate funding to implement a street maintenance program which sustains a maximum service life for pavement surfaces and other transportation facilities.*

Policy 1: Seek additional funding sources to meet the long term financial requirements of sustaining a perpetual life street maintenance program.

- *Objective 3: Strive to secure funding to adequately operate the transportation system including advance planning, design engineering, signal operations, system management, and illumination and cleaning activities.*

Policy 1: Encourage and facilitate the formation of local street lighting districts to enable neighborhoods the opportunity for street illumination. The city shall consolidate street lighting districts by subdivision to achieve cost equity and benefits from economies of scale. The City may consider consolidation of existing street lighting local improvement districts.

Policy 2: Pursue the award of federal, state, and private grants to augment operations activities, especially in the planning and engineering functions.

Transportation Demand Management

Goal 9: Reduce the single occupant vehicle demands on the current and future transportation system.

- *Objective 1: Work towards reducing the City's vehicle miles traveled.*

Policy 1: Implement and monitor the performance measures identified in Chapter 3 of this document in order to reduce vehicle miles traveled within Keizer.

- *Objective 2: Reduce automobile travel demand generated by employment sites, retail development, schools, and public events in cooperation with the Metropolitan Planning Organization and other public interest groups.*

Policy 1: Continue support of the Regional TDM Program, including the Cherriots Rideshare Program.

- Policy 2: The City shall explore the availability of funding sources to ensure the ongoing viability of the Regional TDM Program.
- Policy 3: Identify groups which have the greatest potential for reducing automobile trips, including employers and employment sites, and commuting students. Flexible-work schedules, telecommuting, transit ridership and car/van-pooling shall be emphasized as means to reducing trips.
- Policy 4: Increase contacts to employers and schools by periodically contacting employers and schools to encourage trip reduction efforts. The City may also use public recognition for those organizations' efforts.
- Policy 5: Increase ridesharing within the City by implementing internal incentive and recognition programs for employees who already use alternative transportation modes.
- Policy 6: Develop a program, possibly through the permit process, to encourage promoters of public events to raise awareness of available alternative transportation. An example is placing bus routes and times in advertisements for sporting events.
- Policy 7: Conduct marketing campaigns through various media to raise awareness of transportation options and to encourage the use of alternative transportation modes.
- Policy 8: Conduct outreach activities at schools and community groups to inform them about transportation mode choices and the effects.

Goal 10: Ensure that the City of Keizer has an appropriate supply of parking facilities.

- *Objective 1: Determine Keizer's need for on-street parking facilities.*

- Policy 1: On-street parking is second in priority to the needs of the travel modes (i.e., vehicle, transit, bicycle, pedestrian) using the street right of way, except where abutting properties have no ability to provide their own off-street parking or where on-street parking is needed to support an existing business district.
- Policy 2: Where practical, existing on-street parking will be removed in preference to widening streets for additional travel lanes.

- *Objective 2: Promote economic vitality and neighborhood livability by requiring an appropriate supply of off-street parking facilities.*

- Policy 1: New development must provide, or have access to, an appropriate supply of off-street parking.

- Policy 2: Through the land use process, continue to utilize maximum parking requirements. The purpose of this policy is to avoid the unnecessary use of land for off-street parking for new developments.
- Policy 3: Major activity centers shall be accessible by transit and shall meet their parking demand through a combination of shared, leased, and new off-street parking facilities.
- *Objective 3: Reduce the City's parking supply per capita by ten percent by the year 2031.*
 - Policy 1: Work with the Metropolitan Planning Organization (MPO) to better estimate, evaluate, and monitor the parking inventory for commercial, industrial, and institutional lands within the MPO so as to meet the statewide goal of reducing per capita parking supply.
 - Policy 2: Develop strategies to implement the MPO's adopted parking measures on a local level.
 - Policy 3: Periodically review the City's off-street parking requirements to ensure that it is comprehensive and implements the goals of the TSP. This can include analysis of industry standards, changes in consumer behavior trends, or other measures.
 - Policy 4: Encourage new developments to establish parking plans which can utilize shared parking areas and alternative transportation options that will result in a reduction in the overall area needed for car parking.

Transportation System Management

Goal 11: Maximize the efficiency of the existing surface transportation system through management techniques and facility improvements.

- *Objective 1: Provide a system of traffic control devices maintained and operated to an acceptable LOS.*
 - Policy 1: Continue modernization of the signal system and improvements in coordination and efficiency. The City shall employ traffic signal timing plans that maximize the efficiency of the system given the particular travel demand of that time of day.
 - Policy 2: Conduct regular, preventive signal maintenance to avoid traffic delays and congestion from avoidable malfunctions.
 - Policy 3: Regularly maintain all traffic control devices (signs and markings) to minimize congestion and driver delay due to confusion. While priority shall always be given to regulatory and warning signs, informational (street name and directional) signs shall also be given attention.

- Policy 4: Strive to give the physical improvement of intersections a higher priority than general street widening when seeking ways to increase capacity and relieve congestion.
 - Policy 5: Install bus turnouts on existing rights of way for arterial streets as a means of facilitating traffic flow during peak travel periods. The feasibility, location, and design of bus bays shall be developed in consultation with the Salem Area Mass Transit District.
 - Policy 6: Improve vision clearance through enforcement of maintenance requirements.
- *Objective 2: Improve physical design and management of on-street parking consistent with community need.*
 - Policy 1: When on-street parking is permitted on an arterial street, removing the on-street parking shall be the first consideration for enhancing capacity. Depending upon the situation and proper analysis, timed on-street parking prohibitions during peak travel periods may be considered in lieu of permanent removal.
 - *Objective 3: Increase street system safety and capacity through access management.*
 - Policy 1: Develop and adopt specific access management standards.
 - Policy 2: When developed, access management standards will be incorporated into all arterial street design projects.
 - Policy 3: Consistent with the goal of improving mobility, develop access management projects for arterials to improve safety and traffic flow.

Chapter 3

Alternative Mode Performance Measures

ALTERNATIVE MODE PERFORMANCE MEASURES

This chapter summarizes the performance measures which will be used by City staff to monitor successful implementation of the community's vision for alternative mode transportation. The current status and targets related to each performance measure, a brief summary of tools/methods for calculating each measure, and a brief summary of how each measure relates to the project goals and objectives is documented below. This chapter is intended to provide direction on how to measure the system performance and monitor TSP progress and success.

Table 3.1 describes the performance measures and benchmarks for the pedestrian, bicycle, and transit modes as well as for funding of the transportation system. The percentage values shown in parentheses indicate what percentage of the facility the measure represents under existing conditions as well as desired for the future. A definition of each performance measure is provided in the following sections.

Table 3.1 TSP Performance Measures for Monitoring TSP Implementation

Measure	Description	Category (Unit)	2008 (percent of system)	2015 (percent of system)	2020 (percent of system)	2025 (percent of system)	2031 (percent of system)
1. Pedestrian	Increase miles of sidewalks along arterial, collector and residential streets and along streets that are adjacent to transit routes and neighborhood trip generators (i.e. schools, parks community centers, etc.).	Arterial/Collector (miles)	25 (65%)	27 (70%)	30 (78%)	32 (85%)	35 (92%)
		Local Street (miles)	102 (72%)	108 (78%)	110 (78%)	116 (82%)	120 (85%)
		Private Street (miles)	30	31 32 34			36
2. Bicycle	Increase miles of bike lanes along arterial and collector streets and along streets that are adjacent to transit routes.	Arterial/Collector (miles)	30 (72%)	32 (78%)	33 (80%)	35 (85%)	38 (91%)
3. Transit and Land Use	Number of residential units or square footage of commercial development within a transit influence area.	Residential (dwelling units)	9,800 (70%)	10,712 (73%)	11,775 (75%)	12,780 (77%)	14,032 (80%)
		Commercial (sq. ft)	1.6 million	2.2 million	2.5 million	2.8 million	3.5 million
4. Funding	Spending on transportation increases at a rate to match projected funding needs.	Annual	\$1.2 mil	\$720,000	\$720,000	\$800,000	\$900,000
		5 or 7 year increment	N/A	\$5.04 mil	\$3.75 mil	\$4.0 mil	\$4.5 mil
		Cumulative	\$1.2 mil	\$6.24 mil	\$9.99 mil	\$13.99 mil	\$18.49 mil

Pedestrian Performance Measure

1. Increase miles of sidewalks along streets that connect to transit routes and neighborhood trip generators (i.e. schools, parks, community centers, shopping centers, etc.).

Past experience in Keizer and similarly sized communities has shown that pedestrian use increases when the pedestrian facilities provide safe and convenient connections between residential areas and nearby attractions such as schools, parks, transit stops, shopping areas, and employment centers. The goal is to increase the miles of sidewalks within Keizer along arterial, collector, and residential streets with special emphasis on streets that also provide transit service and serve neighborhood trip generators such as school, parks, community centers, etc. It is also important for the Keizer pedestrian system to link with the neighboring



regional pedestrian/pathway system. With the expansion of the pedestrian facilities in these key areas there will be a greater likelihood of walking trips in the future.

There are currently 157 miles of sidewalks in Keizer. A review of recent transportation projects indicates that approximately 6 miles have been added to arterial and collector streets in Keizer over the last 10 years, at a rate of approximately 0.6 miles per year. The proposed performance measures shown in Table 3.1 suggest an increased rate of 1.5 miles of sidewalk per year, which is double the rate of construction for the last ten years.

In addition the City is committed to constructing sidewalk projects which: fill an identified gap in the sidewalk system; or provide a connection to a community destination such as a school, park or employment/shopping area. Of the sidewalk related projects identified in Table 9.1 of Chapter 9 the following will fill an identified gap in the community's sidewalk system:

- S5 - Dearborn Avenue - Construct sidewalk on Dearborn Avenue from 13th Avenue to Verda lane;
- S2 - Mandbrin Avenue – Fill in sidewalk gaps on Mandbrin Avenue between Toni Avenue and River Road
- S9 - Windsor Island Road - Fill in sidewalk gaps from Chemawa Road to City limits.
- S10 - O-Neil Road - Fill in sidewalk gaps from Park Meadow Drive to Clear Lake Road

- S12 - Wheatland Road - Fill in sidewalk gaps from River Road to Clear Lake Road

Projects that will provide connections to current community destinations are:

- S4 - Chemawa Road from west city limits to River Road - provides partial connection to Keizer Rapids Park
- S11 - Chemawa Road from Verda Lane to Lockhaven Drive - providing a connection to employment and shopping at Keizer Station.
- S3 - Cummings Lane from Palma Ciea Park to River Road - providing a connection to Palma Ciea Park and Cummings Elementary school.
- S6 - Delight Street from Cummings Lane to Chemawa Road - providing a connection to Cummings Elementary and McNary High school.

Total estimated sidewalk spending is shown in Table 9.3 as \$12,765,000. The projects identified above have an estimated total cost of \$10,810,000. Approximately 85-percent of the sidewalk spending will be on projects to fill in gaps or connect destinations. The City's focus on filling existing gaps, connecting community destinations, and achieving 92-percent completion of the sidewalk system by 2031 will lead to a comprehensive pedestrian system.

Bicycle Performance Measure

2. Increase miles of bike lanes along arterial and collector streets and along streets that are adjacent to transit routes.

The goal is to provide a complete and continuous bicycle facility network within Keizer and to connect it to the bicycle networks of the City of Salem and Marion County. A bicycle facility includes designated bike routes, striped bike lanes on a roadway, shared-lane pavement markings (also called sharrows¹), wide shoulders (5 foot or greater), or a separate path. The emphasis of improvements to the bicycle system is to create a safe comprehensive system of bicycle facilities within the city of Keizer. When a safe and convenient bicycle network is in place, there are



¹ Shared-lane pavement markings are a tool used to accommodate cyclists on roadways where bicycle lanes are desirable but infeasible to construct, as shown in the photo above. While they are not documented in the current Manual on Traffic Control Devices (MUTCD), the upcoming revision will include them.

opportunities for increased travel by bike in the community. Through the development of additional bike facilities, Keizer can also help achieve the transit goal by prioritizing bike projects that are able to serve transit hubs or transit oriented developments.

There are currently 30 miles of bike facilities in Keizer. A review of recent transportation projects indicates that approximately 10 miles of bike lanes for arterial and collector streets have been added to Keizer in the last 10 years, at a rate of approximately 1 mile per year.

Similar to sidewalks, the city is committed to constructing bicycle projects which: fill identified gaps in the system; or provide a connection to community destinations such as schools, parks or employment/shopping areas. Project B3 in Table 9.1 of Chapter 9 designates Verda Lane from Kalmia Drive to Lockhaven Drive as a bicycle route and fills an existing bicycle system gap on Verda Lane.

Bicycle projects that will connect current community destinations:

- B2 – Chemawa Road – construct bicycle lanes on both sides of the roadway from Windsor Island Road to West City Limit providing a connection to Keizer Rapids Park;
- B7 – Delight Street – designate as a bicycle route from Cummings Lane to Chemawa Road providing a connection to Cummings Elementary and McNary High schools;
- B11 – Meadow Glenn Street – Designate as a bicycle route from Parkmeadow Street to Clear Lake Elementary school;
- B4 – Tepper Lane – construct bicycle lanes on both sides of the street from McLeod Street to the railroad tracks providing a connection to Keizer Station;
- B9 – Brooks Avenue – designate as a bicycle route from Manbrin Drive to Salem Parkway providing regional connectivity; and
- B10 – 14th Avenue – Designate as a bicycle route from Lockhaven Drive to Gubser Elementary School.

Total estimated bicycle project spending is shown in Table 9.3 as \$2,480,000. The projects identified above have an estimated total cost of \$1,180,000. Approximately 50-percent of the bicycle project spending will be on projects which fill in gaps or connect destinations.

Transit and Land Use Performance Measure

3. Number of residential units, or square footage of commercial development, within a transit influence area.

When higher density residential development and employment centers are placed in close proximity to transit service there is a greater opportunity for transit trips, thereby reducing

Transit and Land Use Performance Measure

3. Number of residential units, or square footage of commercial development, within a transit influence area.

When higher density residential development and employment centers are placed in close proximity to transit service there is a greater opportunity for transit trips, thereby reducing vehicle miles traveled (VMT) in Keizer. For the purposes of this measure, the transit influence area is defined as an area within ¼ mile of a transit center or an area within ¼ mile of a transit stop. This type of development pattern can also increase opportunities for biking and walking between uses.

To help this measure move forward, Keizer will appropriately designate vacant or developable land to accommodate greater density and commercial/employment lands in transit influence areas. Additionally, Keizer will offer incentives for development and redevelopment in these areas. The measures can be deemed successful at the time the number of units per year or the square footage of commercial space per year exceeds the identified goals shown in Table 3.1. This table shows that there are separate goals for residential units and commercial development.



Funding Performance Measure

4. Spending on transportation increases at a rate to match projected funding needs.

The goal of this performance measure is to ensure adequate funding commitments to the future transportation improvements (as shown in the project priority list) needed in Keizer to support the adopted comprehensive land use plan.

In order to maintain continuity between funding and transportation system operation, Keizer will need to adjust the spending, reduce the number or cost of transportation projects, or develop other funding strategies. As appropriate, Keizer will seek funding grants and other opportunities to reduce potential funding shortfalls.

Chapter 4

Roadway System

ROADWAY SYSTEM

The roadway system is the primary means of mobility for Keizer residents. Pedestrians, bicyclists, and motorists all utilize public roads for the vast majority of their trips. Typically, roadways can be owned, operated, and maintained by the State of Oregon, a County, and/or a local jurisdiction. In Keizer all of the arterials and collectors are owned, operated, and maintained by the City of Keizer as illustrated in Figure 4.1. Salem Parkway (99E Business) and I-5 are owned and maintained by the Oregon Department of Transportation (ODOT).

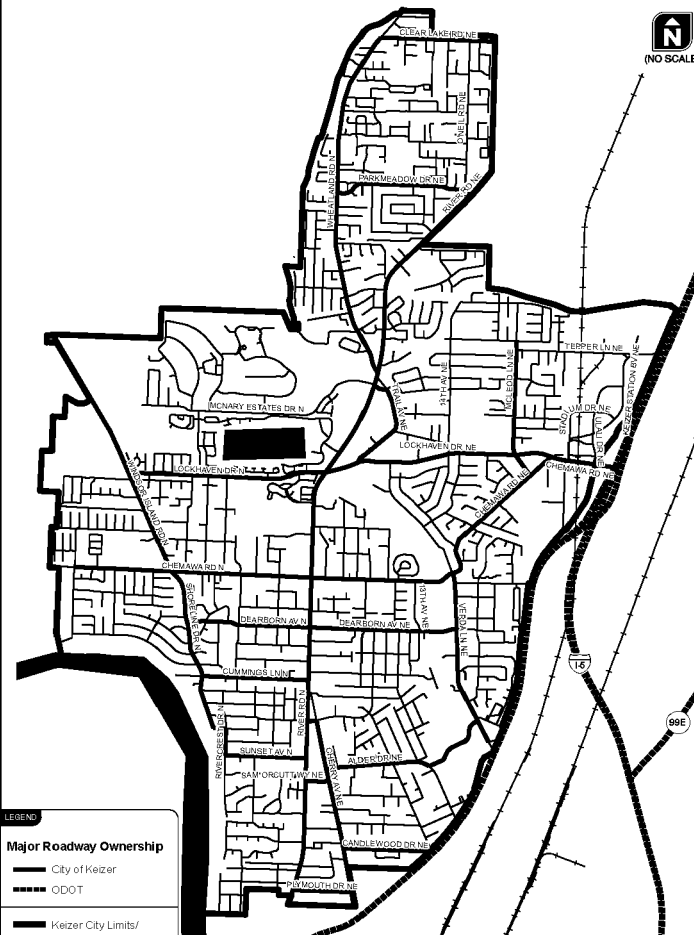
With jurisdiction of the roadways, the City of Keizer is responsible for:

- Determining the road's functional classification. This sets the roadway's role in the transportation system and its design features, such as width, right-of-way requirements, driveway (access) spacing standards, and the types of pedestrian and bicycle facilities provided.
- General maintenance and upkeep.
- Approving construction and access permits.

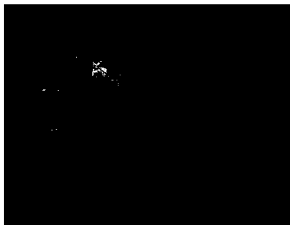
Functional Classification

A roadway's functional classification describes its role in the transportation system. In general, the basis of the functional classification of a roadway is dependent upon the priority given to each of its two primary functions: 1) providing regional mobility, and 2) promoting local accessibility. Mobility refers to physical movement and is evaluated based on travel distance and speed, while accessibility refers to the ability to connect desired goods, services, activities, and destinations. The City of Keizer defines streets based on the following classifications:

- **Major Arterials** serve as the supporting framework for the City's roadway network. These roadways are intended to serve higher volumes of traffic and provide the highest level of mobility into, out of, and within the City of Keizer. Approximately 15,000 to 50,000 Average Daily Traffic (ADT) travel on major arterials. Cherry Avenue, Lockhaven Drive between River Road and I-5, and River Road are major arterials in Keizer.
- **Minor Arterials** complement the major arterial system and primarily handle trips within Keizer. Minor arterials function to provide access between major arterials and collector roads and can also provide access to community activity centers, such as schools and parks. Minor arterials should not go through residential neighborhoods. Minor arterials function with approximately 7,000 to 20,000 ADT. Chemawa Road between River Road and Lockhaven Drive, and Wheatland Road are examples of minor arterials in Keizer.



- **Collectors** represent the intermediate roadway class. As their name suggests, these roadways collect traffic from the local street system and distribute it to the arterial street system. These roadways provide a balance between traffic movement and land access and facilitate traffic circulation through the city. Collectors function at 1,600 to 10,000 ADT. Chemawa Road between Windsor Island Road and 15th Avenue, and Dearborn Avenue are examples of collectors in Keizer.
- **Local roads** and streets are the lowest roadway class. Their primary purpose is to provide local land access and to carry locally generated traffic at relatively low speeds to the collector street system. Local streets provide connectivity through neighborhoods and are designed to discourage cut-through vehicular traffic. The majority of roadways in Keizer are local streets. As a general rule of thumb, residential livability concerns arise at approximately 1,600 ADT. This discussion is provided for reference only because the TSP focuses exclusively on Collector and Arterial Streets.



It is common for a street to have different classifications on some sections. As noted in the classification examples, Chemawa Road operates as both a minor arterial and collector within the City of Keizer. Figure 4.2 shows the classification of all roadways within the City of Keizer. As previously noted, Salem Parkway (99E Business) is owned and operated by ODOT. According to the ODOT functional classification system, Salem Parkway is classified as a Regional Highway (Expressway). As such its function is to provide regional mobility and, in this particular location, a connection between I-5 and Salem.



LEGEND

Functional Classification

— Major Arterial

--- Minor Arterial

----- Collector

— Local Streets

— Keizer City Limits/
Urban Growth Boundary

— Railroad

Design Standards

The roadway design standards are shown in Table 4.1. The City of Keizer has developed street design standards based on the functional classification and operational needs of the roadway. The design standards were developed with close collaboration between planning and public works staff at the City. These standards are in accordance with the Transportation Planning Rule's requirement for minimum standards consistent with operational needs (Section 660-012-0045-7). Figures 4.3 and 4.4 illustrate the street design standard cross-sections.

The street design standards show five different options for local streets. These standards allow the City flexibility in the design of the street network.

Table 4.1 Street Design Standards

Functional Classification ¹	Number of Lanes	Parking	Bike Lanes ²	Roadway Width (ft.) ³	Sidewalks ⁴	Right-of-Way Width (ft.) ^{4,5}	Maximum Dwelling Units Served
Major Arterial	5	No ^{6,7}	Yes	50-72	Yes	84	-
Minor Arterial	3	No ^{6,7}	Yes	36-50	Yes	72	-
Collector	2	No ^{6,7}	Yes	36-50	Yes	68	-
Local V	2	Yes	No	34	Yes	48	-
Local IV	2	Yes	No	32	Yes	46	79
Local III	2	Yes	No	30	Yes	44	19
Local II	2	Yes	No	30	Yes	42	14
Local I	2	Yes ⁷	No	28	Yes ⁷	35	9

¹ All local street categories have a ten-foot public utility easement on both sides and a five-foot slope and utility easement on collectors and arterials.

² Standard bike lane widths are six feet; although five feet may be approved on a case by case basis.

³ Street improvement and right-of-way widths may be increased on a case by case basis as required by the city in accordance with Public Works Design Standards.

⁴ All streets will have five foot wide sidewalks on both sides, unless noted. Meandering sidewalks may be considered/required on arterials and collectors.

⁵ Additional right-of-way may be required at intersections for additional turning lanes. Right-of-way at intersections is required to provide for a minimum 20 foot curb return radius.

⁶ Depending on installed improvements.

⁷ Parking/sidewalks only required on one side of street.

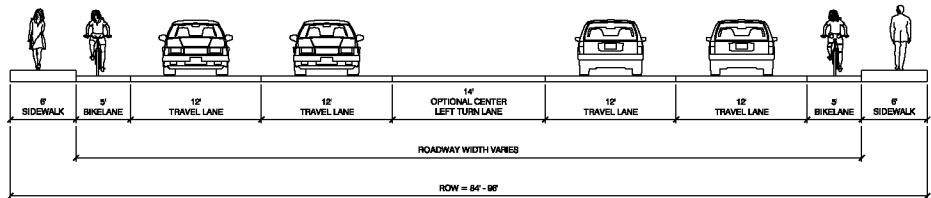
Table 4.1 shows that parking is generally not allowed on higher order streets (i.e. arterial and collector streets), however under some circumstances it may be permitted where it is considered appropriate by the City. This will be determined at the discretion of the City Engineer or City Council on a case by case basis.

These guidelines also include five foot planter strips on collectors and minor arterials. Additionally, use of transit is facilitated by construction of bus pullouts on Local Street V, collectors, and arterials.

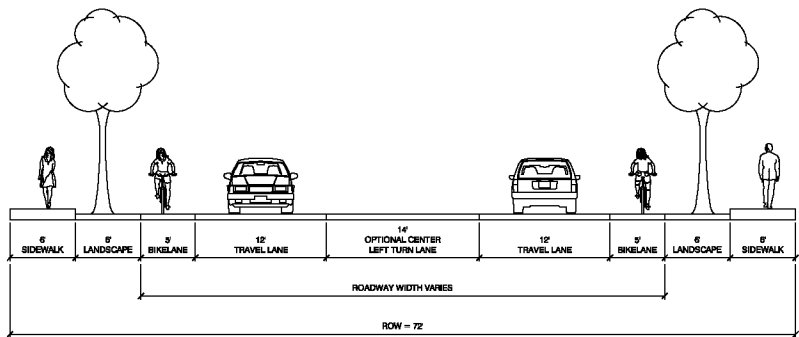
The City of Keizer has also developed design standards for access easements. An access easement is a private roadway that serves less than five dwelling units. These standards are shown in Table 4.2 and illustrated in Figure 4.3.

Table 4.2 Private Easement Street Design Standards

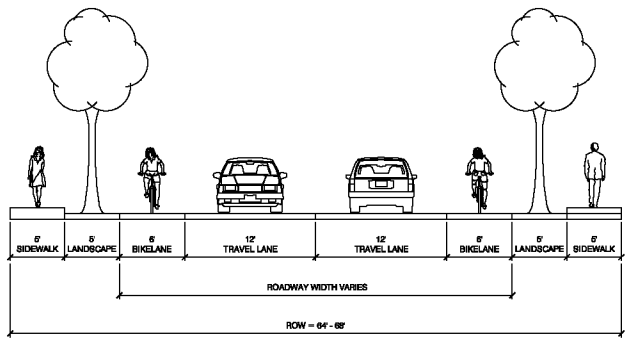
Easement Type	Minimum Right-of-Way Width (ft.)	Minimum Pavement Width (ft.)	Parking	Sidewalks	Maximum Dwelling Units Served
Access Easement II	16	16	No	No	4
Access Easement I	12	12	No	No	2



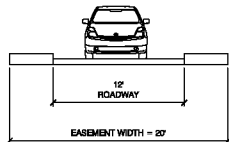
MAJOR ARTERIAL



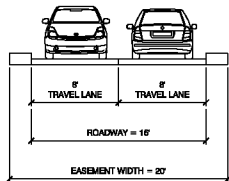
MINOR ARTERIAL



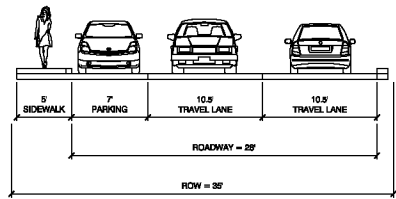
COLLECTOR



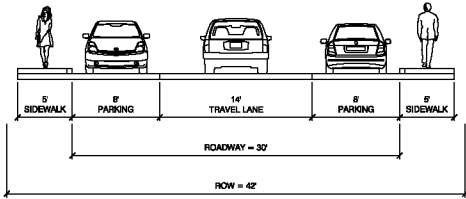
PRIVATE ACCESS EASEMENT I
(SERVING UP TO 2 DWELLING UNITS)



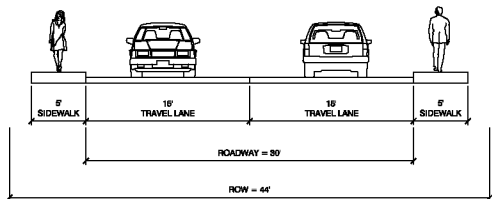
PRIVATE ACCESS EASEMENT II
(SERVING UP TO 4 DWELLING UNITS)



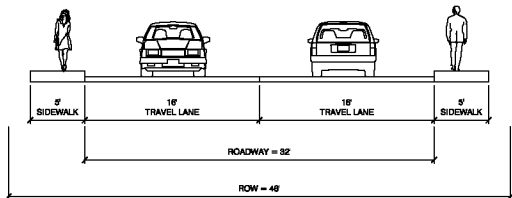
LOCAL STREET I
(SERVING UP TO 9 DWELLING UNITS)



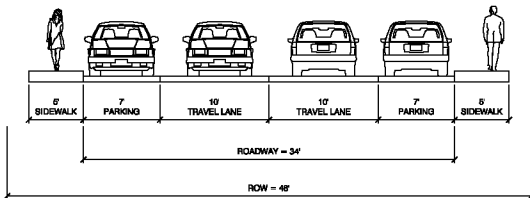
LOCAL STREET II
(SERVING UP TO 14 DWELLING UNITS)
SIDEWALKS MAY BE IN EASEMENTS FOR INFILL PROJECTS



LOCAL STREET III
(PARKING ALLOWED BOTH SIDES)
(SERVING UP TO 19 DWELLING UNITS)



LOCAL STREET IV
(PARKING ALLOWED BOTH SIDES)
(SERVING UP TO 79 DWELLING UNITS)



LOCAL STREET V
(PARKING ALLOWED BOTH SIDES)
(SERVING 80+ DWELLING UNITS)

Access Management Strategies

As noted earlier in this chapter, arterial streets serve two functions; 1) providing regional mobility for through traffic, and 2) promoting local accessibility for properties fronting and adjacent to the roadway. Because of the conflicting nature of these two functions, the traffic mobility function of arterial streets can be hampered by providing too much access to individual properties.

It is the purpose of this section to try and maintain the balance between these two arterial functions, recognizing both the rights of property owners to reasonable access and the public purpose of efficient traffic flow. These standards apply to new development or redevelopment; existing accesses are allowed to remain as long as the land use does not change. As a result, access management is a long term process in which the desired access spacing of a street evolves as redevelopment occurs.

In implementing access management standards, parcels cannot be landlocked but must have some way of accessing the public street system. This may mean allowing shorter access spacing than would otherwise be allowed, but the possibility of providing shared access with a neighboring parcel should also be explored.

Arterial Access Spacing Standards

On arterial streets, the minimum distance between curb cuts on any one block face, or between curb cuts and an intersecting street, is based on the posted speed of the street and shall not be less than 150 feet. No driveway will be permitted within the operational area of a traffic signal. Minimum distance for a curb cut from a signalized intersection will be 200 feet. Measurements shall be taken from the inside edge of the driveway, excluding any apron.

Table 4.3 shows the minimum spacing for public streets and driveways on an arterial street. Minimum and maximum allowed widths for private driveways for various land uses are summarized in Table 4.4.

Table 4.3 Arterial Access Spacing Standards

Posted Speed (miles per hour)	Minimum Spacing (feet)
25 150	
30 150	
35 150	
40 185	
45 230	
50 or higher	275

Table 4.4 Private Access Driveway Width Standards

Land Use	Minimum Width (feet)	Maximum Width (feet)
Single Family Residential	12	24
Multi-Family Residential	24	30
Commercial 3	0	40
Industrial 30		40

Where the existing configuration of properties and curb cuts in the vicinity of the building site precludes spacing of an access in accordance with Table 4.3, the Public Works Director shall be authorized to reduce the spacing requirement if all of the following conditions have been met:

1. Joint access driveways and cross access easements are provided, where possible, in accordance with the standards;
2. The site plan incorporates a unified access and circulation system in accordance with standards; and
3. The property owner enters into a written agreement with the City that pre-existing connections to the site will be closed and eliminated after construction of each side of the joint use driveway.

Driveway approaches must be designed and located so that an exiting vehicle will have an unobstructed sight distance (exclusive of tree trunks and post or columns less than one foot in diameter) in accordance with Table 4.5.

Table 4.5 Driveway Access Sight Distance Standards

Posted Speed (miles per hour)	Minimum Sight Distance (feet)
25 150	
30 175	
35 225	
40 275	
45 325	
50 or higher	350

Access Management Techniques

From an operational perspective, access management measures limit the number of redundant access points along roadways. This enhances roadway capacity and benefits circulation. Enforcement of the access spacing standards should be complemented with the provision of alternative access points. Purchasing right of way and closing driveways without a parallel road system and/or other local access could seriously affect the viability of the impacted properties.

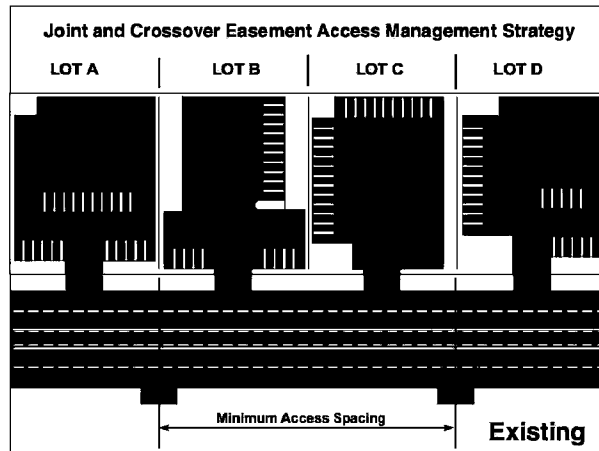
Thus, if an access management approach is taken, alternative access should be developed to avoid “landlocking” a given property.

As part of every land use action, the City of Keizer will evaluate the potential need for conditioning a given development proposal with the following items in order to maintain and/or improve traffic operations and safety along arterial and collector roadways.

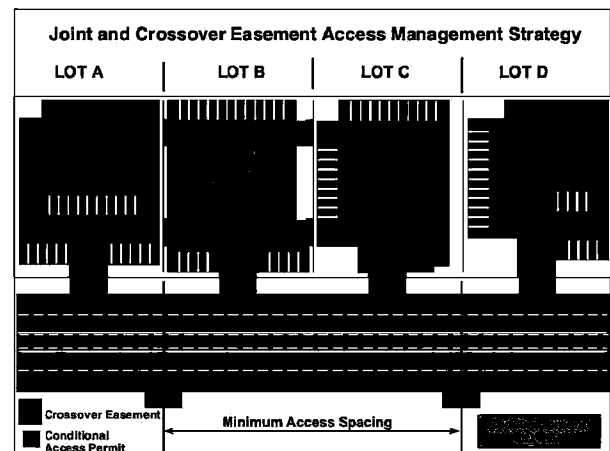
- Crossover easements should be provided, where possible, on all compatible parcels (considering topography, access, and land use) to facilitate future access between adjoining parcels.
- Conditional access permits may be issued to developments having proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing driveways.
- Right of way dedications may be provided to facilitate the future planned roadway system in the vicinity of proposed developments.
- Half-street improvements (sidewalks, curb and gutter, bike lanes/paths, and/or travel lanes) may be provided along site frontages that do not have full build out improvements in place at the time of development.

Figure 4.5 illustrates the application of crossover easements and conditional access permits over time to achieve access management objectives. The individual steps are described in Table 4.6. As illustrated in the figure and supporting table, using these guidelines, driveways along the arterials will eventually move in the overall direction of the access spacing standards as development and redevelopment occur.

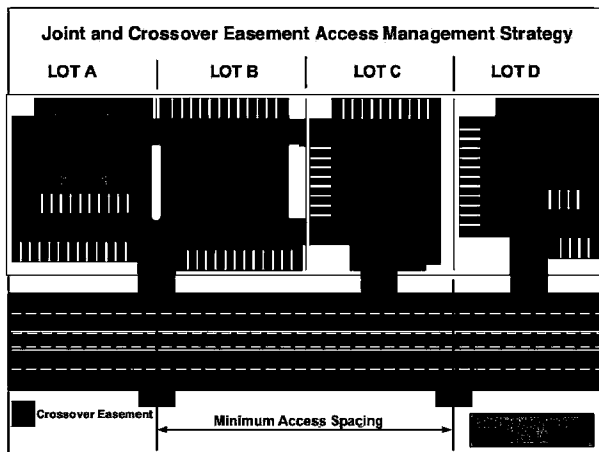
Proposed Access Management Strategy



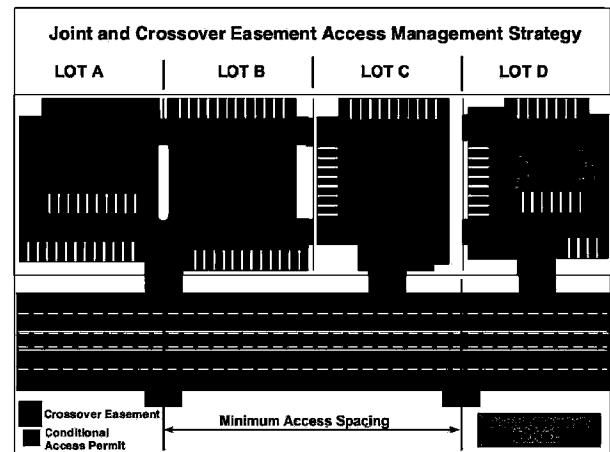
Step 1



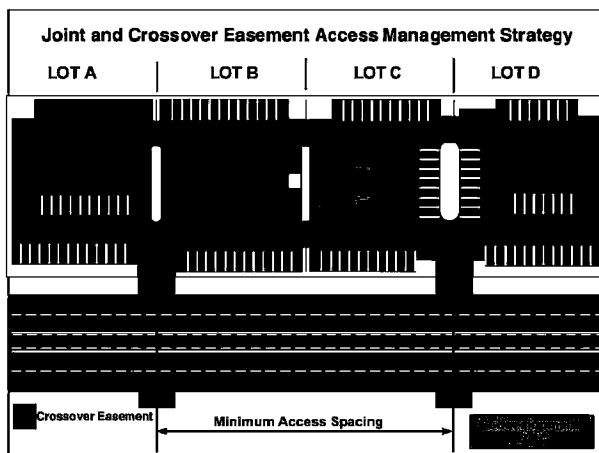
Step 2



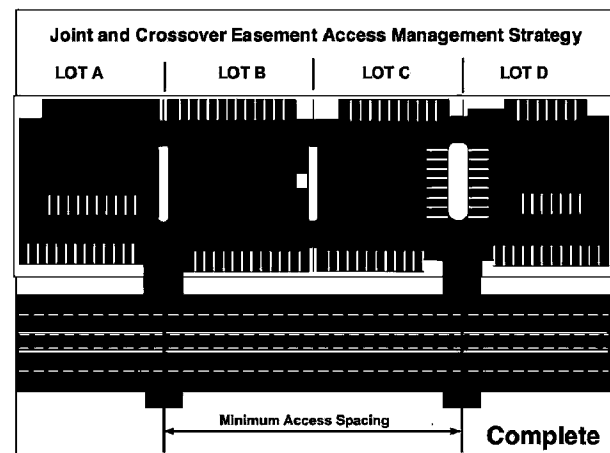
Step 3



Step 4



Step 5



Step 6

**EXAMPLE OF CROSSOVER EASEMENT / INDENTURE /
CONSOLIDATION / CONDITIONAL ACCESS PROCESS
KEIZER, OREGON**

**FIGURE
4.5**

Table 4.6 Crossover Easement/Access Consolidation/Conditional Access Process

Step	Process
1	EXISTING – Currently Lots A, B, C, and D have site access driveways that neither meet the access spacing criteria nor align with driveways or access points on the opposite side of the roadway. <i>Under these conditions motorists are put into situations of potential conflict (conflicting left turns) with opposing traffic. Additionally, the number of side-street (or site-access driveway) intersections decreases the operation and safety of the roadway.</i>
2	REDEVELOPMENT OF LOT B – At the time that Lot B redevelops, the City would review the proposed site plan and make recommendations to ensure that the site could promote future crossover or consolidated access. Next, the City would issue conditional permits for the development to provide crossover easements with Lots A and C, and grant a conditional access permit to the lot. <i>After evaluating the land use action, the City would determine that LOT B does not have either alternative access, nor can an access point be aligned with an opposing access point, nor can the available lot frontage provide an access point that meets the access spacing criteria for this segment of roadway.</i>
3	REDEVELOPMENT OF LOT A – At the time Lot A redevelops, the City would undertake the same review process as with the redevelopment of LOT B (see Step 2); however, under this scenario the City would use the previously obtained crossover easement at Lot B to consolidate the access points of Lots A and B. The City would then relocate the conditional access of Lot B to align with the opposing access point and provide safe and efficient access to both Lots A and B. <i>The consolidation of site-access driveways for Lots A and B will not only reduce the number of driveways accessing the roadway, but will also eliminate the conflicting left-turn movements on the roadway by the alignment with the opposing access point.</i>
4	REDEVELOPMENT OF LOT D – The redevelopment of Lot D will be handled in the same manner as the redevelopment of Lot B (see Step 2)
5	REDEVELOPMENT OF LOT C – The redevelopment of Lot C will be reviewed once again to ensure that the site will accommodate crossover and/or consolidated access. Using the crossover agreements with Lots B and D, Lot C would share a consolidated access point with Lot D and will also have alternative frontage access via the shared site-access driveway of Lots A and B. <i>By using the crossover agreement and conditional access permit process, the City will be able to eliminate another access point and provide the alignment with the opposing access points.</i>
6	COMPLETE – After Lots A, B, C, and D redevelop over time, the number of access points will be reduced and aligned, and the remaining access points will either meet or move in the direction of the access spacing plan.

Traffic Operations Standards

Traffic operations at intersections are described using two measures known as level of service (LOS) and volume-to-capacity (v/c) ratio.

Level of Service Standard

Level of service represents ranges in the average amount of delay that motorists experience when passing through the intersection. LOS is measured on an “A” (best) to “F” (worst) scale. At signalized and all-way stop-controlled intersections LOS is based on the average delay experienced by all vehicles entering the intersection. At two-way stop-controlled intersections LOS is based on the average delay experienced by the worst movement at the intersection, typically a left-turn from the stop-controlled street. For signalized intersections in the City of Keizer, LOS “D” (representing no more than 55 seconds of average delay) is considered to be the minimum acceptable operational level. For unsignalized intersections LOS “E” (representing no more than 50 seconds of average delay) is considered to be the minimum acceptable level.

Volume-to-Capacity Standard

The volume-to-capacity (v/c) ratio is a measure of how close an intersection is operating to its theoretical capacity. The theoretical capacity of an intersection is the number of vehicles that can pass through in a given period of time. A v/c ratio of 1.00 or more indicates that more traffic is traveling through the intersection per hour than the theoretical capacity of the intersection.

The City of Keizer maintains a v/c standard for arterial/arterial intersections as the operation of these intersections is critical to the operation of the network as a whole. Therefore an intersection of two arterial roadways must have a v/c ratio of 0.95 or less to be operating acceptably. For all other intersection types, only the LOS is used for determining intersection operation.

Transportation System Management

Transportation system management (TSM) is a term used to describe measures and techniques that attempt to maximize street system capacity and reduce demand. TSM measures are typically low cost, localized improvements to the existing infrastructure to increase its efficiency. TSM measures should always be considered in addition to roadway and capacity improvement projects. TSM measures relevant to Keizer include:

- Access management (apply access spacing standards, implement access management strategies).
- Improve traffic control devices (optimize signal timing, maintain and modernize signs and signals).
- On-street parking management (remove parking when extra capacity is required, prohibit parking on busy streets during peak periods).

As projects are identified and designed for the community, TSM measures should be considered as viable solutions to be integrated into projects.

Existing Traffic Operations Analysis

A detailed description of the existing conditions analysis (completed in January 2008) is found in the Existing Conditions Assessment memorandum provided in Appendix D of Volume II of this Transportation System Plan. Figures 4.6 and 4.7 provide a summary of the existing conditions operations analysis at the study intersections during the weekday a.m. and p.m. peak hours, respectively.



Signalized Intersections

According to the existing conditions summary, all signalized study intersection along City of Keizer arterials and collectors currently operate at a LOS "D" or better during the weekday a.m. and p.m. time periods. An intersection of two arterial roads must also have a v/c ratio of 0.95 or less to be considered to have an acceptable level of operation.

The performance of the intersections of Cherry Avenue and Verda Lane on Salem Parkway are measured against the ODOT volume-to-capacity ratio standard of 0.85. Both intersections are operating at acceptable volume-to-capacity ratios.

Unsignalized Intersections

During the existing weekday p.m. peak hour the Lockhaven Drive/Verda Lane intersection operates at LOS "F" due to the critical shared northbound left/right movement. The shared northbound left/right movement on Verda Lane is currently under capacity with a v/c ratio of 0.46, and it is likely that adequate gaps exist in traffic on Lockhaven Drive due to the signalized intersection of River Road/Lockhaven Drive, and 14th Avenue/Lockhaven Drive surrounding the intersection. All other traffic movements through this intersection currently experience acceptable levels of service.

Roadway Safety

The critical rate method was used to identify if any of the study intersections had crash rates exceeding what would be expected at comparable intersections. The intersection of Verda Lane/Salem Parkway was identified as having more crashes than expected. Because this intersection is not under City of Keizer jurisdiction it is recommended that the City work closely with ODOT on future monitoring and possible intersection improvements.

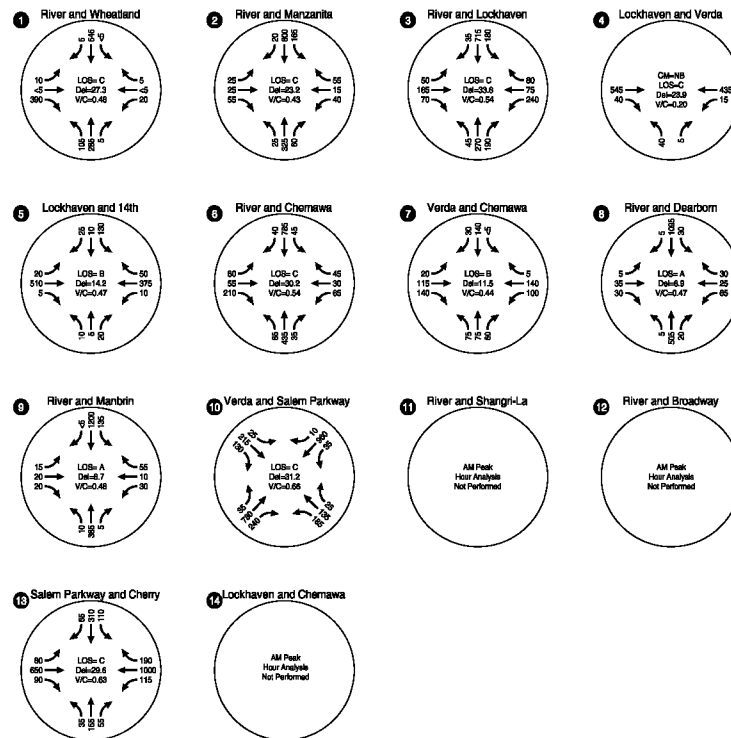
In addition, a review of crash type and severity data, and intersection geometry was also conducted at the other study intersections. Based on this review, three additional intersections were identified for further study:

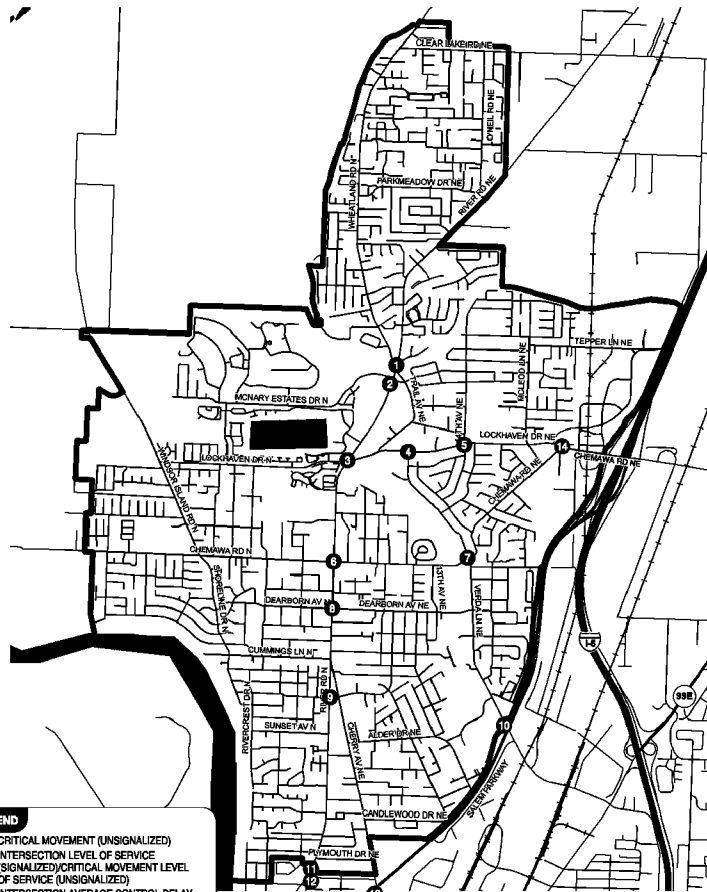
- River Road/Manbrin Drive – because of the relatively high number of turning-movement collisions and injury accidents,
- River Road/Dearborn Avenue – because of the relatively high number turning-movement collisions and injury accidents.
- River Road/Wheatland Road – because of the complexity of the intersection involving off-setting eastbound and westbound approaches and the curvature of the eastbound approach in close proximity to the signal. In addition, the collision diagrams showed a potential issue with the northbound left-turn movement and revealed that there could also be issues with sneakers – vehicles attempting to make the northbound left-turn movement during the yellow or all-red clearance interval.

There were no fatalities at any of the study intersections between 2002 and 2006.

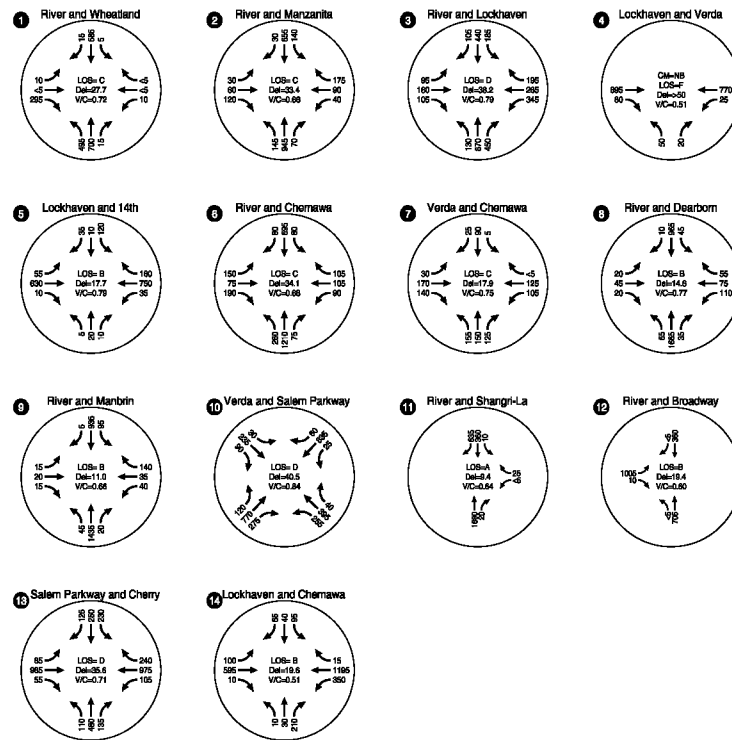


CM = CRITICAL MOVEMENT (UNSIGNALIZED)
LOS = INTERSECTION LEVEL OF SERVICE
(SIGNALIZED)/CRITICAL MOVEMENT LEVEL
OF SERVICE (UNSIGNALIZED)
Del = INTERSECTION AVERAGE CONTROL DELAY
(SIGNALIZED)/CRITICAL MOVEMENT CONTROL
DELAY (UNSIGNALIZED)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO





CM = CRITICAL MOVEMENT (UNSIGNALIZED)
LOS = INTERSECTION LEVEL OF SERVICE
(SIGNALIZED)/CRITICAL MOVEMENT LEVEL
OF SERVICE (UNSIGNALIZED)
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(SIGNALIZED)/CRITICAL MOVEMENT CONTROL
DELAY (UNSIGNALIZED)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO



**EXISTING TRAFFIC CONDITIONS PM PEAK HOUR
KEIZER, OREGON**

Future No-Build Conditions Analysis

The “no-build” scenario transportation analysis consists of 2031 forecasted traffic volumes assigned to the existing roadway system with no capacity improvements other than those currently programmed (i.e. those projects with committed funding). The programmed improvements include the following:

- Additional east/west travel lanes on Lockhaven Drive/Chemawa Road between McLeod Lane and Ulali Drive/ Stadium Drive.
- Widening of Verda Lane from Chemawa Road to the south City limits to include additional travel lanes, bicycle lanes, and sidewalks.
- Widening of Chemawa Road to major arterial design standards including sidewalks and bike lanes.
- Traffic signal interconnects along River Road and Lockhaven Drive.

Methods for developing the forecast traffic volumes are shown in Appendix E of Volume II of the TSP. Assuming the existing transportation system plus the programmed projects shown above, and if growth occurs as assumed in the SKATS model, traffic operations at all of the study intersections will degrade. Figure 4.8 illustrates the future volumes and traffic operations analyses during the weekday p.m. peak hour.

Table 4.7 provides a comparison of the existing and future traffic operations at each of the study intersections. In Table 4.7 the intersection operation is described as a function of under, near, at, or over capacity based upon the v/c ratio. An intersection is considered to operate “under capacity” when the v/c ratio is 0.90 or less. If the v/c is between 0.90 and 0.94, the intersection is considered to be “near capacity”. An intersection is “at capacity” when the v/c ratio is between 0.95 and 0.99. If the v/c is greater than or equal to 1.00, then the intersection is considered to be “over capacity.”

Table 4.7 2031 Base Intersection Operations

Intersection	Existing 2007		Future 2031	
	LOS	Capacity	LOS	Capacity
Two-Way Stop Controlled Intersections				
Verda Lane / Lockhaven Drive				
All-Way Stop Controlled Intersections				
Verda Lane / Chemawa Road	C	Under Capacity		
Signalized Intersections				
River Road / Wheatland Road	C	Under Capacity	C	
River Road / Manzanita Street	C	Under Capacity	C	Under Capacity
River Road / Lockhaven Drive	D	Under Capacity	D	
Lockhaven Drive / 14 th Avenue	B	Under Capacity		
Lockhaven Drive / Chemawa Road	B	Under Capacity	D	Under Capacity
River Road / Chemawa Road	D	Under Capacity	D	
River Road / Dearborn Avenue	B	Under Capacity	C	
River Road / Manbrin Drive	B	Under Capacity	C	Under Capacity
River Road / Shangri-La	A	Under Capacity	B	Under Capacity
River Road / Broadway	B	Under Capacity	C	Under Capacity
Salem Parkway / Cherry Avenue	C	Under Capacity	D	
Salem Parkway / Verda Lane	D	Under Capacity		

Notes:

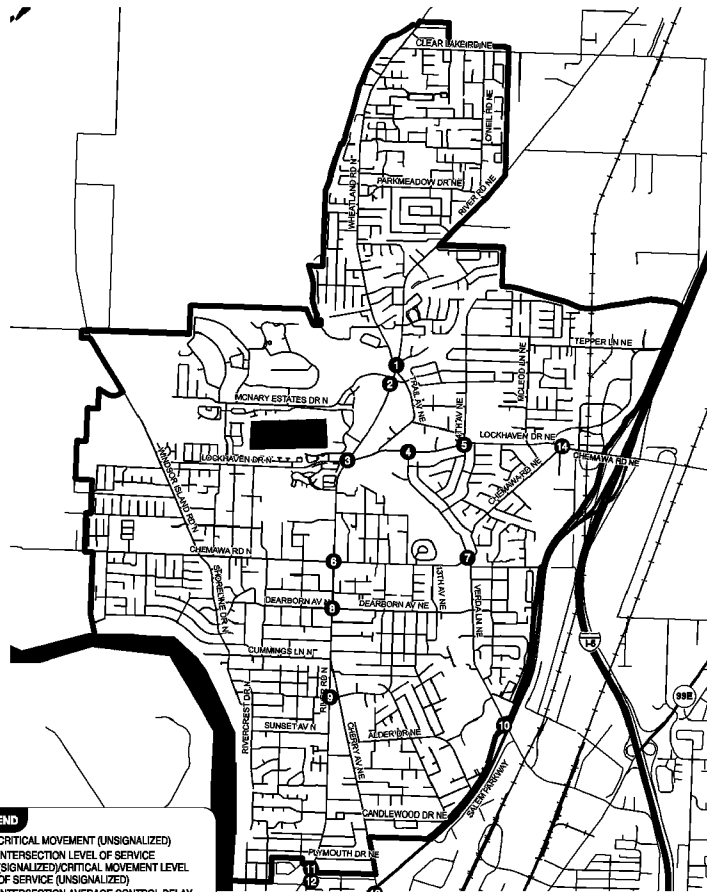
-Shading represents intersections where the level of service (LOS) is exceeding adopted standards or the volume-to-capacity ratio is near, at, or over capacity.

-Under Capacity = volume-to-capacity ratio (v/c) <0.90, Near Capacity = v/c Ratio 0.90-0.94, At Capacity = v/c Ratio 0.95-0.99, Over Capacity = v/c Ratio ≥1.0

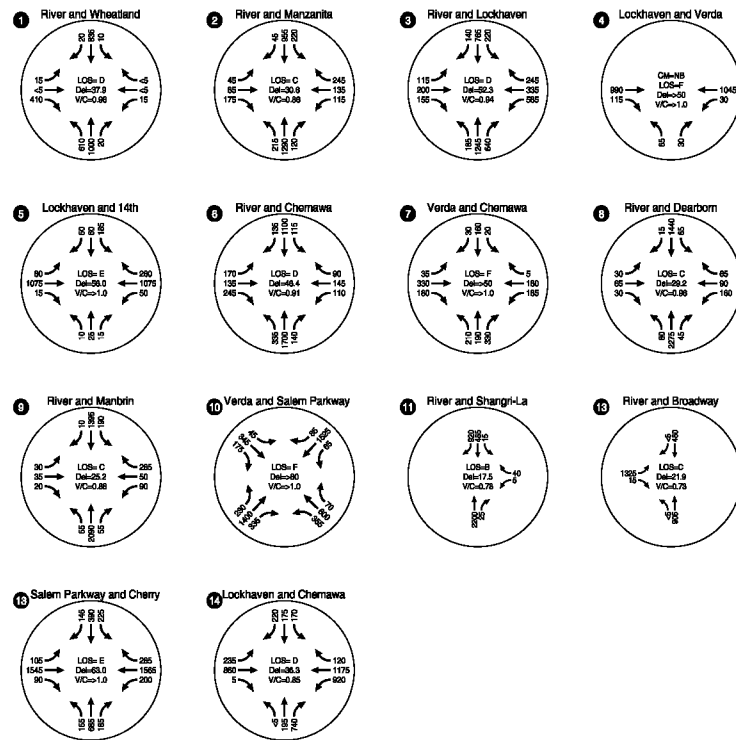
-Signalized and all-way stop delay represents the average vehicle delay for the whole intersection.

-Unsignalized delay represents the highest minor street approach delay.

-For a detailed review of the intersection level of service and capacity conditions, see Appendix B in Part II of the TSP.



CM = CRITICAL MOVEMENT (UNSIGNALIZED)
LOS = INTERSECTION LEVEL OF SERVICE
(SIGNALIZED)/CRITICAL MOVEMENT LEVEL
OF SERVICE (UNSIGNALIZED)
Del = INTERSECTION AVERAGE CONTROL DELAY
(SIGNALIZED)/CRITICAL MOVEMENT CONTROL
DELAY (UNSIGNALIZED)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO



**FUTURE YEAR 2031 TRAFFIC CONDITIONS
WEEKDAY PM PEAK HOUR
KEIZER, OREGON**

Roadway Capacity Upgrade Projects

The results of the future conditions no-build analysis showed a number of intersections that are projected to have operating deficiencies. Notably, the following signalized intersections are forecast to operate at an unacceptable level of service (LOS "E" or worse) and exceed their available capacity by the year 2031:

- 14th Street/Lockhaven Drive
- Verda Lane/Salem Parkway
- Salem Parkway/Cherry Avenue

In addition, the critical movements at the following unsignalized intersections are projected to exceed capacity and operate with a level of service "F" in year 2031:

- Verda Lane/Chemawa Road
- Verda Lane/Lockhaven Drive

Finally, several intersections are projected to operate near, at, or over capacity by the year 2031 without exceeding the level of service standards. These intersections include:

- River Road/Wheatland Road (identified for further investigation based on the existing crash analysis)
- River Road/Lockhaven Drive
- River Road/Chemawa Road
- River Road/Dearborn Avenue (identified for further investigation based on the existing crash analysis)
- River Road/Manbrin Drive (identified for further investigation based on the existing crash analysis)

The following section provides an evaluation of alternative intersection improvements and other street improvements that would mitigate the above deficiencies. Table 4.8 provides a summary of roadway system improvement projects discussed in detail. These projects are not listed in any order of priority or cost.

The first four projects listed are expected to be carried out in conjunction with one another and have been evaluated accordingly (i.e. River Road/Wheatland Road; River Road/Manzanita Street; Verda Lane Extension; and Verda Lane/Lockhaven Drive). The remaining projects are expected to be undertaken independent to other projects noted herein.

Conceptual sketches of the upgrades are also included for each project. Because these sketches are conceptual, full pedestrian and cyclist facilities have not been illustrated on all of the figures. Nonetheless, these facilities will be included during the detailed planning stage and the ultimate design.

A number of options are available to provide for cyclists at these intersections including on-street cycle lanes. There is currently no clear guidance as to whether cycle lane marking can extend through an intersection. However the Manual on Uniform Traffic Control Devices (MUTCD) (Section 3B08) notes that if markings are to continue through an intersection, they must be the same color and width as the lane on either side of the intersection. This is one option for providing cycle lanes through various intersections that should be investigated when designing new projects.

Table 4.8 Roadway Improvement Project Summary

#	Location	From	To	Description of Improvement	Priority	Cost*
R1	Salem Parkway I-5 On-Ramp	N/A	N/A	- Widen Salem Parkway on-ramp to I-5 to two lanes. - Coordination with ODOT required	High	\$
R2	River Road/ Manzanita Street	N/A	N/A	- Move intersection approximately 250 feet to the south. - Realign and reconstruct Manzanita Street and McNary Estates Drive approaches to River Road. - Construct separate westbound through and right-turn lanes.	Medium	\$\$\$
R3	River Road/ Wheatland Road	N/A	N/A	- Construct dual northbound left-turn lanes. - Change north and south left-turn phases to a protected left-turn phase. - Extend length of second southbound through lane.	Medium	\$\$\$
R4	River Road/ Lockhaven Drive	N/A	N/A	- Convert westbound approach to dual left-turn lanes, single through lane, and separate right-turn lane. - Convert east/west split phasing to protected left-turn phasing. - Implement access management measures on adjacent properties with driveways within intersection influence area at the time of property redevelopment.	Medium	\$\$
R5	Verda Lane Extension	River Road	Lockhaven Drive	- Extend Verda Lane north of Lockhaven Drive to connect with River Road at new alignment of McNary Estates Drive. - Realign Trail Avenue.	Low	\$\$\$
R6	Lockhaven Drive/ 14 th Avenue	N/A	N/A	- Construct westbound right-turn lane. - Modify northbound and southbound approaches to include separate left-turn lane and shared through and right-turn lane.	High	\$
R7	Chemawa Road/ Verda Lane	N/A	N/A	Install a single-lane roundabout at intersection.	Medium	\$\$-\$\$\$
R8	Lockhaven Drive/ Verda Lane	N/A	N/A	- Signalize intersection with Verda Lane extension to the north. - Restrict north/south through movements on Verda Lane.	Low	\$\$
R9	Transportation and Access Management - Various Locations	River Road	Chemawa Road	Perform Lockhaven Drive Corridor Study.	High	\$
		South City Limits	Lockhaven Drive	Perform River Road Corridor Study.	High	\$
		Lockhaven Drive	Windsor Island Drive	Perform Chemawa Road Corridor Study.	High	\$

* \$\$\$ - Expected to have major ROW needs and/or a significant project scope.

\$\$ - Expected to have some ROW needs and/or a moderate project scope.

\$ - Expected to have minor ROW needs and/or a small project scope.

River Road/Wheatland Drive

This intersection is forecast to operate near capacity ($v/c=0.98$) due to a heavy northbound and southbound traffic on River Road and a particularly heavy northbound left-turn movement from River Road to Wheatland Drive. The crash analysis revealed a potential issue with the northbound left-turn movement and revealed that there could also be issues with sneakers – vehicles attempting to make the northbound left-turn movement during the yellow or all-red clearance interval. Given the constrained geographic nature of the northern part of the City and the lack of parallel north/south roadways, the River Road/Wheatland Road intersection is an intersection of critical importance. As such, the noted capacity constraints will need to be addressed at the intersection.

Improvements at this intersection include the following:

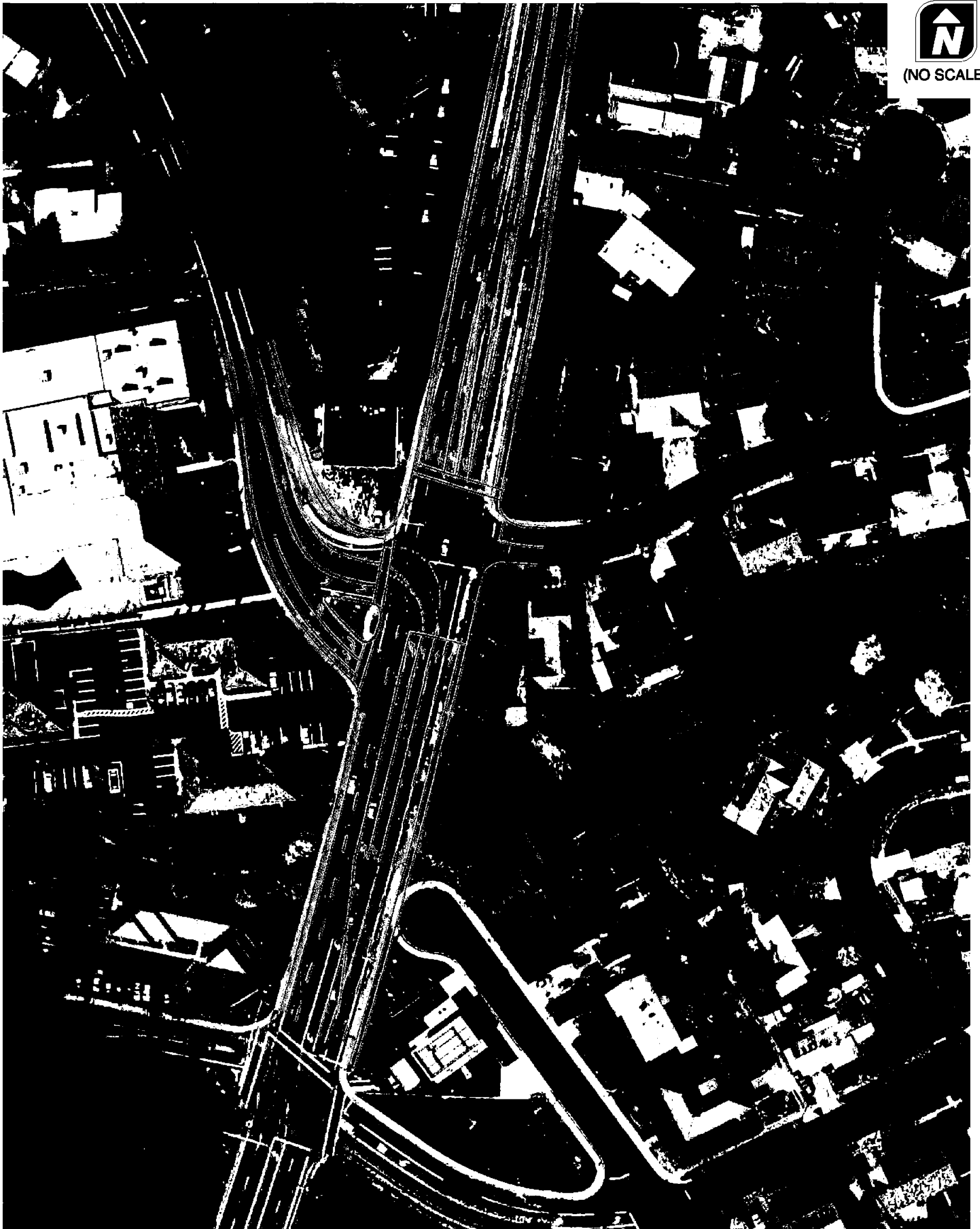
- The heavy northbound left-turn movement will need dual left-turn lanes and a protected left-turn phase to provide additional capacity and minimize vehicle queuing.
- The outside (curb lane) southbound through lane will need to be lengthened to improve lane utilization and better accommodate directional southbound through volumes.

The improvements can help improve safety by accommodating additional vehicles during each phase of the signal cycle. This will reduce driver delay and may reduce the number of vehicles entering the intersection during yellow or all-red time. Additionally, the protected phase for northbound left turn will provide protection from southbound traveling vehicles on River Road. Table 4.9 summarizes the no-build and the improvement alternatives. A sketch of the improvement is presented in Figure 4.9.

As noted earlier, this sketch is conceptual and does not include details of pedestrian or cyclist facilities. These features will be added as part of the detailed design stage to ensure that the needs of all road users are met.

Table 4.9 Summary of River Road/Wheatland Road Project

	No-Build Alternative	Improvement Alternative
		- Add second northbound left-turn lane and protected left-turn signal phase. - Lengthen outside southbound through lane
Traffic Operations	Will operate at capacity. Excessive vehicle queues on the northbound left-turn lane and southbound through lane.	Will operate with sufficient capacity. Better southbound through lane utilization and vehicle queues.
Safety	Likely to see crash patterns consistent with existing conditions which include rear-end collisions and angle collisions associated with the northbound left-turn. Increasing traffic volumes and vehicle queuing concerns may lead to additional collisions involving the northbound left-turn movement.	Protected left-turn phasing has the potential to reduce the frequency and severity of angle type crashes. Better southbound through lane utilization has the potential to reduce vehicle queues and limit rear-end collisions.
Impacts	Potential for bottleneck conditions. Increasing vehicle delay, intersection safety, and congestion.	Will require significant intersection modifications and lane widening on River Road and Wheatland Road. Significant property impacts to the northwest quadrant of intersection.
Cost	N/A	High (\$) due to significant ROW needs, additional receiving lanes on Wheatland Road, and property impacts.



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**WHEATLAND ROAD/RIVER ROAD INTERSECTION
KEIZER, OREGON**

**FIGURE
4.9**

River Road/Manzanita Street

The River Road/Manzanita Street intersection is currently located within close proximity of the River Road/Wheatland Drive intersection. Given the projected traffic volume increases along River Road, greater separation between these two intersections would improve the progression of traffic flow along River Road and minimize the potential for vehicle queue spillback and rear-end crashes. The alternative to achieve greater intersection separation involves relocating the existing River Road/Manzanita Street intersection approximately 250 feet south of its current location. This relocation also involves the reconstruction of both the McNary Estates Drive and Manzanita Street approaches. The existing section of Manzanita Street, east of River Road, would be vacated or converted to a cul-de-sac with access from Trail Avenue to meet access requirements, if necessary. A shared path for pedestrians and cyclists would also be created in this area as part of the realignment to provide convenient connections to the north on River Road for non-motorized modes.

Coupled with the extension of Verda Lane discussed below, this intersection becomes a key component in the establishment of a partial north/south alternative to River Road. An evaluation of the alternative is presented in Table 4.10. Figure 4.10 illustrates a conceptual sketch of the alternative. Pedestrian and cyclist facilities through the intersection are not illustrated in detail in this figure but will be required as the plan for this intersection is developed.

Table 4.10 Summary of River Road/Manzanita Street Project

	No Build Alternative	Realignment Alternative
		– Move intersection approximately 250 feet to the south. Reconstruct McNary Estates Drive and Manzanita Street approaches. – Construct separate westbound through and right-turn lanes.
Traffic Operations	Will operate near capacity. Close spacing to River Road/Wheatland Drive intersection will result in poor progression and queuing conflicts. Long westbound vehicle queues.	Will operate with sufficient longer-term capacity. Improved intersection spacing with River Road/Wheatland Drive. Westbound right-turn lane will decrease delay and add long-term capacity to the intersection.
Safety	No change to the existing condition; therefore safety concerns are likely to continue which include rear-end collisions along River Road.	Increased intersection spacing from Wheatland Drive will reduce the potential for vehicle queue backups and rear-end crashes.
Impacts	Without improvements, queue spillbacks are likely from the River Road/Wheatland Drive intersection. Increasing vehicle delay, intersection safety, and congestion.	Both the McNary Estates Drive and Manzanita Street approaches will need to be reconstructed, requiring significant amounts of right-of-way. Although right-of-way will be needed, adjacent properties are currently undeveloped.
Cost	N/A	High (\$) due to ROW acquisition needs, roadway and traffic signal construction costs, intersection realignment, and property impacts.

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(NO SCALE)



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**RIVER ROAD/MANZANITA STREET INTERSECTION
KEIZER, OREGON**

FIGURE
4.10

Extension of Verda Lane

The north/south movements within the City of Keizer are currently limited to a few key corridors such as River Road and portions of Verda Lane and Chemawa Road. Opportunities for the development of new corridors are limited. One potential corridor that could still be established is an extension of Verda Lane from its current terminus at Lockhaven Drive to a new connection with River Road just south of the existing Manzanita Street intersection.

If pursued, the Verda Lane extension would be constructed concurrently with intersection modifications at the Lockhaven Drive/Verda Lane, detailed in the following section, and following completion of upgrades at the River Road/Manzanita Street intersection, outlined in the section above.

This project consists of extending Verda Lane north of Lockhaven Drive and connecting to River Road at the new alignment of the Manzanita Street/McNary Estates Drive intersection.

Utilizing a portion of the Trail Avenue corridor, this extension will provide an alternative route to allow some traffic the opportunity to bypass the River Road/Lockhaven Drive intersection. In addition, the more direct connection between River Road and Lockhaven Drive would potentially minimize the amount of neighborhood cut-through traffic that currently takes place along the 14th Avenue and Harmony Road corridors.

An evaluation of the project is presented in Table 4.11. A conceptual layout is shown in Figure 4.11. It is expected that the extension will provide appropriate facilities for pedestrians and cyclists.

Table 4.11 Summary of Verda Lane Extension Project

	No Build Alternative	Extension Alternative – Extend Verda Lane from Lockhaven Drive to River Road.
Traffic Operations	Traffic destined for River Road will continue to cut through the residential neighborhoods to the north using 14 th Avenue, Harmony Drive, and Manbrin Street.	Alternative route has the potential to reduce cut through traffic on local streets. May potentially reduce traffic demand at the River Road/Lockhaven Drive intersection.
Safety	No change to the existing condition.	Would help to reduce through traffic on residential streets, thereby improving the safety of those streets.
Impacts	Continue to see cut-through traffic on local neighborhood streets. River Road/Lockhaven Drive will continue to be the primary intersection for accommodating traffic from the northern part of the City that is destined to/from the Chemawa interchange.	Would require significant amounts of right-of-way. Special intersection design treatments would be necessary at the Lockhaven Drive/Verda lane intersection to reduce north/south through movements (see Lockhaven Drive/Verda Lane intersection project).
Cost	N/A	High (\$) due to ROW acquisition needs, roadway construction costs, and property impacts.



REALIGNMENT OF MCNARY
ESTATES DRIVE

NEW INTERSECTION AT RIVER
ROAD (SEE FIGURE 4.10)

CLOSE EXISTING MANZANITA
STREET INTERSECTION AND
REALIGN TO THE SOUTH

EXTENSION WOULD UTILIZE A
PORTION OF TRAIL AVENUE

NEW INTERSECTION AT LOCKHAVEN
DRIVE (SEE FIGURE 4.12)

LOCKHAVEN DRIVE

SKETCH IS FOR ILLUSTRATION PURPOSES ONLY - FINAL DESIGN WILL INCLUDE PEDESTRIAN AND CYCLIST FACILITIES

VERDA LANE EXTENSION
KEIZER, OREGON

FIGURE
4.11

Lockhaven Drive/Verda Lane

In order to establish the extension of Verda Lane, consideration was given to its intersection with Lockhaven Drive. A number of different concepts were developed and reviewed for this location, including traffic calming and a roundabout. These concepts were rejected by the local community in keeping with their desire to minimize through traffic volumes on Verda Lane south of Lockhaven Drive. Figure 4.12 illustrates the community's preferred intersection form.

As shown in this figure, the intersection improvements include a treatment to limit the volume of through traffic along Verda Lane south of Lockhaven Drive. Such channelization would effectively preclude Verda Lane from becoming a through route and thus maintain local street volumes on this portion of Verda Lane; a desire clearly expressed by residents of this neighborhood. A description and evaluation of the project is provided in Table 4.12 below.

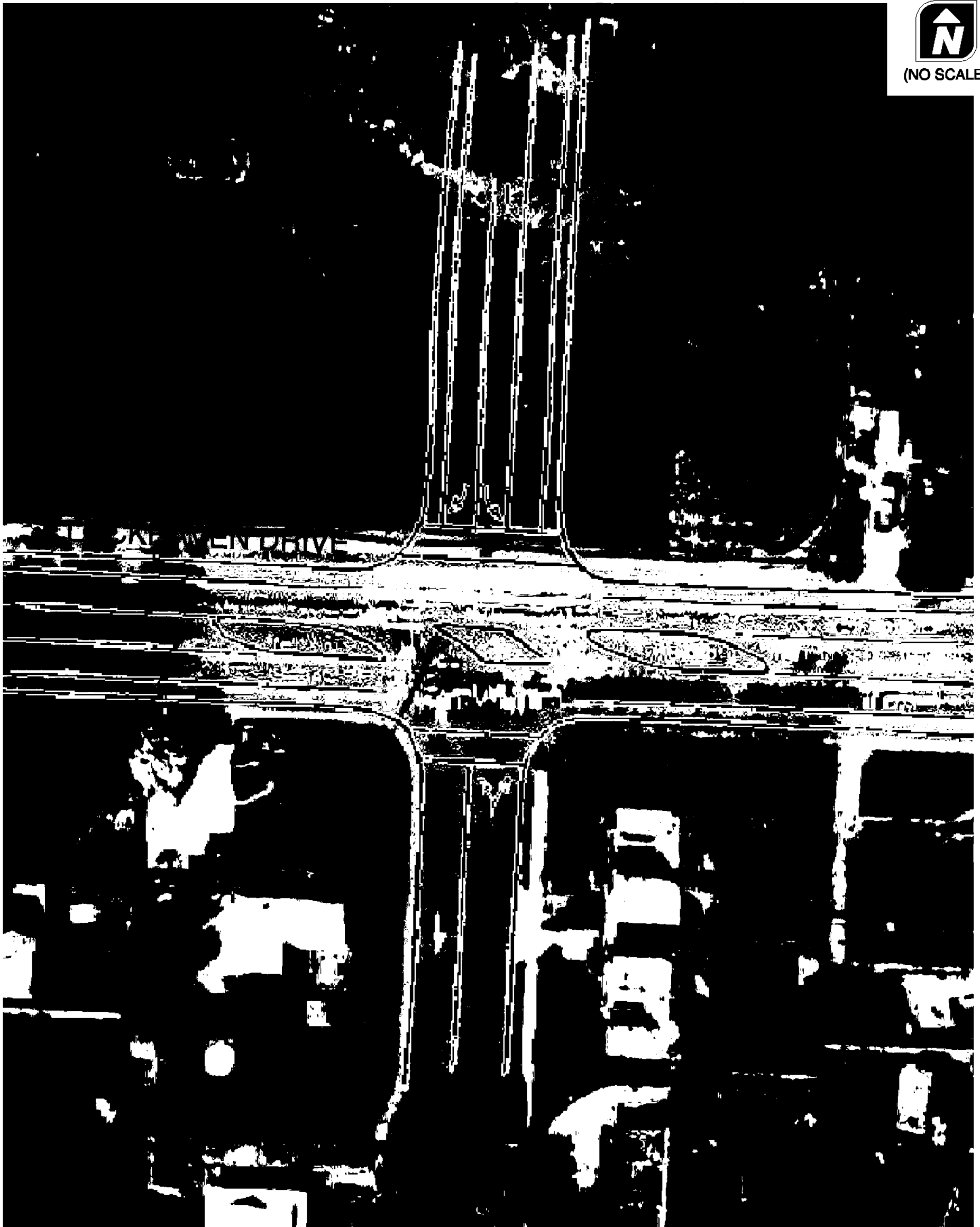
While pedestrian and cyclist facilities are not shown on Figure 4.12 they will be considered during the detailed design stage of the project. Since the intersection will be signalized, these users can be safely accommodated with this design.

Table 4.12 Summary of Lockhaven Drive/Verda Lane Project

	Limited Movement Intersection Configuration
	– Signalize the intersection of Lockhaven Drive and Verda Lane. – Restrict north/south through movements on Verda Lane at Lockhaven Drive.
Traffic Operations	As a signalized intersection with limited movements, the improvement will result in LOS "A" with sufficient longer-term capacity.
Safety	Signalization will improve the accessibility and safety for turning movements to/from Verda Lane. Signalization will also improve the ability for pedestrians and cyclists to safely cross at this intersection.
Impacts	Extension of Verda Lane will require right-of-way. Adjacent property is currently undeveloped, resulting in minimal impacts to existing properties. Restriction of through movements will likely keep traffic volumes to levels that are desirable for a local street through a residential neighborhood.
Cost	Moderate (\$) due to traffic signal construction costs, medians, and other intersection modifications.



(NO SCALE)



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**VERDA LANE/LOCKHAVEN DRIVE INTERSECTION
KEIZER, OREGON**

**FIGURE
4.12**

River Road/Lockhaven Drive

River Road/Lockhaven Drive intersection is projected to operate at LOS "D". This, according to City standards, is acceptable. However the long-term capacity of the intersection is limited due to existing geometric and signal phasing inefficiencies. To improve the long-term capacity, the westbound approach will need dual left-turn lanes, a single through lane, and a separate right-turn lane. This widening and lane reconfiguration will allow the existing east/west split phasing to be replaced with a more conventional and efficient protected left-turn phasing. An evaluation of the project is presented in Table 4.13. A sketch illustrating this project is provided in Figure 4.13.

Table 4.13 Summary of River Road/Lockhaven Drive Project

	No Build Alternative	Improvement Alternative
		- Convert westbound approach to dual left-turn lanes, a single through lane, and a separate right-turn lane. - Convert east/west split phasing to a more conventional protected left-turn phasing. - Upon redevelopment of adjacent properties, implement access management measures for those driveways within the influence area of the signalized intersection.
Traffic Operations	Will operate at LOS "D" and near capacity. Excessive vehicle queues on the westbound approach.	With westbound dual left-turn lanes and separate through and right-turn lanes, the intersection will operate at LOS "D" and under capacity.
Safety	No change to the existing layout; therefore safety concerns are likely to worsen as traffic volumes grow.	Additional westbound lanes will minimize vehicle queues and reduce the potential for rear-end collisions. Improved access management will reduce turning movement conflicts within the intersection influence area.
Impacts	Without improvements, the long-term capacity of the intersection is limited through the 2031 study period. Increasing vehicle delay, intersection safety, and congestion.	Lane additions on Lockhaven Drive will require right-of-way and will likely have significant property impacts to adjacent businesses.
Cost	N/A	Moderate (\$) due to ROW acquisition needs for the westbound right-turn lane and traffic signal modification.

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**RIVER ROAD/LOCKHAVEN DRIVE INTERSECTION
KEIZER, OREGON**

**FIGURE
4.13**

Lockhaven Drive/14th Avenue

A high east/west travel demand is projected to limit the long-term capacity of the Lockhaven Drive/14th Avenue intersection. To maximize the available capacity of the intersection, a westbound right-turn lane will be needed. In addition, the north and south 14th Avenue approaches will need to be modified to include a separate left-turn lane and shared through/right-turn lane. A sketch of the project is presented in Figure 4.14. A summary of the project is provided in Table 4.14.

Table 4.14 Summary of Lockhaven Drive/14th Avenue Project

	No Build Alternative	Improvement Alternative
		– Construct a westbound right-turn lane. – Modify the northbound and southbound approaches to include a separate left-turn lane and shared through/right-turn lane.
Traffic Operations	Traffic volumes are projected to continue to increase, limiting the overall capacity of the intersection along this primary east/west arterial.	A westbound right-turn lane will provide additional longer-term capacity at the intersection.
Safety	No change from existing conditions.	May reduce the potential for rear-end collisions along Lockhaven Road.
Impacts	Significant vehicle queues and delays.	Will require some ROW acquisition and have some property impacts.
Cost	N/A	Low (\$) due to some relatively minor ROW needs and traffic signal modification requirements.

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(NO SCALE)



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**LOCKHAVEN DRIVE/14TH AVENUE
KEIZER, OREGON**

**FIGURE
4.14**

Verda Lane/Chemawa Road

This intersection is forecast to operate at LOS “F” and exceed its available capacity as an all-way stop-controlled intersection. Mitigation for this intersection includes the installation of a single lane roundabout. A roundabout will provide for continuous traffic flow through the intersection and can effectively reduce the severity of crashes. The traffic operations at a single lane roundabout are comparable to those of a traffic signal. Details of the single lane roundabout are provided in Table 4.15. A sketch of the intersection is presented in Figure 4.15. Pedestrian and cyclist facilities will be included during the detailed design of the intersection.

If the installation of a roundabout becomes unfeasible, alternatively a traffic signal could be installed at this intersection. Analysis of traffic signal warrants was completed and the forecast 2031 volumes indicate that the signal warrants will be met for this intersection. It was assumed that Chemawa Road was the major road when conducting the traffic signal warrant analysis. A summary of the signalized intersection operation and preliminary sketch was completed as part of the Future Alternatives Analysis which is documented in Appendix F in Part 2 of the TSP.

Table 4.15 Summary of Verda Lane/Chemawa Road Project

	Roundabout Alternative
	– Acquire right-of-way (SW & NW quadrants) – Install single lane roundabout (120 ft inscribed circle diameter).
Traffic Operations	Eliminates forecast congestion. $v/c=0.69$
Safety	Roundabouts typically have fewer high-speed injury collisions and collisions are typically less severe than signalized intersections.
Impacts	The larger footprint of the roundabout requires more right-of-way compared to the signalized intersection. Some potentially significant property impacts are likely along the southwest and southeast quadrants.
Cost	Moderate to High (\$) due to increased ROW acquisition, property impacts, and roadway construction costs.



(NO SCALE)



SKETCH IS FOR ILLUSTRATION PURPOSES ONLY - FINAL DESIGN WILL INCLUDE PEDESTRIAN AND CYCLIST FACILITIES

**VERDA LANE/CHEMAWA ROAD INTERSECTION
KEIZER, OREGON**

**FIGURE
4.15**

Access Management Studies

Managing access to the City's road system is necessary to preserve the capacity of the City's arterial street system. This is accomplished by minimizing the number of points where traffic flow can be disrupted by traffic entering and exiting the roadway. Additionally, access management can enhance safety along City roadways by minimizing the number of potential conflict points.

Several access management measures can potentially be implemented as described below:

- Work with developers during the application process to consolidate driveways and limit new ones where feasible.
- Consider the use of raised medians on busy arterials to limit driveway access to right-in/right-out turning movements.
- Develop access management plans for arterials and collector streets.

These types of access management measures should be considered on segments such as:

- River Road from the south City Limits to Lockhaven Drive;
- Lockhaven Drive between Windsor Island Drive and Chemawa Road; and
- Chemawa Avenue between Lockhaven Drive and Windsor Island Drive.

Salem Parkway

The Salem Parkway is an ODOT owned and maintained facility. The two study intersections at Cherry Avenue and Verda Lane are under the jurisdiction of ODOT, but have been included in the long-term analysis as they are significant portals to/from the City of Keizer. Due to a projected increase in regional transportation demand, both intersections are forecast to operate above ODOT's 0.85 volume-to-capacity standard. To mitigate these forecast conditions, improvements could include a separate southbound right-turn lane and dual northbound left-turn lanes on the Salem Parkway at both intersections. In addition, Verda Lane may need additional through lanes to better facilitate movements across the Parkway. As traffic continues to grow at these locations, ODOT and the City of Keizer should continue to monitor operations and collaboratively plan for improvements as appropriate.

Chapter 5

Pedestrian and Bicycle System

PEDESTRIAN AND BICYCLE SYSTEM

As the City of Keizer continues to develop, future population growth will increase the need for expanding the existing pedestrian and bicycle facilities and developing new facilities. Providing a connected network of pedestrian and bicycle facilities is important for serving:

- Shorter trips from neighborhoods to area activity centers, such as schools, churches, and neighborhood commercial uses;
- Recreational trips (e.g. jogging or hiking) and circulation within parklands;
- Commute trips where mixed-use development is provided and people have chosen to live near where they work; and
- Providing access to public transit by either walking or cycling.

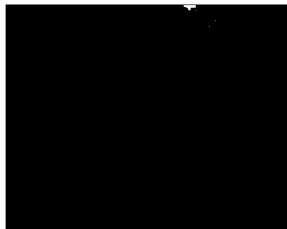
Providing pedestrian and bicycle facilities for these trip types moves in the direction of fulfilling the City's goal to reduce overall vehicle miles traveled by automobile.

This chapter provides a summary of existing pedestrian and bicycle facilities, the status of pedestrian and bicycle travel within the City, design standards, design standard amendments, and near term, mid-term, and long term pedestrian and bicycle projects. Consideration will be given to the 2008 City of Keizer Parks and Recreation Master Plan and projects will be integrated where possible.

Existing Pedestrian Facilities Analysis

Pedestrian facilities in Keizer will be integrated with transit stops and will separate pedestrians from vehicular traffic. Furthermore, pedestrian facilities will provide continuous connections between neighborhoods, employment areas, and nearby pedestrian attractors. Of the five existing minor arterials, McLeod Lane and Wheatland Road do not have bike lanes or sidewalks. On McLeod Lane this is limited to between Lockhaven Drive and Chemawa Road; all other sections have bike lanes and sidewalks. Verda Lane has bike lanes but no sidewalks. In addition, the following collectors do not provide sidewalks on both sides of the street along the entire length of roadway:

- Candlewood Drive
- Chemawa Road (Windsor Island Road to 15th Avenue)
- Clearlake Road
- Cummings Lane
- Dearborn Avenue
- Sunset Avenue
- Trail Avenue
- Windsor Island Road



Figures 5.1 and 5.2 illustrate the locations of sidewalks within the study area along with key pedestrian trip generators. Figure 5.1 shows the area of Keizer located north of Lockhaven Drive and Figure 5.2 shows the area of Keizer located south of Lockhaven Drive. These two figures show that much of Keizer is well covered by the sidewalk network, especially the area of the city located north of Lockhaven Drive.

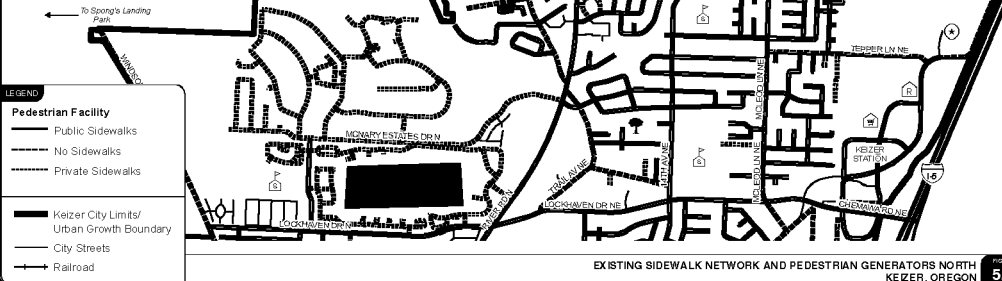
Figures 5.1 and 5.2 also depict sidewalk gaps on study roadways and show the locations where pedestrian generators lack sidewalk connections. Several of these locations are identified as follows:

- The area bordered by Shoreline Drive to the west, River Road to the east, Sunset Avenue to the south, and Lockhaven Drive to the north, including areas around McNary High School and Cummings Elementary School.
- Dearborn Avenue between 13th Avenue and Verda Lane.
- Chemawa Road west of River Road.
- Wheatland Road north of River Road.
- Keizer Little League Park, the Volcanoes Stadium, Claggett Creek Park, McNary High School, and River's Edge Park.

Gaps near pedestrian generators are the greatest impediment to pedestrian trips because they occur where a high number of pedestrian trips are likely to occur.

Pedestrian Attractions

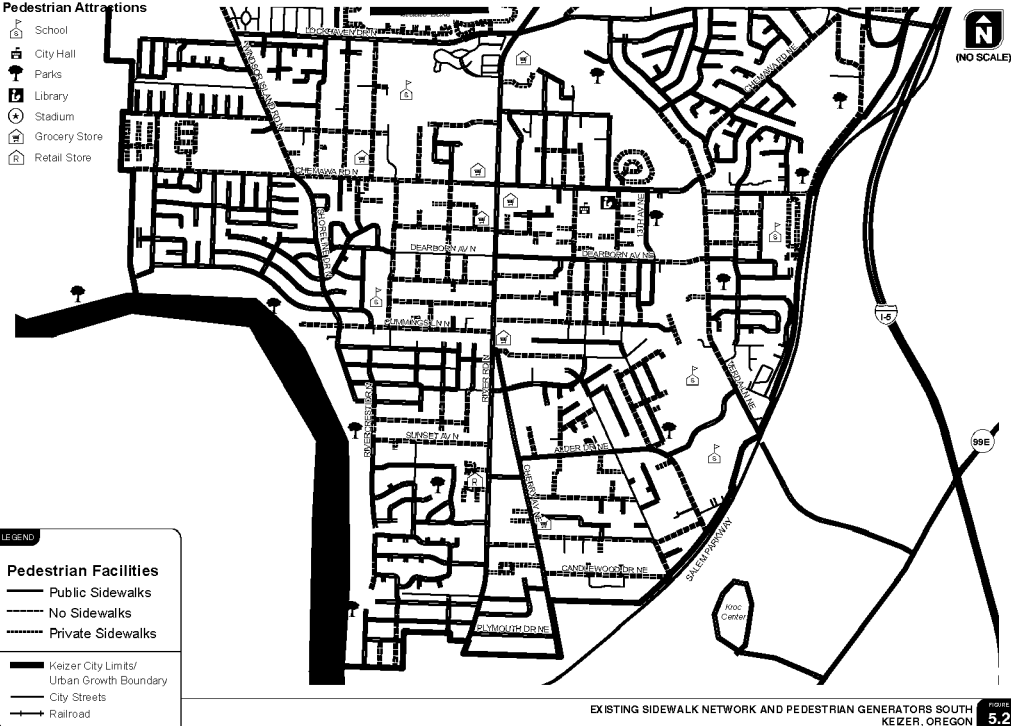
-  School
-  City Hall
-  Parks
-  Library
-  Stadium
-  Grocery Store
-  Retail Store



EXISTING SIDEWALK NETWORK AND PEDESTRIAN GENERATORS NORTH
KEIZER, OREGON

Pedestrian Attractions

-  School
-  City Hall
-  Parks
-  Library
-  Stadium
-  Grocery Store
-  Retail Store



LEGEND

Pedestrian Facilities

-  Public Sidewalks
-  No Sidewalks
-  Private Sidewalks

-  Keizer City Limits/
Urban Growth Boundary
-  City Streets
-  Railroad

EXISTING SIDEWALK NETWORK AND PEDESTRIAN GENERATORS SOUTH
KEIZER, OREGONFIGURE
5.2

Pedestrian Improvement Projects

City of Keizer policies require all new development and redevelopment to provide adequate sidewalk facilities. As such, some sections of missing pedestrian facilities will be completed as development occurs. Consequently, the sidewalk focus in the alternatives analysis involves completing short gaps in the existing sidewalk system, identifying and prioritizing longer sidewalk gaps in already developed areas, and continuing the expansion of the City's off-street pathway network. The city has identified in its parks Master Plan a priority for multi-use paths adjacent to greenspaces.



Figures 5.3 and 5.4 illustrate the locations of sidewalk improvement projects within the study area. Figure 5.3 shows the area of Keizer located south of Lockhaven Drive and Figure 5.4 shows the area of Keizer located north of Lockhaven Drive. Additionally, Table 5.1 provides a summary of the sidewalk improvement alternatives and reason for the improvements. These projects are not listed in any order of priority.

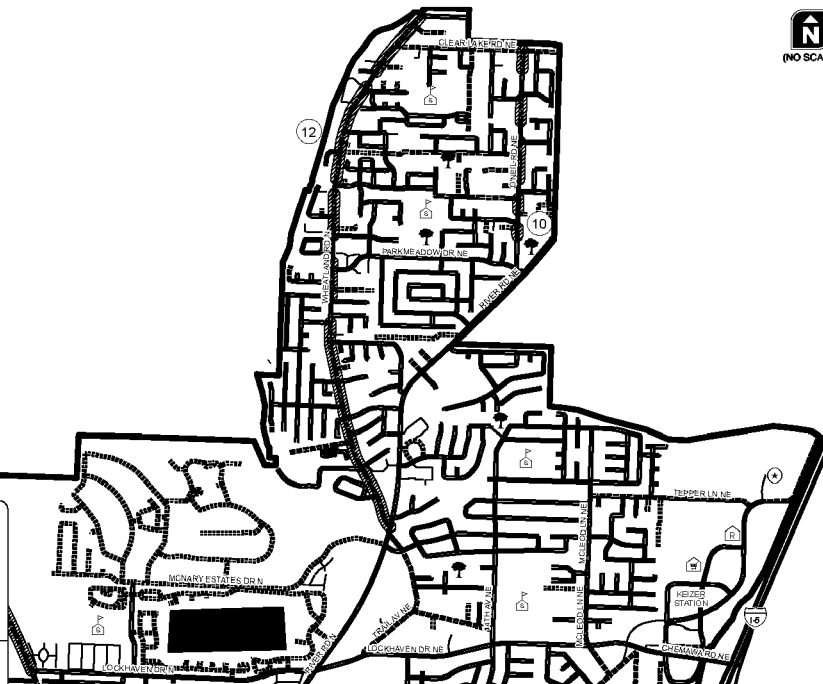
Pedestrian Attractions

-  School
-  City Hall
-  Parks
-  Library
-  Stadium
-  Grocery Store
-  Retail Store

**LEGEND****Pedestrian Facilities**

-  Public Sidewalks
-  No Sidewalks
-  Private Sidewalks
-  Sidewalk Project

-  Keizer City Limits/
Urban Growth Boundary
-  City Streets
-  Railroad



FUTURE SIDEWALK PROJECTS NORTH
KEIZER, OREGON

FIGURE
5.3

Pedestrian Attractions

- School
- City Hall
- Parks
- Library
- Stadium
- Grocery Store
- Retail Store



Table 5.1 Pedestrian Improvement Projects

#	Roadway	Description	From	To	Reasons for Improvement	Priority	Cost*
S1	Sunset Avenue	Construct sidewalks	Rivercrest Drive	River Road	- Sunset Ave is a collector roadway and a direct connection between Rivercrest Drive and River Road. - Provide better neighborhood and regional access to Sunset Park and transit stops.	Low	\$\$
S2	Manbrin Avenue	Fill in sidewalk gaps	Toni Ave.	River Road	Improve sidewalk continuity west of River Road by filling in a relatively small gap along Manbrin Avenue.	Low	\$
S3	Cummings Lane	Construct sidewalks	Palma Ciea Park	River Road	- Cummings Lane is a collector roadway and a direct connection between Rivercrest Drive and River Road. - Provide better regional access to Palma Ciea Park, existing transit stops, and commercial centers along River Road. - Provide better access to Cummings Elementary School.	High	\$\$
S4	Chemawa Road	Construct sidewalks	West City Limits	River Road	- Provide a continuous east/west sidewalk network with regional access to Keizer Rapids Park. - Chemawa Road is a minor arterial and provides regional access to commercial areas and transit opportunities.	High	\$\$\$
S5	Dearborn Avenue	Construct sidewalks	Delight Street	River Road	Improve sidewalk continuity west of River Road and fill in a significant gap in the sidewalk network.	Medium	\$\$
S6	Delight Street	Construct sidewalks	Cummings Lane	Chemawa Road	- Provide better neighborhood access to Cummings Elementary School. - Improve north/south sidewalk continuity west of River Road.	Medium	\$\$
S7	Dearborn Avenue	Construct sidewalks	13 th Avenue	Verda Lane	Fill in a small gap in the east/west sidewalk network.	Medium	\$\$
S8	Verda Lane	Construct sidewalks	Alder Drive	Kalmia Drive	Establish a continuous north/south sidewalk connection between Lockhaven Drive and the Salem Parkway.	Medium	\$\$\$
S9	Windsor Island Road	Fill in sidewalk gaps	Chemawa Road	City Limits	Provide better sidewalk connectivity and access to transit stops.	Low	\$\$\$
S10	O'Neil Road	Fill in sidewalk gaps	Parkmeadow Drive	Clear Lake Road	Provide a continuous north/south alternative to River Road and Wheatland Road.	Medium	\$
S11	Chemawa Road	Construct sidewalks	Verda Lane	Lockhaven Drive	Provide a continuous east/west sidewalk connection from River Road to Keizer Station.	Medium	\$\$
S12	Wheatland Road	Fill in sidewalk gaps	River Road	Clear Lake Road	Provide a continuous north/south sidewalk alternative to River Road.	Low	\$

* \$\$\$ - Expected to have major ROW needs and/or a significant project scope.

\$ - Expected to have some ROW needs and/or a moderate project scope.

\$ - Expected to have minor ROW needs and/or a small project scope.

Existing Bicycle Facilities Analysis

Bicycle facilities (dedicated bicycle lanes in the paved roadway, multi-use paths shared with pedestrians, etc.) serve a variety of trips. Supporting bicycling as a viable alternative to the automobile requires more than simply providing bicycle lanes. Support facilities, such as secure parking and worksite changing facilities, are also needed before many potential users will consider the bicycle trip as a practical alternative.

Bicycle facilities will connect residential neighborhoods to schools, retail centers, and employment areas. Dedicated bicycle facilities are required along major streets where automobile traffic speeds are significantly higher than bicycle speeds. However, allowing bicycle traffic to mix with automobile traffic is acceptable where the average daily traffic (ADT) on a roadway is less than 3,000 vehicles per day, according to the Oregon Bicycle and Pedestrian Plan (Oregon Department of Transportation, 1995).

Based on the City's most recent inventory of the existing bicycle facilities, Figure 5.5 depicts the locations of existing bicycle facilities in the City of Keizer. Most of the major bicycle trip generators are located on the bicycle network or have local street connections to the bike network. The only arterial without bike lanes in Keizer is River Road south of Chemawa Road. In addition, the following collector streets do not have bike lanes on both sides of the street along the entire length of roadway:



- Alder Drive
- Candlewood Drive
- Chemawa Road (Windsor Island Road to 15th Avenue)
- Clearlake Road
- Parkmeadow Drive
- Shoreline Drive
- Sunset Avenue
- Trail Avenue
- Windsor Island Road

Bicycle Attractions

-  School
-  City Hall
-  Parks
-  Library
-  Stadium
-  Grocery Store
-  Retail Store



Bicycle Improvement Projects

Improved bicycle facilities were the primary bicycle need identified by both the technical analysis and public comment. One specific area of concern expressed by the public included improving River Road for bicycling, particularly the section south of Chemawa Road.

Project alternatives for the above mentioned locations were discussed as part of the alternatives selection process, however there were no identified projects to address enhanced bicycle facilities on Rivercrest Drive, Shoreline Drive, or River Road south of Chemawa Road. The following section provides additional information regarding these routes.

River Road (South of Chemawa Road)

A project alternative to accommodate bike lanes on River Road from Chemawa Road into Salem was reviewed during the TSP process. The identified project proposed a reduction in lane width (from 12 feet to 10 feet) for all travel lanes on River Road. Additionally, the width of the center turn lanes was proposed to be narrowed from 12 feet to 11 feet. The combination of these lane reductions was to accommodate a single 4.5 foot bike lane for the northbound and southbound directions.

This project was removed from further consideration since the proposed roadway cross section does not fit within the City's design standards for bike lanes on an arterial street. Understanding the relatively high volume of cyclists and the desire to use River Road as a connection to Salem, the TSP identified projects considered alternate adjacent routes to River Road to accommodate bicycle traffic.

To mitigate gaps in the bicycle system a set of improvement projects has been identified. The project locations are illustrated in Figure 5.6. Additional descriptions for each alternative are provided in Table 5.2. These projects are not listed in any order of priority.

Bicycle Attractions

- School
- City Hall
- Parks
- Library
- Stadium
- Grocery Store
- Retail Store



← To Spang's Landing
Park

LEGEND

Bicycle Facilities

- Bike Lanes
- Bike Route
- Multiuse Path

Bicycle Facility Projects

- Bike Lane Alt.
- Bike Route Alt.
- Multiuse Path Alt.

- Keizer City Limits/
Urban Growth Boundary
- City Streets
- Railroad



Table 5.2 Bicycle Improvement Projects

#	Roadway	Description	From	To	Reasons for Improvement	Cost*
B1	Dearborn Avenue	Designate as a bicycle route.	Delight Street	Shoreline Drive	– Fill in a small gap and provide continuous bike route from Verda Lane to Shoreline Drive.	\$
B2	Chemawa Road	Construct bicycle lanes on both sides of the roadway.	Windsor Island Road	West City Limit	– Provide a continuous east/west bicycle network. – Chemawa Road is a minor arterial. – Provide regional access to Keizer Rapids Park.	\$\$\$
B3	Verda Lane	Designate as a bicycle route.	Kalmia Drive	Lockhaven Drive	– Fill in a small gap and provide a continuous bike route from Lockhaven Drive to Salem Parkway.	\$
B4	Tepper Lane	Construct bicycle lanes on both sides of the roadway.	McLeod Drive	Railroad tracks	– Better neighborhood access to Keizer Station and multi-use path.	\$\$
B5	Sunset Avenue	Construct bicycle lanes on both sides of the roadway.	Rivercrest Drive	River Road	– Sunset Avenue is a collector roadway and a direct connection between Rivercrest Drive and River Road. – Provide better neighborhood and regional access to Sunset Park and transit stops.	\$\$\$
B6	Fall Creek Drive/5 th Avenue	Designate as a bicycle route.	Rivercrest Drive	Sunset Avenue	– Provide better neighborhood and regional access to Willamette Manor Park.	\$
B7	Delight Street	Designate as a bicycle route.	Cummings Lane	Lockhaven Drive	– Provide neighborhood and regional route designation to Cummings Elementary School and McNary High School	\$
B8	Mandbrin Dr/Thorman Avenue	Designate as a bicycle route.	Cherry Avenue	Dearborn Avenue	– Provide neighborhood and regional route designation between Cherry Avenue and Dearborn Avenue.	\$
B9	Brooks Avenue	Designate as a bicycle route.	Mandbrin Drive	Salem Parkway	– Provide neighborhood and regional route designation to the Salem Parkway multi use path.	\$
B10	14 th Avenue	Designate as a bicycle route.	Lockhaven Drive	Gubser Elementary	– Provide neighborhood and regional route designation to Gubser Elementary School.	\$
B11	Meadow-Glenn St.	Designate as a bicycle route.	Parkmeadow Street	Clear Lake Elementary	– Provide neighborhood and regional route designation to Clear Lake Elementary School.	\$

* \$\$\$ - Expected to have major ROW needs and/or a significant project scope.

\$\$ - Expected to have some ROW needs and/or a moderate project scope.

\$ - Expected to have minor ROW needs and/or a small project scope.

Chapter 6

Transit System

TRANSIT SYSTEM

Several public transportation services are provided within the City of Keizer. Services include paratransit, passenger rail service, intercity bus and fixed route bus. The current status of each transit service is described in the following paragraphs.

Paratransit

CherryLift is an origin to destination paratransit service for people whose disability prevents them from using the Cherriots buses some or all of the time. As referenced in the *Specialized Transportation Plan for Polk and Marion Counties*, CherryLift provides curb-to-curb service to ADA-certified persons unable to ride Cherriots. CherryLift operates ten to twelve vehicles daily and provides approximately 60,000 rides annually. A 24-hour advanced reservation is required to ride CherryLift. Service hours and days parallel those of Cherriots. The fare is \$2.50 each way and can be paid in either cash or using a CherryLift ticket.

Amtrak

The closest Amtrak facility providing intercity rail travel is located in Salem. The Amtrak Cascades line and the Coast Starlight line serve the Salem Amtrak facility. The Amtrak Cascades line provides service between Eugene-Springfield, Oregon and Vancouver, British Columbia, and the Coast Starlight line provides service between Los Angeles, California and Seattle, Washington.

Greyhound

The closest intercity bus facility is the Salem Greyhound station located in Salem. The Greyhound station and ticketing office is open Monday through Saturday from 7:00 a.m. to 8:00 p.m., on Sundays from 7:00 a.m. to 9:00 a.m. and 11:30 a.m. to 8:00 p.m., and on holidays from 7:00 a.m. to 2:30 p.m.

Fixed Route Bus

The regional transit system is called “Cherriots” and is operated by Salem - Keizer Transit, also known as the Salem Area Mass Transit District (SAMTD). The Cherriots service provides fixed-route public transportation within the urban growth boundaries of Salem and Keizer. The Cherriots network is composed of 27 bus routes, with four routes: Routes 4, 9, 11 and 18, providing service to, from, and within Keizer. Service is provided primarily from two transit centers. The Salem Transit Mall, the main transfer location, is located at Courthouse Square in Downtown Salem. Buses depart from this transit center at 15 and 45 minutes after the hour. The secondary transit center, the Glen Creek Transit Station, is located in West Salem with buses departing on the hour and 30 minutes after the hour. To facilitate the bus service in Keizer,

shelters are provided at a number of bus stops. Bus pullouts are also provided on River Road, Cherry Avenue, and Lockhaven Drive.

The service routes and stop locations are shown in Figure 6.1 and described in the following section.

A summary of the bus routes traveling in Keizer follows:

- Route 4 Keizer East provides service from the Salem Transit Center to Whiteaker Middle School in east Keizer, and operates from 6:00 a.m. to 10:00 p.m. on weekdays. Route 4 operates with a frequency of 30 minutes during weekday a.m. and p.m. peak hours, and 60 minutes the rest of the day. Route 4 does not operate on Saturdays and Sundays or holidays.
- Route 9 Keizer Central provides service from the Salem Transit Center to Fred Meyer North along River Road in central Keizer. Route 9 operates from 6:00 a.m. to 10:00 p.m. on weekdays. Busses operating on Route 9 alternate between "Loop A" and "Loop B." "Loop A" provides service to Parkmeadow Drive, while "Loop B" provides service to Whiteaker Middle School. Route 9 operates with a 15 minute frequency during weekday a.m. and p.m. peak hours, and 30 minutes the rest of the day. Route 9 does not operate on Saturdays, Sundays or holidays.
- Route 11 Lancaster Drive provides service in north Keizer, and serves Kaiser Permanente, Chemeketa College, and Lancaster Mall along Lancaster Drive, Verda Lane, River Road, and Wheatland Road. Route 11 operates from 6:30 a.m. to 10:00 p.m. on weekdays with a frequency of 60 to 80 minutes. Route 11 does not operate on Saturdays, Sundays or holidays.
- Route 18 Keizer West provides service from the Salem Transit Center to McNary High School in West Keizer along River Road and past the Fred Meyer grocery store near the intersection of Broadway Street/Salem Parkway. Route 18 operates from 6:00 a.m. to 10:00 p.m. with a 60 minute frequency on weekdays. Route 18 does not operate on Saturdays, Sundays or holidays.



Public Buildings

-  School
-  City Hall
-  Parks
-  Library
-  Stadium
-  Grocery Store
-  Retail Store



The Transit Quality of Service Evaluation (TQSE) measures, including transit service frequency and hours of service, were used to evaluate the corresponding levels of service for existing fixed route bus service. Based on this review it was determined that the existing fixed route transit service operates with some service limitations as outlined below:

- Regarding service frequency, the existing fixed routes operate in a range of headways that provide unattractive service for most riders (headways of approximately 21-30 minutes).
- The current fixed routes operate for approximately 15-17 hours per day on the weekdays depending on the route. This is defined as an acceptable level of service time, with evening service, however, late night service, weekend, or holiday service is not provided on any route.
- As seen in Figure 6.1 the existing service routes provide coverage to most areas of Keizer, however, coverage to neighborhoods in the north and northwest sections of the City is limited.

Proposed Transit System Improvements

In the fall of 2008, Salem-Keizer Transit sponsored a bond measure to provide funding to support transit operations. One component of this was to be for converting the Cherriots service from the existing pulse system to a nodal system called a “3C” operating system: centers, corridors, and circulators. The bond measure failed. However, the proposed changes to the fixed route bus service would have been:

- Corridor routes include routes providing service between the transit node centers in Keizer and Salem.
- Circulator routes are intended to provide expanded service from the proposed transit center to surrounding neighborhoods in Keizer.
- A new transit center is proposed for Keizer as part of the changes. The site is yet to be selected, but ideally will be located in the vicinity of the Chemawa Road/River Road intersection.



Although these service improvements are currently no longer planned, to meet the identified TSP goals regarding transit service in Keizer, City staff will continue to work closely with Salem-Keizer Transit staff to advocate transit system and facility improvements that are consistent with community goals and development plans.

For example, the City will consider the promotion of nodal development and or transit oriented development (TOD) in the vicinity of transit facilities as the system expands and development or redevelopment occurs. The City will revisit the TSP when future transit plans are known and funding is available to designate the location and density of nodal development along transit routes and near facilities.

The City of Keizer is committed to working to provide opportunities for viable and effective choices for its citizens regarding transportation needs. To this end, the City is committed to work with the Transit District to upgrade, strengthen and expand service wherever possible.

The location of transit facilities will be such that the citizens of Keizer will have easy access, will feel safe, and will enjoy direct service to transit routes in the metropolitan area. The location of transit facilities will address the need for access to the major corridors of River Rd, Salem Parkway, or other designated major corridors and provide access to the Civic Center, Parks, and shopping areas. The placement of such facilities will balance the need for proximity to residential areas with that of not creating disruptive impacts in established neighborhoods.

Additionally, mitigation of noise and light impacts to surrounding residential areas will be employed to ensure a high quality of life, while promoting more efficient mixed use development within the City where appropriate. Such design considerations as location along collectors and arterials, utilizing corner lot development, and close proximity to the major corridors of the City will be incorporated in the development of such facilities.

Chapter 7

Transportation Demand Management

TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) is defined as actions that attempt to manage and reduce the automobile trip demand on the transportation system. TDM strategies are increasingly more important as environmental concerns become more critical, gas prices vary and congestion increases.. 2007 census data revealed that approximately 77 percent of Keizer's residents drove alone to work.

Adding automobile travel lanes, building new roads, and connecting local neighborhood roads to collectors or arterials are traditional approaches to providing for increased travel demand. However, these methods are not the only solution for solving traffic problems. Road construction is expensive; and funds to finance the work are not always available when needed. Impacts on neighborhoods associated with construction disruption, air pollution, and in some cases, potential for higher speed traffic are usually unacceptable.

Transportation demand management (TDM) strategies are implemented to relieve traffic congestion, provide options for travel choice and to increase street use. Typical strategies include ridesharing programs, vanpooling, bus pooling, alternative work schedules, travel-time shifting (out-of-peak period), telecommuting, and increasing bicycle, pedestrian, and transit use.

Existing TDM Programs

A number of TDM programs are currently in place within Keizer and the Mid-Willamette Valley region. These programs are summarized below.

Mid-Willamette Valley Regional TDM Program

The Regional TDM Program is operated by the Mid-Willamette Valley Council of Governments (MWVCOG) and is designed to complement and enhance the efforts that began with the Regional Rideshare Program in 1975. The TDM program started in 1994 and is funded through the federal Surface Transportation Program as well as local funding sources. The program currently includes the following components:

- Regional Rideshare Program
- Employer/Employee Outreach
- TDM Program Development and Evaluation

Regional Rideshare Program

The main program offered under the Regional TDM umbrella is the Regional Rideshare Program. The Regional Rideshare Program originated in 1975 as a cooperative effort between the city of Salem, the Mid-Willamette Valley Council of Governments (MWVCOG), and the State of Oregon Department of General Services. The program objective was to alleviate parking demand in the Central Business District (CBD) and Capitol Mall area by providing transportation alternatives to driving alone to work. By the end of 1977, the program had expanded to include a region-wide carpool matching service, preferential parking and reduced parking fees for carpools, park-and-ride facilities connecting to Cherriots bus service, the Cherriots Commuter Bus club (a “no charge” express transit service for CBD/Capitol Mall area commuters), the use of flex hours, and a referral service for vanpools. The program was administrated by the MWVCOG until July 1979. In July 1979, the city of Salem Public Works Department assumed responsibility for administration of the program. In July 2005 the Salem-Keizer Transit District assumed responsibility for the administration of the program and markets the program under the name of “Cherriots Rideshare”. The Regional Rideshare Program is funded through the federal Surface Transportation Program - Urban.



Currently, the Regional Rideshare Program’s major components are the Carpool Matching Services, Vanpool Referral Services and administering the Emergency Ride Home Program, described in detail below.

- Carpool Matching Service and Participation. Carpooling involves the use of an employees’ private vehicle to carry fellow employees or other commuters to work, either using one car and sharing expenses, or rotating vehicle use so that no money changes hands. The Cherriots Rideshare program provides a computerized carpool matching service and offers a 24 hour Rideshare Hotline for potential carpool participants within an 80 mile radius of the Salem-Keizer-Turner urban area. Applicants are matched with those individuals commuting in the same direction and receive a computer printout or email containing contact information of other participants. The average daily round trip commute for carpool participants was approximately 45 miles in 2005-2006. Cherriots Rideshare processes approximately 62 potential carpool applications a month. As of June 2006, there were 2,778 applicants in the rideshare database.

- Vanpool Referral Service. Vanpools can be company sponsored, third-party, or owner operated. A vanpool involves between 7 and 15 riders that is driven by a volunteer driver/coordinator who is commuting to the same location as the riders. Riders usually meet at a designated pick-up location, and have a designated drop-off point at the destination. Each rider pays a monthly fee that is determined by the lease cost plus gas, divided by the number of riders. When a carpool application is processed, applicants are also matched with vans that may serve their commuting needs. The applicant receives information about how to contact the driver, pick-up and drop-off locations, times and fares. In 2007, there were 25 vanpools in the Cherriots Rideshare database.

Participants of the carpool/vanpool referral service can also apply for reserved parking spaces located in one of Salem's three downtown parking structures (Pringle, Marion Parkade, and Liberty Square). Currently, carpool and vanpool participants can obtain reduced parking fees for reserved carpool/vanpool parking spaces in the Pringle Parking Structure.

Employee/Employer Outreach

The Cherriots Rideshare staff also provides outreach to employers and employees within the region to develop Employee Transportation Programs. Possible components of an Employee Transportation Program include:

- New employee introduction package: Includes two free bus passes and a form to enroll in the ride matching program.
- Reduced price bus passes: Monthly passes on Cherriots at a discount.
- Preferential/Reduced Carpool Parking: For those employees joining or starting a carpool, the city of Salem has designated parking spaces for carpools. In addition, some area businesses and agencies offer a similar service in their private parking lots.
- Bicycle and Pedestrian Incentives: Designed to encourage employees to walk or bike to work. Several companies in the area offer on-site bicycle lockers for their workers. In addition, the City of Salem has a number of lockers for rent in downtown.
- Flexible work hours.
- Teleworking.
- Emergency Ride Home program: For employees enrolled in the program who have an emergency that requires the employee to leave immediately, this program would pay for the taxi fare.

Another part of the TDM program's outreach is to inform employers, employees, and the public of the benefits and possibilities that are part of Employee Transportation Programs specifically and TDM strategies in general. These tasks include:

- Assist major employers to develop and establish a comprehensive employee transportation program.

- Explore the feasibility of developing a Transportation Management Association.
- Promote incentives and disincentives for the use of rideshare, transit, bicycling, and walking by employees and the community.
- Assist in the development and establishment of telecommuting programs.
- Promote alternative work hours.
- Participate in community activities to promote TDM strategies where appropriate.

On a regular basis, the TDM staff also meets with public and private sector employers and employees to develop transportation programs and provide information on transportation alternatives.

TDM Program Development and Evaluation

Cherriots rideshare also undertakes TDM Program Development and Evaluation which includes:

- Research TDM strategy related incentives/disincentives and programs elsewhere in the nation for potential applicability for the region. Determine implementation process for these incentives/disincentives to employers and employees.
- Develop marketing promotions.
- Produce newsletter to promote carpool/vanpool use and other transportation alternatives to the single-occupant vehicle, energy conservation, and air quality for distribution to policy makers, local communities, businesses, and the public.
- Retain existing public carpool parking and locate additional on-street carpool parking spaces in the Downtown/Capitol Mall area, as the demand warrants.
- Develop and implement a park-and-ride plan in coordination with Salem-Keizer Transit District for the Salem-Keizer urban area.
- Identify and develop potential park-and-ride sites within Marion and Polk Counties and coordinate the designation and/or construction of these sites with the appropriate jurisdictions.
- Continue to improve the current computer matching program in order to meet the needs of prospective clients and cost effectiveness of the program.
- Improve program monitoring and evaluation procedures to assess the overall effectiveness of the program and the special marketing promotions.
- Develop ordinances to require TDM strategies in lieu of other mitigation measures in Traffic Impact Analysis.

Park-and-Ride Lots

Park-and-ride lots are either publicly or privately owned facilities that give automobile commuters a place to park and then carpool or ride transit. With the eventual implementation of express transit service, more park-and-ride locations will be necessary. The location of these new facilities will require continued study by the City of Keizer and SAMTD.

Currently, there are two functioning park-and-ride lots in Keizer. One unofficial lot is located on the south side of Chemawa Road at Radiant Drive. The second lot is located at the Safeway store on the southeast corner of River Road and Chemawa Road. Additional park-and-ride facilities are anticipated to be constructed as part of Area C of Keizer Station. The timing of this stage of development is currently unknown.

Potential TDM Strategies

There are a wide variety of possible TDM strategies that could be adopted and implemented by the City of Keizer to reduce VMT and increase trips completed by other travel modes. A number of strategies are summarized below. As appropriate, City of Keizer staff will explore opportunities for expanding TDM services/facilities in Keizer.

Promote Walking and Bicycle School Trips

The City of Keizer shall work with the school district to promote walking and bicycle trips to schools and bus stops that service schools. Assistance may be available through the Safe Routes to School Program to assist with this outreach.

Outreach to New and Relocating Residents

Relocation is a key time for people to consider travel options and change travel habits. An outreach program will identify target market segments among new residents and develop strategies to market travel options and services to those audiences. A number of the elements that are currently being used for employer/employee outreach could be modified for use within the community. For example, the new employee introduction package and pedestrian and bicycle incentives.



Encourage Walking Trips

A number of measures can be undertaken to improve the walk-ability of the City and encourage walking trips. These measures include: the publication and distribution of sidewalk network maps, improving sidewalk and path conditions for all users, increasing perceived pedestrian safety through better lighting and landscaping, creating pedestrian short-cuts at mid-block locations and at the end of cul-de-sacs, installing way-finding signage to attractors and transit facilities, and creating a more attractive pedestrian environment.

Parking Management

The management of parking results in positive impacts across land uses, managing the transportation system, and supporting the economy. Parking is often considered “free” by the public and assumed to be a cost of doing business by companies.

Potential parking management strategies include:

- designating spaces for carpools and vanpools in convenient locations,
- installing bicycle parking facilities in prominent locations,
- encouraging employers to discontinue parking subsidies for employees,
- prohibiting on-street parking on busy roadways at peak periods to increase available traffic lanes,
- separating or “unbundle-ing” parking from multi-family residential and/or office developments. This means that parking is sold or rented separately from the property. For example, rather than renting or selling an apartment with two parking spaces, the parking spaces are bought or rented separate to the apartment. This strategy results in people paying only for the parking that they require. Additional spaces can then be sold, leased, or used for paid parking for surrounding land uses. The City should monitor parking in the area to ensure that on-street parking is not being used to avoid paying for spaces,
- sharing parking spaces between adjacent buildings and land uses to take advantage of different peak period times. Examples of complimentary land uses include offices and theatres or restaurants. As a result, the total parking quantity can be reduced when compared to the total requirement for the land uses individually. This method can also maximize usage of existing parking supply as redevelopment occurs.
- implementing parking pricing or short term parking zones that free up parking in business and retail centers while encouraging drivers with long term parking needs to try carpooling, transit or other options.



Bicycle/Transit Integration

Cycling and transit travel modes integrate well, with cycling used for shorter-distance trips and transit used for mid to long distance trips on busy corridors. Providing facilities for cyclists at transit stops increases the transit influence area as people can travel further on bicycle than by walking within a relatively short amount of time.

There are number of ways to accommodate these users including providing secure bicycle storage facilities at transit stops, providing bicycle storage on the transit vehicle (i.e. bus mounted bicycle racks, storage areas inside train carriages), and/or ensuring that bicycles can access transit stops and stations in a safe manner.

Event Transit Service

City of Keizer could develop an Event Management Plan in collaboration with local businesses and SAMTD to increase transit and shuttle service and the use of park-and-ride and overflow parking lots during festivals and events within the City.

Scenarios for Successful TDM Strategy Implementation

Based upon information provided by the MWVCOG, TDM strategies are more successful when following factors are considered. The City will work with the Cherriots Rideshare Staff to maximize opportunities to use TDM strategies in Keizer.

- The target area for a TDM program should be clearly defined (e.g., Downtown, City Hall area). The largest scale demand management/rideshare experiments have been at the sub-area level and have been characterized by significant reductions in certain types of vehicle trip rates.
- Strategies are more effective if coupled with complementary strategies (e.g., park-and-ride facilities are more likely to be successful if linked to express or limited stop transit service).
- Demand management/rideshare programs are most likely to be successful where there are financial incentives to encourage commuter participation (e.g., transportation allowances). Congestion, parking costs, etc., often needs to be perceived as unacceptable before voluntary demand management/rideshare options become widely attractive to commuters.
- Marketing efforts should target those commuters who are interested in or open to altering their commute pattern (e.g., market segmentation). Time and resources may not be best used in trying to change the minds of those who are committed drive-alone commuters.
- The larger the scope of the program, the more important it is that there is cooperation among jurisdictions, private employers, and the public. Coordinated efforts among agencies and transportation providers are more likely to succeed than overlapping efforts.

Chapter 8

Air, Water, Pipeline, Rail, and Freight Systems

AIR, WATER, PIPELINE, RAIL, AND FREIGHT SYSTEMS

Air

No airport exists in Keizer; however McNary Field is located four miles south of Keizer in Salem. This airport serves general aviation aircraft, the Oregon Army National Guard – Army Aviation Support Facility, and a Federal Express office and package reload facility.

From June 2007 to October 2008, Delta Airlines' connection carrier, SkyWest provided commercial service from Salem to Salt Lake City, Utah for connections to other national and international Delta Airlines flights. The City of Salem continues to seek a commercial carrier for service to/from Salem. In addition, Portland International Airport (PDX) is the principal airport in the State of Oregon, and is located 50 miles north of Keizer.

Water

The Willamette River is located along the west side of the city of Keizer and does not include any port or harbor facilities within the Keizer area. Near Keizer, the Willamette River is approximately 500 feet wide and 4 to 16 feet deep.

The Wheatland Ferry, located approximately four miles north of Keizer on Matheny Road, provides passenger service across the Willamette River in Marion County. The ferry connects with Wheatland Road in Yamhill County and is open year-round, except Thanksgiving and Christmas Day. It is also closed when the depth of the Willamette River is greater than 16 feet or when the flow of water in the river is low.

The Wheatland Ferry operates daily from 5:30 AM to 9:45 PM, with the following tolls:

- Motorcycles – \$1
- Autos & Pickups – \$1.35
- Vehicles w/Trailers – \$2.75
- Vehicles Over 20 Feet – \$2.75
- Dual-Axle Vehicles – \$4
- Vehicles Using Entire Ferry – \$12
- Toll Tickets:
 - \$54 buys a 48 punch ticket
 - \$27 buys a 24 punch ticket

The Wheatland Ferry can carry up to nine vehicles per trip, corresponding to a maximum weight of 80,000 lbs (40 tons) and a maximum length of 63 feet. The ferry ride across the river is less than two minutes, and the ferry runs continuously throughout the day. The ferry carries approximately 750 cars per day in the winter and 950 cars a day in the summer. According to Marion County Public Works, most of the passengers are commuters, with an equal number of crossings in both directions.

Pipeline

The only pipelines in Keizer are feeder lines for Northwest Natural Gas. The pipeline facilities within the Keizer area have an excellent safety record, without incident. The current system is adequate to support the city's needs for the next 20 years.

Rail

The existing railway through Keizer crosses the southeastern Keizer city limits near Ridge Drive, heads due north and exits the city limits on its northern border. The sole rail crossing in Keizer is located at the intersection of Lockhaven Drive/Ridge Road, and has a new gated warning signal, as well as railroad crossing signs. This line has been leased to, and is operated by, Portland and Western (P&W) Railroad. P&W, is a wholly owned subsidiary of Genesee & Wyoming Inc., and operates a 520 mile regional system. It is currently a freight rail line; however, there have been preliminary discussions about modifying it to provide commuter rail service connecting to Tri-Met's Westside Express Service (WES) commuter rail. WES commenced operation in February 2009.

Freight

While there is not a large volume of freight traffic in Keizer, the majority of the freight movement is made on Lockhaven Drive, Chemawa Road, River Road, and Salem Parkway. A rock quarry is located in west Keizer on Chemawa Road. Trucks from the quarry access I-5 via Chemawa Road and Lockhaven Drive. Additionally, there are three commercial/distribution centers: Advantage Transportation Services, located near the intersection of Cherry Avenue/Salem Parkway, Cummings Moving Systems, located near the intersection of Lockhaven Drive/River Road, and CAD NW Conveyored Aggregate Delivery, also located near the intersection of Lockhaven Drive/River Road. Finally, Salem Parkway at the southern edge of the city is also a major truck route, providing access between I-5 and Salem. With potential commercial development in Keizer, there is potential for commercial traffic to become a more critical issue within the City.

Chapter 9

Financial Projections and Project Needs

FINANCIAL PROJECTIONS AND PROJECT NEEDS

The financial overview presented in this chapter is intended to provide historical context for transportation expenditures and revenues in the City of Keizer and to identify primary sources for capital project funding. Analysis of past funding availability and projections were conducted to explore the potential for various funding mechanisms. All costs discussed in this chapter are based upon 2008 dollar values.

Chapters 4 and 5 of the TSP identified roadway, bicycle and pedestrian projects that meet Keizer's transportation needs until the year 2031 based on the forecasted traffic growth in the City. The future transportation needs of the City were determined using the information received from two sources: comments received from the public and technical analysis of future traffic operations and safety along major roadways in the City.

The projects listed in Table 9.1 present the recommended immediate, near, mid and long term projects for development in Keizer. In each case there is a project name and description, estimated planning level costs, and estimated priority. The projects address various transportation issues such as roadway connectivity, traffic operations, safety, and pedestrian and bicycle needs.

The priority for roadway projects was based on the capacity needs and connectivity needs of the system. The pedestrian and bicycle projects were prioritized based on connectivity to the existing system and connectivity between pedestrian/bicycle generators such as community centers, schools, businesses, and shopping centers. The prioritization of all projects is tempered based on the available annual funding described later in this chapter.

Table 9.1 City of Keizer Financially Unconstrained Projects and Prioritization

Project	Location	Description	From	To	Cost ¹
R1	I-5 Southbound On-Ramp	Widen Salem Parkway on-ramp to I-5 to two lanes.	N/A		\$360,000
R6	Lockhaven Drive at 14th Avenue	Construct a westbound right-turn lane. Modify the northbound and southbound approaches to a separate left-turn lane and shared through/right-turn lane.	N/A		\$280,000
B1	Dearborn Avenue	Designate as a bicycle route. Provide signage for bicycle route with approximately 1,300' of pavement markings.	Delight Street	Shoreline Drive	\$5,000
B2	Chemawa Road	Construct bicycle lanes on both sides of the roadway. Includes roadway widening to accommodate 5' bike lanes. Does not include any sidewalk/curb construction.	Windsor Island Road	West City Limit	\$675,000
B3	Verda Lane	Designate as a bicycle route. Provide signage for bicycle route with approximately 2,000' of pavement markings.	Kalmia Drive	Lockhaven Drive	\$5,000
B7	Delight Street	Designate as a bicycle route with shoulders and widening. Provide signage for bicycle route with approximately 5,000' of pavement markings.	Cummings Lane	Chemawa Road	\$160,000
B11	Meadow Glenn Street	Designate as a bicycle route. Provide signage for bicycle route with approximately 1,500' of pavement markings.	Parkmeadow Street	Clear Lake Elementary	\$5,000
S4	Chemawa Road	Construct approximately 1,200' of concrete curb and sidewalk. Bring Chemawa Road to arterial street standards.	West City Limits	River Road	\$2,160,000
R4	River Road at Lockhaven Drive	Convert westbound approach to dual left-turn lanes, a single through lane, and a separate right-turn lane. Convert east/west split phasing to a more conventional protected left-turn phasing. Upon redevelopment of adjacent properties, implement access management measures for driveways within the influence area of the signalized intersection.	N/A		\$370,000
R3	River Road at Wheatland Road	Construct dual northbound left-turn lanes. Change northbound/southbound to a protected left-turn phase. Extend length of second southbound through lane.	N/A		\$960,000
R7	Chemawa Road/Verda Lane	Install single-lane roundabout (120 ft inscribed circle diameter).	N/A		\$1,275,000
R9	Transportation Management/Access Management	Perform Lockhaven Drive Corridor Study Perform River Road Corridor Study Perform Chemawa Road Corridor Study	River Road South City Limits Lockhaven Drive	Chemawa Road Lockhaven Drive Windsor Island Drive	\$300,000 \$250,000 \$100,000
B4	Tepper Lane	Construct bicycle lanes on both sides of the roadway. Includes roadway widening to accommodate 5' bike lanes. Does not include any sidewalk/curb construction.	McLeod Drive	Railroad Tracks	\$165,000
B5	Sunset Avenue	Construct bicycle lanes on both sides of the roadway. Includes roadway widening to accommodate 5' bike lanes. Does not include any sidewalk/curb construction.	Rivercrest Drive	River Road	\$165,000

Project	Location	Description	From	To	Cost ¹
B6	Fall Creek Drive/ 5th Avenue	Designate as a bicycle route. Provide signage for bicycle route with approximately 2,000' of pavement markings.	Rivercrest Drive	Sunset Avenue	\$5,000
B8	Manbrin Drive/ Thorman Avenue	Designate as a bicycle route with shoulders and widening. Provide signage for bicycle route with approximately 3,000' of pavement markings.	Cherry Avenue	Dearborn Avenue	\$160,000
S3	Cummings Lane	Construct approximately 3,250' of curb and sidewalk along sections of Cummings Lane to bring to collector standards	Palma Ciega Park	River Road	\$1,080,000
S5	Dearborn Avenue	Construct approximately 1,000' of curb and sidewalk to fill in gaps. Bring to collector street standard.	Delight Street	River Road	\$580,000
S11	Chemawa Road	Construct approximately 4,000' of curb and sidewalks to bring Chemawa Road to arterial street standards.	Verda Lane	Lockhaven Drive	\$1,330,000
R2	River Road at Manzanita Street	Move intersection approximately 250 feet to the south. Construct separate westbound through and right-turn lanes.	N/A		\$2,700,000
B9	Brooks Avenue	Designate as a bicycle route. Construct full improvements (bike lane, curb and gutter, shoulder, and sidewalks). Provide signage for a bicycle route with approximately 4,000' of pavement marking.	Manbrin Drive	Salem Parkway	\$160,000
B10	14th Avenue	Designate as a bicycle route. Provide signage for a bicycle route with approximately 4,000' of pavement.	Lockhaven Drive	Gubser Elementary	\$10,000
S1	Sunset Avenue	Construct approximately 2,000' of curb, sidewalks, and bike lanes to bring to collector street standards	Rivercrest Drive	River Road	\$665,000
S6	Delight Street	Construct approximately 2,500' of curb and sidewalk. Bring Delight Street to local street standards.	Cummings Lane	Chemawa Road	\$830,000
S7	Dearborn Avenue	Construct approximately 1,000' of curb, sidewalk and bike lanes to bring to collector street standards.	13th Avenue	Verda Lane	\$330,000
S8	Verda Lane	Construct approximately 5,500' of curb, sidewalks and bike lanes to bring to arterial street standards.	Alder Drive	Kalmi Drive	\$1,825,000
R5	Verda Lane Extension	Extend Verda Lane north of Lockhaven Drive and connect to River Road at a new alignment of McNary Estates Drive. Realign Trail Avenue. Close the existing River Road/Manzanita Street/McNary Estates Drive intersection.	River Road	Lockhaven Drive	\$2,075,000
R8	Lockhaven Drive/ Verda Lane Alternatives	Signalize the intersection. Restrict north/south through movements on Verda Lane.	Windsor Island Drive	Chemawa Road	\$400,000
S2	Manbrin Avenue	Fill in sidewalk gaps to local street standards. Construct approximately 625' of curb and sidewalk.	Toni Avenue	River Road	\$210,000
S9	Windsor Island Road	Fill in sidewalk gaps to collector standards. Construct approximately 6,000' of curb, sidewalk and bike lanes to bring to urban standards.	Chemawa Road	City Limits	\$1,995,000
S10	O'Neil Road	Fill in sidewalk gaps to local street standards. Construct approximately 1,600' of curb and sidewalk.	Parkmeadow Drive	Clear Lake Road	\$530,000
S12	Wheatland Road	Fill in sidewalk gaps to arterial street standards. Construct approximately 6,300' of curb and sidewalk.	River Road	Clear Lake Road	\$2,095,000
TOTAL					\$24,215,000

¹ Cost estimates does not include cost associated with acquiring right of way.

The total estimated 20 year transportation system improvements funding need for the City of Keizer is approximately \$24,215,000. In addition to this spending, City of Keizer will continue to maintain their existing transportation system through on-going maintenance programs. This is spending in addition to the above capital improvements.

Estimated Available Funds

Based upon past and current revenue sources from the City of Keizer's annual budget, approximately \$500,000 per year is available from the Capital Improvement Program (CIP) Street Fund. It is estimated that this fund will remain the same or increase by approximately four percent over the next 20 years. Currently the City of Keizer also maintains a Transportation System Development Charge (TSDC) program of which \$110,000 is available annually for transportation improvement projects. It is expected that the TSDC program will be updated and modified as necessary following adoption of the updated TSP.

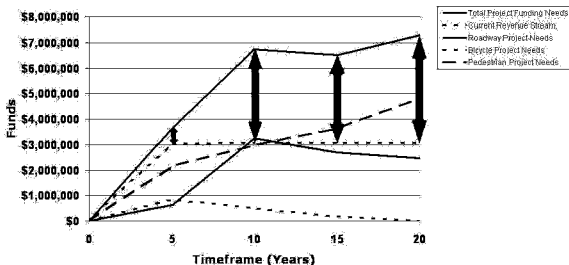
Table 9.2 shows the available funds for transportation projects over the next 20 years in increments of five year periods, assuming that the current funding sources remain the same. An incremental increase for each timeframe determined that the annual CIP Street Fund is forecast to increase by approximately four percent in the 20 year horizon. This translates to an approximate 0.002 percent annual increase to the \$500,000 currently available. Table 9.3 below illustrates the funds required and available for each five year period, assuming the small percent annual increase to the CIP budget.

Table 9.2 Estimated Available Funds

Timeframe (Years)	Funding Stream	Funds Needed
0-5	\$3,055,000	\$3,650,000
5-10	\$3,065,000	\$6,740,000
10-15	\$3,070,000	\$6,520,000
15-20	\$3,075,000	\$7,305,000
TOTAL	\$12,265,000	\$24,215,000

Figure 9.1 provides a graphical representation of the available transportation system funding from existing sources, and the project costs for the unconstrained transportation system needs identified for the next 20 years in the City of Keizer. The arrows in the graph represent the funding gap between the estimated funding available and the forecast project funding needs.

Figure 9.1 Keizer 20 Year Transportation Funding



As shown in the graph, a funding gap of approximately \$12 million exists between the estimated funding available and the forecast project funding needs to accommodate all of the identified transportation system projects.

Potential Funding Sources

Approximately \$24 million is required within the 20 year horizon to implement all of the transportation improvements identified in the financially unconstrained needs analysis. In the near term, a total of \$3,650,000 is needed to implement projects in the immediate term (0-5 years). Current funding for the immediate term horizon is \$3,055,000, leaving a gap of approximately \$595,000 for projects without an identified funding source. This gap continues to grow in future years; therefore, additional funding sources and opportunities will continue to be explored by the City. The City will take advantage of funding and opportunities available at any given time to identify the most appropriate project for the given time period.

Statewide Transportation Improvement Program (STIP)

Every two years, ODOT allocates funding to improvement projects on state and local facilities through its four-year funding program, the Statewide Transportation Improvement Program (STIP). The STIP has provisions for funding local projects that are outside ODOT jurisdiction. For the City of Keizer to receive such funding, the City's project(s) would be selected and identified in the Salem Keizer Area Transportation Study (SKATS) Transportation Improvement Program (TIP). While Keizer has not had projects in the TIP every year, they have had projects in the TIP with some regularity. With the adoption of the TSP, the City will be in a stronger position to pursue funding for projects listed in the TSP as these projects will comply with ODOT's

Transportation Planning Rule (TPR). However, it should be noted that being listed in the TSP does not guarantee STIP funding.

In addition, there are State Transportation Enhancement funds and Bicycle/Pedestrian Grants that the City can apply for to fund some of the projects identified in the TSP. Keizer has also applied for grants that address stormwater to provide for pedestrian/street amenities such as the 'rain gardens' on Dearborn Avenue.

Updated System Development Charges (SDC)

The SDC program charge is based on the projected needs over a 20-year planning horizon. Once the system development charge (SDC) projects have been identified and the total cost to implement the projects has been estimated, an SDC cost per trip assessment can be developed based on the trip generation potential of future development. As a result, the SDC program will be updated after adoption of the TSP.

Local Improvement District (LID)

Local Improvement Districts (LID) are created to finance transportation system improvements through special assessments against benefited properties. A LID provides a mechanism to coordinate installation and funding of improvements between one or more property owners. LID's may be formed when property owners petition the City for the purpose of constructing and funding public improvements in their neighborhood. At times, a LID may be formed when the City determines that improvements are necessary. Special assessments to the properties benefiting from the improvements can be implemented by the City through the formation of a LID. Typical improvements made through the LID process are to streets, water lines, sewers, sidewalks, bicycle lanes, street lighting, and traffic signals.

LIDs are initiated either by written petition from property owners or directly by City Councilors. In some cases, the City Councilors may require installation of public improvements that are considered essential to the welfare of the City and shall initiate a LID to construct and assess the sidewalk costs to adjacent property owners. A LID can also be initiated when a certain percentage of the benefiting property owners petition to the City to initiate a LID to construct the improvements.

Municipal Bonds

Municipal bonds are debt issued to fund public infrastructure projects by jurisdictions and institutions like the U.S. government, local governments, water districts, companies, and many other types of institutions. When an investor buys bonds, he or she is lending money to fund the public project with an agreement that the seller of the bond agrees to repay the principal amount of the loan at a specified time. The interest that investors receive is exempt from some income taxes.

Tax Levies

It is within City of Keizer jurisdiction to levy taxes to fund public infrastructure projects that are needed to accommodate future growth in the City. A local tax could be in the form of local gas tax, ad valorem tax (Latin for “according to value”), or other forms of tax.

State of Oregon: Jobs and Transportation Act 2009

Currently, the Oregon State Legislature is reviewing the “Jobs and Transportation Act 2009”. This set of initiatives proposed by the Governor’s office would inject \$1 billion biennially into Oregon economies. Possible sources for funding have been identified and include a combination of congestion pricing, title fees, and gas tax increases. The 2009 recommended funding available for Oregon cities estimates approximately \$1,235,000 would be available to Keizer annually to pay for transportation investment projects. Although this Transportation Act is not yet approved, it represents a significant investment into Oregon’s transportation infrastructure and consequently into Keizer’s future transportation system.

Project and Funding Summary

Keizer’s TSP identifies the roadway connectivity, operation, safety, pedestrian, bicycle, transit, and railroad needs of the City for the next 20 years. It also supports the anticipated population and economic growth of the City. In summary, the short term, mid-term and long term needs of the City are shown in Table 9.3. As shown in Table 9.3, the sum of pedestrian and bicycle project costs are nearly double that of the identified roadway project costs.

Table 9.3 Project and Funding Summary by Timeframe

	Bicycle Projects	Sidewalk Projects	Roadway Projects	Total Projects
Number of Projects	5	1	2	8
Estimated Cost of Projects	\$850,000	\$2,160,000	\$640,000	\$3,650,000
Percent of Total Cost	23%	59%	18%	100%
Available Funding				\$3,055,000
Funding Shortfall				(\$595,000)
Number of Projects	4	3	4	11
Estimated Cost of Projects	\$495,000	\$3,090,000	\$3,255,000	\$6,740,000
Percent of Total Cost	7%	45%	48%	100%
Available Funding				\$3,065,000
Funding Shortfall				(\$3,675,000)
Number of Projects	2	4 ¹ 1		7
Estimated Cost of Projects	\$1,135,000 ² \$2,	685,000	\$2,700,000	\$6,520,000
Percent of Total Cost	18%	41%	41%	100%
Available Funding				\$3,070,000
Funding Shortfall				(\$3,450,000)
Number of Projects	0	4	2	6
Estimated Cost of Projects	\$0	\$4,830,000	\$2,475,000	\$7,305,000
Percent of Total Cost	0%	66%	34%	100%
Available Funding				\$3,075,000
Funding Shortfall				(\$4,230,000)
Number of Projects	11	12	9	32
Estimated Cost of Projects	\$2,480,000	\$12,765,000	\$9,070,000	\$24,215,000
Percent of Total Cost	10%	53%	37%	100%
Available Funding				\$12,265,000
Funding Shortfall				(\$11,950,000)

¹ Two of these sidewalk projects also include the construction of bike lanes. The cost of constructing the bike lanes has been shown separate to the cost of constructing the sidewalks.

² This number includes the cost of constructing bike lanes as part of sidewalk projects discussed in footnote 1.

Chapter 10

Outstanding Actions, Steps, or Refinements

OUTSTANDING ACTIONS, STEPS, OR REFINEMENTS

During the TSP update process, a number of projects and/or additional studies were identified for future investigation by the City of Keizer. These items are summarized in this chapter for future reference and consideration by the City. Some of the projects discussed below are currently underway or are being investigated; others are more conceptual at this time. No cost estimates have been prepared for any of this work, and this will need to be considered if/when these projects are considered.

Roadway Projects

Infill Design Standards

The City of Keizer is in the process of updating the City's Infill Design Standards. These standards will include street design standards which have been included in this TSP. The infill street design standards included in this TSP are not anticipated to change as part of the City's adoption process.

Salem River Crossing Project

The Salem River Crossing project is being conducted by the City of Salem and ODOT. The project purpose is to work with area stakeholders to develop solutions for crossing the Willamette River in the Salem-Keizer metropolitan area that meet transportation needs, are compatible with the built and natural environments, and have broad community and regional support. The project builds on the results of previous studies to develop an environmental impact statement (EIS) and a funding strategy to move the identified solution or solutions toward implementation. If/when an additional Willamette River crossing is constructed in Keizer, and if this results in additional traffic on the Salem Parkway, the City will continue to monitor traffic operations and pedestrian crossing opportunities at intersections along the Salem Parkway to ensure local circulation needs are met and enhanced.

Lockhaven Drive

Lockhaven Drive is the principal east/west travel route within Keizer and connecting to Interstate 5. The TSP evaluation of future conditions identifies that this road will be over capacity and congested by the year 2031 if no actions are taken in advance. A number of improvements have been developed in this TSP; however these measures alone will not be sufficient to cope with the projected traffic volumes in the long-term. The function of and travel demand on Lockhaven Drive is integrated with the size, type and location of access to Interstate 5 and future growth in Keizer. At the time of the writing of this document, a Chemawa/I-5 Interchange Area Management Plan study was underway by ODOT.

Residents of Keizer currently oppose any widening of Lockhaven Drive and have expressed interest in more access to I-5, even though it is not a facility in the TSP. City of Keizer Staff should develop a sub-area study to identify a future form and function of Lockhaven Drive and thus begin to plan for the future of this street.

Miscellaneous Projects

The following roadway projects were also identified as requiring additional investigation or monitoring:

- Candlewood Drive/Cherry Avenue – monitor traffic operations to determine if improvements are needed; and
- Verda Lane/Alder Street/Claxter Road – evaluate traffic operations during school arrival and departure hours to identify if operational improvements are needed.
- Examine roads city-wide which currently do not ~~Rivercrest Drive to~~ provide through connectivity ~~along its entire length~~ with an emphasis on improving bicycle and pedestrian safety.

Pedestrian and Bicycle Projects

Kroc Center Connection

The Salvation Army Kroc Corps Community Center is in the process of constructing the Kroc Center as a major regional recreational facility for the community. The Kroc Center will be located south of the Salem Parkway in Salem, and within one mile of 2 elementary schools. City of Keizer staff and residents are keenly interested in exploring the opportunities for direct pedestrian and bicyclist accessibility between Keizer and the Kroc Center and will actively pursue funding, design, and approval with regional partners.

Local Street Pedestrian Facilities

The TSP has focused on higher order roads such as arterials and collectors. However, as identified by the Technical Advisory Committee there are a number of local streets within Keizer that do not currently have complete and/or connected pedestrian facilities. Members of the Technical Advisory Committee expressed an interest in developing a program to identify, prioritize and fund sidewalk maintenance or new construction on local roads. A particular interest was focused on the five areas bounded by:

- Cummings – River Rd – Chemawa – Delight
- Candlewood – Cherry – Alder
- Chemawa – Newberg – Lockhaven – Windsor island
- Dearborn – River – Dietz – 13th
- Verda – Keizer – Kennedy – Dearborn

City of Keizer staff will consider the feasibility of developing such a program.

Transit Projects

Commuter Rail Extension

In February 2009 Tri-Met began operation of WES (short for Westside Express Service) commuter rail connecting Beaverton and Wilsonville. WES runs at 30 minute headways during the morning and evening peak hours on Monday through Friday. Preliminary discussions and concepts are underway for extending this service from Wilsonville to Salem. If the service were extended, it could potentially include a stop in Keizer. While there are no formal plans in place for such a service, the City of Keizer will explore opportunities to consider the feasibility of such service.

Intercity Transit Service

Recognizing that many of Keizer residents work in Salem or Portland, as growth continues to occur there will be increasing demand for intercity transit service. A WES extension, travel demand management programs such as carpooling and ridesharing, or an expansion of Cherriots services could be developed or expanded to provide such services. City of Keizer staff will work with SAMTD to explore opportunities and feasibility of intercity transit service.

Transit Service to Keizer Station

City of Keizer residents would like to see transit service to and from Keizer Station integrated into Cherriots transit services.

Other Projects

Urban Growth Boundary Expansion

In the future, the City may evaluate the opportunity and need for expanding the City's Urban Growth Boundary (UGB). If, in the future, an urban growth boundary expansion is considered, the following is a framework for the transportation analyses:

- The multimodal transportation system needs for the expansion area will be studied and developed.
- The transportation system impacts of the expansion area on the existing City transportation system will be studied and necessary improvements to the existing City system identified. Plans for mitigations to negative impacts to the existing transportation system will be determined and included in the City's capital improvement program as appropriate prior to adoption of the UGB expansion.

The City's TSP would subsequently be updated to reflect the appropriate changes due to the urban growth boundary expansion.

I-5/Chemawa Road Interchange Area Management Plan

At the time of this writing, the City of Keizer and the Oregon Department of Transportation (ODOT) are in the process of developing an Interchange Area Management Plan (IAMP) for the area in the vicinity of the Chemawa Road interchange with Interstate 5. This plan is considering

many options to ensure and preserve existing and future mobility to and from the interstate at a variety of locations. Options under consideration include improvements specifically at the Chemawa Road interchange, options connecting Chemawa Road and Quinaby Road/Perkins Street, and 35th Street, optional concepts for improvements at the Brooks Interchange (Brooklake Road), and additional connectivity at Verda Lane/Hyacinth Street.

As the IAMP process continues and is finalized, City of Keizer staff will ensure that discussions and recommendations from this TSP process are considered and integrated where possible with recommendations from the IAMP process. Further, findings from the IAMP study may result in the City needing to revisit and update this TSP.

Traffic Signal Maintenance and Modernization

The ongoing maintenance and upgrading of existing traffic signal hardware requires consideration by the City. This will result in operating cost savings as new technology often requires less energy to run and has a longer life. An example of this is traffic signals that use LEDs in place of traditional incandescent light bulbs.

Transportation System Development Charge Program Update

The City of Keizer will update their Transportation System Development Charge (TSDC) program once the TSP is adopted. This update will be conducted to reflect the changes from the previous TSP.

City of Keizer Transportation System Plan

**Part 2 of 2:
Supporting Documentation**



Keizer, Oregon

April, 2009



City of Keizer Transportation System Plan

Part II – Supporting Documentation

Keizer, Oregon

March 2009

City of Keizer Transportation System Plan

Part 2 – Supporting Documentation

Keizer, Oregon

Prepared For:

City of Keizer

930 Chemawa Road NE

Keizer, Oregon 97303

(503) 390-3700

Prepared By:

Kittelson & Associates, Inc.

610 SW Alder, Suite 700

Portland, OR 97205

(503) 228-5230

Project No. 8310.5

March 2009

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Appendix A

Definitions and Acronyms

DEFINITIONS AND ACRONYMS

Access Management: Process by which access to private property is limited to improve the operational capacity of the street. Typically implemented on high volume arterials.

Americans with Disabilities Act of 1990 (ADA): Federal law that mandates equal access to public facilities to all persons regardless of disability.

Arterial Streets: High capacity, and typically high speed, streets that serve both intra- and intercity travel needs of the community.

Average Daily Traffic (ADT): The number of automobiles that use a portion of a street, in all directions, over a 24 hour period.

Capital Improvement Program (CIP): Adopted each year, the Capital Improvement Program is the document that budgets the capital investment program for the City's infrastructure.

Cherriots: The name of the fixed route bus service operated in Keizer and Salem by Salem-Keizer Transit.

City of Keizer Comprehensive Plan: The City's land master plan. This document provides the policy basis for all of the City's land development regulations as well as the zoning designations.

City of Keizer Development Code: Prepared to implement the goals and policies of the City of Keizer Comprehensive Plan. Includes the ordinances and laws of the City of Keizer.

Collector Streets: Streets used to distribute neighborhood traffic from the local street system to the arterial street system.

(Keizer or Street) Design Standards: The minimum standards under which all Keizer public facilities are designed.

Effective Capacity: The amount of traffic a roadway can carry given the physical and environmental limitations (i.e., amount of pavement, number of driveways, etc.).

Headway: Frequency of bus service.

High Occupancy Vehicle (HOV): Typically refers to vans and buses; however, sometimes used to refer to an automobile with more than one person in it.

Improvements: Within the context of goals and policies, this is intended to mean major or significant improvements, such as modernization, etc.

Interchange Area Management Plan (IAMP): A detailed plan to determine the expected impact of a new or upgraded interchange upon the highway system and the local road network in the vicinity of the interchange.

Keizer Departmental Policies: A set of policies adopted by the Department Director in conjunction with the City Attorney and the City Manager that guide the day-to-day operations of a City of Keizer department.

(State) Land Use Planning Goals: Nineteen goals related to environmental resources and public infrastructure adopted by the Land Conservation and Development Commission. The goals are implemented by local governments through local comprehensive plans.

LCDC: State of Oregon Land Conservation and Development Commission.

Level of Service (LOS): A set of characteristics that indicate the quality and quantity of transportation service provided. For streets, a qualitative rating of the effectiveness of the street in terms of operating conditions. The condition is typically expressed as a letter grade from A to F, where A describes free flowing traffic and F describes gridlock.

Level of Service Definitions for Signalized Intersections

Level of Service	Traffic Flow Characteristics
A	Very low delay, less than 10.0 seconds per vehicle. This occurs when traffic progression is extremely favorable, and most vehicles arrive during the green phase.
B	Average delay is in the range of 10.1 to 20.0 seconds per vehicle. This generally occurs with good traffic progression. More vehicles stop than for LOS A.
C	Average delay is in the range of 20.1 to 35.0 seconds per vehicle. These higher delays may result from fair traffic progression and/or longer signal cycle lengths. The number of vehicles stopping is significant at this level; although, some may still pass through the intersection without stopping.
D	Average delay is in the range of 35.1 to 55 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from combination of unfavorable traffic progression, longer cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines.
E	Average delay is in the range of 55.1 to 80 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor traffic progression, long signal cycle lengths, and high v/c ratios.
F	Reflects forced flow, with an average delay in excess of 80 seconds per vehicle. This condition indicates that the intersection has greater vehicle arrival rates than its capacity. Poor traffic progression and long signal cycle lengths may be major contributing causes to such long delays.

Source: Transportation Research Board, Highway Capacity Manual 2000.

Level of Service Definitions for Unsignalized Intersections

Level of Service	Traffic Flow Characteristics
A	Average delay per vehicle is in the range of 0 to 10 seconds. Free flowing with no congestion. Very few vehicles waiting in a queue.
B	Average delay per vehicle is in the range of 10 to 15 seconds. Slight delay to vehicles or no vehicles waiting in a queue.
C	Average delay per vehicle is in the range of 15 to 25 seconds. Occasional delay and congestion. More than one vehicle may be waiting in a queue.
D	Average delay per vehicle is in the range of 25 to 35 seconds. Frequent delay and congestion. More than one vehicle is waiting in a queue.
E	Average delay per vehicle is in the range of 35 to 50 seconds. This condition exists when the demand is near or equal to the capacity of the intersection or movement. Unstable flow includes almost continuous lines of vehicles waiting in queues.
F	Forced flow, with an average delay per vehicle in excess of 50 seconds. Queues are extensive. The intersection is considered to be overcapacity.

Source: Transportation Research Board, Highway Capacity Manual 2000.

Local Improvement District (LID): Districts created to finance transportation system improvements the special assessments against benefited properties.

Local Streets: Streets whose primary function is property access, and secondary function is movement of traffic.

Major Activity Center: A location with intensive land development (i.e., downtown, Keizer Station, Capitol Mall, Lancaster Mall, Fairview Industrial Park, etc.).

Metropolitan Planning Organization (MPO): A federally-mandated consortium of local governments and the state department of transportation whose purpose is to provide local input into the expenditure of federal transportation funds. In the Salem-Keizer area, the MPO function is administered by the Mid-Willamette Valley Council of Governments through the Salem-Keizer Area Transportation Study.

MWVCOG: Mid-Willamette Valley Council of Governments.

Mode: The means of travel (i.e., automobile, public transportation, bicycle, walk, etc.).

Multimodal: Providing the capability for more than one mode of transportation.

ODOT: Oregon Department of Transportation

Oregon Administrative Rules (OAR): The code that implements the statutes of the State of Oregon.

Oregon Benchmarks: State-adopted performance measures, used to measure progress towards the vision outlined in the State's Strategic Plan.

Oregon Revised Statutes: The laws of the State of Oregon.

Oregon Transportation Plan: The state's master plan for transportation policy, services, and infrastructure for the next 40 years. The Plan was adopted by the Oregon Transportation Commission in 1992.

P&W: Portland and Western Railroad.

Paratransit: Public or privately provided public transportation service to special needs groups such as the elderly or the disabled.

Park-and-Ride Lots: Designated parking area for automobile drivers who then board transit vehicles from these locations.

Peak Hour: The hour with the highest volume of automobiles, beginning at any one of the four quarter hours (:00, :15, :30, or :45). Traffic analyses typically uses a morning, or A.M., peak hour, and an afternoon, P.M., peak hour, analysis.

Preventive Maintenance: Maintenance activities that go beyond a routine level of treatment, proactively extending pavement life. These activities are generally site-specific, occurring on an as needed basis.

Regional Transportation Systems Plan (RTSP): The umbrella transportation plan that covers the entire regional roadway system within the Salem-Keizer urban area.

Response Maintenance: Maintenance activities that are made in immediate response to existing problems. These activities are designed to keep the street's structure and surface in a minimally operable condition.

Routine Maintenance: Maintenance that occurs on a determined frequency that prolongs the useful life of the facility or pavement surface for as long as possible.

Safe, Accountable, Flexible, Efficient, Transportation Equity Act - A Legacy for Users (SAFETEA-LU): The umbrella federal legislation that appropriates transportation funding and mandates local transportation planning. Prior to 2005, known as Transportation Efficiency Act for the 21st Century (TEA-21) and before 1998 as Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).

Salem Area Mass Transit District (SAMTD): The transit authority responsible for operating transit in the greater Salem area, including Keizer. Also known as Salem-Keizer Transit.

Salem-Keizer Area Transportation Study (SKATS): The designated metropolitan planning organization for the Salem-Keizer urban area.

Salem-Keizer Transit: The transit authority responsible for operating transit in the Salem and Keizer areas. Also known as SAMTD.

Single Occupant Vehicle (SOV): An automobile with only the driver as an occupant. Typically used to refer to commuter travel.

State Transportation Improvement Program (STIP): Federally-mandated document that shows how the state department of transportation intends to spend its transportation funds. The STIP is adopted by the Oregon Transportation Commission every 3 years.

Street Classification System: The blueprint for the city's roadway system. It classifies every street and alley within the city into one of eight categories. The categories define the mission of the street. Standards such as right of way width, access management, pavement depth, traffic control, etc., are then applied to the facility depending on its classification.

Technical Advisory Committee (TAC): Members included citizens, representatives from the City and Planning Commission, the City of Salem, and Marion County.

Telecommuting: Working from home.

Through Trips: Trips, regardless of mode, that neither begin nor end within the Salem-Keizer region, but pass through the region (e.g., trips from Eugene to Portland on I-5).

Transportation Demand Management (TDM): Actions that attempt to manage and reduce the automobile trip demand on the transportation system.

Transportation Growth Management Program (TGM): A joint project of the Oregon Department of Transportation and the Oregon Department of Land Development and Conservation that provides planning grants to local governments.

Transportation Improvement Program (TIP): Federally-mandated document that shows how a region intends to spend its transportation funds. The TIP is typically created and adopted by the MPO governing board every 3 to 5 years.

Transportation Management Association (TMA): A voluntary association of neighboring employers for the purpose of providing access to alternative modes of transportation to their employees.

(State) Transportation Planning Rule (TPR): Administrative rule that implements Goal 12 - Transportation of the State Land Use Planning Goals.

Transportation System Development Charges (TSDC): Developer exactions used to finance transportation infrastructure improvements required due to urban growth.

Transportation System Management (TSM): Low cost, localized improvements used to increase the efficiency of streets and intersections.

TSP: Transportation System Plan.

Urban Growth Boundary (UGB): The state-mandated boundary that separates land available for urban development from rural or farm lands.

Vehicle Miles Traveled (VMT): The number of miles traveled regionally by vehicles for a period of one year.

Volume-to-Capacity Ratio (v/c): An expression of the amount of street capacity being used during a period of time, typically either 1 or 24 hours, as a percentage.

WES: Tri-Met's Westside Express Service commuter rail.

Appendix B
Plan and Policy
Review



Memorandum

Date: August 13, 2007
To: Sam Litke, City of Keizer Planning Department
cc: Elizabeth Wemple, PE, Kittelson & Associates
From: Frank Angelo, Angelo Planning Group
Darci Rudzinski, AICP, Angelo Planning Group
Drew McCartor, Angelo Planning Group
Re: City of Keizer Transportation System Plan, DRAFT Plan and Policy Review

I. Introduction

This memorandum summarizes the plans, policies, and other pertinent existing background data at the federal, state, regional, and local levels that directly impact transportation planning in the City of Keizer. Although each document reviewed contains many policies, only the most pertinent policies and information were chosen to help focus the Keizer Transportation System Plan (TSP) update work. This memorandum provides a policy framework for this planning process, and new policies considered for inclusion in the updated Draft Keizer TSP should be consistent with the currently adopted policies listed.

Section II of this memorandum is an assessment of how adopted City plans and ordinances meet the Transportation Planning Rule (TPR) OAR 660, Division 12. This review also serves as the basis for identifying City policies or requirements that may be out-of-date or inconsistent with each other. Table 1 reviews the requirements of TPR Section –0045, Implementation of the Transportation System Plan, lists the applicable implementation elements of the TPR, and demonstrates where the adopted City regulations comply, and where amendments to code language is needed to comply with the TPR. Appendix A contains the required elements of a TSP, pursuant to the TPR.

Section III contains summaries of regulatory documents that contain information pertinent to the development and adoption of an updated TSP for the City of Keizer. State documents and requirements were reviewed for applicability to the Keizer TSP. Marion County documents that contain policies or regulations with potential impacts to the Keizer transportation system are also reviewed. The regional section contains a summary of applicable sections of the regional transportation plan. In the final subsection of this

memorandum, the City's adopted land use and transportation policies and regulations are summarized.

Appendix A is text from OAR 660-12-0020, the section of the TPR that lists the elements that are required to be included in local TSPs.

The following documents were reviewed for policies and regulations applicable to the City's transportation planning. The page number (p.) where each document's review begins in this memorandum is included for quick reference in the list below.

Federal

- Safe, Accountable, Flexible, and Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU) and implementing regulations (23 CFR 450 and 49 CFR 613) - p. 15

State/ODOT

- Transportation Planning Rule (OAR 660-12, last amended 2005) - p. 15
- Oregon Transportation Plan (1992) - p. 16
- Oregon Highway Plan (1999, last amended 2005) - p. 18
- Oregon Bicycle and Pedestrian Plan (1995) - p. 20
- Oregon Rail Plan (2001) - p. 20
- Oregon Public Transportation Plan (1997) - p. 21
- Access Management Rule (OAR 734-051) - p. 21
- Freight Moves the Oregon Economy (1999) - p. 22

Regional

- Salem-Keizer Area Transportation Study (SKATS) Regional Transportation Systems Plan (RTSP) (2007) - p. 23
- Marion County Comprehensive Plan (Transportation Element revised 2005) - p. 24
- Marion County Rural Transportation System Plan (2005) - p. 25
- Salem-Keizer Transit Strategic Business Plan, Short-Range Element (2004) - p. 27
- Specialized Transportation Plan for Polk and Marion Counties (2007) - p. 28

City of Keizer

- Keizer Comprehensive Plan (1987, last amended 2003) - p. 30
- City of Keizer Transportation Systems Plan (2004) - p. 32
- City of Keizer Development Code - p. 33

II. Transportation Planning Rule Compliance

The Transportation Planning Rule (TPR) requires all jurisdictions to complete a transportation system plan (TSP), including policies and ordinances to implement that plan. Keizer's TSP was adopted in 2000 and amended in 2004. The City is updating the TSP to accurately reflect the current transportation system and plan for Keizer's future transportation needs. The goal of the update is to establish a set of land use and transportation measures and plans to incorporate state and local transportation investments and to maintain local character. Specifically, amendments to the TSP will address new development and plans for development in the City.

The TPR requires that local governments 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 TPR is found in OAR Section 660-12-045, Implementation of the Transportation System Plan. In summary, the TPR 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 TSP.*
- ❑ *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;*
 - *protection of the future operations of roadways and transit corridors;*
 - *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 designations, 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 improvements that accommodate pedestrian and bicycle travel.*
- ❑ *Establish street standards that minimize pavement width and total right-of-way.*

The following assessment of TPR compliance is based primarily on the City's adopted Development Code, as this document implements transportation policy. Table 1 lists TPR

implementation requirements, an assessment of related existing Development Code language, and, where relevant, TSP and other regulatory provisions that address the requirements. This table also includes recommendations for changes to the Development Code that will likely be needed to fully implement the a new TSP and bring the City regulations in compliance with the TPR. Recommended changes to local regulatory documents, indicated in **bold text**, are intended to provide guidance to project staff during the update of the Keizer TSP. In particular, modifications to the City Development Code will be drafted during the planning process and become implementation recommendations for inclusion in the draft TSP.

Table 1. TPR Requirements and City of Keizer Compliance	
TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
(1) Each local government shall amend its land use regulations to implement the TSP.	
(b) To the extent, if any, that a transportation facility, service, or improvement concerns the application of a comprehensive plan provision or land use regulation, it may be allowed without further land use review if it is permitted outright or if it is subject to standards that do not require interpretation or the exercise of factual, policy or legal judgment.	Development Code Section 2.203, Permitted Uses Generally, meets this TPR requirement. This section lists street improvements (surfaced travel lanes, curbs, gutters, drainage ditches, sidewalks, transit stops, landscaping and related structures and facilities located within rights-of-ways controlled by a public agency) and public right-of-way expansion (expansion, widening or adding improvements within the right-of-way, provided the right-of-way is not expanded to more width than prescribed for the street in the Public Facilities segment of the Comprehensive Plan) as allowed uses in all zones.
(c) Local governments shall provide a review and approval process that is consistent with 660-012-0050 (Transportation Project Development). Local governments shall amend regulations to provide for consolidated review of land use decisions required to permit a transportation project.	Section 3.204, Public Notice Requirements, does not include a referral or review process that includes Marion County, Mid-Willamette Valley COG, and local, state or federal agencies to ensure that there is a coordinated effort to permit a land use project. Recommendations: The Development Code does not contain specific requirements for notice to ODOT for applicable land use applications. Section 3.202 should be amended to include such provisions. The City should develop/document a clear and objective review process for the approval of land use decisions required to permit a transportation project.
(2) Local governments shall adopt land use or subdivision ordinance regulations, consistent with applicable federal and state requirements, to protect transportation facilities for their identified functions.	

Table 1. TPR Requirements and City of Keizer Compliance	
TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
(a) Access control measures.	The Development Code does not include access control measures. Measures appropriately contained in a local development ordinance include limiting access onto arterials and/or collectors within a certain distance from an intersection and specifying the minimum distance between driveway access points on these facilities. Recommendations: The Development Code at a minimum should include driveway and public road spacing, median control, and signal spacing standards. These standards should implement the recommendations of the TSP, be included in public works engineering standards, and be consistent with the functional classification of roads.
(b) Standards to protect the future operations of roadways and transit corridors	The Development Code does not contain adopted standards to protect the future operation of roads or reference any outside documents regarding future operations or transit corridors. Recommendation: Amend the Development Code to include standards to protect future operation of roads and major transit corridors.
(d) Coordinated review of future land use decisions affecting transportation facilities, corridors or sites	The Development Code does not provide a process for coordinated review of future land use decisions that affect transportation facilities. Recommendations: The City should consider adding language to Section 3.202, General Procedures – Types I, II and III Actions, of the Development Code to specifically include land use reviews for transportation-related facilities. Section 3.203, Type IV Actions, should be similarly modified. Notification to ODOT, for land use amendments that affect state facilities, to affected local jurisdictions, and to relevant transit providers/departments should be included in Section 3.204, Public Notice Requirements, to ensure a “coordinated review.”

Table 1. TPR Requirements and City of Keizer Compliance

TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
(e) Process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities	The Development Code does not have a process to apply development conditions in order to minimize impacts to transportation facilities. The exception to this is found in the Keizer Station Master Plan Review section (Section 3.113), which give the City discretion to apply conditions of approval to meet listed objectives, including transit orientation, pedestrian/bicycle circulation, and “other conditions of approval it deems appropriate for the health, safety, and welfare of the citizens of Keizer or to ensure the desired implementation of the approved master plan.” The Development Code contains provisions to condition approval of conditional uses (Section 3.103) through a Type I-B process (approval by the Zoning Administrator). Implicit in Section 3.108, Subdivisions, Planned Unit Developments, and Manufactured Home Parks, is the ability to condition approval (3.108.06, Review Criteria, “Improvements or dedications required as a condition of development approval, when not voluntarily accepted by the applicant, shall be roughly proportional to the impact of development”). Recommendations: The Development Code should explicitly give the City the ability to apply conditions of approval to new development and should specify that one of the objectives in imposing conditions will be to minimize impacts to transportation facilities. The subdivisions section (Section 3.108) should be amended to include a requirement that development proposals include data on the potential traffic impacts. The City should consider amending the Development Code to include a process to apply conditions to development proposals that will affect City road facilities by more than a certain number of average daily motor vehicle trips. See the TPR requirements in section 660-012-0060 below.

Table 1. TPR Requirements and City of Keizer Compliance	
TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
(f) Regulations to provide notice to public agencies providing transportation facilities and services, MPOs, and ODOT of: land use applications that require public hearings, subdivision and partition applications, applications which affect private access to roads, applications within airport noise corridor and imaginary surfaces which affect airport operations.	Section 3.204, Public Notice Requirements, of the Development Code does not specify the types of decisions that require notice to public agencies, nor which public agencies should receive notice. Recommendations: The City should amend the Development Code to include a requirement that ODOT and other affected public agencies (DEQ, Oregon Department of Aviation, Mid-Willamette Valley COG, Marion County, etc.) receive notification of land use applications that meet the descriptions in this TPR requirement. Similarly, notification should be provided to the City of Salem if an action by the City potentially affects this neighboring jurisdiction's roads or facilities.
(g) Regulations assuring amendments to land use designations, densities, design standards are consistent with the function, capacities, and levels of service of facilities designated in the TSP.	Criteria for zone change approval (Section (3.110) includes the provision that adequate public facilities, services, and transportation networks are in place or are planned to be provided concurrently with the development of the property. Criteria for text amendments are found in Section 3.111 and pertain to Plan or Ordinance amendments. Approval is contingent on finding that the proposed amendment complies with all applicable Statewide Planning, which would include compliance with the TPR. Recommendations: While the code requirements for text amendments and zone changes are consistent with this section of the TPR, the City should consider amending the Development Code to specifically state that approval of amendments to land use designations, densities, and design standards is contingent on findings of consistency with the planned transportation system, as adopted in the City's TSP. In addition, language that governs zone changes (Section 3.110) and plan amendments (Section 3.111) should be revised to include reference to TPR Section -0060 (see Section 660-12-0060 below), or should include language from this TPR section that states under what circumstances a plan or land use regulation

Table 1. TPR Requirements and City of Keizer Compliance

TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
	amendment “significantly affects a transportation facility” and the mitigation that is required. The options for ensuring that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the TSP should be included in the Development Code, or code language should reference the relevant TPR section.
(3) Local governments shall adopt land use or subdivision regulations for urban areas and rural communities as set forth in 660-012-0040(3)(a-d):	
(a) Provide bicycle parking in multifamily developments of 4 units or more, new retail, office and institutional developments, transit transfer stations and park-and-ride lots	Section 2.303.08, Bicycle Parking, meets this TPR requirement.
(b) Provide “safe and convenient” (per subsection 660-012-0045.3(d)) pedestrian and bicycle connections from new subdivisions/multifamily development to neighborhood activity centers; bikeways are required along arterials and major collectors; sidewalks are required along arterials, collectors, and most local streets in urban areas except controlled access roadways	Subsection 2.310.04 under Development Standards for Subdivisions meets the “safe and convenient” TPR requirement. Pursuant to subsection 2.302.04, General Right-of-Way and Improvement Widths, Sidewalks are required on local streets. The table in the subsection indicates that the need for sidewalks on arterials and collectors will be evaluated on a case-by-case basis. The Development Code does not require bikeways along arterials and major collectors. However, conditions for approval of a zone change can include improvement of public streets, including bike paths, curbs, and sidewalks (Section 3.110.05). Recommendations: Code and public works standards should specify where bikeways are required (based on street classification) and their construction design (width, material). The Development Code should be amended to specify under what circumstances arterials and major collectors will be required to have bikeways or should cross-reference engineering standards that include this information.

Table 1. TPR Requirements and City of Keizer Compliance	
TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
(c) Off-site road improvements required as a condition of development approval must accommodate bicycle and pedestrian travel, including facilities on arterials and major collectors	City code language does not specifically indicate that off-site road improvements can be required as a condition of development approval. <u>Recommendation:</u> Section 2.310, Development Standards for Land Divisions, should be amended to meet this TPR requirement.
(e) Provide internal pedestrian circulation within new office parks and commercial developments	The City's Mixed Use, Industrial Business Park, Office Commercial, and Commercial Retail zones do not include requirements for internal pedestrian circulation. The applicable zones do specify circulation standards for the River and Chemawa Specific Area Plans, including standards for pedestrian ways. The Development Code does not require pedestrian circulation within new office and commercial developments. <u>Recommendation:</u> Section 2.310, Development Standards for Land Divisions, should be amended to meet this TPR requirement.
(6) As part of the pedestrian and bicycle circulation plans, local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas.	<u>Recommendation:</u> This requirement should be addressed by the TSP update planning process. The requirement can be met by adopting improvements in developed areas that meet the needs identified in the TSP's pedestrian and bicycle circulation elements.

Table 1. TPR Requirements and City of Keizer Compliance	
TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
(7) Local governments shall establish standards for local streets and accessways that minimize pavement width and total ROW consistent with the operational needs of the facility.	Street standards are found in Section 2.302; a table that contains General Right-of-Way and Improvement Widths is in Section 2.302.04. Local streets are categorized (I, II, III) based on the number of dwelling units accessing the street, the number of square footage of buildable area, and the average daily trips generated by development. The required pavement (first figure listed) and road right-of-way widths (second figure listed) per the Street Standards table are listed below. Total right-of-way width is not specified in the table, as this is determined on a case-by-case basis. Major Arterial – 68-84 feet; Evaluated on an individual basis Minor Arterial – 68 feet; Evaluated on an individual basis Collector¹ – 64-68 feet; Evaluated on an individual basis Local Street III – 34 feet; 58 feet Local Street II – 32 feet; 56 feet Local Street I – 30 feet; 44 feet Improvement (pavement) width is based on parking on two sides: the Development Code does not provide for a narrower street width when on-street parking is restricted to one side or is prohibited. Street standards in the Development Code are not consistent with Table 6, Street Standards, in the 2004 TSP. Improvement widths for collectors, minor arterials, and major arterials are smaller than required by the code. Improvement widths for local streets in the TSP and the Development Code are the same, but the required right-of-way widths are smaller in the TSP. The Department of Land Conservation and Development has developed a guidebook (Neighborhood Street Width Guidebook) that suggests the following local street standards:

¹ Note: Code requirements reference “major collectors” but does not include corresponding standards. Street classifications are not defined in the Development Code.

Table 1. TPR Requirements and City of Keizer Compliance		
TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations	
	Pavement	Right of-Way
	No On-Street Parking 20'	42-48'
	Parking on One Side 24'	47-52'
	Parking on Two Sides 28'	52-56'
	While the City's low volume (Local Street I) street right-of-way width (44 feet) is consistent with the guidebook's recommended width, the pavement width of 30 feet is in excess of the recommended standard. In general, the City's required local street right-of-way widths in both the Development Code and the adopted TSP are not consistent with the guidebook recommendations and may not meet the TPR requirement of "minimizing pavement width," because a narrower local street right-of-way option is not provided. The City allows for modifications to the right-of-way and improvement widths (Section 2.302.05) when the alteration would preserve trees or natural features, there are unusual topographic features, parcel shape and configuration, and when the alteration necessary to provide greater privacy or aesthetic quality to the development. Recommendations: The Street Standards table in Section 2.302.04 should be amended to provide for a narrower street right-of-way option, defined by clear and objective standards and consistent with the model language listed above. The City may also want to distinguish the different designs for local streets (parking allowed on one or both sides, or prohibited) to identify where the narrower standards are appropriate.	

Table 1. TPR Requirements and City of Keizer Compliance

TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
Amendments to functional plans, acknowledged comprehensive plans, and land use regulations that significantly affect an existing or planned transportation facility shall assure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility.	<u>Recommendations:</u> Revise the Development Code to include language that is consistent with the language of this section of the TPR. Section -0060 was amended in March 2005 and includes new provisions for local jurisdictions on how to make a determination whether or not an amendment to the City's adopted plans or land use regulations has a significant affect on a transportation facility. The TPR includes a category of facilities, improvements, and services that can be assumed to be "in-place" or committed and available to provide transportation capacity (-0060)(4)). For the City of Keizer, these include projects in the STIP or locally adopted TIP or CIP and projects that are authorized in the local TSP for which a funding plan or mechanism is in place. The TPR also allows applicants and decision-makers to rely on transportation improvements that are "reasonably likely to be provided by the end of the planning period" (-0060 (4)(b)(D) when considering amendments to local plans and land use regulations. Through this TSP update process, the City of Keizer has an opportunity to identify what, if any, planned improvements in the adopted TSP may be considered "reasonably likely" to be funded and built within the 20-year planning horizon. Pending the 20-year transportation improvement needs and the development of a corresponding funding element, revisit -0060 determination of "reasonably likely" transportation projects.

III. PLAN & POLICY REVIEW

FEDERAL

Safe, Accountable, Flexible, and Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU)

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (commonly known by its acronym, SAFETEA-LU) is the most recent federal transportation bill authorizing funding for the nation's surface transportation programs. Signed into law in August 2005, SAFETEA-LU replaced the expired Transportation Equity Act for the 21st Century (TEA-21). The law establishes funding levels and policies for the federal government's highway, highway safety, transit, motor carrier, and some rail programs administered by the U.S. Department of Transportation. SAFETEA-LU expires September 30, 2009.²

Over the course of SAFETEA-LU, Oregon expects to have an additional \$212.5 million of additional flexible federal highway funds that can be used for transportation projects and activities throughout the state. The Oregon Transportation Commission (OTC) approved a plan to distribute the additional federal funding coming to the state under SAFETEA-LU. The OTC dedicated nearly half of the additional federal money to modernization projects throughout the state by increasing the amount of modernization funding available in the 2008-2011 Statewide Transportation Improvement Plan (STIP). Determination on how to use these modernization funds will be made based on recommendations from Area Commissions on Transportation that cover most regions of the state.

SAFETEA-LU puts in place a number of new policies, processes, and programs including:

- An Environmental Impact Statements (EISs) process that will streamline and expedite environmental review processes and support early identification and resolution of issues. SAFETEA-LU obligates lead agencies to formally involve the public and participating agencies in the environmental review process, complementing ODOT's Context Sensitive and Sustainable Solutions (or CS³, pronounced C-S-cubed) initiative.³ It also creates a mechanism for issue identification and dispute resolution and establishes a 180-statute of limitations for lawsuits challenging approvals, which may reduce potential delays due to litigation on projects in which complex or controversial issues or impacts may generate opposition. (Section: 6002)
- A Safe Routes to School (SR2S) program to encourage children in grades K-8 to walk or ride their bicycles to school by funding physical improvements within two miles of schools. Each State must set aside 10-30% of the funds for non-infrastructure-related activities to encourage walking and bicycling to school. These include public awareness campaigns and outreach to press and community leaders, traffic education and enforcement in the vicinity of schools, student sessions on bicycle and pedestrian safety, health, and environment, and training, volunteers, and managers of safe routes to school programs.

² See the Surface Transportation Policy Project, <http://www.istea.org/>, for current information on SAFETEA; U.S. Department of Transportation, <http://www.fhwa.dot.gov/reauthorization/safetea.htm>

³ The CS³ initiative was developed for the OTIA III State Bridge Delivery Program. More on this initiative can be found at http://www.oregon.gov/ODOT/HWY/OTIA/bridge_delivery.shtml.

- Changes to metropolitan planning requirements to make them consistent with statewide planning requirements. A clear emphasis of the legislation is increased coordination. For example, SAFETEA-LU requires that metropolitan planning organizations (MPOs) coordinate their transportation planning with other activities in the area including economic development, environmental protection, airport operations and freight movement.

STATE OF OREGON

Transportation Planning Rule (TPR) (last amended 2005)

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 requirements state that transportation plans shall:

- ☐ *consider all modes of transportation, including pedestrian, bicycle, highway, rail, mass transit, air, water, and pipeline*
- ☐ *be based upon an inventory of local, regional, and state transportation needs*
- ☐ *consider the differences in social consequences that would result from utilizing differing combinations of transportation modes*
- ☐ *avoid principal reliance on any one mode of transportation*
- ☐ *minimize adverse social, economic, and environmental impacts and costs and conserve energy*
- ☐ *meet the needs of the transportation disadvantaged*
- ☐ *facilitate the flow of goods and services so as to strengthen the local and regional economy*
- ☐ *conform with local and regional comprehensive land use plans*
- ☐ *be developed, adopted, amended and implemented in accordance with the standards set out in OAR 660, Division 12*

In 1991, the Land Conservation and Development Commission (LCDC), with the concurrence of ODOT, adopted the Transportation Planning Rule, OAR 660 Division 12, to implement State Planning Goal 12, Transportation (amended in May and September 1995, and March 2005). The TPR requires cities with a population of 2,500 or greater to prepare and adopt a Transportation System Plan. All counties are also required to prepare and adopt a TSP.

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 TPR is found in OAR Section 660-12-0045, 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. The following TPR

requirements are paraphrased from Section -0045:

- ❑ *Amend land use regulations to reflect and implement the Transportation System Plan.*
- ❑ *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.*
- ❑ *In MPO areas, adopt land use and subdivision regulations to reduce reliance on the automobile.*
- ❑ *Identify improvements to facilitate bicycle and pedestrian trips in developed areas.*
- ❑ *Establish street standards that minimize pavement width and total right-of-way.*

Table 1 in this report provides a comparison of the TPR requirements, specifically those in Section -0045, with the City's current planning documents and identifies steps the City would need to take to comply with the TPR.

Oregon Transportation Plan (2006)

Originally adopted in 1992, the Oregon Transportation Plan (OTP) is a policy document developed by ODOT in response to federal and state mandates for systematic planning for the future of Oregon's transportation system. The OTP is intended to meet statutory requirements (ORS 184.618(1)) to develop a state transportation policy and comprehensive long-range plan for a multi-modal transportation system that addresses economic efficiency, orderly economic development, safety, and environmental quality. The 2006 OTP expands on the policy objectives of the 1992 plan, with an emphasis on maintaining assets⁴ in place, optimizing existing system

⁴ The OTP defines "asset management" as a "systematic process of maintaining, upgrading and operating physical assets cost-effectively. It combines engineering principles with sound business practices and economic theory, and it provides tools to facilitate a more organized, logical approach to decision-making. Asset management provides a framework for handling both short- and long-range planning."

performance through technology and better system integration, creating sustainable funding, and investing in strategic capacity enhancements.

The OTP's goals, policies and strategies guide the development of state multimodal, modal/topic⁵ and facility plans and regional and local transportation system plans. The OTP provides the framework for prioritizing transportation improvements and funding, but it does not identify specific projects for development.⁶ As required by Oregon and federal statutes, the OTP guides development and investment in the transportation system through:

- Transportation goals and policies,
- Transportation investment scenarios and an implementation framework, and
- Key initiatives to implement the vision and policies.

Goals in the OTP include: Mobility and Accessibility; Management of the System; Economic Vitality; Sustainability; Safety and Security; Funding the Transportation System; and Coordination, Communication and Cooperation. Policies and strategies under many of these goals emphasize increasing coordination and cooperation among federal and state agencies, regional and local governments and private entities to achieve these goals.

The Implementation Framework section of the OTP describes the implementation process and how state multimodal, modal/topic plans, regional and local transportation system plans and master plans will further refine the OTP's broad policies and investment levels. Local transportation system plans can further OTP implementation by defining standards, instituting performance measures, and requiring that operational strategies be developed.⁷

The Implementation section also describes three investment levels, examples of the investment priorities for each level of investment, and their impacts on the transportation system. These levels are described as "flat funding" (Level 1), "maintaining and improving existing infrastructure" (Level 2), and "expanding facilities and services and services" (Level 3). The recommendation in the OTP is for the State to invest at levels closer to Level 3 "in order to be competitive economically and to have the transportation infrastructure and services that allow communities to function well."

Finally, a list of "key initiatives" describes the OTP's implementation priorities. The key initiatives are intended to help frame plan implementation and reflect the directions of the OTP including system optimization, integration of transportation modes, integration of transportation, land use, the environment and the economy, and the need to make strategic investments using a sustainable funding structure. The key initiatives envision creating the sustainable funding plan using both traditional and new revenue sources.

⁵ Modal or topic plans, as developed by ODOT and other state agencies, include plans for aviation, bicycle and pedestrian facilities, highways, marine ports and waterways, public transportation and rail.

⁶ Projects are identified through facility plans and regional and local transportation system plans, and sometimes through modal plans.

⁷ As stated in the Implementation section of the OTP, requirements for regional and local transportation system plans (TSPs) are found in the Transportation Planning Rule (OAR 660-012). Regional and local TSPs must be consistent with the state TSP (the OTP), state multimodal, modal/topic and transportation facility plans.

Oregon Highway Plan (1999, last amended 2006)

The 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.

The Oregon Transportation Commission adopted the Highway Plan on March 18, 1999. In July 2006, ODOT published an update that includes amendments made from November 1999 through January 2006. The updated Keizer TSP will need to be consistent with the OHP and the planning process will review and reference the recent changes to the OHP, where applicable.

The policies found within the OHP that apply to the Keizer TSP include:

- Policy 1A: State Highway Classification System;
- Policy 1F: Highway Mobility Standards;
- Policy 1G: Major Improvements;
- Policy 2B: Off-System Improvements;
- Policy 2F: Traffic Safety;
- Policy 3A: Classification and Spacing Standards;
- Policy 4A: Efficiency of Freight Movement.
- Policy 4B: Alternative Passenger Modes.
- Policy 4D: Transportation Demand Management
- Policy 4E: Park-and-Ride Facilities

Policy 1A: State Highway Classification System. The state highway classification system includes five classifications: Interstate, Statewide, Regional, District, and Local Interest Roads. In addition, there are four special purpose categories that overlay the basic classifications: special land use areas, statewide freight route, scenic byways, and lifeline routes. These special designations supplement the highway classification system and are used to guide management, needs analysis, and investment decisions on the highway system. Interstate 5 borders the city limits to the east and Salem Parkway (99E BUS) forms the City's southeastern boundary, but neither of these highways enters the city limits. 99E lies to the east of the city limits and is a Regional Highway.

Both I-5 and 99E BUS are on the National Highway System (NHS). The federal Intermodal Surface Transportation Efficiency Act of 1991 required that states establish a National Highway System to provide an interconnected system of principal arterial routes which will serve "interstate and inter-regional travel." In Oregon the National Highway System includes routes designated Interstates and most Statewide Highways and intermodal connectors.

Policy 1F: Highway Mobility Standards Access Management Policy. This policy addresses state highway performance expectations for planning and plan implementation or amendment, as well as

providing guidance for managing access and traffic control systems. For Keizer, this policy pertains to I-5 and 99E. Action 1F.1 states that highway mobility standards apply to all state highway sections; for areas outside of the Portland Metro area, the maximum volume to capacity ratios for peak hour operating conditions in Table 6 apply. 1F.5 states that within transportation system plans, where the volume-to-capacity (v/c) ratio is worse than the identified standards in the OHP and transportation improvements are not planned, the performance standard for the highway shall be to improve performance as much as feasible and to avoid further degradation of performance.

Policy 1G: Major Improvements. This policy requires maintaining performance and improving safety by improving efficiency and management before adding capacity.

Policy 2B: Off-System Improvements. This policy recognizes that the state may provide financial assistance to local jurisdictions to make improvements to local transportation systems if the improvements would provide a cost-effective means of improving the operations of the state highway system.

Policy 2F: Traffic Safety. This policy emphasizes the state's efforts to improve safety of all users of the highway system. Action 2F.4 addresses the development and implementation of the Safety Management System to target resources to sites with the most significant safety issues.

Policy 3A: Classification and Spacing Standards. This policy addresses the location, spacing, and type of road and street intersections and approach roads on state highways. It includes standards for each highway classification. The adopted standards can be found in Appendix C of the Oregon Highway Plan; generally, the minimum access spacing distance increases as either the highway's importance or posted speed increases. The access management spacing standards established in the OHP are implemented by OAR 734, Division 51.⁸

Policy 4A: Efficiency of Freight Movement. This policy emphasizes the need to maintain and improve the efficiency of freight movement on the state highway system.

Policy 4B: Alternative Passenger Modes. This policy encourages the development of alternative passenger services and systems as part of broader corridor strategies and promotes the development of alternative passenger transportation services located off the highway system to help preserve the performance and function of the state highway system.

Policy 4D: Transportation Demand Management. This policy establishes the state's interest in supporting demand management strategies that reduce peak period single occupant vehicle travel, thereby improving the flow of traffic on the state highway system.

Policy 4E: Park-and-Ride Facilities. This policy documents that the State will encourage the efficient use of the existing transportation system through the development and use of park-and-ride facilities. This policy is important to Keizer because of the number of commuters who regularly use 99E and I-5.

⁸ Oregon Revised Statute (OAR) 734, Division 51, was amended in September 2005 to be consistent with August 2005 OHP revisions to Policy 1B. Specifically, the spacing standards in OAR 734-051 were amended to be consistent with the OHP tables in Appendix C, Access Management Standards.

Oregon Bicycle and Pedestrian Plan (1995)

The Oregon Bicycle and Pedestrian Plan provides guidance to regional and local jurisdictions for the development of safe, connected bicycle and pedestrian systems. The plan is a modal element of the Oregon Transportation Plan. 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 are not required for use by local jurisdictions in Oregon.

The plan includes two major sections: policies and implementation strategies and design, maintenance, and safety. The policy section contains relevant state and federal laws. The stated bicycle and pedestrian transportation vision is as follows:

Oregon envisions a transportation system where walking and bicycling are safe and convenient transportation modes for urban trips.

This plan affects bicycle and pedestrian facilities on state-owned transportation facilities within the Cities. Although the Plan does not regulate bicycle facilities in Keizer, it may be helpful in planning to reduce reliance on automobiles and in implementing the North River Road Alternative Modal Opportunity Study (1995) and the River and Chemawa Design Study (1995). The state plan will be used in the development of the bicycle and pedestrian element of the City's TSP.

Regarding areas in the vicinity of Keizer, the Oregon Bicycle and Pedestrian Plan considers rural highways and county roads suitable for cycling if they have paved shoulders or relatively low traffic volumes. Map 1, Conditions for Bicyclists on Rural Highways, shows that I-5 and highway 99E both have four-foot or greater shoulders. Table 7, Standard Rural Highway Shoulder Widths, provides shoulder width recommendations based on roadway type (Rural Arterials, Rural Collectors, Rural Local Routes) and ATD.

Oregon Rail Plan (2001)

The Oregon Rail Plan 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.

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 the City of Keizer, 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. The element has four major purposes: (1) describe Oregon's freight rail system in terms of the carriers and the individual properties that make

up the state railroad system, (2) describe the commodities transported by rail in Oregon, (3) identify funding needs and potential funding sources for railroads in Oregon, (4) assess what shippers require of rail service in Oregon. In Keizer, Burlington Northern has a (Class I) rail line running north-south, parallel to I-5 on the western side. This line is leased to and operated by Portland and Western (P & W) Railroad.

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 thruway bus stops. This Chapter provides useful information for passenger rail planning. The requirements included in the Passenger Element are associated with the Eugene-Portland Union Pacific (UP) main line, located outside of Keizer city limits. Because the Eugene-Portland corridor is a federally designated high speed corridor, it is eligible to compete for federal high speed rail capital funding. Chapter 3 of The Rail Plan would be particularly relevant to the Keizer TSP if the state moves ahead with a proposed commuter rail line between Wilsonville and Salem. Although AMTRAK provides passenger service to Salem, there are currently no passenger rail stops in Keizer.

Oregon Public Transportation Plan (1997)

The Oregon Public Transportation Plan forms the transit modal plan of the Oregon Transportation Plan. The vision guiding the Public Transportation Plan is as follows:

The public transportation plan builds on and begins implementing the OTP's long-range vision for public transportation in the State of Oregon. That vision includes:

- *A comprehensive, interconnected and dependable public transportation system, with stable funding, that provides access and mobility in and between communities of Oregon in a convenient, reliable, and safe manner that encourages people to ride*
- *A public transportation system that provides appropriate service in each area of the state, including service in urban areas that is an attractive alternative to the single-occupant vehicle, and high-quality, dependable service in suburban, rural, and frontier (remote) areas*
- *A system that enables those who do not drive to meet their daily needs*
- *A public transportation system that plays a critical role in improving the livability and economic prosperity for Oregonians.*

The plan contains goals, policies, and strategies relating to the whole of the state's public transportation system. The plan is intended to provide guidance for ODOT and public transportation agencies regarding the development of public transportation systems.

Transit issues in Keizer will be addressed as part of this TSP process through a cooperative effort with the Salem-Keizer Transit District. The service area for the district is the Salem-Keizer Urban Growth Boundary.

Access Management Rule (OAR 734-051)

Oregon Administrative Rule 734-051 defines the State's role in managing access to highway facilities in order to maintain functional use and safety and to preserve public investment. The provisions in

the OAR apply to all roadways under Oregon State jurisdiction within the City of Keizer. The access management rules include spacing standards for varying types of state roadways.⁹ It also lists criteria for granting right of access and approach locations onto state highway facilities.

Freight Moves the Oregon Economy (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. The document's stated purpose is to demonstrate the importance of freight to the Oregon economy and identify concerns and needs regarding the maintenance and enhancement of current and future mobility within the state of Oregon.

The report recognizes the I-5 corridor as the most important north-south freight corridor in Oregon. The report notes that "Much of Oregon's freight is moved by highways, rail lines, and waterways in the I-5 and I-84 corridors (figure II-1). Similarly, petroleum and natural gas pipelines are located along the I-5 and I-84 corridors...The state's largest airports are located where people live—the four metropolitan areas along I-5; thus the majority of Oregon's in-state air traffic follows the I-5 corridor too." The report estimates that truck volume on I-5 in the Salem area ranges from 10,000 – 15,000 trucks daily, and stresses that access to I-5 is of critical importance to the state's freight system.

The Freight Move the Oregon Economy report will be integrated in the Keizer TSP, particularly in conjunction with access to I-5 and 99E, and specifically with the planning of the I-5/Chemawa interchange.

⁹ "Spacing Standards" mean Access Management Spacing Standards as set forth in OAR 734-051-0115 and specified in Tables 2, 3, and 4, adopted and made a part of division 51 rules and Access Management Spacing Standards for Approaches in an Interchange Area as set forth in OAR 734-051-0125 and specified in Tables 5, 6, 7, and 8 and Figures 1, 2, 3, and 4, adopted and made a part of Division 51 rules (734-051-0040(62)).

REGIONAL

Salem-Keizer Area Transportation Study (SKATS) Regional Transportation Systems Plan (RTSP) (2007)

The MPO in the Keizer area is the Salem-Keizer Area Transportation Study (SKATS). SKATS provides a forum for developing the Regional Transportation Systems Plan (RTSP) and programming federal and state funded transportation investments to implement the plan.

The RTSP, adopted on May 22, 2007, is based on 24-year projections of population, employment, and land use in the Salem-Keizer area. It provides a comprehensive, long-range plan for meeting the region's transportation needs over the next 24 years. The main portion of the plan identifies projects that have a reasonable certainty of being funded and will result in an improvement in the air quality of the area. Another portion of the plan describes those transportation projects that the area would like to implement if additional funding was secured.

The 2000 U.S. Census recorded that the population in the SKATS area surpassed 200,000 persons, which resulted in SKATS being designated as a Transportation Management Area (TMA). This threshold was reached as a result of the U.S. Bureau of the Census combining the urbanized area of Salem-Keizer with the city of Turner, along with areas along the edges of the previous SKATS boundary. In addition to meeting all the federal requirements for an urbanized area and MPO, TMAs are also responsible for developing congestion management systems, TIP project selection, and are subject to a joint federal certification review of the planning process at least every three years.

For the SKATS area, the population and employment is forecast to grow 40 and 39 percent respectively between 2000 and 2031 (Chapter 3, Growth and Travel Demand). The RTSP modeled the impact this growth will have on the transportation system in two ways: by determining the ratio of travel demand to built road capacity and by using the regional multi-modal travel demand model maintained by SKATS to estimate the number of trips by automobile, bus, bicycle, and walking, by type of trip, in order to compare current conditions with the forecasted future travel demand.

There is a chapter in the RTSP devoted to each regional transportation system – pedestrian, bicycle, goods movement, aviation, maritime, rail, intermodal (freight and passenger), public transportation, and roads and highways. In each chapter are goals, objectives, policies, and recommended improvements for each system. The following list is a sample of items found in the RTSP that relate to transportation planning in Keizer:

- *Ensuring connectivity between Keizer and Salem for all modes is a continuing aim for the Regional Transportation Systems Plan. One option to address this situation would be the development of a multi-use path along the Willamette River, providing access for the residents of Keizer west of North River Road to downtown Salem. Currently, this proposal is still in the conceptual stages, with no specific routes through Salem-Keizer identified (Chapter 6, Regional Pedestrian Plan, Outstanding Issues).*
- *Affected jurisdictions shall include bicycle facilities on all newly constructed regional arterials (Policy 1, Regional Bicycle System).*
- *Affected jurisdictions shall include bicycle facilities as part of major improvement projects on roadways*

identified as part of the Regional Bicycle System unless significant constraints can be demonstrated. In such cases, viable alternatives shall be provided (Policy 2, Regional Bicycle System).

- *Chemawa at N. River Road in Keizer is identified as a future regional major transit stops (Chapter 14, Regional Public Transportation System).*
- *The Broadway/River Road North corridor is identified as a High Priority Transportation Corridor (Chapter 15, Roads and Highways).*

The projects presented in the RTSP that address regional road system deficiencies come from six sources: The 2005 Update to the Regional Transportation Systems Plan (RTSP), Salem's 1998 Transportation Systems Plan (as amended, currently being updated), Keizer's 2000 Transportation Systems Plan, Marion County's 2004 Rural Transportation Systems Plan, Turner's 1999 Transportation System Plan, and ODOT's 2006-2009 State Transportation Improvement Program (STIP). These projects address both near-term and long-term needs of the Salem-Keizer-Turner area to provide the residents and businesses with an adequate level of mobility. The financially constrained portion of the RTSP (Table 15-1) includes a total of 71 recommended projects and 56 committed projects from these documents. Due to the financial shortfall facing the area over the next 24 years, as detailed in Chapter 5 (Finance), there are an additional 154 projects that have been identified as necessary for maintaining the region's mobility but no funding is anticipated for them during the 24-year life of this Plan. These improvements are identified in the RTSP as "illustrative."

The Keizer TSP update will review the projects listed in the RTSP and, based on the analysis undertaken as part of this local planning process, will make recommendations for updating the RTSP project list.

Marion County Comprehensive Plan (2005)

The introduction to the Marion County Comprehensive Plan states that the plan was developed for the purpose of providing a guide to development and conservation of Marion County's land resources. The Comprehensive Plan establishes goals and objectives for a variety of factors that influence community development such as sewer and water, transportation, housing, commerce, industry, schools, land use, recreation, and natural resources. The goals and policies recognize and plan for the interrelationships and interactions of these factors.

The Transportation Element of the Comprehensive Plan was updated in 2005 to be consistent with the County's updated Rural Transportation System Plan (RTSP). The Transportation Element summarizes the findings, recommendations, and policies from the Marion County RTSP (reviewed in the *Marion County Rural Transportation System Plan* section below).

The recommended revisions to the City of Keizer's TSP will need to be coordinated and consistent with the County's RTSP. The County's relationship with the cities that lie within it is summarized under the "Rural and Urban Transportation Planning" heading in the RTSP:

City transportation plans start where the RTSP ends, at the urban growth boundaries. Since many of the main city streets are maintained by Marion County, the County has a vested interest in the transportation planning process for each community. The County also recognizes that the needs, goals and visions vary from city to city. For these reasons, the County works with each city individually to determine the transportation

plan most appropriate for that community, rather than developing one countywide urban plan to encompass all urban areas.

Marion County Rural Transportation System Plan (2005)

The Marion County Rural Transportation System Plan (RTSP) is a 20-year transportation plan for all rural County transportation facilities outside the urban growth boundaries of the 20 cities within Marion County. Transportation issues located within urban areas are addressed in individual city plans. The City of Keizer's TSP will need to be consistent with the adopted County RTSP or will need to make recommendations for updating the County's plan.

The RTSP Executive Summary (Chapter 1) explains that with the 20-year forecast growth in population, economic activity, and travel demand, several key roadways will be facing capacity issues. In association with increases in roadway usage, safety issues and needs will continue to increase. The County recognizes that while a good transportation network, with good connections to the national transportation network, is critical to the economy, adequate funding is not anticipated to be available to meet these needs. Over the next 20 years, the County will continue to keep maintenance and preservation of the existing roadway system its top priority in terms of resource allocation. Available funding for rural capital improvements over a 20-year time span is expected to be only a fraction of what is needed to address the identified rural needs. Table 2-1 provides a list of rural improvements that the County intends to pursue with the projected \$17 million available over the course of the 20-year planning horizon.

Chapter 2, Plan Overview, outlines the issues in the County that affect transportation planning. Keizer is documented as one of the cities facing significant growth and "observing growing negative effects of traffic congestion on main routes through town." The Salem-Keizer area is also mentioned as wanting more trails for non-motorized recreation.

Chapter 3, Background and Existing Plans, lists relevant transportation information and policies from adopted local plans, including the following for the City of Keizer:

Keizer Comprehensive Plan (1992 periodic review)

- *Proposes a study for Lockhaven Dr. from N. River Road to Chemawa interchange for future widening, noise buffering, and pedestrian crossing (safety is a concern near middle school).*
- *Recommends minimizing BNRR crossing conflicts.*
- *Supports evaluation of third bridge to support industrial development of the City.*
- *Establishes noise standard of 67dB for residential compatibility.*
- *Recommends increasing transit service to Clear Lake area, McNary Town Center, Chemawa Center.*

Keizer Transportation System Plan (2000)

- *Forecasts a Keizer population of 35,698 in 2020.*
- *55% of Keizer trips were home-based non-work trips.*

- *Designates North River Rd. and Lockhaven Dr. as major arterials.*
- *Recommends improvements to traffic flow on Lockhaven Dr. to and from I-5.*
- *Recommends study of access management along North River Road.*
- *Supports a SKATS RTSP goal of restoring commercial navigation through the upper Willamette River where environmental impacts can be mitigated or minimized and economic justification exists.*
- *Goal: A safe pipeline into and out of Keizer.*
- *Notes Washington County's plan to start rail service from Beaverton to Wilsonville in 2003-2004 [now 2008] and the possibility of extending service to the Salem-Keizer area.*
- *Objective: Preserve all rail corridor rights-of-way for transportation-related uses.*

Keizer Station Plan (2002)

- *Provides preliminary planning work for an area set aside for substantial development near the interchange of I-5 and Chemawa Road.*

The Goals and Objectives for the County transportation system are in Chapter 4. These include a goal to address intergovernmental coordination and an objective to improve coordination with all affected jurisdictions to meet future transportation needs (Goal 8). Other objectives are to minimize adverse impacts of the transportation system on quality of life in communities and to foster cooperation between the County and cities to address a wide variety of transportation issues (Goal 5).

Roadway System Needs and Recommended Improvements (Chapter 8) include a recommendation for a Brooklake Road corridor study from River Road NE to Oregon 99E, connection the I-5 interchange, Keizer and Brooks (Table 8-15). Identified issues that would be addressed in a corridor study include capacity, future signal locations, turn lanes and access management. Also in this chapter is a modernization project for 35th Avenue. This project includes the realignment of 35th Avenue north of the city limits in correlation with a City project to realign Radiant Drive west of the baseball stadium in the Keizer UGB.

Recommended Non-roadway Improvements (Chapter 9) that have an impact on Keizer's transportation system include future improvements on Highway 219 north of the City for shoulders over 4 feet wide to improve the facility for bicyclists and pedestrians (Figure 9-1, Potential Future Trails). Potential future transit corridors (Figure 9-2) are shown on North River Road (Salem/Keizer to Newberg) and Salem Parkway (Salem to Portland), with Salem Parkway identified as a future expressway.

The RTSP policies are found in Chapter 10. This chapter includes the County's policies regarding access management, spacing standards, roadway maintenance and preservation, and transportation system planning. Table 10-2 is the County's spacing requirement standards for County-maintained roadways within the UGB of a city with no adopted access spacing standards.

The Urban Growth Management Framework Coordination Policies (10.3.7) are also part of the urbanization element of the Marion County Comprehensive Plan and direct the County to coordinate planning efforts with cities. These policies also direct cities to implement street connectivity standards and adopt plans that improve the walking and biking environment.

Salem-Keizer Transit Strategic Business Plan, Short-Range Element (2004)

The Salem-Keizer Transit District developed the strategic business plan (“strategic plan”) that “establishes principles to guide future decision making on services and allocation of public transportation resources and develops an action plan that focuses on improving mobility for Salem/Keizer residents.” This document plans for a five year period and articulates a vision for the future of the public transportation provider (Cherriots) and its programs expansion of services and facilities. Expansion plans are based on growth in the area and a growing demand for public transit. The executive summary states that local jurisdictions – Salem, Keizer, Marion and Polk counties – have noted in their transportation plans that transit needs to assume a larger share of trips in order to reduce traffic congestion and lower the costs for new highway construction.

Section II, the Short Range Plan, summarizes a new vision for the future of Cherriots. This section includes the following highlights of this new vision:

- *Fundamentally redesigning the Cherriots fixed route services from a radial pulse system to a more interconnected design that better serves new community development goals;*
- *Identifying and developing new public transportation products and services that meet a wider variety of travel needs and thereby attract new users. The Cherriots TripLink program and commuter express service to Wilsonville are examples of how the District is already working in this direction;*
- *Seeking new and expanded sources of revenue to support operations and capital improvements;*
- *Establishing productivity improvement and cost containment as one of the District’s highest priorities; and*
- *Redoubling the District’s efforts with local jurisdictions, regional government and the state of Oregon to encourage and promote land use development and management that improves access to and convenient use of public transportation services.*

The central feature of the strategic plan is the redesign of the fixed route bus system to a “3C” pattern of operation, where there is a network of circulators, connecting to transit centers, which are served by frequent, high-capacity Corridor routes. The transit centers are to be located in areas where land use ordinances encourage mixes and densities of development that support good transit service.

Section II also talks about the funding climate for the public transit system in the area and planning for moderate growth that is consistent with available funding. The strategic plan proposes a new service program, on a five-year timeframe, that continues the basic upgrading of services and moves transit to “a higher level of utility to the public.” In anticipation of the “doubling or tripling in capacity that will be needed to help meet future travel demand in Salem and Keizer,” the strategic

plan cites the need to plan new and increased transit services and to create a new and more diverse funding plan to support these services.

Subsection A details proposed capacity improvements. The plan lists frequency improvements for five routes, including Route 11, Lancaster Drive, which connects from Keizer to Lancaster Drive. ("The portion of the route from Keizer to Chemeketa College and Lancaster Mall needs more frequent service, and is programmed in FY'06 to improve from 60-minute to 30-minute frequency.") In addition, Saturday service as a whole is scheduled for improvement from 60-minute to 30-minute frequency on many or all routes.

Subsection B, Increasing Service Convenience, summarizes a study completed in 2003 that identified strategies that can reasonably be employed in Salem/Keizer to increase the operating speed and flow of transit vehicles on key corridors in the district. Strategies developed included optimizing bus stop locations, traffic signal extensions, queue jump lanes and signal prioritization, and dedicated transit lanes. The Broadway/River Rd. north corridor was identified as a High Priority Transportation Corridor (HPTC) and the first to begin to apply these strategies and implement changes to the transportation infrastructure to improve the movement of buses. The strategic plan notes that the next steps in the implementation of high-priority transportation corridor treatments are "to work with the staffs of the cities of Salem and Keizer to define the specific projects that need to be undertaken, and establish a public review process to seek input on the projects. Specific projects and their cost estimates then need to be programmed and approved by the local jurisdictions."

Subsection C, Enhance Mobility, discusses the proposed 3C Route structure and includes a map that shows Minor and Major Transit Corridors in Keizer, as well as a "Mixed-Use Community Center" on River Road. This section also provides rationale for a proposed Keizer Transit Center in the vicinity of the Chemawa Road./River Road. intersection. The existing and planned activities at this node, including banks, retail opportunities, food establishments, higher density housing, and services, serve as trip attractors and provide a logical location to bring all of the local neighborhood routes together at one location. Another reason given for planning a Transit Center at this location is that the planned Broadway/River Road high-priority transit corridor will terminate on the north end at the Chemawa Road intersection with River Road. The strategic plan states that "(a)nchoring the corridor with a Keizer transit center in proximity to that intersection enhances the opportunity for transit to provide convenient and direct service on the first dedicated transit corridor in the area." The strategic plan lists the next steps to be taken in laying the foundation for the Keizer transit center. These include identifying potential sites in the area of the Chemawa/River Road intersection and engaging Keizer community development staff in discussions on issues such as zoning, redevelopment plans, feasibility for development, compatibility with comprehensive plans, and project financing. The strategic plan has programmed funds in FY 2005 through 2007 to support this work, but anticipates that additional funding will be needed to acquire property in the targeted area.

Specialized Transportation Plan for Polk and Marion Counties (2007)

The Specialized Transportation Plan for Polk and Marion Counties ("Plan") was developed so that projects identified in this coordinated plan could be eligible for federal funding, as distributed by the Oregon State Department of Transportation (ODOT). ODOT serves as the designated recipient for funds intended for non-urbanized portions of the state, and, in turn distributes them to local entities through a competitive grant process. ODOT is requiring that projects funded through the next funding

cycle, effective July 1, 2007, be derived from a coordinated plan.

As stated in the executive summary, the focus of this Plan is to identify primary characteristics of the existing transit services operating in Polk and Marion Counties; review the geography and demographics of the region; present the concerns of stakeholders, transit users and other community members; evaluate Chemeketa Area Regional Transportation System (CARTS) operations; present recommended service, marketing, fare and administrative changes for CARTS; and identify recommended coordination strategies for transit providers and human service agencies in the Salem-Keizer urbanized area and throughout Polk and Marion Counties.

Chapter 3, Overview of Existing Transit and Specialized Transportation Services, provides information on Salem-Keizer Transit (SKT). Established in 1979 with the goal of consolidating transit services, SKT is the primary public transit provider in Salem and Keizer, overseeing the fixed route service, Cherriots, and the dial-a-ride service, CherryLift. SKT administers Cherriots, CherryLift, and CARTS, but only provides operations and maintenance for Cherriots. (The other services are contracted to Oregon Housing and Associated Services, Inc.) CARTS is a partnership between Marion and Polk counties, providing transit service to the small cities and largely rural areas near Salem in these Counties. Service is provided through deviated fixed routes¹⁰ and general public dial-a-ride for seniors, disabled persons, and economically disadvantaged persons to provide access to medical services, educational, employment, shopping, and recreational opportunities. CARTS service is administered by Salem-Keizer Transit and operated by Oregon Housing and Associated Services, Inc. (OHAS). In addition to transportation, SKT provides travel training and administers a ridesharing program.

Chapter 6, Goals, Objectives and Performance Measures, includes goals and objectives for coordination and for rural public transportation (CARTS). The coordination goals and objectives are broadly defined, but specific service measures and standards were developed for CARTS and are included in this chapter. Strategies to address these goals are presented in Chapters 7 and 8. Chapter 9 is the Transportation Coordination Plan. It contains short-term coordination recommendations for Polk and Marion Counties. As stated in the introduction to this chapter, the recommendations build upon the CARTS recommendations presented in Chapter 7 but provide a broader set of actions for agencies and organizations to work together to achieve specific outcomes. This chapter identifies recommended efforts to enhance coordination among transit providers and human service agencies. Generally, Chapter 9 contains specific recommendations from CARTS, including approaches to funding, but defers to plans already developed by SKT for Cherriots and CherryLift service. The Plan offers this overview of SKT-offered services under the "Service Enhancements" subheading:

Proposals have included Sunday services, improved frequencies and additional CherryLift service, among other things. Due to limited funding and an unsuccessful funding measure in 2006, SKT has reduced services instead of pursuing recommended service enhancements. Service reductions affect both urbanized area residents and rural residents who travel into the Salem area for shopping, jobs and medical services. Additional funding can be used to enhance specific routes and services as recommended in Cherriots' service plan and the SKT Paratransit Review completed in 2004. Operationally, to better track riders, SKT is encouraged to purchase handheld passenger counters for its vehicles.

¹⁰ While a fixed route is identified with regular bus stops, CARTS will deviate up to ¾ of a mile from the route on request to better serve riders.

CITY OF KEIZER

City of Keizer Comprehensive Plan (1987, last amended 2003)

This document presents the official goals and policies that are relevant to land use in Keizer. The stated goal of the document is to “accommodate the conservation and development of Keizer’s resources, neighborhoods and lands in a timely, orderly and efficient manner consistent with the needs and aspirations of present and future city residents.” Land use regulations and implementation actions are governed by the policies in the Comprehensive Plan.

The transportation goals and objectives in the Comprehensive Plan (listed below) references a regional transportation document Salem Area Transportation Study (SATS) that has been updated (2007 SKATS, reviewed in this memorandum under the “Regional” section of Part II). Chapter 2, Overview Of The Findings And Concepts On Which The Plan Policies Are Based, states that the Comprehensive Plan incorporates transportation policies, functional classifications and standards found in the SATS. This section also documents that the Comprehensive Plan recommends several modifications to the SATS with regards to specific street classifications. The following goals and policies related to transportation are in Section III, Findings and Policies:

E. PUBLIC FACILITIES TO SUPPORT DEVELOPMENT

2. GOALS AND POLICIES: GENERAL

a. General Goals

- 1) Plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban development.*
- 2) Provide and encourage a safe, convenient and economic transportation system.*

4. GOALS AND POLICIES: TRANSPORTATION

a. General Goals

- 1) Adopt the goals and objectives of the Salem Area Transportation Plan as the goal statements for the City of Keizer. The goals are:¹¹*
 - (a) Implement the type and level of transportation services to different parts of the urban area that are most compatible with desired development pattern and achieve the orderly implementation of the Comprehensive Plan.*
 - (b) Provide for the safe and efficient movement of people and goods throughout the metropolitan area.*
 - (c) Develop a transportation system that avoids or reduces an undesirable reliance upon any one form of transportation.*
 - (d) Minimize the undesirable environmental, social, aesthetic and economic impacts produced by transportation facilities*

b. General Policies

¹¹ In the electronic copy of the 1987 Comprehensive Plan there is an error in the numbering of the Transportation General Goals. This error has been corrected here for clarity.

- 1) *Adopt the goals, objectives, recommendations, and proposed facilities and services contained in the Salem Area Transportation Study as the basis for guiding surface transportation improvements in Keizer.*
- 2) *Encourage and assist in the updating of the SATS.*
 - (a) *Provide population and employment forecasts, and land use forecasts by traffic analysis zone to SATS staff.*
 - (b) *Continue to actively participate in the SATS program.*

c. Roadways

- 1) *Adopt as the Keizer functional highway classifications, and recommend these modifications to the SATS Functional Classification roadway network:*
 - (a) *Wheatland Road a minor arterial.*
 - (b) *Radiant Drive up-grade from collector to minor arterial.*
 - (c) *Windsor Island/Olson a new collector.*
 - (d) *Wheatland/North River Road a new collector.*
 - (e) *North River Road/Radiant a new collector.*
 - (f) *Bever Drive Extension downgrade to local street.*
- 2) *Adopt a roadway classification system in Keizer as shown on Figure 3.*
- 3) *Adopt the roadway classification design standards recommended in the SATS. See Table 4.*
- 4) *Ensure that Lockhaven Drive from North River Road to the Chemawa Interchange is carefully studied to determine the need for future widening, noise buffering, and for pedestrian crossing and safety improvements near the Whiteaker Middle School. Require that existing and planned residential areas be protected from excessive noise levels resulting from an increase in traffic.*
- 5) *Ensure that the North Willamette Bridge project is evaluated to increase the project's priority for funding. This project would support commercial and industrial development in Keizer, as well as relieve traffic pressure from the bridges in downtown Salem.*
- 6) *If the City voluntarily undertakes a street improvement project, which will increase traffic noise levels, it is the policy of the City of Keizer to protect existing residential uses from traffic noise levels that exceed those noise levels, which are typical of residential areas. Traffic noise levels below Leq67dBA are considered typical in an urban area and no mitigation of them shall be required.*

d. Transit

- 1) *Ensure that Olson Street from North River Road to Windsor Island Road is designed so that access points do not create traffic congestion and capacity problems, adjacent sensitive properties are protected from noise impacts, and public transportation improvements are considered.*

2) *Continue to work closely with the Salem Area Transit Districts:*

- (a) Increase transit service to the Clear Lake area.*
- (b) Increase transit service to the McNary Town Center.*
- (c) Increase transit service to the Keizer Station.*
- (d) Ensure that major new developments provide transit facilities, and are designed in such a way to make transit service efficient and convenient.*

e. Bicycles and Pedestrians.

Adopt for Keizer and recommend that additional bicycle routes be identified in the SATS:

- 1) Extend the skeletal system on Wheatland Road north into the Clear Lake area.*
- 2) Establish a bike route north of Olson Street connecting North River Road with Windsor Island Road.*
- 3) Extend the skeletal system along Windsor Island Road north of Olson Street.*

f. Other

Coordinate with Burlington Northern Railroad so that rail crossings at Lockhaven Drive and Tepper Lane do not cause rail or traffic congestion problems.

Upon adoption, the TSP will become an element of the City's Comprehensive Plan. The goals and policies in the TSP will be the City's adopted long-range vision for transportation planning. Most of the policies in the Comprehensive Plan do not conflict with policies in the adopted (2004) TSP. However, some adopted policies may no longer be valid; others are clearly out of date. Final proposed TSP goals, policies, and implementation measures should be reviewed against the adopted Comprehensive Plan policies and recommended changes to the Comprehensive Plan should be included in the TSP adoption ordinance.

City of Keizer Transportation Systems Plan (2004)

The City of Keizer's Transportation Systems Plan (TSP) was adopted in 2000 and was updated with minor amendments in 2004. The current planning process to update the TSP will include new operating conditions analysis and system needs analysis based on population projections to the forecast year of 2030. The project will result in refinements to the TSP and recommended implementation measures, such as amendments to the Development Code standards, that will ensure that the City's transportation policies and standards are consistent with the Transportation Planning Rule.

The updated TSP is expected to follow the same structure as the existing TSP. The TSP includes chapters that detail public involvement, the street system, transportation demand management, transportation system management, parking management, the bicycle and pedestrian system, the

public transportation systems, air/water/rail/pipeline facilities, project financing, and “next steps” (“outstanding actions”).

Similar to Part II of this memorandum, the TSP includes a section covering “Regulatory Context” in Chapter 1, Introduction. Where appropriate, the summaries of federal, state, and MPO regulations and plans will be updated with more recent or detailed information, consistent with information documented in this memorandum. Chapter 1 of the TSP also summarizes City plans, programs, and recent actions relevant to transportation planning. Items summarized in the TSP include:

- North River Road Alternative Modal Opportunity Study, 1995
- River & Chemawa Design Study, 1995
- Interstate5/Chemawa Road, 1995
- Keizer Station Plan (KSP)/Chemawa Activity Center Plan
- Alder Street Study
- City Ordinance No. 86-074
- River Road Mixed Use Zoning Change
- Urban Renewal Grant Programs
- River Road Renaissance Project
- High Priority Transportation Corridor
- Development Standards Revisions

The local plans, programs, and actions listed above have not been further reviewed and/or summarized for inclusion in this memorandum. However, these items will inform the planning process to update the TSP and the final draft of the TSP document will be reviewed for consistency with local planning documents and projects.

City of Keizer Development Code

The Development Code establishes the zoning in the City, the uses permitted under each zoning (land use) category, and the regulations that apply in each zone. The Development Code also contains the development and design standards for land division (Section 2.310) and development standards and review procedures for subdivisions and planned unit development (Section 3.108)

Transportation-related standards can be found in Section 2.302, which contains the City's street standards, and Section 2.310 (Development Standards for Land Divisions), which includes requirements and standards for pedestrian and bicycle accessways (2.310.04(C) and (D)). A complete review of the Development Code, as it relates to Transportation Planning Rule requirements, is summarized in Table 1 in this memorandum.

TPR Requirement (OAR Section 660-12-0020)

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

(2) The TSP shall include the following elements:

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

(b) A road plan for a system of arterials and collectors and standards for the layout of local streets and other important non-collector street connections. Functional classifications of roads in regional and local TSPs shall be consistent with functional classifications of roads in state and regional TSPs and shall provide for continuity between adjacent jurisdictions. The standards for the layout of local streets shall provide for safe and convenient bike and pedestrian circulation necessary to carry out OAR 660-012-0045(3)(b). New connections to arterials and state highways shall be consistent with designated access management categories. The intent of this requirement is to provide guidance on the spacing of future extensions and connections along existing and future streets which are needed to provide reasonably direct routes for bicycle and pedestrian travel. The standards for the layout of local streets shall address:

- (A) Extensions of existing streets;
- (B) Connections to existing or planned streets, including arterials and collectors; and
- (C) Connections to neighborhood destinations.

(c) A public transportation plan which:

- (A) Describes public transportation services for the transportation disadvantaged and identifies service inadequacies;
- (B) Describes intercity bus and passenger rail service and identifies the location of terminals;
- (C) For areas within an urban growth boundary which have public transit service, identifies existing and planned transit trunk routes, exclusive transit ways, terminals and major transfer stations, major transit stops, and park-and-ride stations. Designation of stop or station locations may allow for minor adjustments in the location of stops to provide for efficient transit or traffic operation or to provide convenient pedestrian access to adjacent or nearby uses.
- (D) For areas within an urban area containing a population greater than 25,000 persons, not currently served by transit, evaluates the feasibility of developing a public transit system at buildout. Where a transit system is determined to be feasible, the plan shall meet the requirements of paragraph (2)(c)(C) of this rule.

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

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

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

TPR Requirement (OAR Section 660-12-0020)
(g) A parking plan in MPO areas as provided in OAR 660-012-0045(5)(c);
(h) Policies and land use regulations for implementing the TSP as provided in OAR 660-012-0045;
(i) For areas within an urban growth boundary containing a population greater than 2,500 persons, a transportation financing program as provided in OAR 660-012-0040.
(3) Each element identified in subsections (2)(b)–(d) of this rule shall contain:
(a) An inventory and general assessment of existing and committed transportation facilities and services by function, type, capacity and condition:
(A) The transportation capacity analysis shall include information on: (i) The capacities of existing and committed facilities; (ii) The degree to which those capacities have been reached or surpassed on existing facilities; and (iii) The assumptions upon which these capacities are based. (B) For state and regional facilities, the transportation capacity analysis shall be consistent with standards of facility performance considered acceptable by the affected state or regional transportation agency; (C) The transportation facility condition analysis shall describe the general physical and operational condition of each transportation facility (e.g., very good, good, fair, poor, very poor).
(b) A system of planned transportation facilities, services and major improvements. The system shall include a description of the type or functional classification of planned facilities and services and their planned capacities and levels of service;
(c) A description of the location of planned facilities, services and major improvements, establishing the general corridor within which the facilities, services or improvements may be sited. This shall include a map showing the general location of proposed transportation improvements, a description of facility parameters such as minimum and maximum road right-of-way width and the number and size of lanes, and any other additional description that is appropriate;
(d) Identification of the provider of each transportation facility or service.

Memorandum

Date: September 18, 2007
To: Sam Litke, City of Keizer Planning Department
cc: Elizabeth Wemple, PE, Kittelson & Associates
From: Frank Angelo, Angelo Planning Group
Darci Rudzinski, AICP, Angelo Planning Group
Re: City of Keizer Transportation System Plan – TPR Compliance Supplement
to the DRAFT Plan and Policy Review

The Draft Plan and Policy Review (August 13, 2007) includes an assessment of how adopted City of Keizer plans and ordinances meet the Transportation Planning Rule (TPR) OAR 660, Division 12. This matrix did not include TPR Sections -0045(4), which pertains to transit in urban jurisdictions with populations greater than 25,000, or -0045(5), which includes requirements for reducing reliance on the automobile in MPO areas. This oversight is addressed in this memo, which includes a matrix that summarizes Sections -0045(4) and (5) and provides recommendations for addressing the TPR requirements within the City's TSP update planning process. Specifically, the second column of the matrix includes suggested amendments to the City's Development Code to comply with TPR sections that were not addressed in the August 13 memorandum. Sections -0045(4) and (5) and the associated recommendations will ultimately be incorporated into the TPR compliance matrix in the final Plans and Policy Review memorandum

Transportation Planning Rule Compliance

The TPR requires that local governments 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 TPR is found in OAR Section 660-12-045, Implementation of the Transportation System Plan.

The following assessment of TPR compliance is based primarily on the City's adopted Development Code, as this document implements transportation policy. The following table, a supplement to the TPR compliance matrix in the August 13, 2007 memorandum, covers TPR Sections -0045(4) and (5) and provides an assessment of related existing Development Code and TSP language that address the requirements. This table also includes recommendations for changes to the Development Code that will likely be needed to fully implement the new TSP and bring the City regulations in compliance with the TPR. Recommended changes to local regulatory documents, indicated in **bold text**, are intended to provide guidance to project staff during the update of the Keizer TSP. In particular, modifications to the City Development Code will be drafted during the planning process and become implementation recommendations for inclusion in the draft TSP.

TPR Requirements and City of Keizer Compliance - Supplemental	
TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
(4) To support transit in urban areas containing a population greater than 25,000, where the area is already served by a public transit system or where a determination has been made that a public transit system is feasible, local governments shall adopt land use and subdivision regulations as provided in (a)-(g) below:	
(a) Transit routes and transit facilities shall be designed to support transit use through provision of bus stops, pullouts and shelters, optimum road geometrics, on-road parking restrictions and similar facilities, as appropriate;	The updated Keizer TSP will identify transit routes and determine appropriate standards for these transportation facilities, consistent with this section of the TPR.

TPR Requirements and City of Keizer Compliance - Supplemental	
TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
(b) New retail, office and institutional buildings at or near major transit stops shall provide for convenient pedestrian access to transit through the measures listed in (A) and (B) below. (A) Walkways shall be provided connecting building entrances and streets adjoining the site; (B) Pedestrian connections to adjoining properties shall be provided except where such a connection is impracticable. Pedestrian connections shall connect the on site circulation system to existing or proposed streets, walkways, and driveways that abut the property. Where adjacent properties are undeveloped or have potential for redevelopment, streets, accessways and walkways on site shall be laid out or stubbed to allow for extension to the adjoining property; (C) In addition to (A) and (B) above, on sites at major transit stops provide the following: (i) Either locate buildings within 20 feet of the transit stop, a transit street or an intersecting street or provide a pedestrian plaza at the transit stop or a street intersection; (ii) A reasonably direct pedestrian connection between the transit stop and building entrances on the site; (iii) A transit passenger landing pad accessible to disabled persons; (iv) An easement or dedication for a passenger shelter if requested by the transit provider; and (v) Lighting at the transit stop.	Potential Major Transit Stops are identified in the existing TSP in Figure 5, City of Keizer Bus Routes. This information will be reviewed and updated if necessary as part of the TSP update. The Development Code does not currently identify specific development standards for development near major transit stops. The Keizer Station Master Plan Review process allows for the City to require new development to provide for pedestrian and bicycle circulation and meet elements related transit orientation (Section 3.113.05). Recommendation: Section 2.315, Development Standards, should be amended to meet this TPR requirement. Specifically, this section should identify development standards consistent with TPR -0045(4) for development proposals that are within a certain distance from a major transit stop.
(c) Local governments may implement (4)(b)(A) and (B) above through the designation of pedestrian districts and adoption of appropriate implementing measures regulating development within pedestrian districts. Pedestrian districts must comply with the requirement of (4)(b)(C) above;	Instead of requiring that all new retail, office and institutional development meet development requirements that satisfy -0045(A) and (B), the City has the option of requiring these standards within designated pedestrian districts. Recommendation: The City should determine if it is necessary or desirable to implement -0045 (4)(b)(A) and (B) through the designation of pedestrian districts.

TPR Requirements and City of Keizer Compliance - Supplemental	
TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
(d) Designated employee parking areas in new developments shall provide preferential parking for carpools and vanpools;	Section 2.303.09, Carpool and Vanpool Parking, of the Development Code requires that new office or industrial development with 100 or more parking spaces designate at least 5% of the parking spaces for carpool or vanpool parking. <u>Recommendation:</u> Amend Section 2.303.09 to require that all new developments with 100 or more designated employee parking space provide 5 percent of the parking spaces as preferential parking for carpools and vanpools.
(e) Existing development shall be allowed to redevelop a portion of existing parking areas for transit-oriented uses, including bus stops and pullouts, bus shelters, park and ride stations, transit-oriented developments, and similar facilities, where appropriate;	The Development Code allows a reduction of up to 10% in number of minimum required parking spaces if transit related amenities such as transit stops, pull-outs, shelters, park and ride lots, and transit oriented developments are available or when the development is abutting a street with transit service (Section 2.303.06(B)). This code section does not address redevelopment of sites. <u>Recommendation:</u> Section 2.303 should be revised to allow redevelopment of existing parking spaces for transit oriented uses.
(f) Road systems for new development shall be provided that can be adequately served by transit, including provision of pedestrian access to existing and identified future transit routes. This shall include, where appropriate, separate accessways to minimize travel distances;	Consistent with this requirement, Subsection 2.315.08(A) Pedestrian Circulation under Development Standards addresses pedestrian access to transit routes. <u>Recommendation:</u> Modify Subsection 2.315.08(A) to clarify that pedestrian access is required to both existing and future transit routes as planned by Cherriots. In addition, Subsection 2.310, Development Standards for Land Division, could include a general circulation requirement that requires new road systems to be designed to accommodate public transit.

TPR Requirements and City of Keizer Compliance - Supplemental	
TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
(g) Along existing or planned transit routes, designation of types and densities of land uses adequate to support transit.	The major transit provided by Cherriots in Keizer is along, N. River Road. This road is supported by adjacent commercial, employment and medium density land uses. Other identified routes in the existing TSP (Figure 5, City of Keizer Bus Routes) include service areas that do not have a high concentration of employment or higher density residential uses. <u>Recommendation: When updating the transit element of the TSP, collaborate with Cherriots regarding future transit plans, review existing land uses and consider land use changes that would support Cherriots plans.</u>

TPR Requirements and City of Keizer Compliance - Supplemental

TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
(5) In MPO areas, local governments shall adopt land use and subdivision regulations to reduce reliance on the automobile which: (a) Allow transit-oriented developments (TODs) on lands along transit routes;	The general intent of a TOD is to create land use patterns that support transit. The focal point of a TOD is a transit stop that is linked to a regional transit system. The updated Keizer TSP will identify Cherriots' existing and planned transit routes. A mix of uses (residential, commercial, office, etc.) should be allowed along transit routes. In addition, residential densities in the vicinity of transit routes should support transit (e.g., high density residential use in urban TODs are typically constructed at a minimum of 12 dwelling units per acre and an average density of 18 dwelling units per acre; minimum densities in neighborhood or rural TODs are 7 dwelling units per acres, with an average of 10 dwelling units per acre). See the "Brief Issue Paper" on TDM at the State's Transportation and Growth Management website, http://www.oregon.gov/LCD/TGM/publications.shtm Zoning in the vicinity of Keizer's main transit route, N. River Road, is predominantly Commercial Mixed Use and Mixed Use, zoning designations that allow TODs. Other identified routes in the existing TSP (Figure 5, City of Keizer Bus Routes) go through areas with a variety of zoning districts, including Single Family Residential zones (which have a maximum density of 8 dwelling units per acre). <u>Recommendation:</u> As part of the TSP update, the City should ensure that the zoning in the vicinity of Cherriots' existing and planned transit stops and along transit routes that connect Keizer to the regional public transportation system allow TODs. Specifically, areas along transit routes should allow a mix of uses and residential densities that support transit use.
(b) Implements a demand management program to meet the measurable standards set in the TSP in response to 660-012-0035(4) ("In MPO areas, regional and local TSPs shall be designed to achieve adopted standards for increasing transportation choices and reducing reliance on the automobile.");	The City's current TSP includes a chapter on Transportation Demand Management (Chapter 4). Policy in this chapter supports the Regional Transportation Demand Management Program, including the Mid-Willamette Valley Rideshare Program ("Regional Rideshare Program" in the 2007 RTSP).

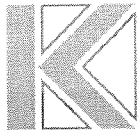
TPR Requirements and City of Keizer Compliance - Supplemental	
TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
	Code provisions that support TDM include requiring new office or industrial development with 100 or more parking spaces to designate at least 5% of the parking spaces for carpool or vanpool parking. Other uses establishing car and vanpool spaces may reduce the minimum parking requirement by 3 spaces for each carpool/vanpool space created (Section 2.303.09 Carpool and Vanpool Parking). <u>Recommendation:</u> The TSP update should include an exploration of commonly used TDM tools (e.g., trip reduction ordinances, telecommuting, staggered work or shift schedules, parking management, signal synchronization, etc.) and their applicability to the City of Keizer. Code language to support the recommendations of the TSP can be subsequently developed.
(c) Implements a parking plan which: (A) Achieves a 10% reduction in the number of parking spaces per capita in the MPO area over the planning period. This may be accomplished through a combination of restrictions on development of new parking spaces and requirements that existing parking spaces be redeveloped to other uses; (B) Aids in achieving the measurable standards set in the TSP in response to OAR 660-012-0035(4); (C) Includes land use and subdivision regulations setting minimum and maximum parking requirements in appropriate locations, such as downtowns, designated regional or community centers, and transit oriented-developments; and (D) Is consistent with demand management programs, transit-oriented development requirements and planned transit service.	The Mid-Willamette Valley COG has inventoried the region's parking supply and has determined that there has been a decrease in the amount of parking from 1995 to 2005. The results of the regional 2005 survey shows that the area is on-track to meeting the goal of a 10 percent reduction in 20 years. <u>Recommendation:</u> The City of Keizer can help achieve the region's goals and meet this TPR requirement by establishing parking maximums for land use activities listed in Table A, Off-Street Automobile Parking Requirements, under Section 2.303.06. A refinement to this approach is to identify specific areas of the City where reduced parking requirements would be appropriate. Section 2.303 could also be revised to explicitly require that, in conjunction with a redevelopment proposal, existing parking spaces that exceed the required minimum standards be redeveloped for other uses.

TPR Requirements and City of Keizer Compliance - Supplemental

TPR Requirement (OAR Section 660-12-0045)	Ordinance Compliance/Recommendations
(d) As an alternative to (c) above, local governments in an MPO may instead revise ordinance requirements for parking as follows: (A) Reduce minimum off-street parking requirements for all non-residential uses from 1990 levels; (B) Allow provision of on-street parking, long-term lease parking, and shared parking to meet minimum off-street parking requirements; (C) Establish off-street parking maximums in appropriate locations, such as downtowns, designated regional or community centers, and transit-oriented developments; (D) Exempt structured parking and on-street parking from parking maximums; (E) Require that parking lots over 3 acres in size provide street-like features along major driveways (including curbs, sidewalks, and street trees or planting strips); and (F) Provide for designation of residential parking districts.	<u>Recommendation:</u> The City of Keizer should determine if the code amendments recommended to meet the -0045(c) requirements can be implemented, as outlined above, or if the alternate approach in -0045(d) is preferable. Sample code language can be developed that achieves the requirements of -0045(d) if the City chooses to revise the Development Code to address (A) – (F) in this TPR section.
(e) Require all major industrial, institutional, retail and office developments to provide either a transit stop on site or connection to a transit stop along a transit trunk route when the transit operator requires such an improvement.	<u>Recommendation:</u> Improvements related to transit stops should be listed as allowed or conditional uses in the City's commercial, mixed-use, and industrial zone districts. A sub-section should be added to Section 2.315, Development Standards, that includes requirements for providing access to public transit stops for commercial, office and industrial development.

Appendix C

Goals and Objectives



KITTELSON & ASSOCIATES, INC.

TRANSPORTATION ENGINEERING / PLANNING

610 SW Alder Street, Suite 700, Portland, OR 97205 P 503.228.5230 F 503.273.8169

MEMORANDUM

Date: August 13, 2007 Project #: 8310.0
To: Sam Litke
City of Keizer
Keizer, OR

From: Elizabeth Wemple, P.E.
Severine Marechal

Project: Keizer Transportation System Plan Update and Refinement
Subject: Draft Goals and Objectives

Introduction

The purpose of the *Keizer Transportation Systems Plan (TSP) Update and Refinement* is to provide a framework for achieving transportation facilities that will serve the City of Keizer and the surrounding region through the year 2030, consistent with the Oregon Transportation Planning Rule (TPR). Before transportation investments can be planned and prioritized an agreed upon set of goals and objectives is needed to guide the transportation planning process.

Based on the goals identified in the *City of Keizer TSP*, amended in 2004, and based on initial conversations with staff, Kittelson & Associates, Inc. (KAI) has prepared the following draft list of Goals and Objectives for the TSP Update and Refinement. The list below is intended as a starting point for discussion. It is expected that this list will evolve based on input from staff and the public before it is finalized. Attachment A includes the goals and objectives from the 2004 Transportation System Plan.

Draft Goals and Objectives for the Keizer TSP Update and Refinement:

Public Involvement

Goal 1: Continued coordination with the residents of Keizer for regular monitoring and improvement to the City Transportation System.

Efficiency

Goal 2: Maximize the efficiency of the existing surface transportation system.

Objective 1: *Provide a street system that minimizes vehicular travel time and congestion, while being compatible with other modes of transportation.*

Objective 2: Increase capacity by reducing the single-occupant vehicle demands on the current and future transportation system

Objective 3: Preserve the existing street system by maintaining the integrity of existing roads.

Objective 4: Provide a street system that improves safety through design and functional classification consistent desired uses.

Objective 5: Manage on-street and off-street parking to support economic needs.

Environment

Goal 3: Provide for a sustainable transportation system which respects the environment and community.

Objective 1: Minimize adverse effects on environmentally sensitive areas and water quality.

Objective 2: Minimize adverse effects (e.g. noise, air, speed) on neighborhoods.

Objective 3: Minimize paved surfaces and incorporate recycled materials or permeable design practices to the extent possible.

Comprehensive, Connected and Multi-Modal

Goal 4: Provide efficient and comprehensive linkages between all modes of transportation

Objective 1: Develop paths, connections and facilities to provide simple access between modes at different parts of work, shopping or recreational trips.

Objective 2: Safety must be the underlying concept for any element of every project.

Goal 5: Develop a comprehensive system of pedestrian and bicycle facilities for the city of Keizer.

Objective 1: Establish a continuous, direct and safe system of bicycle and pedestrian facilities in the Keizer urban area that ties into the regional bicycle system and which adequately responds to the transportation needs of inhabitants.

Objective 2: Achieve greater public awareness of safe pedestrian, bicycling and motoring practices, procedures, and skills.

Goal 6: Support a public transit system for all Keizer residents focusing on accessibility and mobility.

Objective 1: Provide public transit services throughout the urbanized portions of the Keizer area that ensures convenient accessibility to a variety of destinations at different times of the day. Advocate affordable transit service and increase ridership.

Objective 2: *Maintain and improve a system which offers connectivity between activity centers, such as schools, parks, shopping centers, and residences with a minimum of transfers.*

Objective 3: *Support transportation to disadvantaged citizens with the maximum level of access to all social and work resources.*

Supplementary Transportation Resources

Goal 7: Sustain an adequate aviation, maritime, pipeline, and rail system to serve area demand.

Objective 1: *Support a cost-effective regional aviation system operations and facilities adequate to serve area demand.*

Objective 2: *Restore commercial navigation through the upper Willamette River where environmental impacts can be mitigated or minimized and economic justification exists.*

Objective 3: *Provide a safe pipeline system that provides an adequate level of service for the movement of natural gas into, within, and through the Keizer area.*

Objective 4: *Provide a rail system to support an adequate level of service to passenger and freight rail consumers within the MPO. Reserve all rail corridor rights-of-way for transportation-related uses such as Rails-to-Trails projects, where viable.*

Funding

Goal 8: Provide adequate funding to meet current and future capital, maintenance, and operations needs of Keizer's Transportation System.

Objective 1: *Meet the current and future capital improvement needs of the transportation system through an optimum mix of funding sources.*

Objective 2: *Secure adequate funding to implement a street maintenance program which sustains a maximum service life for pavement surfaces and other transportation facilities.*

Objective 3: *Secure funding to adequately operate the transportation system including advance planning, design engineering, signal operations, system management, illumination, and cleaning activities.*

City of Keizer Transportation Systems Plan: Goals, Objectives and Policies

September 2000
Amended May 2004

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

The contents of this document do not necessarily reflect the view or policies of the State of Oregon.

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E. Plan Development

The development of the Keizer *Transportation Systems Plan* followed an eight-step process:

1. Identify system needs--develop goals and objectives to improve mobility.
2. Identify deficiencies in the transportation system that do not meet the identified goals and objectives.
3. Create policies that will guide city efforts in meeting its goals and objectives.
4. Determine physical and program-related investments that will correct identified deficiencies.
5. Identify and assign financial resources to provide transportation system investments.
6. Solicit public participation in each of the key steps of the process, with the same goals and objectives of achieving mobility.
7. Coordinate planning activities with other government agencies.
8. Implement the Plan through city codes, design standards, land use planning actions, city programs, and the Capital Improvement Program.

The *Keizer Transportation Systems Plan* was developed by the Mid-Willamette Valley Council of Governments and city of Keizer staff. The Planning Commission, comprised of seven members, was the project's Transportation Advisory Committee and met approximately monthly.

Chapter 2 - Public Involvement

The Keizer TSP was developed cooperatively with an advisory committee consisting of the Planning Commission and staff and the recommendations and input of residents.

Chapter 3 - Streets System

E. Goals, Objectives, and Policies

Goal 1: Provide for a comprehensive system of streets to serve the vehicular movements of people and goods into, out of, across, and through the Keizer urban area.

Objective 1: Establish basic information regarding the street system.

Policy 1: Identify, designate, and adopt functional classifications for city streets.

Policy 2: As much as practical, maintain a street inventory that satisfies planning and decision-making needs. The inventory and/or portions thereof should be updated on a regular basis.

Objective 2: Ensure adequate levels of service on the Keizer Road System for movement of people and goods.

Policy 1: Peak-hour level of service (LOS) E is the capacity deficient level for collector and arterial streets.

Policy 2: When a street at Level of Service (LOS) E is improved, improvements should be designed to provide operating characteristics within the Level of Service (LOS) D, unless circumstances warrant a lesser degree of improvement.

Objective 3: Maximize the efficiency of existing and planned roads wherever practical.

Policy 1: Techniques that improve capacity shall be used within existing rights-of-way to the extent practical.

Policy 2: When appropriate, access management strategies should be employed on arterials to improve safety and facilitate through-traffic flow.

Goal 2: Provide for a safe street system.

Policy 1: Higher accident locations will be periodically evaluated for potential safety improvements.

Policy 2: Safety issues will be considered when comparing projects.

Policy 3: Safety considerations will be incorporated as part of all improvement projects.

Goal 3: Preserve the existing street system by maintaining the integrity of existing roads.

Objective 1: Preservation of existing roads shall be given a high priority.

Policy 1: The costs associated with maintaining the existing roads at an acceptable condition shall be determined and addressed prior to the allocation of funds for all improvements.

Goal 4: Provide for a street system that minimizes adverse neighborhood and environmental impacts.

Objective 1: Minimize adverse impacts on neighborhoods wherever practical.

Policy 1: Minimize through traffic infiltration of neighborhoods by application of the appropriate road standards and other measures.

Policy 2: Minimize disruption of neighborhoods when designing and constructing new roads.

Objective 2: Reduce or prevent localized pollutants.

Policy 1: Recommended improvements shall meet the requirements stipulated in the Clean Air Act Amendments of 1990 and the Oregon State Conformity Rule (OAR Section 340-20-700, et. seq.)

Objective 3: Minimize adverse effects on environmentally sensitive areas.

Policy 1: Analysis of all potential improvements shall include potential impacts to wetlands and threatened or endangered species.

Policy 2: The planning and construction of future roads shall meet the requirements of applicable federal, state, and local environmental legislation.

Objective 4: Minimize adverse water quality effects.

Policy 1: Potential impacts from increased surface runoff associated with all improvements shall be evaluated when comparing projects, options, or alternatives.

Policy 2: Road modernization and construction improvements shall be in compliance with all federal, state, and local water quality regulations.

Goal 5: Provide for a street system that is compatible with other modes of transportation and minimizes vehicular travel time.

Objective 1: *Integrate the street system with other transportation modes.*

Policy 1: Consider installation of the appropriate bikeway, pedestrian, and public transportation amenities and facilities during design of either new streets or major improvements.

Policy 2: The street system shall provide connectivity and continuity of travel between city entrance and exit points and major destinations and activity centers. The purpose is to minimize out-of-direction travel and circuitous routing.

Chapter 4 - Transportation Demand Management

D. Goals, Objectives, and Policies

Goal: Reduce the single-occupant vehicle demands on the current and future transportation system.

Objective 1: *Work towards reducing the city's vehicle miles of travel by 5 percent. This objective should be achieved by 2020.*

Policy 1: Establish a 2000 baseline of VMT to measure progress during five-year updates.

Policy 2: Continue support of the Regional TDM Program, including the Mid-Willamette Valley Rideshare Program. The Program includes the provision of:

1. information and referrals to the public on transit service, vanpools, bicycle routes, telecommuting, park-and-ride lots, other ridesharing agencies, and transportation services for special needs;
2. public outreach;
3. school outreach;
4. services to employers, including commuting surveys and individualized trip-reduction plans;
5. coordination with other agencies and organizations with similar goals; and
6. marketing of alternative transportation modes. (Public Bulletin Boards, Keizer Forum)

Policy 3: The city shall explore the availability of funding sources to assure the ongoing viability of the Regional TDM Program.

Objective 2: *Reduce automobile travel demand generated by employment sites, colleges, schools, and public events in cooperation with the Metropolitan Planning Organization and other public interest groups.*

Policy 1: Identify groups which have the greatest potential for reducing automobile trips, including employers and employment sites, and commuting students. Flexible-work schedules, telecommuting, transit

ridership and car/van-pooling shall be emphasized as means to reducing trips.

- Policy 2:** Increase contacts to employers and schools by periodically contacting employers and schools to encourage trip reduction efforts. The city may also use public recognition for those organizations' efforts.
- Policy 3:** Increase ridesharing within the city by implementing internal incentive and recognition programs for employees who already use alternative transportation modes.
- Policy 4:** Develop a program, possibly through the permit process, to encourage promoters of public events to raise awareness of available alternative transportation. An example is placing bus routes and times in advertisements for sporting events.
- Policy 5:** Conduct marketing campaigns through various media to raise awareness of transportation options and to encourage the use of alternative transportation modes.
- Policy 6:** Conduct outreach activities at schools and community groups to inform them about transportation mode choices and the effects. Outreach to schools should be designed to educate children about alternative transportation modes before they start driving.

Chapter 5 – Transportation System Management

B. Goals, Objectives, and Policies

GOAL: Maximize the efficiency of the existing surface transportation system through management techniques and facility improvements.

***Objective 1:** Provide a system of traffic control devices maintained and operated to obtain an acceptable LOS.*

Policy 1: Continue modernization of the signal system and improvements in coordination and efficiency. The city shall employ traffic signal timing plans that maximize the efficiency of the system given the particular travel demand of that time of day.

Policy 2: Conduct regular, preventive signal maintenance to avoid traffic delays and congestion from avoidable malfunctions.

Policy 3: Regularly maintain all of the traffic control devices (signs and markings) to minimize congestion and driver delay due to confusion. While priority shall always be given to regulatory and warning signs, informational (street name and directional) signs shall also be given attention.

Objective 2: *Improve physical design and management of on-street parking, consistent with community need.*

Policy 1: Strive to give the physical improvement of intersections a higher priority than general street widening when seeking ways to increase capacity and relieve congestion.

Policy 2: When on-street parking is permitted on an arterial street, removing the on-street parking shall be the first consideration for enhancing capacity. Depending upon the situation and proper analysis, timed on-street parking prohibitions during peak travel periods may be considered in lieu of permanent removal.

Policy 3: Install bus turnouts on existing rights-of-way for arterial streets as a means of facilitating traffic flow during peak travel periods. The feasibility, location, and design of bus bays shall be developed in consultation with the Salem Area Mass Transit District.

Policy 4: Improve vision clearance through enforcement of maintenance requirements.

Objective 3: *Increase street system safety and capacity through access management.*

Policy 1: Develop specific access management standards.

Policy 2: When developed, access management standards will be incorporated into all arterial street design projects.

Policy 3: Consistent with the goal of improving mobility, develop access management projects for arterials to improve safety and traffic flow.

Chapter 6 - Parking Management

B. Goals, Objectives, and Policies

Goal 1: Ensure that the city of Keizer has an appropriate supply of parking facilities.

Objective 1: Determine Keizer's need for on-street parking facilities.

Policy 1: On-street parking is second in priority to the needs of the travel modes (i.e., vehicle, transit, bicycle, pedestrian) using the street right-of-way, except where abutting properties have no ability to provide their own off-street parking or where on-street parking is needed to support an existing business district.

Policy 2: Where practical, existing on-street parking will be removed in preference to widening streets for additional travel lanes.

Objective 2: Promote economic vitality and neighborhood livability by requiring an appropriate supply of off-street parking facilities.

Policy 1: New development must provide, or have access to, an appropriate supply of off-street parking.

Policy 2: Develop a maximum parking requirement based on the needs of a land use type to complement the minimum requirement recently planned in the Development Code. The purpose of this policy is to avoid the unnecessary use of lands for off-street parking for new developments.

Policy 3: Major activity centers shall be accessible by transit and shall meet their parking demand through a combination of shared, leased, and new off-street parking facilities.

Objective 3: Reduce the city's parking supply per capita by 10 percent by the year 2020.

Policy 1: Every five years, in connection with the TSP review, estimate the parking supply for commercial, industrial, and institutional lands. The estimate will be used to monitor the progress towards meeting the statewide goal of reducing parking supply per capita by 10 percent over 20 years.

Chapter 7 - Bicycle/Pedestrian

Goals, Objectives and Policies

Goal 1: Develop a system of bicycle facilities for the city of Keizer.

Objective 1: *Establish a system of bicycle facilities within the Keizer urban area that provides an adequate level of service to meet the bicycling needs.*

Policy 1: The Bicycle System Element of the TSP shall designate the bicycle system of the Keizer urban area.

Objective 2: *Develop and maintain an accurate and up-to-date inventory of the Keizer bicycle system in order to respond to the changing needs of the bicycling public.*

Policy 1: The bicycle facilities inventory shall be included in the Bicycle System Element of the TSP and updated on a regular basis to maintain accuracy.

Objective 3: *Design a system of bicycle facilities that enhances safety by improving compatibility among bicycling and other transportation modes.*

Policy 1: All bicycle facilities on the Keizer bicycle system shall be constructed in accordance with ODOT bicycle facility standards where applicable.

Policy 2: Project designs that accommodate bicycle facilities within the roadway rights-of-way shall be implemented on the Keizer bicycle system where practicable.

Objective 4: *Provide for well maintained Keizer bicycle system facilities that afford a safe environment and reduce potential hazards to the traveler.*

Policy 1: Keizer will develop routine maintenance standards and practices that ensure smooth, clean, and safe conditions on the bicycle system facilities.

Policy 2: Keizer supports volunteer community services and programs that assist in the provision of adequate maintenance service on Keizer bicycle system facilities.

Policy 3: Bicycle safety devices such as bicycle-proof drain grates, rubberized pads at railroad crossings, and appropriate signage shall be utilized on Keizer bicycle system facilities wherever practicable.

Objective 5: *Achieve greater public awareness of safe bicycling and motoring practices, procedures, and skills.*

Policy 1: The development and implementation of bicycle safety and education programs aimed at all ages are encouraged in order to improve bicycle skills, increase the observance of traffic laws, and enhance the overall safety of the traveling public.

Policy 2: Monitor and analyze bicycle accident data to formulate ways to improve bicycle safety.

Goal 2: Develop a continuous and direct system of bicycle facilities in the city of Keizer that is integrated with the regional bicycle system and other modes of transportation.

Objective 1: *Establish a continuous and direct system of bicycle facilities in the Keizer urban area that ties into the regional bicycle system and which adequately responds to the transportation needs of bicyclists.*

Policy 1: Designate a continuous and direct system of bicycle facilities in the Bicycle System Element of the TSP.

Policy 2: Identify facility improvements necessary to ensure a direct and continuous network of bicycle facilities on the Keizer bicycle system.

Objective 2: *Establish a bicycle system that provides access to activity centers including schools and other major destinations.*

Policy 1: Designate a continuous and direct system of bicycle facilities that provides access to activity centers, schools, and other major destinations.

Policy 2: Identify necessary facility improvements on the bicycle system to ensure adequate bicycle access to activity centers, schools, and other major destinations.

C. Pedestrian Facilities

Goals, Objectives, and Policies

Goal 1: Create a continuous network of safe, convenient, and accessible pedestrian facilities to schools, parks, activity centers, and transit facilities.

Objective 1: *Ensure a viable comprehensive system of pedestrian facilities throughout Keizer.*

Policy 1: Pedestrian issues shall be included in the prioritization of projects for allocation of all city funds.

Policy 2: Support continuation of current (or equivalent) federal, state, and local funding sources to construct or improve pedestrian facilities.

Policy 3: Encourage the timely repair and maintenance of existing pedestrian facilities including those identified as regionally significant.

Policy 4: Ensure that all pedestrian facilities are accessible and constructed in accordance with ADA and city sidewalk standards, including reasonable grades and adequate clearances.

Policy 5: The city shall work toward the completion of the street lighting system, designed to city illumination standards, on all arterial and collector streets. Through the use of neighborhood street lighting districts, property owners shall be encouraged to provide street lighting, designed to city illumination standards, on all public local streets.

Goal 2: Increase the percentage of trips made by pedestrians in Keizer.

Objective 1: *Encourage local land use patterns, densities, and designs that decrease trip lengths and that support walking as a practical and attractive transportation mode.*

Policy 1: Support an urban design that adequately considers pedestrian needs.

Policy 2: Encourage the delineation of safe pedestrian ways, emphasizing separation from vehicular areas using planting strips, crosswalks, and increased lighting where appropriate.

Objective 2: *Encourage appropriate linkages with other alternative modes of transportation, including public transit and bicycling.*

Policy 1: Support the incorporation of multimodal connections and modal balance into local transportation facilities.

Chapter 8 - Public Transportation Systems

G. Goals, Objectives, and Policies

Public Transit (Cherriots)

Goal 1: Support a public transit system accessible to all Keizer residents and which provides service to a variety of destinations throughout the day and evening.

Objective 1: Support public transit services throughout the urbanized portions of the Keizer area.

Policy 1: Support Salem Area Mass Transit District's policies to provide Keizer residents with quality transit services responsive to local community needs.

Objective 2: Support the provision of a diverse system of transit routes that ensure convenient accessibility to a variety of destinations with a minimum of transfers.

Objective 3: Support a convenient system of transfer opportunities within the urban area that facilitates timely and convenient access to a wide variety of destinations.

Objective 4: Support a system which offers connectivity between activity centers, such as schools, parks, shopping centers, and residences.

Policy 1: Support the development and implementation of a public transit route system and support facilities that effectively combine appropriate elements of radial and circumferential services.

Objective 4: Support transit services for area residents that operates over an appropriately diverse time frame.

Policy 1: Support prudent extensions in the hours and days of operation of the transit system.

Goal 2: Facilitate increasing levels of ridership on the public transit system.

Objective 1: Increase overall daily ridership of the transit system.

Policy 1: Support effective marketing and responsiveness to consumer need for transit services.

Policy 2: Consider transit operations in the design of street infrastructure and land use developments wherever practicable.

Objective 2: Increase the percentage of journey to work trips made by transit in the Keizer area.

Policy 1: Support the implementation of regionwide transportation system efficiency management strategies and activities (such as employer subsidized bus pass programs) that encourage the diversion of commute trips away from the single-occupant vehicle.

Goal 3: Support development of public transit routes that provide efficient, competitive service in the regional transit corridors.

Objective 1: Support an efficient and convenient system of public transit services in the regional travel corridors.

Policy 1: Encourage preferential transit treatments, transit-related facility improvements, and appropriate transit-supportive land uses and development along the regional transit corridors.

Policy 2: Support incremental increases in the frequency and capacity of service in the regional transit corridors as warranted by demand.

Goal 4: Advocate affordable transit service throughout the urban area while creating a sustainable public transit system.

Objective 1: Support development and implementation of funding strategies that provide adequate, long-term, stable revenue source(s) for the public transportation system.

Policy 1: Support regional efforts to identify and implement transit funding strategies and programs that will provide adequate, long-term, stable revenue source(s) for the public transportation system.

Policy 2: Support ongoing review and analysis of farebox revenues, ridership levels, and service costs to optimize the transit fare structure.

Transportation Disadvantaged

Goal 1: Seek to provide transportation disadvantaged citizens with the maximum level of access to all social and work resources.

Objective 1: *Consistent with the Transit District's adopted ADA Transit Plan, provide transportation services that adequately meet the needs of the region's transportation disadvantaged and disabled populations.*

Policy 1: Support continued development and implementation of accessible fixed-route and appropriate complementary paratransit services as identified in the ADA Transit Plan.

Policy 2: Consider supporting efforts of the Special Transportation Advisory Committee or its successors in implementing the RTEP and/or similar efforts to improve transportation for the transportation disadvantaged.

Chapter 9 - Air/Water/Rail/Pipeline

A. Air Service

Goals, Objectives, and Policies

Goal 1: Provide for an aviation system that provides an adequate level of facilities and services to meet the needs of Keizer's residents and businesses.

Objective 1: Support a cost-effective regional aviation system operations and facilities adequate to serve area demand.

Policy 1: Support appropriate, cost-effective improvements to the region's aviation and related facilities based on sound economic analysis.

Policy 2: Support efforts to renew commercial airline service to McNary Field as demand and financial considerations warrant.

Policy 3: Support maintenance efforts that will preserve the region's general aviation facility in a manner that makes resumption of commercial aviation activities viable.

Goal 2: Provide for a regional aviation facility with adequate multimodal access.

Objective 1: Support adequate multimodal access to the regional aviation facility.

Policy 1: Support development of an appropriate multimodal transportation infrastructure that provides adequate access to the regional aviation facility, including a Cherriots drop point at the terminal when scheduled commercial service becomes available.

B. Waterborne Transportation

Goals, Objectives, and Policies

Although Keizer does not have, or contemplate, any facilities for the maritime system, it does support the Regional Maritime Element of the RTSP. Goals, objectives, and policies from that document are repeated as follows:

Goal 1: The restoration of commercial navigation through the upper Willamette River where environmental impacts can be mitigated or minimized and economic justification exists.

***Objective 1:** Support efforts to restore commercial navigation in the upper Willamette River through the SKATS area where environmental impacts can be mitigated or minimized and economic justification exists.*

Policy 1: Provide appropriate assistance to further efforts to restore commercial navigation in the upper Willamette River through the SKATS area as warranted.

C. Pipeline Facilities

Goals, Objectives, and Policies

Goal 1: Provide for a pipeline system that provides an adequate level of service for the movement of natural gas into, within, and through the Keizer area.

Objective 1: Maintain adequacy of capacity and operations of pipeline facilities and services in, within, and through the Keizer area.

Policy 1: Support activities that maintain adequate pipeline operations and services into, within, and through the Keizer area.

Goal 2: A safe pipeline system into, within, and through the Keizer area.

Objective 1: Comply with federal and state regulations pertaining to the safety of pipeline facilities and operations in the Keizer area.

Policy 1: Support activities and procedures that ensure compliance with federal and state regulations pertaining to the safety of pipeline facilities and operations in the Keizer area.

D. Rail Facilities

Goals, Objectives, and Policies

In Keizer, the Rail System Element is implemented through the cooperative adoption of regional goals, objectives, and policies contained in the regional Plan.

Goal 1: Provide for a rail system that provides an adequate level of service to passenger and freight rail consumers within the MPO.

Objective 1: Support the provision of rail service within the MPO that adequately addresses service demands of both passengers and freight.

Policy 1: Encourage continued and improved rail service to and from the MPO

Objective 2: Promote the development and maintenance of an adequate infrastructure and facility system to support continued and improved rail service in the MPO.

Policy 1: Support the continued improvement of the region's existing rail infrastructure and facilities.

Policy 2: Encourage the development and implementation of adequate infrastructure and facilities to address the needs of both passenger and freight movements in the region.

Goal 2: A safe system of rail transport serving the MPO.

Objective 1: *Support efforts to maintain and improve rail transportation safety by complying with federal and state rail safety standards.*

Policy 1: Encourage improvements to the regional transportation system that enhance rail safety as well as safety between railroads and other transportation modes.

Goal 3: Efficient use of existing rail transportation infrastructure.

Objective 1: *Promote the maximization of efficient use of existing regional rail transportation infrastructure.*

Policy 1: Encourage actions that maximize efficient use of existing rail infrastructure and improved service levels to address MPO rail transportation needs.

Goal 4: Preserve rail rights-of-way that may be abandoned for future transportation-related uses.

Objective 1: *Reserve all rail corridor rights-of-way for transportation-related uses such as Rails-to-Trails projects, where viable.*

Policy 1: Designate all rail corridor rights-of-way as "Transportation Corridor Preserves" pending results of alignment specific suitability studies.

Goal 5: Multimodal connectivity to passenger rail terminal.

Objective 1: *Support improved multimodal access to passenger rail terminal.*

Policy 1: Promote infrastructure upgrades to the passenger rail terminal.

Policy 2: Promote and support intercity and intracity public transportation system connections to the passenger rail terminal.

Chapter 10 - Finance

C. Goals, Objectives, and Policies

The city of Keizer shall have the following goal, objectives, and policies on financing transportation capital and maintenance needs through the 20-year horizon of this Plan:

Goal: **Provide adequate funding to meet current and future capital, maintenance, and operations needs of Keizer's Transportation System.**

***Objective 1:** Meet the current and future capital improvement needs of the transportation system through an optimum mix of funding sources.*

Policy 1: As defined by Oregon Revised Statutes and city ordinances, Systems Development Charges may be collected by the city to mitigate impacts placed on area wide transportation facilities.

Policy 2: As authorized in the *Keizer Development Code* and *Oregon Revised Statutes*, those responsible for new development will mitigate their development's impacts to the transportation system concurrent with the development of the property.

Policy 3: Seek federal funding for capital improvements through participation in the MPO or other designated distribution process.

Policy 4: Continue to set aside one (1) percent of its allocation of State Highway Gas Tax funds for creation of on-street bicycle and pedestrian facilities.

Policy 5: Whenever necessary, reserve funds for acquisition of property for future right-of-way opportunities.

***Objective 2:** Secure adequate funding to implement a perpetual life street maintenance program which shall sustain a maximum service life for pavement surfaces and other transportation facilities.*

Policy 1: Assuming no changes in state funding mechanisms, the primary funding sources for street system maintenance activities shall be the city's allocation of the State Highway Fuel Tax.

- Policy 2:** Seek additional funding sources to meet the long term financial requirements of sustaining a perpetual life street maintenance program.
- Policy 3:** Continue to participate in cooperative agreements with other state and local jurisdictions for maintenance and operations activities based on equitable determinations of responsibility and benefit.
- Objective 3:** *Secure funding to adequately operate the transportation system including advance planning, design engineering, signal operations, system management, illumination, and cleaning activities.*
- Policy 1:** Assuming no changes in state funding mechanisms, transportation system operations activities shall be funded primarily from the city's allocation of the State Highway Fuel Tax. Other funding sources should be pursued to augment the financial requirements of providing adequate future system operations.
- Policy 2:** Encourage and facilitate the formation of local street lighting districts to enable neighborhoods the opportunity for street illumination. The city shall consolidate street lighting districts by subdivision to achieve cost equity and benefits from economies of scale. The City may consider consolidation of existing street lighting local improvement districts.
- Policy 3:** Pursue the award of federal, state, and private grants to augment operations activities, especially in the planning and engineering functions.

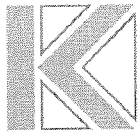
Commission and will be made based on the above criteria

Chapter 11 - Outstanding Actions, Steps, or Refinements

Table 11
Action Steps and Refinements

Actions Steps and Refinements	Year Completed
<i>Note: Shaded areas depict five-year increments</i>	
Update VMT Baseline (\$5,000)	2000
Parking Space Survey for parking inventory baseline date (\$10,000)	2000
Cherry/Greenwood Intersection Study (\$5,000)	2000
Access Management Standards (\$15,000)	2001
Develop procedures for constrained R/W vs. bike lanes (\$4,500)	2001
Develop specialized access management plan for River Road (\$45,000)	2002
Evaluate and reprioritize CIP as necessary (\$2,500)	2002
LOS projections for street system (\$5,000)	2003
Develop list of access management projects (\$2,000)	2004
Street Extensions Study – Sunset, Cade (\$7,500)	2005
Evaluate progress in meeting TSP needs – Upgrade CIP (\$2,500)	2005
North-South Connector Refinement Study (\$20,000)	2006
East-West Connector Study (\$10,000). Should be accomplished in conjunction with north-south study	2006
Evaluate progress in meeting TSP needs – Upgrade CIP (\$2,500)	2010
Evaluate progress in meeting TSP needs – Upgrade CIP (\$2,500)	2015
Outstanding Action Total Cost	\$139,000

Appendix D
Existing Conditions
Analysis



KITTELSON & ASSOCIATES, INC.

TRANSPORTATION ENGINEERING / PLANNING

610 SW Alder Street, Suite 700, Portland, OR 97205 P 503.228.5230 F 503.273.8169

TECHNICAL MEMORANDUM

City of Keizer, Transportation System Plan Update

Existing Conditions Assessment

Date: January 31, 2008 Project #: 8310.03

To: Technical Advisory Committee

From: Elizabeth Wemple, P.E.; Matt Hughart, A.I.C.P; Alek Pochowski, E.I.; & Severine Marechal

CC: Sam Litke, City of Keizer

The development of the City of Keizer Transportation System Plan (TSP) begins with this memo's summary of the Kittelson & Associates, Inc. assessment of existing transportation system conditions. This memorandum identifies the study area and describes the existing conditions of Keizer's transportation system, including roadway, pedestrian, bicycle, transit, rail, air, freight movement, and pipeline/transmission transportation modes. The assessment of each mode is conducted in terms of its current facilities, performance, and preliminary identification of issues and opportunities. This is Task 3 of the project contract.

The results of the existing conditions assessment and the associated public meetings will support the future transportation system assessment in later stages of the project

This memorandum is prepared as a draft chapter on Existing Conditions for the City of Keizer 2007 TSP Update. The current TSP was adopted in 2000, and amended in 2004. The previous TSP was developed based on data from 1998. Therefore, this update reflects more than nine years of growth and change in the use of the transportation system.

Executive Summary

The existing City of Keizer transportation system effectively manages the majority of auto travel demand throughout the city. Based on a review of existing conditions, the following issues were identified:

- Keizer's current local street design standards are not consistent with the *Neighborhood Street Design Guidelines*.

- Much of Keizer is well covered by a sidewalk network, especially the area of the city located north of Lockhaven Drive. However, the area approximately between the Shoreline Drive to the west, River Road to the east, Sunset Avenue to the south, and Lockhaven Drive to the north, has very few roadways with sidewalks. Several pedestrian generators, including the Keizer Little League Park, the Volcanoes Stadium, Claggett Creek Park, McNary High School, and River's Edge Park lack pedestrian connections.
- Based on the City's most recent inventory of the existing bicycle facilities, it was found that there are a suitable number of dedicated bicycle routes within the City of Keizer. Additionally, most of the major bicycle-trip generators are located on the bicycle network or have a local street connection to the bike network. In addition to several collectors without dedicated bike facilities, River Road south of Chemawa Road is the only arterial without dedicated bike lanes.
- An analysis of the regional transit system called "Cherriots" revealed that the system could be more attractive to choice riders (riders who have the option of taking their car or public transit), if the service frequency was improved. However, Cherriots does provide good service for captive riders (riders who lack an acceptable alternative to transit by providing good hours of service, 6:00 a.m. to 10:00 p.m.).
- The intersection of Lockhaven Drive/Verda Lane currently operates at a low level-of-service.
- A review of safety conditions at the project study intersections showed that the intersections of Verda Lane/Salem Parkway, River Road/Wheatland Road, River Road/Manbrin Drive, and River Road/Dearborn Avenue should be studied in more detail in the next phases of the project because their crash rates or crash counts appear higher than other comparable intersections. Additional analysis and field review of the intersections will be conducted to determine potential countermeasures to improve safety conditions.

Draft Goals and Objectives

Based on the goals identified in the *City of Keizer TSP* (Reference 1), amended in 2004, and based on initial conversations with staff, Kittelson & Associates, Inc. (KAI) has prepared the following draft list of Goals and Objectives for the TSP Update and Refinement. The intention of the list below is to serve as a starting point for discussion, and the expectation is that this list will evolve before finalization based on input from staff and the public.

DRAFT GOALS AND OBJECTIVES FOR THE KEIZER TSP UPDATE AND REFINEMENT

Based on collaboration with the City of Keizer Transportation System Plan (TSP) Update Technical Advisory Committee (TAC) the following draft project goals and objectives have been developed.

Public Involvement

Goal 1: Continued coordination with all residents of Keizer for regular monitoring and improvement of the Transportation System.

Environment

Goal 2: Provide for a sustainable transportation system which respects the environment and community

- Objective 1: Minimize adverse effects on environmentally sensitive areas and water quality.
- Objective 2: Minimize adverse effects on neighborhoods (e.g. noise, air, speed).
- Object 3: Minimize impervious surfaces.

Streets

Goal 3: Maximize the efficiency of the existing transportation system.

- Objective 1: Provide a street system emphasizing connectivity that minimizes travel time and congestion while being compatible with other modes of transportation
- Objective 2: Maximize available system capacity by facilitating the development and use of pedestrian, bicycle and transit transportation.
- Objective 3: Maintain the physical integrity of existing roads to preserve and maximize infrastructure investments.
- Objective 4: Manage on-street and off-street parking to support community needs.

Comprehensive Connected and Multi-Modal

Goal 4: Provide efficient and comprehensive linkages between all modes of transportation.

- Objective 1: Develop paths, connections and facilities to provide simple access between modes at different parts of work, shopping or recreational trips.
- Objective 2: Safety must be the underlying concept for any element of every project.

Pedestrians

Goal 5: Develop a comprehensive system of pedestrian and bicycle facilities for the city of Keizer.

- Objective 1: Establish a continuous, direct and safe system of bicycle and pedestrian facilities within the Keizer urban area and connect to the greater regional system.
- Objective 2: Achieve greater public awareness of safe pedestrian, bicycling and motoring practices, procedures and skills.

Transit

Goal 6: Support a public transit system for all Keizer residents focusing on accessibility and mobility.

- Objective 1: Facilitate public transit services throughout the urbanized portions of the Keizer area that ensures convenient accessibility to a variety of destinations at different times of the day. Advocate affordable transit service and increase ridership.
- Objective 2: Encourage a transit system which offers connectivity between activity centers such as schools, parks, shopping centers, and residences with a minimum of transfers.
- Objective 3: Support transit programs that serve transportation disadvantaged citizens consistent with Americans with Disabilities Act requirements.

Supplementary Transportation Resources

Goal 7: Collaborate with lead agencies to support development and maintenance of an adequate aviation, maritime, pipeline, and rail system to serve area demand.

- Objective 1: Collaborate with lead agencies to support cost-effective regional aviation system operations and facilities adequate to serve area demand.
- Objective 2: Collaborate with lead agencies to support restoration of commercial and recreational navigation through the upper Willamette River where environmental impacts can be mitigated or minimized and economic justification exists.
- Objective 3: Collaborate with lead agencies to support a safe pipeline system that provides an adequate level of service for the movement of natural gas into, within, and through the Keizer area.
- Objective 4: Collaborate with lead agencies to support an adequate level of service to passenger and freight rail consumers within the Metropolitan Planning Organization (MPO).

Funding

Goal 8: Provide adequate funding to meet current and future capital, maintenance and operations needs of Keizer's Transportation System.

- Objective 1: Strive to meet the current and future capital improvement needs of the transportation system through an optimum mix of funding sources.
- Objective 2: Strive to secure adequate funding to implement a street maintenance program which sustains a maximum service life for pavement surfaces and other transportation facilities.
- Objective 3: Strive to secure funding to adequately operate the transportation system including advance planning, design engineering, signal operations, system management, illumination, and cleaning activities.

Study Area

As stated in the current *City of Keizer TSP*, The City of Keizer is located in the center of the Willamette Valley and is situated approximately 60 miles east of the Pacific Ocean and 60 miles west of the Cascade Mountains. The City of Keizer enjoys ready access to the entire West Coast via Interstate Highway Five (I-5). The city of Salem, located adjacent to the southern city limits of Keizer, is the closest neighboring community. The Portland metropolitan area is located approximately 45 miles to the north, close enough to create employment-commuting opportunities and provide access to Portland International Airport.

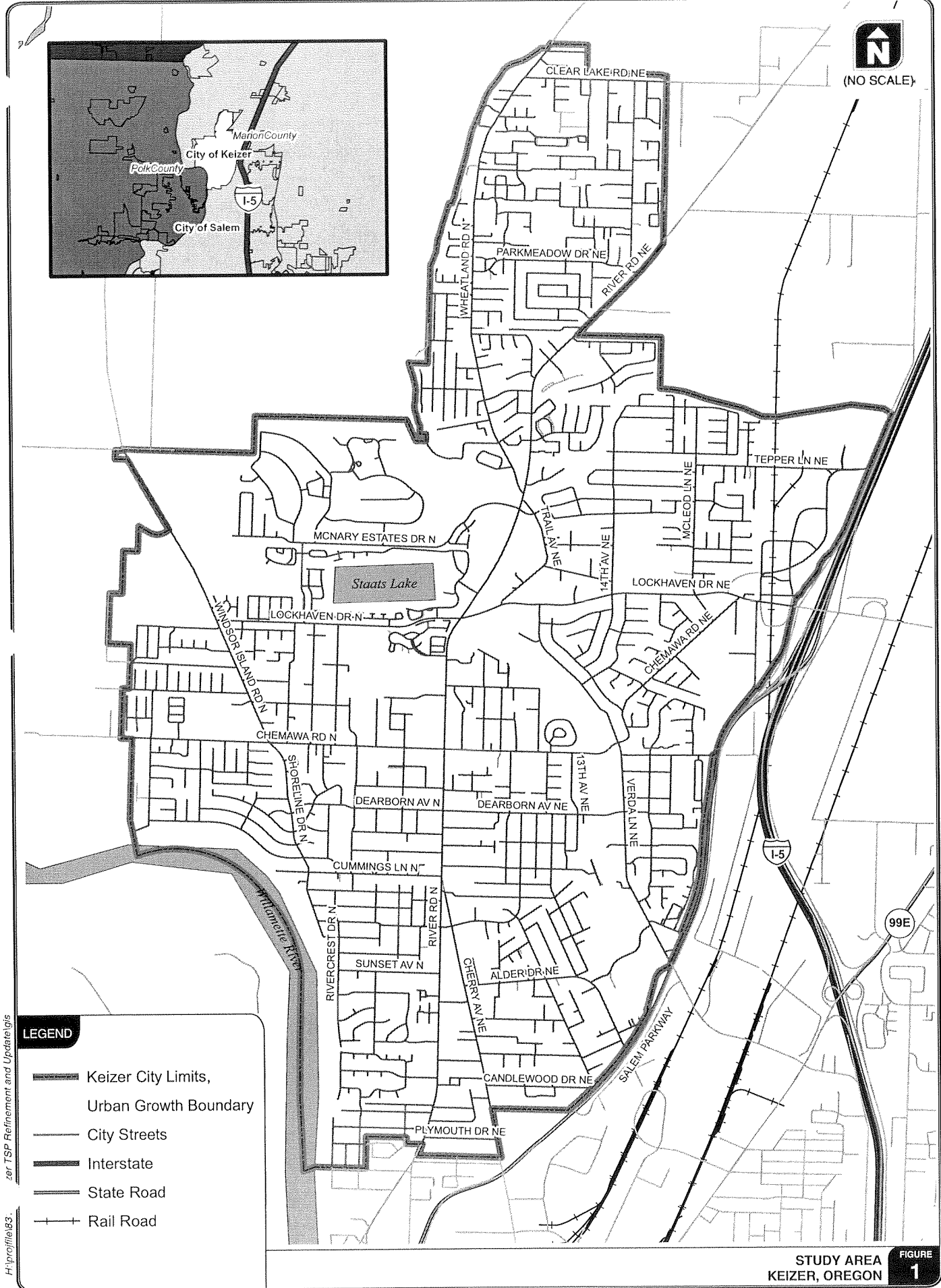
Figure 1 is a street map of Keizer, with the city limits and Urban Growth Boundary (UGB) indicated. The study area for the TSP consists of the area within the UGB, as required in Oregon's Transportation Planning Rule. Based on the requirements of Oregon's Transportation Planning Rule, only significant streets within the study area—those that can be classified as arterials or collectors and intersections of these streets—are addressed in this project.

Transportation Modes and Facilities

The City of Keizer's transportation system provides facilities serving many different transportation modes. This memorandum documents the existing facilities and conditions for the following:

- Roadway
- Bicycle
- Pedestrian
- Public Transportation
- Air
- Freight
- Rail
- Water
- Pipeline

In the following, a description of Keizer's roadway facilities is given prior to an evaluation of individual modes, because of the importance of the roadway network in serving the majority of trips over multiple modes. Each mode is then identified and discussed in subsequent sections.



STUDY AREA
KEIZER, OREGON

FIGURE
1

ROADWAYS

Roadway Ownership

Arterials and collector streets are the primary means of mobility for Keizer residents. Pedestrians, bicyclists and motorists all utilize public roads for the vast majority of their trips. Typically, roadways can be owned, operated and maintained by the State of Oregon, a County, and/or a local jurisdiction. In the City of Keizer, all of the arterials and collectors are owned, operated and maintained by the City of Keizer as illustrated in Figure 2. Additionally, Salem Parkway (99E Business), and I-5 are owned and maintained by ODOT.

With jurisdiction of the roadways, the City of Keizer is responsible for:

- Determining the road's functional classification. This sets the roadway's role in the transportation system and its design features, such as width, right-of-way, driveway (access) spacing standards, and the types of pedestrian and bicycle facilities provided.
- General maintenance and upkeep.
- Approving construction and access permits.

Functional Classification

A roadway's *functional classification* describes its role in the transportation system. In general, the basis of the functional classification of a roadway is dependent upon the priority given to each of its two primary functions: 1) providing regional mobility, and 2) promoting local accessibility. As referenced in the *ODOT Sustainability Program* (Reference 2), mobility refers to physical movement, and is evaluated based on travel distance and speed, while accessibility refers to the ability to reach desired goods, services, activities and destinations. The City of Keizer defines each street based on the following classifications as defined in the current *City of Keizer TSP*:

- **Major Arterials** serve as the supporting framework for the city's roadway network. These roadways are intended to serve higher volumes of traffic, and provide the highest level of mobility into, out of, and within the City of Keizer. Major arterials function at 15,000 to 50,000 Average Daily Traffic (ADT). Cherry Avenue, Lockhaven Drive between River Road and I-5, and River Road are major arterials in Keizer.
- **Minor Arterials** complement the major arterial system, and primarily handle trips within Keizer. Minor arterials should function to provide access between major arterials and collector roads. Collectors may also provide access to community activity centers, such as schools and parks. They should not go through residential neighborhoods. Minor arterials function at 7,000 to 20,000 ADT. Chemawa Road between River Road and Lockhaven Drive, and Wheatland Road are examples of minor arterials in Keizer.



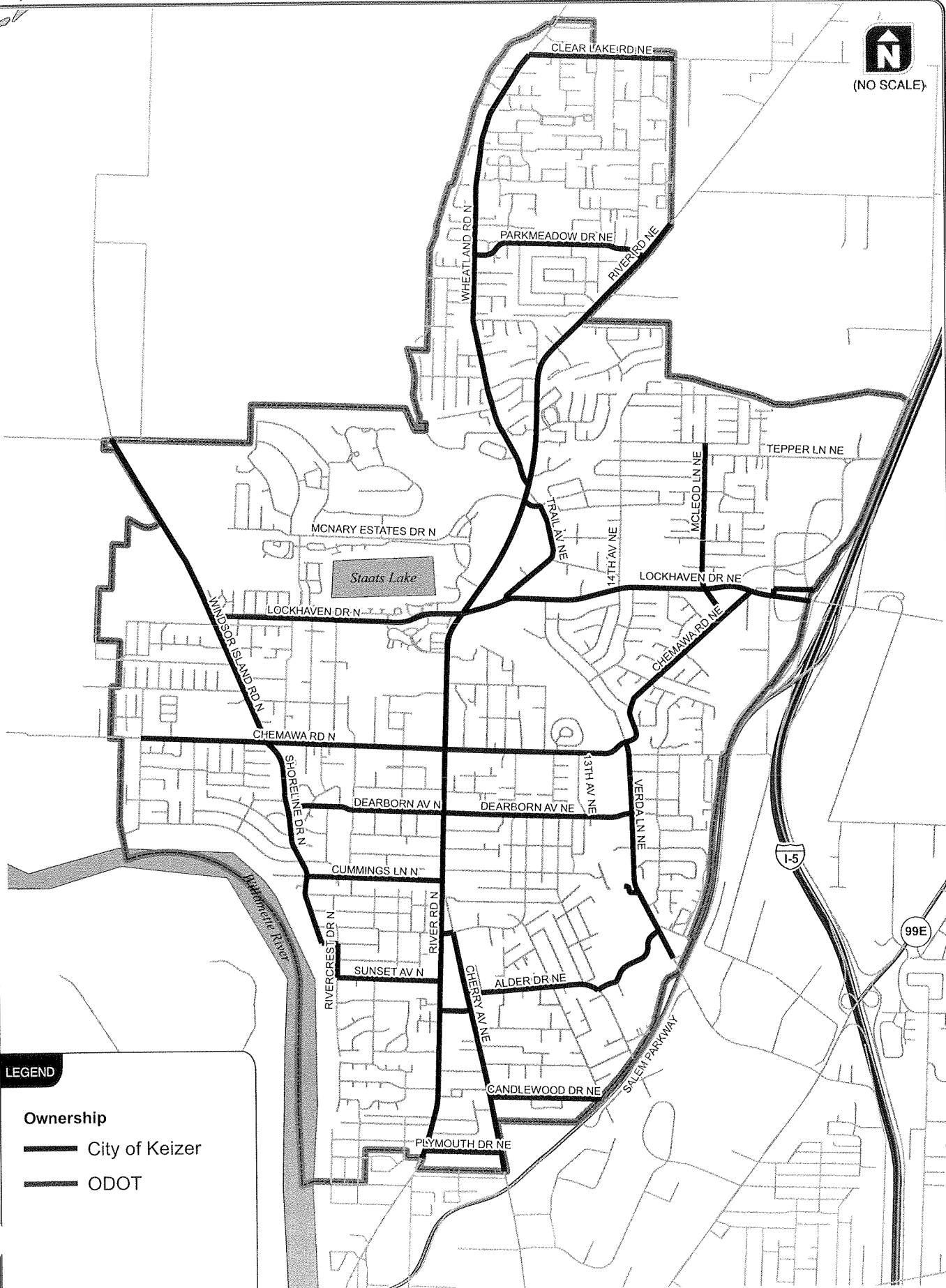
er TSP Refinement and Update

profile

LEGEND

Ownership

-  City of Keizer
-  ODOT



**JURISDICTIONAL RESPONSIBILITY
KEIZER, OREGON**

- **Collectors** represent the intermediate roadway class. As their name suggests, these roadways collect traffic from the local street system and distribute it to the arterial street system. These roadways provide a balance between traffic movement and land access and should provide extended continuous stretches of roadway to facilitate traffic circulation through the city. Collectors function at 1,600 to 10,000 ADT. Chemawa Road between Windsor Island Road and 15th Avenue, and Dearborn Avenue are examples of collectors in Keizer.
- **Local** roads and streets are the lowest roadway class. Their primary purpose is to provide local land access and to carry locally generated traffic at relatively low speeds to the collector street system. Local streets should provide connectivity through neighborhoods, but should be designed to discourage cut-through vehicular traffic. The majority of roadways in the roadway network are local streets. As a general rule of thumb, residential livability concerns arise at approximately 1,600 ADT. This discussion is provided for reference only because the TSP focuses exclusively on Collector and Arterial Streets.

It is common for a street to have different classifications on some sections. As noted in the classification examples, Chemawa Road operates as both a minor arterial and collector within the City of Keizer. Figure 3 shows the classification of all roadways within the City of Keizer. As previously noted, Salem Parkway (99E Business), is owned and operated by ODOT. As such, ODOT has a separate functional classification system in which the Salem Parkway is classified as a Regional Highway (Expressway).

Design Standards

The City of Keizer has developed street design standards based on the functional classification of the roadway. These standards, stated in the current *City of Keizer TSP*, are displayed in Table 1. According to the current *City of Keizer TSP*, these standards were developed in accordance with the Transportation Planning Rule's requirement for minimum standards consistent with operational needs.



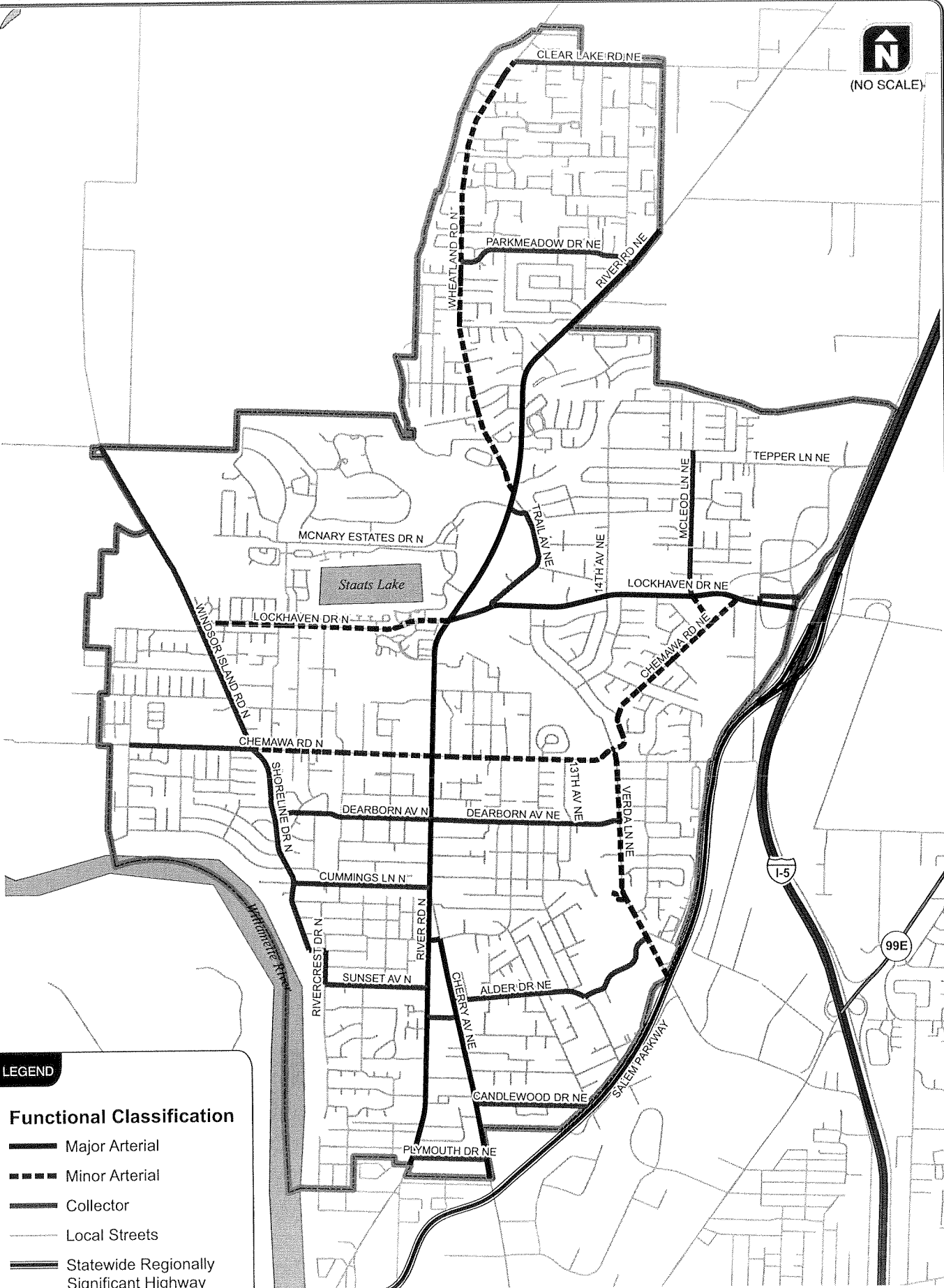
City TSP Refinement and Update 1/13

1/13

LEGEND

Functional Classification

-  Major Arterial
-  Minor Arterial
-  Collector
-  Local Streets
-  Statewide Regionally Significant Highway (Expressway)



**FUNCTIONAL CLASSIFICATION MAP
KEIZER, OREGON**

Figure 4 Pavement Condition

Forthcoming pending data from the City of Keizer

Table 1 Street Design Standards

Functional Classification ¹	Number of Lanes	Parking	Bike Lanes ²	Improvement Width (ft.) ³	Sidewalks ⁴	Right-of-Way Width (ft.) ^{4,5}
Major Arterial	5	No	Yes	50-72	Yes	84
Minor Arterial	3	No	Yes	36-50	Yes	72
Collector	2	No	Yes	36-50	Yes	68
Local III	2	Yes	No	34	Yes	48
Local II	2	Yes	No	32	Yes	46
Local I	2	Yes	No	30	Yes	44

City of Keizer, 1999

¹ All local street categories have a ten-foot public utility easement on both sides and a five-foot slope and utility easement on collectors and arterials.

² Standard bike lane widths are six feet; although five feet may be approved on a case by case basis.

³ Street improvement and right-of-way widths may be increased on a case by case basis as required by the city in accordance with Public Works Design Standards.

⁴ All streets will have five-foot wide sidewalks on both sides. Meandering sidewalks may be considered/required on arterials and collectors.

⁵ Additional right-of-way may be required at intersections for additional turning lanes. Right-of-way at intersections is to have a minimum 20-foot radius.

These guidelines also include five-foot planter strips on collectors and arterials. Additionally, use of transit is facilitated by construction of bus pullouts on Local Street III, collectors, and arterials.

Table 2 displays the existing cross-sections for the arterials and collector streets. This information is taken from the current *City of Keizer TSP*, information received from the city, and a review of aerial photography through Google Earth and Microsoft Virtual Earth. The information is provided in order to compare the existing design standards to the actual design of roadways in Keizer.

Table 2 Existing City of Keizer Arterial and Collector Design Information

Street	Number of Through Lanes ¹	Median	Parking	Bike Lanes ²	Sidewalks ²	Approximate Road-way Width (ft.) ³
Major Arterials						
Cherry Avenue	2	TWLTL	No	Both	Both	50
Lockhaven Drive (River Road to I-5)	2	TWLTL	No	Both	Both	50
River Road (North of Wheatland Road)	2	TWLTL	No	Both	Both	52
River Road (South of Wheatland Road)	4	TWLTL	No	Both	Both	68
Minor Arterials						
Chemawa Road (Windsor Island Road to Lockhaven Drive)	2	No	No	Both	Both	36
Lockhaven Drive (Windsor Island Road to River Road)	2	TWLTL	No	Both	Both	49
McLeod Lane (Lockhaven Drive to Chemawa Road)	2	No	No	No	No	25
McLeod Lane (Ridge Drive to Chemawa Road)	2	No	No	No	No	22
Verda Lane (Salem Parkway to Chemawa Road)	2	No	No	Both	No	36
Wheatland Road	2	No	No	No	Varies	36
Collectors						
Alder Drive	2	No	No	No	Both	34
Candlewood Drive	2	No	No	No	No	24
Chemawa Road (Windsor Island Road to 15 th Avenue)	2	No	No	No	Varies	40
Clearlake Road	2	No	No	No	Varies	24
Cummings Lane	2	No	No	Both	No	32
Dearborn Avenue	2	No	Yes	Both	No	32
McLeod Lane (Lockhaven Drive to Stone Hedge Drive)	2	No	No	Both	Both	32
Parkmeadow Drive	2	No	Yes	No	Both	32
Plymouth Drive	2	No	No	Both	Both	32
Radian Drive	2	No	No	Both	Both	32
Shoreline Drive	2	No	No	No	Both	34
Sunset Avenue	2	No	Yes	No	No	24
Trail Avenue	2	No	No	No	No	32
Windsor Island Road	2	No	No	No	Varies	24

TWLTL: Two-Way-Left-Turn-Lane

¹Both directions

²More specific bike lane and sidewalk detail is provided in Figures 6, 7, & 8. ³Roadway width is an approximate measure including the width of all lanes, and if present, the median, the shoulders and the bike lanes. The widths were taken from Google Earth

As shown in Table 2, while the current city of Keizer design standards identify major arterials as having up to four through lanes and a two-way-left-turn-lane (TWLTL), only River Road (South of Wheatland Road) has a four through lanes. Lockhaven Drive (Windsor Island Road to River Road) is the only minor arterial to meet the design standards indicated in the current *City of Keizer TSP*, which calls for two-through lanes, and a TWLTL. All collectors have two through lanes (no median), as identified in the Street Design Standards. Based on the operations analysis found in the "Existing Traffic Volumes and Traffic Operations" section of this document, the major and minor arterials constructed with fewer through lanes than called for in the current *City of Keizer TSP* provide acceptable operations.

None of the major and minor arterials provide on-street parking, consistent with the current roadway design standards. However, three collectors: Dearborn Avenue, Sunset Avenue and Parkmeadow Drive do provide on-street parking, which is incompatible with current roadway design standards. With the exception of McLeod Lane, all other minor arterial roadways have widths between 36 and 50 feet, meeting the current street design standards.

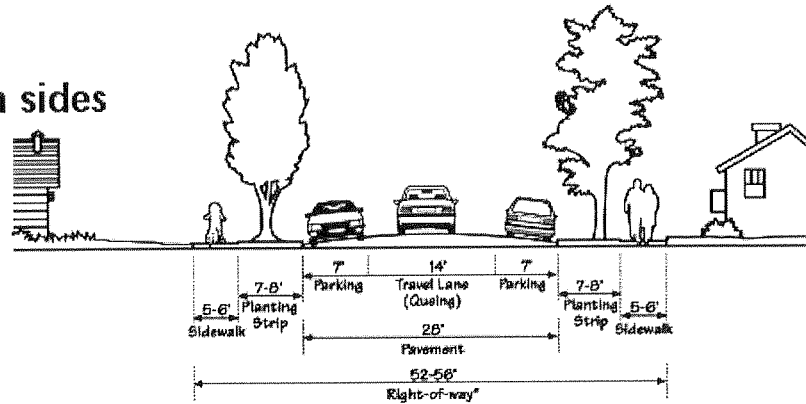
While local Streets are not reviewed as part of the development of the TSP, the Oregon (Transportation Planning Rule) TPR requires that "local governments establish standards for local streets and accessways that minimize pavement width and right of way. The rule further requires that the standards provide for the operational needs of streets including pedestrian and bicycle circulation and emergency vehicle access." (*Neighborhood Street Design Guidelines*, page 2, Reference 3). According to the DLCD document, benefits of streets with reduced pavement widths include improved livability, improved safety, slower vehicle speeds, and reduced environmental impacts. Figure 5 displays examples of narrow streets that may be considered in Keizer. *Appendix "A" includes the Neighborhood Street Design Guidelines.*

According to the *Neighborhood Street Design Guidelines*, a street wider than 28 feet is by definition not a "narrow street." Keizer design standards for Local I, Local II, and Local III streets currently call for improvement widths of 30 feet, 32 feet, and 34 feet, respectively.

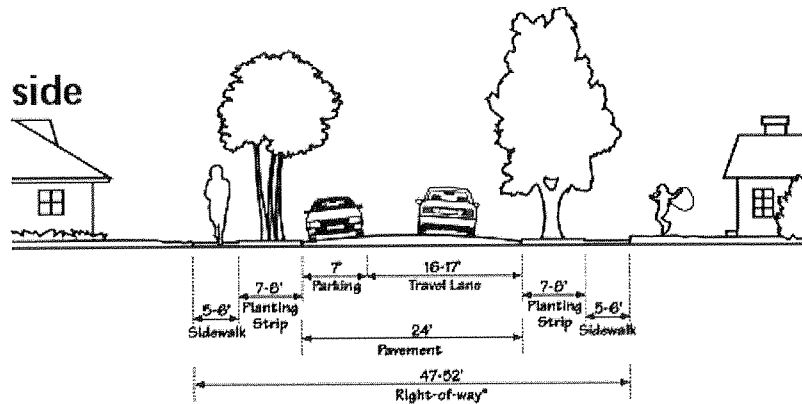
Figure 5 Skinny Streets

Summary of Three Potential Scenarios

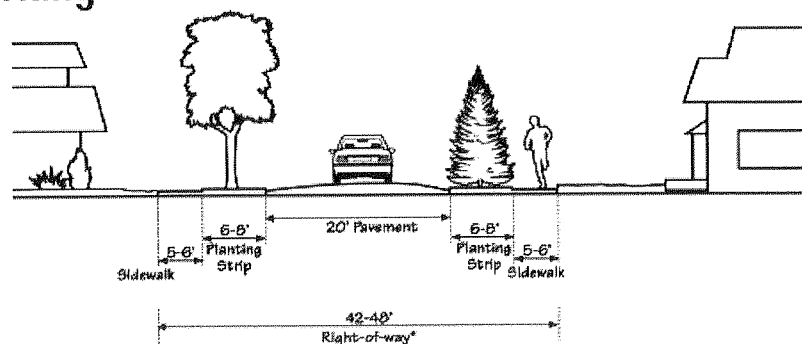
28 Ft Street Parking on both sides



24 Ft Street Parking on one side



20 Ft Street No on-street parking allowed



From the Neighborhood Street Design Guidelines

BICYCLE

Bicycle facilities (dedicated bicycle lanes in the paved roadway, multi-use paths shared with pedestrians, etc.) serve a variety of trips. These include:

- Trips to major attractors, such as schools, parks and open spaces, retail centers, and public facilities
- Commute trips, where changing and showering facilities are provided at the workplace
- Recreational trips
- Access to transit, where bicycle storage facilities are available at the stop, or where space is available on bus-mounted bicycle racks

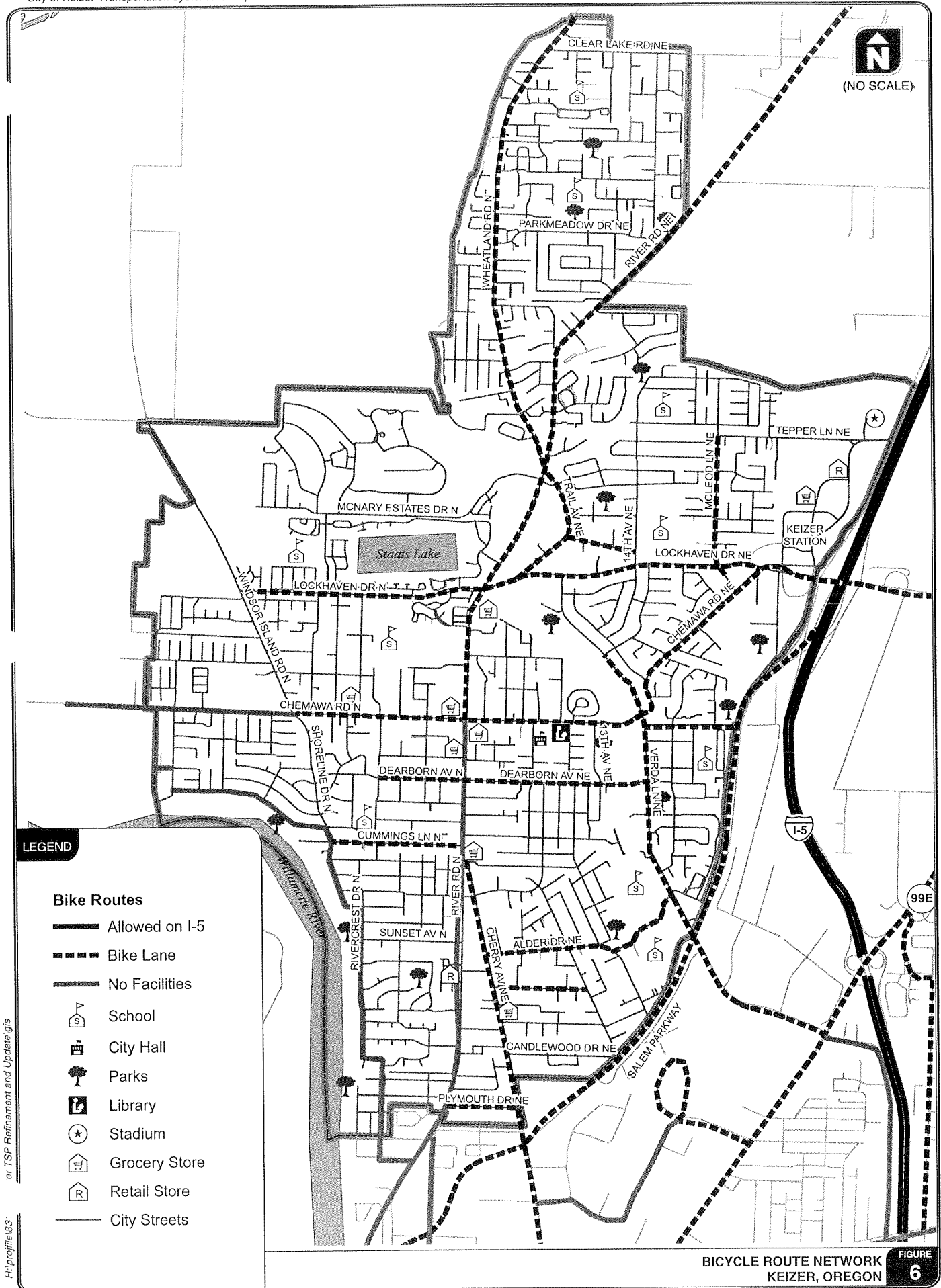
As this list suggests, supporting bicycling as a viable alternative to the automobile requires more than simply providing bicycle lanes. Support facilities, such as secure parking and worksite changing facilities, are also needed before many potential users will consider the bicycle trip as a practical alternative.

Dedicated bicycle facilities should be provided along major streets where automobile traffic speeds are significantly higher than bicycle speeds. Bicycle facilities should connect residential neighborhoods to schools, retail centers, and employment areas. However, allowing bicycle traffic to mix with automobile traffic is acceptable where the average daily traffic (ADT) on a roadway is less than 3,000 vehicles per day, according to the *Oregon Bicycle and Pedestrian Plan* (Oregon Department of Transportation, 1995).

Based on the City's most recent inventory of the existing bicycle facilities, Figure 6 depicts the locations of existing bicycle facilities in the City of Keizer. As shown in Figure 6, there are a suitable number of dedicated bicycle routes within the City of Keizer. Additionally, most of the major bicycle-trip generators are located on the bicycle network or have a local street connection to the bike network.

The only arterial without bike lanes in Keizer is River Road south of Chemawa Road. In addition, the following collectors do not have bike lanes on both sides of the street along the entire length of roadway,

- Alder Drive
- Candlewood Drive
- Chemawa Road (Windsor Island Road to 15th Avenue)
- Clearlake Road
- Parkmeadow Drive
- Shoreline Drive
- Sunset Avenue
- Trail Avenue
- Windsor Island Road



BICYCLE ROUTE NETWORK
KEIZER, OREGON

PEDESTRIAN

Similar to bicycle facilities, pedestrian facilities serve a variety of needs. These include:

- Relatively short trips (under a mile) to major pedestrian attractors, such as schools, parks and open spaces, retail centers, and public facilities (i.e. libraries, recreation centers, community centers, etc.)
- Recreational trips—for example, jogging or hiking—and circulation within parklands
- Access to transit (generally trips under 1/2-mile to bus stops)
- Commute trips, where mixed-use development is provided and people have chosen to live near where they work

Pedestrian facilities should be integrated with transit stops, and should separate pedestrians from vehicular traffic. Furthermore, pedestrian facilities should provide continuous connections between neighborhoods, employment areas, and nearby pedestrian attractors.

Two of the five existing minor arterials: McLeod Lane and Wheatland Road do not have bike lanes or sidewalks, while Verda Lane only has bike lanes. In addition, the following collectors do not provide sidewalks on both sides of the street along the entire length of roadway:

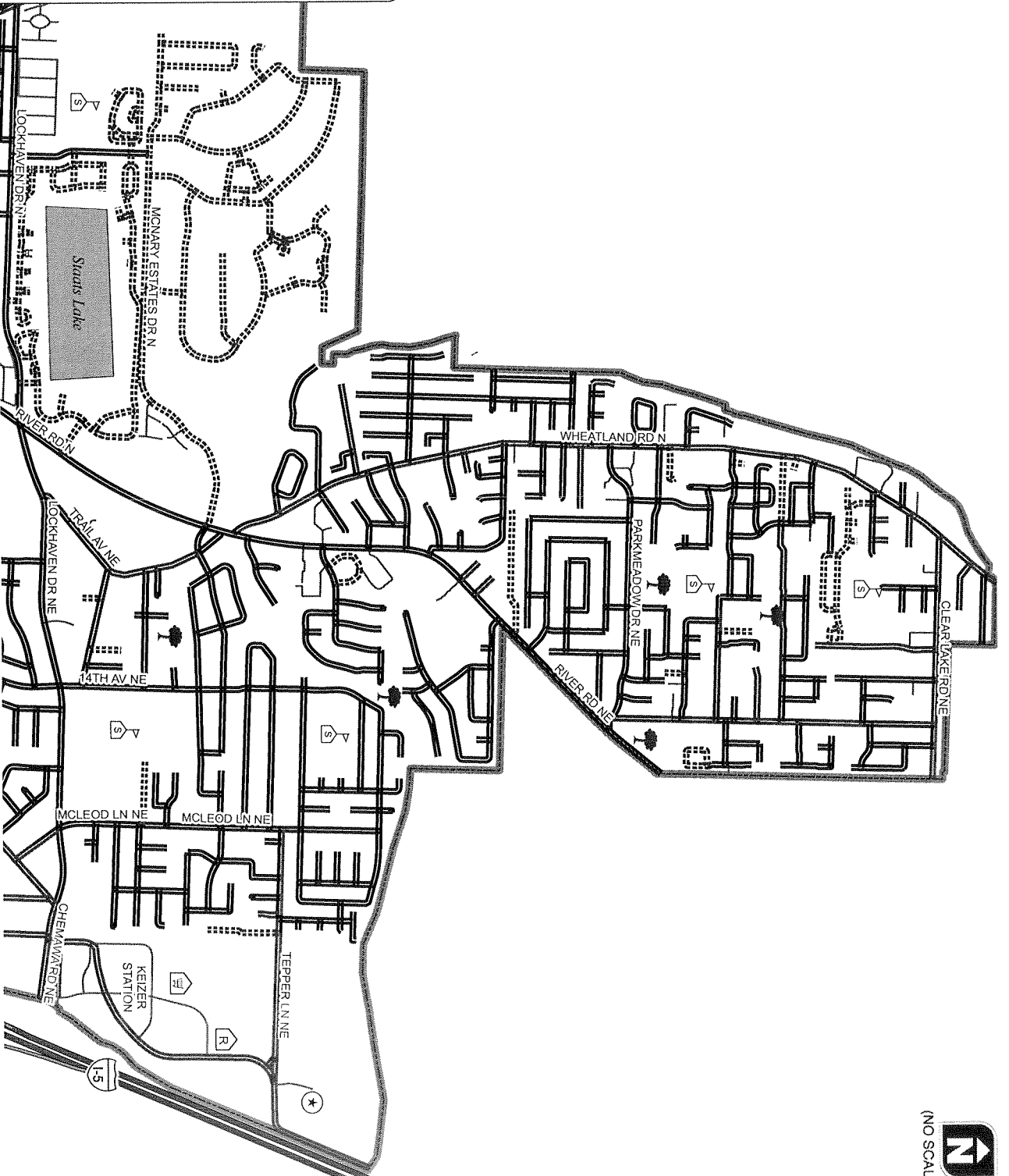
- Candlewood Drive
- Chemawa Road (Windsor Island Road to 15th Avenue)
- Clearlake Road
- Cummings Lane
- Dearborn Avenue
- Sunset Avenue
- Trail Avenue
- Windsor Island Road

Figures 7 and 8 show the locations of sidewalks within the study area, along with key pedestrian-trip generators. Figure 7 shows the area of Keizer located south of Lockhaven Drive and Figure 8 shows the area of Keizer located north of Lockhaven Drive. Figures 7 and 8 show that much of Keizer is well covered by the sidewalk network, especially the area of the city located north of Lockhaven Drive. However, the area approximately between the Shoreline Drive to the west, River Road to the east, Sunset Avenue to the south, and Lockhaven Drive to the north has very few roadways with sidewalks.

Figures 7 and 8 also depict sidewalk gaps on study roadways and show the locations where pedestrian generators lack sidewalk connections. As shown in Figures 7 and 8, most pedestrian generators within the study area are located adjacent to roadways with pedestrian facilities. Several, however, lack pedestrian connections, including the Keizer Little League Park, the Volcanoes Stadium, Claggett Creek Park, McNary High School, and River's Edge Park. Gaps near pedestrian generators are the greatest impediment to pedestrian trips because they occur where a high number of pedestrian trips are likely to occur.



(NO SCALE)



LEGEND

- Sidewalk Facility**
- Sidewalk
 - No Facilities
 - Private
 - △ School
 - City Hall
 - Parks
 - Library
 - Stadium
 - Grocery Store
 - Retail Store
 - City Streets

EXISTING SIDEWALK NETWORK AND PEDESTRIAN GENERATORS NORTH
KEIZER, OREGON

- LEGEND**
- Sidewalk Facility**
- Sidewalk
 - No Facilities
 - Private
 - △ School
 - Ⓜ City Hall
 - Ⓜ Parks
 - Ⓜ Library
 - Ⓜ Stadium
 - Ⓜ Grocery Store
 - Ⓜ Retail Store
 - Ⓜ City Streets



EXISTING SIDEWALK NETWORK AND PEDESTRIAN GENERATORS SOUTH
KEIZER, OREGON

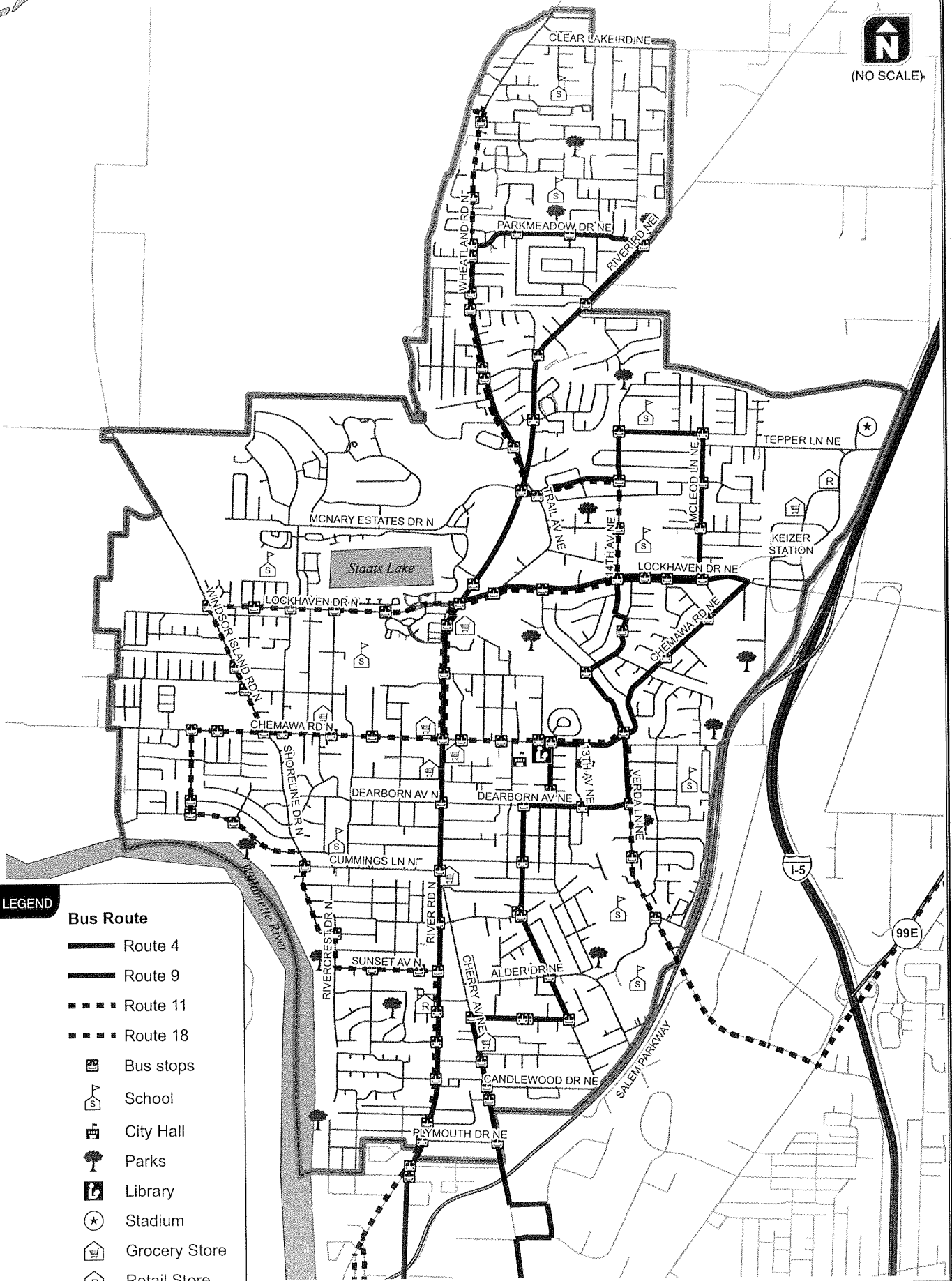
TRANSIT

Several public transportation services are provided within the City of Keizer. Services include fixed route bus, paratransit, and intercity bus and passenger rail service. The service routes and stop locations are shown in Figure 9 and described in the following section.

Transit Quality of Service Evaluation (TQSE) measures, including transit service frequency, and hours of service, were used to evaluate the corresponding levels of service for existing fixed route bus service.

Fixed Route Bus

The regional transit system is called "Cherriots," or "Salem - Keizer Transit," and provides public transportation services within the urban growth boundaries of Salem and Keizer. According to the *Specialized Transportation Plan for Polk and Marion Counties* (Reference 4), the Cherriots network is composed of 27 bus routes, with four routes: Routes 4, 9, 11 and 18, providing service to, from and within Keizer. Service is provided primarily from two transit centers. The Salem Transit Mall, the main transfer location, is located at Courthouse Square in Downtown Salem. Buses pulse from the transit center at 15 and 45 minutes after the hour. The secondary transit center, the Glen Creek Transit Station, is located in West Salem with buses departing on the hour and 30 minutes after the hour. Cherriots bus stops do not have shelters.



LEGEND

Bus Route

- Route 4
- Route 9
- - - Route 11
- . - Route 18

- Bus stops
- School
- City Hall
- Parks
- Library
- Stadium
- Grocery Store
- Retail Store
- City streets

**EXISTING TRANSIT SYSTEM
KEIZER, OREGON**

Routes

A summary of routes, operating hours, and frequency is summarized below. The information was collected from the Cherriots website and using paper copies of the transit schedules. *Appendix "B" includes the Cherriots route map, and route timetables.*

- **Route 4 Keizer East** provides service from the Salem Transit Center to Whiteaker Middle School in east Keizer, and operates from 6:00 a.m. to 10:00 p.m. on weekdays. Route 4 operates with a frequency of 30-minutes during weekday a.m. and p.m. peak hours, and 60-minutes the rest of the day. On Saturdays, Route 4 operates with a 60 minute frequency from 7 a.m. until 10 p.m. Route 4 does not operate on Sundays or holidays.
- **Route 9 Keizer Central** provides service from the Salem Transit Center to Fred Meyer North along River Road in central Keizer. Route 9 operates from 6:00 a.m. to 10:00 p.m. on weekdays. Busses operating on Route 9 alternate between "Loop A" and "Loop B." "Loop A" provides service to Parkmeadow Drive, while "Loop B" provides service to Whiteaker Middle School. Route 9 operates with a frequency of 15-minutes during weekday a.m. and p.m. peak hours, and 30-minutes the rest of the day. On Saturdays, Route 9 operates with a 60-minute frequency from 7:00 a.m. until 10:00 p.m. Route 9 does not operate on Sundays or holidays.
- **Route 11 Lancaster Drive** provides service in north Keizer, and serves Kaiser Permanente, Chemeketa College, and Lancaster Mall along Lancaster Drive, Verda Lane, River Road, and Wheatland Road. Route 11 operates from 6:30 a.m. to 10:00 p.m. on weekdays with a frequency of 60 to 80-minutes. On Saturdays, Route 11 operates with frequency of 60 to 90-minutes from 7:00 a.m. until 9:30 p.m. Route 11 does not operate on Sundays or holidays.
- **Route 18 Keizer West** provides service along River Road to the Fred Meyer grocery store near the intersection of Broadway Street/Salem Parkway, and McNary High School in west Keizer. Route 18 operates from 6:00 a.m. to 10:00 p.m. on weekdays. Route 18 operates with a frequency of 60-minutes on weekdays. On Saturdays, route 18 operates with frequency of 60-minutes from 7:00 a.m. until 10:00 p.m. Route 18 does not operate on Sundays or holidays.

Service Frequency

Transit service frequency is one measure of transit quality of service as described in the 2003 *Transit Capacity and Quality of Service Manual – 2nd Edition* (TCQSM) (Reference 5) published by the Transportation Research Board. Service frequency is measured by bus headways, the amount of time between each bus at any given stop. The level of service thresholds defined in the TCQSM based on bus headways for fixed route bus systems are shown in Table 3.

Table 3 Service Frequency LOS Thresholds: Fixed Bus Route

LOS	Headway (Min.)	Veh./Hr	Comments
A	<10	>6	Passengers don't need schedules
B	10-14	5-6	Frequent Service, Passengers consult schedules
C	15-20	3-4	Maximum desirable time to wait if bus/train missed
D	21-30	2	Service unattractive to choice riders
E	31-60	1	Service available during hour
F	>60	<1	Service unattractive to all riders

Source: TCQSM

The frequency analysis summary is provided in Table 4. As shown in Table 4, Route 4 operates at a service frequency of LOS D during the weekday peak hours. Route 9 operates at a service frequency of LOS C during the weekday peak hours, and Routes 11 and 18 operate at a service frequency of LOS E. As compared to Table 3, only Route 9 is attractive to choice riders (riders who have the option of taking their car or public transit). While Routes 4, 11, and 18 offer an acceptable option for captive riders (riders who lack an acceptable alternative to transit), Routes 4, 11, and 18 are not attractive to choice riders.

It is important to note that some overlap does exist between Routes 4, 9, 11 and 18 that increase the frequency of service to some destinations. For instance, Routes 4, 9, and 18 all begin and end their routes at the Salem Transit Mall, and overlap on some portion of River Road in Keizer. River Road between Chemawa Road and Lockhaven Drive is the only portion of River Road in Salem where all three routes overlap.

Table 4 Summary of Transit Service Frequency Analysis, Weekday Peak Hours

Headway	Routes	LOS
30 Minutes	Route 4	D
15 Minutes	Route 9	C
60 Minutes	Route 11	E
60 Minutes	Route 18	E

Hours of Service

Hours of service, also known as service span, are the number of hours during the day when transit service is available. The level-of-service thresholds, provided in the TCQSM, are shown in Table 5.

Table 5 Hours of Service LOS Thresholds: Fixed Bus Route

LOS	Hours per day	Comments
A	19-24	Night or owl service provided
B	17-18	Late evening service provided
C	14-16	Early evening service provided
D	12-13	Daytime service provided
E	4-11	Peak hour service/limited midday service
F	0-3	Very limited or no service

Source: TCQSM

Services that do not operate a minimum of 16 hours throughout the day are described by the TCQSM as undesirable to users. Few hours of service can cause unwanted time constraints on daily activities or trips because of the short time span of service availability. The hours of service summary for Keizer's fixed route services are shown in Table 6. As shown, Routes 4, 9, and 18 operate at LOS B, and Route 11, operates at LOS C. Based on the hours of service analysis, the City of Keizer allows for flexibility in personal schedules by providing late evening service. However, Routes 4, 9, 11, and 18 are not available as a late night option for travelers returning from late night shifts or evening entertainment.

Table 6 Summary of Hours of Service Analysis

Hours per day	Routes	LOS
17	Route 4	B
17	Route 9	B
16	Route 11	C
17	Route 18	B

Fare

The Cherriots transit system has three fare categories: Adult (Ages 19 to 59), Youth (Ages 6 to 18), and Special (Disabled, Medicare cardholders, or over 60 years old). There are five ways for Cherriots customers to pay their fare:

- **Exact Cash Fare** – The adult one-way fare is \$1.00 (\$2.00 for a day pass). The one-way "special" fare for seniors, the disabled, and Medicare cardholders is \$0.50 (\$1.00 for day pass), and the youth one-way fare is \$0.75 (\$1.50 for a day pass).
- **Day Pass** is twice the cost of a single fare, and offers unlimited rides all day.
- **Monthly Bus Pass** is good for unlimited riding for a calendar month.
- **Annual Bus Pass** is good for unlimited riding for a calendar year.
- **Cherricards** are punch cards good for up to 10 rides, plus an additional free ride.

Ridership

Average daily ridership data for all four bus routes was provided by the Transportation Development Division of the Salem Area Mass Transit District. The data was for the period January 1, 2006 to December 31, 2006. The analysis showed that of the four routes, Route 9 had the highest average daily ridership with 12,400 (4,100 in Keizer) total average daily boardings and alightings, representing more than twice as many riders as Routes 4, 11, and 18. Additionally, the Route 9 Chemawa Road/River Road stop had the highest average daily boardings and alightings of all stops in Keizer. *Appendix "C" includes ridership data for the four Cherriots bus routes serving Keizer.*

Paratransit

CherryLift is an origin to destination paratransit service for people whose disability prevents them from using the Cherriots buses some of, or all of the time. As referenced in the *Specialized Transportation Plan for Polk and Marion Counties*, CherryLift provides curb-to-curb service to ADA-certified persons unable to ride Cherriots. CherryLift operates ten to twelve vehicles daily and provides approximately 60,000 rides annually. A 24-hour advanced reservation is required to ride CherryLift. Service hours and days parallel those of Cherriots. The fare is \$2.00 each way and can be paid in either cash or using a CherryLift ticket.

Amtrak

The closest Amtrak facility providing intercity rail travel is located in Salem. The Amtrak Cascades line and the Coast Starlight line serve the Salem Amtrak facility. The Amtrak Cascades line provides service between Eugene-Springfield, Oregon and Vancouver, British Columbia, and the Coast Starlight line provides service between Los Angeles, California and Seattle, Washington.

Greyhound

The closest intercity bus facility is the Salem Greyhound station located in Salem. The Greyhound station and ticketing office is open Monday through Saturday from 7:00 a.m. to 8:00 p.m., on Sundays from 7:00 a.m. to 9:00 a.m. and 11:30 a.m. to 8:00 p.m., and on holidays from 7:00 a.m. to 2:30 p.m.

AIR

While no airport exists in Keizer, commercial air service is available from the Salem Municipal Airport, or McNary Field. McNary Field is located four-miles south of Keizer and is accessible via I-5. The 751-acre airport also serves general aviation aircraft, the Oregon Army National Guard-Army Aviation Support Facility, and a Federal Express office and package reload facility.

Delta Airlines' connection carrier, SkyWest, recently began commercial service to and from this airport. SkyWest provides two flights daily from Salem Airport to Salt Lake City for other national and international Delta Airlines connecting flights. The first flight departs at 6:15 a.m., and arrives in Salt Lake City at 9:00 a.m., early enough for connecting flights throughout the country. The second flight departs from Salem Airport at 12:50 p.m. and arrives in Salt Lake City at 3:35 p.m., in time for late afternoon and evening connecting flights. Flights arrive from Salt Lake City at 12:07 p.m. and 9:55 p.m.

Ground transportation options to McNary Field include:

- **Personal Vehicle:** Free parking is provided at McNary Field.
- **Cherriots:** Route 7 serves the airport from downtown Salem with 30-minute headways.
- **Car Rental:** Hertz, Budget, Avis
- **Hut Limousine Service** provides regularly scheduled ground transportation between McNary Field and Portland.

In addition, Portland International Airport (PDX) is the principle airport in the State of Oregon, and is located 50-miles to the north.

FREIGHT

A rock quarry is located in west Keizer on Chemawa Road. Trucks from the quarry reach I-5 via Chemawa Road and Lockhaven Drive. Additionally, there are three commercial/distribution centers: Advantage Transportation Services located near the intersection of Cherry Avenue/Salem Parkway, Cummings Moving Systems, located near the intersection of Lockhaven Drive/River Road, and CAD NW Conveyored Aggregate Delivery, also located near the intersection of Lockhaven Drive/River Road. Finally, Salem Parkway at the southern edge of the city is also a major truck route, providing access between I-5 and Salem. Figure 10 displays existing freight, railroad and pipeline facilities.

RAIL

The existing railway through Keizer crosses the southern Keizer city limits near Ridge Drive, heads due north and exits the city limits on its northern border. The sole rail crossing in Keizer is located at the intersection of Lockhaven Drive/Ridge Road, and has a new-gated warning signal, as well as railroad crossing signs. This line has been leased to, and is operated by, Portland and Western (P & W) Railroad. P&W, is a wholly owned subsidiary of Genesee & Wyoming Inc., and operates a 520-mile regional system. It is currently a freight rail line; however, there have been preliminary plans considering connections to the new commuter rail facilities between Beaverton and Wilsonville in the Portland Metropolitan area.

In addition, P&W has a line running on the northeast edge of Keizer. This P&W line consists of 18.9 miles of through track running north-south, parallel to, and just west of I-5.

WATER

The Willamette River is located along the west side of the city of Keizer and does not include any port or harbor facilities within the Keizer area. Near Keizer, the Willamette River is approximately 500-feet wide and 4 to 16 feet deep.

The Wheatland Ferry, located approximately four miles north of Keizer on Matheny Road, provides passenger service across the Willamette River in Marion County. The ferry connects with Wheatland Road in Yamhill County. The facility is open year-round, but is closed Thanksgiving & Christmas Days and when the depth of the Willamette River is greater than 16-feet.

The Wheatland Ferry operates daily from 5:30 AM to 9:45 PM, with the following tolls:

- Motorcycles – \$1
- Autos & Pickups – \$1.35
- Vehicles w/Trailers – \$2.75
- Vehicles Over 20 Feet – \$2.75
- Dual-Axle Vehicles – \$4
- Vehicles Using Entire Ferry – \$12
- Toll Tickets:
 - \$54 buys a 48 punch ticket
 - \$27 buys a 24 punch ticket

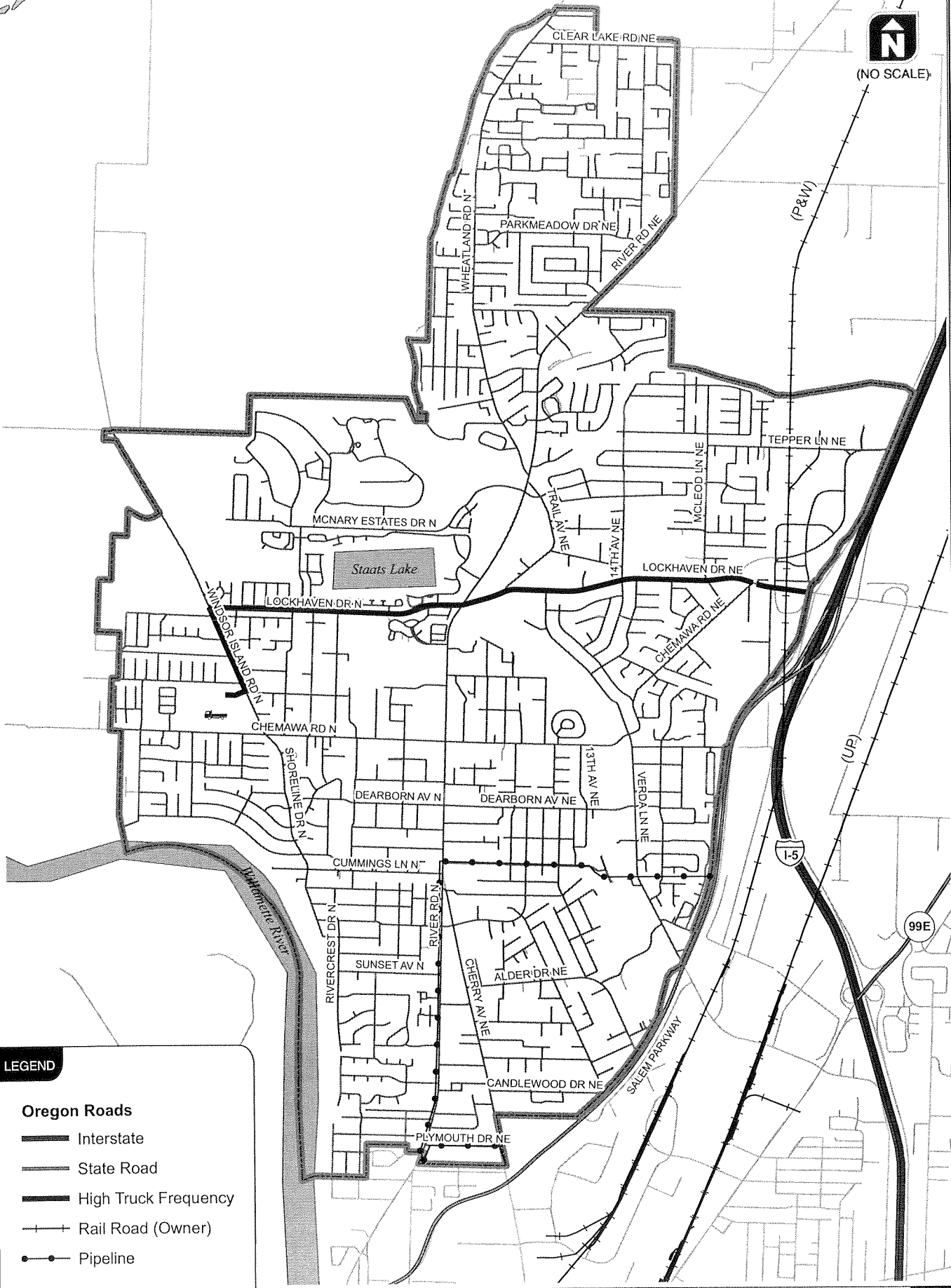
The Wheatland Ferry can carry up to nine vehicles per trip, corresponding to a maximum weight of 80,000 lbs (40 tons) and a maximum length of 63'. The ferry ride across the river is less than two minutes, and the ferry runs continuously throughout the day. The ferry carries approximately 750 cars per day in the winter and 950 cars a day in the summer. According to Marion County Public Works, most of the passengers are commuters, with equal crossings both directions.

PIPELINE

Pipelines are generally the most economical way to transport large quantities of oil or natural gas over land. Compared to railroads, they have lower cost per unit, are higher capacity, and reduce traffic impacts on the roadway system.



(NO SCALE)



LEGEND

Oregon Roads

- Interstate
- State Road
- High Truck Frequency
- Rail Road (Owner)
- Pipeline

**EXISTING FREIGHT, RAILROAD AND PIPELINE FACILITIES
KEIZER, OREGON**

Northwest Natural Gas manages all pipelines in Keizer. Most of the pipelines feeding houses and public buildings have a diameter of less than 5 inches. Two feeder pipelines provide service to Keizer. The first feeder pipeline comes from Salem, and runs under the west side of River Road. It turns towards east on Dietz Avenue, which becomes Lawless Street. The pipeline has a diameter of 8.625 inches, first traveling south, and then turning east, undergoing an offset of 200 feet. It then continues east, traveling under a residential area, before exiting Keizer.

The second feeder pipeline branches off the first one under the River Road/Plymouth Drive intersection, and follows Plymouth Drive east along the centerline of the roadway. The pipeline then goes south on Cherry Avenue for 400 feet and exits Keizer towards the nearby industrial area. This pipeline is 6.625 inches in diameter, and does not feed any infrastructure in Keizer.

Existing Traffic Volumes and Traffic Operations

INTERSECTION OPERATIONS

Traffic operations at intersections are generally described using a measure known as "level of service" (LOS). Level of service represents ranges in the average amount of delay that motorists experience when passing through the intersection. LOS is measured on an "A" (best) to "F" (worst) scale. At signalized and all-way stop-controlled intersections, LOS is based on the average delay experienced by all vehicles entering the intersection. At two-way stop-controlled intersections, LOS is based on the average delay experienced by the worst movement at the intersection, typically a left-turn from the stop-controlled street. For signalized intersections, LOS "D" or better (representing no more than 55 seconds of average delay) is commonly considered acceptable operations. For unsignalized intersections, LOS "E" or better (representing no more than 50 seconds of average delay) is generally considered to be acceptable operations.

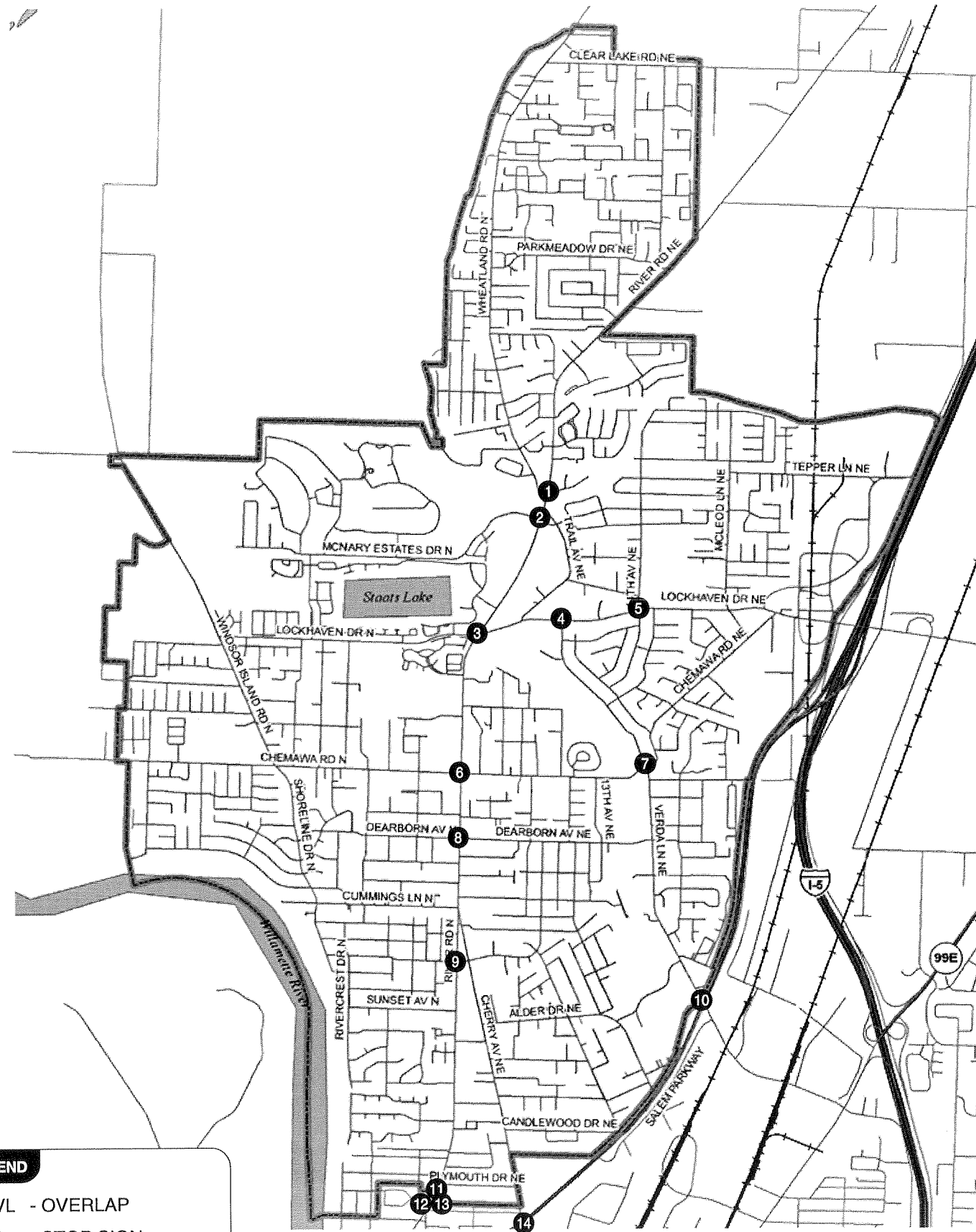
The Salem Parkway is an ODOT owned and maintained highway that is subject to the operations standards defined the 1999 Oregon Highway Plan. According to the latest update to Table 7 in the 1999 Oregon Highway Plan, a signalized intersection on a Regional Highway (Expressway) with a posted speed greater than or equal to 45 mph is required to operate at or below a volume-to-capacity ratio of 0.85 during the peak hours.

All of the operational analyses described in this report were performed in accordance with the level of service analysis procedures stated in the *2000 Highway Capacity Manual* (Reference 6). A total of 12 intersections were identified for traffic operations analysis through recommendations from City Staff. ODOT provided traffic volumes for the study intersections counted in the summer of 2007¹. Figure 11 shows the existing lane configuration and traffic control devices for the study intersections, and Figures 12 and 13 show the traffic volumes and results of the operations analysis for the weekday a.m. and p.m. peak hours, respectively. *Appendix "D" includes the traffic counts, and Appendix "E" includes the intersection operations worksheets.*

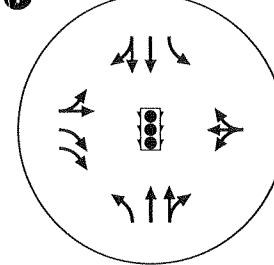
¹ It should be noted that the traffic counts were taken during the bridge closure on Dearborn Avenue. However, based on consultation with City staff and a review of the traffic volumes, it was determined that the bridge closure did not have a significant impact on overall travel patterns within the City.



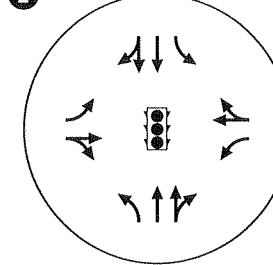
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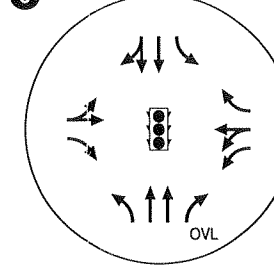
1 River and Wheatland



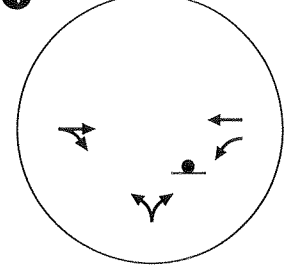
2 River and Manzanita



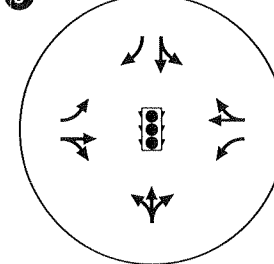
3 River and Lockhaven



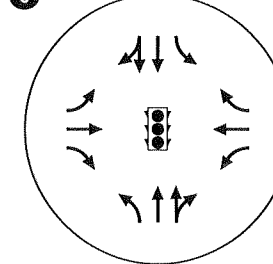
4 Lockhaven and Verda



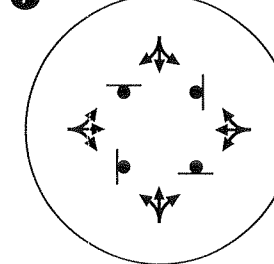
5 Lockhaven and 14th



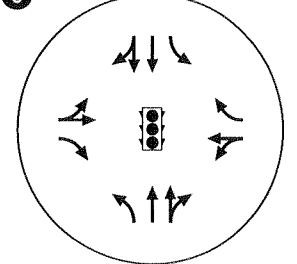
6 River and Chemawa



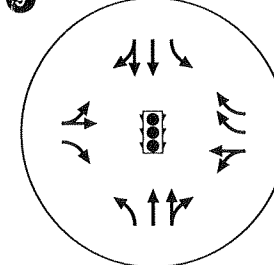
7 Verda and Chemawa



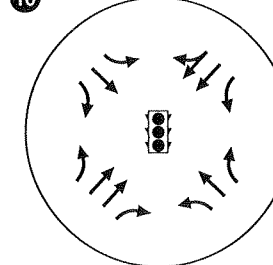
8 River and Dearborn



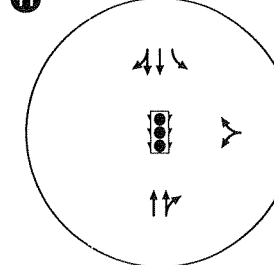
9 River and Manbrin



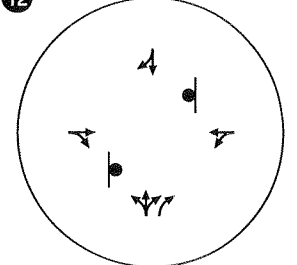
10 Verda and Salem Parkway



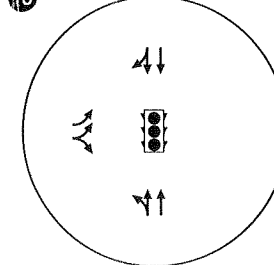
11 River and Shangri



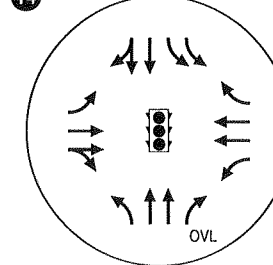
12 River and Stark



13 River and Broadway



14 Salem Parkway and Cherry

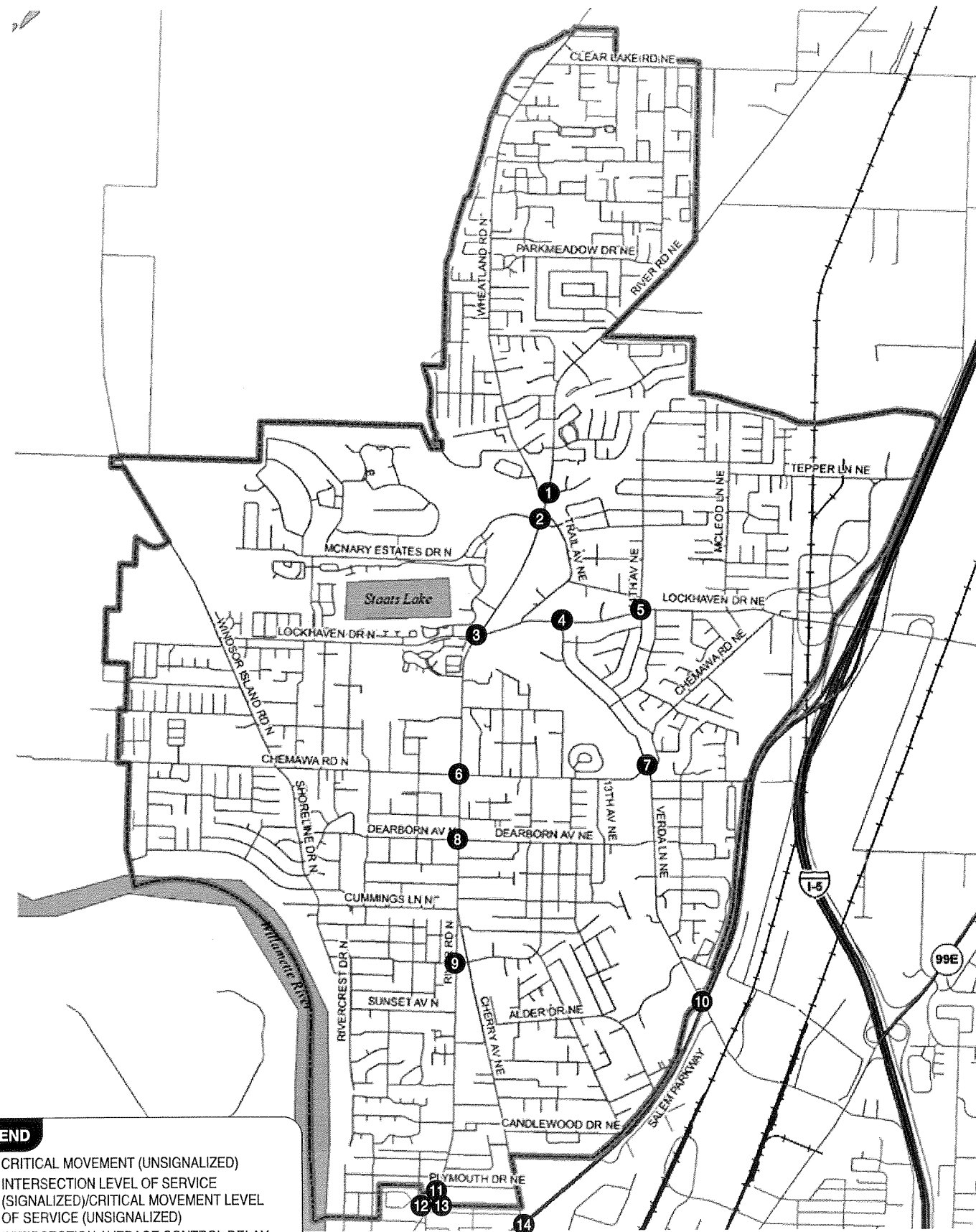


LEGEND

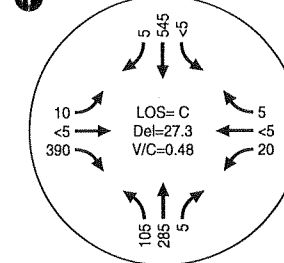
- OVL - OVERLAP
- - STOP SIGN
- ⬇️ - TRAFFIC SIGNAL

EXISTING LANE CONFIGURATION
KEIZER, OREGON

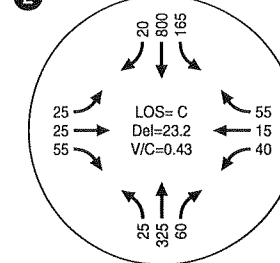
FIGURE
11



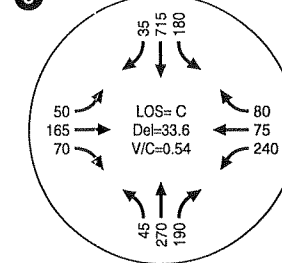
1 River and Wheatland



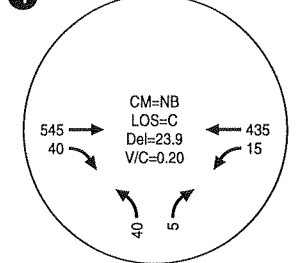
2 River and Manzanita



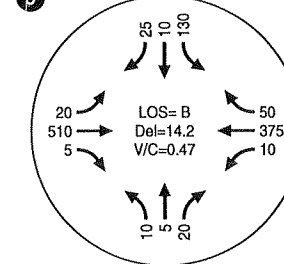
3 River and Lockhaven



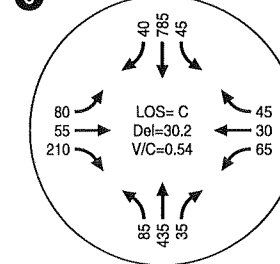
4 Lockhaven and Verda



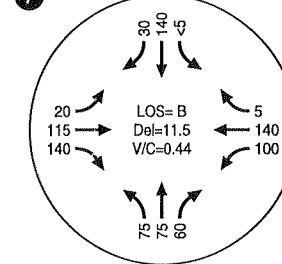
5 Lockhaven and 14th



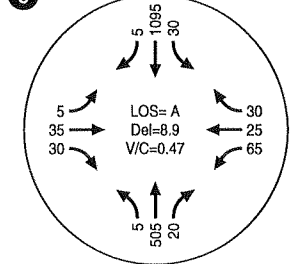
6 River and Chemawa



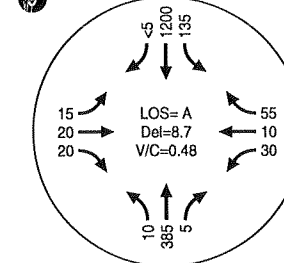
7 Verda and Chemawa



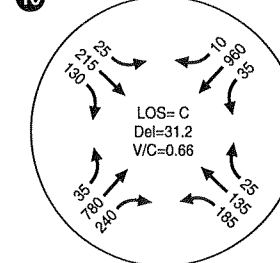
8 River and Dearborn



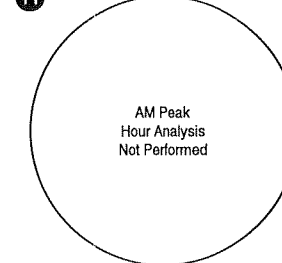
9 River and Manbrin



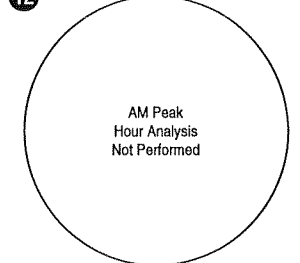
10 Verda and Salem Parkway



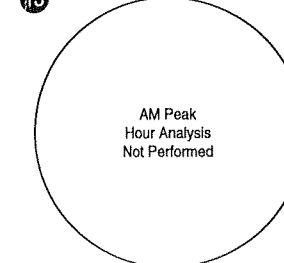
11 River and Shangri



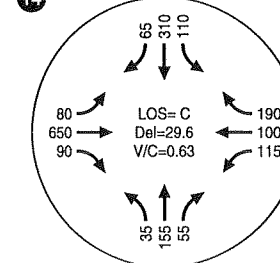
12 River and Stark



13 River and Broadway



14 Salem Parkway and Cherry



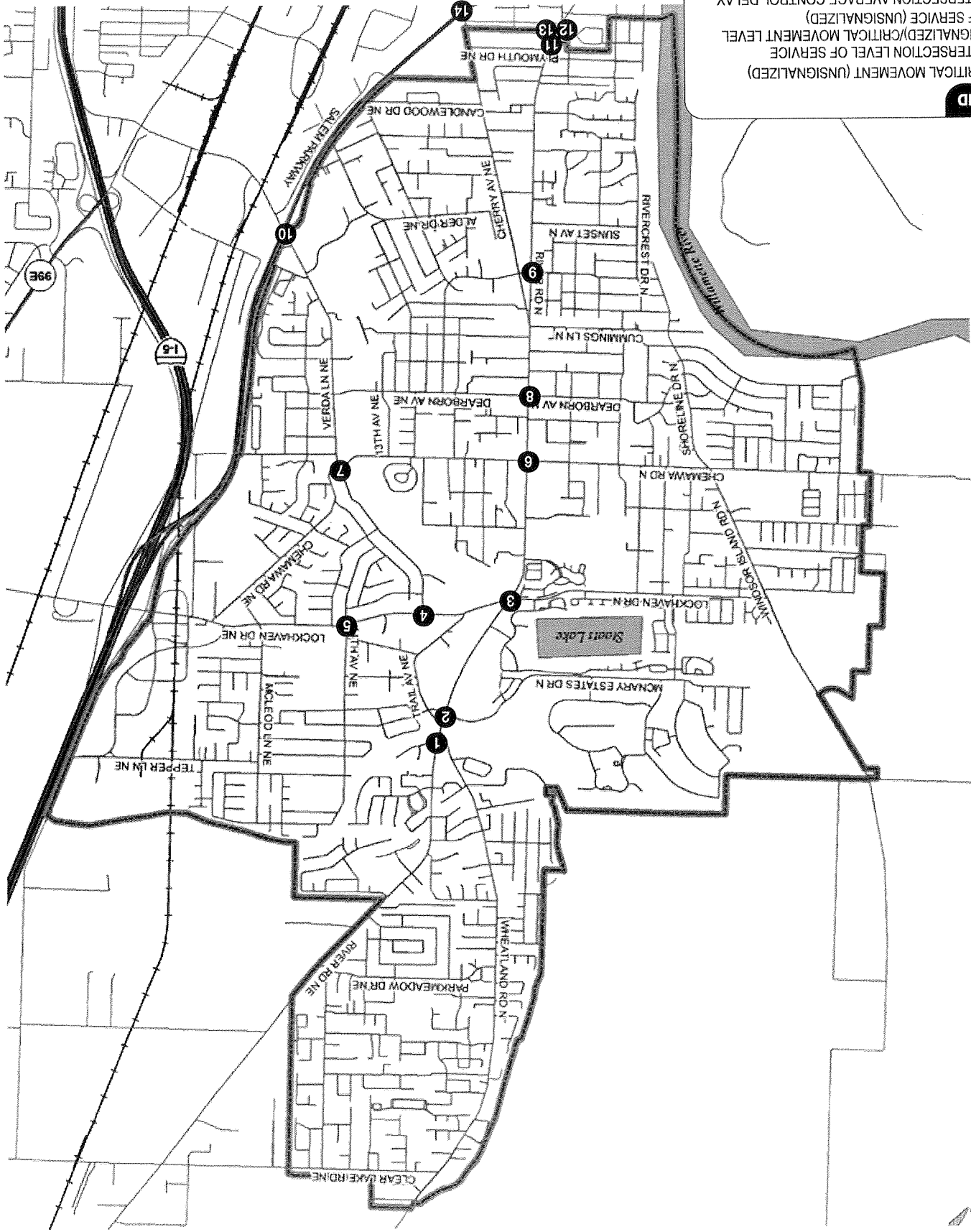
LEGEND

CM = CRITICAL MOVEMENT (UNSIGNALIZED)
 LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)
 Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

EXISTING TRAFFIC CONDITIONS AM PEAK HOUR
KEIZER, OREGONFIGURE
12

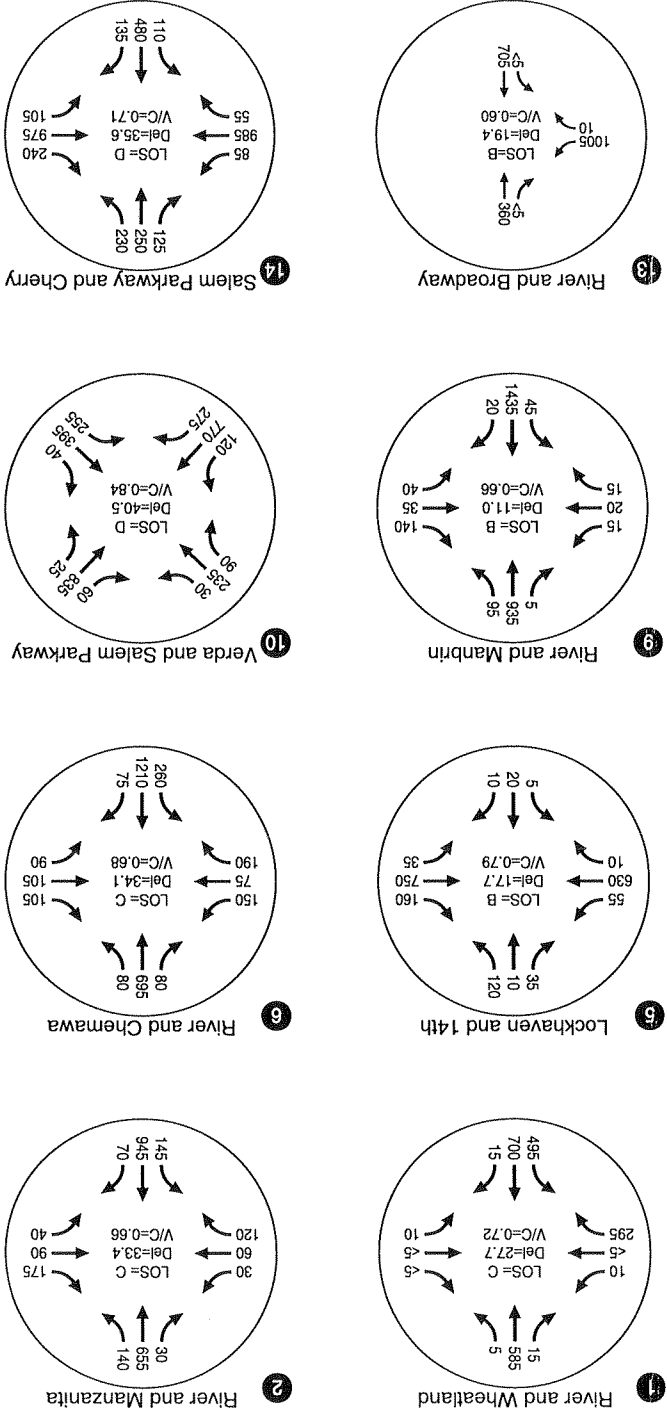


(NO SCALE)



CM = CRITICAL MOVEMENT (UNSIGNALED)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALED)
DdI = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALED)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

LEGEND



EXISTING TRAFFIC CONDITIONS PM PEAK HOUR
KEIZER, OREGON

Signalized Intersections

All signalized study intersections along City of Keizer arterials and collectors currently operate at LOS D or better. Along the Salem Parkway, the signalized study intersections at Cherry Avenue and Verda Lane currently operate at acceptable volume-to-capacity ratios.

Unsignalized Intersections

During the existing weekday p.m. peak hour, the Lockhaven Drive/Verda Lane intersection operates at LOS F due to the critical shared northbound left/right movement. All other traffic movements through this intersection currently experience acceptable levels of service. The shared northbound left/right movement on Verda Lane is currently under capacity with a v/c ratio of 0.46, and it is likely that adequate gaps exist in traffic on Lockhaven Drive due to the signalized intersections of River Road/Lockhaven Drive, and 14th Avenue/Lockhaven Drive surrounding the intersection.

Safety

STUDY INTERSECTIONS CRASH REVIEW

ODOT provided detailed crash data, and collision diagrams for all crashes that occurred at the study intersections for the five-year period from January 1, 2002 to December 31, 2006. These data were analyzed to determine crash rates for all study intersections, as shown in Table 7. The rates shown are per million entering vehicles (MEV). Figure 14 displays the crash count at the study intersections. *Appendix "F" contains the crash data, and Appendix "G" contains the collision diagrams.*



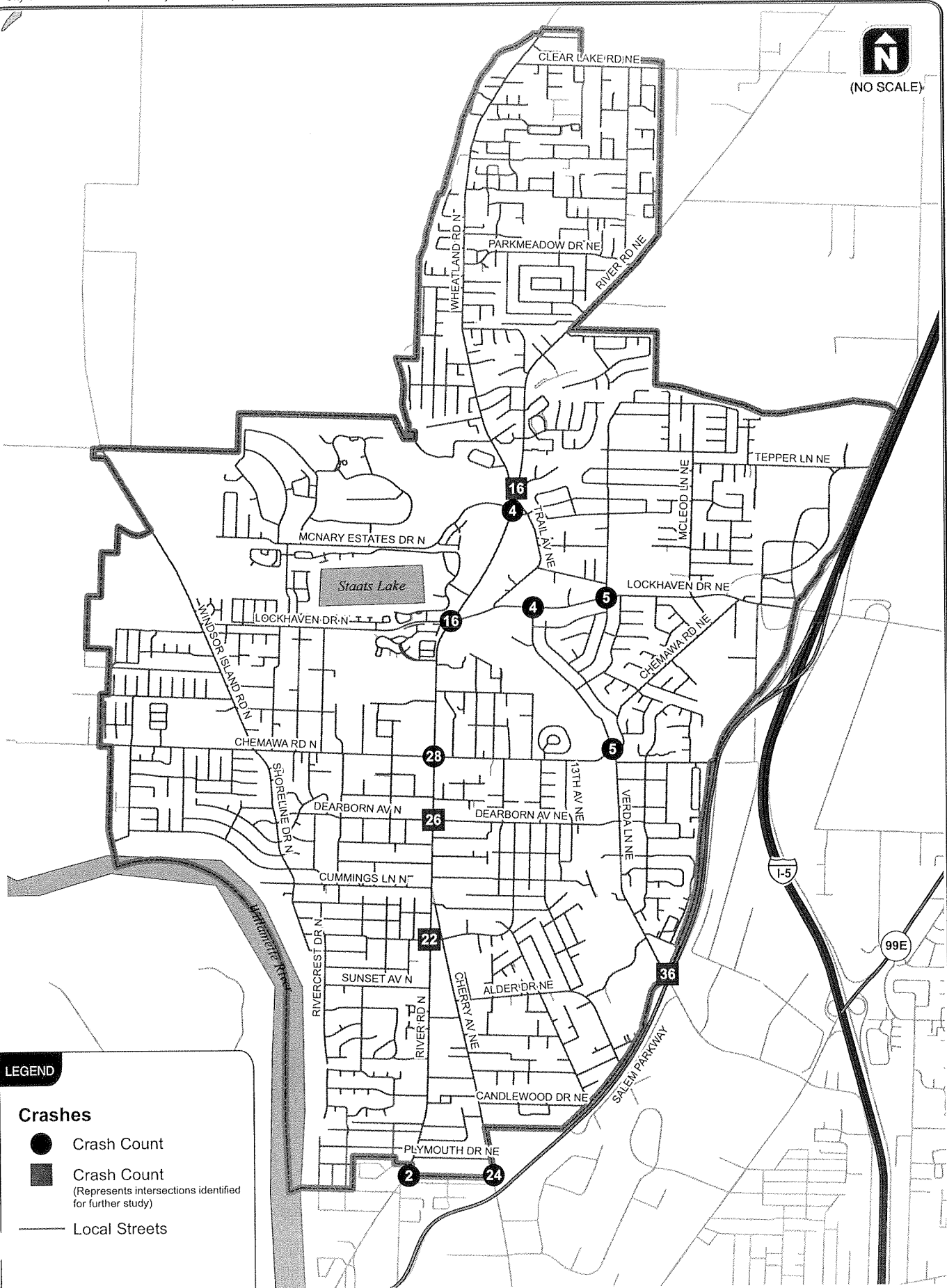
City of Keizer TSP Refinement and Update

City of Keizer TSP Refinement and Update

LEGEND

Crashes

- Crash Count
- Crash Count
(Represents intersections identified for further study)
- Local Streets



**CRASH COUNTS FOR STUDY INTERSECTIONS
KEIZER, OREGON**

Table 7 Study Intersections Crash Rates (January 2002 – December 2006)

Intersection	Crashes	Fatalities	Total 24 Hour Volumes*	Crash Rate per MEV**
Four-way Signalized Intersections (Average Crash Rate: 0.31)				
River Road/Lockhaven Drive	16	0	38,648	0.23
River Road/Chemawa Road	28	0	37,648	0.41
River Road/Manbrin Drive	22	0	33,641	0.36
Salem Parkway/Cherry Avenue	24	0	43,027	0.31
Verda Lane/Salem Parkway	36	0	37,367	0.53
River Road/Dearborn Avenue	26	0	36,270	0.39
Lockhaven Drive/14 th Avenue	5	0	22,230	0.12
River Road/Manzanita Street	4	0	27,925	0.08
River Road/Wheatland Road	16	0	23,365	0.38
Three-way Signalized Intersection				
River Road/Broadway Street	2	0	31,537	0.03
Unsignalized Intersections				
Verda Lane/Chemawa Road	5	0	11,840	0.23
Lockhaven Drive/Verda Lane	4	0	20,654	0.11

*16 hour counts obtained from ODOT, and factored with a multiplier of 1.10 consistent with ODOT methodology

**Crash rate per MEV = (Number of crashes)*1 million/(24 Hour Volume*365 days per year*5 years of crash data)

As shown above the crash rate at the intersection of River Road/Broadway street is very low. Based on this low rate, and the low crash frequency, no further safety analysis is recommended at this intersection. Similarly, because of the low crash frequency during the five year study period the intersections of Verda Lane/Chemawa Road, and Lockhaven Drive/Verda Lane were eliminated from further investigation.

The crash rates for four-way signalized intersections varied between 0.08 at the intersection of River Road/Manzanita Street, and 0.53 at the intersection of Verda Lane/Salem Parkway. The average rate for four-way signalized intersections was 0.31. With the large variance in these crash rates, it was difficult to identify intersections for further analysis based on crash rates alone. Therefore, the rate-quality control criteria method was used to establish a threshold in identifying intersections for a more detailed crash analysis.

Appendix "H" provides an overview of the rate-quality control criteria methodology. In summary rate-quality control criteria method compares the crash rate for each intersection to the average crash rate for other similar study intersections within the study area. A major benefit of using rate-quality control analysis is that it identifies the locations within a study area that are performing worse than peer intersections, and consequently may have room for safety improvements.

The method produces the “critical crash rate” for the intersection. Each intersection has a different critical crash rate which takes into account both facility type and traffic volumes. If the crash rate for a facility is greater than that facility’s critical crash rate, then the facility has a significantly higher crash rate than would be expected given its design characteristics.

In the case of Keizer, the crash rates for the eight four-way-signalized study intersections were compared to each other to determine whether the specific intersection has a crash rate significantly worse than the would be average crash rate for other four-way-signalized study intersections.

Table 8 Study Intersections Rate-Quality Control Criteria Method Summary (January 2002 – December 2006)

Intersection	Crash Rate per MEV	Critical Crash Rate	Exceeds Critical Crash Rate?
Four-way Signalized Intersections (Average Crash Rate: 0.31)			
River Road/Lockhaven Drive	0.23	0.43	No
River Road/Chemawa Road	0.41	0.43	No
River Road/Manbrin Drive	0.36	0.44	No
Salem Parkway/Cherry Avenue	0.31	0.42	No
Verda Lane/Salem Parkway	0.53	0.43	Yes
River Road/Dearborn Avenue	0.39	0.43	No
Lockhaven Drive/14 th Avenue	0.12	0.47	No
River Road/Manzanita Street	0.08	0.45	No

Shading represents intersections exceeding the critical crash rate and have been identified for further study.

As shown in Table 8, the intersection of Verda Lane/Salem Parkway intersection was identified for further study because the calculated crash rate of 0.53 exceeded the calculated critical crash rate of 0.43.

A review of the crash type and severity data, collision diagrams, and intersection geometry was also conducted, and is summarized in Table 9. It is notable that there were no fatalities at any of the project study intersections during the five year period of crash data under review. Based on this review, the intersections of River Road/Manbrin Drive, and River Road/Dearborn Avenue were identified for further study due to the relatively high number of turning-movement collisions, and injury accidents. Additionally, the intersection of River Road/Wheatland Road was identified for further review due to the complexity of the intersection involving off-setting eastbound and westbound approaches, and the curvature of the eastbound approach in close proximity to the signal.

A further review of each of the identified four intersections is presented below.

Table 9 Intersection Crash Type and Severity

Intersection Name	No. of Crashes	Collision Type						Severity	
		Rear-End	Turning	Angle	Head-On	Ped/ Bike	Fixed Object	PDO*	Injury
Four-way Signalized Intersections									
River Road/Lockhaven Drive	16	11	2	1	-	1	1	8	8
River Road/Chemawa Road	28	18	7	1		2	-	11	17
River Road/Manbrin Drive	22	6	12	3	-	1	-	9	13
Salem Parkway/Cherry Avenue	24	15	5	4		-	-	8	16
Verda Lane/Salem Parkway	36	22	9	5	-	-	-	18	18
River Road/Dearborn Avenue	26	7	10	6		3	-	5	21
Lockhaven Drive/14 th Avenue	5	2	1	1	1	-	-	2	3
River Road/Manzanita Street	4								
River Road/Wheatland Road	16	10	4	2	-	-	-	11	9
Three-way Signalized Intersections									
River Road/Broadway Street	2	2	-	-		-		1	1
Unsignalized Intersections									
Verda Lane/Chemawa Road	5	-	1	4	-	-	-	3	2
Lockhaven Drive/Verda Lane	4	-	3	1	-	-	-	3	1

Shading represents intersections identified for further study in the rate-quality control criteria method and based on a review of intersection crash type and severity, intersection geometry.

*PDO: Property Damage Only

River Road/Manbrin Drive

The River Road/Manbrin Drive intersection was identified for further study because of the relatively high number of turning-movement collisions, and injury accidents. A review of collision diagrams provided by ODOT revealed a high number of accidents on the conflicting southbound left turn and northbound through movements. Additional analysis and field review of intersection geometry and signal timing is warranted based on the results of this preliminary analysis.

Verda Lane/Salem Parkway

The Verda Lane/Salem Parkway intersection was identified for further study because the calculated crash rate of 0.53 exceeded the calculated critical crash rate of 0.43. A review of collision diagrams provided by ODOT revealed a high number of rear-end accidents on the southbound Salem Parkway approach.

This issue could be caused by motorists traveling at high speeds on Salem Parkway after exiting I-5 and not ready for the signal at Verda Lane/Salem Parkway. Additionally, the southbound right-turn movement is constructed as a bypass; however, there is not an established separate lane on the southbound approach to the intersection. While making the southbound right-turn movement, vehicles could suddenly stop for a pedestrian using the crosswalk or while yielding to traffic on Verda Lane, potentially causing a crash with a vehicle seeking to go through the intersection unaware of the sudden stop. Additionally, vehicles traveling northbound could be accelerating towards I-5, and not be aware of the signal at Verda Lane/Salem Parkway.

The collision diagrams also revealed two bicycle accidents that were classified as a turning movement accident and an angle accident, and not included as pedestrian/bicycle collisions in the intersection crash type and severity data. Additional analysis and field review of intersection geometry and signal timing is warranted based on the results of this preliminary analysis.

River Road/Dearborn Avenue

The River Road/Dearborn Avenue intersection was identified for further study because of the relatively high number turning-movement collisions, and injury accidents. The collision diagrams showed a variety of collision types, and no distinct patterns were found. Additional analysis and field review of intersection geometry and signal timing is warranted based on the results of this preliminary analysis.

River Road/Wheatland Road

The River Road/Wheatland Road intersection was identified for further study because of the complexity of the intersection involving off-setting eastbound and westbound approaches, and the curvature of the eastbound approach in close proximity to the signal. In addition, the collision diagrams showed a potential issue with the northbound left-turn movement, and revealed that there could also be issues with sneakers –vehicles attempting to make the northbound left-turn movement during the yellow or all-red clearance interval. The northbound left-turn will be the focus of future investigations at the River Road/Wheatland Road intersection as additional analysis and field review of intersection geometry and signal timing is warranted based on the results of this preliminary analysis.

Conclusion

The existing City of Keizer transportation system effectively manages the majority of auto travel demand throughout the city. Arterials and collector streets are the primary means of mobility for residents of Keizer, and are the focus of the existing conditions analysis. The following sections provide a brief overview of the major findings:

TRANSPORTATION MODES AND FACILITIES

Roadway Facilities

A review of current jurisdictional responsibility, functional classification and design standards was conducted as part of the existing conditions analysis, with the results included herein. No issues were identified in regards to jurisdictional responsibility or functional classification. However, a review of design standards revealed that Keizer's current local street design standards are not consistent with the *Neighborhood Street Design Guidelines*.

A review of pavement conditions is forthcoming pending data from the City of Keizer

Pedestrian and Bicycle Facilities

Much of Keizer is well covered by the sidewalk network, especially the area of the city located north of Lockhaven Drive. However, the area approximately between the Shoreline Drive to the west, River Road to the east, Sunset Avenue to the south, and Lockhaven Drive to the north however, has very few roadways with sidewalks. Several pedestrian generators, including: including the Keizer Little League Park, the Volcanoes Stadium, Claggett Creek Park, McNary High School, and River's Edge Park lack pedestrian facilities.

Based on the City's most recent inventory of the existing bicycle facilities, it was found that there are a suitable number of dedicated bicycle routes within the City of Keizer. Additionally, most of the major bicycle-trip generators are located on the bicycle network or have a local street connection to the bike network. In addition to several collectors without dedicated bike facilities, River Road south of Chemawa Road is the only arterial without dedicated bike lanes.

Public Transportation

The regional transit system is called "Cherriots," or "Salem - Keizer Transit," and provides public transportation services within the urban growth boundaries of Salem and Keizer. The Cherriots network is composed of 27 bus routes, with four routes: Routes 4, 9, 11 and 18, providing service to, from and within Keizer. An analysis revealed that Cherriots could be more attractive to choice riders, riders who have the option of taking their car or public transit, if the service frequency was improved. However, Cherriots does provide good service for captive riders, riders who lack an acceptable alternative to transit by providing good hours of service (6:00 a.m. to 10:00 p.m.).

Air, Water, Freight and Pipeline

Air, freight, rail, water, and pipeline transportation was also reviewed, with no issues identified. While no airport currently exists in Keizer, commercial air service is available from the nearby Salem Municipal Airport. Transportation is provided on the Willamette River via the Wheatland Ferry, located approximately four miles north of Keizer on Matheny Road, and provides passenger service across the Willamette River connecting with Wheatland Road in Yamhill

County. A review of freight service in Keizer showed that Lockhaven Drive and Salem Parkway are the primary freight corridors in the City of Keizer. Lastly, a review of pipelines in Keizer revealed two feeder pipelines managed by Northwest Natural Gas.

EXISTING TRAFFIC VOLUMES AND TRAFFIC OPERATIONS

A review of existing traffic volumes and traffic operations revealed that the signalized intersection of River Road/Lockhaven Drive currently operates at LOS E, with a volume-to-capacity (v/c) ratio of 0.96 during the weekday p.m. peak hour. All movements at the River Road/Lockhaven Drive intersection operate under capacity, but the southbound left-turn movement and the shared eastbound through/left movement operate at a LOS F.

Additionally, the unsignalized Lockhaven Drive/Verda Lane intersection operates at LOS F due to the critical shared northbound left/right movement. The shared northbound left/right movement on Verda Lane is currently under capacity with a v/c ratio of 0.46, and it is likely that adequate gaps exist in traffic on Lockhaven Drive due to the signalized intersections of River Road/Lockhaven Drive, and 14th Avenue/Lockhaven Drive surrounding the intersection.

SAFETY

The rate quality control criteria method was used to evaluate safety data in Keizer, and identified one intersection for further study: Verda Lane/Salem Parkway, and. In addition, a review of crash type and severity data, and intersection geometry was also conducted. Based on this review, two additional intersections were identified for further study: River Road/Manbrin Drive, River Road/Dearborn Avenue, and River Road/Wheatland Road. There were no fatalities during the study period at any of the study intersections.

Next Steps

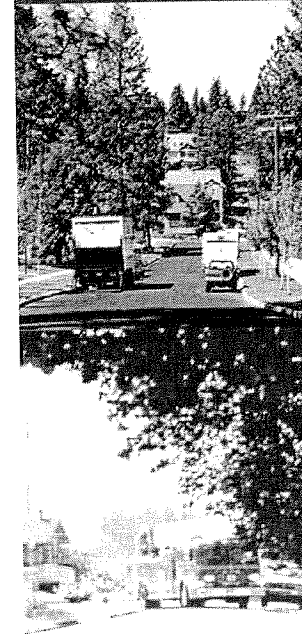
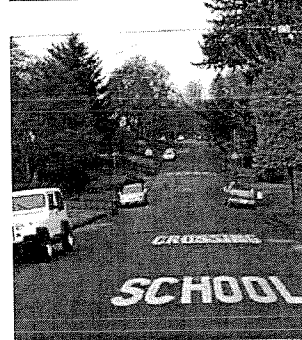
Following the Technical Advisory Committee's (TAC) review and discussion of this memo, an open house will be scheduled to hear viewpoints from the public and allow for community response and comments. Using what was learned in the open house, this memo will be updated, and the issues identified here will be considered in combination with the results of the future conditions analysis.

References

1. City of Keizer Transportation System Plan, September 2000, Amended May 2004
2. ODOT Sustainability Program
<http://www.oregon.gov/ODOT/SUS/accessibility_mobility.shtml>
3. Neighborhood Street Design Guidelines

4. Specialized Transportation Plan for Polk and Marion Counties
[www.cherriots.org/Documents/5 Year Coordination Plan.pdf](http://www.cherriots.org/Documents/5%20Year%20Coordination%20Plan.pdf)
5. Transit Capacity and Quality of Service Manual – 2nd Edition
6. 2000 Highway Capacity Manual

Appendix "A"
Neighborhood Street
Design Guidelines



NEIGHBORHOOD STREET DESIGN GUIDELINES

*An Oregon Guide
for Reducing Street Widths*

**A Consensus Agreement
by the Stakeholder Design Team**

**November
2000**

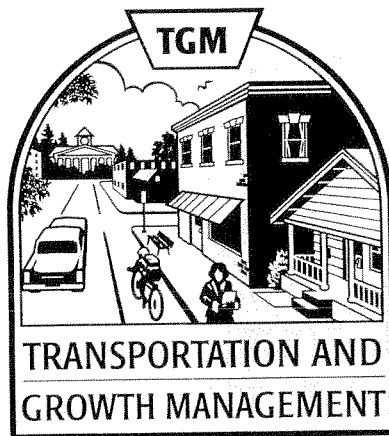
**Prepared by the
Neighborhood Streets
Project Stakeholders**

This guidebook is dedicated to the memory of

Joy Schetter

*who passed away before she could see the
remarkable success of this project.*

*Joy's leadership, hard work, calm manner, and
ability to work with all of the stakeholders
were key factors in that success.*



*Funding for this project was provided from
two State of Oregon programs:*

the Public Policy Dispute Resolution Program
and
the Transportation and Growth Management
(TGM) Program.

TGM is a joint program between the
Oregon Department of Transportation and the
Department of Land Conservation and Development.

The TGM Program relies on funding from the
Federal Transportation Efficiency Act
for the Twenty-First Century (TEA -21)
and the State of Oregon.

2nd Printing - June 2001

Includes minor clarifications to the sections on residential fire sprinklers (pages 9 and 16.)

JOHN A. KITZHABER, M.D.
GOVERNOR



February 16, 2001

To the Citizens of Oregon:

I am pleased to present to Oregon's communities a new publication called *Neighborhood Street Design Guidelines*. This handbook is a valuable tool for local governments. In workbook style, it recommends a process for development of street standards, provides important information to help communities consider and decide on the standards, and includes model designs as a starting point.

Street design, in particular street width, has been an important issue in Oregon for the past decade. Oregon's award-winning Transportation Planning Rule, adopted in 1991, requires local governments to minimize street width considering the operational needs of the streets. Also, citizens and planners in many Oregon communities, as well as towns across the country, have advocated for narrower streets as part of a larger movement to build more livable neighborhoods.

The desire to reduce the standards for street widths raises concerns about large vehicle access, especially emergency service providers who need to reach their destinations fast. The issue has resulted in heated debate in some communities and among state agencies and statewide organizations.

This document is the result of hard work and commitment of individuals who joined in a collaborative process to reconcile the multiple uses of our neighborhood streets. Many thanks to the Neighborhood Streets Project Stakeholders, Design Team members, and reviewers for the time and expertise they contributed to this effort.

John A. Kitzhaber, M.D.
Governor

PROJECT STAKEHOLDERS

These Guidelines have been endorsed by . . .

- Office of the State Fire Marshal
- Oregon Fire Chiefs Assoc.
- Oregon Fire Marshal's Assoc.
- Oregon Chiefs of Police Assoc.
- Oregon Refuse and Recycling Assoc.
- Oregon Building Industry Assoc.
- Oregon Chapter of the American Planning Assoc.
- Oregon Chapter of the American Public Works Assoc.
- Assoc. of Oregon City Planning Directors
- Livable Oregon, Inc.
- 1000 Friends of Oregon
- Oregon Department of Land Conservation & Development
- Oregon Department of Transportation
- Metro also supports the guidelines and has adopted a specific set of guidelines for the Portland metropolitan region.

*** Design Team Members**

The Design Team was responsible for the overall collaborative process with assistance from a facilitator and DLCD staff. The Design Team vested themselves with responsibility for negotiating the issues and guiding the development of this agreement.

Fire/Emergency Response

- * Bob Garrison (Office of State Fire Marshal)
- * Jeff Grunewald (Tualatin Valley Fire & Rescue)
- * Burton Weast (Oregon Fire District Directors' Association)
Gary Marshall (City of Bend Fire Marshal)
Ken Johnson (for Michael Sherman, Oregon Fire Chiefs Association)
Debbie Youmans (Oregon Chiefs of Police Association)

Service Providers

- Ron Polvi (NW Natural)
- Kristan Mitchell (Oregon Refuse and Recycling Association)
- John Fairchild (School Board Association)

Developers/Consultants

- * Ernie Platt (Oregon Building Industry Association)
- Rod Tomcho (Tennant Developments)
- Ryan O'Brien (LDC Design Group)

Transportation Engineers/Planners

- * Jim West (Institute of Transportation Engineers: Kimley-Horn Inc.)
Peter Fernandez (City of Salem)

Public Works

- * Byron Meadows (American Public Works Association, Oregon Chapter; Marion County Public Works Operations Supervisor)

Non-Profit Groups

- * Amber Cole Hall (Livable Oregon, Inc.)
Lynn Petersen (1000 Friends of Oregon)

City Representatives

- * John McLaughlin (City Planning Directors' Association;
Community Development Director, City of Ashland)
Cameron Gloss (City of Klamath Falls)
Jan Fritz (City Councilor of Sublimity)
Allen Lowe (City of Eugene Planning)
John Legros (City of Central Point Planning Commissioner)
Bob Dean (City of Roseburg Planning Commission Chair)
Margaret Middleton (for Randy Wooley, City of Beaverton Engineering)

County Representative/Planner

- Tom Tushner (Washington County)
Lori Mastrantonio-Meuser (County Planning Directors' Association)

Regional Government

Tom Kloster (and Kim White, Metro)

State Government

* Eric Jacobson (Department of Land Conservation and Development)

Amanda Puntton (Department of Land Conservation & Development)

Kent Belleque (for Jeff Scheick, Oregon Department of Transportation)

Project Managers

Joy Schetter, ASLA (Department of Land Conservation & Development)

Elaine Smith, AICP (Department of Land Conservation & Development)

Project Mediator/Facilitator

Keri Green (Keri Green and Associates, Ashland, Oregon)

*Many thanks to the
Neighborhood Streets Project Stakeholders,
Design Team Members, and the
Community of Reviewers
for the time and expertise
they contributed to this effort.*

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I. Introduction

The standards for the design of local streets, in particular the width of streets, has been one of the most contentious issues in local jurisdictions in Oregon for the past decade. The disagreements have also been fought at the state level among state agencies and advisory, advocacy, and professional groups that have sought to influence decisions made at the local level. Previous efforts of these groups to provide guidance have failed because of lack of consensus.

This document is the result of the hard work of a group of diverse stakeholders that finally developed that consensus. *Neighborhood Street Design Guidelines* was developed to help local governments consider and select neighborhood street standards appropriate for their communities. As the title attests, the handbook provides guidelines and is not prescriptive. The authors hope that the consideration of the guidelines and examples will stimulate creative ideas for street designs in local communities.

This guidebook explains the issues surrounding the width of neighborhood streets with respect to livability and access for emergency and other large vehicles. It recommends a community process for developing neighborhood street width standards, a checklist of factors that should be addressed in that process, street cross-sections, and a list of resources that provide additional information. The guidelines are intended for *local* jurisdiction streets that carry limited traffic, not collectors or arterials. They are not intended, nor are they to be used on state highways.

II. The Issues

Why Narrow Streets?

Streets are key determinants of neighborhood livability. They provide access to homes and neighborhood destinations for pedestrians and a variety of vehicle types, from bicycles and passenger cars to moving vans and fire apparatus. They provide a place for human interaction: a place where children play, neighbors meet, and residents go for walks and bicycle rides. The design of residential streets, together with the amount and speed of traffic they carry, contributes significantly to a sense of community, neighborhood feeling, and perceptions of safety and comfort. The fact that these may be intangible values makes them no less real, and this is often reflected in property values.

The width of streets also affects other aspects of livability. Narrow streets are less costly to develop and maintain and they present less impervious surface, reducing runoff and water quality problems.

The topic of automobile speeds on neighborhood streets probably tops the list of issues. Where streets are wide and traffic moves fast, cities often get requests from citizens to install traffic calming devices, such as speed humps. However, these can slow response times of emergency service vehicles creating the same, or worse, emergency response concerns than narrow streets.

Oregon's Land Conservation and Development Commission recognized the values associated with narrow street widths when it adopted the Transportation Planning Rule. The rule requires local governments to establish standards for local streets and accessways that minimize pavement width and right-of-way. The rule requires that the standards provide for the operational needs of streets, including pedestrian and bicycle circulation and emergency vehicle access.

Why Are Emergency Service Providers Concerned?

Street width affects the ability of emergency service vehicles to quickly reach a fire or medical emergency. Emergency service providers and residents alike have an expectation that neighborhood streets provide adequate space for emergency vehicles to promptly reach their destination and for firefighters to efficiently set up and use their equipment.

Fire equipment is large and local fire departments do not have full discretion to simply "downsize" their vehicles. Efforts by some departments to do this have generally not been successful, since these smaller vehicles did not carry adequate supplies for many typical emergency events.

The size of fire apparatus is driven, in part, by federal Occupational Health and Safety Administration (OSHA) requirements and local service needs. The regulations require that fire trucks carry considerable equipment and that firefighters ride completely enclosed in the vehicle. In addition, to save money, fire departments buy multi-purpose vehicles that can respond to an emergency like a heart attack or a traffic accident, as well as a fire. These vehicles typically provide the

first response to an emergency. An ambulance will then provide transport to a hospital, if needed. To accommodate the need to move the vehicles and access equipment on them quickly, the Uniform Fire Code calls for a 20-foot wide clear passage.

The risk of liability also raises concerns about response time and the amount of equipment carried on trucks. A successful lawsuit in West Linn, Oregon found that a response time of eight minutes was inadequate. The National Fire Protection Association, which is the national standard-setting body for the fire service, is proposing new rules that would require a maximum four-minute response time for initial crews and eight-minute response for full crews and equipment for 90% of calls. Fire departments have also been sued for not having the proper equipment at the scene of an accident. This puts pressure on departments to load all possible equipment onto a vehicle and increases the need to use large vehicles.

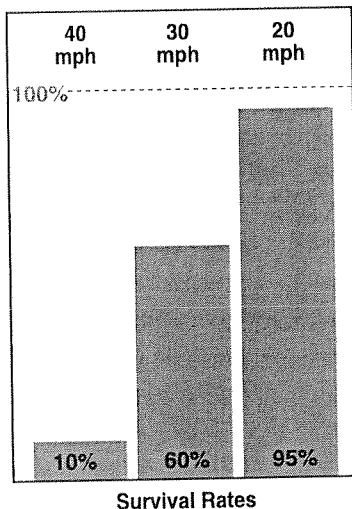
III. Background

Residential streets are complex places that serve multiple and, at times, competing needs. Residents expect a place that is relatively quiet, that connects rather than divides their neighborhood, where they can walk along and cross the street relatively easily and safely, and where vehicles move slowly. Other street users, including emergency service providers, solid waste collectors, and delivery trucks, expect a place that they can safely and efficiently access and maneuver to perform their jobs. Clearly, balancing the needs of these different users is not an easy task.

Oregon's cities reflect a variety of residential street types. In many older and historic neighborhoods built between 1900 and 1940, residential streets typically vary in width in relation to the length and function of the street. In many cases, a typical residential street may be 24 feet to 28 feet in width with parking on both sides. However, it is not uncommon to find streets ranging from 20 feet to 32 feet in width within the same neighborhood. Newer subdivisions and neighborhood streets built since 1950 tend to reflect a more uniform design, with residential streets typically 32 feet to 36 feet in width with parking on both sides and little or no variation within a neighborhood.

Designs For Livability. Over the last decade, citizens, planners, and public officials throughout the United States have expressed increased interest in development of compact, pedestrian-friendly neighborhoods. The design of neighborhood streets is a key component in this effort. Nationally, the appropriate width and design of neighborhood streets has been the subject of numerous books and articles targeted not just to the planning and development community, but also the general population. In May 1995, *Newsweek* magazine featured an article on neotraditional planning that listed reducing the width of neighborhood streets as one of the "top 15 ways to fix the suburbs." In addition, developments such as Kentlands in Maryland and Celebration in Florida have gained fame by incorporating many of the features of traditional, walkable neighborhoods and towns, including narrow neighborhood streets.

Chances of a Pedestrian Surviving a Traffic Collision



Graphic adapted from "Best Management Practices," Reid Ewing, 1996; data from "Traffic Management and Road Safety," Durkin & Pheby, 1992.

Safe and Livable. There is growing appreciation for the relationship between street width, vehicle speed, the number of crashes, and resulting fatalities. Deaths and injuries to pedestrians increase significantly as the speed of motor vehicles goes up. In 1999, planner Peter Swift studied approximately 20,000 police accident reports in Longmont, Colorado to determine which of 13 physical characteristics at each accident location (e.g., width, curvature, sidewalk type, etc.) accounts for the crash. The results are not entirely surprising: the highest correlation was between collisions and the width of the street. A typical 36-foot wide residential street has 1.21 collisions/mile/year as opposed to 0.32 for a 24 foot wide street. The safest streets were narrow, slow, 24-foot wide streets.

Award-Winning Neighborhoods. In Oregon, citizens, non-profit organizations, transportation advocates, and state agencies interested in the livability of our communities have advocated reducing the width of neighborhood streets. Several new developments that include narrow neighborhood streets such as Fairview Village in Fairview, West Bend Village in Bend, and Orenco Station in Hillsboro have received *Governor's Livability Awards* (See Appendix A for contact

information). Although cited as models of livable communities, the narrow street widths included in these developments are not allowed in many of Oregon's cities, often because of concerns about emergency service access.

Emergency Response. The movement to reduce street standard widths raised concerns with emergency service providers. Thus, the most controversial issue facing Oregon's fire departments in the past decade has been street width. Fire departments must move large trucks, on average, 10 feet wide mirror-to-mirror.

Response times can be slowed depending upon the amount of on-street parking and traffic encountered. Narrow streets lined with parked cars may not provide adequate space for firefighters to access and use their equipment once they have reached the scene of an emergency. In addition, emergency vehicle access can be completely blocked on streets that provide less than 10 feet of clear travel width.

Authority to Establish Standards. Prior to 1997, there had been some confusion over who had the authority to establish street standards. Oregon's land use laws grant local governments the authority to establish local subdivision standards, which include street widths (ORS 92.044). However, the *Uniform Fire Code*, which was adopted by the State Fire Marshal and is used by many local governments to establish standards for the prevention of and protection from fires, includes standards which affect the width and design of streets. The *Uniform Fire Code* is published by the Western Fire Chiefs and the International Congress of Building Officials as partners.

This question of authority was clarified in 1997 when ORS 92.044 was amended to state that standards for the width of streets established by local governments shall *"supersede and prevail over any specifications and standards for roads and streets set forth in a uniform fire code adopted by the State Fire Marshal, a municipal fire department or a county firefighting agency."* ORS 92.044 was also amended to establish a consultation requirement for the local governments to *"consider the needs of the fire department or fire-fighting agency when adopting the final specifications and standards."*

IV. Collaborative Process

This project was undertaken to:

“Develop consensus and endorsement by stakeholders on a set of flexible guidelines for neighborhood street designs for new developments that result in reduced street widths.”

The collaborative process relied on two groups of stakeholders. A larger group was comprised of a broad cross-section of interest groups and numbered about thirty people from around the state. A core team of nine members, a subset of the larger group, was convened to guide the collaborative problem-solving process, working in conjunction with the consultant and staff. This “Design Team” consisted of representatives from these groups: special districts, fire service, state fire marshal, non-profit advocacy, traffic engineering, builder/developer, city planner, public works, and a representative from the Department of Land Conservation and Development.

The Design Team’s responsibilities were to recommend participants for the larger collaborative working group, determine the priority interests, recommend a statewide endorsement and implementation process, and provide input on technical presentations required. At the Design Team’s first meeting, they decided to assign themselves the task of creating the draft street design guidelines. They would take their products to the larger group for input, recommendations, and eventual endorsement. Consensus would be sought within the Design Team before going to the large group. Likewise, consensus at the large group would be fundamental to achieving the project’s goals.

The large group was instrumental in providing actual scenarios of community experiences to the Design Team. They also helped enlarge the scope of affected parties and corresponding issues by including other service providers that use large vehicles, such as school busses and solid waste haulers. Members of the large group provided valuable reference materials to the Design Team. They provided substance that had been over-looked on more than one occasion. Large group members were pleased to know that a core team of well-respected stakeholders was representing their interests. The Design Team engaged the large group at significant junctures in its work.

V. A Community Process for Adopting Standards

Unique issues will arise in each community, whether related to hills, higher density neighborhoods, or existing street patterns. Close collaboration with fire and emergency service providers, public works agencies, refuse haulers, and other neighborhood street users must be maintained throughout the process. This will ensure that the standards developed to meet the general goals of the community will also meet the specific needs of different stakeholder groups.

Through broad-based involvement, educational efforts, and sensitive interaction with stakeholders, a community can adopt new street standards that will meet the transportation needs of the citizens, while providing and encouraging a very livable residential environment.

The following steps reflect a realistic process development and local government adoption of standards for narrow neighborhood streets.

Steps for Local Government Consideration and Adoption of Neighborhood Street Standards

1. Determine stakeholders
2. Inform/Educate: What is the value of narrow residential street standards?
3. Ensure dialogue among stakeholders
4. Identify specific issues, such as seasonal needs and natural features
5. Prepare draft standards
6. Review draft with stakeholders/officials /public
7. Revise, conduct public review, and adopt standards
8. Implement and ensure periodic evaluation

Determine stakeholders. There are many benefits to a community adopting narrow street standards. Many stakeholders share an interest in residential transportation issues. These stakeholders must be included from the outset of any new street standard adoption process.

Inform and Educate. A community or jurisdiction considering the adoption of narrow residential street standards must conduct an open and information-intensive process. Narrow streets have many advantages for a community, including slower traffic speeds and increased neighborhood livability. But there are some access trade-offs. A strong educational component involving city council members, planning commissioners, community groups, developers and emergency service providers must be conducted at the beginning of the process. Agreement about the value of narrow streets, i.e., slow speeds, safer pedestrian environments, and more livable neighborhoods must be understood and agreed to prior to beginning to develop specific standards. There are many educational resources available including printed materials, videos, and professional speakers willing to share their experience.

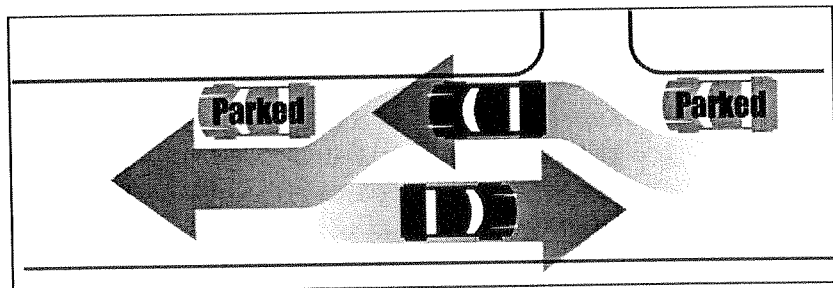
Develop standards that reflect local concerns. Once a jurisdiction has determined that more narrow street standards will be beneficial, the development of specific standards, unique to the community where they will be implemented, is the next step. Many cities and counties have adopted narrow street standards, and their efforts can provide a model for the initial drafts. Review and input from stakeholders, the public, and community officials will help identify local issues and provide the opportunity to tailor standards to local needs.

VI. Checklist for Neighborhood Streets

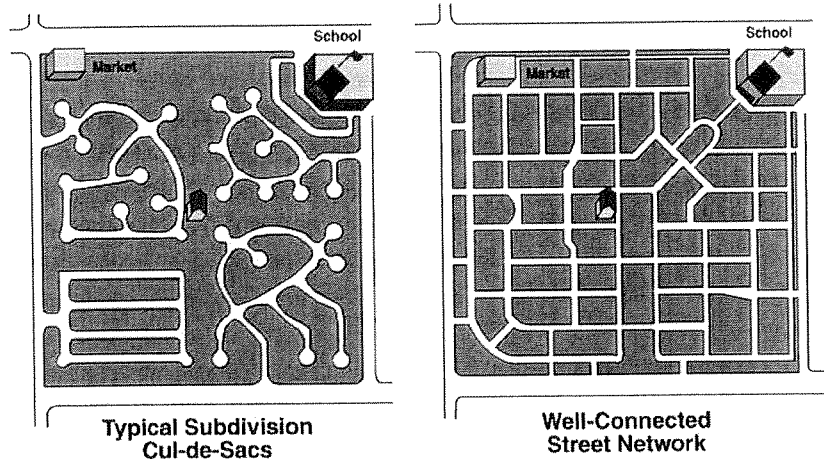
Key Factors

The checklist is based on five key factors listed below:

- ✓ *Queuing.* Designing streets so that moving cars must occasionally yield between parked cars before moving forward, as shown below, permits development of narrow streets, encourages vehicles to move slower, and allows for periodic areas where a 20-foot wide clear area is available for parking of fire apparatus.



- ✓ **Connected Street Networks.** Connected street networks provide multiple ways for emergency response vehicles to access a particular location and multiple evacuation routes. In addition, a connected street system encourages slow, cautious driving since drivers encounter cross traffic at frequent intervals.



- ✓ **Adequate Parking.** When parking opportunities are inadequate, people are more likely to park illegally in locations that may block access by emergency service vehicles. Communities need to review their parking standards when they consider adopting narrow street standards to make sure that adequate on-street and off-street parking opportunities will be available.

- ✓ **Parking Enforcement.** The guidelines are dependent on strict enforcement of parking restrictions. Communities must assure an on-going commitment to timely and effective parking enforcement by an appropriate agency. In the absence of such a commitment, these narrow street standards should not be adopted.

- ✓ **Sprinklers Not Required.** The checklist and model cross-sections provided in this guidebook do not depend upon having fire sprinklers installed in residences. More flexibility in street design may be possible when sprinklers are provided. However, narrow streets still need to accommodate fire apparatus that respond to non-fire, medical emergencies. Other types of vehicles (such as moving vans, public works machinery, and garbage/recycling trucks) also need to be able to serve the neighborhood.

The Checklist



Community stakeholder groups should systematically proceed through the checklist below as part of their decision making process. Also, your community may wish to add to this checklist. The format of the checklist includes room for comments: encourage stakeholders to make notes regarding their concerns and record decisions about how the items in the checklist have been addressed.

The factors are interrelated and are best considered together. The items are grouped by category in a logical order, but are not weighted.

Community Process/Decision-Making		Notes
☐	Good City Department Working Relations Develop good, close working relationships between the fire/emergency response professionals, public works, building officials, land use and transportation planners, engineers, and other large vehicle operators. The goal is to achieve trusting working relationships that lead to effective accommodation of each other's needs related to agreements about neighborhood street standards.	
☐	Consistency of Ordinances Review all applicable codes and ordinances and make them consistent with the narrow neighborhood street standards you are adopting. Consider performance-based codes and ordinances to address the larger development issues, of which street design is just one part. Amend ordinances only when you have the concurrence of emergency and large service vehicle providers.	
☐	Uniformly Allowed Uniformly allow narrow neighborhood streets by code and ordinance rather than requiring a special process, such as a variance or planned unit development. Or consider a modification process similar to the City of Beaverton's that uses a multi-disciplinary committee review and approval process during the development review process. <i>See Appendix A for more info.</i>	
☐	Community Process Determine what your community process will be for developing and adopting neighborhood street standards including following legal requirements, gaining political support, and encouraging public education and involvement. Teamwork and involvement of all large vehicle service providers is a critical component for success. Consider the potential benefits of narrow streets, such as slower traffic, less stormwater runoff, and lower costs. Look for ways to minimize the risk that fire apparatus will not be able to quickly access an emergency and minimize possible inconvenience for other large vehicles. <i>For more information see Chapter V, "A Community Process for Adopting Standards."</i>	

Users of the Street

Notes

☐

Use of Street

Recognize the needs of all of the "everyday" users of the street, including autos, pedestrians, and bicycles. Street standards typically provide for easy maneuverability by autos. It is very important that neighborhood streets also provide a comfortable and safe environment for pedestrians. Consideration should be given to pedestrians both moving along and crossing the street.

☐

Fire/Emergency Response and Large Service Vehicle Access

Provide access to the street for Fire/Emergency Response and large service vehicles to meet their main objectives. Consider the maneuvering needs of all large vehicles such as fire/emergency response, refuse/recycling trucks, school buses, city buses, delivery vehicles, and moving trucks. Fire trucks are generally 10-feet wide from mirror to mirror and room adjacent to a truck is necessary to access equipment from the truck. Recognize that for some service providers, the federal government has requirements that affect vehicle size such as fire trucks, school buses, and ambulances.

☐

Utility Access

Provide utility access locations regardless of whether utilities are in the street, the right-of-way adjacent to the street, utility easements, or some combination thereof. Consider utility maintenance requirements.

Street Design

☐

Traffic Volume and Type

Relate street design to the traffic that will actually use the street and the expected demand for on-street parking. Generally, on streets that carry less than 1,000 vehicles per day, a clear lane width of 12 to 14 feet is adequate for two-way traffic, if there are frequent pull-outs to allow vehicles to pass. Where there is on-street parking, driveways typically provide gaps in parking adequate to serve as pull-outs. If there is a high percentage of trucks or buses, wider streets or longer pull-outs may be needed. For street design, consider both the current traffic volume and the projected long-term traffic volume.

☐

Provision for Parking

Make sure that adequate parking is provided so that on-street parking is not the typical primary source of parking. The objective is to have space between parked cars so that there are queuing opportunities. Also, parking near intersections on narrow streets should not be permitted because it can interfere with the turning movements of large vehicles (*see illustration at the end of the checklist*). This can be accomplished by a lack of demand for on-street parking or by design. The design option requires place-

ment of no-parking locations (i.e., driveways, fire hydrants, mailboxes) at appropriate intervals to provide the needed gaps.

Notes

☐

Parking (con't)

When determining the number of parking spaces required, consider adjoining land uses and the availability of off-street parking. Parking demand is likely to be less where an adjoining land use is one that will create little or no parking demand (e.g., wetlands, parks, floodplains) or if adjoining development will provide off-street parking adequate for residents and guests. On-street parking demand may be affected by recreational vehicle/equipment if parking of such equipment is allowed. Parking availability will be affected by whether a neighborhood has alleys, if parking is allowed in the alley, or if visitor parking bays are provided in the area.

☐

Self-Enforcing Design....*perceptions count!*

The design of the street should encourage the desired speed, traffic flow, parking, and use of the street. When this is the case, a design is said to be self-enforcing. This means that a driver would discern an implied prohibition against parking by the visual appearance of the street. A self-enforcing design intended to reduce speed might, for example, use trees in parkrows or strategically placed curb extensions.

- Unless traffic volumes are very low, 21 to 22-foot streets with parking on one side can be problematic for large vehicles.
- 21 to 24-foot streets with no on-street parking should not be considered because they invite parking violations.
- 26 and 27-foot streets where parking is permitted on one side can result in chronic violations because the street will look wide enough for parking on both sides.

☐

Parking Enforcement

With adequate parking and proper street design, enforcement should not be a problem. Where parking is prohibited, provide signs that clearly indicate this, even on streets with a self-enforcing design. Enforcement is essential and can be done in a variety of ways. Consider tow zones or using volunteers to write parking tickets. (The City of Hillsboro allows both police and fire personnel to write traffic tickets.)

☐

Public and Private Streets

Build public and private streets to the same standard. The need for access by emergency and other large vehicles is the same on private streets as for public. (In addition, private streets not built to the same construction standards may end up being a maintenance problem later if the local jurisdiction is forced to assume maintenance because homeowners do not fulfill their responsibilities.)

Notes

[illegible][illegible]

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook page.

☐

Block Length

Design block length to enhance street connectivity. Block lengths should generally not exceed 600 feet. As block lengths increase from 300 feet, attention to street width and other design features becomes more important. This is because fire apparatus preconnected hoses are 150 feet in length. With a connected street system and 300-foot block lengths, the fire apparatus can be parked at the end of the block where a fire is located and the hose can reach the fire.

Coordinate block length requirements with spacing requirements for connection to arterial streets. Preserve integrity, capacity, and function of the neighborhood's surrounding arterials and collectors by adhering to access management standards.

Notes

Local Issues

☐

Evacuation Routes for Wildfire Hazard and Tsunami Zones

Designated wildfire hazard or tsunami zones may need wider streets to provide for designated evacuation routes, including 20 feet of clear and unobstructed width. Different communities may have different street standards depending on whether a neighborhood is located in one of these zones or is in a designated evacuation route.

☐

Agricultural Equipment

If your community is a regional agricultural center, consider adequate passage for agricultural equipment. Discourage passage on residential streets.

☐

Preserving Natural Features

If your community has sensitive natural features, such as steep slopes, waterways, or wetlands, locate streets in a manner that preserves them to the greatest extent feasible. Care should be taken to preserve the natural drainage features on the landscape. Street alignments should follow natural contours and features, whenever possible, so that visual and physical access to the natural feature is provided as appropriate.

☐

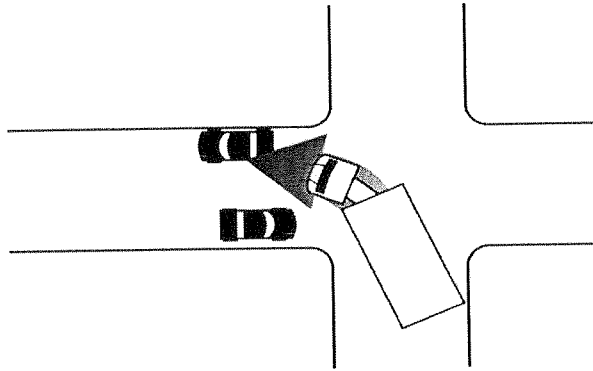
Snow

If snow removal and storage is an issue in your community, consider snow storage locations, and whether temporary parking restrictions for snow plowing or storage will be required. Some communities may consider providing auxiliary winter parking inside neighborhoods (though not on residential collectors). Work with your public works and engineering departments to see if any adjustments may be made in terms of operations or street design that would make narrow neighborhood streets work better for your community (wider parkrows to store snow, for instance).

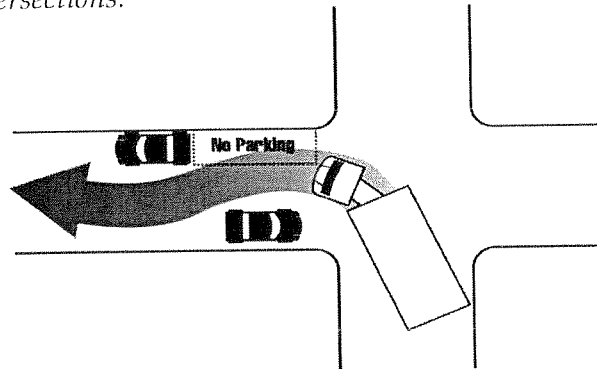
		Notes
☐	Ice If maneuvering on icy roads is an issue in your community, consider parking restrictions near street corners, auxiliary winter parking at the base of hills, wider street cross-sections on hills, or seasonal parking restrictions on hills.	
☐	Sloping or Hilly Terrain If your community has steep slopes, make special design provisions. This can be done through utility placement, connected streets, sidewalk placement, provision of one-way streets, property access, and minimizing cut and fill slopes.	
☐	Other Community Concerns?	

No Parking At Intersections

On narrow streets, parked cars near the intersection can interfere with the turning movements of large vehicles.



The solution is to prohibit on-street parking within 20 - 50 feet of intersections.



VII. Model Cross-Sections

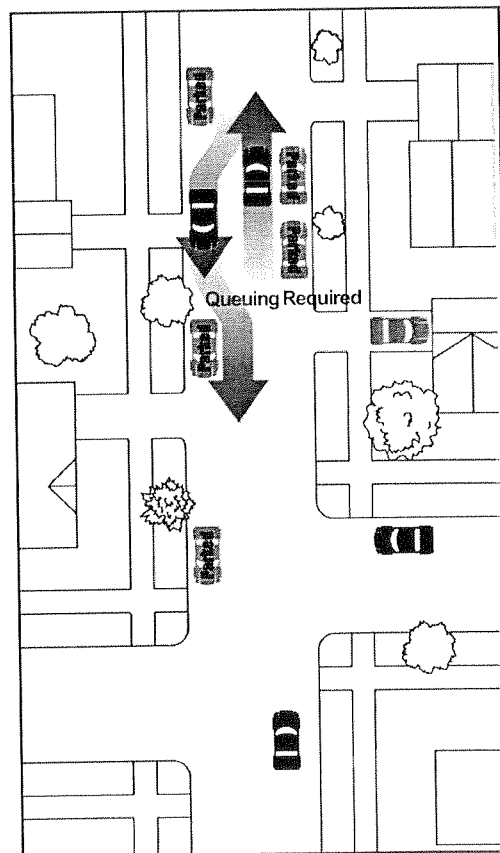
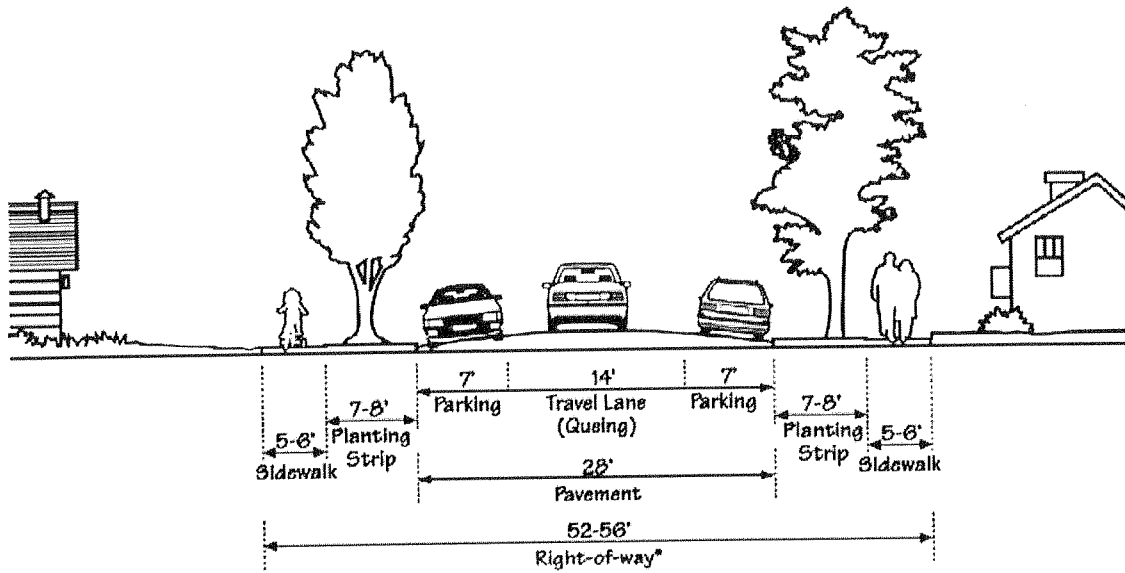
The following three scenarios are presented as “model standards.” However, *they do not represent the full range of possible solutions.* Communities are encouraged to use these as a starting point; innovative solutions can be designed for local situations. Here are a few key points to keep in mind:

- ✓ Streets **wider than 28 feet** are NOT, by definition, a “narrow street.”
- ✓ **Two-way streets under 20 feet** are NOT recommended. If, in a special circumstance, a community allows a street **less than 20 feet**, safety measures such as residential sprinklers*, one-way street designations, and block lengths less than 300 feet may be needed.

* Fire sprinklers in one and two family structures must be approved by the local building department in accordance with standards adopted by the Building Codes Division under ORS 455.610.

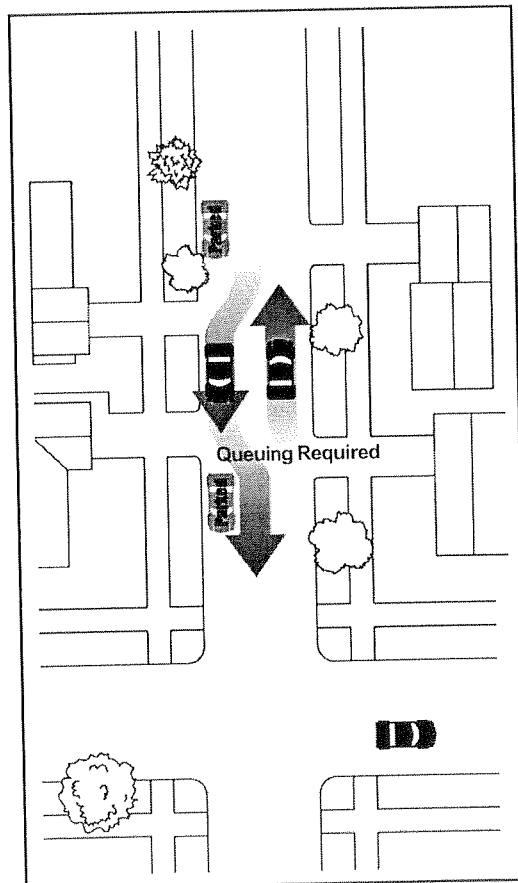
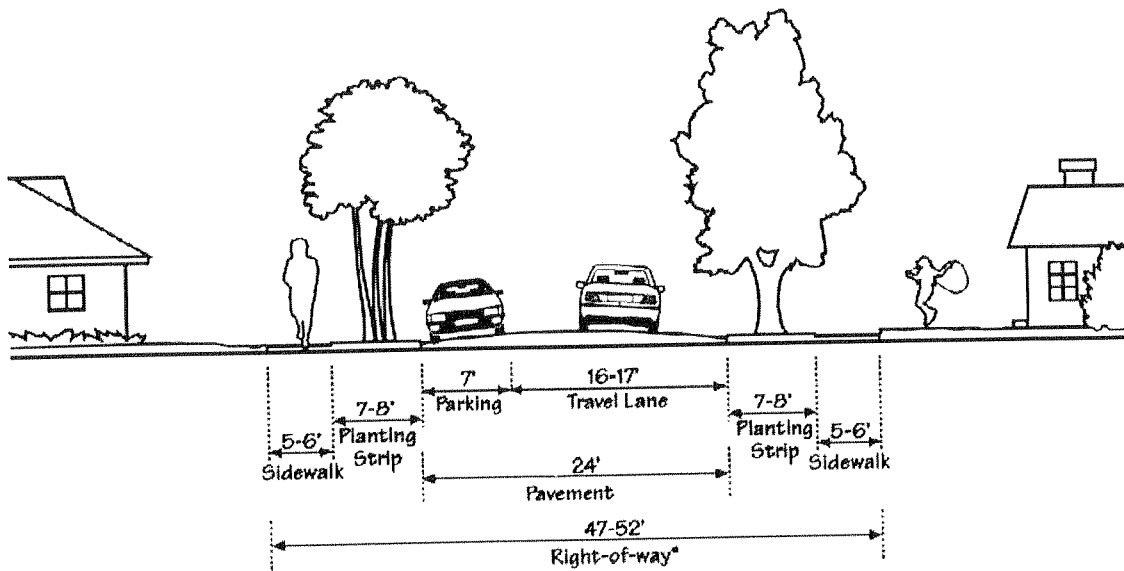
Scenario 1

28 Ft. Streets
Parking on both sides



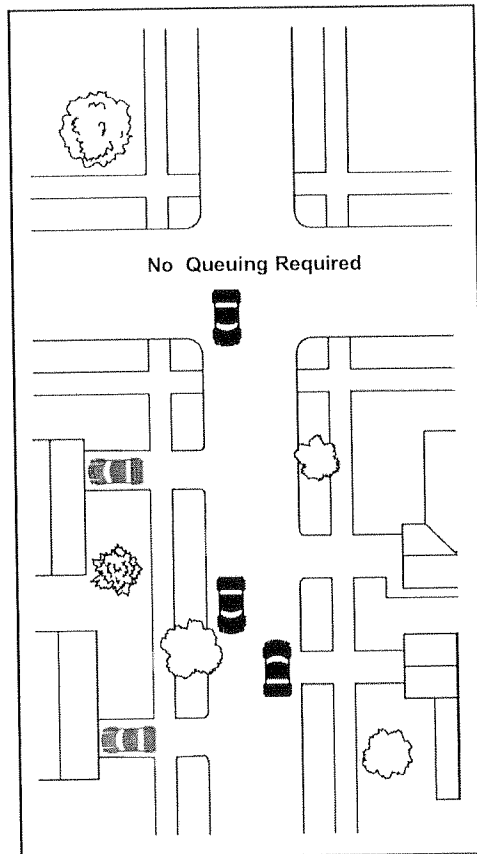
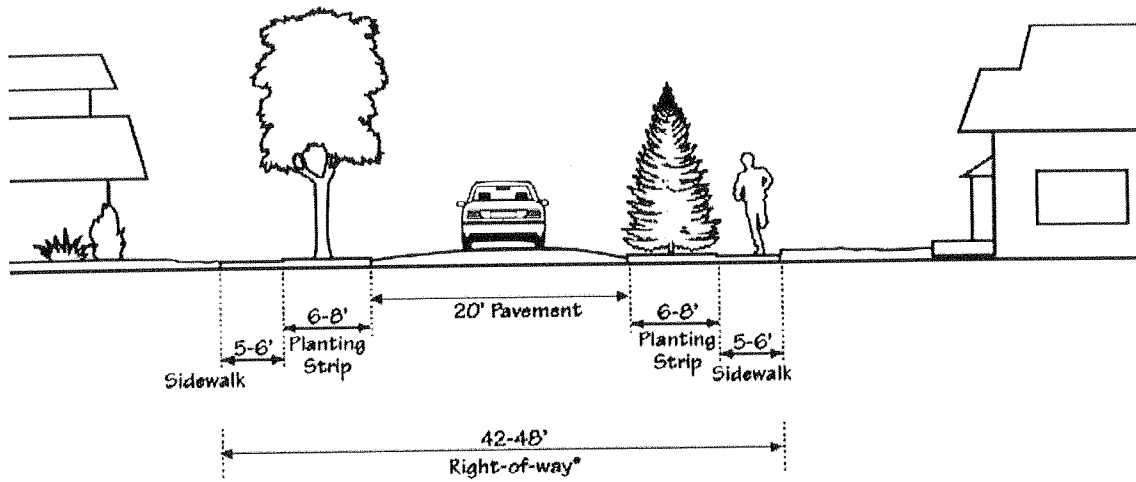
Scenario 2

24 Ft. Streets Parking on one side only



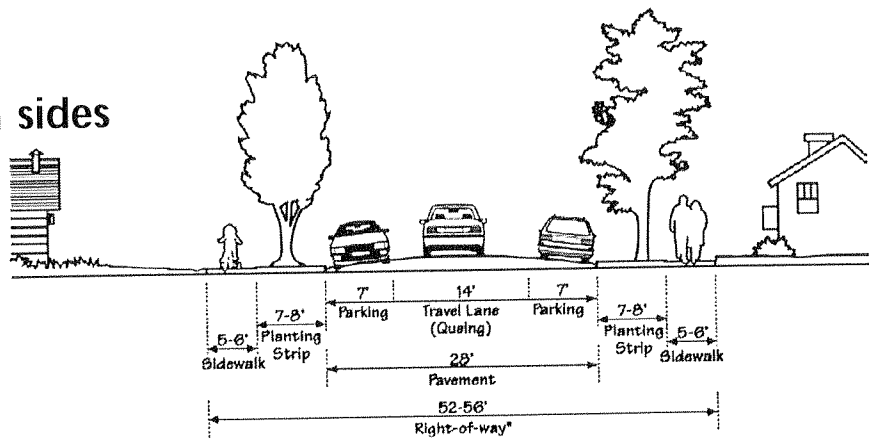
Scenario 3

20 Ft. Streets
No parking allowed

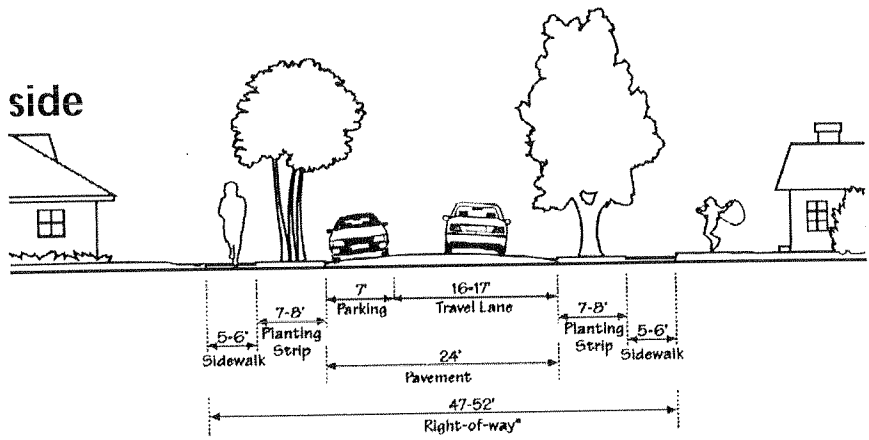


Summary of Three Potential Scenarios

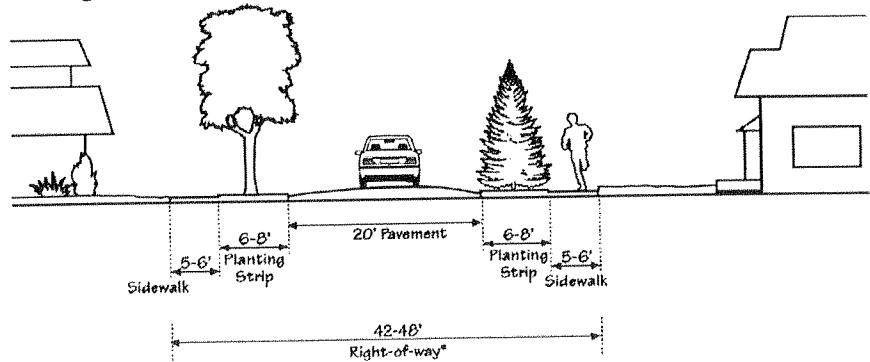
28 Ft Street Parking on both sides



24 Ft Street Parking on one side



20 Ft Street No on-street parking allowed



Appendix A - References and Resources

Annotated References

AASHTO - The Policy on Geometric Design of Highways and Streets, also known as the “*Green Book*,” is published by the American Association of State Highway and Transportation Officials (AASHTO) and is considered to be the principle authority on street geometrics. Narrow streets are sometimes cited as being contrary to traffic engineering practices because they may hinder the free-flowing movement of vehicular traffic. However, the *Green Book* supports the notion of using narrow residential streets. For example, the *Green Book* states: “On residential streets in areas where the primary function is to provide land service and foster a safe and pleasant environment, at least one unobstructed moving lane must be ensured even where parking occurs on both sides. The level of user inconvenience occasioned by the lack of two moving lanes is remarkably low in areas where single-family units prevail...In many residential areas a 26-ft.-wide roadway is typical. This curb-face-to-curb-face width provides for a 12-ft. center travel lane and two 7-ft. parking lanes. Opposing conflicting traffic will yield and pause on the parking lane area until there is sufficient width to pass.”

Residential Streets – *Residential Streets* is published jointly by the American Society of Civil Engineers, the National Association of Homebuilders, and the Urban Land Institute. This book was published to encourage a flexible approach to designing residential streets to respond to the street’s function in the transportation system as well as part of the community’s living environment. *Residential Streets* is a hierarchy of residential streets, including 22’-24’ access streets with parking on both sides, 26’ subcollector street with parking on both sides, and a 28’ subcollector with parking on both sides where “on-street parking lines both sides of the street continuously.”

ITE – The Institute of Transportation Engineers (ITE) has published several documents that refer to the recommended width of neighborhood streets. The 1993 publication *Guidelines for Residential Subdivision Street Design* states that a 28-foot curbed street with parking on both sides is an acceptable standard “based upon the assumption that the community has required adequate off-street parking at each dwelling unit.” In addition, the 1994 publication *Traffic Engineering for Neo-Traditional Neighborhood Design*, (NTND), states that the recommended width of a basic NTND residential street “may be as narrow as 28 to 30 feet.”

Street Design Guidelines for Healthy Neighborhoods – Published by the Local Government Commission’s Center for Livable Communities, *Street Design Guidelines for Healthy Neighborhoods* was developed by a multi-disciplinary team based upon field visits to over 80 traditional and 16 neo-traditional neighborhoods. When combined with other features of traditional neighborhoods, the guidelines recommend neighborhood streets ranging from 16-26 feet in width. The team found 26-foot-wide roadways to be the most desirable, but also “measured numerous 24-foot and even 22-foot wide roadways, which had parking on both sides of the street and allowed delivery, sanitation and fire trucks to pass through unobstructed.”

Oregon Resources

Fairview Village. Holt & Haugh, Inc., phone: 503-222-5522, fax: 503-222-6649, www.fairviewvillage.com

West Bend Village. Tennant Developments, 516 SW 13th St., Suite A, Bend, Oregon 97702, phone: 541-388-0086

Orenco Station. Mike Mehaffy, Pac Trust, 15350 SW Sequoia Pkwy, Suite 300, Portland, Oregon 97224, 503-624-6300, www.orencostation.com

Street Standard Modification Process. The City of Beaverton has a modification process similar to an administrative variance procedure. If you would like information on this process contact: Margaret Middleton, City of Beaverton, Engineering Department, P.O. Box 4755, Beaverton, Oregon 97076-4755, 503-526-2424, mmiddleton@ci.beaverton.or.us

Additional References

Street Design Guidelines for Healthy Neighborhoods. Dan Burden with Michael Wallwork, P.E., Ken Sides, P.E., and Harrison Bright Rue for Local Government Commission Center for Livable Communities, 1999.

A Policy on Geometric Design of Highways and Streets. American Association of State Highway and Transportation Officials (ASSHTO), 1994.

Guidelines for Residential Subdivision Street Design. Institute of Transportation Engineers (ITE), 1993.

Traffic Engineering for Neo-Traditional Neighborhood Design. Institute of Transportation Engineers (ITE), 1994.

Residential Streets. American Society of Civil Engineers (ASCE), National Association of Home Builders (NAHB), Urban Land Institute (ULI), 1990.

A Handbook for Planning and Designing Streets. City of Ashland, 1999.

Eugene Local Street Plan. City of Eugene, 1996.

Skinny Streets, Better Streets for Livable Communities. Livable Oregon, Inc. and the Transportation and Growth Management Program, 1996.

The Technique of Town Planning, Operating System of the New Urbanism. Duany Plater-Zyberk & Company, 1997.

Narrow Streets Database. A Congress for the New Urbanism. Alan B. Cohen AIA, CNU, Updated 1998.

Washington County Local Street Standards. Revision Project No. 2455. McKeever/Morris, Inc., Kittleson & Associates, Inc. and Kurahashi & Associates, Inc., 1995.

Washington County Uniform Road Improvement Design Standards. Washington County Department of Land Use and Transportation, 1998.

Livable Neighborhoods Community Design Code. A Western Australian Government Sustainable Cities Initiative. Ministry for Planning.

Woonerf. Royal Dutch Touring Club, 1980.

Creating Livable Streets: Street Design Guidelines for 2040. Prepared by Fehr & Peers Associates, Inc. Calthorpe Associates, Kurahashi & Associates, Julia Lundy & Associates for Metro, 1997.

Model Development Code & User's Guide for Small Cities. Transportation and Growth Management Program by Otak, 1999.

APA Recommendations for Pedestrians, Bicycle and Transit Friendly Development Ordinances. TPR Working Group Oregon Chapter APA, 1993.

Residential Street Typology and Injury Accident Frequency. Swift & Associates, Longmont, CO, Peter Swift, Swift and Associates, Longmont, CO., 1998.

Appendix B

Oregon Community Street Widths

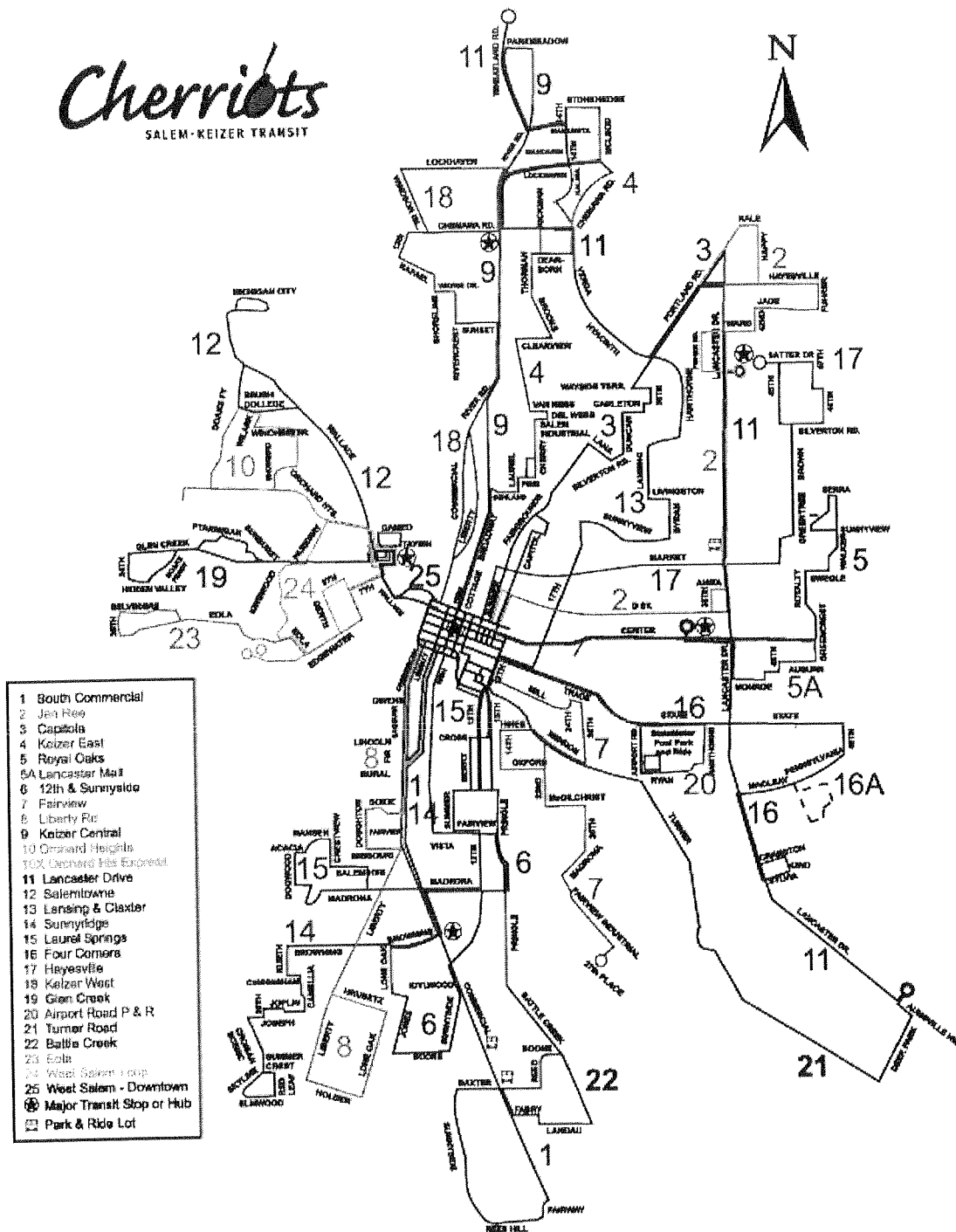
City/County	No Parking	Parking One Side	Parking Both Sides	Contact Information
Ashland		22'	25'-28'	Maria Harris, Associate Planner, 541-552-2045
Albany		28'		Rich Catlin, Senior Planner, Albany Community Development, 541-917-7564
Beaverton	20'	25.5' "infill option," with rolled curb on other	28'	Margaret Middleton, Engineering Department, 503-526-2424
Brookings			30'	John Bischoff, Planning Director, 541-469-2163,x237
Clackamas County			28'	Joe Marek, County Engineer, 503-650-3452
Coburg			28'	Harriet Wagner, City Planner, 541-682-7858
Corvallis			28'	Kelly Schlesener, Planning Manager - Community Development, 541-766-6908
Eugene		24'	28'	Allen Lowe, Eugene Planning, 541-682-5113
Forest Grove			26'	Jon Holan, Community Dev. Director, 503-992-3224
Gresham			26'	Brian Shetterly, Long Range Planner, 503-618-2529; Ronald Papsdorf, Lead Transportation Planner, 503-618-2806
Happy Valley			26'	Jim Crumley, Planning Director, 503-760-3325
Lincoln City			28'	Richard Townsend, Planning Director 541-996-2153
McMinnville			26'	Doug Montgomery, Planning Director, 503-434-7311
Milton-Freewater		28'		Gina Hartzheim, City Planner, 503-938-5531
Portland		20'	26'	Steve Dotterer, Portland Department of Transportation, 503-823-7731
Redmond			28'	Bob Quitmeier, Community Development Director, 541-923-7716
Seaside		20'	26'	Kevin Cupples, Planning Director, 503-738-7100
Sherwood			28'	John Morgan, City Manager, 503-625-5522
Washington County		24'	28'	Tom Tushner, Principal Engineer, 503-846-7920
Wilsonville		28'		Stephan Lashbrook, Planning Director, 503-682-1011.

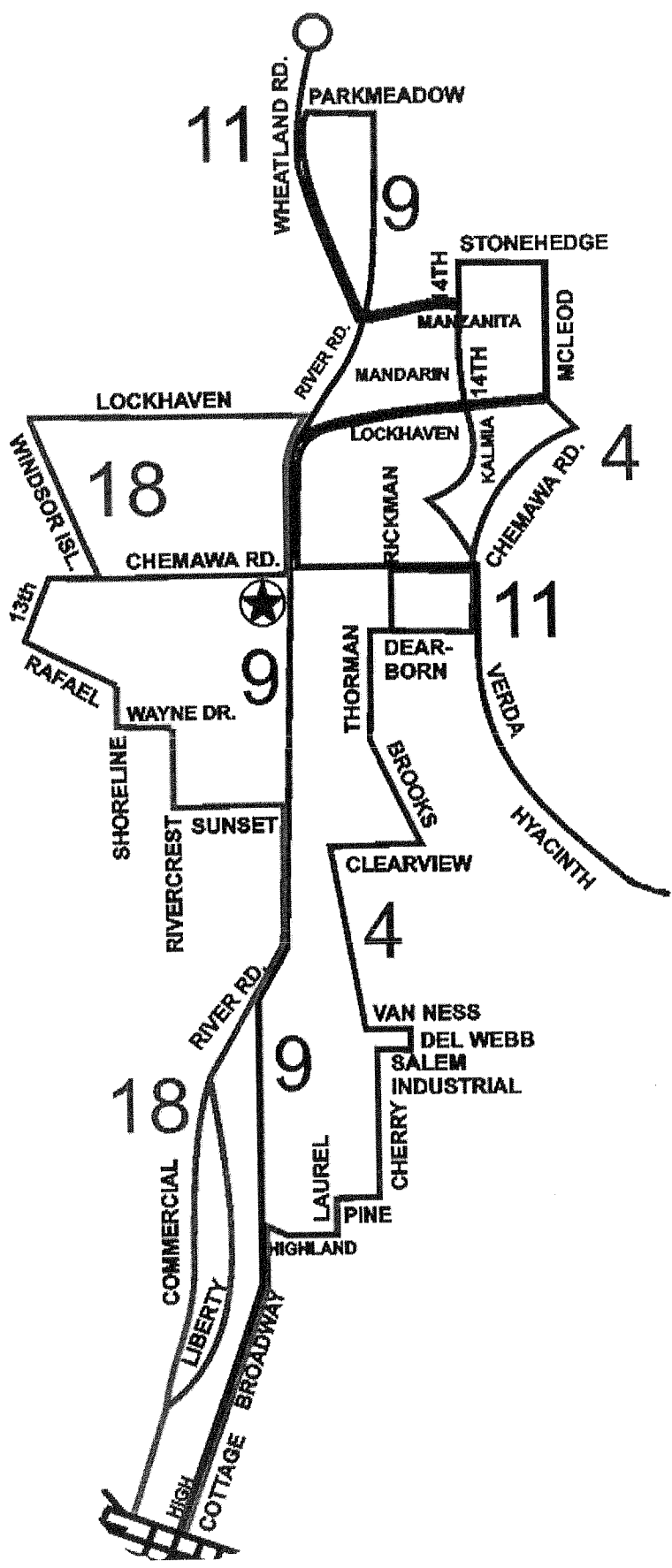
Source: February 2000, Livable Oregon, Inc.

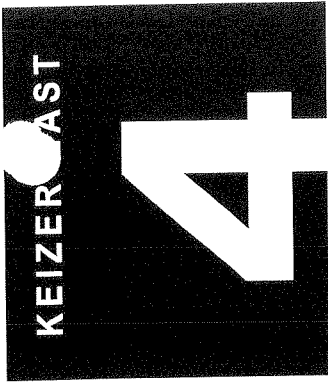
Appendix "B"
Cherriots Route Maps
and Timetables

Cherriots

SALEM-KEIZER TRANSIT







School for the Deaf,
East Keizer,
Whiteaker Middle School

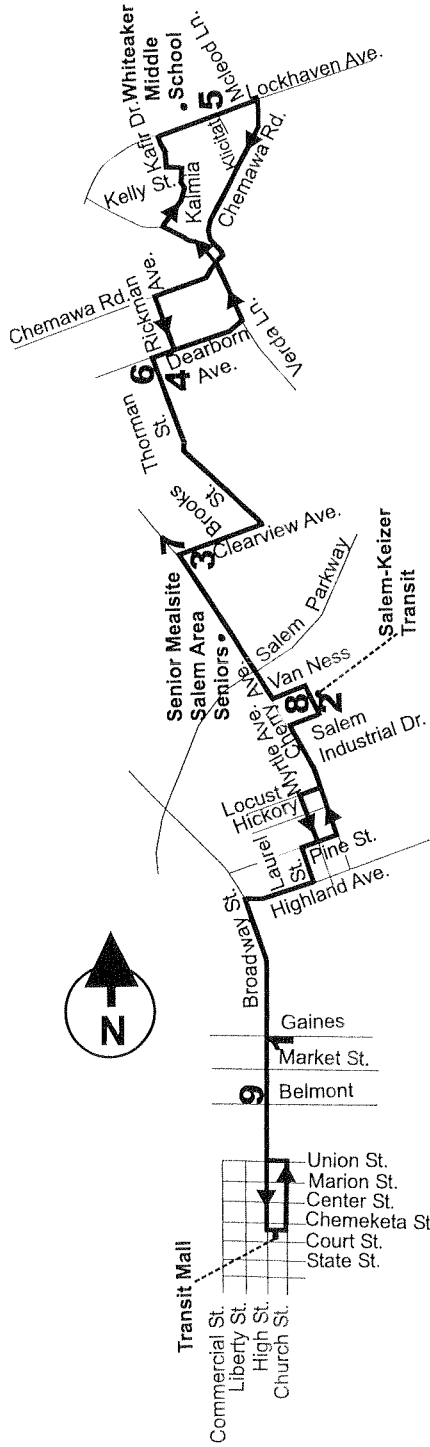
SEP 2006

BUS FARES (exact change required)
 Children (age 5 and under) Free
 Youth (age 6 to 18)
 Single Fare \$0.75
 Day Pass \$1.50
 Adults (age 19 to 59)
 Single Fare \$1.00
 Day Pass \$2.00
 Seniors (60+), Disabled,
 and Medicare card holders
 Single Fare \$0.50
 Day Pass \$1.00

INFORMATION

Cherriots Information Office
 220 High Street NE, Salem, OR 97301
 Web site: www.cherriots.org
 Routes & Schedules: 503-588-BUSS
 503-588-2877

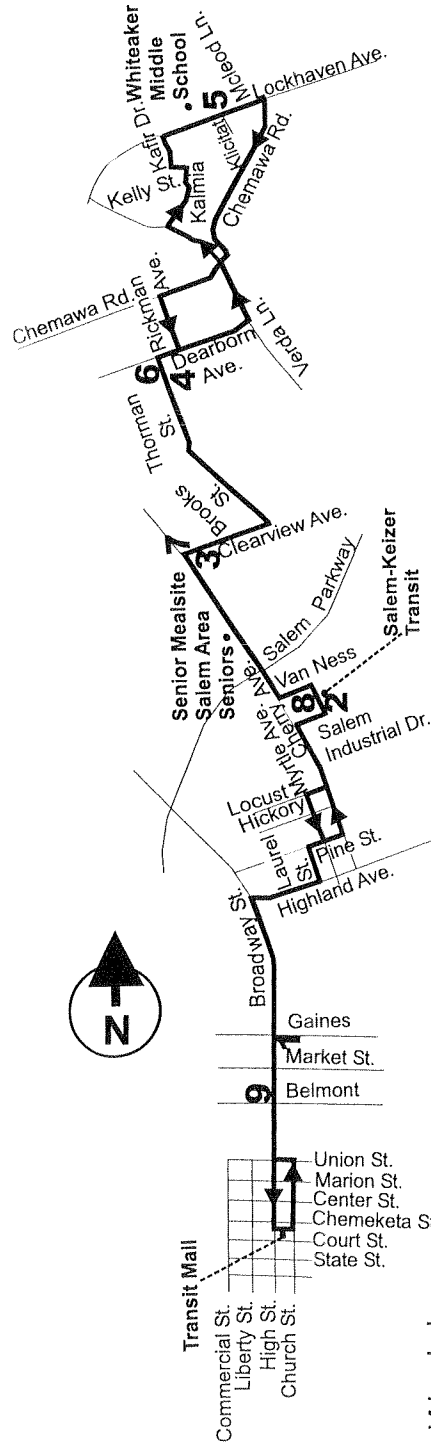
8/28/06



Saturdays

Leaving	1	2	3	4	5	6	7	8	9	Arriving
Transit Mall & Gaines	Transit Mall & Gaines	Salem-Keizer Transit	Cherry & Clearview	Thorman & Dearborn	Lockhaven & Klicitat	Thorman & Dearborn	Salem-Keizer Transit	Broadway Belmont	Transit Mall	
7:45a	7:48a	7:53a	7:57a	8:02a	8:08a	8:13a	8:17a	8:22a	8:29a	8:35a
8:45a	8:48a	8:53a	8:57a	9:02a	9:08a	9:13a	9:17a	9:22a	9:29a	9:35a
9:45a	9:48a	9:53a	9:57a	10:02a	10:08a	10:13a	10:17a	10:22a	10:29a	10:35a
10:45a	10:48a	10:53a	10:57a	11:02a	11:08a	11:13a	11:17a	11:22a	11:29a	11:35a
11:45a	11:48a	11:53a	11:57a	12:02p	12:08p	12:13p	12:17p	12:22p	12:29p	12:35p
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1:45p	1:48p	1:53p	1:57p	2:02p	2:08p	2:13p	2:17p	2:22p	2:29p	2:35p
2:45p	2:48p	2:53p	2:57p	3:02p	3:08p	3:13p	3:17p	3:22p	3:29p	3:35p
3:45p	3:48p	3:53p	3:57p	4:02p	4:08p	4:13p	4:17p	4:22p	4:29p	4:35p
4:45p	4:48p	4:53p	4:57p	5:02p	5:08p	5:13p	5:17p	5:22p	5:29p	5:35p
5:45p	5:48p	5:53p	5:57p	6:02p	6:08p	6:13p	6:17p	6:22p	6:29p	6:35p
6:45p	6:48p	6:53p	6:57p	7:02p	7:08p	7:13p	7:17p	7:22p	7:29p	7:35p
7:45p	7:48p	7:53p	7:57p	8:02p	8:08p	8:13p	8:17p	8:22p	8:29p	8:35p
8:45p	8:48p	8:53p	8:57p	9:02p	9:08p	9:13p	9:17p	9:22p	9:29p	9:35p
9:45p	9:48p	9:53p	9:57p	10:02p	10:08p					

Please see the reverse for weekday schedule. Buses do not operate on Sundays or holidays.



Weekdays

Leaving	1	2	3	4	5	6	7	8	9	Arriving
Transit Mall	6:15a	6:23a	6:27a	6:32a	6:38a	6:43a	6:47a	6:52a	6:59a	7:05a
6:45a	6:53a	6:57a	7:02a	7:08a	7:13a	7:17a	7:22a	7:29a	7:35a	7:41a
7:15a	7:23a	7:27a	7:32a	7:38a	7:43a	7:47a	7:52a	7:59a	8:05a	8:11a
7:45a	7:53a	7:57a	8:02a	8:08a	8:13a	8:17a	8:22a	8:29a	8:35a	8:41a
8:15a	8:23a	8:27a	8:32a	8:38a	8:43a	8:47a	8:52a	8:59a	9:05a	9:11a
8:45a	8:53a	8:57a	9:02a	9:08a	9:13a	9:17a	9:22a	9:29a	9:35a	9:41a
9:15a	9:23a	9:27a	9:32a	9:38a	9:43a	9:47a	9:52a	9:59a	10:05a	10:11a
10:45a	10:53a	10:57a	11:02a	11:08a	11:13a	11:17a	11:22a	11:29a	11:35a	11:41a
11:15a	11:23a	11:27a	11:32a	11:38a	11:43a	11:47a	11:52a	11:59a	12:05a	12:11a
12:45p	12:53p	12:57p	1:02p	1:08p	1:13p	1:17p	1:22p	1:29p	1:35p	1:41p
1:15p	1:23p	1:27p	1:32p	1:38p	1:43p	1:47p	1:52p	1:59p	2:05p	2:11p
2:45p	2:53p	2:57p	3:02p	3:08p	3:13p	3:17p	3:22p	3:29p	3:35p	3:41p
3:15p	3:23p	3:27p	3:32p	3:38p	3:43p	3:47p	3:52p	3:59p	4:05p	4:11p
3:45p	3:53p	3:57p	4:02p	4:08p	4:13p	4:17p	4:22p	4:29p	4:35p	4:41p
4:15p	4:23p	4:27p	4:32p	4:38p	4:43p	4:47p	4:52p	4:59p	5:05p	5:11p
4:45p	4:53p	4:57p	5:02p	5:08p	5:13p	5:17p	5:22p	5:29p	5:35p	5:41p
5:15p	5:23p	5:27p	5:32p	5:38p	5:43p	5:47p	5:52p	5:59p	6:05p	6:11p
5:45p	5:53p	5:57p	6:02p	6:08p	6:13p	6:17p	6:22p	6:29p	6:35p	6:41p
6:15p	6:23p	6:27p	6:32p	6:38p	6:43p	6:47p	6:52p	6:59p	7:05p	7:11p
6:45p	6:53p	6:57p	7:02p	7:08p	7:13p	7:17p	7:22p	7:29p	7:35p	7:41p
7:15p	7:23p	7:27p	7:32p	7:38p	7:43p	7:47p	7:52p	7:59p	8:05p	8:11p
7:45p	7:53p	7:57p	8:02p	8:08p	8:13p	8:17p	8:22p	8:29p	8:35p	8:41p
8:15p	8:23p	8:27p	8:32p	8:38p	8:43p	8:47p	8:52p	8:59p	9:05p	9:11p
8:45p	8:53p	8:57p	9:02p	9:08p	9:13p	9:17p	9:22p	9:29p	9:35p	9:41p
9:15p	9:23p	9:27p	9:32p	9:38p	9:43p	9:47p	9:52p	9:59p	10:05p	10:11p

Please see the reverse for Saturday schedule. Buses do not operate on Sundays or holidays.

DAY PASSES

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BUS STOPS

Buses will stop at designated bus stops only.

DETOURS

We try to maintain our regular service as close as possible; however, not only weather, but also traffic and road construction sometimes make it impossible. Please watch for detour notices that are placed on the buses to notify riders of route changes. Remember, you can call the Cherriots information office at 503-588-2877 for updated information.

REMINDERS

Please,

- Do not eat on a Cherriots bus.
- Drinks are allowed if they are in a hard-sided, spill-resistant covered container.
- No smoking on the bus.
- Do not play radios or tapes – headphones are okay.
- Have exact change if you're paying cash – drivers carry no change.
- Offer your seat to a senior or person with disabilities.

PURCHASE BUS PASSES

- Cherriots Information Office (220 High St. NE)
- Roth's (Salem/Keizer stores only)



SEP 2006

Fred Meyer North,
River Road, Whiteaker
Middle School

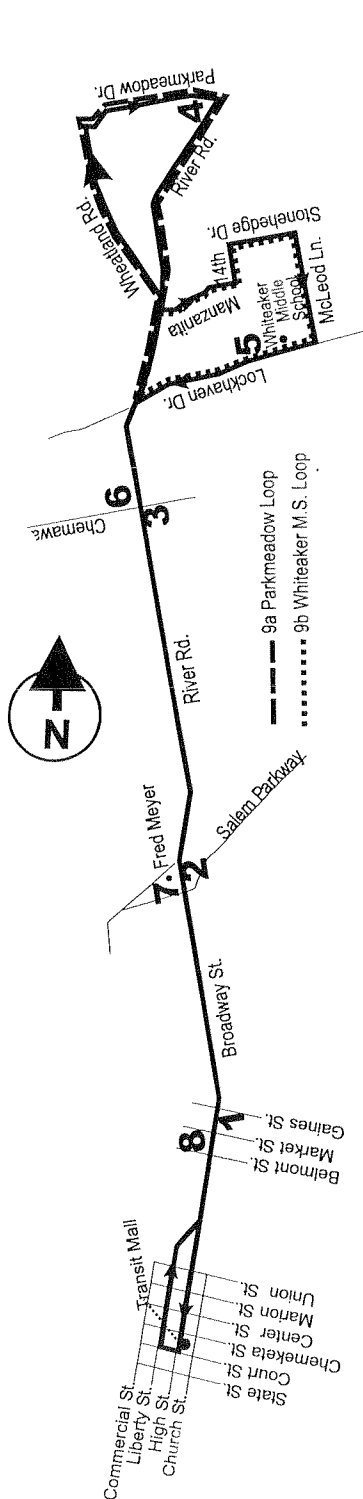
BUS FARES (exact change required)

Children (age 5 and under).....	Free
Youth (age 6 to 18)	
Single Fare	\$0.75
Day Pass	\$1.50
Adults (age 19 to 59)	
Single Fare	\$1.00
Day Pass	\$2.00
Seniors (60+), Disabled, and Medicare card holders	
Single Fare	\$0.50
Day Pass	\$1.00

INFORMATION

Cherriots Information Office
220 High Street NE, Salem, OR 97301
Web site: www.cherriots.org
Routes & Schedules: 503-588-BUSS
503-588-2877

11/08/06



On Saturday, bus does both Parkmeadow & Whiteaker M.S. loops.

Leave	1	2	3	4	5	6	7	8	Arrive
Transit Mall	Broadway & Gaines	Fred Meyer	River Rd. & Chemawa	Parkmeadow & River Rd.	Whiteaker Middle School	River Rd. & Chemawa	Fred Meyer	Broadway & Belmont	Transit Mall
7:45a	7:49a	7:53a	8:00a	8:07a	8:10a	8:13a	8:22a	8:27a	8:35a
8:45a	8:49a	8:53a	9:00a	9:07a	9:10a	9:13a	9:22a	9:27a	9:35a
9:45a	9:49a	9:53a	10:00a	10:07a	10:10a	10:13a	10:22a	10:27a	10:35a
10:45a	10:49a	10:53a	11:00a	11:07a	11:10a	11:13a	11:22a	11:27a	11:35a
11:45a	11:49a	11:53a	12:00p	12:07p	12:10p	12:13p	12:22p	12:27p	12:35p
12:45p	12:49p	12:53p	1:00p	1:07p	1:10p	1:13p	1:22p	1:27p	1:35p
1:45p	1:49p	1:53p	2:00p	2:07p	2:10p	2:13p	2:22p	2:27p	2:35p
2:45p	2:49p	2:53p	3:00p	3:07p	3:10p	3:13p	3:22p	3:27p	3:35p
3:45p	3:49p	3:53p	4:00p	4:07p	4:10p	4:13p	4:22p	4:27p	4:35p
4:45p	4:49p	4:53p	5:00p	5:07p	5:10p	5:13p	5:22p	5:27p	5:35p
5:45p	5:49p	5:53p	6:00p	6:07p	6:10p	6:13p	6:22p	6:27p	6:35p
6:45p	6:49p	6:53p	7:00p	7:07p	7:10p	7:13p	7:22p	7:27p	7:35p
7:45p	7:49p	7:53p	8:00p	8:07p	8:10p	8:13p	8:22p	8:27p	8:35p
8:45p	8:49p	8:53p	9:00p	9:07p	9:10p	9:13p	9:22p	9:27p	9:35p
9:45p	9:49p	9:53p	10:00p	10:07p	10:10p	10:13p	-	-	-

Please see reverse for weekday schedule.
Buses do not operate on Sundays or holidays.

Weekdays										
Leave		1	2	3	4	5	6	7	8	Arrive
Rt.	Transit Mail	Broadway & Gaines	Fred Meyer	River Rd. Chemawa	Parkmeadow & River Rd.	Whiteaker Middle School	River Rd. Chemawa	Fred Meyer	Broadway & Belmont	Transit Mail
9	--	-	-	6:00a	6:07a	6:10a	6:13a	6:22a	6:27a	6:35a
9a	6:15a	6:19a	6:23a	6:30a	6:37a	-	6:43a	6:52a	6:57a	7:05a
9b	6:30a	6:34a	6:38a	6:45a	-	6:52a	6:58a	7:07a	7:12a	7:20a
9a	6:45a	6:49a	6:53a	7:00a	7:07a	-	7:13a	7:22a	7:27a	7:35a
9b	7:00a	7:04a	7:08a	7:15a	-	7:22a	7:28a	7:37a	7:42a	7:50a
9a	7:15a	7:19a	7:23a	7:30a	7:37a	-	7:43a	7:52a	7:57a	8:05a
9b	7:30a	7:34a	7:38a	7:45a	-	7:52a	7:58a	8:07a	8:12a	8:20a
9a	7:45a	7:49a	7:53a	8:00a	8:07a	-	8:13a	8:22a	8:27a	8:35a
9b	8:00a	8:04a	8:08a	8:15a	-	8:22a	8:28a	8:37a	8:42a	8:50a
9b	8:15a	8:19a	8:23a	8:30a	-	8:37a	8:43a	8:52a	8:57a	9:05a
9a	8:45a	8:49a	8:53a	9:00a	9:07a	-	9:13a	9:22a	9:27a	9:35a
9b	9:15a	9:19a	9:23a	9:30a	-	9:37a	9:43a	9:52a	9:57a	10:05a
9a	9:45a	9:49a	9:53a	10:00a	10:07a	-	10:13a	10:22a	10:27a	10:35a
9b	10:15a	10:19a	10:23a	10:30a	-	10:37a	10:43a	10:52a	10:57a	11:05a
9a	10:45a	10:49a	10:53a	11:00a	11:07a	-	11:13a	11:22a	11:27a	11:35a
9b	11:15a	11:19a	11:23a	11:30a	-	11:37a	11:43a	11:52a	11:57a	12:05p
9a	11:45a	11:49a	11:53a	12:00p	12:07p	-	12:13p	12:22p	12:27p	12:35p
9b	12:15p	12:19p	12:23p	12:30p	-	12:37p	12:43p	12:52p	12:57p	1:05p
9a	12:45p	12:49p	12:53p	1:00p	1:07p	-	1:13p	1:22p	1:27p	1:35p
9b	1:15p	1:19p	1:23p	1:30p	-	1:37p	1:43p	1:52p	1:57p	2:05p
9a	1:45p	1:49p	1:53p	2:00p	2:07p	-	2:13p	2:22p	2:27p	2:35p
9b	2:00p	2:04p	2:08p	2:15p	-	2:22p	2:28p	2:37p	2:42p	2:50p
9a	2:15p	2:19p	2:23p	2:30p	2:37p	-	2:43p	2:52p	2:57p	3:05p
9b	2:30p	2:34p	2:38p	2:45p	-	2:52p	2:58p	3:07p	3:12p	3:20p
9a	2:45p	2:49p	2:53p	3:00p	3:07p	-	3:13p	3:22p	3:27p	3:35p
9b	3:00p	3:04p	3:08p	3:15p	-	3:22p	3:28p	3:37p	3:42p	3:50p
9a	3:15p	3:19p	3:23p	3:30p	3:37p	-	3:43p	3:52p	3:57p	4:05p
9b	3:30p	3:34p	3:38p	3:45p	-	3:52p	3:58p	4:07p	4:12p	4:20p
9a	3:45p	3:49p	3:53p	4:00p	4:07p	-	4:13p	4:22p	4:27p	4:35p
9b	4:00p	4:04p	4:08p	4:15p	-	4:22p	4:28p	4:37p	4:42p	4:50p
9a	4:15p	4:19p	4:23p	4:30p	4:37p	-	4:43p	4:52p	4:57p	5:05p
9b	4:30p	4:34p	4:38p	4:45p	-	4:52p	4:58p	5:07p	5:12p	5:20p
9a	4:45p	4:49p	4:53p	5:00p	5:07p	-	5:13p	5:22p	5:27p	5:35p
9b	5:00p	5:04p	5:08p	5:15p	-	5:22p	5:28p	5:37p	5:42p	5:50p
9a	5:15p	5:19p	5:23p	5:30p	5:37p	-	5:43p	5:52p	5:57p	6:05p
9b	5:30p	5:34p	5:38p	5:45p	-	5:52p	5:58p	6:07p	6:12p	6:20p
9a	5:45p	5:49p	5:53p	6:00p	6:07p	-	6:13p	6:22p	6:27p	6:35p
9b	6:00p	6:04p	6:08p	6:15p	-	6:22p	6:28p	6:37p	6:42p	6:50p
9	6:15p	6:19p	6:23p	6:30p	6:37p	-	6:43p	6:52p	6:57p	7:05p
9	6:45p	6:49p	6:53p	7:00p	7:07p	7:10p	7:13p	7:22p	7:27p	7:35p
9	7:45p	7:49p	7:53p	8:00p	8:07p	8:10p	8:13p	8:22p	8:27p	8:35p
9	8:45p	8:49p	8:53p	9:00p	9:07p	9:10p	9:13p	9:22p	9:27p	9:35p
9	9:45p	9:49p	9:53p	10:00p	10:07p	10:10p	10:13p	-	-	-

Please see reverse for map and Saturday schedule. Buses do not operate on Sundays or holidays.

KEIZER CENTRAL

9

DAY PASSES

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BUS STOPS

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DETOURS

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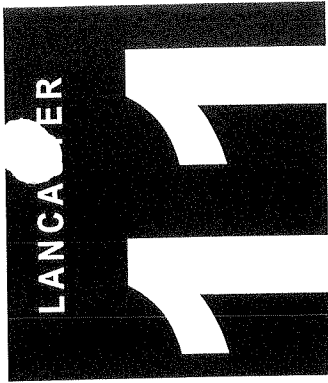
REMINDERS

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- Do not play radios or tapes – headphones are okay
- Have exact change if you're paying cash – drivers carry no change.
- Offer your seat to a senior or person with disabilities.

PURCHASE BUS PASSES

- Cherriots Information Office
(220 High St. NE)
- Roth's (Salem/Keizer stores only)



Keizer, Chemeketa
College, Lancaster Mall,
McKay High School, Marion
County Corrections

DEC 2006

BUS FARES (exact change required)
Children (age 5 and under).....Free
Youth (age 6 to 18)
Adults (age 19 to 59)
Seniors (60+), Disabled,
and Medicare card holders
Single Fare\$0.75
Day Pass\$1.50
Single Fare\$1.00
Day Pass\$2.00
Single Fare\$0.50
Day Pass\$1.00

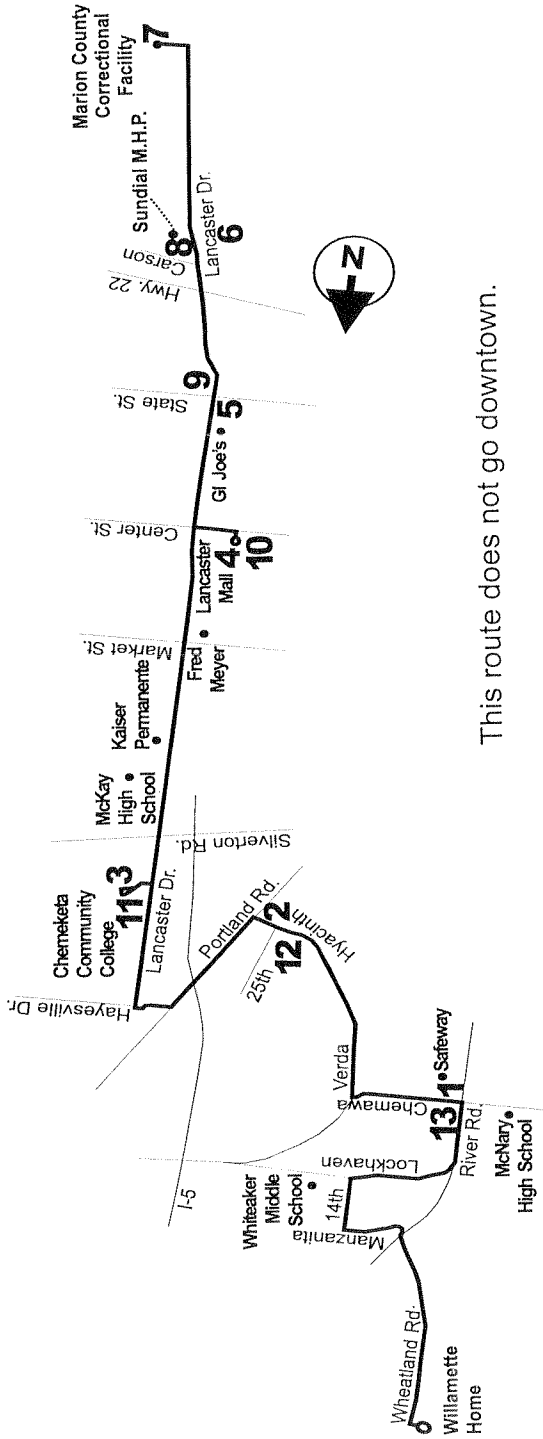
INFORMATION

Cherriots Information Office
220 High Street NE, Salem, OR 97301
Web site: www.cherriots.org
Routes & Schedules: 503-588-BUSS
503-588-2877

11/22/06



Cherriots
Salem-Keizer Trips



Saturday

Leaving	1	2	3	4	5	6	7	8	9	10	11	12	13	Arriving
Willamette Home	7:35a	7:47a	7:54a	8:05a	8:17a	8:22a	8:28a	8:42a	8:46a	8:50a	8:55a	8:59a	9:09a	9:15p
7:50a	9:02a	9:09a	9:20a	9:35a	9:44a	9:48a	10:02a	10:06a	10:10a	10:15a	10:31a	10:38a	10:44a	10:55a
9:50a	10:02a	10:09a	10:20a	10:35a	10:44a	10:48a	11:02a	11:06a	11:10a	11:15a	11:31a	11:38a	11:44a	11:55a
11:10a	11:22a	11:29a	11:40a	11:55a	12:04p	12:08p	12:22p	12:26p	12:30p	12:35p	12:51p	12:58p	1:04p	1:15p
12:10p	12:22p	12:29p	12:40p	12:55p	1:04p	1:08p	1:22p	1:26p	1:30p	1:35p	1:51p	1:58p	2:04p	2:15p
1:30p	1:42p	1:49p	2:00p	2:15p	2:24p	2:28p	2:42p	2:46p	2:50p	2:55p	3:11p	3:18p	3:24p	3:35p
2:30p	2:42p	2:49p	3:00p	3:15p	3:24p	3:28p	3:42p	3:46p	3:50p	3:55p	4:11p	4:18p	4:24p	4:35p
3:50p	4:02p	4:09p	4:20p	4:35p	4:44p	4:48p	5:02p	5:06p	5:10p	5:15p	5:31p	5:38p	5:44p	5:55p
4:50p	5:00p	5:05p	5:15p	5:28p	5:33p	5:37p	5:47p	5:51p	5:55p	6:00p	6:16p	6:23p	6:29p	6:40p
6:05p	6:15p	6:20p	6:30p	6:43p	6:48p	6:52p	7:06p	7:10p	7:14p	7:19p	7:35p	7:42p	7:48p	7:59p
6:50p	7:00p	7:05p	7:15p	7:28p	7:33p	7:37p	7:41p	7:45p	7:49p	7:54p	8:09p	8:15p	8:20p	8:28p
7:50p	8:00p	8:05p	8:15p	8:28p	8:33p	8:37p	8:41p	8:45p	8:49p	8:54p	9:09p	9:15p	9:20p	9:28p
8:35p	8:45p	8:50p	9:00p	9:13p	9:18p	9:22p	9:26p	-	-	-	-	-	-	-

Please see reverse for Weekday schedule. Buses do not operate on Sundays or holidays.

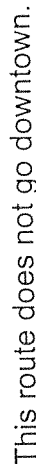
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 - drivers carry no change.
- Offer your seat to a senior or person with disabilities.

- Cherriots Information Office
(220 High St. NE)
- Roth's (Salem/Keizer stores only)



Weekday

Leaving	1	2	3	4	5	6	7	8	9	10	11	12	13	Arriving
	Chemawa & Safeway	Hyacinth & 25th	Chemeketa College	Lancaster Mail	Lancaster & State	Lancaster MHP	Correctional Facility	Lancaster & Carson	Lancaster & State	Lancaster Mall	Chemeketa College	Hyacinth & 25th	Chemawa & River Rd.	Williamette Home
-	-	-	-	-	-	-	6:32a	6:36a	6:40a	6:45a	6:59a	7:06a	7:12a	7:26a
6:35a	6:47a	6:54a	7:05a	7:17a	7:22a	7:28a	7:42a	7:46a	7:50a	7:55a	8:09a	8:16a	8:22a	8:36a
7:35a	7:47a	7:54a	8:05a	8:17a	8:22a	8:28a	8:42a	8:46a	8:50a	8:55a	9:11a	9:18a	9:24a	9:35a
8:50a	9:02a	9:09a	9:20a	9:35a	9:44a	9:48a	10:02a	10:06a	10:10a	10:15a	10:31a	10:38a	10:44a	10:55a
9:50a	10:02a	10:09a	10:20a	10:35a	10:44a	10:48a	11:02a	11:06a	11:10a	11:15a	11:31a	11:38a	11:44a	11:55a
11:10a	11:22a	11:29a	11:40a	11:55a	12:04p	12:08p	12:22p	12:26p	12:30p	12:35p	12:51p	12:58p	1:04p	1:16p
12:10p	12:22p	12:29p	12:40p	12:55p	1:04p	1:08p	1:22p	1:26p	1:30p	1:35p	1:51p	1:58p	2:04p	2:16p
1:30p	1:42p	1:49p	2:00p	2:15p	2:24p	2:28p	2:42p	2:46p	2:50p	2:55p	3:11p	3:19p	3:25p	3:37p
2:30p	2:42p	2:49p	3:00p	3:15p	3:24p	3:28p	3:42p	3:46p	3:50p	3:55p	4:11p	4:19p	4:25p	4:37p
3:50p	4:02p	4:09p	4:20p	4:35p	4:44p	4:48p	5:02p	5:06p	5:10p	5:15p	5:31p	5:39p	5:45p	5:57p
4:50p	5:02p	5:09p	5:20p	5:35p	5:44p	5:48p	6:12p	6:16p	6:20p	6:25p	6:40p	6:46p	6:51p	6:59p
6:15p	6:25p	6:30p	6:40p	6:53p	6:58p	7:02p	7:12p	7:16p	7:20p	7:25p	7:40p	7:46p	7:51p	7:59p
7:15p	7:25p	7:30p	7:40p	7:53p	7:58p	8:02p	8:06p	8:10p	8:14p	8:19p	8:34p	8:40p	8:45p	8:53p
8:15p	8:25p	8:30p	8:40p	8:53p	8:58p	9:02p	9:06p	9:10p	9:14p	9:19p	9:34p	9:40p	9:45p	9:53p
9:05p	9:15p	9:20p	9:30p	9:43p	9:48p	9:52p	9:56p	-	-	-	-	-	-	-

Please see reverse for Saturday schedule. Buses do not operate on Sundays or holidays.



Fred Meyer North,
Chemawa Road,
Keizer, McNary High

SEP 2006

BUS FARES (exact change required)

Children (age 5 and under).....Free

Youth (age 6 to 18)

Single Fare\$0.75

Day Pass\$1.50

Adults (age 19 to 59)

Single Fare\$1.00

Day Pass\$2.00

Seniors (60+), Disabled,
and Medicare card holders

Single Fare\$0.50

Day Pass\$1.00

INFORMATION

Cherriots Information Office

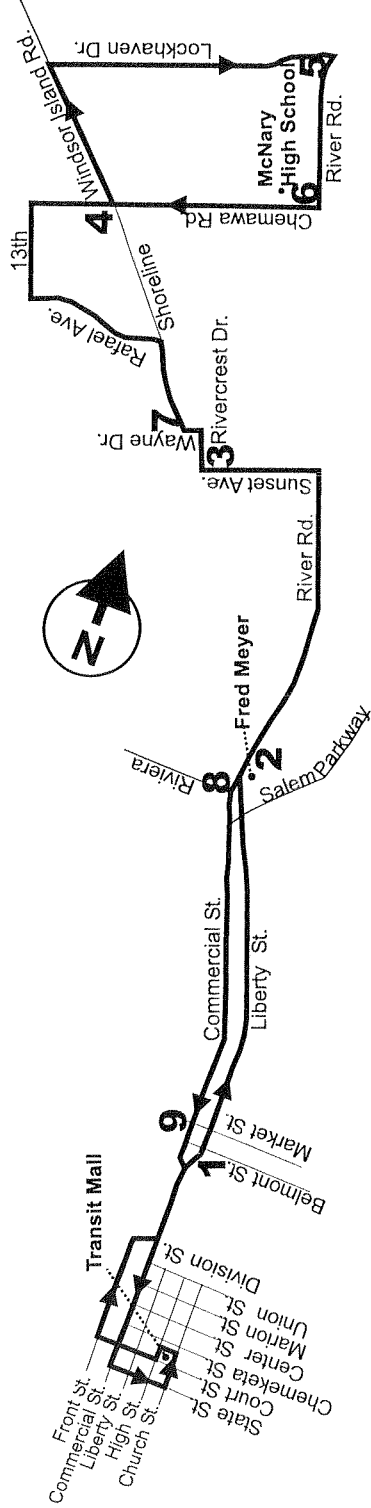
220 High Street NE, Salem, OR 97301

Web site: www.cherriots.org

Routes & Schedules: 503-588-BUSS

503-588-2877

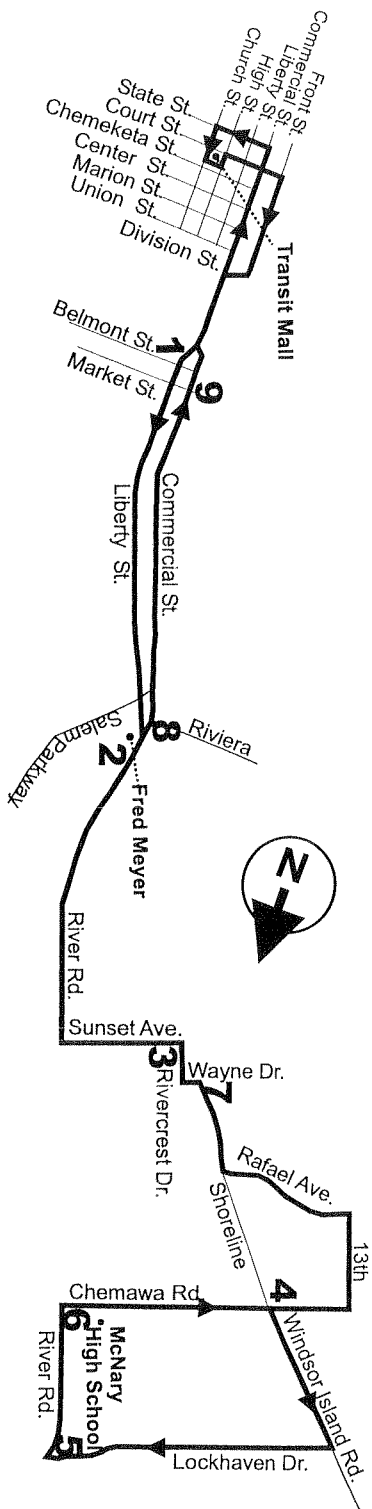
8/3/06



Saturdays

Leaving	1	2	3	4	5	6	7	8	9	Arriving
Transit Mall	Liberty & Belmont	Fred Meyer	Rivercrest & Wayne	Chemawa & Shoreline	Lockhaven & River Rd.	River Rd. & Chemawa	Wayne & Rivercrest	River Rd. & Riviera	Commercial & Belmont	Transit Mall
7:45a	7:48a	7:51a	7:57a	8:03a	8:07a	8:10a	8:18a	8:23a	8:26a	8:35a
8:45a	8:48a	8:51a	8:57a	9:03a	9:07a	9:10a	9:18a	9:23a	9:26a	9:35a
9:45a	9:48a	9:51a	9:57a	10:03a	10:07a	10:10a	10:18a	10:23a	10:26a	10:35a
10:45a	10:48a	10:51a	10:57a	11:03a	11:07a	11:10a	11:18a	11:23a	11:26a	11:35a
11:45a	11:48a	11:51a	11:57a	12:03p	12:07p	12:10p	12:18p	12:23p	12:26p	12:35p
12:45p	12:48p	12:51p	12:57p	1:03p	1:07p	1:10p	1:18p	1:23p	1:26p	1:35p
1:45p	1:48p	1:51p	1:57p	2:03p	2:07p	2:10p	2:18p	2:23p	2:26p	2:35p
2:45p	2:48p	2:51p	2:57p	3:03p	3:07p	3:10p	3:18p	3:23p	3:26p	3:35p
3:45p	3:48p	3:51p	3:57p	4:03p	4:07p	4:10p	4:18p	4:23p	4:26p	4:35p
4:45p	4:48p	4:51p	4:57p	5:03p	5:07p	5:10p	5:18p	5:23p	5:26p	5:35p
5:45p	5:48p	5:51p	5:57p	6:03p	6:07p	6:10p	6:18p	6:23p	6:26p	6:35p
6:45p	6:48p	6:51p	6:57p	7:03p	7:07p	7:10p	7:18p	7:23p	7:26p	7:35p
7:45p	7:48p	7:51p	7:57p	8:03p	8:07p	8:10p	8:18p	8:23p	8:26p	8:35p
8:45p	8:48p	8:51p	8:57p	9:03p	9:07p	9:10p	9:18p	9:23p	9:26p	9:35p
9:45p	9:48p	9:51p	9:57p	10:03p	10:07p	10:10p				

Please see reverse for weekday schedule. Buses do not operate on Sundays or holidays.



KEIZER WEST 18

DAY PASSES

Day Passes are available for twice the cost of a single fare and will allow you to ride all day, as often as you want. You can purchase Day Passes from your bus operator or at the Cherriots Information Office.

BUS STOPS

Buses will stop at designated bus stops only.

DETOURS

We try to maintain our regular service as close as possible; however, not only weather, but also traffic and road construction sometimes make it impossible. Please watch for detour notices that are placed on the buses to notify riders of route changes. Remember, you can call the Cherriots information office at 503-588-2877 for updated information.

REMINDERS

Please,

- Do not eat on a Cherriots bus.
- Drinks are allowed if they are in a hard-sided, spill-resistant covered container.
- No smoking on the bus.
- Do not play radios or tapes – headphones are okay.
- Have exact change if you're paying cash – drivers carry no change.
- Offer your seat to a senior or person with disabilities.

PURCHASE BUS PASSES

- Cherriots Information Office (220 High St. NE)
- Rolih's (Salem/Keizer stores only)

Weekdays

Leaving	1	2	3	4	5	6	7	8	9	Arriving
Transit Mall	Liberty & Belmont	Fred Meyer	Rivercrest & Wayne	Chemawa & Shoreline	Lockhaven & River Rd.	River Rd. & Chemawa	Wayne & Rivercrest	River Rd. & Riviera	Commercial & Belmont	Transit Mall
6:45a	6:48a	6:51a	6:57a	7:03a	7:07a	7:10a	7:18a	7:23a	7:26a	7:35a
7:45a	7:48a	7:51a	7:57a	8:03a	8:07a	8:10a	8:18a	8:23a	8:26a	8:35a
8:45a	8:48a	8:51a	8:57a	9:03a	9:07a	9:10a	9:18a	9:23a	9:26a	9:35a
9:45a	9:48a	9:51a	9:57a	10:03a	10:07a	10:10a	10:18a	10:23a	10:26a	10:35a
10:45a	10:48a	10:51a	10:57a	11:03a	11:07a	11:10a	11:18a	11:23a	11:26a	11:35a
11:45a	11:48a	11:51a	11:57a	12:03p	12:07p	12:10p	12:18p	12:23p	12:26p	12:35p
12:45p	12:48p	12:51p	12:57p	1:03p	1:07p	1:10p	1:18p	1:23p	1:26p	1:35p
1:45p	1:48p	1:51p	1:57p	2:03p	2:07p	2:10p	2:18p	2:23p	2:26p	2:35p
2:45p	2:48p	2:51p	2:57p	3:03p	3:07p	3:10p	3:18p	3:23p	3:26p	3:35p
3:45p	3:48p	3:51p	3:57p	4:03p	4:07p	4:10p	4:18p	4:23p	4:26p	4:35p
4:45p	4:48p	4:51p	4:57p	5:03p	5:07p	5:10p	5:18p	5:23p	5:26p	5:35p
5:45p	5:48p	5:51p	5:57p	6:03p	6:07p	6:10p	6:18p	6:23p	6:26p	6:35p
6:45p	6:48p	6:51p	6:57p	7:03p	7:07p	7:10p	7:18p	7:23p	7:26p	7:35p
7:45p	7:48p	7:51p	7:57p	8:03p	8:07p	8:10p	8:18p	8:23p	8:26p	8:35p
8:45p	8:48p	8:51p	8:57p	9:03p	9:07p	9:10p	9:18p	9:23p	9:26p	9:35p
9:45p	9:48p	9:51p	9:57p	10:03p	10:07p	10:10p				

Please see reverse for Saturday schedule. Buses do not operate on Sundays or holidays.

Appendix "C"
Cherriots Ridership Data
for Keizer Bus Routes

SALEM AREA TRANSIT
 APC RIDERSHIP STATISTICS
 obtained from the Transportation Development Division
 of the Salem Area Mass Transit District

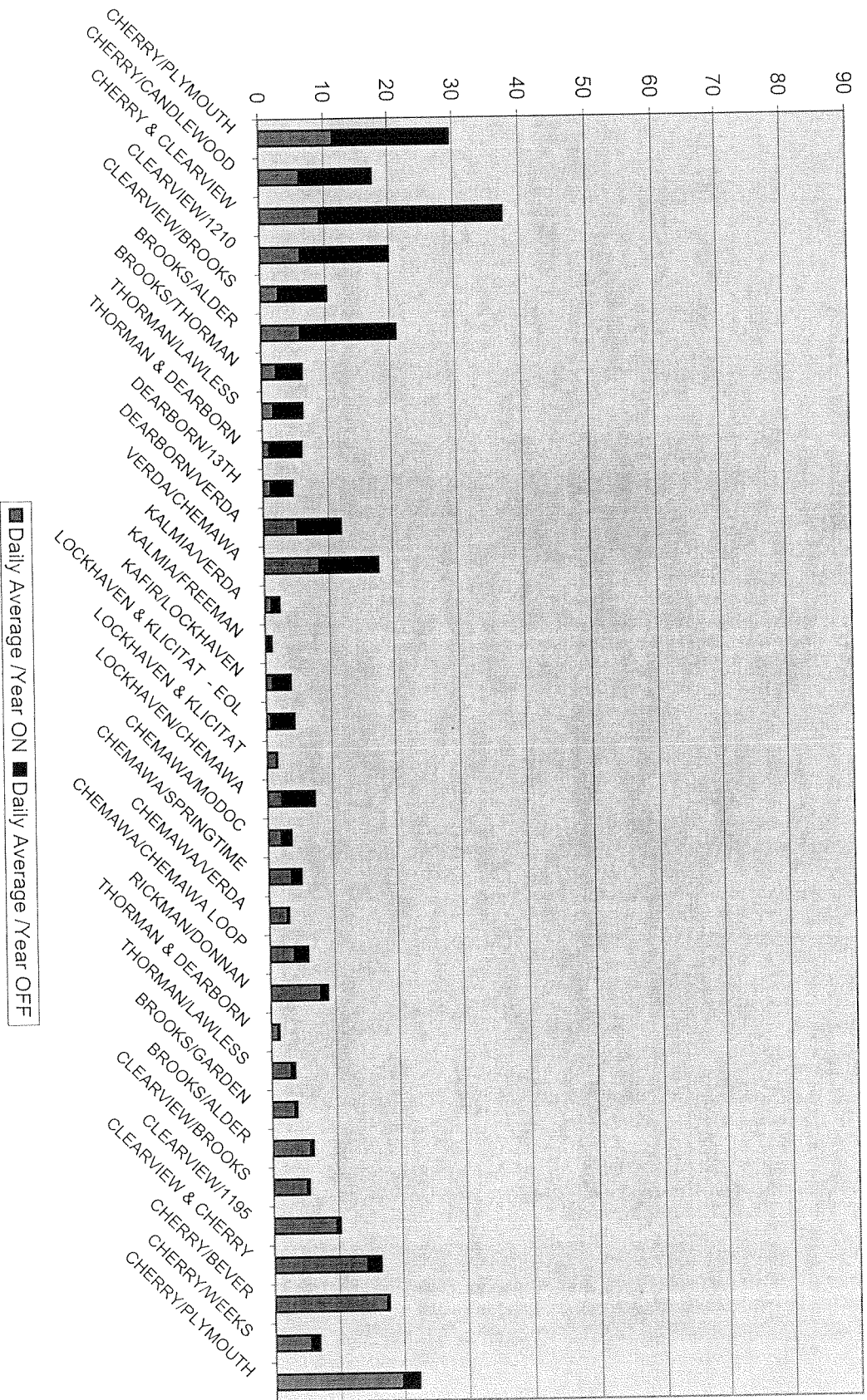
APC STOP SUMMARY - DAILY TOTALS
LOAD of Passengers getting Off and On the bus

Route 4		Total of the 4 Daily Ave/Quarter			Daily Average /Year		
		ON	OFF	TOTAL	ON	OFF	TOTAL
18	392 CHERRY/PLYMOUTH	46	72	118	12	18	30
19	393 CHERRY/CANDLEWOOD	25	45	71	6	11	18
20	28 CHERRY & CLEARVIEW	37	113	149	9	28	37
21	394 CLEARVIEW/1210	25	55	80	6	14	20
22	395 CLEARVIEW/BROOKS	11	30	41	3	8	10
23	396 BROOKS/ALDER	24	60	83	6	15	21
24	397 BROOKS/THORMAN	9	16	25	2	4	6
25	398 THORMAN/LAWLESS	7	18	26	2	5	7
26	29 THORMAN & DEARBORN	4	20	23	1	5	6
27	399 DEARBORN/13TH	5	13	19	1	3	5
28	400 DEARBORN/VERDA	21	27	47	5	7	12
29	401 VERDA/CHEMAWA	34	37	68	9	9	17
30	402 KALMIA/VERDA	4	5	9	1	1	2
31	403 KALMIA/FREEMAN	2	2	5	1	1	1
32	404 KAFIR/LOCKHAVEN	4	11	15	1	3	4
33	405 LOCKHAVEN & KLICITAT - EOL	3	14	17	1	4	4
1	405 LOCKHAVEN & KLICITAT	6	0	6	2	0	2
2	30 LOCKHAVEN/CHEMAWA	9	20	29	2	5	7
3	406 CHEMAWA/MODOC	8	6	14	2	2	4
4	407 CHEMAWA/SPRINGTIME	14	6	20	4	2	5
5	408 CHEMAWA/VERDA	11	1	12	3	0	3
6	409 CHEMAWA/CHEMAWA LOOP	15	8	22	4	2	6
7	410 RICKMAN/DONNAN	31	4	35	8	1	9
8	161 THORMAN & DEARBORN	4	1	4	1	0	1
9	411 THORMAN/LAWLESS	12	2	13	3	1	3
10	412 BROOKS/GARDEN	14	1	15	4	0	4
11	413 BROOKS/ALDER	23	2	25	6	1	6
12	414 CLEARVIEW/BROOKS	21	1	22	5	0	6
13	415 CLEARVIEW/1195	39	2	41	10	1	10
14	162 CLEARVIEW & CHERRY	58	8	65	15	2	16
15	416 CHERRY/BEVER	70	1	72	18	0	18
16	419 CHERRY/WEEKS	22	5	27	6	1	7
17	417 CHERRY/PLYMOUTH	79	10	87	20	3	22

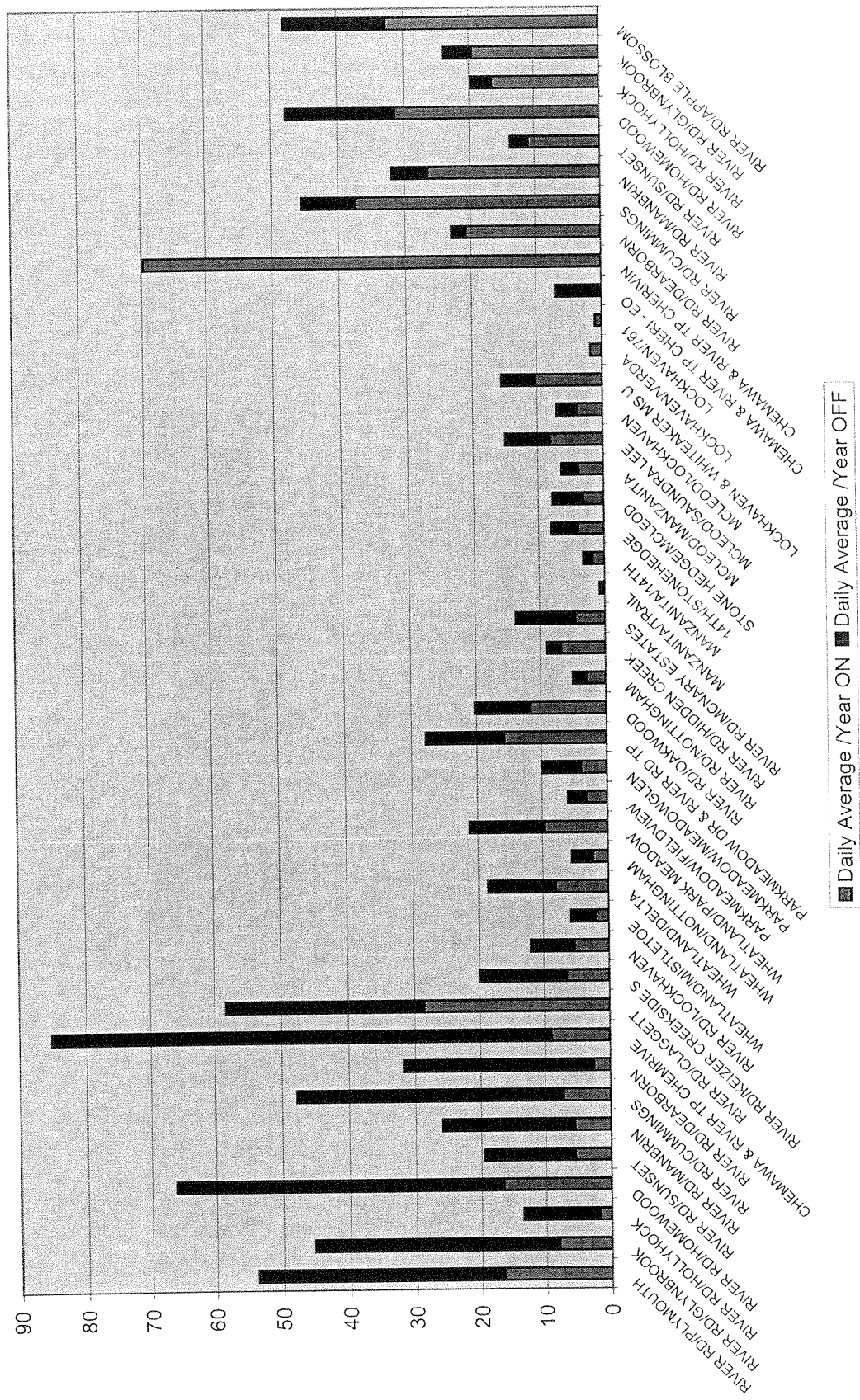
Route 9		Total of the 4 Daily Ave/Quarter			Daily Average /Year		
		ON	OFF	TOTAL	ON	OFF	TOTAL
16	995 RIVER RD/PLYMOUTH	66	149	212	17	37	53
17	996 RIVER RD/GLYNBROOK	32	149	183	8	37	46
18	997 RIVER RD/HOLLYHOCK	7	47	54	2	12	14
19	998 RIVER RD/HOMEWOOD	66	199	265	17	50	66
20	1160 RIVER RD/SUNSET	22	56	78	6	14	20
21	1161 RIVER RD/MANBRIN	22	82	104	6	21	26
22	1162 RIVER RD/CUMMINGS	29	162	190	7	41	48
23	1163 RIVER RD/DEARBORN	10	117	128	3	29	32
24	63 CHEMAWA & RIVER TP CHEMRIVE	36	305	342	9	76	86
25	1111 RIVER RD/CLAGGETT	114	119	233	29	30	58
26	1112 RIVER RD/KEIZER CREEKSIDE S	26	54	78	7	14	20
27	1164 RIVER RD/LOCKHAVEN	21	27	48	5	7	12
28	1119 WHEATLAND/MISTLETOE	8	15	23	2	4	6
29	1120 WHEATLAND/DELTA	32	42	75	8	11	19
30	1121 WHEATLAND/NOTTINGHAM	9	13	22	2	3	6
31	1122 WHEATLAND/PARK MEADOW	39	46	84	10	12	21
32	1166 PARKMEADOW/FIELDVIEW	13	11	24	3	3	6
33	1167 PARKMEADOW/MEADOWGLEN	16	24	40	4	6	10
34	64 PARKMEADOW DR & RIVER RD TP	63	48	111	16	12	28
35	1168 RIVER RD/OAKWOOD	47	34	82	12	9	21
36	1169 RIVER RD/NOTTINGHAM	12	8	20	3	2	5
37	1170 RIVER RD/HIDDEN CREEK	27	9	36	7	2	9
38	1251 RIVER RD/MCNARY ESTATES	18	37	56	5	9	14
40	1129 MANZANITA/TRAIL	1	2	4	0	1	1
41	1130 MANZANITA/14TH	7	6	14	2	2	4
42	65 14TH/STONEHEDGE	16	16	33	4	4	8
43	1171 STONE HEDGE/MCLEOD	13	18	32	3	5	8
44	1172 MCLEOD/MANZANITA	16	10	26	4	3	7
45	1173 MCLEOD/SAUNDRA LEE	32	28	60	8	7	15
46	1174 MCLEOD/LOCKHAVEN	16	12	27	4	3	7
47	66 LOCKHAVEN & WHITEAKER MS U	41	21	62	10	5	16
48	1133 LOCKHAVEN/VERDA	7	0	10	2	0	3
49	1134 LOCKHAVEN/761	4	0	6	1	0	2
52	176 CHEMAWA & RIVER TP CHERI - EO	0	28	28	0	7	7
1	176 CHEMAWA & RIVER TP CHERIVIN	279	0	279	70	0	70
2	1175 RIVER RD/DEARBORN	83	9	93	21	2	23
3	1176 RIVER RD/CUMMINGS	150	32	182	38	8	46
4	1177 RIVER RD/MANBRIN	106	22	129	27	6	32
5	1178 RIVER RD/SUNSET	44	11	58	11	3	15
6	1024 RIVER RD/HOMEWOOD	126	65	191	32	16	48
7	1025 RIVER RD/HOLLYHOCK	66	13	78	17	3	20
8	1026 RIVER RD/GLYNBROOK	78	18	96	20	5	24
9	1027 RIVER RD/APPLE BLOSSOM	131	61	193	33	15	48

Route 18		ON	OFF	TOTAL	ON	OFF	TOTAL
13	995 RIVER RD/PLYMOUTH	10	20	31	3	5	8
14	996 RIVER RD/GLYNBROOK	6	14	21	2	4	5
15	997 RIVER RD/HOLLYHOCK	0	5	6	0	1	2
16	998 RIVER RD/HOMEWOOD	24	16	39	6	4	10
17	999 SUNSET/211A	6	15	23	2	4	6
18	1000 SUNSET/5TH AVE N	0	5	5	0	1	1
19	117 RIVERCREST & WAYNE U RIVEWA	0	11	11	0	3	3
20	1001 SHORELINE/CUMMINGS	3	20	23	1	5	6
21	1002 RAFAEL/10TH PLACE	3	12	15	1	3	4
22	1003 13TH/MONEDA	10	17	27	3	4	7
23	1004 13TH/CHEMAWA	20	44	65	5	11	16
24	118 CHEMAWA & SHORELINE U CHEMS	5	28	32	1	7	8
25	1005 WINDSOR ISLAND/ORCHARD	75	78	153	19	20	38
27	1007 WINDSOR ISLAND/LOCKHAVEN	6	6	12	2	2	3
28	1008 LOCKHAVEN/WILDWOOD CT	13	17	33	3	4	8
29	1009 LOCKHAVEN/JOAN	15	13	29	4	3	7
30	1010 LOCKHAVEN/NEWBERG	5	13	17	1	3	4
31	1011 LOCKHAVEN/LAKEFAIR	2	2	4	1	1	1
32	119 LOCKHAVEN & RIVER RD U LOCK	3	9	12	1	2	3
33	1012 RIVER RD/MCNARY OAKS MHP	5	3	9	1	1	2
34	1013 RIVER RD/CLAGGETT	45	12	55	11	3	14
35	67 RIVER RD & CHEMAWA U CHE - EC	0	22	22	0	6	6
1	67 RIVER RD & CHEMAWA U CHEMRI	85	0	85	21	0	21
2	1014 CHEMAWA/ROBINDALE	11	13	24	3	3	6
3	1015 CHEMAWA/NEWBERG	43	25	68	11	6	17
4	1016 CHEMAWA/JOAN	13	7	19	3	2	5
5	1017 CHEMAWA/TRADE WIND	8	3	9	2	1	2
6	1018 13TH/CHEMAWA	20	8	29	5	2	7
7	1019 13TH/RAFAEL	10	1	11	3	0	3
8	1020 RAFAEL/10TH	4	0	4	1	0	1
9	1021 SHORELINE/CUMMINGS	20	1	21	5	0	5
10	195 WAYNE & RIVERCREST U RIVEWA	8	1	9	2	0	2
11	1022 SUNSET/5TH	4	1	6	1	0	2
12	1023 SUNSET/RIVER RD	18	5	23	5	1	6
13	1024 RIVER RD/HOMEWOOD	33	13	44	8	3	11
14	1025 RIVER RD/HOLLYHOCK	24	2	26	6	1	7
15	1026 RIVER RD/GLYNBROOK	24	7	30	6	2	8
16	1027 RIVER RD/APPLE BLOSSOM	39	12	51	10	3	13

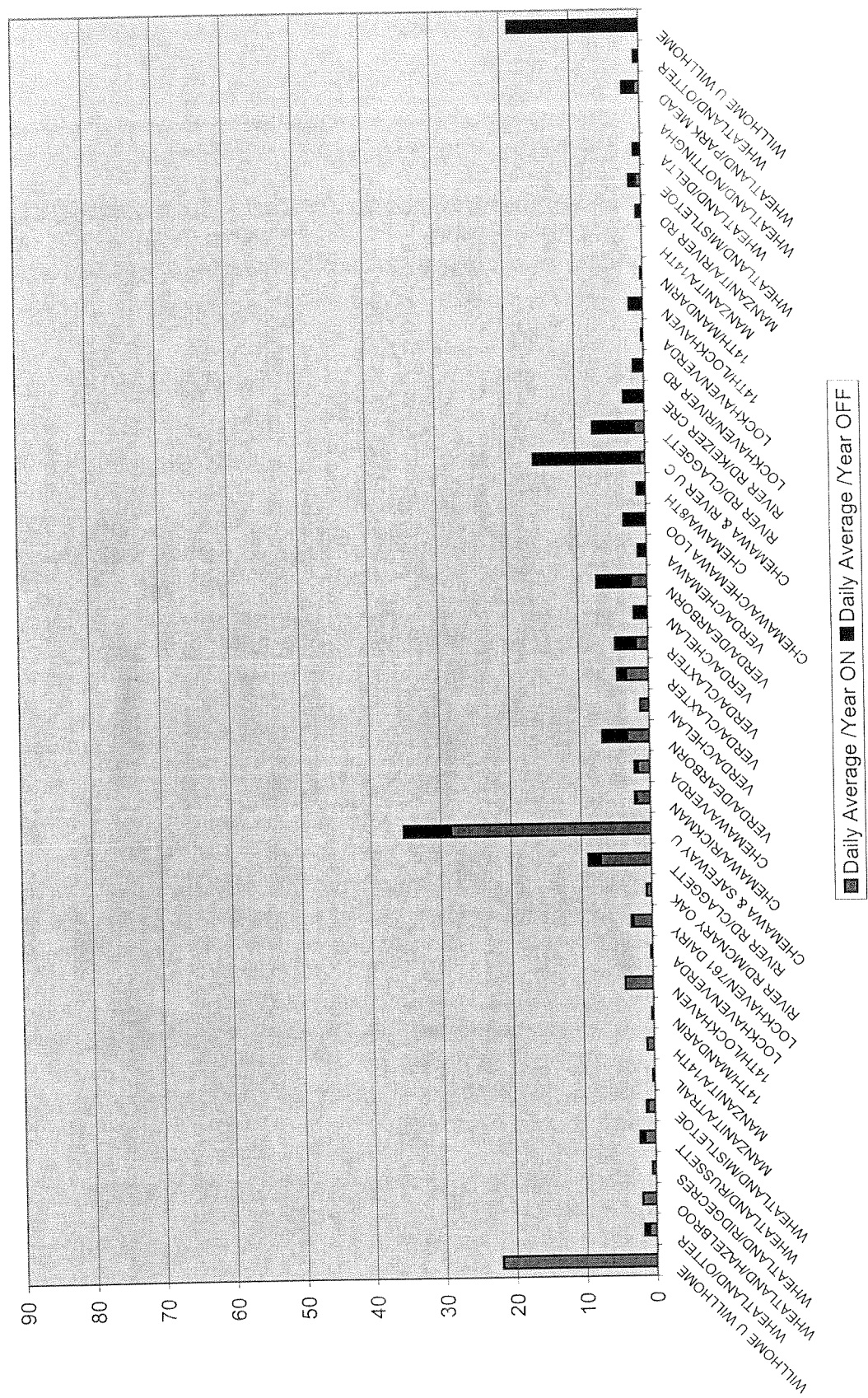
Average Daily Ridership for Year 2007 on Keizer Bus stops of Route 4



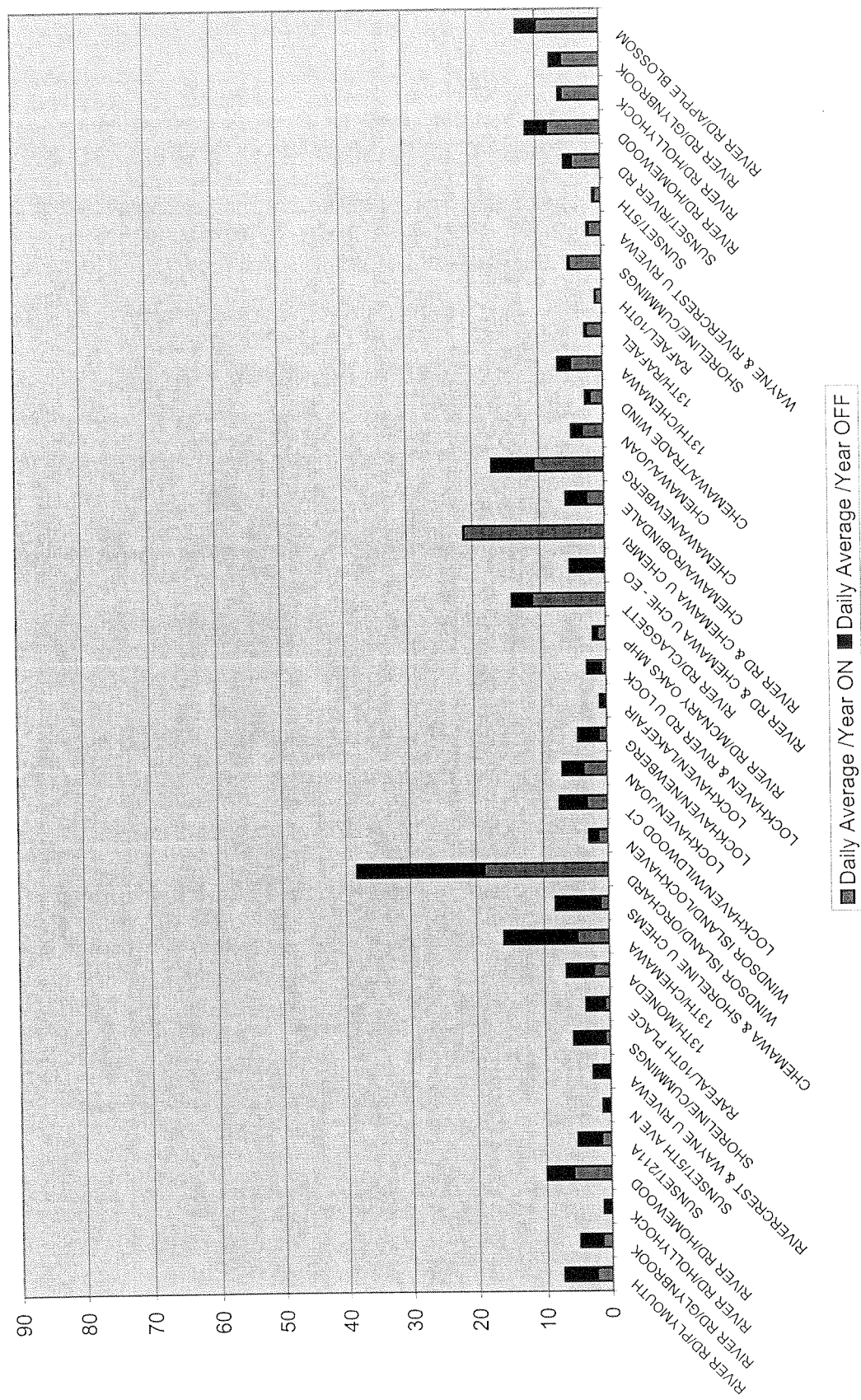
Average Daily Ridership for Year 2007 on Keizer Bus stops of Route 9



Average Daily Ridership per Year on Keizer Bus stops of Route 11



Average Daily Ridership for Year 2007 on Keizer Bus stops of Route 18



Appendix “D”
ODOT Traffic Counts

TRANSPORTATION DEVELOPMENT BRANCH
TRANSPORTATION SYSTEM MONITORING UNIT
VEHICULAR VOLUME

RECEIVED
AUG 29 2007
O.D.O.T. Region 2

DATE : July 23/24, 2007

DAY WEEK : Mon. Tues.

ACT COUNT: 16

HRS COUNT: 6AM - 10PM

PED COUNT: 16

HRS COUNT: 6AM - 10PM

WEATHER : clear

CITY or COUNTY : Keizer

INTERSECTION OF: Lockhaven Dr. NE @ Verda Lane

MILE POST: n/a

CLASSIFICATION : All vehicles

**TOTAL VEHICLES
ENTERING**

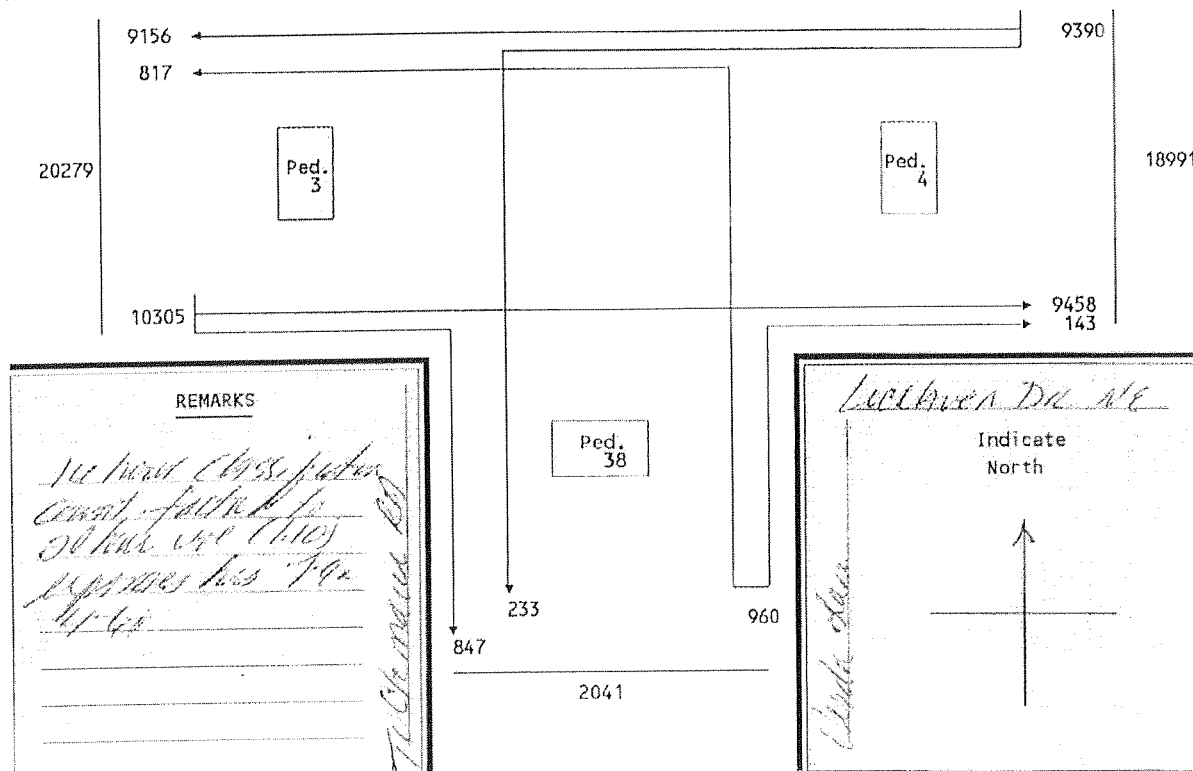
INTERSECTION : 20654 100

ENTERING FROM
NORTH & SOUTH : 960 4.6

ENTERING FROM
EAST & WEST : 19694 95.3

To River Rd

To River St



SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : JULY 23/24, 2007
HOURS : 6AM - 10PM
DAY : Mon. Tues.
WEATHER : clear
COUNTY : Marion
INTERSECTION OF: Lockhaven Dr. NE & Verda Lane
CITY: Keizer

Tab by: CHK by: MILE POST : n/a

TIME OF DAY	SUMMARY BY MOVEMENTS										PERCENT OF TOTAL	EAST AND WEST	ENTERING VOLUMES BY LEGS		
	E-S	E-W	S-E	S-W	N-E	N-S	NORTH AND SOUTH		TOTAL	EAST			SOUTH	WEST	
							TOTAL	TOTAL							
06:00-07:00A	7	219	5	19	481	22	24	753	3.2	729	226	24	503		
07:00-07:15A		78		10	127	6	10	211	4.5	211	78	10	133		
07:15-07:30A	1	64	2	4	138	3	6	212	2.8	206	65	6	141		
07:30-07:45A	2	86	1	12	154	10	13	265	4.9	252	88	13	164		
07:45-08:00A	4	105	2	7	120	11	9	249	3.6	240	109	9	131		
08:00-08:15A	1	98	2	11	143	5	13	260	5.0	247	99	13	148		
08:15-08:30A	5	97		5	127	12	5	246	2.0	241	102	5	139		
08:30-08:45A	1	111	2	10	142	12	12	278	4.3	266	112	12	154		
08:45-09:00A	7	130	1	13	135	11	14	297	4.7	283	137	14	146		
09:00-10:00A	10	453	6	47	435	35	53	986	5.4	933	463	53	470		
10:00-11:00A	8	462	8	54	516	49	62	1097	5.7	1035	470	62	565		
11:00-12:00P	12	461	9	37	609	44	46	1172	3.9	1126	473	46	653		
12:00-01:00P	17	566	10	50	643	60	60	1346	4.5	1286	583	60	703		
01:00-02:00P	10	581	4	46	614	57	50	1312	3.8	1262	591	50	671		
02:00-03:00P	8	649	8	63	595	40	71	1363	5.2	1292	657	71	635		
03:00-04:00P	22	671	8	49	654	61	57	1465	3.9	1408	693	57	715		
04:00-04:15P	7	165	1	15	147	24	16	359	4.5	343	172	16	171		
04:15-04:30P	4	190	2	23	167	17	25	403	6.2	378	194	25	184		
04:30-04:45P	5	209	3	11	196	18	14	442	3.2	428	214	14	214		
04:45-05:00P	3	184	3	17	162	17	20	386	5.2	366	187	20	179		
05:00-05:15P	3	179	7	17	171	20	7	380	1.8	373	182	7	191		
05:15-05:30P	8	200	10	11	163	18	21	410	5.1	389	208	21	181		
05:30-05:45P	5	204	5	11	182	21	16	428	3.7	412	209	16	203		
05:45-06:00P	7	185	4	21	177	23	25	417	6.0	392	192	25	200		
06:00-07:00P	23	691	13	60	601	51	73	1439	5.1	1366	714	73	652		
07:00-08:00P	11	466	10	57	435	44	67	1023	6.5	956	477	67	479		
08:00-09:00P	8	438	6	44	338	45	50	879	5.7	829	446	50	383		
09:00-10:00P	13	382	5	29	226	34	34	689	4.9	655	395	34	260		
TOTAL COUNT	212	8324	130	743	8598	770	873	18777	4.6	17904	8536	873	9368		
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	960	20654	4.6	19695	9390	960	10305		
24HR VOLUME	233	9156	143	817	9458	847									

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

CITY: Keizer

COUNTY: Marion

DATE: July 23/24, 2007

DAY: Mon. Tues.

INTERSECTION OF: Lockhaven Dr. NE @ Verda Lane

HOURS: 6AM - 10PM

WEATHER: clear

MILE POST: n/a

chk. by:

tab. by:

SUMMARY BY MOVEMENTS

TIME OF DAY		SUMMARY BY MOVEMENTS										TOTAL	NORTH AND SOUTH		PERCENT OF TOTAL	ENTERING VOLUMES BY LEGS		
		E-S	E-W	S-E	S-W	W-E	W-S											
06:00-07:00A	7	219	5	19	481	22					753	24	3.2	729	96.8	226	24	503
07:00-08:00A	7	333	5	33	539	30					947	38	4.0	909	96.0	340	38	569
08:00-09:00A	14	436	5	39	547	40					1081	44	4.1	1037	95.9	450	44	587
09:00-10:00A	10	453	6	47	435	35					986	53	5.4	933	94.6	463	53	470
10:00-11:00A	8	462	8	54	516	49					1097	62	5.7	1035	94.3	470	62	565
11:00-12:00P	12	461	9	37	609	44					1172	46	3.9	1126	96.1	473	46	653
12:00-01:00P	17	566	10	50	643	60					1346	60	4.5	1286	95.5	583	60	703
01:00-02:00P	10	581	4	46	614	57					1312	50	3.8	1262	96.2	591	50	671
02:00-03:00P	8	649	8	63	595	40					1363	71	5.2	1292	94.8	657	71	635
03:00-04:00P	22	671	8	49	654	61					1465	57	3.9	1408	96.1	693	57	715
04:00-05:00P	19	748	9	66	672	76					1590	75	4.7	1515	95.3	767	75	748
05:00-06:00P	23	768	19	59	693	82					1635	69	4.2	1566	95.8	791	69	775
06:00-07:00P	23	691	13	60	601	51					1439	73	5.1	1366	94.9	714	73	652
07:00-08:00P	11	466	10	57	435	44					1023	67	6.5	956	93.5	477	67	479
08:00-09:00P	8	438	6	44	338	45					879	50	5.7	829	94.3	446	50	383
09:00-10:00P	13	382	5	29	226	34					689	34	4.9	655	95.1	395	34	260
TOTAL COUNT	212	8324	130	743	8598	770					18777	873	4.6	17904	95.4	8536	873	9368
24-HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10					20654	960	4.6	19695	95.4	9390	960	10305
24-HR VOLUME	233	9156	143	817	9458	847												

North and South is: Verda Lane

East and West is: Lockhaven Dr. NE

SUM 2419

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon. Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 TO : WEST
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ Verda lane
 CITY: Keizer
 MILE POST : n/a
 TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SSL UNIT TRUCK		SSL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY DLE
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl
06:00-07:00A	3		2				2									7
07:00-07:15A																1
07:15-07:30A	1															2
07:30-07:45A	2															4
07:45-08:00A	1		2													1
08:00-08:15A	1															5
08:15-08:30A	1		3			1										1
08:30-08:45A			1													7
08:45-09:00A	4		2													10
09:00-10:00A	5		4													8
10:00-11:00A	5		3													12
11:00-12:00P	6		6													17
12:00-01:00P	9		8													10
01:00-02:00P	6		3										1			8
02:00-03:00P	5		2													22
03:00-04:00P	13		6			3										7
04:00-04:15P	4		2													4
04:15-04:30P	3		1													5
04:30-04:45P	4		1													3
04:45-05:00P	3															3
05:00-05:15P	3		3													6
05:15-05:30P	5															5
05:30-05:45P	3		1			1										7
05:45-06:00P	5		2													23
06:00-07:00P	16		7													11
07:00-08:00P	8		3													8
08:00-09:00P	6		2													13
09:00-10:00P	9		4													
16 HOUR	131		68		5	5	2						1			212

Summarized by: | 08/21/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : JULY 23/24, 2007
 DAY OF WEEK : MON. Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 TO : WEST
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE a Yenda Lane
 CITY: Keizer

TIME OF DAY	PASSENGER CARS	OTHER 2 AXLE	SOL TRAILER TRUCKS				DBL TRAILER TRUCKS				TRP TRAILER TRUCKS				BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI. CY
			Other	WTRIP	2 Axle	SOL UNIT TRUCK	>4AXL	4 Axle	5 Axle	>6AXL	5 Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle		
06:00-07:00A	95	97	2	8	1	1	1	3	8	5	1	1	1	1	3	2	219	2
07:00-07:15A	36	33	1	1	1	1	1	1	1	1	1	1	1	1	2	1	78	1
07:15-07:30A	33	26						1	1	1	1	1	1	1	2	1	64	
07:30-07:45A	42	33	1	3	1	1	1	1	1	1	1	1	1	1	1	3	86	
07:45-08:00A	48	38	1	6	1	1	1	1	2	2	1	1	1	1	2	1	105	
08:00-08:15A	48	38		5				1	3	3	1	1	1	1	1		98	
08:15-08:30A	41	39	3	5				1	4	3	1	1	1	1	1	1	97	
08:30-08:45A	58	41	1	5				1	1	1	1	1	1	1	1	1	111	
08:45-09:00A	71	48	1	3	1	1	1	1	1	3	1	1	1	1	2	1	130	
09:00-10:00A	242	157	3	22	4	1	1	1	13	1	1	1	1	1	2	1	453	
10:00-11:00A	243	179	6	14	1	1	1	4	5	5	1	1	1	1	3	1	462	1
11:00-12:00P	232	190	5	14	3	1	1	1	2	9	1	1	1	1	2	3	461	
12:00-01:00P	342	196	7	9	2	1	1	1	2	3	1	1	1	1	3	1	566	
01:00-02:00P	347	204	5	7	4	1	1	1	8	8	1	1	1	1	2	2	649	1
02:00-03:00P	381	226	8	15	3	1	1	1	1	1	1	1	1	1	4	6	671	
03:00-04:00P	388	257	4	8	4	1	1	1	1	1	1	1	1	1	1	1	165	
04:00-04:15P	93	65	2	3	1	1	1	1	1	1	1	1	1	1	1	1	190	
04:15-04:30P	114	71	1	1	1	1	1	1	1	1	1	1	1	1	1	2	209	1
04:30-04:45P	116	83	4	2	2	1	1	1	1	1	1	1	1	1	1	1	184	
04:45-05:00P	109	72	1	2	2	1	1	1	1	1	1	1	1	1	1	1	179	2
05:00-05:15P	116	59	1	1	1	1	1	1	1	1	1	1	1	1	1	1	200	
05:15-05:30P	107	88	2	2	2	1	1	1	1	1	1	1	1	1	1	1	204	
05:30-05:45P	118	81	2	2	1	1	1	1	1	1	1	1	1	1	1	1	185	
05:45-06:00P	124	57	2	4	1	1	1	1	1	1	1	1	1	1	1	1	691	2
06:00-07:00P	430	237	5	4	1	1	1	1	1	1	1	1	1	1	2	1	466	3
07:00-08:00P	298	158	1	4	4	1	1	1	1	1	1	1	1	1	2	2	438	1
08:00-09:00P	268	163	1	4	4	1	1	1	1	1	1	1	1	1	2	2	382	
09:00-10:00P	245	133																
16 HOUR	4785	3069	69	152	28	5	12	41	74	5	45	37	14	8324				

Summarized by: | 08/21/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon. Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 TO : EAST
 COUNTY : Marion
 INTERSECTION OF : Lockhaven Dr. NE @ Verda Lane
 CITY : Keizer
 MILE POST : n/a

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY ELE
	cars	MTTr	MTTr	Other	2 Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle	8 Axle	>9Axle				
06:00-07:00A	2			2	1										5	
07:00-07:15A															2	
07:15-07:30A	1														1	
07:30-07:45A	1														2	
07:45-08:00A				1											2	
08:00-08:15A				2											2	
08:15-08:30A	1														2	
08:30-08:45A	1														1	
08:45-09:00A	2														6	
09:00-10:00A	4														8	
10:00-11:00A	6														10	
11:00-12:00P	5														4	
12:00-01:00P	2														8	
01:00-02:00P	4														1	
02:00-03:00P	5														2	
03:00-04:00P	1														3	
04:00-04:15P	1														3	
04:15-04:30P	3														10	
04:30-04:45P	2														5	
04:45-05:00P															4	
05:00-05:15P	6														5	
05:15-05:30P	3														4	
05:30-05:45P	3														13	
05:45-06:00P	8														10	
06:00-07:00P	7														6	
07:00-08:00P	4														5	
08:00-09:00P	4															
09:00-10:00P																
16 HOUR	76			45	2	4	1						1	1	130	2

Summarized by: _____ | 08/21/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon. Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ Verda Lane
 CITY: Keizer
 MILE POST : n/a
 TO : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	ST. CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	5 Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle
06:00-07:00A	7		11											1	19	
07:00-07:15A	3		7												10	
07:15-07:30A	1		3												4	
07:30-07:45A	8		4												12	
07:45-08:00A	3		4												7	
08:00-08:15A	3		3			3		2							11	
08:15-08:30A	1		2			2		1							5	
08:30-08:45A	6		3			1									10	
08:45-09:00A	6		7			1									13	
09:00-10:00A	28		17		1			2							47	
10:00-11:00A	37		13			2									54	
11:00-12:00P	24		11			2									37	
12:00-01:00P	30		19		1										50	
01:00-02:00P	30		14			3							1		46	1
02:00-03:00P	37		22		1										63	
03:00-04:00P	34		13		2										49	
04:00-04:15P	11		4												15	
04:15-04:30P	12		9		2										23	
04:30-04:45P	7		4												11	
04:45-05:00P	12		5												17	
05:00-05:15P	7														7	
05:15-05:30P	8		3												11	
05:30-05:45P	7		4												11	
05:45-06:00P	14		6			1									21	
06:00-07:00P	38		29		1									1	60	
07:00-08:00P	39		17			1									57	
08:00-09:00P	28		14		1										44	
09:00-10:00P	20		9												29	
16 HOUR	461		248		9	18		4					1	2	743	2

WORK 2419

Summarized by: 08/21/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon., Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 TO : EAST
 MILE POST : R/a
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ Verda Lane
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 AXL	3 AXL	4 AXL	5 AXL	>6AXL	5 AXL	6 AXL	7 AXL	8 AXL	>9AXL		
06:00-07:00A	248		203	4	6	2	1	4	6					7	481	1
07:00-07:15A	71		50	1		1		1						2	127	1
07:15-07:30A	76		51	1	5			1	3					1	138	1
07:30-07:45A	85		63	1	1		1		2						154	
07:45-08:00A	66		48		4			1						1	120	
08:00-08:15A	74		57	4	6			1							143	
08:15-08:30A	68		51		4			3	4					1	127	
08:30-08:45A	86		48		4										142	
08:45-09:00A	68		56	3	3		1		12					2	135	1
09:00-10:00A	240		147	8	13	4	3	2						3	435	1
10:00-11:00A	295		182	6	15	1	5	7	8					1	516	1
11:00-12:00P	336		225	10	15	6	1	3						2	609	1
12:00-01:00P	361		237	8	14	5	3	3	6					4	643	1
01:00-02:00P	347		222	10	15	4	3	1						4	614	1
02:00-03:00P	338		216	11	7	7	1	1	6					7	595	1
03:00-04:00P	369		246	4	15	4	2	2	8					2	654	3
04:00-04:15P	86		54	1	4				1					1	147	1
04:15-04:30P	96		61	2	3	2								1	167	1
04:30-04:45P	117		68	1	3	1		1						3	196	
04:45-05:00P	92		63	2	3	1									162	1
05:00-05:15P	112		55	1	3										171	
05:15-05:30P	106		56		1										163	
05:30-05:45P	115		63	2	1		1							1	182	
05:45-06:00P	104		69	1	1									1	177	
06:00-07:00P	366		217	7	5		1							4	601	
07:00-08:00P	268	1	151	3	4	1		1	2	1				2	435	1
08:00-09:00P	211		113	4	4									4	338	
09:00-10:00P	150		71	1	1									2	226	
15 HOUR	4951	1	3143	100	155	43	3	26	32	66	1		26	51	8598	14

Summarized by: 08/21/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon - Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 CITY: Keizer
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ Verda Lane
 MILE POST : n/a
 TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SBL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE	
	Cars	Wtfr	Other	Wtfr	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	6 Axle	7 Axle	>9Axle					
06:00-07:00A	12		10												22	1	
07:00-07:15A	3		3												6		
07:15-07:30A	2		1												3		
07:30-07:45A	7		3												10		
07:45-08:00A	8		2		1										11		
08:00-08:15A	3		2												5		
08:15-08:30A	8		4												12		
08:30-08:45A	5		4		1										12		
08:45-09:00A	9		2												11		
09:00-10:00A	20		12		1			1							35	1	
10:00-11:00A	28		18			3									49		
11:00-12:00P	26		18												44		
12:00-01:00P	39		19			1									60		
01:00-02:00P	35		18		1	2							1		57		
02:00-03:00P	25		11		1	2							1		40		
03:00-04:00P	34		24		1	2									61	1	
04:00-04:15P	15		9												24		
04:15-04:30P	13		4												17		
04:30-04:45P	11		5			2									18		
04:45-05:00P	12		4		1										17		
05:00-05:15P	10		8		1	1									20		
05:15-05:30P	7		10												18		
05:30-05:45P	13		8			1									21		
05:45-06:00P	15		8												23		
06:00-07:00P	29		22												51		
07:00-08:00P	27		17		1									2	44		
08:00-09:00P	25		17												45		
09:00-10:00P	21		13												34		
16 HOUR	452		276		8	17			2				3		770	5	

WORK 2419

Summarized by: ; 08/21/07

SUMMARY OF BICYCLE COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : JULY 23/24, 2007 DAY : Mon, Tues. CITY: Keizer
HOURS : 6AM - 10PM WEATHER: Clear COUNTY : Marion
INTERSECTION OF: Lockhaven Dr. NE & Verda Lane
Tab by: MILE POST: n/a

Chk. by:

BICYCLES MOVING WITH VEHICULAR TRAFFIC

BICYCLES USING CROSS WALKS

TIME OF DAY	E-S	E-W	S-E	S-W	W-E	W-S	TOTAL	EAST	SOUTH	WEST
06:00-07:00A		2			1		3		1	
07:00-07:15A		1			1		3			
07:15-07:30A					1	1	1			
07:30-07:45A										
07:45-08:00A										
08:00-08:15A										
08:15-08:30A										
08:30-08:45A										
08:45-09:00A										
09:00-10:00A										
10:00-11:00A		1				1	2			
11:00-12:00P							2			
12:00-01:00P							1			
01:00-02:00P		1		1			3			
02:00-03:00P							1			
03:00-04:00P							4			
04:00-04:15P							3			
04:15-04:30P							1			
04:30-04:45P		1			1		2			1
04:45-05:00P							1			
05:00-05:15P		2					2			
05:15-05:30P										
05:30-05:45P										
05:45-06:00P		2					2			1
06:00-07:00P		3					5			
07:00-08:00P		1				1	1			
08:00-09:00P										
09:00-10:00P										
TOTAL VOLUME	14	2	2	2	14	5	37	1	1	3

North and South is: Verda Lane

East and West is: Lockhaven Dr. NE

BIKE 2419

SUMMARY OF PEDESTRIAN COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007 DAY : Mon. Tues. CITY: Keizer
HOURS : 6AM - 10PM WEATHER: clear INTERSECTION OF: Lockhaven Dr., NE & Verda Lane

Tab by: Chk. BY: MILE POST : n/a

TIME OF DAY	STUDENT PEDESTRIANS			OTHER PEDESTRIANS			STUDENT AND OTHER PEDESTRIAN					
	EAST	SOUTH	WEST	TOTAL	EAST	SOUTH	WEST	TOTAL	EAST	SOUTH	WEST	TOTAL
06:00-07:00A					1			1	1			1
07:00-07:15A												
07:15-07:30A												
07:30-07:45A												
07:45-08:00A												
08:00-08:15A												
08:15-08:30A												
08:30-08:45A												
08:45-09:00A												
09:00-10:00A												
10:00-11:00A												
11:00-12:00P												
12:00-01:00P												
01:00-02:00P												
02:00-03:00P												
03:00-04:00P												
04:00-04:15P												
04:15-04:30P												
04:30-04:45P												
04:45-05:00P												
05:00-05:15P												
05:15-05:30P												
05:30-05:45P												
05:45-06:00P												
06:00-07:00P												
07:00-08:00P												
08:00-09:00P												
09:00-10:00P												
TOTAL VOLUME					4	38	3	45	4	38	3	45

TRANSPORTATION DEVELOPMENT BRANCH
TRANSPORTATION SYSTEM MONITORING UNIT
VEHICULAR VOLUME

DATE : July 24/25, 2007

DAY WEEK : Tues./Wed.

ACT COUNT: 16

HR5 COUNT: 6AM - 10PM

PED COUNT: 16

HRS COUNT: 6AM - 10PM

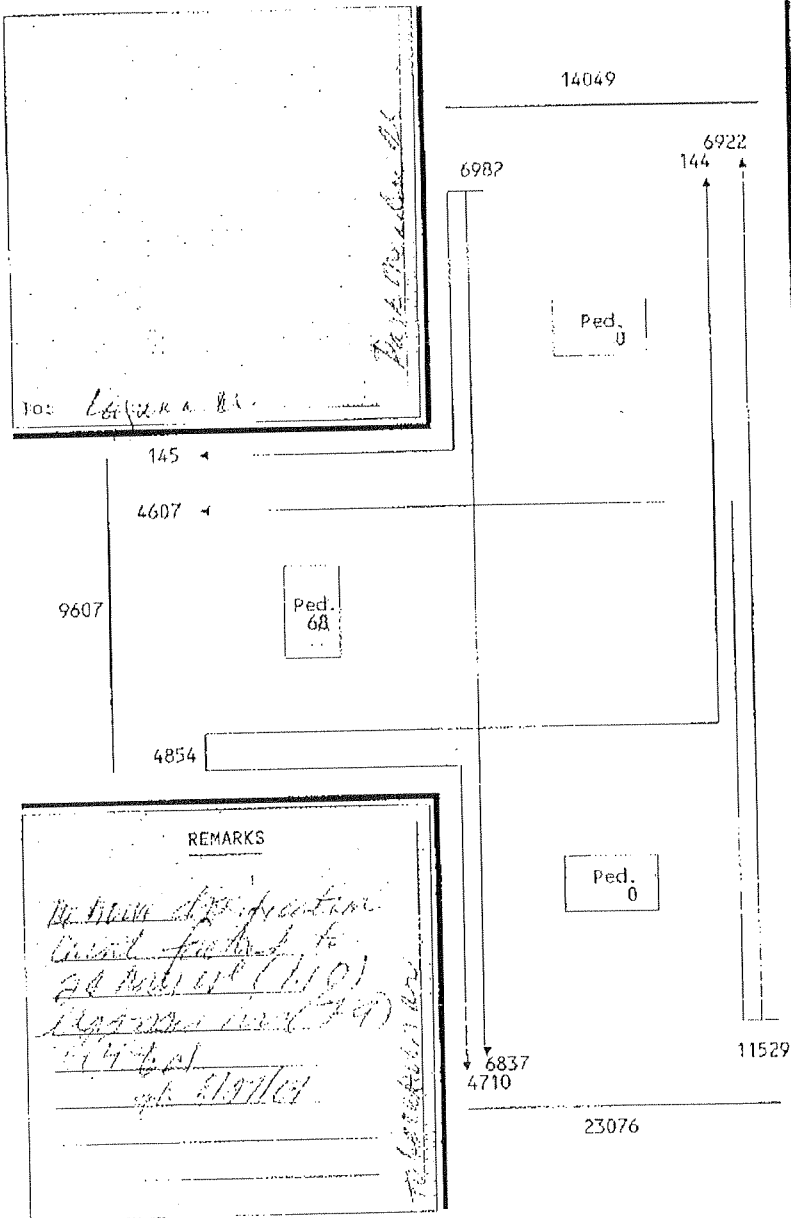
WEATHER : clear

CITY or COUNTY : Keizer

INTERSECTION OF: N River Rd. @ Wheatland Rd.

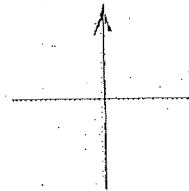
MILE POST: n/a

CLASSIFICATION : All vehicles



	No.	%
TOTAL VEHICLES ENTERING INTERSECTION	23365	100
ENTERING FROM NORTH & SOUTH	18541	79.2
ENTERING FROM EAST & WEST	4854	20.7

Indicate
North.



SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 24/25, 2007
HOURS : 6AM - 10PM

DAY : Tues./Wed.
WEATHER: clear

COUNTY : Marion
INTERSECTION OF: N River Rd. & Wheatland Rd.

CITY: Keizer

Tab by:

CHK. by:

MILE POST : N/A

SUMMARY BY MOVEMENTS

TIME OF DAY	SUMMARY BY MOVEMENTS					TOTAL		NORTH AND SOUTH		PERCENT OF TOTAL		EAST AND WEST		PERCENT OF TOTAL		ENTERING VOLUMES BY LEGS		
	N-S	N-W	S-N	S-W	W-N	W-S										NORTH	SOUTH	WEST
06:00-07:00A	344	8	276	83	9	219	939	711	75.7	228	24.3	352	359	228	94	121	95	94
07:00-07:15A	120	1	80	15	2	92	310	216	69.7	94	30.3	121	140	121	74	140	84	74
07:15-07:30A	137	3	58	26	1	73	298	224	75.2	74	24.8	131	155	131	131	100	100	131
07:30-07:45A	155		70	30	4	127	386	253	66.1	100	29.0	135	135	110	110	110	100	100
07:45-08:00A	135		75	35	2	98	345	245	71.0	87	28.2	107	107	114	114	87	87	87
08:00-08:15A	104	3	78	36	2	85	308	221	71.8	87	28.2	125	125	93	93	93	93	93
08:15-08:30A	123	2	54	39	1	91	286	218	76.2	68	23.8	105	105	96	96	96	96	96
08:30-08:45A	105		60	36		91	292	201	68.8	91	31.2	103	103	77	77	127	127	77
08:45-09:00A	102	1	77	50	4	75	307	230	74.9	77	25.1	287	287	24.0	259	334	259	259
09:00-10:00A	362	22	306	178	6	281	1155	868	75.2	287	24.8	259	259	24.0	354	487	354	286
10:00-11:00A	328	6	269	218	11	248	1080	821	76.0	286	23.7	427	427	731	731	286	286	286
11:00-12:00P	349	5	329	239	9	277	1208	922	76.3	286	19.8	350	350	645	645	284	284	284
12:00-01:00P	420	7	453	278	10	276	1444	1158	80.2	284	22.2	459	459	834	834	294	294	294
01:00-02:00P	346	4	386	259	10	274	1279	995	77.8	284	22.2	459	459	834	834	294	294	294
02:00-03:00P	354	5	395	280	11	270	1315	1034	78.6	281	21.4	459	459	834	834	294	294	294
03:00-04:00P	454	5	490	344	6	288	1587	1293	81.5	294	18.5	459	459	834	834	294	294	294
04:00-04:15P	140	3	135	86	3	72	440	365	83.0	75	17.0	143	143	222	222	75	75	75
04:15-04:30P	107	1	155	102		67	432	365	84.5	67	15.5	108	108	257	257	67	67	67
04:30-04:45P	140	1	145	106	1	77	470	392	83.4	76	16.6	141	141	251	251	76	76	76
04:45-05:00P	128	5	158	99	7	62	459	390	85.0	69	15.0	133	133	257	257	69	69	69
05:00-05:15P	159	5	167	108	4	67	510	439	86.1	71	13.9	164	164	275	275	71	71	71
05:15-05:30P	150	6	202	150	4	78	590	508	86.1	82	13.9	156	156	352	352	82	82	82
05:30-05:45P	151	2	177	118		82	530	448	84.5	82	15.5	153	153	295	295	82	82	82
05:45-06:00P	123	4	154	118	3	66	468	399	85.3	69	14.7	127	127	272	272	69	69	69
06:00-07:00P	425	13	526	382	4	292	1642	1346	82.0	296	18.0	438	438	908	908	296	296	296
07:00-08:00P	281	7	341	261	6	242	1138	890	78.2	248	21.8	288	288	602	602	248	248	248
08:00-09:00P	231	10	395	286	7	199	1128	922	81.7	206	18.3	241	241	681	681	206	206	206
09:00-10:00P	242	3	281	226	4	139	895	752	84.0	143	16.0	245	245	507	507	143	143	143
TOTAL COUNT	6215	132	6293	4188	131	4252	21241	16828	79.2	4413	20.8	6347	6347	10481	10481	4413	4413	4413
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10												
24HR VOLUME	6837	145	6922	4607	144	4710	22365	18511	79.2	4854	20.8	6982	6982	11529	11529	4854	4854	4854

North and South is: N River Rd.

East and West is: Wheatland Rd.

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 24/25, 2007
 HOURS : 6AM - 10PM
 DAY : Tues./Wed.
 WEATHER : clear
 COUNTY : Marion
 INTERSECTION OF : N River Rd. @ Wheatland Rd.
 CITY : Keizer
 Tab by: MILE POST : n/a
 Chk. by:

SUMMARY BY MOVEMENTS

TIME OF DAY	PERCENT OF TOTAL													
	N-S	N-W	S-N	S-W	U-N	U-S	TOTAL	SOUTH	TOTAL	WEST	TOTAL	NORTH	SOUTH	WEST
06:00-07:00A	344	8	276	83	9	219	939	711	75.7	228	24.3	352	359	228
07:00-08:00A	547	4	283	106	9	390	1339	940	70.2	399	29.8	551	389	399
08:00-09:00A	434	6	269	161	7	316	1193	870	72.9	323	27.1	440	430	323
09:00-10:00A	362	22	306	178	6	281	1155	868	75.2	287	24.8	384	484	287
10:00-11:00A	328	6	269	218	11	248	1080	821	76.0	259	24.0	334	487	259
11:00-12:00P	349	5	329	239	9	277	1208	922	76.3	286	23.7	354	568	286
12:00-01:00P	420	7	453	278	10	276	1444	1158	80.2	286	19.8	427	731	286
01:00-02:00P	346	4	386	259	10	274	1279	995	77.8	284	22.2	350	645	284
02:00-03:00P	354	5	395	280	11	270	1315	1034	78.6	281	21.4	359	675	281
03:00-04:00P	454	5	490	344	6	288	1587	1293	81.5	294	18.5	459	834	294
04:00-05:00P	515	10	594	393	11	278	1801	1512	84.0	289	16.0	525	987	289
05:00-06:00P	583	17	700	494	11	293	2098	1794	85.5	304	14.5	600	1194	304
06:00-07:00P	425	13	526	382	4	292	1642	1346	82.0	296	18.0	438	908	296
07:00-08:00P	281	7	341	261	5	242	1138	890	78.2	248	21.8	288	602	248
08:00-09:00P	231	10	395	286	7	199	1128	922	81.7	206	18.3	241	681	206
09:00-10:00P	242	3	281	226	4	139	895	752	84.0	143	16.0	245	507	143

TOTAL COUNT	6215	132	6293	4188	131	4282	21241	16828	79.2	4413	20.8	6347	10481	4413
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	23365	18511	79.2	4854	20.8	6982	11529	4854
24HR VOLUME	6837	145	6922	4607	144	4710								

North and South is: N River Rd.
 East and West is: Wheatland Rd.
 SUM_2420

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 24/25, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : SOUTH
 MILE POST : C/A
 COUNTY : Marion
 INTERSECTION OF: N River Rd. & Wheatland Rd.
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SQL UNIT TRUCK		SQL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl
06:00-07:00A	214	1	122			1			1					2	344	2
07:00-07:15A	79		37	1				1						1	120	1
07:15-07:30A	81		51	1		3									137	
07:30-07:45A	98		54											1	155	1
07:45-08:00A	88		39	4		1								1	135	
08:00-08:15A	67		31	1		2								1	104	2
08:15-08:30A	72		39	3		6			1					1	123	
08:30-08:45A	65		32	6		1									105	1
08:45-09:00A	63		30	3		4			1						102	
09:00-10:00A	195		131	9		15			2					1	382	
10:00-11:00A	192		119	5		7			1					1	328	
11:00-12:00P	210		112	2		12			1					2	369	
12:00-01:00P	267		127	4		9			1					3	420	
01:00-02:00P	213		107	2		11			3					4	346	1
02:00-03:00P	227		110	1		4			1					2	354	1
03:00-04:00P	279		140	7		18								2	454	5
04:00-04:15P	90		40	2		5								1	140	
04:15-04:30P	69		32			2								1	107	1
04:30-04:45P	94		40			2								1	140	
04:45-05:00P	81	2	36	3		3								1	128	
05:00-05:15P	103		40	3		4			1					1	159	
05:15-05:30P	95		51	2		1								1	150	1
05:30-05:45P	105		42			2								1	151	2
05:45-06:00P	77		44	1		1								1	123	
06:00-07:00P	271	1	141	4		5								2	425	2
07:00-08:00P	195		78	3		1								1	281	5
08:00-09:00P	155		71	1		1								1	231	
09:00-10:00P	163		70	2		1			2					1	242	
15 HOUR	3908	4	1966	71	122	43	11	11	7	5	2	2	33	30	6315	26

Summarized by: | 08/27/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 24/25, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : WEST
 MILE POST : 0/3
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Wheatland Rd.
 CITY: Keizer

TIME OF DAY	PASSENGER	OTHER 2 AXLE	SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
			2 Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle	8 Axle	9 Axle				
06:00-07:00A	4	4											8	1
07:00-07:15A		1											3	3
07:15-07:30A	3													
07:30-07:45A														
07:45-08:00A	3												3	3
08:00-08:15A	2												2	2
08:15-08:30A														
08:30-08:45A	1												1	1
08:45-09:00A	7												22	22
09:00-10:00A	4											1	5	5
10:00-11:00A	1												7	7
11:00-12:00P	3												4	4
12:00-01:00P	2												5	5
01:00-02:00P	3												3	3
02:00-03:00P	2												1	1
03:00-04:00P	2												1	1
04:00-04:15P													1	1
04:15-04:30P													5	5
04:30-04:45P	3												6	6
04:45-05:00P	3												2	2
05:00-05:15P	3												4	4
05:15-05:30P	2												13	13
05:30-05:45P	2												7	7
05:45-06:00P	8												10	10
06:00-07:00P	4												3	3
07:00-08:00P	6													
08:00-09:00P	2													
09:00-10:00P														
15 HOUR	69	57	12	2	1							1	132	4

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 24/25, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 TO : NORTH
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Wheatland Rd.
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WHLR	Other	WHLR	2 AXL	3 AXL	>4AXL	4 AXL	5 AXL	>6AXL	6 AXL	>7AXL	7 AXL	8 AXL	>9AXL	
06:00-07:00A	182	74	5	5	5	3	1	1	1	1	1	1	1	5	276	27
07:00-07:15A	45	27	2	2	2	1	1	1	1	1	1	1	1	2	80	8
07:15-07:30A	38	16	1	1	1	1	1	1	1	1	1	1	1	1	58	5
07:30-07:45A	44	18	1	1	1	3	1	1	1	1	1	1	1	2	70	7
07:45-08:00A	49	19	2	2	2	1	1	1	1	1	1	1	1	2	75	7
08:00-08:15A	46	17	1	1	1	1	1	1	1	1	1	1	1	1	78	7
08:15-08:30A	36	13	2	2	2	1	1	1	1	1	1	1	1	1	54	5
08:30-08:45A	38	19	1	1	1	1	1	1	1	1	1	1	1	1	60	6
08:45-09:00A	47	21	4	4	5	2	1	1	1	1	1	1	1	1	77	7
09:00-10:00A	179	105	8	8	7	2	1	1	2	1	1	1	1	5	306	30
10:00-11:00A	151	103	3	3	4	3	1	1	1	1	1	1	1	1	269	26
11:00-12:00P	192	111	4	4	10	11	1	1	1	1	1	1	1	2	453	45
12:00-01:00P	270	156	8	8	8	5	1	1	1	1	1	1	1	2	386	38
01:00-02:00P	225	129	5	5	8	9	1	1	1	1	1	1	1	3	395	39
02:00-03:00P	230	130	8	8	12	7	1	1	1	1	1	1	1	1	490	49
03:00-04:00P	321	150	2	2	9	5	1	1	1	1	1	1	1	2	136	13
04:00-04:15P	92	39	2	2	3	2	1	1	1	1	1	1	1	1	155	15
04:15-04:30P	104	45	3	3	2	1	1	1	1	1	1	1	1	1	145	14
04:30-04:45P	84	51	4	4	1	2	1	1	1	1	1	1	1	2	158	15
04:45-05:00P	105	47	1	1	3	3	1	1	1	1	1	1	1	1	167	16
05:00-05:15P	112	51	1	1	2	2	1	1	1	1	1	1	1	2	202	20
05:15-05:30P	138	62	1	1	2	2	1	1	1	1	1	1	1	2	177	17
05:30-05:45P	123	49	2	2	2	2	1	1	1	1	1	1	1	2	154	15
05:45-06:00P	105	43	2	2	8	8	1	1	1	1	1	1	1	2	526	52
06:00-07:00P	360	149	5	5	5	8	1	1	1	1	1	1	1	2	341	34
07:00-08:00P	232	106	2	2	1	1	1	1	1	1	1	1	1	1	395	39
08:00-09:00P	276	112	3	3	3	3	1	1	1	1	1	1	1	1	281	28
09:00-10:00P	202	78	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16 HOUR	4026	1942	78	78	111	55	8	4	5	10	2	2	15	36	6293	27

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 24/25, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED : 5AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 TO : WEST
 COUNTY : Marion
 INTERSECTION OF : N River Rd. @ Wheatland Rd.
 CITY : Keizer
 MILE POST : n/a
 ID : WEST

TIME OF DAY	PASSENGER	OTHER 2 AXLE		SQL UNIT TRUCK		SQL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
		Wtr	Other	Wtr	2 Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle	8 Axle	9 Axle			
06:00-07:00A	42		32	1	2								1	83	
07:00-07:15A	10		2										1	15	
07:15-07:30A	17		6										1	26	
07:30-07:45A	13		10										1	30	
07:45-08:00A	21		13										1	35	
08:00-08:15A	21		8										1	36	1
08:15-08:30A	26		12										1	39	
08:30-08:45A	17		12										2	36	1
08:45-09:00A	26		21										1	50	
09:00-10:00A	108		59										1	178	
10:00-11:00A	138		61										1	218	
11:00-12:00P	127		91										1	239	
12:00-01:00P	167		98										3	278	
01:00-02:00P	154		90										1	259	
02:00-03:00P	182		84										4	280	1
03:00-04:00P	232		97										2	344	
04:00-04:15P	57		25										1	86	
04:15-04:30P	67		32										1	102	
04:30-04:45P	73		29										2	106	
04:45-05:00P	70		25										3	99	
05:00-05:15P	73		32										2	108	
05:15-05:30P	113		34										1	150	
05:30-05:45P	86		27										1	118	2
05:45-06:00P	78		37										1	118	
06:00-07:00P	265		106										2	382	1
07:00-08:00P	175		82										2	261	
08:00-09:00P	193		85										3	286	2
09:00-10:00P	153		69										2	226	
16 HOUR	2704		1279		35	54	9	14	8	1	5		52	4188	9

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 24/25, 2007
DAY OF WEEK : Tues./Wed.
HOURS COUNTED: 6AM - 10PM
WEATHER : clear
FROM : WEST

COUNTY : Marion
INTERSECTION OF: N River Rd. & Wheatland Rd.
MILE POST : n/a
TO : NORTH

CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE		TOTAL ALL VEHICLE	
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				SI
06:00-07:00A	5		3																	9
07:00-07:15A			2																	2
07:15-07:30A	1																			1
07:30-07:45A	2		2																	4
07:45-08:00A	1		1																	2
08:00-08:15A	2																			2
08:15-08:30A																				1
08:30-08:45A																				1
08:45-09:00A	2		2																	4
09:00-10:00A	3		2																	6
10:00-11:00A	5		4					1												11
11:00-12:00P	6		3																	9
12:00-01:00P	4		5																	10
01:00-02:00P	5		5																	10
02:00-03:00P	6		5																	11
03:00-04:00P	3		2																	6
04:00-04:15P	1		2																	3
04:15-04:30P																				1
04:30-04:45P	1																			7
04:45-05:00P	3		4																	7
05:00-05:15P	4																			4
05:15-05:30P	3		1																	4
05:30-05:45P																				3
05:45-06:00P	2		1																	3
06:00-07:00P	2		2																	4
07:00-08:00P	4		2																	6
08:00-09:00P	4		2																	7
09:00-10:00P	2		2																	4
16 HOUR	71		51		3		1		1		2			1		1		1		131

Summarized by: 08/27/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 24/25, 2007
DAY OF WEEK : Tues./Wed.
HOURS COUNTED: 6AM - 10PM
WEATHER : clear
FROM : WEST

COUNTY : Marion
INTERSECTION OF: N River Rd. @ Wheatland Rd.
MILE POST : n/a
TO : SOUTH

CITY: Keizer

TIME OF DAY	PASSENGER	OTHER 2 AXLE	SGT UNIT TRUCK	SGT TRAILER TRUCKS	DBL TRAILER TRUCKS	TRP TRAILER TRUCKS	BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
06:00-07:00A	117	86	2	5	1	1	2	4	219	1
07:00-07:15A	49	38	2				1	1	92	
07:15-07:30A	47	24	1				3	1	73	1
07:30-07:45A	74	46	1	2			1	1	127	
07:45-08:00A	53	42		1				1	98	
08:00-08:15A	53	31	1					1	85	
08:15-08:30A	37	27	1						67	1
08:30-08:45A	51	37	1						91	
08:45-09:00A	41	28	2	1					73	
09:00-10:00A	172	94	2	8	1		4	2	281	3
10:00-11:00A	156	74	6	8	2		4	2	248	
11:00-12:00P	144	107	4	8	2		4	3	277	
12:00-01:00P	177	81	4	6	1		2	2	276	1
01:00-02:00P	150	113	4	1	1		2	1	274	
02:00-03:00P	160	101	1	4	1		1	1	270	2
03:00-04:00P	159	114	3	6	1		1	3	298	
04:00-04:15P	38	30		3		1			72	
04:15-04:30P	34	32	1						67	1
04:30-04:45P	47	27		2					77	1
04:45-05:00P	31	27	3						62	
05:00-05:15P	43	22						1	67	
05:15-05:30P	44	31		1				1	78	
05:30-05:45P	51	27	1	3				1	82	1
05:45-06:00P	40	23	1	1				6	66	
06:00-07:00P	168	112	2	2		1		2	292	1
07:00-08:00P	162	74	1	2				2	242	2
08:00-09:00P	130	64	2					1	199	1
09:00-10:00P	91	46	1					1	139	2
16 HOUR	2519	1558	46	63	10	7	5	7	3	28
								36	4282	19

Summarized by: 08/27/07

SUMMARY OF BICYCLE COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 24/25, 2007
HOURS : 6AM - 10PM

DAY : Tues./Wed.
WEATHER: clear

COUNTY : Marion
INTERSECTION OF: N River Rd. & Wheatland Rd.

CITY: Keizer

Tab by:

Chr. by:

MILE POST : n/a

TIME OF DAY	BICYCLES MOVING WITH VEHICULAR TRAFFIC						BICYCLES USING CROSS WALKS			
	N-S	N-W	S-N	S-W	W-N	W-S	TOTAL	NORTH	SOUTH	WEST
06:00-07:00A	2					1	3			1
07:00-07:15A	1						1			
07:15-07:30A						1	1			
07:30-07:45A	1						1			
07:45-08:00A			1				1			
08:00-08:15A	2			1			3			
08:15-08:30A			1				1			
08:30-08:45A	1			1		1	3			
08:45-09:00A							1			
09:00-10:00A			1			3	4			
10:00-11:00A							2			1
11:00-12:00P			2				2			
12:00-01:00P							2			1
01:00-02:00P	1					1	2			
02:00-03:00P	1	1					2			
03:00-04:00P	5		3	1		2	10			1
04:00-04:15P			5				5			
04:15-04:30P	1		2				3			
04:30-04:45P				1			2			
04:45-05:00P	1					1	2			
05:00-05:15P							1			
05:15-05:30P							2			
05:30-05:45P	1		1			1	3			
05:45-06:00P	2						2			
06:00-06:15P		1		2			3			
06:15-06:30P		1					1			
06:30-06:45P		1					1			
06:45-07:00P		1					1			
07:00-07:15P		1					1			
07:15-07:30P		1					1			
07:30-07:45P		1					1			
07:45-08:00P		1					1			
08:00-08:15P		1					1			
08:15-08:30P		1					1			
08:30-08:45P		1					1			
08:45-09:00P		1					1			
09:00-09:15P		1					1			
09:15-09:30P		1					1			
09:30-09:45P		1					1			
09:45-10:00P		1					1			
TOTAL VOLUME	26	4	27	9		19	85			6

North and South is: N River Rd.

East and West is: Wheatland Rd.

CITY: Keizer

DATE : July 24/25, 2007
HOURS : 6AM - 10PM
DAY : Tues. Med.
WEATHER: clear

DATE : JULY 24/25, 2007
HOURS : 6AM - 7PM
DAY :
WEATHER :
CHK. by:

DATE : JULY 24/25, 2007
HOURS : 6AM - 10PM

DATE : JULY
HOURS : 6AM

TIME OF DAY	STUDENT PEDESTRIANS				OTHER PEDESTRIANS				STUDENT AND OTHER PEDESTRIAN			
	STUDENT PEDESTRIANS		OTHER PEDESTRIANS		STUDENT AND OTHER PEDESTRIAN		STUDENT AND OTHER PEDESTRIAN					
	NORTH	SOUTH	WEST	TOTAL	NORTH	SOUTH	WEST	TOTAL	NORTH	SOUTH	WEST	TOTAL
06:00-07:00A							2		2			2
07:00-07:15A												
07:15-07:30A												
07:30-07:45A							1		1			1
07:45-08:00A							1		1			1
08:00-08:15A							1		1			1
08:15-08:30A							2		2			2
08:30-08:45A							3		3			3
08:45-09:00A							6		6			6
09:00-10:00A							5		5			5
10:00-11:00A							5		5			5
11:00-12:00P							10		10			10
12:00-01:00P							2		2			2
01:00-02:00P							2		2			2
02:00-03:00P												
03:00-04:00P												
04:00-04:15P												
04:15-04:30P							3		3			3
04:30-04:45P							2		2			2
04:45-05:00P												
05:00-05:15P												
05:15-05:30P												
05:30-05:45P							6		6			6
05:45-06:00P							4		4			4
06:00-07:00P							8		8			8
07:00-08:00P							5		5			5
08:00-09:00P												
09:00-10:00P												
TOTAL VOLUME							68		68			68

ped_2429

East and West is: Wheatland Rd.

North and South is: N River Rd.

TRANSPORTATION DEVELOPMENT BRANCH
TRANSPORTATION SYSTEM MONITORING UNIT
VEHICULAR VOLUME

DATE : July 25/26, 2007

DAY WEEK : Wed./Thurs.

ACT COUNT: 16

HRS COUNT: 6AM - 10PM

PED COUNT: 16

HRS COUNT: 6AM - 10PM

WEATHER : clear

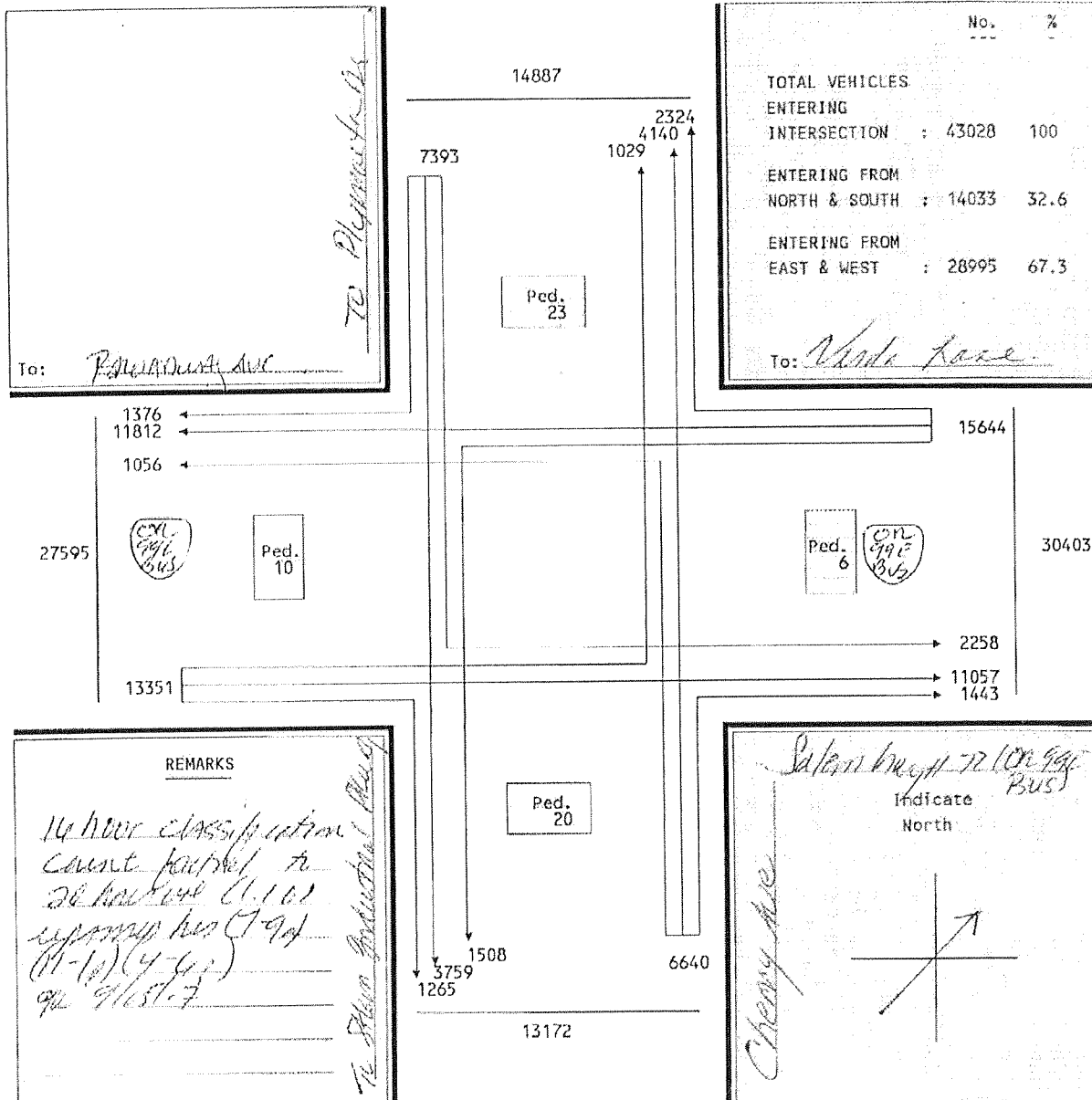
CITY or COUNTY : Keizer

INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Cherry Ave.

MILE POST: 2.61

CLASSIFICATION : All vehicles

RECEIVED
SEP 1 - 2007
O.D.O.T. Region 2
RECEIVED
SEP 1 - 2007
O.D.O.T. Region 2



SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
HOURS : 6AM - 10PM

DAY : Wed./Thurs.
WEATHER: clear

COUNTY : Marion
INTERSECTION OF: Salem Hwy #72C(OR99EBUS) @ Cherry Ave.

CITY: Keizer

Tab by:

Chk. by:

Mile Post : 2.61

TIME OF DAY	SUMMARY BY MOVEMENTS													NORTH AND SCOTT		PERCENT OF TOTAL		EAST AND WEST		PERCENT OF TOTAL		ENTERING VOLUMES BY LEGS			
	N-E	N-S	N-U	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	SCOTT	TOTAL	WEST	TOTAL	WEST	TOTAL	NORTH	EAST	SOUTH	WEST		
06:00-07:00A	131	198	56	75	59	563	84	52	34	28	665	37	1982	555	28.0	1427	72.0	385	697	170	730				
07:00-07:15A	26	44	16	21	21	179	37	8	6	7	171	11	547	137	25.0	410	75.0	86	221	51	189				
07:15-07:30A	32	59	11	30	33	221	38	13	4	19	200	15	675	157	23.3	518	76.7	102	284	55	234				
07:30-07:45A	24	82	20	55	17	263	41	14	12	18	123	19	688	193	28.1	495	71.9	126	335	67	160				
07:45-08:00A	31	114	17	68	35	281	35	13	9	27	158	18	806	219	27.2	587	72.8	162	384	57	203				
08:00-08:15A	22	57	18	36	28	236	42	15	10	27	170	26	687	164	23.9	523	76.1	97	300	67	223				
08:15-08:30A	22	48	18	31	33	185	45	16	8	13	155	21	595	157	26.4	438	73.6	88	249	69	189				
08:30-08:45A	30	40	20	24	22	161	32	16	12	16	169	20	562	150	26.7	412	73.3	90	207	60	205				
08:45-09:00A	20	41	13	38	19	177	46	18	17	20	134	17	559	155	27.7	404	72.3	74	233	81	171				
09:00-10:00A	103	188	77	101	84	575	181	86	62	34	511	86	2088	697	33.4	1391	66.6	368	760	329	631				
10:00-11:00A	116	213	71	121	96	667	255	105	44	53	593	81	2415	804	33.3	1611	66.7	400	824	404	727				
11:00-11:15A	27	65	20	26	31	129	65	26	20	13	135	21	578	223	38.6	355	61.4	112	186	111	169				
11:15-11:30A	29	47	14	19	28	174	52	25	14	21	172	21	616	181	29.4	435	70.6	90	221	91	214				
11:30-11:45A	33	59	23	31	26	137	82	27	28	12	163	35	656	252	38.4	404	61.6	115	194	137	210				
11:45-12:00P	39	69	34	30	31	163	62	26	29	12	153	30	678	259	38.2	429	61.8	142	224	137	195				
12:00-12:15P	32	62	40	35	26	164	77	25	35	12	159	29	696	271	38.9	425	61.1	127	232	137	200				
12:15-12:30P	28	73	26	35	21	176	79	25	34	12	151	29	689	265	38.5	424	61.5	116	249	138	192				
12:30-12:45P	24	65	27	39	34	176	56	20	27	23	154	27	672	219	32.6	453	67.4	127	232	103	204				
12:45-01:00P	38	66	27	30	26	154	53	21	18	22	148	36	649	233	35.9	416	64.1	131	210	102	206				
01:00-02:00P	118	263	78	111	104	698	270	117	81	57	671	100	2668	927	34.7	1741	65.3	437	913	468	828				
02:00-03:00P	134	216	85	135	108	635	250	112	61	66	766	96	2606	860	33.0	1746	67.0	437	878	423	868				
03:00-04:00P	164	235	82	178	104	896	336	114	86	99	781	78	3147	1011	32.1	2136	67.9	481	1178	530	958				
04:00-04:15P	48	65	36	48	16	232	69	28	22	19	227	36	846	268	31.7	578	68.3	149	296	119	282				
04:15-04:30P	49	49	18	48	57	230	108	25	20	21	201	25	851	269	31.6	582	68.4	116	335	153	247				
04:30-04:45P	65	64	31	54	38	246	103	32	31	16	242	15	937	326	34.8	611	65.2	160	338	166	273				
04:45-05:00P	42	65	19	58	30	256	123	37	27	16	211	16	900	313	34.8	587	65.2	126	344	187	243				
05:00-05:15P	61	72	50	69	23	242	138	37	39	26	199	11	967	297	30.4	570	58.9	183	334	214	236				
05:15-05:30P	60	51	26	60	15	231	115	31	13	28	331	13	974	296	30.4	678	69.6	137	306	159	372				
05:30-05:45P	66	57	34	40	22	157	115	24	20	19	245	13	812	316	38.9	496	61.1	157	219	159	277				
05:45-06:00P	47	57	29	55	19	217	94	20	13	25	226	25	827	260	31.4	567	68.6	133	291	127	276				
06:00-07:00P	144	229	81	167	63	651	234	63	47	52	668	77	2476	798	32.2	1678	67.8	454	881	344	797				
07:00-08:00P	79	165	63	98	46	424	190	51	31	42	421	28	1638	579	35.3	1059	64.7	307	568	272	491				

North and South is: Cherry Ave.

East and West is: Salem Hwy #72C(OR99EBUS)

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
HOURS : 6AM - 10PM
DAY : Wed./Thurs.
WEATHER: clear
COUNTY : Marion
CITY: Keizer
INTERSECTION: OF: Salem Hwy #72 (CR99EBUS) @ Cherry Ave.

Tab by: Mile Post : 2.61

chk. by:

TIME OF DAY		SUMMARY BY MOVEMENTS														PERCENT OF TOTAL				ENTERING VOLUMES BY LEGS			
		N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH AND SOUTH	PERCENT OF TOTAL	EAST AND WEST	PERCENT OF TOTAL	NORTH	EAST	SOUTH	WEST	
08:00-09:00P		96	131	46	67	37	427	110	43	40	34	342	15	1388	466	33.6	922	66.4	273	531	193	391	
09:00-10:00P		73	106	25	80	20	415	137	27	12	26	297	23	1241	380	30.6	861	69.4	204	515	176	346	
TOTAL COUNT		2053	3417	1251	2113	1371	10758	3764	1312	960	935	10052	1150	39116	12757	32.6	26359	67.4	6721	14222	6036	12137	
24HR FACTOR		1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10									
24HR VOLUME		2258	3759	1376	2324	1508	11812	4140	1443	1056	1029	11057	1265	43027	14053	32.6	28995	67.4	7393	15644	6640	13351	

North and South is: Cherry Ave. East and West is: Salem Hwy #72 (CR99EBUS)

SUM 2424

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
HOURS : 6AM - 10PM
DAY : Wed./Thurs.
WEATHER: Clear
COUNTY : Marion
INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Cherry Ave.,
CITY: Keizer

Tab by: Chk. by: MILE POST : 2.61

TIME OF DAY	SUMMARY BY MOVEMENTS												ENTERING VOLUMES BY LEGS						
													NORTH AND SOUTH		EAST AND WEST		PERCENT OF TOTAL		
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S TOTAL	NORTH	EAST	SOUTH	WEST			
06:00-07:00A	131	198	56	75	59	563	84	52	34	28	665	37	1982	555	28.0	1427	697	170	730
07:00-08:00A	113	299	64	174	106	944	151	48	31	71	652	63	2716	706	26.0	2010	1224	236	786
08:00-09:00A	94	186	69	129	101	759	165	65	47	76	628	84	2403	626	26.1	1777	989	277	788
09:00-10:00A	103	188	77	101	84	575	181	86	62	34	511	86	2088	697	33.4	1391	760	329	631
10:00-11:00A	116	213	71	121	96	667	255	105	44	53	593	81	2415	804	33.3	1611	884	404	727
11:00-12:00P	128	240	91	106	116	603	261	104	91	58	623	107	2528	915	36.2	1613	929	456	788
12:00-01:00P	122	266	120	139	107	670	275	91	114	69	612	121	2706	988	36.5	1718	916	480	802
01:00-02:00P	118	263	78	111	104	698	270	117	81	57	671	100	2668	927	34.7	1741	878	423	868
02:00-03:00P	134	218	85	135	108	635	250	112	61	66	706	96	2606	860	33.0	1746	878	423	868
03:00-04:00P	164	235	82	178	104	896	336	114	80	99	781	78	3147	1011	32.1	2136	1178	530	958
04:00-05:00P	204	243	104	208	141	964	403	122	100	72	881	92	3534	1176	33.3	2358	1313	625	1045
05:00-06:00P	234	237	139	224	79	847	462	112	85	98	1001	62	3580	1269	35.4	2341	1150	659	1161
06:00-07:00P	144	229	81	167	63	651	234	63	47	52	668	77	2476	798	32.2	1678	881	344	797
07:00-08:00P	79	165	63	98	46	424	190	51	31	42	421	28	1638	579	35.3	1059	568	272	491
08:00-09:00P	96	131	46	67	37	427	110	43	40	34	342	15	1388	466	33.6	922	531	193	391
09:00-10:00P	73	106	25	80	20	415	137	27	12	26	297	23	1241	380	30.6	861	515	176	346
TOTAL COUNT	2033	3417	1251	2113	1371	10738	3764	1312	960	935	10052	1150	39116	12757	32.6	26359	14222	6036	12137
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10		7393	15644	6640	13351
24HR VOLUME	2258	3759	1376	2324	1508	11812	4140	1443	1056	1029	11057	1265	43027	14033	32.6	28995	15644	6640	13351

North and South is: Cherry Ave. East and West is: Salem Hwy #72(OR99EBus) SUM_2424

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : NORTH

COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(COR99EBus) @ Cherry Ave.
 MILE POST : 2.61
 TO : EAST

CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	WTrlr	Other	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl				
06:00-07:00A	56			52	8	1	1		2					1	131	
07:00-07:15A	11			13		1								1	26	
07:15-07:30A	16			13	2										32	
07:30-07:45A	10			11									2		24	
07:45-08:00A	14			16											31	
08:00-08:15A	12			9	1										22	
08:15-08:30A	8			13											22	
08:30-08:45A	11			15	3										30	
08:45-09:00A	8			9	1								1		20	
09:00-10:00A	31			60	7	3		1							103	
10:00-11:00A	44			59	4	2		4							116	
11:00-11:15A	13			13					1					1	27	
11:15-11:30A	9			18											29	
11:30-11:45A	16			16	1										33	
11:45-12:00P	16			22											39	
12:00-12:15P	14			15	1									1	32	
12:15-12:30P	11			15									1		28	
12:30-12:45P	6			15	1										24	
12:45-01:00P	21			14	1										38	
01:00-02:00P	52			60	3	2		1						1	118	
02:00-03:00P	66			62				1							134	
03:00-04:00P	73			76	6										164	
04:00-04:15P	18			25	4									2	48	
04:15-04:30P	25			19	2			1							49	
04:30-04:45P	25			37	1										65	
04:45-05:00P	19			21				1						1	42	
05:00-05:15P	36			24											61	
05:15-05:30P	32			26	2										60	
05:30-05:45P	33			31	1									1	66	
05:45-06:00P	22			23	1									1	47	
06:00-07:00P	70			71										3	144	
07:00-08:00P	34			42	3										79	

Date: 09/05/07

Work_2424

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
DAY OF WEEK : Wed./Thurs.
HOURS COUNTED: 6AM - 10PM
WEATHER : clear
FROM : NORTH

COUNTY : Marion
INTERSECTION OF: Salem Hwy #72 (OR99EBus) @ Cherry Ave.
CITY: Keizer
MILE POST : 2.61
10 EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK				SGL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE	TOTAL ALL VEHICLE	BL. CY CLE
	Cars	Wtrln	Other	Wtrln	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>5Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	SCOOT	VEHICLE			
08:00-09:00P	45		50																1	96	
09:00-10:00P	18		54	1																73	
16 HOUR	895		1029	20	54	15	1	9	5	1								10	14	2053	

Summarized by: 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 COUNTY : Marion
 INTERSECTION OF : Salem Hwy #72(OR99EBus) @ Cherry Ave.
 CITY: Keizer
 MILE POST : 2.61
 ID : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS				BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl		
06:00-07:00A	75		56	2	17	1	2							1			198	7
07:00-07:15A	14		25		4												44	3
07:15-07:30A	22		33		2												59	7
07:30-07:45A	31		44		4												82	2
07:45-08:00A	35		57		13												114	1
08:00-08:15A	20		33		1		1										57	1
08:15-08:30A	25		18		3												48	
08:30-08:45A	12		23		3												40	
08:45-09:00A	12		22		4												41	
09:00-10:00A	50		117		16		1										188	3
10:00-11:00A	78		105		16		5										213	
11:00-11:15A	21		32		7		1										65	
11:15-11:30A	20		24														47	
11:30-11:45A	20		29		5		2										59	
11:45-12:00P	27		35		4		2										69	
12:00-12:15P	23		33		2												62	3
12:15-12:30P	25		36		5												73	2
12:30-12:45P	21		39		3												65	3
12:45-01:00P	26		35		2												66	2
01:00-02:00P	103		135		16		2										263	1
02:00-03:00P	104		105		10		2										218	1
03:00-04:00P	93		122		4		1										235	3
04:00-04:15P	25		35		3												55	1
04:15-04:30P	20		23		3												49	2
04:30-04:45P	26		31		3												54	2
04:45-05:00P	23		41		3												65	1
05:00-05:15P	30		35		5		1										72	
05:15-05:30P	24		19		5												51	
05:30-05:45P	26		26		3												57	
05:45-06:00P	28		27		2												57	
06:00-07:00P	112		104		8		1										229	3
07:00-08:00P	73		80		10												165	6

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : SOUTH
 COUNTY : Marion
 CITY: Keizer
 INTERSECTION OF: Salem Hwy #72(OR99Bus) @ Cherry Ave.
 MILE POST : 2.61
 TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		OSL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES		MOTOR CYCLE SCOOT		TOTAL ALL VEHICLE		BI CY CLE	
	cars	WT-tr	Other	WT-tr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl					
08:00-09:00P	69		50		5	1											1	5	131	1	
09:00-10:00P	35		70														1		106	3	
16 HOUR	1348		1739		35	185	16	10	14	6			2				42	18	3417	57	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
DAY OF WEEK : Wed./Thurs.
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : NORTH

COUNTY : Marion
INTERSECTION OF: Salem Hwy #72 (OR99EBus) @ Cherry Ave.
CITY: Keizer
MILE POST : 2.61
TO : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE		TOTAL ALL VEHICLE		BT CV CLE	
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>5Axl	5 Axl	>7Axl	7 Axl	8 Axl	>9Axl	BUSES	CYCLE	SCOOT	VEHICLE	BT CV CLE
06:00-07:00A	20		26	3	2	4	1												56	
07:00-07:15A	8		6																16	
07:15-07:30A	5		6																11	
07:30-07:45A	7		10																20	
07:45-08:00A	7		9		2														17	
08:00-08:15A	5		11																18	
08:15-08:30A	4		10		1		1												20	
08:30-08:45A	7		12																13	
08:45-09:00A	2		11																77	
09:00-10:00A	25		45		4	1													71	
10:00-11:00A	30		33		6	1													20	
11:00-11:15A	9		10		1														14	
11:15-11:30A	8		5		1														23	
11:30-11:45A	7		15		1														34	
11:45-12:00P	14		17		1	1													40	
12:00-12:15P	19		21																26	
12:15-12:30P	13		13																27	
12:30-12:45P	11		15		1														27	
12:45-01:00P	9		14		2														78	
01:00-02:00P	32		42		3	1													85	
02:00-03:00P	34		42		4	1													82	
03:00-04:00P	34		43		1														36	
04:00-04:15P	21		14		1	1													18	
04:15-04:30P	3		11		2														31	
04:30-04:45P	8		20		2														19	
04:45-05:00P	12		37		1														50	
05:00-05:15P	6		26																26	
05:15-05:30P	14		18		2														34	
05:30-05:45P	11		16																29	
05:45-06:00P	33		44		3														81	
06:00-07:00P	31		30		2														63	

Date: 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 5AM - 10PM
 WEATHER : clear
 FROM : NORTH
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99ESus) @ Cherry Ave.
 CITY: Keizer
 MILE POST : 2.61
 TO : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES		MOTOR CYCLE		TOTAL ALL VEHICLE		BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	SCOOT	CYCLE		
08:00-09:00P	19		25		1														46	
09:00-10:00P	8		17																25	
15 HOUR	486		681		13	42	10	3	1	2				7			6		1251	16

Summarized by: _____ | 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 TO : WEST
 MILE POST : 2.61
 TO : NORTH
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Cherry Ave.
 CITY: Keizer

TIME OF DAY	PASSENGER	OTHER 2 AXLE	SGL UNIT TRUCK	SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	Other	WTrlr	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	5 Axle				
06:00-07:00A	31	42		2									75	
07:00-07:15A	12	9									2	1	21	
07:15-07:30A	13	13		1									30	
07:30-07:45A	27	27											55	
07:45-08:00A	38	28	1										68	
08:00-08:15A	14	22											36	
08:15-08:30A	16	14											31	
08:30-08:45A	8	12									2		24	
08:45-09:00A	12	24											38	
09:00-10:00A	33	60									1		101	
10:00-11:00A	50	63										1	121	
11:00-11:15A	6	15	1										25	
11:15-11:30A	10	8											19	
11:30-11:45A	12	15	1										31	
11:45-12:00P	12	15	1										30	
12:00-12:15P	16	16											35	
12:15-12:30P	13	20											35	
12:30-12:45P	16	20											39	
12:45-01:00P	13	14									1	2	30	
01:00-02:00P	50	54	2										111	
02:00-03:00P	59	69	3										135	
03:00-04:00P	70	97	3								1		178	
04:00-04:15P	14	32	1										48	
04:15-04:30P	19	25											48	
04:30-04:45P	21	31	1										54	
04:45-05:00P	25	31	1										58	
05:00-05:15P	40	27											69	
05:15-05:30P	28	28										2	60	
05:30-05:45P	16	22											40	
05:45-06:00P	22	31	1										55	
06:00-07:00P	76	86	1									1	167	
07:00-08:00P	49	45	1										98	

Date: 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99EBus) a Cherry Ave.
 CITY: Keizer
 MILE POST : 2.61
 TO : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	B1 CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl			
08:00-09:00P	33		32		2													67	
09:00-10:00P	39		41															80	
16 HOUR	913		1088		18	41	20		8	8	1						9	7	2113

Summarized by: _____ | 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Cherry Ave.
 CITY: Keizer
 MILE POST : 2.61
 TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DSL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	CY
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3-Axl	>4Axl	4 Axl	5 Axl	>6Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A	17	35		2	1	2	1	1	2	1		1			1	59	
07:00-07:15A	5	12														21	
07:15-07:30A	10	18		1	2	1	1								1	33	
07:30-07:45A	4	10		2	2											17	
07:45-08:00A	10	21		1	1											35	
08:00-08:15A	11	10		1	4											28	
08:15-08:30A	5	19		3	3											33	
08:30-08:45A	2	8		2	3											22	
08:45-09:00A	6	8														18	
09:00-10:00A	21	42		2	8											84	
10:00-11:00A	30	51		1	4											96	
11:00-11:15A	6	18		1	5											31	
11:15-11:30A	3	15		1	2											28	
11:30-11:45A	7	17		1	2											26	
11:45-12:00P	5	16		1	2											31	
12:00-12:15P	4	13		1	1											26	
12:15-12:30P	12	17		2	1											21	
12:30-12:45P	9	12		1	1											34	
12:45-01:00P	31	50		5	9											26	
01:00-02:00P	34	52		4	6											104	
02:00-03:00P	30	61		4	4											108	
03:00-04:00P	7	9		1	1											164	
04:00-04:15P	22	33		3	3											16	
04:15-04:30P	11	22		1	1											57	
04:30-04:45P	10	18		1	1											38	
04:45-05:00P	9	11														30	
05:00-05:15P	4	10														23	
05:15-05:30P	7	13		1												15	
05:30-05:45P	7	9		1												22	
05:45-06:00P	14	37		2	2											19	
06:00-07:00P	21	20		2	1											63	
07:00-08:00P																46	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 COUNTY : Marion
 INTERSECTION OF : Salem Hwy #72(OR99EBus) @ Cherry Ave.
 CITY: Keizer
 MILE POST : 2.51
 TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK			SGL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WT-ldr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
08:00-09:00P	12		20		1												3		37	1
09:00-10:00P	8		11														1		20	
16 HOUR	399		735	35	71	28	4	10	47	12	2	1	13	1	1	1	14	6	1371	1

Summarized by: _____ | 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 TO : WEST
 MILE POST : 2.61
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99Ebus) @ Cherry Ave.
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT-TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS				BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl				
06:00-07:00A	213		283	1	29	6		2	17	4			3		2	3	563	1
07:00-07:15A	71		85	1	7	9			5						1		179	
07:15-07:30A	84		106	2	13	3		1	5	2			2			3	221	1
07:30-07:45A	123		109	4	14	2		2	9								263	
07:45-08:00A	118		135	2	15	6		1	3	1			1			1	281	1
08:00-08:15A	93		120	2	9	4		3	3							2	236	
08:15-08:30A	80		82	3	12	1	1	1	4	2						2	185	
08:30-08:45A	64		71		13	3			4	2	1						161	
08:45-09:00A	78		76		9	2	1	1	5	4							177	
09:00-10:00A	209		279	9	35	13		4	14	6			2			2	575	1
10:00-11:00A	222		351	10	31	7	2	2	25	11			4				667	
11:00-11:15A	46		66	2	5	2		2	5				1				129	
11:15-11:30A	63		97	1	3	2		1	2	4			1			1	174	
11:30-11:45A	46		68	4	5	2		3	8	1							137	
11:45-12:00P	63		83	1	5	3		2	2	3			1				163	
12:00-12:15P	65		77	1	8	2		2	5	4							164	
12:15-12:30P	64		87	6	4	3		2	6	2			1			2	176	
12:30-12:45P	64		100	2	4	1		2	1								154	
12:45-01:00P	53		83	4	2	4		2	3	2			1			1	698	1
01:00-02:00P	244		377	11	19	11		4	15	10			3			3	635	
02:00-03:00P	250		309	15	24	6		6	15	5			1			18	896	1
03:00-04:00P	336		458	10	28	10		1	20	2			3			1	232	
04:00-04:15P	87		122	6	3	4			8				1				230	
04:15-04:30P	84		127	3	8	1			2							4	246	1
04:30-04:45P	95		133	4	4	6										4	256	
04:45-05:00P	110		136	3	2	2		1	2				1			1	242	
05:00-05:15P	113		118	1	6	2		2	2							4	231	2
05:15-05:30P	88		150	3	2	1		1	1							1	157	1
05:30-05:45P	71		78	2	3	3			2				1			1	217	1
05:45-06:00P	92		116	2	2	1			3				2			12	651	
06:00-07:00P	305		306	13	7	1		1	2				1			3	424	1
07:00-08:00P	158		239	6	10	1		2	2	1			1					

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 TO : WEST
 MILE POST : 2.61
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72 (OR99EBus) @ Cherry Ave.
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK			SGL TRAILER TRUCKS			DEL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	MT-IR	Other	MT-IR	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
08:00-09:00P	173		225	5	9	3		2	7	1							1	2	427	
09:00-10:00P	135		268	1	3	1			5									1	415	
16 HOUR	4160		5500	141	353	124	12	56	202	68	4	2	28	1			15	72	10738	12

Summarized by: _____ | 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
DAY OF WEEK : Wed./Thurs.
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : SOUTH

COUNTY : Marion
INTERSECTION OF : Salem Hwy #72(OR99EBus) @ Cherry Ave.
CITY : Keizer
MILE POST : 2.61
TO : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE		TOTAL ALL VEHICLE		BI CY	
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	4	1	84	1
06:00-07:00A	24		38	2	13												4	1	84	1
07:00-07:15A	27		6		2												1		37	
07:15-07:30A	12		21	1	2												2		38	
07:30-07:45A	11		25	1	1												1		41	
07:45-08:00A	13		17	1													1		35	
08:00-08:15A	12		21	2	3												2		42	
08:15-08:30A	21		16	1	5												1		45	
08:30-08:45A	9		20		2														32	
08:45-09:00A	12		22	1	7												1		46	
09:00-10:00A	63		97	5	9												2		181	1
10:00-11:00A	77		154	3	11												1		255	2
11:00-11:15A	27		33	1	1												1		65	1
11:15-11:30A	17		28		3												1		52	1
11:30-11:45A	25		38	1	15												2		82	2
11:45-12:00P	18		35		5												2		62	
12:00-12:15P	28		37	3	5												1		77	
12:15-12:30P	28		40	5	5												1		79	
12:30-12:45P	19		28	2	5												1		56	1
12:45-01:00P	29		26		6												2		63	2
01:00-02:00P	100		144	1	19												1		270	4
02:00-03:00P	97		134	1	11												2		250	6
03:00-04:00P	121		189	5	9												6		336	7
04:00-04:15P	33		29	1	2												1		69	3
04:15-04:30P	34		67	1	3												2		108	2
04:30-04:45P	46		52	2	2												1		103	2
04:45-05:00P	51		64	1	5												2		123	
05:00-05:15P	71		64	1	2												2		138	2
05:15-05:30P	48		64		1												1		115	1
05:30-05:45P	59		49	1	4												2		115	2
05:45-06:00P	39		47		1												5		94	3
06:00-07:00P	107		114		10												2		234	12
07:00-08:00P	82		103	1	2												1		190	4

Date: 09/05/07

Work_2424

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 TO : NORTH
 MILE POST : 2.61
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR9953us) @ Cherry Ave.
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOTER		TOTAL ALL VEHICLE		BI CY CLE	
	Cars	WTrlr	Other	WTrlr	2 Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle	8 Axle	9 Axle								
08:00-09:00P	48		55		6												110		4	
09:00-10:00P	61		72		1												137			
16 HOUR	1467		1949		178	25	2	11	6	2		1					3764		63	

WORK 2:24

Summarized by: | 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(CR9929us) @ Cherry Ave.
 CITY: Keizer
 MILE POST : 2.61
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DSL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTTr	Other	WTTr	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle	
06:00-07:00A	18		16		2	3									5	52
07:00-07:15A	1		3		1											8
07:15-07:30A	4		4		2										1	13
07:30-07:45A	3		8													14
07:45-08:00A	2		9													13
08:00-08:15A	2		9		2											15
08:15-08:30A	5		5		5											16
08:30-08:45A	7		7		1											16
08:45-09:00A	3		9		3											18
09:00-10:00A	15		46		11											86
10:00-11:00A	24		51		14											105
11:00-11:15A	5		17		1											26
11:15-11:30A	8		14		1											27
11:30-11:45A	7		17		1											26
11:45-12:00P	5		11		3											25
12:00-12:15P	4		16		2											25
12:15-12:30P	7		13		1											20
12:30-12:45P	4		14		1											21
12:45-01:00P	9		7		1											117
01:00-02:00P	32		63		4											112
02:00-03:00P	36		56		3											114
03:00-04:00P	43		54		7											28
04:00-04:15P	15		12		1											25
04:15-04:30P	3		19													32
04:30-04:45P	11		17													37
04:45-05:00P	9		25													37
05:00-05:15P	14		20													31
05:15-05:30P	12		15													24
05:30-05:45P	11		13													20
05:45-06:00P	7		9													63
06:00-07:00P	22		35													51
07:00-08:00P	20		26													

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion CITY: Keizer
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Cherry Ave.
 MILE POST : 2.61
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE		TOTAL ALL VEHICLE		BI CY CLE
	Cars	WT-tr	Other	WT-tr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl			SCOOT				
08:00-09:00P	15		23		1			2		1					2		43		1
09:00-10:00P	5		19			1									1		27		
16 HOUR	388		682		79	21	3	8	43	19	5	17	3	1	8		1312		7

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 TO : WEST
 MILE POST : 2.61
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Cherry Ave.
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SEDOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl		
06:00-07:00A	6		7		2				1	2	1				14	34
07:00-07:15A	1		3		1										1	6
07:15-07:30A			2		1											4
07:30-07:45A	2		8			2										12
07:45-08:00A	2		4		1											9
08:00-08:15A	1		6		1					1						10
08:15-08:30A	3		3		1											8
08:30-08:45A	4		3		3											12
08:45-09:00A	4		5		4											17
09:00-10:00A	12		28		11					3				1		62
10:00-11:00A	19		12		7					1				2		44
11:00-11:15A	5		13		1											20
11:15-11:30A	4		8		1											14
11:30-11:45A	9		16		2											28
11:45-12:00P	11		15		2											29
12:00-12:15P	9		23		1											35
12:15-12:30P	12		18		2											34
12:30-12:45P	12		9		2									1		27
12:45-01:00P	9		8		1											18
01:00-02:00P	25		43		1											81
02:00-03:00P	13		30		2											61
03:00-04:00P	24		46		2											80
04:00-04:15P	5		15		1											22
04:15-04:30P	9		9		1											31
04:30-04:45P	17		13		1											27
04:45-05:00P	4		22		2											39
05:00-05:15P	8		28		1											13
05:15-05:30P	2		9		1											20
05:30-05:45P	5		15		1											13
05:45-06:00P	3		8		1											47
06:00-07:00P	19		26		1											31
07:00-08:00P	13		16													

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion CITY: Keizer
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Cherry Ave.
 MILE POST : 2.61
 TO : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		OBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOTER		TOTAL ALL VEHICLE		BI CY CLE
	Cars	WTTr	Other	WTTr	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle	1	20	12	
08:00-09:00P	14		23		2											1	40		
09:00-10:00P	4		8														12		
16 HOUR	290		502		13	57	19	4	8	8	2	4				4	960		

WORK 2424

Summarized by: | 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Cherry Ave.
 CITY: Keizer
 MILE POST: 2.61
 TO: NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTLR	Other	WTLR	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	5 Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle				
06:00-07:00A	14		14														28		
07:00-07:15A	3		4														7		
07:15-07:30A	5		12	1												1	19		
07:30-07:45A	12		5		1												18		
07:45-08:00A	11		14		1											1	27		
08:00-08:15A	17		10														27		
08:15-08:30A	5		8														13		
08:30-08:45A	5		9	1													15		
08:45-09:00A	8		11	1													20		
09:00-10:00A	10		17	3	4												34		
10:00-11:00A	22		24	2	4												53		
11:00-11:15A	6		5	1	1												13		
11:15-11:30A	6		12	1	1	1											21		
11:30-11:45A	4		7														12		
11:45-12:00P	2		9		1											1	12		
12:00-12:15P	5		7														12		
12:15-12:30P	5		5	1												1	23		
12:30-12:45P	11		11		1												22		
12:45-01:00P	9		13													1	57	1	
01:00-02:00P	15		36	1	1												66		
02:00-03:00P	27		32		2	1	1									1	99		
03:00-04:00P	39		54		5												19		
04:00-04:15P	8		10		1												21		
04:15-04:30P	8		10		1												16		
04:30-04:45P	5		9	1	1												16		
04:45-05:00P	5		9		2												26		
05:00-05:15P	10		14	1	1											1	28		
05:15-05:30P	14		12		1												19		
05:30-05:45P	5		14														25		
05:45-06:00P	9		14		1											1	52	1	
06:00-07:00P	21		24		2	1										3	42		
07:00-08:00P	18		23		1														

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
DAY OF WEEK : Wed./Thurs.
HOURS COUNTED: 6AM - 10PM
WEATHER : clear
FROM : WEST

COUNTY : Marion
INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Cherry Ave.
CITY: Keizer
MILE POST : 2.61
TO : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGT UNIT TRUCK			SGT TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT VEHICLE	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTRFL	Other	WTRFL	2 AXL	3 AXL	>4AXL	4 AXL	5 AXL	>6AXL	5 AXL	6 AXL	>7AXL	7 AXL	8 AXL	>9AXL				
08:00-09:00P	19		15															34	26	1
09:00-10:00P	11																			
16 HOUR	374		488	14	32	6	2	3	3	1							4	8	935	3

Summarized by: 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Cherry Ave.
 CITY: Keizer
 MILE POST : 2.61
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl				
06:00-07:00A	315		299	1	17	2	1	10	11		2			8	665	
07:00-07:15A	79		75	1	2	4	1	3	3					2	171	
07:15-07:30A	97		76	4	6	5		4	5		1			2	200	
07:30-07:45A	59		52		4	3		2		2					123	2
07:45-08:00A	77		62	2	7	1		2	4					3	158	
08:00-08:15A	79		70	1	4	4		5	1		5			1	170	
08:15-08:30A	61		76	3	3			1	3				1	1	155	
08:30-08:45A	75		72	2	13	3		2					1		169	
08:45-09:00A	49		63	2	7	1		2		2					134	
09:00-10:00A	195		241	8	24	9		11	6		3		4	2	511	
10:00-11:00A	199		299	12	20	4	2	30	11		5		2	5	593	
11:00-11:15A	58		59	1	8			5	1					1	135	
11:15-11:30A	59		76	5	11		1	11	3		1				172	
11:30-11:45A	52		90	2	10			4	2					1	163	
11:45-12:00P	55		80	3	6	1		6	1						153	
12:00-12:15P	69		77	3	2		1	4	2		1				159	
12:15-12:30P	59		65	3	10	3		5	5				1	1	151	
12:30-12:45P	55		80	4	3	3		5	1		1				154	
12:45-01:00P	65		58	6	5	3		4	2		1		1	3	148	3
01:00-02:00P	244		332	7	42	8	2	20	9					4	671	
02:00-03:00P	263		329	17	27	16	3	28	9		2			1	706	
03:00-04:00P	318		390	12	19	7	6	23					3		781	
04:00-04:15P	99		116	5	3	2		2						4	227	
04:15-04:30P	100		94		2	3		1						2	201	
04:30-04:45P	112		116	2	7			5					1	2	242	1
04:45-05:00P	102		95	2	5			1						2	211	
05:00-05:15P	100		90	1	2	3		1					1	1	199	2
05:15-05:30P	171		148	4	4	1		1						1	331	
05:30-05:45P	117		111	3	4	3		4						1	245	
05:45-06:00P	92		119	1	4	4		5			1			1	226	1
06:00-07:00P	302		335	5	13	4	1	2						5	668	
07:00-08:00P	188		213	5	9	1		4							421	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
DAY OF WEEK : Wed./Thurs.
HOURS COUNTED: 6AM - 10PM
WEATHER : clear
FROM : WEST

COUNTY : Marion
INTERSECTION OF : Salem Hwy #72(OR99EBUS) @ Cherry Ave.
MILE POST : 2.61
EAST
10

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK			SGL TRAILER TRUCKS			DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE	TOTAL ALL VEHICLE	BI CY CLE		
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
08:00-09:00P	179		150	5				1	2				1				3	342	1	
09:00-10:00P	120		155	2	7	3			3								6	297	2	
16 HOUR	4264	1	4763	134	310	103	12	56	216	81	4	2	27	1			18	60	10052	12

Summarized by: 09/05/07

WORK_2424

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Cherry Ave.
 CITY: Keizer
 MILE POST : 2.61
 TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOT		TOTAL ALL VEHICLE		BT CY CLE	
	Cars	Wtrln	Other	Wtrln	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl						
06:00-07:00A	10		17	4	4														37			
07:00-07:15A	1		6		3														11			
07:15-07:30A	9		4		1														15			
07:30-07:45A	4		9		2														19			
07:45-08:00A	7		7		1														18			
08:00-08:15A	7		15		1														26			
08:15-08:30A	4		8		2														21			
08:30-08:45A	2		15																20			
08:45-09:00A	7		8																17			
09:00-10:00A	23		38		13														85			
10:00-11:00A	18		50		9														81			
11:00-11:15A	9		7		2														21			
11:15-11:30A	5		10		4														21			
11:30-11:45A	16		17																35			
11:45-12:00P	9		16		4														30			
12:00-12:15P	13		13		2														29			
12:15-12:30P	8		17		3														27			
12:30-12:45P	8		17		1														36			
12:45-01:00P	7		22		5														100			
01:00-02:00P	32		57		6														96			
02:00-03:00P	30		47		9														78			
03:00-04:00P	14		46		12														36			
04:00-04:15P	7		21		6														25			
04:15-04:30P	9		12		3														15			
04:30-04:45P	6		6		2														16			
04:45-05:00P	5		5		1														11			
05:00-05:15P	4		5		2														13			
05:15-05:30P	7		6																13			
05:30-05:45P	8		4																25			
05:45-06:00P	5		11		5														77			
06:00-07:00P	25		30		9														77			
07:00-08:00P	9		14		1														28			

Date: 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./THURS.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99Ebus) @ Cherry Ave.
 CITY: Keizer
 MILE POST : 2.61
 TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES		MOTOR CYCLE		BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl	10 Axl	11 Axl	12 Axl	SCOOT	ALL VEHICLE	
08:00-09:00P	6		6												2		15	
09:00-10:00P	5	3	13			1									1		23	
16 HOUR	337	3	583	21	114	15	1	9	10	11	1			45	2		1150	

WORK_2424

Summarized by: | 09/05/07

SUMMARY OF BICYCLE COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
HOURS : 6AM - 10PM
DAY : Wed./Thurs.
WEATHER: clear
COUNTY : Marion
CITY: Keizer
INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Cherry Ave.

Tab by: Chk. by: MILE POST : 2.61

BICYCLES USING CROSS WALKS																	
BICYCLES MOVING WITH VEHICULAR TRAFFIC																	
TIME OF DAY	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH	EAST	SOUTH	WEST
06:00-07:00A		7				1	1						9				
07:00-07:15A		3											3				
07:15-07:30A		7				1							8				
07:30-07:45A		2										2	4				
07:45-08:00A						1							2				
08:00-08:15A		1											1				
08:15-08:30A																	
08:30-08:45A																	
08:45-09:00A																	
09:00-10:00A		3				1	1						5				
10:00-11:00A							2						3				
11:00-11:15A							1						1				
11:15-11:30A							1						1				
11:30-11:45A							2						2				
11:45-12:00P																	
12:00-12:15P		3											3				
12:15-12:30P		2											3				
12:30-12:45P		3					1						4				
12:45-01:00P		2					2						5				
01:00-02:00P		3				1	4	1		1			14				
02:00-03:00P		1				1	6	1					10				
03:00-04:00P		2				1	7	1					11				
04:00-04:15P							3						3				
04:15-04:30P		1				1	2						4				
04:30-04:45P		2					2						4				
04:45-05:00P												1	3				
05:00-05:15P		1					2						3				
05:15-05:30P						2	1						6				
05:30-05:45P						1	2		1				5				
05:45-06:00P						4	3						5				
06:00-07:00P		3				1	12			1			18				
07:00-08:00P		6					4						17				

SUMMARY OF BICYCLE COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007 DAY : Wed./Thurs. CITY: Keizer
HOURS : 6AM - 10PM WEATHER: clear INTERSECTION OF: Salem Hwy #72(OR99EBUS) @ Cherry Ave.

Tab by: Enk. by: MILE POST : 2.61

TIME OF DAY	BICYCLES MOVING WITH VEHICULAR TRAFFIC												BICYCLES USING CROSS WALKS				
	N-E	N-S	N-W	E-W	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH	EAST	SOUTH	WEST
08:00-09:00P		1			1		4	1		1		1	9				
09:00-10:00P		3										2	5				
TOTAL VOLUME	57	16		12	63	7	3	12					171				

North and South is: Cherry Ave.

East and West is: Salem Hwy #72(OR99EBUS)

SUMMARY OF PEDESTRIAN COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
HOURS : 6AM - 10PM

DAY : Wed./Thurs.
WEATHER: clear

COUNTY : Marion
INTERSECTION off: Salem Hwy #72(OR99EBus) @ Cherry Ave.

CITY: Keizer

Tab by:

Chk. by:

MILE POST : 2.61

TIME OF DAY	STUDENT PEDESTRIANS				OTHER PEDESTRIANS				STUDENT AND OTHER PEDESTRIAN						
	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST	SOUTH	WEST	TOTAL
06:00-07:00A					3					3					3
07:00-07:15A					2					2					2
07:15-07:30A					3					3					3
07:30-07:45A															
07:45-08:00A															
08:00-08:15A															
08:15-08:30A															
08:30-08:45A															
08:45-09:00A															
09:00-10:00A															
10:00-11:00A															
11:00-11:15A															
11:15-11:30A					1					1					1
11:30-11:45A															
11:45-12:00P															
12:00-12:15P															
12:15-12:30P															
12:30-12:45P					1					1					1
12:45-01:00P															
01:00-02:00P					5					5					5
02:00-03:00P					6					6					6
03:00-04:00P															
04:00-04:15P															
04:15-04:30P															
04:30-04:45P															
04:45-05:00P															
05:00-05:15P					2					2					2
05:15-05:30P															
05:30-05:45P															
05:45-06:00P															
06:00-07:00P															
07:00-08:00P															

North and South is: Cherry Ave.

East and West is: Salem Hwy #72(OR99EBus)

SUMMARY OF PEDESTRIAN COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
HOURS : 6AM - 10PM

DAY : Wed./Thurs.
WEATHER: clear

COUNTY : Marion
INTERSECTION OF: Salem Hwy #72(OR99EBUS) & Cherry Ave.
CITY: Keizer

Tab by:

CHK. by:

MILE POST : 2.61

TIME OF DAY	STUDENT PEDESTRIANS				OTHER PEDESTRIANS				STUDENT AND OTHER PEDESTRIAN						
	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST	SOUTH	WEST	TOTAL
08:00-09:00P															
09:00-10:00P						1		1			2	1			2
TOTAL VOLUME						23	6	20	10	59	23	6	29	10	59

North and South is: Cherry Ave.

East and West is: Salem Hwy #72(OR99EBUS)

TRANSPORTATION DEVELOPMENT BRANCH
TRANSPORTATION SYSTEM MONITORING UNIT
VEHICULAR VOLUME

DATE : July 25/26, 2007

CITY or COUNTY : Keizer

DAY WEEK : Wed./Thurs.

INTERSECTION OF: N River Rd. @ Chemawa Rd.

ACT COUNT: 16

HRS COUNT: 6AM - 10PM

PED COUNT: 16

MILE POST: n/a

HRS COUNT: 6AM - 10PM

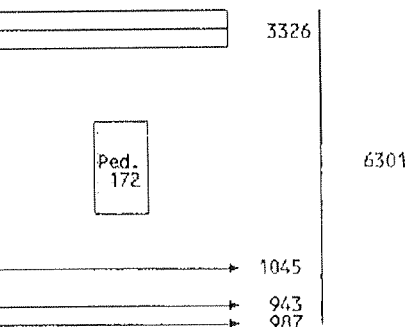
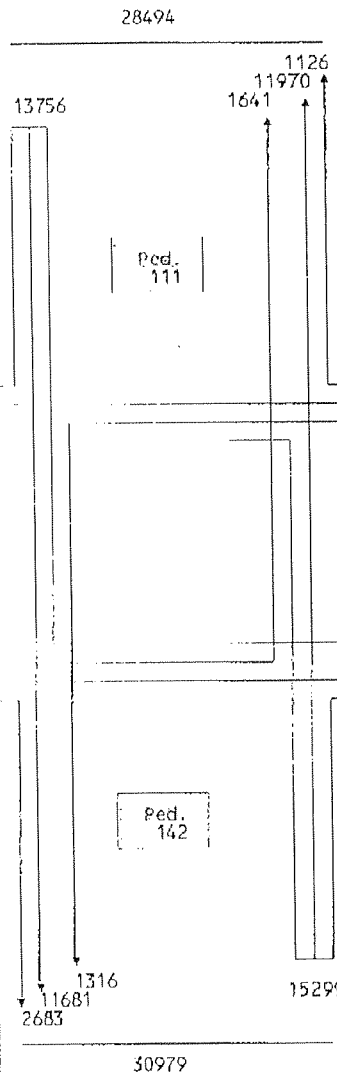
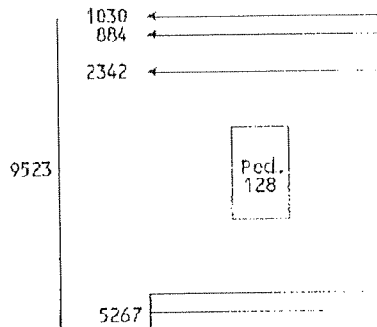
CLASSIFICATION : All vehicles

WEATHER : clear

To: WINDY Island Rd.

No.	%
TOTAL VEHICLES ENTERING INTERSECTION : 37647 100	
ENTERING FROM NORTH & SOUTH : 29054 77.1	
ENTERING FROM EAST & WEST : 8593 22.8	

To: Truckee Rd.



REMARKS

16 hour observation
 count started at 7:00
 hour vol (1-10)
 1-10:00 hrs (7-9:00)
 (11-12:00) - RUNNERS
 in primary crossing
 River Rd.
 at Chemawa Road
 bridge work east leg
 (road closed)

Chemawa Rd.

Indicate North

N. River Rd.

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
HOURS : 6AM - 10PM

DAY : Wed./Thurs.
WEATHER : Clear

COUNTY : Marion
INTERSECTION OF: N River Rd. @ Chemawa Rd.

CITY: Keizer

Tab by:

Chk. by:

FILE POST : 0/A

SUMMARY BY MOVEMENTS													ENTERING VOLUMES BY LEGS								
TIME OF DAY	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH AND SOUTH	PERCENT OF TOTAL	EAST AND WEST	PERCENT OF TOTAL	NORTH	EAST	SOUTH	WEST
06:00-07:00A	9	445	25	14	17	9	307	22	39	54	19	137	1097	847	77.2	250	22.8	479	40	368	210
07:00-07:15A	2	150	14	6	9	4	65	3	16	15	4	48	336	250	74.4	86	25.6	166	19	84	67
07:15-07:30A	5	199	8	8	7	5	77	13	10	21	5	55	405	312	77.0	93	23.0	212	12	100	81
07:30-07:45A	4	234	8	7	10	3	81	7	18	14	18	58	462	352	76.2	110	23.8	246	20	106	90
07:45-08:00A	10	230	8	8	18	5	105	11	16	16	13	62	502	380	75.7	122	24.3	248	31	132	91
08:00-08:15A	9	183	9	9	15	8	95	7	29	17	17	61	459	332	72.3	127	27.7	281	32	131	95
08:15-08:30A	7	175	9	15	24	8	112	12	23	20	13	44	462	336	73.2	124	26.8	191	47	147	77
08:30-08:45A	17	196	16	12	10	9	123	7	15	25	13	41	484	374	77.3	110	22.7	229	31	145	79
08:45-09:00A	14	153	8	11	14	6	120	16	21	25	10	41	439	332	75.6	107	24.4	175	31	157	76
09:00-10:00A	55	682	50	51	77	37	531	44	80	62	39	151	1859	1442	77.6	417	22.4	787	165	655	252
10:00-11:00A	44	999	38	52	71	50	608	54	118	87	26	119	2266	1861	82.1	405	17.9	1081	173	780	232
11:00-12:00P	74	733	48	69	99	47	747	61	118	107	60	154	2287	1751	76.6	536	23.4	825	215	926	321
12:00-01:00P	87	822	65	82	129	65	836	74	159	98	68	169	2654	2043	77.0	611	23.0	974	276	1069	335
01:00-02:00P	73	753	54	65	91	50	801	60	134	124	58	187	2465	1875	76.1	590	23.9	880	221	995	369
02:00-03:00P	63	559	95	70	92	50	751	67	168	102	59	155	2231	1703	76.3	528	24.7	717	212	986	316
03:00-04:00P	61	695	72	98	102	56	836	75	156	105	66	175	2497	1895	75.9	602	24.1	828	256	1067	346
04:00-04:15P	20	208	28	20	13	17	258	20	45	35	22	33	719	579	80.5	140	19.5	256	50	323	90
04:15-04:30P	22	175	27	28	18	11	245	15	56	29	21	48	695	540	77.7	155	22.3	224	57	316	98
04:30-04:45P	28	194	20	24	27	20	222	20	59	31	22	40	707	543	76.8	164	23.2	242	71	301	93
04:45-05:00P	10	166	23	24	24	26	281	23	67	43	15	47	749	603	76.3	179	23.9	199	74	371	105
05:00-05:15P	21	189	24	28	23	36	292	17	60	38	19	45	790	613	78.3	187	23.7	234	87	369	100
05:15-05:30P	26	171	15	28	21	24	305	26	70	24	23	50	792	611	77.1	170	21.7	212	73	401	97
05:30-05:45P	22	168	19	26	24	19	330	10	62	44	18	50	792	611	77.3	181	22.9	209	69	402	112
05:45-06:00P	18	93	14	25	26	14	256	19	30	23	14	17	549	430	78.3	119	21.7	125	65	305	54
06:00-07:00P	85	757	80	80	83	71	858	69	211	131	67	157	2649	2060	77.8	589	22.2	922	234	1138	355
07:00-08:00P	67	477	49	71	49	45	608	58	154	81	59	110	1628	1413	77.3	415	22.7	593	165	820	250
08:00-09:00P	50	457	50	45	48	50	582	45	100	69	46	104	1646	1284	78.0	362	22.0	557	143	727	219
09:00-10:00P	47	386	60	56	55	44	450	42	95	52	43	83	1413	1080	76.4	333	23.6	493	155	587	178
TOTAL COUNT	950	10619	936	1024	1196	804	10882	897	2129	1492	857	2439	34225	26413	77.2	7812	22.8	12505	3024	13906	4788
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10									
24HR VOLUME	1045	11681	1030	1126	1316	884	11970	987	2342	1641	943	2683	37648	29055	77.2	8593	22.8	13756	3326	15299	5267

North and South is: N River Rd.

East and West is: Chemawa Rd.

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
HOURS : 6AM - 10PM
DAY : Wed./Thurs.
WEATHER: clear
COUNTY : Marion
INTERSECTION OF: N River Rd. @ Chemawa Rd.
CITY: Keizer

Tab by: Chk. by: MILE POST : n/a

SUMMARY BY MOVEMENTS

TIME OF DAY	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH AND SOUTH	PERCENT OF TOTAL	EAST AND WEST	PERCENT OF TOTAL	ENTERING VOLUMES BY LEGS	WEST
06:00-07:00A	9	445	25	14	17	9	307	22	39	54	19	137	1097	847	77.2	250	22.8	479	210
07:00-08:00A	21	813	38	21	44	17	328	34	60	66	40	223	1705	1294	75.9	411	24.1	872	329
08:00-09:00A	47	707	42	47	63	31	450	42	88	87	53	187	1844	1376	74.6	468	25.4	796	327
09:00-10:00A	55	682	50	51	77	37	531	44	80	52	39	151	1859	1442	77.6	417	22.4	787	252
10:00-11:00A	44	999	38	52	71	50	608	54	118	87	26	119	2266	1861	82.1	405	17.9	1081	232
11:00-12:00P	74	703	48	69	99	47	747	61	118	107	60	154	2287	1751	76.6	536	23.4	825	321
12:00-01:00P	87	822	65	82	129	65	836	74	159	98	68	169	2654	2043	77.0	611	23.0	974	335
01:00-02:00P	73	753	54	65	91	65	801	60	134	124	58	187	2465	1875	76.1	590	23.9	880	369
02:00-03:00P	63	559	95	70	92	50	751	67	168	102	59	155	2231	1703	76.3	528	23.7	717	316
03:00-04:00P	61	695	72	98	102	56	836	75	156	105	66	175	2497	1895	75.9	602	24.1	828	346
04:00-05:00P	80	743	98	96	82	74	1006	78	227	138	80	168	2870	2232	77.8	638	22.2	921	386
05:00-06:00P	87	621	72	107	94	93	1183	72	222	129	74	160	2914	2257	77.5	657	22.5	780	363
06:00-07:00P	85	757	80	80	83	71	858	69	211	131	67	157	2649	2060	77.8	589	22.2	922	355
07:00-08:00P	67	477	49	71	49	45	608	58	154	81	59	110	1828	1413	77.3	415	22.7	593	250
08:00-09:00P	50	457	50	45	48	50	582	45	100	69	46	104	1646	1284	78.0	362	22.0	557	219
09:00-10:00P	47	386	60	56	55	44	450	42	95	52	43	83	1413	1080	76.4	333	23.6	493	178
TOTAL COUNT	950	10619	936	1024	1196	804	10802	897	2129	1452	857	2439	34225	26413	77.2	7812	22.8	12505	4788
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	29055	77.2	8593	22.8	13756	5257
24HR VOLUME	1045	11681	1030	1126	1316	884	11970	987	2342	1641	943	2683	37648	29055	77.2	8593	22.8	13756	5257

North and South is: N River Rd.

East and West is: Chemawa Rd.

SUM 2423

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 5AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : EAST
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Cheraw Rd.
 CITY: Keizer

TIME OF DAY	PASSENGER	OTHER 2 AXLE		SQL UNIT TRUCK		SQL TRAILER TRUCKS		DEL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOT		TOTAL ALL VEHICLE		BI CY CLE	
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A	1		6							1						1	9	1	
07:00-07:15A			2														2		
07:15-07:30A	1		3		1												5		
07:30-07:45A	1		3														4		
07:45-08:00A	4		3		2												10		
08:00-08:15A	4		5														9		
08:15-08:30A	2		4														7		
08:30-08:45A	4		12		1												17		
08:45-09:00A	6		6		1												14		
09:00-10:00A	21	1	27		2			1								3	55		
10:00-11:00A	28		14		6											1	44		
11:00-12:00P	27		37		3											1	74		
12:00-01:00P	35		45		3											1	87		
01:00-02:00P	29		42		1											1	73		
02:00-03:00P	25		35		1											1	63		
03:00-04:00P	32		27		2											1	61		
04:00-04:15P	10		8		1												20		
04:15-04:30P	9		13													1	22		
04:30-04:45P	11		16														28		
04:45-05:00P	5		5														10		
05:00-05:15P	8		12													1	21		
05:15-05:30P	13		13														26		
05:30-05:45P	10		11														22		
05:45-06:00P	8		10														18		
06:00-07:00P	39		41		1											1	85		
07:00-08:00P	41		22		1											1	67		
08:00-09:00P	23		24		1											1	50		
09:00-10:00P	25		21													1	47		
16 HOUR	422	1	467	4	24	3			2	4						15	950	1	

TRAFFIC COUNTY SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007 COUNTY : Marion CITY: Keizer
 DAY OF WEEK : Wed./Thurs. INTERSECTION OF: N River Rd. @ Chemawa Rd.
 HOURS COUNTED : 6AM - 10PM MILE POST : n/a
 WEATHER : clear TO SOUTH
 FROM : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS					SPL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT VEHICLE	TOTAL ALL	BI CY CLE
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A	181		242		5	3			1	2							3	8	425	2
07:00-07:15A	71		73	1	1												2	1	150	1
07:15-07:30A	90		96	1	6	2			1								1	2	199	1
07:30-07:45A	110		111	1	2	1			2								1	6	234	1
07:45-08:00A	97		115	3	5				1	1							3	3	230	
08:00-08:15A	87		91	3					1								1	1	183	
08:15-08:30A	57		103	1	7					2							4	1	175	
08:30-08:45A	90		101		3			1									1	1	196	1
08:45-09:00A	59		87	2	1	1			1								4	4	153	1
09:00-10:00A	284		368	6	9	3			2								2	3	682	2
10:00-11:00A	298		352	18	314	5			5	1							9	2	999	3
11:00-12:00P	322		331	10	19	2	1		2								7	3	703	2
12:00-01:00P	364		422	2	18	2			4								5	3	822	5
01:00-02:00P	333		376	12	20	1			3								9	1	753	5
02:00-03:00P	266		256	3	13	4		2	1								3	3	559	2
03:00-04:00P	290		368	4	22		1			2							4	3	695	
04:00-04:15P	86		111	3	4	2			1								2	3	208	2
04:15-04:30P	72		98	2	3													4	175	
04:30-04:45P	86		98	1	1												3	2	194	
04:45-05:00P	63		97	1	2												1	2	166	
05:00-05:15P	71		108	2	3												2	3	189	
05:15-05:30P	73		89	2	3												2	2	171	
05:30-05:45P	87		78						1								1	1	168	
05:45-06:00P	38		53															2	93	
06:00-07:00P	335		405	2	3				1								5	6	757	1
07:00-08:00P	235		228	2	3												1	7	477	1
08:00-09:00P	235		209	2	3				1								2	5	457	
09:00-10:00P	188		196		1												1		386	
16 HOUR	4568		5263	84	471	25	2	16	28	11					2		77	72	10619	31

Summarized by: 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : WEST
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Chemawa Rd.
 CITY: Keizer
 MILE POST : n/a

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	UTrlr	Other	UTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl
06:00-07:00A	7		15		2										25	
07:00-07:15A	3		9												14	
07:15-07:30A	3		4												8	
07:30-07:45A	2		5												8	
07:45-08:00A	5		2		1										9	
08:00-08:15A	2		6												9	
08:15-08:30A	4		5												16	
08:30-08:45A	6		8		2										8	
08:45-09:00A	2		5		1										50	
09:00-10:00A	21		26		1										38	
10:00-11:00A	15		20		1										48	
11:00-12:00P	13		29		2										65	
12:00-01:00P	30		31		2										54	
01:00-02:00P	18		32		3										95	
02:00-03:00P	24		65		3										72	
03:00-04:00P	27		37		4										28	
04:00-04:15P	10		15		1										27	
04:15-04:30P	13		13												20	
04:30-04:45P	7		13												23	
04:45-05:00P	12		10												24	
05:00-05:15P	10		11		2										15	
05:15-05:30P	7		8												1	
05:30-05:45P	7		11												1	
05:45-06:00P	4		7		1										1	
06:00-07:00P	32		40		4										80	
07:00-08:00P	25		22		1										49	
08:00-09:00P	15		34												50	
09:00-10:00P	37		22												60	
16 HOUR	361		505		30	3		1	3	4	1		16	6	936	3

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
DAY OF WEEK : Wed./Thurs.
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : EAST

COUNTY : Marion
INTERSECTION OF: N River Rd. @ Chenowa Rd.
MILE POST : n/a
TO : NORTH
CITY : Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE S0001	TOTAL ALL VEHICLE	BI CY CLE	
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl					>7Axl
06:00-07:00A	4		9		1								1		14		
07:00-07:15A	1		3												6		
07:15-07:30A																	
07:30-07:45A	3		7		2								1		7		
07:45-08:00A	1		5												8		
08:00-08:15A	3		5												9		
08:15-08:30A	7		5		1								1		15		
08:30-08:45A	4		7		1										12		
08:45-09:00A	4		6		1										11		
09:00-10:00A	21		25		1			1					1		51		
10:00-11:00A	19		25		4				2						52		
11:00-12:00P	28		36		1				1						69		
12:00-01:00P	35		42		1		3							1	82		
01:00-02:00P	26		37		1										65		
02:00-03:00P	38		30				1								70		
03:00-04:00P	48		47		1										98		
04:00-04:15P			11												20		
04:15-04:30P	13		15												28		
04:30-04:45P	10		11		1		1								24		
04:45-05:00P	11		12												24		
05:00-05:15P	11		16		1										28		
05:15-05:30P	14		12		1										28		
05:30-05:45P	16		9		1										26		
05:45-06:00P	9		14		1										25		
06:00-07:00P	40		36		1										80		
07:00-08:00P	36		33												71		
08:00-09:00P	18		25												45		
09:00-10:00P	27		26		2										56		
16 HOUR	456		504		4		22		7			2		6	18	5	1024

Summarized by: 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
DAY OF WEEK : Wed./Thurs.
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : EAST

COUNTY : Marion
INTERSECTION OF : N River Rd. & Chemawa Rd.
MILE POST : n/a
TO : SOUTH
CITY : Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE		TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTRFL	Other	WTRFL	2 Axle	3 Axle	4 Axle	5 Axle	>6 Axle	5 Axle	6 Axle	>7 Axle	7 Axle	8 Axle	>9 Axle			
06:00-07:00A	7		9		1												17	
07:00-07:15A	7		5														9	
07:15-07:30A	3		4														7	
07:30-07:45A	4		6														10	
07:45-08:00A	10		7		1												18	
08:00-08:15A	6		8		1												15	
08:15-08:30A	12		9		1												24	
08:30-08:45A	6		3		1												10	
08:45-09:00A	6		8														14	
09:00-10:00A	28		39		5												77	
10:00-11:00A	32		35		3												71	
11:00-12:00P	48		48		2												129	
12:00-01:00P	49		75		3												91	
01:00-02:00P	40		47		2												92	
02:00-03:00P	42		45		5												102	
03:00-04:00P	45		51		2												13	
04:00-04:15P	3		10														18	
04:15-04:30P	9		9														27	
04:30-04:45P	12		13		1												24	
04:45-05:00P	11		12														23	
05:00-05:15P	12		10														21	
05:15-05:30P	11		10														24	
05:30-05:45P	8		16														26	
05:45-06:00P	14		12		1												83	
06:00-07:00P	49		33														49	
07:00-08:00P	29		18		2												48	
08:00-09:00P	23		25														55	
09:00-10:00P	30		25															
16 HOUR	553		592		8		27		3		2		1			4	6	1196

Summarized by: 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

CITY: Keizer

COUNTY : Marion
INTERSECTION OF: N River Rd. & Chemawa Rd.

MILE POST : n/a
TO : WEST

DATE : July 25/26, 2007
DAY OF WEEK : Wed./Thurs.
HOURS COUNTED: 6AM - 10PM
WEATHER : clear
FROM : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY GLE
	Cars	WTrip	Other	WTrip	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A	4		4		1												1	9	1
07:00-07:15A	2		4		1													4	1
07:15-07:30A	1		4															5	
07:30-07:45A			2		1													3	
07:45-08:00A	2		3		1													5	1
08:00-08:15A	3		4		1													8	
08:15-08:30A	1		6		1													8	
08:30-08:45A	3		6															9	
08:45-09:00A	3		2		1													6	1
09:00-10:00A	15		18		2													37	1
10:00-11:00A	24		24		2													50	2
11:00-12:00P	23		19		4													47	2
12:00-01:00P	30		28		6													65	2
01:00-02:00P	33		31		1												1	65	2
02:00-03:00P	27		22		1												1	50	1
03:00-04:00P	29		26														1	56	1
04:00-04:15P	6		9		1												1	17	1
04:15-04:30P	4		7														1	11	1
04:30-04:45P	10		9														1	20	1
04:45-05:00P	9		16		1													26	1
05:00-05:15P	18		18															36	2
05:15-05:30P	7		15		2													24	1
05:30-05:45P	5		13		1													19	1
05:45-06:00P	7		6		1												1	14	4
06:00-07:00P	36		34															71	1
07:00-08:00P	21		23		1												2	45	3
08:00-09:00P	27		20		1													50	3
09:00-10:00P	15		29															44	3
15 HOUR	355		398		27												8	804	29

WORK_2423

Summarized by: _____ | 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
DAY OF WEEK : Wed./Thurs.
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : SOUTH

COUNTY : Marion
INTERSECTION OF : N River Rd. @ Chenawa Rd.
MILE POST : n/a
TO : NORTH
CITY : Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK			SGL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES			MOTOR CYCLE		TOTAL ALL VEHICLE	BI CY CLE
	Cars	Witr	Other	Witr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	5	1	1	1	1	307	1
06:00-07:00A	123		169		6	1											5	1	1	1	1	65	
07:00-07:15A	27		32		4	1											1	1	1	1	1	77	
07:15-07:30A	46		25		1	2											1	1	1	1	1	81	
07:30-07:45A	31		39		4			3									4					105	
07:45-08:00A	43		48		2			1									3					95	
08:00-08:15A	33		53		2	2		1														112	
08:15-08:30A	44		60		4			3									2					123	
08:30-08:45A	41		72		5			1									1					120	
08:45-09:00A	52		60		5			3									6					531	
09:00-10:00A	220		273		10	5	1	3									2					608	
10:00-11:00A	260		311		13	5		1									4					747	
11:00-12:00P	357		352		14	4	1	2									6					836	
12:00-01:00P	375		416		17	5		2									5					801	
01:00-02:00P	362		403		14	1		1									4					751	
02:00-03:00P	309		399		13	4		5									6					836	
03:00-04:00P	392		401		14	6	1	2									5					258	
04:00-04:15P	128		120		4			1									1					245	
04:15-04:30P	105		128		1	1											2					222	
04:30-04:45P	100		116		1												3					281	
04:45-05:00P	114		156		3			1									4					292	
05:00-05:15P	130		149		7												2					305	
05:15-05:30P	124		166		6			2									1					330	
05:30-05:45P	155		166		2												1					256	
05:45-06:00P	119		128		5			1									3					858	
06:00-07:00P	429		410		6	3		1									2					608	
07:00-08:00P	285		301		5	5		2									1					582	
08:00-09:00P	284		282		5												1					450	
09:00-10:00P	226		212		2																		
16 HOUR	4914	3	5447	82	175	38	3	31	26	11							72	82				10882	22

Summarized by: 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
DAY OF WEEK : Wed./Thurs.
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : SOUTH

COUNTY : Marion
INTERSECTION OF: N River Rd. @ Chetawa Rd.
MILE POST : n/a
TO : EAST

CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	
06:00-07:00A	12		7		1	2									22	3
07:00-07:15A	2														13	7
07:15-07:30A	4		7		1										11	7
07:30-07:45A	2		4												12	7
07:45-08:00A	2		8												16	7
08:00-08:15A	5		2												44	16
08:15-08:30A	1		11												54	61
08:30-08:45A	4		3												74	60
08:45-09:00A	7		6												67	75
09:00-10:00A	12		29												20	15
10:00-11:00A	25		24												20	20
11:00-12:00P	28		30												23	17
12:00-01:00P	28		35												26	10
01:00-02:00P	30		28												69	58
02:00-03:00P	36		29												45	42
03:00-04:00P	27		44												897	
04:00-04:15P	10		8													
04:15-04:30P	6		7													
04:30-04:45P	9		10													
04:45-05:00P	19		4													
05:00-05:15P	6		11													
05:15-05:30P	11		15													
05:30-05:45P	5		5													
05:45-06:00P	8		11													
06:00-07:00P	33		34													
07:00-08:00P	31		25													
08:00-09:00P	26		19													
09:00-10:00P	27		14													
16 HOUR	416	1	430	5	27	2		2					10	4	897	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
DAY OF WEEK : Wed./Thurs.
HOURS COUNTED: 6AM - 10PM
WEATHER : clear
FROM : SOUTH

COUNTY : Marion
INTERSECTION OF: N River Rd. @ Chewawa Rd.
MILE POST : n/a
TO : WEST

CITY : Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl		
06:00-07:00A	21		16		1	1											39	
07:00-07:15A	4		9	1													16	
07:15-07:30A	3		6		1												10	
07:30-07:45A	10		8														18	
07:45-08:00A	8		7		1												16	
08:00-08:15A	8		18	1		2											29	
08:15-08:30A	4		16	1			1										23	
08:30-08:45A	8		6	1													15	
08:45-09:00A	10		10		1												21	
09:00-10:00A	26		47	2		4											80	
10:00-11:00A	48		61	1		1	3			3							118	
11:00-12:00P	52		58	1		4	3										159	
12:00-01:00P	76		80		1		1										134	
01:00-02:00P	60		64		2												168	
02:00-03:00P	84		80	3		2											156	
03:00-04:00P	78		76	1													168	
04:00-04:15P	23		22														45	
04:15-04:30P	31		25														56	
04:30-04:45P	29		27	1		1											59	
04:45-05:00P	32		30	2		1											67	
05:00-05:15P	27		30		1		1										60	
05:15-05:30P	28		42	2													70	
05:30-05:45P	34		26			1											62	
05:45-06:00P	13		16			1											30	
06:00-07:00P	94		112	2		2											211	1
07:00-08:00P	88		61														154	
08:00-09:00P	62		37			1											100	
09:00-10:00P	46		48														95	
16 HOUR	1007		1038	21		30	10										2129	1

Summarized by: 09/05/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Chemawa Rd.
 CITY: Keizer
 MILE POST : n/a
 TO : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DEL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE		BT CY CLE
	Cars	WTRIP	Other	WTRIP	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	
06:00-07:00A	23		24	1	3									3	54	1	
07:00-07:15A	5		10												15		
07:15-07:30A	10		10		1										21		
07:30-07:45A	5		8		1										14		
07:45-08:00A	5		11												16		
08:00-08:15A	6		10	1											17		
08:15-08:30A	9		11												20		
08:30-08:45A	8		14	2											25		
08:45-09:00A	12		12												62		
09:00-10:00A	29		30		1				2						87		
10:00-11:00A	35		49		1						1				107		
11:00-12:00P	53		49	3	2										98		
12:00-01:00P	47		46	1	4									2	124		
01:00-02:00P	56		63		1				1					1	102		
02:00-03:00P	48		50		3										105		
03:00-04:00P	53		49	1	2										35		
04:00-04:15P	14		19		2										29		
04:15-04:30P	9		18		1			1							31		
04:30-04:45P	17		14												43		1
04:45-05:00P	19		24											1	38		
05:00-05:15P	18		18												24		
05:15-05:30P	10		13	1										1	44		
05:30-05:45P	24		17	1	1										23		
05:45-06:00P	8		15											1	131		
06:00-07:00P	50		79		1										81		
07:00-08:00P	48		32		1										69		
08:00-09:00P	36		32		1										52		
09:00-10:00P	30		21	1													
16 HOUR	687		748	13	27	2		1	3		1			9	1492		2

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 5AM - 10PM
 WEATHER : clear
 FROM : WEST
 TO : EAST
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Chamawa Rd.
 CITY: Keizer
 MILE POST : n/a
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	Other	WTLR	Other	WTLR	2 Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle	8 Axle	9 Axle				
06:00-07:00A	9	7			1											19	
07:00-07:15A	1	2			1											4	
07:15-07:30A	2	3														5	
07:30-07:45A	6	11												1		18	
07:45-08:00A	6	7														13	
08:00-08:15A	5	10													1	17	
08:15-08:30A	4	5														13	
08:30-08:45A	6	5												1		13	
08:45-09:00A	6	3														10	
09:00-10:00A	12	23														39	3
10:00-11:00A	6	19														26	4
11:00-12:00P	24	33														60	1
12:00-01:00P	32	34														68	2
01:00-02:00P	30	25													3	58	1
02:00-03:00P	34	23														59	2
03:00-04:00P	33	32														66	4
04:00-04:15P	10	12														22	3
04:15-04:30P	4	15														19	
04:30-04:45P	11	10												1		22	
04:45-05:00P	6	7														15	
05:00-05:15P	8	10														19	
05:15-05:30P	10	13														23	
05:30-05:45P	5	11														18	1
05:45-06:00P	5	7														14	
06:00-07:00P	31	32												1		67	5
07:00-08:00P	26	31													2	59	2
08:00-09:00P	24	21														46	
09:00-10:00P	16	26														43	
16 HOUR	372	437	7	22	2									4	10	857	28

TRAFFIC COUN. SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007
 DAY OF WEEK : Wed./Thurs.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Chetawa Rd.
 CITY: Keizer
 MILE POST : n/a
 TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE		TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlf	Other	WTrlf	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle	SCOOT	CY		
06:00-07:00A	70		61		1				1					1	2		137	
07:00-07:15A	16		30		1												48	
07:15-07:30A	29		24												1		55	
07:30-07:45A	22		33		1				1								58	
07:45-08:00A	31		26		1										4		62	
08:00-08:15A	30		29		1									1			61	
08:15-08:30A	21		22												1		44	
08:30-08:45A	15		23														41	
08:45-09:00A	16		25														41	
09:00-10:00A	65		77		6												151	
10:00-11:00A	46		63		5				1								119	
11:00-12:00P	70		72		1				1								154	
12:00-01:00P	76		81		5												169	
01:00-02:00P	89		89		4										2		187	1
02:00-03:00P	67		73		5									2	4		155	
03:00-04:00P	72		96		3										1		175	
04:00-04:15P	15		17		1									1			33	
04:15-04:30P	23		23														48	
04:30-04:45P	24		15		1												40	
04:45-05:00P	20		26														47	
05:00-05:15P	22		21														43	
05:15-05:30P	23		27														50	
05:30-05:45P	20		30														50	
05:45-06:00P	8		9														17	
06:00-07:00P	70		81		1										2		157	
07:00-08:00P	61		49														110	
08:00-09:00P	60		40		1										2		104	
09:00-10:00P	44		37		1										1		83	1
16 HOUR	1125		1199		31			4	4					6	21		2439	2

SUMMARY OF BICYCLE COUNT

DAY : Wed./Thurs.
WEATHER: clear

CITY: Keizer

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MI 310-001 : 1/2

BICYCLES MOVING WITH VEHICULAR TRAFFIC

BI-CYCLES USING CROSS WALKS

22. 62

2

28

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22

62

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14

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341

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East and West is: Chemawa Rd.

2423

SUMMARY OF PEDESTRIAN COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 25/26, 2007 DAY : Wed./Thurs. CITY: Keizer
HOURS : 6AM - 10PM WEATHER: clear COUNTY : Marion
INTERSECTION OF: N River Rd. @ Chemawa Rd.

Tab by: Chk. by: MILE POST : 0.8

TIME OF DAY	STUDENT PEDESTRIANS				OTHER PEDESTRIANS				STUDENT AND OTHER PEDESTRIAN				TOTAL		
	EAST		WEST		EAST		WEST		EAST		WEST				
	NORTH	SOUTH	SOUTH	NORTH	NORTH	SOUTH	SOUTH	NORTH	NORTH	SOUTH	SOUTH	WEST			
06:00-07:00A					1	5	5	4	14					14	2
07:00-07:15A								1	2	1					2
07:15-07:30A															
07:30-07:45A								2	4						4
07:45-08:00A					2	1	1		6						6
08:00-08:15A					3	2	1		5						5
08:15-08:30A					4		1	1	5						5
08:30-08:45A								1	3						3
08:45-09:00A					2	5	1	4	12						12
09:00-10:00A					3	10	6	3	22						22
10:00-11:00A					5	8	6	8	27						27
11:00-12:00P					30	34	35	15	114						114
12:00-01:00P					4	11	9	13	37						37
01:00-02:00P					7	12	6	8	33						33
02:00-03:00P					3	19	21	4	47						47
03:00-04:00P					8	9	2	6	25						25
04:00-04:15P						2		9	11						11
04:15-04:30P					5	3	3	4	15						15
04:30-04:45P					3	6	3		12						12
04:45-05:00P						1	1	1	2						2
05:00-05:15P						2	2	2	2						2
05:15-05:30P					2	6	9	5	22						22
05:30-05:45P					4	4	2	2	12						12
05:45-06:00P					4	7	4	4	15						15
06:00-07:00P					6	8	5	7	26						26
07:00-08:00P					3	6	8	6	23						23
08:00-09:00P					8	7	9	14	38						38
09:00-10:00P					4	3	7	5	19						19
TOTAL VOLUME	111	172	142	128	553	111	172	142	553	111	172	142	128	553	19

TRANSPORTATION DEVELOPMENT BRANCH
TRANSPORTATION SYSTEM MONITORING UNIT
VEHICULAR VOLUME

DATE : July 23/24, 2007

CITY or COUNTY : Keizer

DAY WEEK : Mon./Tues.

INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.

ACT COUNT: 16

HRS COUNT: 6AM - 10PM

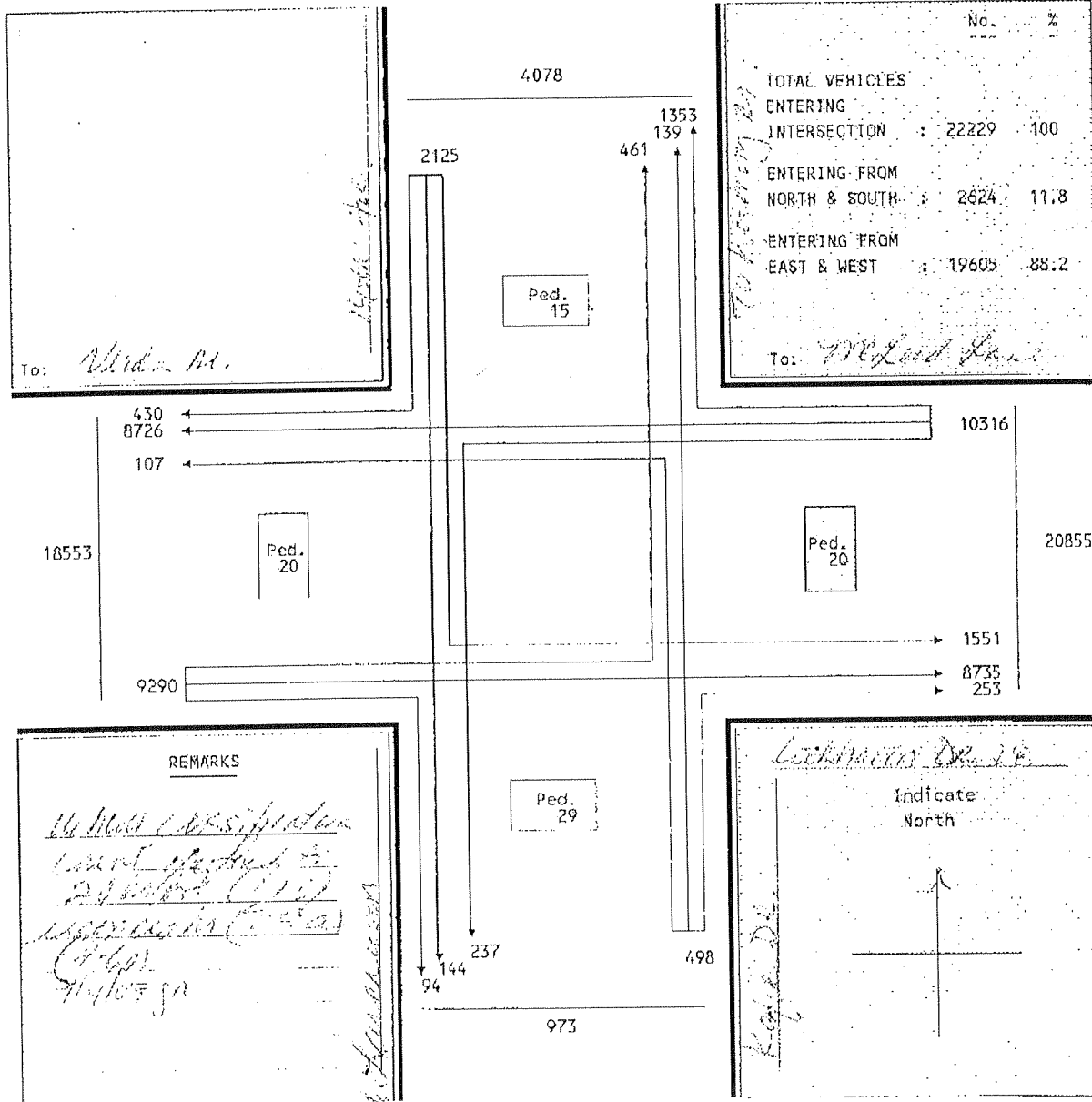
PED COUNT: 16

MILE POST: n/a

HRS COUNT: 6AM - 10PM

CLASSIFICATION : All vehicles

WEATHER : clear



SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007 DAY : Mon./Tues. CITY: Keizer
HOURS : 6AM - 10PM WEATHER: clear INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.

Tab by: Chk. by: MILE POST : n/a

SUMMARY BY MOVEMENTS														
TIME OF DAY	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	U-S TOTAL	NORTH AND SOUTH	EAST AND WEST	PERCENT OF TOTAL
06:00-07:00A	86	13	27	4	194	3	12	3	3	462	2	811	692	85.3
07:00-07:15A	31	3	8	2	71	2	3	1	2	131		255	214	83.9
07:15-07:30A	42	2	4	1	50	2	5	3	2	132	2	246	191	77.6
07:30-07:45A	43	11	4		69	2	12	1	1	146		291	220	75.6
07:45-08:00A	37	3	7	1	98	3	8	3	6	110	2	281	224	79.7
08:00-08:15A	29	5	9		93	2	4	1	2	134	1	283	239	84.5
08:15-08:30A	38	7	15	4	76	1	5	4	4	130		287	229	79.8
08:30-08:45A	31	7	5	5	99	1	5	2	7	129	1	294	246	83.7
08:45-09:00A	30	10	21	3	109	1	8	1	8	118	3	313	262	83.7
09:00-10:00A	97	28	49	11	408	7	11	11	18	467	4	1064	897	84.3
10:00-11:00A	74	11	24	19	433	11	21	8	24	479	6	1157	1008	87.1
11:00-12:00P	87	7	51	7	528	6	20	5	26	558	2	1324	1172	88.5
12:00-01:00P	82	4	24	14	536	6	13	2	32	579	7	1381	1243	90.0
01:00-02:00P	85	12	27	17	549	6	13	7	26	572	1	1378	1228	89.1
02:00-03:00P	93	6	22	18	620	8	11	10	31	552	7	1448	1298	89.6
03:00-04:00P	92	9	23	17	644	6	10	7	34	573	6	1537	1390	90.4
04:00-04:15P	15	5	9	2	155	2	7	1	9	150	4	393	354	90.1
04:15-04:30P	19	4	11	36	181	2	2	4	13	131	2	405	365	90.1
04:30-04:45P	21	4	7	39	209	3	2	1	10	164	4	470	432	91.9
04:45-05:00P	12	4	6	35	174	3	2	3	4	166	2	413	384	93.0
05:00-05:15P	17	4	6	33	189	5	4	2	13	154	2	417	379	90.9
05:15-05:30P	29	3	9	11	229	4	5	2	21	139	4	496	451	90.9
05:30-05:45P	24	2	10	33	175	4	4	2	14	143	3	424	377	88.9
05:45-06:00P	49	1	10	47	179	8	1	4	9	193	2	506	436	86.2
06:00-07:00P	104	8	34	118	636	10	14	7	29	564	5	1546	1369	88.6
07:00-08:00P	72	6	18	91	447	15	12	2	32	399	6	1112	967	88.8
08:00-09:00P	36	6	19	78	414	1	7	4	18	304	5	898	825	91.9
09:00-10:00P	35	2	19	68	388	3	7	1	21	222	2	778	711	91.4
TOTAL COUNT	1410	131	391	1230	7933	126	230	97	419	7941	85	20208	17823	88.2
24-HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	22230	19606	88.2
24-HR VOLUME	1551	144	430	1353	8726	139	253	107	461	8735	94	22230	19606	88.2
														SUM 2422

North and South is: 14th Ave. (n) Kafir Dr. (s) East and West is: Lockhaven Dr. NE

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
HOURS : 6AM - 10PM

DAY : Mon./Tues.
WEATHER: clear

COUNTY : Marion
INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.

CITY: Keizer

Tech By:

CHK. By:

MILE POST

10.6

TIME OF DAY	SUMMARY BY MOVEMENTS													NORTH AND SOUTH		EAST AND WEST		ENTERING VOLUMES BY LEGS			
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	TOTAL	PERCENT OF TOTAL	TOTAL	PERCENT OF TOTAL	NORTH	EAST	SOUTH	WEST
06:00-07:00A	86	2	13	27	4	194	3	12	3	3	462	2	811	119	14.7	692	85.3	101	225	18	467
07:00-08:00A	153	7	19	23	4	288	9	28	8	11	519	4	1073	224	20.9	849	79.1	179	315	45	534
08:00-09:00A	128	11	27	50	12	377	5	22	8	21	511	5	1177	201	17.1	976	82.9	166	439	35	537
09:00-10:00A	97	13	28	49	11	408	7	11	11	18	407	4	1064	167	15.7	897	84.3	138	468	29	429
10:00-11:00A	74	11	24	47	19	433	11	21	8	24	479	6	1157	149	12.9	1008	87.1	109	499	40	509
11:00-12:00P	87	7	26	51	7	528	6	21	5	26	558	2	1324	152	11.5	1172	88.5	120	586	32	586
12:00-01:00P	82	4	24	75	14	536	6	20	2	32	579	7	1381	138	10.0	1243	90.0	110	625	28	618
01:00-02:00P	85	12	27	63	17	549	6	13	7	26	572	1	1378	150	10.9	1228	89.1	124	629	26	599
02:00-03:00P	93	6	22	70	18	620	8	11	10	31	552	7	1448	150	10.4	1298	89.6	121	708	29	590
03:00-04:00P	92	9	23	116	17	644	6	10	7	34	573	6	1537	147	9.6	1390	90.4	124	777	23	613
04:00-05:00P	67	17	33	144	13	719	9	11	9	36	611	12	1681	146	8.7	1535	91.3	117	876	29	659
05:00-06:00P	119	10	35	160	34	752	21	10	5	57	629	5	1843	200	10.9	1643	89.1	164	946	36	697
06:00-07:00P	104	8	34	118	17	636	10	14	7	29	564	5	1546	177	11.4	1369	88.6	146	771	31	598
07:00-08:00P	72	5	18	91	12	447	15	12	2	32	399	6	1112	125	11.2	987	88.8	96	550	29	437
08:00-09:00P	36	6	19	78	6	414	1	7	4	18	304	5	898	73	8.1	825	91.9	61	498	12	327
09:00-10:00P	35	2	19	68	10	388	3	7	1	21	222	2	778	67	8.6	711	91.4	56	466	11	245
TOTAL COUNT	1410	137	391	1230	215	7933	126	230	97	419	7941	85	20208	2385	11.8	17823	88.2	1932	9318	453	8445
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10		2623	11.8	19606	88.2	2125	10316	498	9290
24HR VOLUME	1551	144	430	1353	237	8726	139	253	107	461	8735	94	22230								

North and South is: 14th Ave. (n) Kafir Dr. (s)

East and West is: Lockhaven Dr. NE

SUM 2422

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : EAST
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.
 CITY: Keizer
 MILE POST : n/a
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	>7Axl	7 Axl	8 Axl	>9Axl	
06:00-07:00A	56		30												86	1
07:00-07:15A	17		11		1										31	
07:15-07:30A	27		14		1										42	
07:30-07:45A	27		13		1									1	43	
07:45-08:00A	24		13												37	2
08:00-08:15A	17		10		1										29	
08:15-08:30A	24		14												38	
08:30-08:45A	22		8											1	31	
08:45-09:00A	17		10		2										30	
09:00-10:00A	62		32		2										97	
10:00-11:00A	51	1	20		2										74	
11:00-12:00P	57		29		1										87	
12:00-01:00P	48		29		3									1	82	
01:00-02:00P	56		25		2										85	
02:00-03:00P	59		31		3									2	93	
03:00-04:00P	50		33		5										92	
04:00-04:15P	9		6												15	
04:15-04:30P	11		8												19	
04:30-04:45P	17		4												21	
04:45-05:00P	8		4												12	
05:00-05:15P	9		7		1										17	
05:15-05:30P	18		11												29	
05:30-05:45P	16		8												24	
05:45-06:00P	29		19												49	2
06:00-07:00P	64		37												104	
07:00-08:00P	43		28										1		72	
08:00-09:00P	23		12		1										36	
09:00-10:00P	23		11												35	
16 HOUR	884	1	477	15	20									7	1410	5

WORK 2422

Summarized by: 09/04/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : SOUTH
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.
 CITY: Keizer
 MILE POST : n/a
 TO : SOUTH

TIME OF DAY	PASSENGER	OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
		Cars	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl
06:00-07:00A	1		1											2	1
07:00-07:15A			1											1	1
07:15-07:30A	1													2	1
07:30-07:45A	1		1											3	3
07:45-08:00A	2		1											5	5
08:00-08:15A	3		1											3	3
08:15-08:30A	1		1											2	2
08:30-08:45A	2													1	1
08:45-09:00A	1													13	13
09:00-10:00A	7		5											11	11
10:00-11:00A	7		4											7	7
11:00-12:00P	4		2											4	4
12:00-01:00P	2		2											12	12
01:00-02:00P	6		5											6	6
02:00-03:00P	4		2											9	9
03:00-04:00P	5		2											5	5
04:00-04:15P	3		2											4	4
04:15-04:30P			4											4	4
04:30-04:45P	3		1											4	4
04:45-05:00P	2		2											4	4
05:00-05:15P	2		2											3	3
05:15-05:30P	3													2	2
05:30-05:45P	2													1	1
05:45-06:00P			1											8	8
06:00-07:00P	5		3											6	6
07:00-08:00P	5		1											6	6
08:00-09:00P	6													2	2
09:00-10:00P	2														
16 HOUR	80		44	1	6									131	1

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : NORTH

COUNTY : Marion CITY: Keizer
 INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kaiti Dr.
 MILE POST : n/a
 TC : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BIKE CYCLES
	Cars	WTR	Other	WTR	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl					
06:00-07:00A	6		6											1		13	
07:00-07:15A	3															3	
07:15-07:30A	2															2	
07:30-07:45A	5		4											1	1	11	
07:45-08:00A	1		2													3	
08:00-08:15A	2		1													3	
08:15-08:30A	4		1			1										7	
08:30-08:45A	5		2											1		10	
08:45-09:00A	5		4											1		28	
09:00-10:00A	17		10											1		24	
10:00-11:00A	16		7			1										26	
11:00-12:00P	12		12											1		24	
12:00-01:00P	13		10											1		27	
01:00-02:00P	16		10											1		22	
02:00-03:00P	11		10											1		23	
03:00-04:00P	16		5			2								1		9	
04:00-04:15P	6		1													11	
04:15-04:30P	6		5													7	
04:30-04:45P	4		3													6	
04:45-05:00P	4		2											1		6	
05:00-05:15P	4		1													9	
05:15-05:30P	5		3			1										10	
05:30-05:45P	5		4													10	
05:45-06:00P	6		4											1		34	
06:00-07:00P	22		11											1		18	
07:00-08:00P	13		4											1		19	
08:00-09:00P	13		5											1		19	
09:00-10:00P	14		4														
16 HOUR	236		131		3	6								14	1	391	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 TO : WEST
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.
 CITY: Keizer
 MILE POST : n/a
 TO : NORTH

TIME OF DAY	PASSENGER	OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
		Cars	Other	2 Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle	8 Axle	9 Axle					
06:00-07:00A	15	10			2										27	
07:00-07:15A	7	1													8	
07:15-07:30A	1	2												1	4	
07:30-07:45A	3	1													4	
07:45-08:00A	4	3													7	
08:00-08:15A	5	3													9	
08:15-08:30A	12	2			1										15	
08:30-08:45A	2	3													5	
08:45-09:00A	10	10			1										21	
09:00-10:00A	32	16		1											49	
10:00-11:00A	34	13													47	
11:00-12:00P	29	19		3										1	51	
12:00-01:00P	46	24		2									1		75	
01:00-02:00P	43	16			2									2	63	
02:00-03:00P	48	18		1	1										70	
03:00-04:00P	68	45		2											116	
04:00-04:15P	16	17		1											34	
04:15-04:30P	21	15													36	
04:30-04:45P	28	10											1		39	
04:45-05:00P	25	10													35	
05:00-05:15P	23	10													33	
05:15-05:30P	32	13		1										1	47	
05:30-05:45P	20	13													33	
05:45-06:00P	30	16			1										47	
06:00-07:00P	73	43		1	1									1	118	2
07:00-08:00P	58	31		1										1	91	
08:00-09:00P	51	26											1		78	
09:00-10:00P	43	24													68	
16 HOUR	779	414		13	9	1	3						5	6	1230	3

TRAFFIC COUNCIL SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 TO : SOUTH
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.
 CITY: Keizer
 MILE POST : n/a
 TO : SOUTH

TIME OF DAY	PASSENGER	OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
		Wtr	Other	Wtr	2 Axle	3 Axle	>4axl	4 Axle	5 Axle	>6axl	5 Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle
06:00-07:00A	3		1													4
07:00-07:15A	1		1													2
07:15-07:30A			1													1
07:30-07:45A																
07:45-08:00A	1															1
08:00-08:15A																
08:15-08:30A	2		2													4
08:30-08:45A	3		1													5
08:45-09:00A	3															3
09:00-10:00A	6		5													11
10:00-11:00A	11		8													19
11:00-12:00P	4		3													7
12:00-01:00P	11		3													14
01:00-02:00P	12		4													17
02:00-03:00P	16		2													18
03:00-04:00P	10		7													17
04:00-04:15P	2															2
04:15-04:30P	1		1													2
04:30-04:45P	4		2													6
04:45-05:00P	2		1													3
05:00-05:15P	6		2													8
05:15-05:30P	9		2													11
05:30-05:45P	9															9
05:45-06:00P	2		4													6
06:00-07:00P	12		5													17
07:00-08:00P	10		1													12
08:00-09:00P	6		4													6
09:00-10:00P	5															10
16 HOUR	151	60	1			2								1	215	6

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 TO : WEST
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kasir Dr.
 CITY: Keizer
 MILE POST : n/a

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK			SGL TRAILER TRUCKS			OBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE	
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl					
06:00-07:00A	101		72		2	8	1		3	3							3	1	194		
07:00-07:15A	37		28		1	1			2	1								1	71		
07:15-07:30A	28		17						1	1							2	1	50		
07:30-07:45A	45		18		1				1	1								2	69		
07:45-08:00A	61		23		1	8			2	3									98		
08:00-08:15A	48		31		2	6	1		3	3							1		93		
08:15-08:30A	41		25			4			2	1							1		76		
08:30-08:45A	53		35			5			1	1									99		
08:45-09:00A	75		32			1	1											1	109		
09:00-10:00A	228		128		6	18	7	1		11							1		408		
10:00-11:00A	244		143		7	15	2		4	6	8						3		433	1	
11:00-12:00P	310		179		7	13	2	2		5	6						1		528		
12:00-01:00P	331		176		6	11	2		2	1	5						1		536		
01:00-02:00P	333		181		10	6	5	1	1	2	7						2		549	1	
02:00-03:00P	380		196		6	15	5	1	3	1	8						3		620		
03:00-04:00P	382		226		6	10	3	1	2	2	4						2		644		
04:00-04:15P	92		55		3	4	1												155		
04:15-04:30P	106		73		1	2				2							1	2	209		
04:30-04:45P	134		64		4	2											1		174		
04:45-05:00P	101		70			2				1							1		169	1	
05:00-05:15P	111		54		1	1											1		229		
05:15-05:30P	139		84		2	1			1								1		175		
05:30-05:45P	110		60		1	1											1		179		
05:45-06:00P	103		70		2	2											2		636		
06:00-07:00P	388		221		6	6	1		5								2		447	1	
07:00-08:00P	293	1	145		2	2			1	1							1		414		
08:00-09:00P	291		119		1	2											1		388		
09:00-10:00P	270		114																		
16 HOUR	4835	2	2639	78	144	30	11	17	42	66	1	2		29	37			7935	4		

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.
 CITY: Keizer
 MILE POST : n/a
 TO : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOTER		TOTAL ALL VEHICLE		SPL CY
	Cars	WtLr	Other	WtLr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl							
06:00-07:00A	2		1														3		3
07:00-07:15A			2														2		2
07:15-07:30A			2														2		2
07:30-07:45A	1		1														3		3
07:45-08:00A	1		2														2		2
08:00-08:15A	2																1		1
08:15-08:30A																	1		1
08:30-08:45A	1																1		1
08:45-09:00A	1																7		7
09:00-10:00A	4		3														11		11
10:00-11:00A	9		2														6		6
11:00-12:00P	5		1														6		6
12:00-01:00P	2		3														8		8
01:00-02:00P	5		3														6		6
02:00-03:00P	4		1														2		2
03:00-04:00P	5		1														2		2
04:00-04:15P	1		1														3		3
04:15-04:30P	2		1														2		2
04:30-04:45P	1		1														5		5
04:45-05:00P	3		2														4		4
05:00-05:15P	4																8		8
05:15-05:30P	2		2														10		10
05:30-05:45P	2		4														15		15
05:45-06:00P	4		3														1		1
06:00-07:00P	5		4														3		3
07:00-08:00P	11																		
08:00-09:00P	1																		
09:00-10:00P	3																		
15 HOUR	79		40		1	4											126		126

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.
 CITY: Keizer
 MILE POST : n/a
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTRIC	Other	WTRIC	3 Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl		
06:00-07:00A	6		4										2		12	
07:00-07:15A	2												1		3	
07:15-07:30A	4														5	
07:30-07:45A	5		5										1		12	
07:45-08:00A	4		4												8	
08:00-08:15A	1		1										1		4	
08:15-08:30A	3		2										1		5	
08:30-08:45A	4		3										1		5	
08:45-09:00A	7		3										1		11	
09:00-10:00A	12		8										2		21	
10:00-11:00A	12		6										1		21	
11:00-12:00P	13		5										1		20	
12:00-01:00P	7		4										2		13	
01:00-02:00P	6		1										1		11	
02:00-03:00P	6		2										1		10	
03:00-04:00P	3														7	
04:00-04:15P	1												1		2	
04:15-04:30P	1														2	
04:30-04:45P	1														2	
04:45-05:00P	1														2	
05:00-05:15P	2												1		4	
05:15-05:30P	3												1		5	
05:30-05:45P	1												1		1	
05:45-06:00P	10		3										1		14	
06:00-07:00P	7		3										1		12	
07:00-08:00P	5		1										1		7	
08:00-09:00P	4		2										1		7	
09:00-10:00P																
16 HOUR	133	2	63	4	3	2							23		230	6

Summarized by: 09/04/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 TO : WEST
 COUNTY : Marion
 CITY: Keizer
 INTERSECTION OF: Lockhaven Dr, NE @ 14th Ave. & Kafir Dr.
 MILE POST : n/a

TIME OF DAY	PASSENGER	OTHER 2 AXLE	SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY
			2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl				
06:00-07:00A	2	1											3	1
07:00-07:15A	1												1	1
07:15-07:30A	3												3	1
07:30-07:45A	1												1	1
07:45-08:00A	1	1									1		3	1
08:00-08:15A		1											1	1
08:15-08:30A	2	1											4	1
08:30-08:45A	2	1											2	1
08:45-09:00A	1	3											11	1
09:00-10:00A	7	3											8	1
10:00-11:00A	5	3											5	1
11:00-12:00P	4	1											2	1
12:00-01:00P	1												7	1
01:00-02:00P	5	2											10	1
02:00-03:00P	7	3											7	1
03:00-04:00P	3	4											4	1
04:00-04:15P	1												1	1
04:15-04:30P	2	2											3	1
04:30-04:45P	1												2	1
04:45-05:00P	2	1											2	1
05:00-05:15P	1	1											2	1
05:15-05:30P													1	1
05:30-05:45P	2	1											1	1
05:45-06:00P		2											2	1
06:00-07:00P	5												2	1
07:00-08:00P	2	2											4	1
08:00-09:00P	2	1											1	1
09:00-10:00P														
16 HOUR	63	30		3							1		97	1

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.
 CITY: Keizer
 MILE POST : n/a
 TO : NORTH

TIME OF DAY	PASSENGER	OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
		Cars	Wtr	Wtr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl			
06:00-07:00A	1	2												3	
07:00-07:15A	1												1	2	
07:15-07:30A	1	1												2	
07:30-07:45A		1												1	
07:45-08:00A	4	1												6	
08:00-08:15A	2													2	
08:15-08:30A	2	1												4	
08:30-08:45A	4	3												7	
08:45-09:00A	7	1												8	
09:00-10:00A	12	3	1											18	
10:00-11:00A	14	8												24	
11:00-12:00P	17	7	1											26	
12:00-01:00P	20	11												32	
01:00-02:00P	17	8												26	
02:00-03:00P	19	9	1											31	
03:00-04:00P	19	12												34	1
04:00-04:15P	8													9	
04:15-04:30P	6	7												13	
04:30-04:45P	6	3												10	
04:45-05:00P	3	1												4	
05:00-05:15P	9	4												13	
05:15-05:30P	14	7												21	
05:30-05:45P	10	4												14	
05:45-06:00P	8	7												9	
06:00-07:00P	21	7												29	
07:00-08:00P	20	11												32	
08:00-09:00P	10	7												18	
09:00-10:00P	12	8												21	
16 HOUR	267	127	3	4	3							15		419	1

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST

COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kaffir Dr.
 CITY: Keizer

MILE POST : n/a
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK			SGL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE		BI CY
	Cops	WTrlr	Other	WTrlr-2	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	5 Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle		SCOOT	TOTAL ALL VEHICLE	
06:00-07:00A	266		167	5	7													8	462	
07:00-07:15A	79		43	1	1	2	1		1									2	131	
07:15-07:30A	79		43	1	5				1									1	132	
07:30-07:45A	97		45		1					2							1		146	1
07:45-08:00A	65		38	1	5														110	
08:00-08:15A	65		59	4	4				1									1	134	
08:15-08:30A	76		46		1				3	4									130	
08:30-08:45A	84	1		3	3														129	
08:45-09:00A	67		36	4	5				1	2								2	407	
09:00-10:00A	246		123	7	13	2	1		1	9								4	479	
10:00-11:00A	293		144	7	14	2			1	9								2	558	1
11:00-12:00P	314		199	7	16	4	2		1	8				1				4	579	1
12:00-01:00P	348		191	5	15	2	2		1	6								4	572	
01:00-02:00P	354		173	10	14	2	2		1	7								7	552	
02:00-03:00P	333		179	7	7	5	2		2									2	573	1
03:00-04:00P	356		183	4	13	2	2		1	7								1	150	1
04:00-04:15P	86		56	1	5													1	131	
04:15-04:30P	84		42		1	1	1			1									164	
04:30-04:45P	95		61	2	3														166	
04:45-05:00P	97	1	62	1	4														154	
05:00-05:15P	103		47	1	3														139	
05:15-05:30P	88		50		1														143	
05:30-05:45P	82	1	59	1	1													1	193	1
05:45-06:00P	123		66	1	1	1				1								3	564	
06:00-07:00P	350	1	199	5	4													2	399	
07:00-08:00P	242	1	141	4	6		1											3	304	
08:00-09:00P	199		91	3	6				1								1		222	
09:00-10:00P	153		65	1	1															
15 HOUR	4824	5	2646	86	159	26	14	19	32	72				2			8	47	7941	9

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 COUNTY : Marion
 INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.
 CITY: Keizer
 MILE POST : n/a
 TO : SOUTH

TIME OF DAY	PASSENGER	OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	CY	CLE
		Cars	WT-Tr	Other	WT-Tr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl				
06:00-07:00A	2														2		
07:00-07:15A	1														2		
07:15-07:30A															2		
07:30-07:45A	1														1		
07:45-08:00A	1														1		
08:00-08:15A															1		
08:15-08:30A	1														3		
08:30-08:45A	2														4		
08:45-09:00A	3														6		
09:00-10:00A	4														2		
10:00-11:00A															7		
11:00-12:00P	4														1		
12:00-01:00P															7		
01:00-02:00P	3														6		
02:00-03:00P	3														4		
03:00-04:00P	3														2		
04:00-04:15P	1														4		
04:15-04:30P	3														2		
04:30-04:45P	2														2		
04:45-05:00P	1														4		
05:00-05:15P	1														3		
05:15-05:30P	2														2		
05:30-05:45P															5		
05:45-06:00P	4														6		
06:00-07:00P	4														5		
07:00-08:00P	4														2		
08:00-09:00P	2																
09:00-10:00P																	
16 HOUR	52			27	1	3	1	1							85		

Summarized by: _____ | 09/04/07

SUMMARY OF BICYCLE COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
HOURS : 6AM - 10PM
DAY : Mon./Tues.
WEATHER: clear
COUNTY : Marion
INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.
CITY: Keizer

Tab by: Chk. by: MILE POST : n/a

TIME OF DAY	BICYCLES MOVING WITH VEHICULAR TRAFFIC												BICYCLES USING CROSS WALKS				
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH	EAST	SOUTH	WEST
06:00-07:00A	1								1				2		1		1
07:00-07:15A																	
07:15-07:30A																	
07:30-07:45A																	
07:45-08:00A	2											1	1				1
08:00-08:15A																	
08:15-08:30A																	
08:30-08:45A																	
08:45-09:00A		1											1	1			
09:00-10:00A													5	2			1
10:00-11:00A						4	1						2				3
11:00-12:00P						1							5				2
*2:00-01:00P								4					2		1		2
01:00-02:00P						1											
02:00-03:00P																	
03:00-04:00P										1			2			1	4
04:00-04:15P													3			1	2
04:15-04:30P																	
04:30-04:45P													3				
04:45-05:00P												3	1				
05:00-05:15P																	
05:15-05:30P																	
05:30-05:45P																	
05:45-06:00P																	
06:00-07:00P																	
07:00-08:00P																	
08:00-09:00P																	
09:00-10:00P																	
TOTAL VOLUME	5	1		3	6	4		6	1	1	1	9	36	3	15	4	20

SUMMARY OF PEDESTRIAN COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007 DAY : Mon./Tues. CITY: Keizer
HOURS : 6AM - 10PM WEATHER: clear COUNTY : Marion
INTERSECTION OF: Lockhaven Dr. NE @ 14th Ave. & Kafir Dr.

Tab by: Chk. by:

MILE POST : n/a

TIME OF DAY	STUDENT PEDESTRIANS				OTHER PEDESTRIANS				STUDENT AND OTHER PEDESTRIAN						
	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST	SOUTH	WEST	TOTAL
06:00-07:00A															
07:00-07:15A															
07:15-07:30A															
07:30-07:45A															
07:45-08:00A															
08:00-08:15A															
08:15-08:30A															
08:30-08:45A															
08:45-09:00A															
09:00-10:00A															
10:00-11:00A															
11:00-12:00P															
12:00-01:00P															
01:00-02:00P															
02:00-03:00P															
03:00-04:00P															
04:00-04:15P															
04:15-04:30P															
04:30-04:45P															
04:45-05:00P															
05:00-05:15P															
05:15-05:30P															
05:30-05:45P															
05:45-06:00P															
06:00-07:00P															
07:00-08:00P															
08:00-09:00P															
09:00-10:00P															
TOTAL VOLUME						15	20	29	20	84	15	20	29	20	84

North and South is: 14th Ave. (n) Kafir Dr. (s)

East and West is: Lockhaven Dr. NE

TRANSPORTATION DEVELOPMENT BRANCH
TRANSPORTATION SYSTEM MONITORING UNIT
VEHICULAR VOLUME

DATE : July 23/24, 2007

DAY WEEK : Mon./Tues.

ACT COUNT: 16

HRS COUNT: 6AM - 10PM

PED COUNT: 16

HRS COUNT: 6AM - 10PM

WEATHER : clear

CITY or COUNTY : Keizer

INTERSECTION OF: N River Rd. @ McNary Estates DR. & Manzanita Dr.

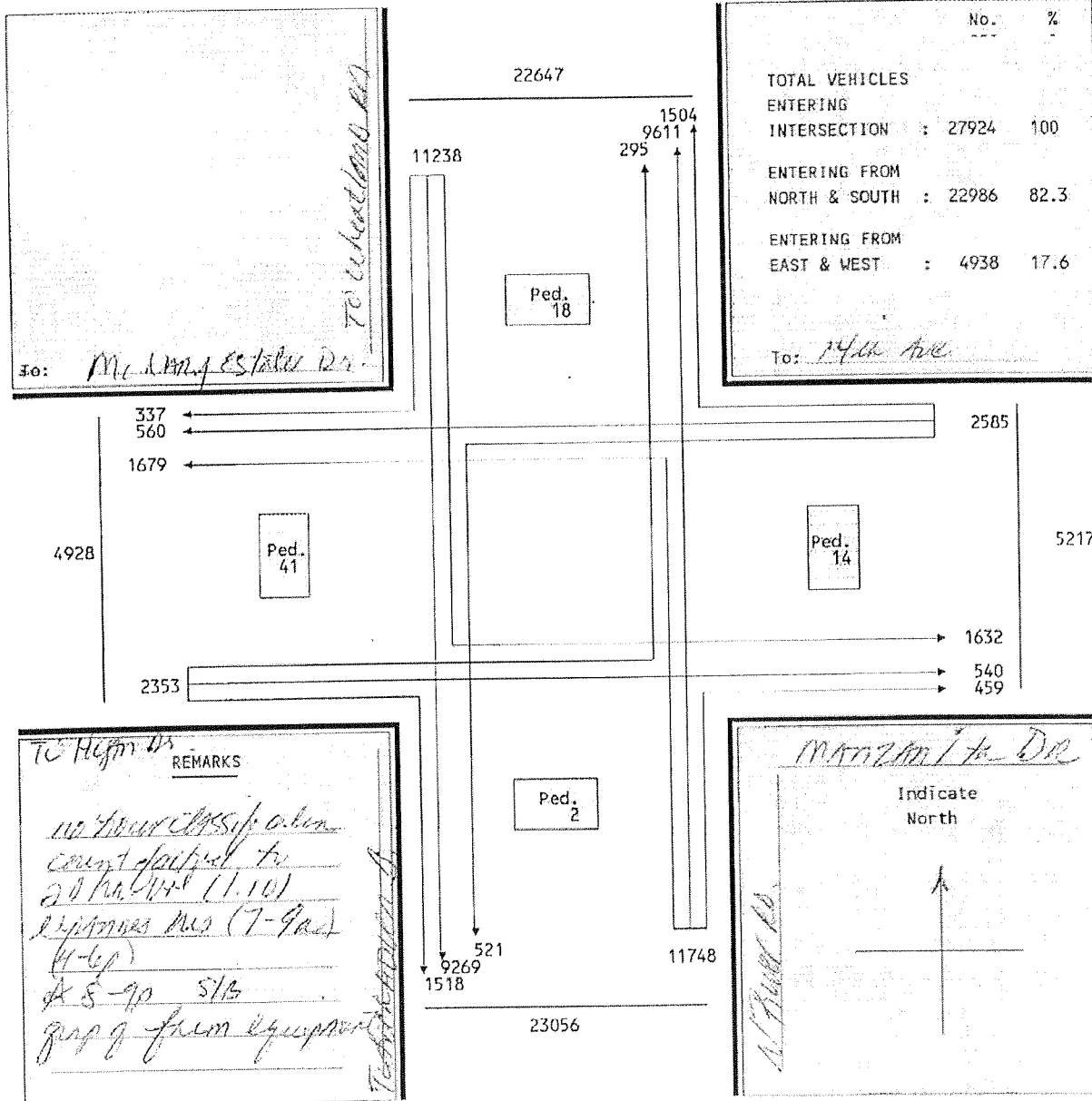
MILE POST: n/a

CLASSIFICATION : All vehicles

RECEIVED

SEP 11 2007

O.D.O.T. Region 2



✓ P
K

COUNTY : Marion CITY: Keizer
INTERSECTION OF: N River Rd. & McNary Estates DR. & Manzanita Dr.

DATE : July 23/24, 2007
HOURS : 6AM - 10PM
DAY : Mon./Tues.
WEATHER: clear

Tab. by:
 Chk. by:

FILE POST : 7/2

COUNTY Marion

CITY: Kaiser
& Manzanita D.

Estates Dr.	Manzanita Dr. (e)
Lee's Ferry	(w)
Lee's Ferry Estates Dr.	
SUM_2425	

North and South is: W River Rd.

East and West is a Merry Estates Dr. (W) Manzanita Dr. (E)

5678

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007 DAY : Mon./Tues. CITY: Keizer
HOURS : 6AM - 10PM WEATHER: clear INTERSECTION OF: N River Rd. @ McNary Estates Dr. & Manzanita Dr.

Tab by: Chk. by: MILE POST : n/a

TIME OF DAY	SUMMARY BY MOVEMENTS												PERCENT OF TOTAL	EAST AND WEST	ENTERING VOLUMES BY LEGS												
	N-S		N-W		E-N		E-S		E-W		S-N				S-E		S-W		W-E	W-S	TOTAL	NORTH AND SOUTH	PERCENT OF TOTAL	NORTH	EAST	SOUTH	WEST
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-E	W-S	TOTAL			NORTH	SOUTH	PERCENT	NORTH									
06:00-07:00A	83	479	7	49	20	7	317	5	7	16	34	1040	898	86.3	142	13.7	569	76	329	66							
07:00-08:00A	149	789	13	58	39	13	322	16	39	23	43	1527	1328	87.0	199	13.0	951	110	377	89							
08:00-09:00A	145	686	23	59	49	25	332	18	82	24	60	1525	1286	84.3	239	15.7	854	133	432	106							
09:00-10:00A	74	514	19	62	28	25	378	21	85	17	140	1380	1091	79.1	289	20.9	607	115	484	174							
10:00-11:00A	76	456	21	43	28	27	474	13	124	16	36	1402	1164	83.0	238	17.0	553	98	611	140							
11:00-12:00P	68	529	29	49	29	21	529	15	95	25	124	1532	1266	82.6	266	17.4	627	99	639	167							
12:00-01:00P	68	564	18	59	32	36	628	28	131	13	43	1745	1437	82.3	308	17.7	650	127	787	181							
01:00-02:00P	85	498	13	76	26	27	568	20	124	12	109	1592	1308	82.2	284	17.8	596	129	712	155							
02:00-03:00P	110	487	12	92	32	38	615	30	108	19	23	97	1663	1362	81.9	301	18.1	609	162	753	139						
03:00-04:00P	90	556	21	102	31	54	706	33	158	12	42	103	1908	1564	82.0	344	18.0	667	187	897	157						
04:00-05:00P	90	648	38	147	42	67	816	48	166	19	49	97	2227	1836	81.1	421	18.9	776	256	1030	165						
05:00-06:00P	140	654	32	176	41	92	943	68	145	29	61	122	2503	1982	79.2	521	20.8	826	309	1156	212						
06:00-07:00P	112	619	12	138	33	32	738	29	101	19	50	86	1969	1611	81.8	358	18.2	743	203	868	155						
07:00-08:00P	82	397	11	96	20	22	578	30	66	13	22	67	1404	1164	82.9	240	17.1	490	138	674	102						
08:00-09:00P	63	310	19	97	13	10	451	21	61	7	19	55	126	925	82.1	201	17.9	392	120	533	81						
09:00-10:00P	48	240	18	64	11	13	342	22	34	11	9	30	842	704	83.6	138	16.4	306	88	398	50						
TOTAL COUNT	1484	8426	306	1367	474	509	8737	417	1526	268	491	25385	20896	82.3	4489	17.7	10216	2350	10680	2139							
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10							
24HR VOLUME	1632	9269	337	1504	521	560	9611	459	1679	295	540	27925	22986	82.3	4938	17.7	11238	2585	11748	2353							

North and South is: N River Rd.

East and West is: McNary Estates Dr. (W) Manzanita Dr. (E)

SUN 24/25

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : EAST
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF : N River Rd. @ McNary Estates Dr. & Manzanita Dr.
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DEL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES		MOTOR CYCLE		TOTAL ALL		BI CY CLE
	Cars	WTRIF	Other	WTRIF	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	SCOOT	VEHICLE		
06:00-07:00A	50		29	1	1													83		
07:00-07:15A	24		13		1													38		
07:15-07:30A	20		11														1	50		
07:30-07:45A	34		11	1														30		
07:45-08:00A	19		10			1											1	40		
08:00-08:15A	27		12															43		
08:15-08:30A	29		11		3												1	30		
08:30-08:45A	23		6		1													32		
08:45-09:00A	17		13		2												1	74		
09:00-10:00A	46		22		2												1	76		
10:00-11:00A	44		29	1														69		
11:00-12:00P	46		21	1														68		
12:00-01:00P	44		21	1														85		
01:00-02:00P	47		32		4												1	110		
02:00-03:00P	70		34	2	3												1	90		
03:00-04:00P	55		32		2													26		
04:00-04:15P	16		10															26		
04:15-04:30P	16		10															16		
04:30-04:45P	10		6															22		
04:45-05:00P	15		6															33		
05:00-05:15P	20		12	1														30		
05:15-05:30P	22		8														1	41		
05:30-05:45P	24		15		1													36		
05:45-06:00P	25		11														1	112		
06:00-07:00P	75		35														4	82		
07:00-08:00P	51		27	1													2	63		
08:00-09:00P	37		23														2	48		
09:00-10:00P	26		19																	
16 HOUR	932		489	9	22	2											23	6	1484	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : SOUTH
 MILE POST : n/a
 COUNTY : Marion
 CITY: Keizer
 INTERSECTION OF: N River Rd. @ McNary Estates Dr. & Manzanita Dr.

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI. CY. CLE
	Cars	WTrlr	Other	WTrlr	2 Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle	8 Axle	9 Axle				
06:00-07:00A	279		183		3	4							1	8	479	3
07:00-07:15A	101		45		2	3							1	2	155	1
07:15-07:30A	111		60		2	1								2	180	
07:30-07:45A	181		82			2									266	
07:45-08:00A	122		57		2	1							2	1	188	1
08:00-08:15A	107		66		3	1									184	
08:15-08:30A	111		48			1									161	
08:30-08:45A	94		61			3							1		163	
08:45-09:00A	100		67			2							1		178	1
09:00-10:00A	336		137		8	14							1		514	2
10:00-11:00A	277		144		7	11							1		456	2
11:00-12:00P	330		159		8	17							1		529	1
12:00-01:00P	345		182		6	13							7		564	4
01:00-02:00P	315		151		5	13							4		488	1
02:00-03:00P	296		157		6	10							3		487	2
03:00-04:00P	338		178		7	20							3		556	
04:00-04:15P	107		45		2	2							1		160	
04:15-04:30P	100		50			3							1		159	
04:30-04:45P	117		52			4									177	
04:45-05:00P	96		55		1								1		152	
05:00-05:15P	101		57		2								1		165	
05:15-05:30P	113		55			3							1		173	
05:30-05:45P	124		51			1							1		178	
05:45-06:00P	85		49		1								3		138	2
06:00-07:00P	410		193		3	4							1		619	1
07:00-08:00P	259		126		4	6							1		397	2
08:00-09:00P	206		93		1	7							1		310	
09:00-10:00P	162		75			1									240	
16 HOUR	5323		2678		73	147	37	59	14	13	10		35	37	8426	18

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ McNary Estates DR. & Manzanita Dr.
 CITY: Keizer
 MILE POST : n/a
 TO : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES		MOTOR CYCLE		TOTAL ALL VEHICLE		BI CY CLE
	Cars	Wt-Lr	Other	Wt-Lr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	SCOOT	CYCLE		
06:00-07:00A	5		2																7	
07:00-07:15A	3		1																4	
07:15-07:30A	1																		1	
07:30-07:45A	4																		4	
07:45-08:00A	1		2		1														4	
08:00-08:15A	5		1																7	
08:15-08:30A	2		2																4	
08:30-08:45A	4		1																6	
08:45-09:00A	4		1																6	
09:00-10:00A	8		9																19	
10:00-11:00A	9		9																21	
11:00-12:00P	15		10			1													29	
12:00-01:00P	13		5																18	
01:00-02:00P	8		3																13	
02:00-03:00P	7		3																12	
03:00-04:00P	13		6																21	1
04:00-04:15P	4		3																7	
04:15-04:30P	9		2																11	
04:30-04:45P	3		2																7	
04:45-05:00P	10		3																13	
05:00-05:15P	8		3																11	
05:15-05:30P	4		1																5	
05:30-05:45P	5		3																9	
05:45-06:00P	7		4																7	
06:00-07:00P	8		4																12	
07:00-08:00P	7		7																11	
08:00-09:00P	12		5																19	
09:00-10:00P	13																		18	
16 HOUR	192		92		6			3									3		306	1

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
DAY OF WEEK : Mon./Tues.
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : EAST

CITY : Keizer
COUNTY : Marion
INTERSECTION OF : N River Rd. & McNary Estates Dr. & Manzanita Dr.
MILE POST : n/a
TO : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALT VEHICLE	BI CY CLE
	Cars	Wnlr	Other	Wnlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl
06:00-07:00A	31		15		2											
07:00-07:15A	9		6										1		1	
07:15-07:30A	11		7													
07:30-07:45A	7		4													
07:45-08:00A	10		3													
08:00-08:15A	8		4													
08:15-08:30A	5		9			1		1								
08:30-08:45A	11		3										1		1	
08:45-09:00A	11		3													
09:00-10:00A	37		20		1	1							2		2	
10:00-11:00A	28		13		1								1		1	
11:00-12:00P	27		17		2											
12:00-01:00P	39		18		1								2		2	
01:00-02:00P	50		21		2								1		1	
02:00-03:00P	60		27		2								1		1	
03:00-04:00P	61		37		1											
04:00-04:15P	16		11		2											
04:15-04:30P	19		7										2		2	
04:30-04:45P	29		15													
04:45-05:00P	31		14													
05:00-05:15P	25		12													
05:15-05:30P	35		11													
05:30-05:45P	34		20													
05:45-06:00P	25		12													
06:00-07:00P	94		43										1		1	
07:00-08:00P	64		27													
08:00-09:00P	60		35													
09:00-10:00P	39		23													
16 HOUR	876		437		11	12	4	1						19	7	1367

Summarized by: 09/10/07

WEEK_2425

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 TO : WEST

COUNTY : Marion CITY: Keizer
 INTERSECTION OF: N River Rd. @ McNary Estates DR. & Mantanita Dr.
 MILE POST : n/a
 TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE	SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	2 Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle	8 Axle	>9Axle				
06:00-07:00A	11	8	8	1									1	20	
07:00-07:15A	5	8	8										1	15	
07:15-07:30A	6	1	1											7	
07:30-07:45A	9	3	3											12	
07:45-08:00A	2	1	1									2		5	
08:00-08:15A	6	2	2											8	
08:15-08:30A	9	3	3									1		13	
08:30-08:45A	14	2	2											16	
08:45-09:00A	9	3	3											12	
09:00-10:00A	18	9	9											28	
10:00-11:00A	18	8	8											28	
11:00-12:00P	19	9	9											29	
12:00-01:00P	21	9	9											32	
01:00-02:00P	20	6	6											26	
02:00-03:00P	22	9	9											32	
03:00-04:00P	23	8	8									1		31	
04:00-04:15P	7	3	3											11	
04:15-04:30P	6	3	3											9	
04:30-04:45P	8	3	3											11	
04:45-05:00P	7	4	4											11	
05:00-05:15P	5	4	4											9	
05:15-05:30P	11	4	4											15	
05:30-05:45P	5	2	2											7	
05:45-06:00P	7	3	3											10	
06:00-07:00P	21	11	11											33	1
07:00-08:00P	15	8	8											23	
08:00-09:00P	10	3	3											13	
09:00-10:00P	7	4	4											11	
15 HOUR	321	138	1	6								4	2	474	1

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 TO : WEST
 COUNTY : Marion
 INTERSECTION OF : N River Rd. @ McNary Estates DR. & Manzanita Dr.
 CITY: Keizer
 MILE POST : n/a

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE / SCOOTER / VEHICLE		TOTAL ALL		BI CY CLE
	Cars	WT-LR	Other	WT-LR	2 Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle	8 Axle	>9Axle							
06:00-07:00A	4		3																7
07:00-07:15A	1		1																2
07:15-07:30A	2		2																4
07:30-07:45A	2		1																3
07:45-08:00A	3		1																4
08:00-08:15A	2		3																5
08:15-08:30A	3		1																4
08:30-08:45A	5		2																7
08:45-09:00A	5		4																9
09:00-10:00A	12		8		4														25
10:00-11:00A	19		7																27
11:00-12:00P	14		7																21
12:00-01:00P	21		12		3														36
01:00-02:00P	16		10																27
02:00-03:00P	26		12																38
03:00-04:00P	34		18												2				54
04:00-04:15P	9		4																13
04:15-04:30P	10		6																16
04:30-04:45P	12		5																17
04:45-05:00P	16		5																21
05:00-05:15P	10		5																15
05:15-05:30P	20		13																33
05:30-05:45P	18		13																31
05:45-06:00P	9		4																13
06:00-07:00P	20		12												1				32
07:00-08:00P	15		6																22
08:00-09:00P	6		4																10
09:00-10:00P	8		5																13
16 HOUR	322		174		7	3									3		509		3

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
DAY OF WEEK : Mon./Tues-
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : SOUTH

COUNTY : Marion
INTERSECTION OF : N River Rd. @ McNary Estates Dr. & Mangonilla Dr.
MILE POST : n/a
TO : NORTH

CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DEL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE		TOTAL ALL VEHICLE		BI CY
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl	4	3	2	1	317	65	
06:00-07:00A	184	117	1	1	4	1	2	1					4	3	2	1	317	65	1
07:00-07:15A	39	23	1			1							1	1	2		77	90	
07:15-07:30A	46	28				1	1						1	1			90	90	
07:30-07:45A	53	30			2	3	1						1	1	2		90	90	
07:45-08:00A	46	33	1		5	1	1	1					1	1	1		74	74	
08:00-08:15A	41	24	1		3	2	2	2							1		72	72	
08:15-08:30A	35	26	2		2	2	2	2									93	93	
08:30-08:45A	54	32			1	4	2	2									93	93	
08:45-09:00A	45	39	1		2	1	1	3							1		378	378	
09:00-10:00A	207	112	9		16	12	6	2					4	3	1		474	474	
10:00-11:00A	258	175	4		17	8	2	4					4	4			529	529	
11:00-12:00P	314	175	6		17	6		4					2	2			628	628	
12:00-01:00P	377	221	21		7												568	568	
01:00-02:00P	340	187	13		14	7	1	1							2		615	615	
02:00-03:00P	385	190	5		16	4	3	3							4		706	706	
03:00-04:00P	421	251	6		13	6	1	1					2	3	2		203	203	
04:00-04:15P	136	65	5												1		181	181	
04:15-04:30P	129	66	2		2	2							1	1	2		222	222	
04:30-04:45P	110	63	2		2										1		210	210	
04:45-05:00P	139	75	2		3	1	1						2	2	1		240	240	
05:00-05:15P	138	64	3		4	1	1								3		243	243	
05:15-05:30P	160	73	2		2										1		250	250	
05:30-05:45P	140	95	2		1	1	1	1							4		738	738	
05:45-06:00P	154	91	1		1										1		578	578	
06:00-07:00P	502	216	4		8	2	1								2		451	451	
07:00-08:00P	380	187	2		4										2		342	342	
08:00-09:00P	291	156	2												1				
09:00-10:00P	228	110	1																
16 HOUR	5352	2924	97		146	65	26	21	14	12			37	41			8737		6

Summarized by: 09/10/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 TO : EAST
 COUNTY : Marion
 INTERSECTION OF : N River Rd, @ McNary Estates DR. & Manzanita Dr.
 CITY: Keizer
 MILE POST : n/a
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTR	Other	WTR	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl				
06:00-07:00A	2		2													5	7
07:00-07:15A	4		3													2	2
07:15-07:30A			1													4	4
07:30-07:45A	2		2													3	3
07:45-08:00A	1		2													3	3
08:00-08:15A	2		1													6	6
08:15-08:30A	3		2													3	3
08:30-08:45A	1		1													6	6
08:45-09:00A	3		2													21	21
09:00-10:00A	14		6													13	13
10:00-11:00A	6		4													15	15
11:00-12:00P	10		4													28	28
12:00-01:00P	17		10													20	20
01:00-02:00P	12		3													30	30
02:00-03:00P	14		13													33	33
03:00-04:00P	19		10												1	8	8
04:00-04:15P	4		4													13	13
04:15-04:30P	8		4													17	17
04:30-04:45P	10		7													10	10
04:45-05:00P	7		2													26	26
05:00-05:15P	14		12													16	16
05:15-05:30P	12		3													12	12
05:30-05:45P	10		2													14	14
05:45-06:00P	9		4													29	29
06:00-07:00P	19		7												1	30	30
07:00-08:00P	21		8													21	21
08:00-09:00P	12		9													22	22
09:00-10:00P	14		8														
16 HOUR	250		136		3	5	2	2						17	2	417	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion
 INTERSECTION OF: N River Rd. & McNary Estates Dr. & Manzanita Dr.
 CITY: Keizer
 MILE POST: n/a
 TO : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOTER		TOTAL ALL VEHICLE		SI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	>9Axl							
06:00-07:00A	5		2														7		7
07:00-07:15A	5		2														7		7
07:15-07:30A	4		3														10		10
07:30-07:45A	6		4														15		15
07:45-08:00A	8		5		1												15		15
08:00-08:15A	7		7														18		18
08:15-08:30A	11		4														25		25
08:30-08:45A	13		11														24		24
08:45-09:00A	18		4														85		85
09:00-10:00A	56		26		1												124		124
10:00-11:00A	73		41		5												95		95
11:00-12:00P	58		33		2												131		131
12:00-01:00P	81		45		2												124		124
01:00-02:00P	68		52		1												108		108
02:00-03:00P	74		31		1												158		158
03:00-04:00P	111		45														32		32
04:00-04:15P	23		9														58		58
04:15-04:30P	35		22														39		39
04:30-04:45P	26		13														37		37
04:45-05:00P	28		9														38		38
05:00-05:15P	28		10														39		39
05:15-05:30P	26		12														42		42
05:30-05:45P	29		12														26		26
05:45-06:00P	18		8														101		101
06:00-07:00P	64		35		1												66		66
07:00-08:00P	51		15														61		61
08:00-09:00P	42		19														34		34
09:00-10:00P	23		10																
16 HOUR	991		489		15	18	2						4		6		1526		3

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007 COUNTY : Marion CITY: Keizer
 DAY OF WEEK : Mon./Tue. INTERSECTION OF: N. River Rd. @ McNary Estates Dr. & Manzanita Dr.
 HOURS COUNTED: 6AM - 10PM NILE POST : n/a
 WEATHER : clear TO NORTH
 FROM : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE		TOTAL	
	Cars	Wtflr	Other	Wtflr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	ALL VEHICLE	BI CY CLE
06:00-07:00A	10		5														16	
07:00-07:15A	4		1														5	
07:15-07:30A	4		3														7	
07:30-07:45A	5		2														7	
07:45-08:00A	3		1														4	
08:00-08:15A	5		3														8	
08:15-08:30A	3		2														5	
08:30-08:45A	2		4														6	
08:45-09:00A	2		1														3	
09:00-10:00A	12		5														17	
10:00-11:00A	9		5			1											16	
11:00-12:00P	12		6														18	
12:00-01:00P	8		4														13	
01:00-02:00P	7		4														12	
02:00-03:00P	12		6														19	
03:00-04:00P	6		6														12	
04:00-04:15P	2		1														3	
04:15-04:30P	3		1														5	
04:30-04:45P	4		3														7	
04:45-05:00P	2		2														4	
05:00-05:15P	5		4														11	
05:15-05:30P	4		2														7	
05:30-05:45P	4		2														6	
05:45-06:00P	3		2														5	
06:00-07:00P	12		7														19	
07:00-08:00P	8		5														13	
08:00-09:00P	5		2														7	
09:00-10:00P	5		6														11	
16 HOUR	161		95		2	3	1		1				1				268	1

Summarized by: 09/10/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : WEST TO : EAST
 COUNTY : Marion CITY : Keizer
 INTERSECTION OF : N River Rd. @ McNary Estates Dr. & Manzanita Dr.
 MILE POST : n/a

TIME OF DAY	PASSENGER	OTHER 2 AXLE	SGL UNIT TRUCK			SGL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Gars	WTrlr	WTrlr	2 AXLE	3 AXLE	4 AXLE	5 AXLE	6 AXLE	7 AXLE	8 AXLE	9 AXLE	10 AXLE	11 AXLE	12 AXLE				
06:00-07:00A	11		5														16	
07:00-07:15A	2		2														4	
07:15-07:30A	3		3														6	
07:30-07:45A	5		2														7	
07:45-08:00A	5		1														6	
08:00-08:15A	4		1														5	1
08:15-08:30A	4		1														6	
08:30-08:45A	4		2														6	
08:45-09:00A	2		3														5	
09:00-10:00A	9		5	1													17	1
10:00-11:00A	22		13	1													36	
11:00-12:00P	16		8														25	
12:00-01:00P	28		13	1													43	
01:00-02:00P	21		11														34	
02:00-03:00P	15		7														23	
03:00-04:00P	24		16														42	1
04:00-04:15P	5		2														7	
04:15-04:30P	11		6														17	
04:30-04:45P	10		4														14	
04:45-05:00P	6		5														11	
05:00-05:15P	8		5														13	
05:15-05:30P	12		7														19	
05:30-05:45P	13		5														18	
05:45-06:00P	7		4														11	
06:00-07:00P	32		17														50	
07:00-08:00P	15		7														22	
08:00-09:00P	12		7														19	
09:00-10:00P	5		4														9	
16 HOUR	311		166	3	5	2										4	491	3

Summarized by: | 09/10/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 TO : EAST
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ McNary Estates DR. & Manzanita Dr.
 CITY: Keizer
 MILE POST : n/a
 TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BT CY. CLE
	Cars	WTrlr	Ctrics	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	
06:00-07:00A	20		14												34	1
07:00-07:15A	2		4												6	
07:15-07:30A	9		5												14	
07:30-07:45A	10		4												14	
07:45-08:00A	6		3												9	
08:00-08:15A	11		7												18	
08:15-08:30A	8		6												14	
08:30-08:45A	12		3												15	1
08:45-09:00A	8		5												13	
09:00-10:00A	78		57		2										140	
10:00-11:00A	58		28		1							1			88	2
11:00-12:00P	77		43		4									1	124	
12:00-01:00P	80		42		1										125	
01:00-02:00P	75		32		2								1	2	109	
02:00-03:00P	56	1	31		6										103	
03:00-04:00P	73		30			2							1		26	
04:00-04:15P	16		7												28	
04:15-04:30P	16		12												27	
04:30-04:45P	18		8												16	
04:45-05:00P	10		6												40	
05:00-05:15P	22		17												29	
05:15-05:30P	19		10			1									29	3
05:30-05:45P	19		10												24	
05:45-06:00P	17		7												86	
06:00-07:00P	59		26												67	
07:00-08:00P	43		24												55	
08:00-09:00P	34		21												30	
09:00-10:00P	20		10													
16 HOUR	876	1	472	13	10	1	1	1	1			1	1	4	1380	7

WORK_2425

SUMMARY OF BICYCLE COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007
HOURS : 6AM - 10PM
DAY : Mon./Tues.
WEATHER: clear
COUNTY : Marion
CITY: Keizer
INTERSECTION OF: N River Rd. & McNary Estates Dr. & Manzanita Dr.

Tab by: Chk. by: MILE POST : N/A

BICYCLES MOVING WITH VEHICULAR TRAFFIC														BICYCLES USING CROSS WALKS			
TIME OF DAY	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH	EAST	SOUTH	WEST
06:00-07:00A		3											4	1			
07:00-07:15A		1											2				
07:15-07:30A						1							1				
07:30-07:45A																	
07:45-08:00A													2				
08:00-08:15A		1										1	1				
08:15-08:30A													1				
08:30-08:45A													3				
08:45-09:00A		1										1	3				1
09:00-10:00A		2											4				2
10:00-11:00A		2											3				
11:00-12:00P		1											2				
12:00-01:00P													2				
01:00-02:00P													4				
02:00-03:00P		1											2				
03:00-04:00P		2											2				
04:00-04:15P													3				
04:15-04:30P													2				
04:30-04:45P													2				
04:45-05:00P													2				
05:00-05:15P													4				
05:15-05:30P													4				
05:30-05:45P													4				
05:45-06:00P													1				
06:00-07:00P		2											1				
07:00-08:00P													1				
08:00-09:00P		2											2				
09:00-10:00P													1				
TOTAL	18	1			1	3	3	6	3	1	3	7	43	9	9	9	6

SUMMARY OF PEDESTRIAN COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 23/24, 2007 DAY : Mon./Tues. COUNTY : Marion CITY: Keizer
HOURS : 5AM - 10PM WEATHER: clear INTERSECTION OF: N River Rd. @ McNary Estates Dr. & Manzanita Dr.

Tab by: Chk. by: MILE POST : n/a

TIME OF DAY	STUDENT PEDESTRIANS				OTHER PEDESTRIANS				STUDENT AND OTHER PEDESTRIAN						
	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST	SOUTH	WEST	TOTAL
06:00-07:00A						1				1	1				1
07:00-07:15A															
07:15-07:30A															
07:30-07:45A						2				3	2			1	3
07:45-08:00A								1		1	1				1
08:00-08:15A															
08:15-08:30A															
08:30-08:45A															
08:45-09:00A															
09:00-10:00A						3				3	3			1	3
10:00-11:00A						3				6	3			3	6
11:00-12:00P										2	2			2	2
12:00-01:00P						2				8	2			6	8
01:00-02:00P						1				4	1			3	4
02:00-03:00P															
03:00-04:00P						3				3	3				3
04:00-04:15P															
04:15-04:30P															
04:30-04:45P															
04:45-05:00P						1			2	3				2	3
05:00-05:15P															
05:15-05:30P									5	5				3	5
05:30-05:45P								2		2					2
05:45-06:00P															
06:00-07:00P															
07:00-08:00P						2			2	4	2			2	4
08:00-08:00P										7	7			2	7
08:00-09:00P									5	8				5	8
09:00-10:00P															
TOTAL VOLUME	18	14	2	41	75	18	14	2	41	75	18	14	2	41	75

TRANSPORTATION DEVELOPMENT BRANCH
TRANSPORTATION SYSTEM MONITORING UNIT
VEHICULAR VOLUME

DATE : July 16/17, 2007

CITY or COUNTY : Keizer

DAY WEEK : Mon./Tues.

INTERSECTION OF: N River Rd. @ Broadway Ave. & Shangri-la St.

ACT COUNT: 16

HRS COUNT: 6AM - 10PM

PED COUNT: 16

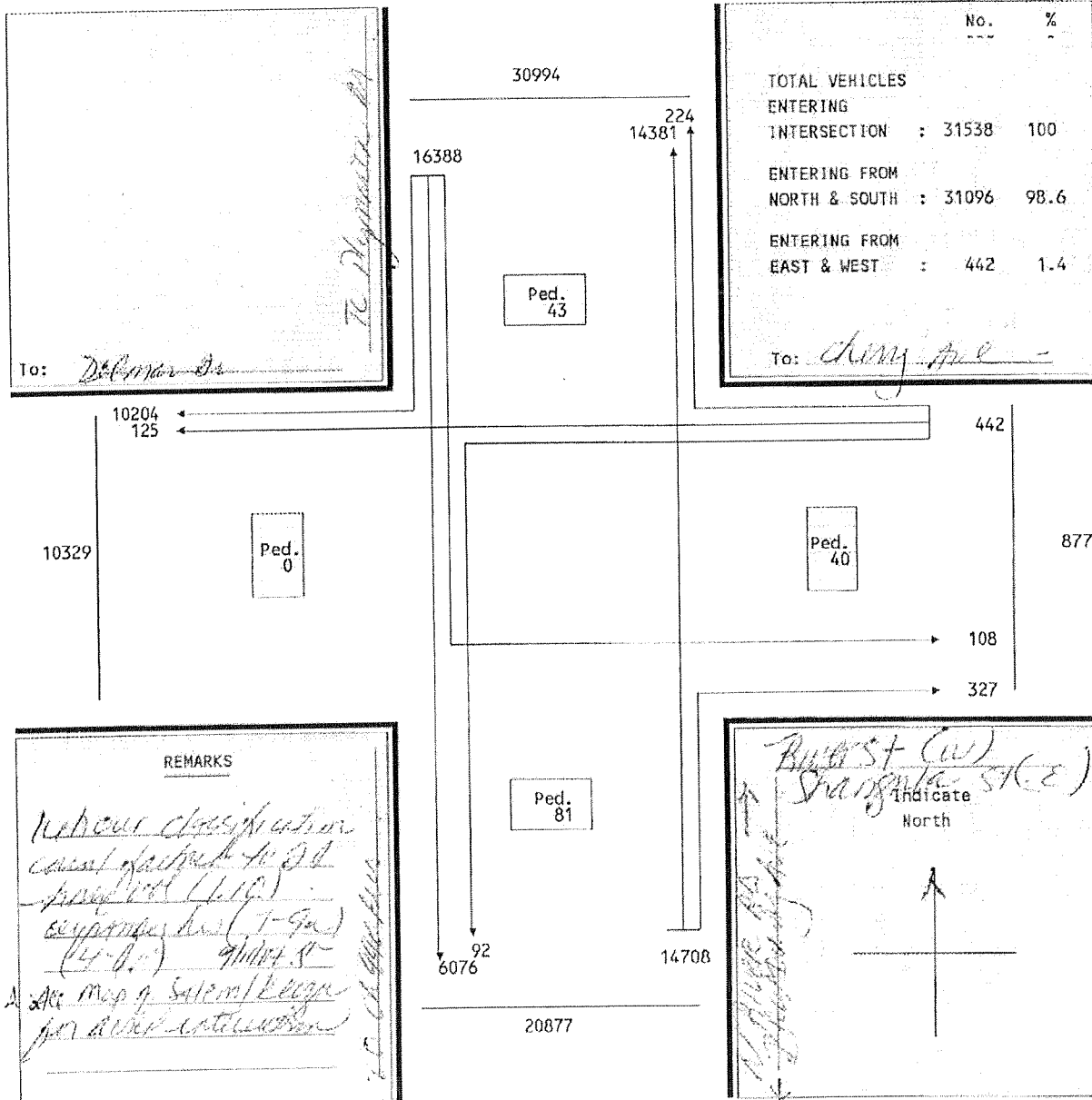
HRS COUNT: 6AM - 10PM

WEATHER : cloudy

MILE POST: n/a

CLASSIFICATION : All vehicles

RECEIVED
SEP 14 2007
O.D.O.T. Region 2



✓ 9/16/07

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
HOURS : 6AM - 10PM
CITY: Keizer
COUNTY : Marion
INTERSECTION OF: N River Rd. & Broadway Ave. & Shangrila St.
DAY : Mon./Tues.
WEATHER: cloudy

Tab by: Chk. by: MILE POST : N/A

TIME OF DAY	SUMMARY BY MOVEMENTS														PERCENT OF TOTAL	EAST AND WEST	PERCENT OF TOTAL	ENTERING VOLUMES BY LEGS			
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-S	TOTAL	NORTH AND SOUTH	PERCENT OF TOTAL	NORTH				EAST	SOUTH	WEST	
06:00-07:00A	2	212	496	2	3	2	225	6				948	99.3	7	710	7	231				
07:00-07:15A	1	73	182	4	1		65	4				330	325	5	256	5	69				
07:15-07:30A		70	195	4	2	2	89	3				365	357	8	265	8	92				
07:30-07:45A		142	253	4	1		92	1				493	488	5	395	5	93				
07:45-08:00A	3	128	271	5	1	1	131	2				542	535	7	402	7	133				
08:00-08:15A		79	149	5			126	3				363	357	6	228	6	129				
08:15-08:30A	3	80	186	3		4	107	5				388	381	7	269	7	112				
08:30-08:45A		66	161	3	1		129	1				361	357	4	227	4	130				
08:45-09:00A		91	156	4		1	164	5				421	416	5	247	5	169				
09:00-10:00A	5	289	529	7	3		644	12				1495	1479	16	823	16	656				
10:00-11:00A	6	283	524	10	4	8	635	11				1481	1459	22	813	22	646				
11:00-12:00P	9	644	1062	8	7	4	848	21				2604	2585	19	1715	19	870				
12:00-01:00P	10	479	612	19	5	7	1060	23				2215	2184	31	1101	31	1083				
01:00-02:00P	5	413	588	11	5	7	970	14				2013	1990	23	1006	23	984				
02:00-03:00P	5	385	570	7	8	11	989	22				1997	1971	26	960	26	1011				
03:00-04:00P	4	404	623	10	7	10	1100	20				2178	2151	27	1031	27	1120				
04:00-04:15P	1	88	144	2	3	4	354	4				600	591	9	233	9	358				
04:15-04:30P	4	92	173	7	2	3	338	12				631	619	12	269	12	350				
04:30-04:45P	3	90	162	6	2	2	349	11				625	615	10	255	10	360				
04:45-05:00P	1	119	157	6	1	9	348	8				649	633	16	277	16	356				
05:00-05:15P	2	80	152	4		4	407	7				656	648	8	234	8	414				
05:15-05:30P	5	90	132	8		1	456	6				678	669	9	227	9	442				
05:30-05:45P	2	81	161	8	1	2	414	10				679	668	11	244	11	424				
05:45-06:00P	3	79	136	2	2	5	344	5				576	567	9	218	9	349				
06:00-07:00P	5	344	543	19	8	6	999	25				1949	1916	33	892	33	1024				
07:00-08:00P	3	258	352	7	8	4	656	18				1306	1287	19	613	19	674				
08:00-09:00P	9	198	321	8	4	7	617	19				1183	1164	19	528	19	636				
09:00-10:00P	7	167	286	21	5	3	437	19				945	916	29	460	29	456				
TOTAL COUNT	98	5524	9276	204	84	114	13074	297				28671	28269	482	14898	402	13371				
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10											
24HR VOLUME	108	6076	10204	224	92	125	14381	327				31537	31096	442	16388	442	14708				

North and South is: N River Rd. (n) Broadway Ave. (s)

East and West is: River St (sw). (sw) Shangrila St. (e)

SUM_2426

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
HOURS : 6AM - 10PM

DAY : Mon./Tues.
WEATHER: cloudy

COUNTY : Marion

CITY: Keizer

INTERSECTION OF: N River Rd. @ Broadway Ave. & Shangrila St.

CHK: by:

MILE POST : 14.1

Tab by:

TIME OF DAY	SUMMARY BY MOVEMENTS												ENTERING VOLUMES BY LEGS							
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-S	TOTAL	NORTH AND SOUTH	PERCENT OF TOTAL	EAST AND WEST	PERCENT OF TOTAL	NORTH	EAST	SOUTH	WEST
06:00-07:00A	2	212	496	2	3	2	225	6				948	941	99.3	7	0.7	710	7	231	
07:00-08:00A	4	413	901	17	5	3	377	10				1730	1705	98.6	25	1.4	1318	25	387	
08:00-09:00A	3	316	652	15	1	6	526	14				1533	1511	98.6	22	1.4	971	22	540	
09:00-10:00A	5	289	529	7	3	6	644	12				1495	1479	98.9	16	1.1	823	16	656	
10:00-11:00A	6	283	524	10	4	8	635	11				1481	1459	98.5	22	1.5	813	22	646	
11:00-12:00P	9	644	1062	8	7	4	849	21				2604	2585	99.3	19	0.7	1715	19	870	
12:00-01:00P	10	479	612	19	5	7	1060	23				2215	2184	98.6	31	1.4	1101	31	1083	
01:00-02:00P	5	413	588	11	5	7	970	14				2013	1990	98.9	23	1.1	1006	23	984	
02:00-03:00P	5	385	570	7	8	11	989	22				1997	1971	98.7	26	1.3	960	26	1011	
03:00-04:00P	4	404	623	10	7	10	1100	20				2178	2151	98.8	27	1.2	1031	27	1120	
04:00-05:00P	9	389	636	21	8	18	1389	35				2505	2458	98.1	47	1.9	1034	47	1424	
05:00-06:00P	12	330	581	22	3	12	1601	28				2589	2552	98.6	37	1.4	923	37	1629	
06:00-07:00P	5	344	543	19	8	6	999	25				1949	1916	98.3	33	1.7	892	33	1024	
07:00-08:00P	3	258	352	7	8	4	656	18				1306	1287	98.5	19	1.5	613	19	674	
08:00-09:00P	9	198	321	8	4	7	617	19				1183	1164	98.4	19	1.6	528	19	636	
09:00-10:00P	7	167	286	21	5	3	437	19				945	916	96.9	29	3.1	460	29	456	
TOTAL COUNT	98	5524	9276	204	84	114	13074	297				28571	28269	98.6	402	1.4	14898	402	13371	
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10									
24HR VOLUME	108	6076	10204	224	92	125	14381	327				31537	31096	98.6	442	1.4	16388	442	14708	

North and South is: N River Rd.(n) Broadway Ave. (s)

East and West is: River St (sw) - (sw) Shangrila St. (e)

SUM 2426

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : cloudy
 FROM : NORTH
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Broadway Ave. & Shangrila St.
 CITY: Keizer
 MILE POST : n/a
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOTER		TOTAL ALL VEHICLE		BI CY CLE	
	Ears	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A	1		1														2			
07:00-07:15A			1														1			
07:15-07:30A																				
07:30-07:45A			1														3			
07:45-08:00A	2																			
08:00-08:15A																				
08:15-08:30A			3														3			
08:30-08:45A																				
08:45-09:00A																	5			
09:00-10:00A																	6			
10:00-11:00A	3																9			
11:00-12:00P	5																10			
12:00-01:00P	4																5			
01:00-02:00P	3																5			
02:00-03:00P	3																4			
03:00-04:00P	1																1			
04:00-04:15P																				
04:15-04:30P	1																3			
04:30-04:45P	2																1			
04:45-05:00P																				
05:00-05:15P	1																2			
05:15-05:30P	1																5			
05:30-05:45P																	2			
05:45-06:00P	1																3			
06:00-07:00P	1																5			
07:00-08:00P	2																3			
08:00-09:00P	2																9			
09:00-10:00P	4																7			
15 HOUR	35		61		1												98			1

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007 COUNTY : Marion CITY: Keizer
 DAY OF WEEK : Mon./Tues. INTERSECTION OF: N River Rd. & Broadway Ave. & Shangri-la st.
 HOURS COUNTED: 6AM - 10PM MILE POST : n/a
 WEATHER : cloudy TO : SOUTH
 FROM : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK			SGL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlt	Other	WTrlt	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	5 Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle				
06:00-07:00A	108		97		1												2	3	212	
07:00-07:15A	37		34			1											1		75	
07:15-07:30A	31		36														2		70	
07:30-07:45A	70		71														1		142	
07:45-08:00A	55		69		1												1		128	
08:00-08:15A	39		37			1											1		79	
08:15-08:30A	36		42			1											1		80	
08:30-08:45A	27		35		1	1											1		66	
08:45-09:00A	34		52		2	1											3		91	1
09:00-10:00A	117		152		6	2											2		289	
10:00-11:00A	118		146		8	5											3		285	1
11:00-12:00P	299		313		4	19											2		644	
12:00-01:00P	209		253		1	11											2		479	
01:00-02:00P	205		192		1	7											1		413	
02:00-03:00P	176		189		5	8											3		385	
03:00-04:00P	169		223		2	5											5		404	
04:00-04:15P	34		51														2		88	
04:15-04:30P	51		39			1											1		92	
04:30-04:45P	45		41		2												1		90	1
04:45-05:00P	46		69														2		119	
05:00-05:15P	33		43														1		80	
05:15-05:30P	52		37														1		90	
05:30-05:45P	41		38														1		81	
05:45-06:00P	37		40		1												1		79	
06:00-07:00P	168		164		2	3											5		344	
07:00-08:00P	144		107		2	2											1		258	
08:00-09:00P	107		87														1		198	1
09:00-10:00P	90		75														1		167	
16 HOUR	2578		2732		31	81	24	1	6	3	1			1			48	18	5524	5

Summarized by: 09/12/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : Cloudy
 FROM : NORTH
 TO : WEST
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Broadway Ave. & Shangrila St.
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cafs	Wtfr	Other	Wtfr	2 Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle	8 Axle	9 Axle					
06:00-07:00A	228		251	4	5	1	1	1	2					1	3	496	1
07:00-07:15A	99		81		1	1										182	
07:15-07:30A	100		92		1									1	1	195	1
07:30-07:45A	125		124		2											253	
07:45-08:00A	134		134		1										2	271	
08:00-08:15A	80		67	1	1											149	
08:15-08:30A	81		97	3	3									2		186	
08:30-08:45A	74		85		1											161	
08:45-09:00A	78		73	1	3											156	
09:00-10:00A	245		267	2	9	1	1	1						3		529	
10:00-11:00A	221		280	4	11	1	1	1						2	3	524	
11:00-12:00P	461		562	3	21	4	1	1						5	3	1062	
12:00-01:00P	276		315	4	9	2	1	1						1	2	612	
01:00-02:00P	241		312	7	12	4	2	2						3	7	588	
02:00-03:00P	269		279	9	8									3	2	570	
03:00-04:00P	272		322	7	13		2	1						3	2	623	
04:00-04:15P	63		72	5	4									1	2	144	
04:15-04:30P	72		95	2	1									2	2	173	1
04:30-04:45P	58		98	1	2	1								1	1	157	
04:45-05:00P	73		78	2	3										1	152	
05:00-05:15P	71		79	1										1		132	
05:15-05:30P	47		81	2	1											161	
05:30-05:45P	81		77	2		1										136	
05:45-06:00P	64		70	1	1									1	3	543	
06:00-07:00P	267		266	3	2			1						1	1	352	
07:00-08:00P	167		178	2	2			1						2	3	321	
08:00-09:00P	147		164	1	4									1	5	286	
09:00-10:00P	128		150		2												
16 HOUR	4222		4749	67	122	17	3	10	9	4				30	43	9276	5

TRAFFIC COUNT SUMMARY SHEET
TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE	:	July 16/17, 2007	COUNTY	:	Marion	CITY:	Keizer
DAY OF WEEK	:	Mon./Tues.	INTERSECTION OF:	:	N River Rd. @ Broadway Ave. & Shangrila St.		
HOURS COUNTED:	:	6AM - 10PM	MILE POST	:	N/a		
WEATHER	:	cloudy	TO	:	NORTH		
FROM	:	EAST					

[illegible]

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : cloudy
 FROM : EAST
 TO : SOUTH
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Broadway Ave. & Shangrila St.
 CITY: Xelzer
 MILE POST : n/a

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl				
06:00-07:00A	1		2												3	
07:00-07:15A			1												1	
07:15-07:30A	2														2	
07:30-07:45A	1														1	
07:45-08:00A	1														1	
08:00-08:15A																
08:15-08:30A	1														1	
08:30-08:45A																
08:45-09:00A	2		1												3	
09:00-10:00A	2		1												4	
10:00-11:00A	3		4												7	
11:00-12:00P	4		1												5	
12:00-01:00P	2		3												5	
01:00-02:00P	3		4												8	
02:00-03:00P	6														7	
03:00-04:00P	3														3	
04:00-04:15P	2														2	
04:15-04:30P	2														2	
04:30-04:45P	2														1	
04:45-05:00P	1															
05:00-05:15P																
05:15-05:30P															1	
05:30-05:45P	2														2	
05:45-06:00P	6		2												8	
06:00-07:00P	4		4												8	
07:00-08:00P	2		2												4	
08:00-09:00P	2		3												5	
09:00-10:00P																
16 HOUR	52		29		2	1									84	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : cloudy
 FROM : EAST
 TO : WEST

COUNTY : Marion
 CITY: Keizer
 INTERSECTION OF: N River Rd. @ Broadway Ave. & Shangrila St.
 MILE POST : n/a
 TO : WEST

TIME OF DAY	PASSENGER	OTHER 2 AXLE	SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	Other	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	5 Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle	
06:00-07:00A	2														2
07:00-07:15A															2
07:15-07:30A	1	1													1
07:30-07:45A															1
07:45-08:00A		1													1
08:00-08:15A		1													4
08:15-08:30A		3													1
08:30-08:45A	1														6
08:45-09:00A	3	3													8
09:00-10:00A	5	3													4
10:00-11:00A	1	3													7
11:00-12:00P	2	5													7
12:00-01:00P		6													11
01:00-02:00P	5	5													10
02:00-03:00P	7	2													4
03:00-04:00P	1	3													3
04:00-04:15P		3													2
04:15-04:30P	2														9
04:30-04:45P	1	8													4
04:45-05:00P	2	2													1
05:00-05:15P		1													2
05:15-05:30P		2													5
05:30-05:45P	3	2													6
05:45-06:00P	4	2													4
06:00-07:00P	2	2													7
07:00-08:00P	3	4													3
08:00-09:00P	1	2													
09:00-10:00P															
16 HOUR	47	64		1		2									114

Summarized by: _____ | 09/12/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : cloudy
 FROM : SOUTH
 TO : NORTH
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Broadway Ave. & Shangrila St.
 CITY: Keizer
 MILE POST : n/a

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS				DBL TRAILER TRUCKS				TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE	
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl					
06:00-07:00A	102		105	1	6	3		1										5		225		
07:00-07:15A	28		32		3	1												1		65		
07:15-07:30A	44		42		2													1		89		
07:30-07:45A	44		44			1												3		92		
07:45-08:00A	47		73	1	4	1												3		131	1	
08:00-08:15A	49		67	3	4	1												2		126		
08:15-08:30A	39		61	1	1	3												1		107		
08:30-08:45A	56		62	1	6	3														129		
08:45-09:00A	57		95	1	2	6												2		164		
09:00-10:00A	279		330	7	10	4		3	2									6		644		
10:00-11:00A	288		322	5	12	4												3		635	1	
11:00-12:00P	398		411	6	19	1		3										5		849	2	
12:00-01:00P	505		504	13	23	4												3		1060	3	
01:00-02:00P	461		460	10	20	7		1										4		970	2	
02:00-03:00P	503		458	8	9	1												6		989	4	
03:00-04:00P	530		530	8	13	4		1										8		1100	6	
04:00-04:15P	148		194	2	6	1												2		354	4	
04:15-04:30P	167		155	8														2		338	1	
04:30-04:45P	176		160	1	6													1		349	3	
04:45-05:00P	144		193	1	1	1												2		348	2	
05:00-05:15P	199		197	1	4	1												1		407		
05:15-05:30P	231		200		3															436	2	
05:30-05:45P	200		209		3													1		414	1	
05:45-06:00P	159		169	1	6	1												2		344	3	
06:00-07:00P	485		475	7	18													6		999		
07:00-08:00P	342		304	2	2													2		656	3	
08:00-09:00P	348		251	4	2													2		617	3	
09:00-10:00P	236		191	1	4													2		437		
6 HOUR	6265		6294	93	189	45		14		9			5					74		85	13074	41

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : cloudy
 FROM : SOUTH
 TO : EAST
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Broadway Ave. & Shangrila St.
 CITY: Keizer
 MILE POST : n/a
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOT		TOTAL ALL VEHICLE		BI CY CLE
	Cars	Wtrlr	Other	Wtrlr	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	5 Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle			
06:00-07:00A	3		3														6		
07:00-07:15A	1		3														4		
07:15-07:30A			3														3		
07:30-07:45A			1														1		
07:45-08:00A			2														2		
08:00-08:15A	1		2														3		
08:15-08:30A	2		3														5		
08:30-08:45A			1														1		
08:45-09:00A	4		1														5		
09:00-10:00A	5		4														12		
10:00-11:00A	4		6														11		
11:00-12:00P	7		12														21		
12:00-01:00P	10		13														23		
01:00-02:00P	6		8														14		
02:00-03:00P	8		12														22		
03:00-04:00P	10		10														20		
04:00-04:15P	2		2														4		
04:15-04:30P	6		6														12		
04:30-04:45P	8		3														11		
04:45-05:00P	3		5														8		
05:00-05:15P	3		4														7		
05:15-05:30P	2		4														6		
05:30-05:45P	1		9														10		
05:45-06:00P	4		1														5		
06:00-07:00P	15		9														25		
07:00-08:00P	6		12														18		
08:00-09:00P	8		11														19		
09:00-10:00P	10		9														19		
16 HOUR	129		159			6	2										297		1

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : cloudy
 FROM : SOUTH
 TO : WEST
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Broadway Ave. & Shanghai St.
 City: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOT		TOTAL ALL VEHICLE		BI CY CLE	
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl								
06:00-07:00A																				
07:00-07:15A																				
07:15-07:30A																				
07:30-07:45A																				
07:45-08:00A																				
08:00-08:15A																				
08:15-08:30A																				
08:30-08:45A																				
08:45-09:00A																				
09:00-10:00A																				
10:00-11:00A																				
11:00-12:00P																				
12:00-01:00P																				
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02:00-03:00P																				
03:00-04:00P																				
04:00-04:15P																				
04:15-04:30P																				
04:30-04:45P																				
04:45-05:00P																				
05:00-05:15P																				
05:15-05:30P																				
05:30-05:45P																				
05:45-06:00P																				
06:00-07:00P																				
07:00-08:00P																				
08:00-09:00P																				
09:00-10:00P																				
16 HOUR																				

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : cloudy
 FROM : WEST

COUNTY : Marion CITY: Keizer
 INTERSECTION OF: N River Rd. @ Broadway Ave. & Shangkila St.
 MILE POST : n/a
 TO : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DSL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOT		TOTAL ALL VEHICLE		B: CY CLE	
	Cars	WT-Tr	Other	WT-Tr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A																				
07:00-07:15A																				
07:15-07:30A																				
07:30-07:45A																				
07:45-08:00A																				
08:00-08:15A																				
08:15-08:30A																				
08:30-08:45A																				
08:45-09:00A																				
09:00-10:00A																				
10:00-11:00A																				
11:00-12:00P																				
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02:00-03:00P																				
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04:00-04:15P																				
04:15-04:30P																				
04:30-04:45P																				
04:45-05:00P																				
05:00-05:15P																				
05:15-05:30P																				
05:30-05:45P																				
05:45-06:00P																				
06:00-07:00P																				
07:00-08:00P																				
08:00-09:00P																				
09:00-10:00P																				
16 HOUR																				

Summarized by: _____ | 09/12/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : Cloudy
 FROM : WEST TO : EAST

COUNTY : Marion CITY: Keizer
 INTERSECTION OF: N River Rd. & Broadway Ave. & Shangrila St.
 MILE POST : n/a
 TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOT		TOTAL ALL VEHICLE		BI CY CLE	
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A																				
07:00-07:15A																				
07:15-07:30A																				
07:30-07:45A																				
07:45-08:00A																				
08:00-08:15A																				
08:15-08:30A																				
08:30-08:45A																				
08:45-09:00A																				
09:00-10:00A																				
10:00-11:00A																				
11:00-12:00P																				
12:00-01:00P																				
01:00-02:00P																				
02:00-03:00P																				
03:00-04:00P																				
04:00-04:15P																				
04:15-04:30P																				
04:30-04:45P																				
04:45-05:00P																				
05:00-05:15P																				
05:15-05:30P																				
05:30-05:45P																				
05:45-06:00P																				
06:00-07:00P																				
07:00-08:00P																				
08:00-09:00P																				
09:00-10:00P																				
16 HOUR																				

SUMMARY OF BICYCLE COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007 DAY : Mon./Tues. COUNTY : Marion CITY: Keizer
HOURS : 6AM - 10PM WEATHER: cloudy INTERSECTION OF: N River Rd. @ Broadway Ave. & Shangrila St.

Tab by: Chk. by: MILE POST : n/a

TIME OF DAY	BICYCLES MOVING WITH VEHICULAR TRAFFIC										BICYCLES USING CROSS WALKS				
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-S	TOTAL	NORTH	EAST	SOUTH	WEST
06:00-07:00A			1								1	2			
07:00-07:15A											1				
07:15-07:30A			1								1				
07:30-07:45A											1				
07:45-08:00A							1				1				
08:00-08:15A															
08:15-08:30A															
08:30-08:45A															
08:45-09:00A		1									1				
09:00-10:00A		1									2	5			
10:00-11:00A											2		1		
11:00-12:00P											2	3			
12:00-01:00P								1			5	4			
01:00-02:00P											2				
02:00-03:00P											4	1			
03:00-04:00P											6	1			
04:00-04:15P											4	1			
04:15-04:30P											2				
04:30-04:45P	1	1					3				6				
04:45-05:00P							2				2				
05:00-05:15P															
05:15-05:30P											2				
05:30-05:45P							2				1				
05:45-06:00P							1				3				
06:00-07:00P							3				4	1			
07:00-08:00P							3				4	3			
08:00-09:00P		1									4	2			
09:00-10:00P											1				
TOTAL VOLUME	1	5	5	1	1		4	1			54	24	1		

North and South is: N River Rd.(n) Broadway Ave. (s) East and West is: River St (sw). (sw) Shangrila St. (e)

SUMMARY OF PEDESTRIAN COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007 DAY : Mon./Tues. COUNTY : Marion City: Keizer
HOURS : 6AM - 10PM WEATHER: cloudy INTERSECTION OF: N River Rd. @ Broadway Ave. & Shangrila St.

Tab by: Chk. by: MILE POST : n/a

TIME OF DAY	STUDENT PEDESTRIANS				OTHER PEDESTRIANS				STUDENT AND OTHER PEDESTRIAN				
	STUDENT PEDESTRIANS		OTHER PEDESTRIANS		STUDENT PEDESTRIANS		OTHER PEDESTRIANS		STUDENT AND OTHER PEDESTRIAN		STUDENT AND OTHER PEDESTRIAN		
	NORTH	EAST SOUTH WEST	TOTAL	NORTH	EAST SOUTH WEST	TOTAL	NORTH	EAST SOUTH WEST	TOTAL	NORTH	EAST SOUTH WEST	TOTAL	
06:00-07:00A				2						2			2
07:00-07:15A					1					1			1
07:15-07:30A													
07:30-07:45A					2					2			2
07:45-08:00A					1					1			1
08:00-08:15A													
08:15-08:30A													
08:30-08:45A													
08:45-09:00A				2	1					2	1		5
09:00-10:00A				1	4					4			9
10:00-11:00A				3	4					3	4		7
11:00-12:00P				6	4					6	4		18
12:00-01:00P				4						4			15
01:00-02:00P				5						5			12
02:00-03:00P				1	11					11	12		24
03:00-04:00P				1						1			1
04:00-04:15P				1						1			3
04:15-04:30P					2						2		5
04:30-04:45P				1						1			1
04:45-05:00P													
05:00-05:15P													
05:15-05:30P					3						3		5
05:30-05:45P					3						3		5
05:45-06:00P													
06:00-07:00P				7	3					7	3		10
07:00-08:00P				2	3					2	3		9
08:00-09:00P				2	9					2	9		11
09:00-10:00P				6	7					6	7		18
TOTAL VOLUME	43	40	81	164	43	40	81	164	43	40	81	164	164

North and South is: N River Rd.(n) Broadway Ave. (s) East and West is: River St (sw). (sw) Shangrila St. (e)

TRANSPORTATION DEVELOPMENT BRANCH
TRANSPORTATION SYSTEM MONITORING UNIT
VEHICULAR VOLUME

DATE : July 17/18, 2007

CITY or COUNTY : Keizer

DAY WEEK : Tues./Wed.

INTERSECTION OF: N River Rd. @ Manbrin Ave.

ACT COUNT: 16

HRS COUNT: 6AM - 10PM

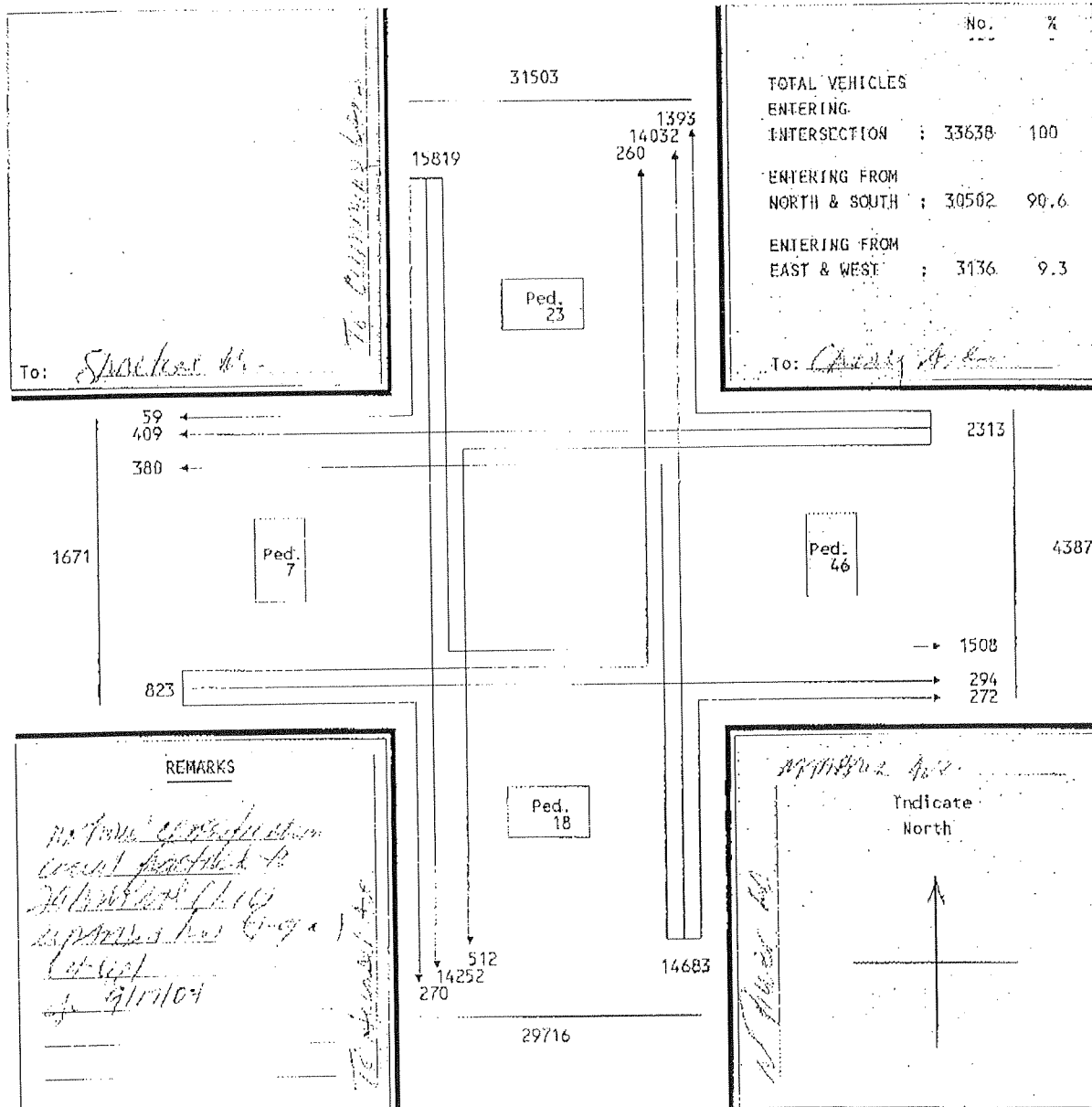
PED COUNT: 16

MILE POST: n/a

HRS COUNT: 6AM - 10PM

CLASSIFICATION : All vehicles

WEATHER : clear



SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : JULY 17/18, 2007
HOURS : 6AM - 10PM
DAY : Tues./Wed.
WEATHER: clear
COUNTY : Marion
INTERSECTION OF: N River Rd. & Manbrin Ave.
CITY: Keizer

Tab by: Chk. by: Mile Post : n/a

SUMMARY BY MOVEMENTS

TIME OF DAY		SUMMARY BY MOVEMENTS												ENTERING VOLUMES BY LEGS					
		N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	N-N	W-E	W-S	TOTAL	NORTH AND SOUTH	EAST AND WEST	PERCENT OF TOTAL	NORTH	EAST
06:00-07:00A	53	568	2	23	13	2	213	8	5	8	9	4	908	849	93.5	59	38	226	21
07:00-07:15A	20	207		12	5		66		3	1	5	5	324	296	91.4	28	17	69	
07:15-07:30A	38	280		21	10		78	3	1	2	2	2	437	400	91.5	37	31	82	6
07:30-07:45A	36	376		10	10	1	85	2	5	2	4	6	537	504	93.9	33	21	92	12
07:45-08:00A	40	311		19	5	4	111		3	3	11	5	512	465	90.8	47	28	114	19
08:00-08:15A	20	232	2	6	3	5	111	2	3	7	5	9	405	370	91.4	35	14	116	21
08:15-08:30A	29	220		15	8	8	105		5	8	6	11	415	359	86.5	56	31	110	25
08:30-08:45A	18	233	1	13	8	1	120	2	1	5	2	4	408	375	91.9	33	22	123	11
08:45-09:00A	24	186	2	11	6	3	140	4	2	3	5	5	391	358	91.6	33	20	146	13
09:00-10:00A	66	795	3	51	17	5	497	12	14	9	12	14	1495	1387	92.8	108	73	523	35
10:00-11:00A	100	763	2	54	23	21	627	12	17	19	15	14	1667	1521	91.2	146	86	656	48
11:00-12:00P	81	992	3	113	44	22	831	20	34	16	20	17	2193	1961	89.4	232	179	885	53
12:00-01:00P	103	954	12	92	44	37	933	20	20	16	25	26	2282	2042	89.5	240	173	973	67
01:00-02:00P	95	967	12	97	30	28	844	17	16	17	15	25	2165	1951	90.2	212	155	877	57
02:00-03:00P	91	880		85	35	19	939	10	22	16	21	12	2130	1942	91.2	188	139	971	49
03:00-04:00P	108	936		114	38	35	1043	27	32	14	14	13	2374	2146	90.4	228	187	1102	41
04:00-04:15P	21	279		33	7	7	341	7	11	8	7	2	723	659	91.1	64	300	359	17
04:15-04:30P	29	212		37	9	18	376	5	7	1	8	4	706	629	89.1	77	241	388	13
04:30-04:45P	26	245	1	26	3	6	313	8	8	6	6	2	644	601	93.3	43	272	329	8
04:45-05:00P	27	213		23	3	7	297	7	5	1	4	2	589	549	93.2	40	240	309	7
05:00-05:15P	26	239	1	31	12	9	387	4	12	3	4	5	733	669	91.3	64	266	403	12
05:15-05:30P	27	237	2	54	6	6	426	6	12	8	4	2	790	710	89.9	80	266	444	14
05:30-05:45P	30	229		31	9	13	348	3	9	4	6	2	684	619	90.5	65	259	360	12
05:45-06:00P	10	230		26	12	9	273	7	10	8	8	4	589	530	90.0	59	240	290	12
06:00-07:00P	83	770	3	94	34	39	1155	18	24	26	16	15	2277	2053	90.2	224	167	1197	57
07:00-08:00P	82	561	2	93	37	31	1148	19	22	25	14	15	2047	1834	89.6	213	161	1189	52
08:00-09:00P	54	461		54	12	24	441	12	34	10	18	8	1128	1002	88.8	126	90	487	36
09:00-10:00P	34	380	6	28	22	12	508	12	8	6	1	12	1029	948	92.1	81	62	528	19
TOTAL COUNTY	1371	12936	54	1266	465	372	12756	247	345	236	267	245	30580	27729	90.7	2851	2103	13348	748
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10							
24HR VOLUME	1508	14252	59	1393	512	409	14032	272	380	260	294	270	33641	30502	90.7	3136	2313	14683	823

North and South is: N River Rd.

East and West is: Manbrin Ave.

SUMMARY OF TRAFFIC COUNT
TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
 DAY : Tues./Wed.
 WEATHER : clear
 COUNTY : Marion
 INTERSECTION OF: N. River Rd. @ Mainbrin Ave.
 CITY: Keizer

E/U: 1504 3718

tab by:

DATE: 5/7

TIME OF DAY	SUMMARY BY MOVEMENTS																	
	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	U-S	TOTAL	NORTH AND SOUTH	PERCENT CF TOTAL	EAST AND WEST	ENTERING VOLUMES BY LEGS		
																NORTH	EAST	SOUTH
06:00-07:00A	53	568	2	23	13	2	213	8	5	9	4	908	849	93.5	59	623	38	226
07:00-08:00A	134	1174		62	30	5	340	8	12	22	18	1810	1665	92.0	145	1308	97	357
08:00-09:00A	91	871	5	45	25	17	476	8	11	18	29	1619	1462	90.3	157	967	87	495
09:00-10:00A	66	795	3	51	17	5	497	12	14	12	14	1495	1387	92.8	108	864	73	523
10:00-11:00A	100	763	2	54	23	21	627	12	17	15	14	1667	1521	91.2	145	865	98	656
11:00-12:00P	81	992	3	113	44	22	831	20	34	16	20	2193	1961	89.4	232	1076	179	885
12:00-01:00P	103	954	12	92	44	37	933	20	20	25	26	2282	2042	89.5	240	1069	173	973
01:00-02:00P	95	967	12	97	30	28	844	17	16	15	25	2163	1951	90.2	212	1074	155	877
02:00-03:00P	91	880		85	35	19	939	10	22	21	12	2130	1942	91.2	188	971	139	971
03:00-04:00P	108	936		114	38	35	1043	27	32	14	13	2374	2146	90.4	228	1044	187	1102
04:00-05:00P	103	949	1	119	22	38	1327	27	31	25	10	2662	2438	91.6	224	1053	179	1385
05:00-06:00P	93	935	3	142	39	37	1434	20	43	22	13	2796	2528	90.4	268	1031	218	1497
06:00-07:00P	83	770	3	94	34	39	1155	18	24	16	15	2277	2053	90.2	224	856	167	1197
07:00-08:00P	82	561	2	93	37	31	1148	19	22	23	14	2047	1834	89.6	213	645	161	1189
08:00-09:00P	54	461		54	12	24	441	12	34	18	8	1128	1002	88.8	126	515	90	487
09:00-10:00P	34	380	6	28	22	12	508	12	8	1	12	1029	948	92.1	81	420	62	528
TOTAL COUNT	1371	12956	54	1266	465	372	12756	247	345	236	245	30580	27729	90.7	2851	14361	2103	13348
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10			90.7	3136	15819	2313	14693
24HR VOLUME	1508	14252	59	1393	512	409	14032	272	380	260	270	33641	30502	90.7	3136	15819	2313	14693

748

823

North and South is: N River Rd.
East and West is: Manbrin Ave.
SUM_2422

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Mainbrin Ave.
 CITY: Keizer
 MILE POST : n/a
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WT-1r	Other	WT-1r	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	6 Axle	7 Axle	8 Axle	>9Axle		
06:00-07:00A	33		17		1										53	
07:00-07:15A	12		8												20	
07:15-07:30A	26		10											1	38	
07:30-07:45A	27		8												36	
07:45-08:00A	30		7		2										40	
08:00-08:15A	14		6												20	
08:15-08:30A	19		8												29	
08:30-08:45A	14		3												18	
08:45-09:00A	15		8												24	
09:00-10:00A	43		19		3										66	
10:00-11:00A	60		30		2										100	
11:00-12:00P	53		20		3			1							81	
12:00-01:00P	68		23		4			1							103	
01:00-02:00P	67		22		1										95	
02:00-03:00P	67		17							1					91	
03:00-04:00P	68		34		2										108	
04:00-04:15P	13		7												21	
04:15-04:30P	18		10												29	
04:30-04:45P	18		8												26	
04:45-05:00P	17		9												27	
05:00-05:15P	15		10												26	
05:15-05:30P	20		4												27	
05:30-05:45P	20		7												30	
05:45-06:00P	5		4		1										10	
06:00-07:00P	60		20												83	
07:00-08:00P	55		25												82	
08:00-09:00P	40		14												54	
09:00-10:00P	24		10												34	
16 HOUR	921		368		19	36	8	3	1	1			13	1	1371	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED : 8AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : SOUTH
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Manbrin Ave.
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY GLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A	405		151		1	5	1	2					2	1	568	1
07:00-07:5A	143		50			1	2						1	1	207	
07:15-07:30A	199		74			1	1						2	1	280	
07:30-07:45A	288		92			4	1	2					1	2	376	
07:45-08:00A	236		64		2	5							2	2	311	
08:00-08:15A	175		43		1	6	1						2	2	232	
08:15-08:30A	161		46		2	7							4	2	220	
08:30-08:45A	192		33		1	3		1					3	1	233	
08:45-09:00A	135		44		4	1							1	2	186	
09:00-10:00A	943		211		12	16	1	1					9	2	795	
10:00-11:00A	548		184		3	14	2	2					12	2	763	
11:00-12:00P	706		238		4	20	6	4					10	2	992	
12:00-01:00P	676		236		6	14	9	5					6	2	954	
01:00-02:00P	656		282		10	7	4						3	2	967	
02:00-03:00P	636		204		9	13	4	2					10	2	880	
03:00-04:00P	634		268		10	14	2						8	2	936	
04:00-04:15P	189		74		2	6							7	1	279	
04:15-04:30P	144		61		3	1							2	1	212	
04:30-04:45P	162		75		1	3							2	1	245	
04:45-05:00P	153		55		1	2							1	1	213	
05:00-05:15P	163		69			4							1	1	239	
05:15-05:30P	156		76			2								1	237	
05:30-05:45P	158		68		1	3								1	229	
05:45-06:00P	158		71			3								1	230	
06:00-07:00P	634		118		2	7	3						1	1	770	
07:00-08:00P	433		120		4	2							6	1	561	
08:00-09:00P	366		90		4	2								1	461	
09:00-10:00P	298		74		2	6								1	350	
15 HOUR	9342		3171		85	165	28	15	11	2		3	97	18	12956	6

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : WEST
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF: N River Rd. & Mainport Ave.
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT VEHICLE	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl				
06:00-07:00A	2														2	
07:00-07:15A																
07:15-07:30A																
07:30-07:45A																
07:45-08:00A																
08:00-08:15A	2														2	
08:15-08:30A																
08:30-08:45A	1														1	
08:45-09:00A	2														2	
09:00-10:00A	3														3	
10:00-11:00A			2													
11:00-12:00P	3														3	
12:00-01:00P	6		4												12	
01:00-02:00P	7		3												12	
02:00-03:00P																
03:00-04:00P																
04:00-04:15P																
04:15-04:30P	1														1	
04:30-04:45P																
04:45-05:00P																
05:00-05:15P	1														2	
05:15-05:30P			2													
05:30-05:45P																
05:45-06:00P																
06:00-07:00P	1		2												3	
07:00-08:00P	1		1												2	
08:00-09:00P																
09:00-10:00P	2		4												6	
16 HOUR	32		38		1	1	1	1							54	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007 COUNTY : Marion CITY : Keizer
 DAY OF WEEK : Tues./Wed. INTERSECTION OF: N River Rd. @ Manbrin Ave.
 HOURS COUNTED: 6AM - 10PM MILE POST : N/A
 WEATHER : clear TO : NORTH
 FROM : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOT		TOTAL ALL VEHICLE		BT CY CLE
	Cars	Wtrfr	Other	Wtrfr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	BUSES	MOTOR CYCLE SCOOT	
06:00-07:00A	18		2														2		23
07:00-07:15A	8		2		1												1		12
07:15-07:30A	16		3														1		21
07:30-07:45A	8		2															1	10
07:45-08:00A	7		9																19
08:00-08:15A	2		4															1	6
08:15-08:30A	9		2		2												1		15
08:30-08:45A	10		2														1		13
08:45-09:00A	7		2																11
09:00-10:00A	33		18																51
10:00-11:00A	34		13																54
11:00-12:00P	73		31		2													1	113
12:00-01:00P	67		19		2													3	92
01:00-02:00P	68		24		1													1	97
02:00-03:00P	57		22		1													1	85
03:00-04:00P	76		33		1													1	114
04:00-04:15P	13		7																33
04:15-04:30P	26		10																37
04:30-04:45P	18		8																26
04:45-05:00P	16		6																23
05:00-05:15P	20		10																31
05:15-05:30P	36		18																54
05:30-05:45P	22		9																31
05:45-06:00P	15		10																26
06:00-07:00P	65		27																94
07:00-08:00P	64		29																93
08:00-09:00P	34		20																54
09:00-10:00P	18		10																28
16 HOUR	840		362		9		23		8		1		2		1				15
																			2
																			1266

Summarized by: 09/19/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
DAY OF WEEK : Tues./Wed.
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : EAST

COUNTY : Marion
INTERSECTION OF : N River Rd. & Mandarin Ave.
MILE POST : n/a
TO : SOUTH

CITY : Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CYCLE
	Cars	Wt-lr	Other	Wt-lr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl
06:00-07:00A	5		7													
07:00-07:15A	3		2													
07:15-07:30A	9		1													
07:30-07:45A	5		4													
07:45-08:00A	5															
08:00-08:15A	2		1													
08:15-08:30A	6		2													
08:30-08:45A	6		1													
08:45-09:00A	5		1													
09:00-10:00A	16		7													
10:00-11:00A	19		4													
11:00-12:00P	30		13													
12:00-01:00P	37		7													
01:00-02:00P	27		3													
02:00-03:00P	20		13													
03:00-04:00P	30		8		2											
04:00-04:15P	2		5													
04:15-04:30P	5		3													
04:30-04:45P	3															
04:45-05:00P	2		1													
05:00-05:15P	9		3													
05:15-05:30P	6															
05:30-05:45P	5		2													
05:45-06:00P	5		7													
06:00-07:00P	19		15													
07:00-08:00P	15		22													
08:00-09:00P	8		4													
09:00-10:00P	18		4													
16 HOUR	317		140		2	4								1	1	465

Summarized by: | 09/19/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007 COUNTY : Marion CITY: Keizer
 DAY OF WEEK : Tues./Wed. INTERSECTION OF: N River Rd. @ Mainbrn Ave.
 HOURS COUNTED: 6AM - 10PM MILE POST : n/a
 WEATHER : clear TO : WEST
 FROM : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DPL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOT		TOTAL ALL VEHICLE		BI CY CLE	
	Cars	WTR	Other	WTR	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A	1		1															2		
07:00-07:15A																				
07:15-07:30A																				
07:30-07:45A	1																	1		
07:45-08:00A	3		1															4		
08:00-08:15A	4		1															5		
08:15-08:30A	5		3															8		
08:30-08:45A	1																	1		
08:45-09:00A	1		1															3		
09:00-10:00A	2		3															5		
10:00-11:00A	9		11		1													21		
11:00-12:00P	15		7															22		
12:00-01:00P	22		12		2													37		
01:00-02:00P	18		9															28		1
02:00-03:00P	15		4															19		
03:00-04:00P	16		18															35		
04:00-04:15P	5		2															7		
04:15-04:30P	10		7															18		
04:30-04:45P	2		4			1												6		
04:45-05:00P	4		3															7		
05:00-05:15P	7		2															9		
05:15-05:30P	4		2															6		
05:30-05:45P	12		1															13		
05:45-06:00P	8		1															9		
06:00-07:00P	31		8															39		
07:00-08:00P	22		9															31		
08:00-09:00P	14		10															24		
09:00-10:00P	10		2															12		
16 HOUR	242		122		4		2		1									372		1

Summarized by: 09/19/07

WORK_2427

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

CITY: Keizer

DATE : July 17/18, 2007

DAY OF WEEK : Tues./Wed.

HOURS COUNTED: 6AM - 10PM

WEATHER : clear

FROM : SOUTH

COUNTY : Marion

INTERSECTION OF: N River Rd. & Hanbrin Ave.

MILE POST : n/a

TO : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE		TOTAL ALL VEHICLE		SGL CY	
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A	148		52		3	3											213			
07:00-07:15A	39		22	2	2												66			
07:15-07:30A	53		20		2												78			
07:30-07:45A	55		24		4												85			
07:45-08:00A	84		16	1	3	2											111			
08:00-08:15A	76		21	1	6	1											111			
08:15-08:30A	80		18	1	1												105			
08:30-08:45A	94		21		3	1											120			
08:45-09:00A	100		29	3	7												140			
09:00-10:00A	364		111	3	12	2											497			
10:00-11:00A	464		139	4	9	2											627			
11:00-12:00P	626		172	4	14	5											831			
12:00-01:00P	695		193	4	20	7											933			
01:00-02:00P	641		175	6	11	8											844			
02:00-03:00P	722		180	11	10	5											939			
03:00-04:00P	770		242	6	8	1											1043			
04:00-04:15P	260		64		2	1											341			
04:15-04:30P	265		99	6	3	1											376			
04:30-04:45P	234		456v1634H	72													313			
04:45-05:00P	230		65		2												297			
05:00-05:15P	292		90		2												357			
05:15-05:30P	326		92	1	1												426			
05:30-05:45P	282		62	2	1												348			
05:45-06:00P	203		61	1	4												273			
06:00-07:00P	895		239	2	10												1155			
07:00-08:00P	887		240	2	12												1148			
08:00-09:00P	306		128	2	4												441			
09:00-10:00P	395		108	3	2												508			
16 HOUR	9586		2755	66	158	42	2	13	10	8							12756			

WORK 2427

Summarized by: | 09/19/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Menbrin Ave.
 CITY: Keizer
 MILE POST : n/a
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY GLE
	Cars	Wt/Lf	Other	Wt/Lf	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	7 Axl	8 Axl	>9Axl			
06:00-07:00A	5		2			1									8	
07:00-07:15A	3														3	
07:15-07:30A	3														2	
07:30-07:45A	1		1												2	
07:45-08:00A															2	
08:00-08:15A	2														2	
08:15-08:30A															2	
08:30-08:45A	1														4	
08:45-09:00A	3		1												12	
09:00-10:00A	12														12	
10:00-11:00A	7		3		2										20	
11:00-12:00P	13		7												20	
12:00-01:00P	17		3												17	
01:00-02:00P	13		3												10	
02:00-03:00P	6		4												27	
03:00-04:00P	17		9		1										7	
04:00-04:15P	2		5												5	
04:15-04:30P	5														8	
04:30-04:45P	8														7	
04:45-05:00P	6		1												4	
05:00-05:15P	4														6	
05:15-05:30P	4													1	3	
05:30-05:45P	3														7	
05:45-06:00P	6		1												18	
06:00-07:00P	16		2												19	
07:00-08:00P	16		3												12	1
08:00-09:00P	2		10												12	
09:00-10:00P	10		2													
16 HOUR	182		57		1	2	2						2	1	247	1

TRAFFIC COUNT SUMMARY SHEET
TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE	:	July 17/18, 2007	
DAY OF WEEK	:	Tues./Wed.	
HOURS COUNTED:	:	6AM - 10PM	
WEATHER	:	clear	
FROM	:	SOUTH	
		MILE POST	:
		TO	:
		WEST	:
		INTERSECTION OF:	:
		N River Rd. @ Nansbrin Ave.	:
		COUNTY	:
		Merion	:
		CITY:	Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BL CY CLE
	Cars	WTrlp	Other	WTrlp	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	5 Axle	6 Axle				
06:00-07:00A	3		2												5	
07:00-07:15A	1		1			1									3	
07:15-07:30A	1														1	
07:30-07:45A	5														5	
07:45-08:00A	2														3	
08:00-08:15A	1		2												3	
08:15-08:30A	3		1												5	
08:30-08:45A	1												1		1	
08:45-09:00A	1														2	
09:00-10:00A	12		2												14	
10:00-11:00A	14		2			1									17	
11:00-12:00P	22		10	1		1									34	
12:00-01:00P	16		4												20	
01:00-02:00P	10		4			1									16	
02:00-03:00P	14		8												22	
03:00-04:00P	24		7											1	32	
04:00-04:15P	7		4												11	
04:15-04:30P	3		4												7	
04:30-04:45P	6		2												8	
04:45-05:00P	3		2												5	
05:00-05:15P	6		5			1									12	
05:15-05:30P	8		4												12	
05:30-05:45P	9		4												9	
05:45-06:00P	9		1												10	
06:00-07:00P	15		9												24	
07:00-08:00P	16		6												22	
08:00-09:00P	30		4												34	
09:00-10:00P	8														8	
16 HOUR	250		84		1	5							2	1	345	

TRAFFIC COUNT SUMMARY SHEET

CITY: Keizer

INTERSECTION OF: N River Rd. @ Manbrin Ave.

MILE POST

TO : NORTH

[illegible]

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 TO : EAST
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Mainbrin Ave.
 CITY: Keizer
 MILE POST : n/a
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	3 AxL	>4AxL	4 AxL	5 AxL	>6AxL	5 AxL	6 AxL	>7AxL	7 AxL	8 AxL	>9AxL		
06:00-07:00A	7		2													9	
07:00-07:15A	4		1													5	
07:15-07:30A	1		1													2	
07:30-07:45A			4													4	
07:45-08:00A	6		4													11	
08:00-08:15A	5															5	
08:15-08:30A	5		1													6	
08:30-08:45A	1															2	
08:45-09:00A	3		2													5	
09:00-10:00A	7		5												1	12	
10:00-11:00A	5		9													15	
11:00-12:00P	16		4													20	
12:00-01:00P	9		15		1											25	
01:00-02:00P	7		8													15	1
02:00-03:00P	9		10		1											21	
03:00-04:00P	10		4													14	
04:00-04:15P	3		4													7	
04:15-04:30P	5		3													8	
04:30-04:45P	2		3		1											6	
04:45-05:00P	2		2													4	
05:00-05:15P	3		1													4	
05:15-05:30P	2				2											6	
05:30-05:45P	4		1		1											8	
05:45-06:00P	5		3													16	
06:00-07:00P	12		4													14	
07:00-08:00P	9		5													18	
08:00-09:00P	12		6													1	
09:00-10:00P			1														
16 HOUR	154		104		6	1								1	1	267	1

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
DAY OF WEEK : Tues./Wed.
HOURS COUNTED: 6AM - 10PM
WEATHER : clear
FROM : WEST

COUNTY : Marion
INTERSECTION OF: N River Rd. @ Main St. Ave.
MILE POST : n/a
TO : SOUTH
CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CV CLE
	Cars	WTLr	other	WTLr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl
06:00-07:00A	4															
07:00-07:15A	4		1													
07:15-07:30A	2															
07:30-07:45A	3		1													
07:45-08:00A	5															
08:00-08:15A	8		1													
08:15-08:30A	5		5			1										
08:30-08:45A	3		1													
08:45-09:00A	4		1													
09:00-10:00A	12		2													
10:00-11:00A	12		2													
11:00-12:00P	12		5													
12:00-01:00P	20		5			1										
01:00-02:00P	18		5			1										
02:00-03:00P	5															
03:00-04:00P	13		1													
04:00-04:15P	2															
04:15-04:30P			4													
04:30-04:45P	2															
04:45-05:00P			2													
05:00-05:15P	2		3													
05:15-05:30P	1		1													
05:30-05:45P	2															
05:45-06:00P	1		2													
06:00-07:00P	10		4			1										
07:00-08:00P	12		3													
08:00-09:00P	6		2													
09:00-10:00P	10		1													
16 HOUR	184		51		1	5	1		2					1		245

Summarized by: 09/19/07

SUMMARY OF BICYCLE COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
HOURS : 6AM - 10PM
DAY : Tues./Wed.
WEATHER: clear
COUNTY : Marion
INTERSECTION OF: N River Rd. @ Manbrin Ave.
CITY: Keizer

Tab by: Chk. by: MILE POST : n/a

BICYCLES MOVING WITH VEHICULAR TRAFFIC													BICYCLES USING CROSS WALKS				
TIME OF DAY	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH	EAST	SOUTH	WEST
06:00-07:00A		1											1				
07:00-07:15A																	
07:15-07:30A																	
07:30-07:45A															1		
07:45-08:00A													1				
08:00-08:15A		1											1				
08:15-08:30A													1				
08:30-08:45A																	
08:45-09:00A																	
09:00-10:00A							1						1	1			
10:00-11:00A																	
11:00-12:00P													2				
12:00-01:00P											1						
01:00-02:00P															6	2	
02:00-03:00P													1	3	4		
03:00-04:00P															1		
04:00-04:15P															1		
04:15-04:30P															1		
04:30-04:45P															1		
04:45-05:00P																3	
05:00-05:15P														1	2		
05:15-05:30P													1		1		
05:30-05:45P		1											1	1	1		
05:45-06:00P													1		1		
06:00-07:00P															2		
07:00-08:00P													2				
08:00-09:00P																	
09:00-10:00P																	
TOTAL VOLUME		6					1	3	1		1		12	6	22	6	2

SUMMARY OF PEDESTRIAN COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007 DAY : Tues./Wed. COUNTY : Marion CITY: Keizer
HOURS : 6AM - 10PM WEATHER: clear INTERSECTION OF: N River Rd. @ Manbrin Ave.

Tab by: Chk. by: MILE POST : n/a

TIME OF DAY	STUDENT PEDESTRIANS			OTHER PEDESTRIANS			STUDENT AND OTHER PEDESTRIAN			
	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST	SOUTH	WEST	TOTAL
06:00-07:00A							2	1		3
07:00-07:15A										
07:15-07:30A			1		1			1		1
07:30-07:45A										
07:45-08:00A										
08:00-08:15A										
08:15-08:30A			1		1			1		1
08:30-08:45A										
08:45-09:00A										
09:00-10:00A	1		3		4	1	1	3		4
10:00-11:00A	1		1		2	1	6	1		8
11:00-12:00P										
12:00-01:00P										
01:00-02:00P										
02:00-03:00P										
03:00-04:00P										
04:00-04:15P										
04:15-04:30P										
04:30-04:45P										
04:45-05:00P										
05:00-05:15P										
05:15-05:30P										
05:30-05:45P										
05:45-06:00P										
06:00-07:00P										
07:00-08:00P										
08:00-09:00P										
09:00-10:00P										
TOTAL VOLUME	23	46	18	7	94	23	46	18	7	94

North and South is: N River Rd.

East and West is: Manbrin Ave.

TRANSPORTATION DEVELOPMENT BRANCH
TRANSPORTATION SYSTEM MONITORING UNIT
VEHICULAR VOLUME

RECEIVED

SEP 28 2007

O.D.O.T. Region 2

DATE : July 16/17, 2007

CITY or COUNTY : Keizer

DAY WEEK : Mon./Tues.

INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Verda Lane & Hyacinth St.

ACT COUNT: 16

HRS COUNT: 6AM - 10PM

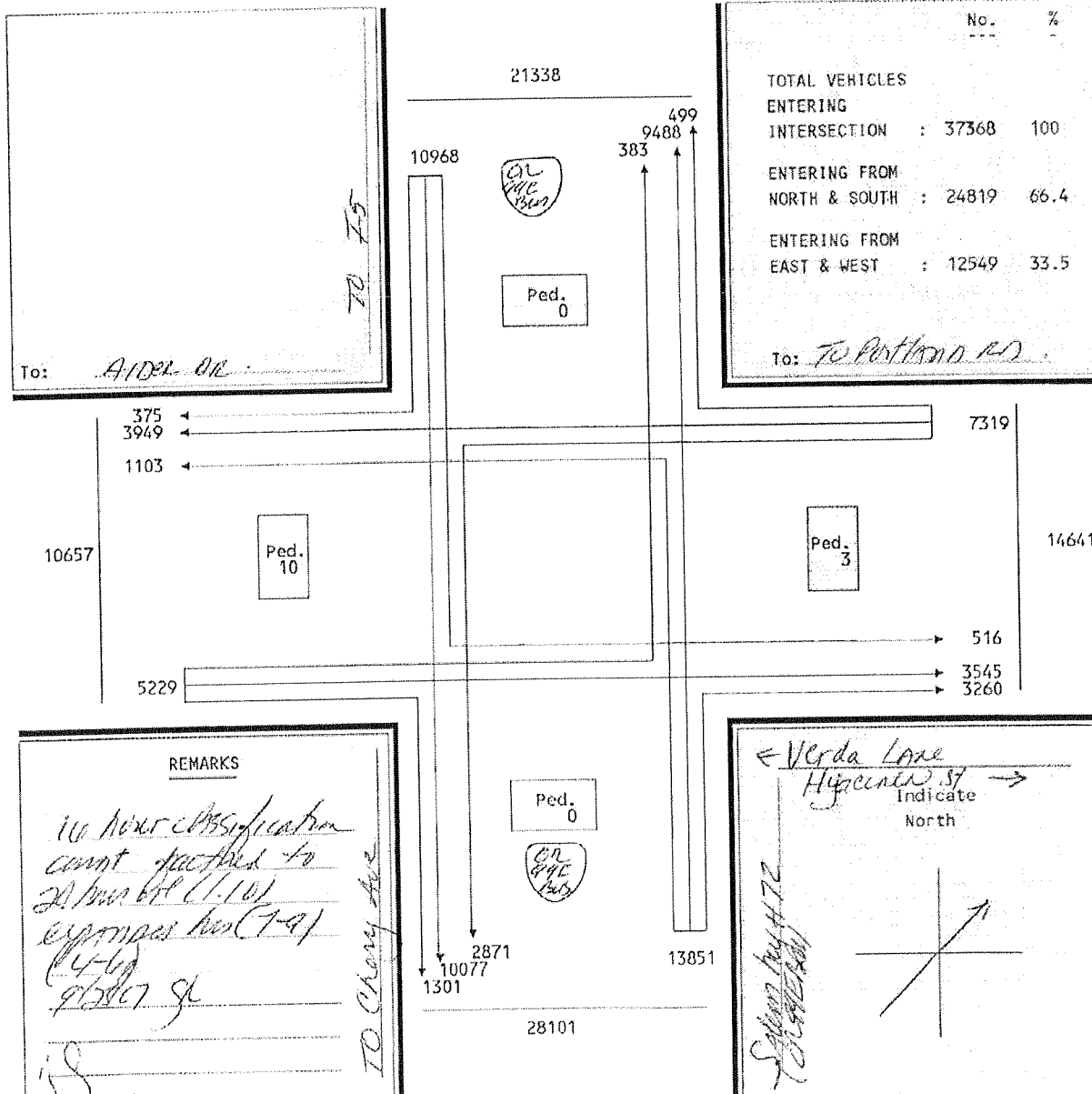
PED COUNT: 16

MILE POST: 1.54

HRS COUNT: 6AM - 10PM

CLASSIFICATION : All vehicles

WEATHER : clear



SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
HOURS : 6AM - 10PM

DAY : Mon./Tues.
WEATHER : Clear

COUNTY : Marion
INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Verda Lane & Hyacinth St.
CITY : Keizer

Tab by: Chk. by: MILE POST: 1.54

TIME OF DAY	SUMMARY BY MOVEMENTS													ENTERING VOLUMES BY LEGS							
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH AND SOUTH	PERCENT OF TOTAL	EAST AND WEST	PERCENT OF TOTAL	ENTERING VOLUMES BY LEGS			
																		NORTH	EAST	SOUTH	WEST
06:00-07:00A	20	439	9	26	129	80	516	135	9	83	201	75	1722	1128	65.5	594	34.5	468	235	660	359
07:00-07:15A	10	155	4	2	36	19	146	37	4	7	52	21	493	356	72.2	137	27.8	169	57	187	80
07:15-07:30A	8	218	8	9	46	49	342	90	11	7	16	24	828	677	81.8	151	18.2	234	104	443	47
07:30-07:45A	3	257		6	41	31	169	54	13	7	69	40	700	506	72.3	194	27.7	270	78	236	116
07:45-08:00A	9	318		3	50	26	136	57	7	6	74	37	723	527	72.9	196	27.1	327	79	200	117
08:00-08:15A	7	167	4	6	47	28	132	41	6	5	54	26	523	357	68.3	166	31.7	178	81	179	85
08:15-08:30A	6	180	3	9	45	42	133	49	14	7	54	29	571	385	67.4	186	32.6	189	96	196	90
08:30-08:45A	6	195	3	3	44	45	145	25	8	7	44	20	545	382	70.1	163	29.9	204	92	178	71
08:45-09:00A	9	159	4	4	40	41	143	35	15	5	36	16	507	365	72.0	142	28.0	172	85	193	57
09:00-10:00A	22	568	2	37	140	160	529	165	35	10	144	43	1855	1321	71.2	534	28.8	592	337	729	197
10:00-11:00A	36	524	2	40	161	186	586	215	45	12	183	71	2010	1357	67.5	653	32.5	562	387	795	266
11:00-12:00P	33	554	10	59	172	196	606	215	56	14	207	81	2203	1476	66.9	729	33.1	599	427	877	302
12:00-01:00P	52	494	16	30	187	157	568	173	60	16	228	67	2358	1373	58.7	819	36.9	619	476	878	311
01:00-02:00P	39	569	11	27	182	267	542	181	71	20	194	67	2274	1402	63.1	762	33.5	672	481	840	281
02:00-03:00P	40	621	11	45	178	258	536	233	71	23	213	81	2680	1836	68.6	842	31.4	842	525	996	317
03:00-04:00P	43	742	57	36	225	264	662	262	72	2	70	17	776	516	66.5	260	33.5	230	171	286	89
04:00-04:15P	8	201	21	9	62	100	179	80	27	3	52	24	729	499	68.4	230	31.6	237	151	262	79
04:15-04:30P	7	219	11	9	52	90	188	55	19	2	79	27	729	499	68.4	230	31.6	237	151	262	79
04:30-04:45P	8	184	18	10	64	96	247	68	28	11	79	27	840	553	65.8	287	34.2	210	170	343	117
04:45-05:00P	5	225	22	7	65	96	192	56	29	8	55	16	776	529	68.2	247	31.8	219	168	277	79
05:00-05:15P	5	206	8	12	76	111	144	95	45	6	48	23	730	503	64.6	276	35.4	143	171	226	76
05:15-05:30P	11	118	12	11	61	99	125	55	46	6	55	15	616	444	60.8	286	39.2	177	187	267	99
05:30-05:45P	1	165	11	12	57	118	179	62	49	4	66	16	669	466	69.7	203	30.3	188	130	278	75
05:45-06:00P	2	175	11	8	52	70	167	59	89	17	243	71	2061	1276	61.9	785	38.1	530	454	746	331
06:00-07:00P	22	489	19	16	136	302	481	176	58	11	199	61	2061	965	61.7	598	38.3	436	327	529	271
07:00-08:00P	8	409	19	8	95	224	339	132	57	17	164	58	1345	779	57.9	566	42.1	352	327	427	239
08:00-09:00P	8	320	24	4	83	240	263	107	31	11	127	47	1172	702	59.9	470	40.1	338	285	364	185
09:00-10:00P	29	290	19	6	84	195	230	103	31	11	127	47	1172	702	59.9	470	40.1	338	285	364	185
TOTAL COUNT	469	9161	341	454	2618	3590	8625	2964	1003	348	3223	1183	33971	22563	66.4	11408	33.6	9971	6654	12592	4754
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	37567	24819	66.4	12548	33.6	10968	7319	13851	5223
24HR VOLUME	516	10077	375	499	2871	3949	9488	3260	1103	383	3545	1301	37567	24819	66.4	12548	33.6	10968	7319	13851	5223

North and South is: Salem Hwy #72(OR99EBus)

East and West is: Verda Lane (W) Hyacinth St. (E)

SUM_2432

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
HOURS : 6AM - 10PM

CITY : Marion
COUNTY : Marion
WEATHER : clear

INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Verda Lane & Hyacinth St.

Tab by:

CHK. by:

MILE POST : 1.54

TIME

SUMMARY BY MOVEMENTS

ENTERING VOLUMES BY LEGS

TIME OF DAY	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH AND SOUTH	PERCENT OF TOTAL	EAST AND WEST	PERCENT OF TOTAL	NORTH	EAST	SOUTH	WEST
06:00-07:00A	20	439	9	26	129	80	516	135	9	83	201	75	1722	1128	65.5	594	34.5	468	235	660	359
07:00-08:00A	40	948	12	20	173	125	793	238	35	27	211	122	2744	2066	75.3	678	24.7	1000	318	1066	360
08:00-09:00A	28	701	14	22	176	156	553	150	43	24	188	91	2146	1489	69.4	657	30.6	743	354	746	303
09:00-10:00A	22	568	2	37	140	163	529	165	35	10	144	43	1855	1321	71.2	534	28.8	592	337	729	197
10:00-11:00A	36	524	2	40	161	185	586	164	45	12	183	71	2010	1357	67.5	653	32.5	562	387	795	266
11:00-12:00P	35	554	10	59	172	196	606	215	56	14	207	81	2805	1476	66.9	729	33.1	599	427	877	302
12:00-01:00P	52	494	16	30	187	157	568	173	70	16	228	67	2058	1373	66.7	685	33.3	562	374	811	311
01:00-02:00P	39	569	11	27	182	267	542	181	60	22	243	78	2221	1402	63.1	819	36.9	619	476	783	343
02:00-03:00P	40	621	11	45	178	258	536	233	71	20	194	67	2274	1512	66.5	762	33.5	672	481	840	281
03:00-04:00P	43	742	57	36	225	264	662	262	72	23	213	81	2686	1838	68.6	842	31.4	842	525	996	377
04:00-05:00P	28	829	72	35	243	382	806	259	103	24	256	84	3121	2097	67.2	1024	32.8	929	660	1055	325
05:00-06:00P	19	664	44	43	246	398	615	271	169	17	222	86	2794	1782	63.8	1012	36.2	727	687	1055	325
06:00-07:00P	22	489	19	16	136	302	481	176	89	17	243	71	2061	1276	61.9	785	38.1	530	454	746	331
07:00-08:00P	8	409	19	8	95	224	339	132	58	11	199	61	1563	965	61.7	598	38.3	436	327	529	271
08:00-09:00P	8	320	24	4	83	240	263	107	57	17	164	58	1345	779	57.9	566	42.1	352	327	427	239
09:00-10:00P	29	290	19	6	84	195	230	103	31	11	127	47	1172	702	59.9	470	40.1	338	285	364	185
TOTAL COUNT	468	9161	341	454	2610	3590	8625	2864	1903	348	3223	1183	33971	22563	66.4	11408	33.6	9971	6654	12592	4754
24-HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10									
24-HR VOLUME	516	10077	375	499	2871	3949	9488	3260	1105	383	3545	1301	37367	24819	66.4	12548	33.6	10968	7319	13851	5229

North end South is: Salem Hwy #72(OR99EBus)

East and West is: Verda Lane (W) Hyacinth St. (E)

SUN 2432

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007 COUNTY : Marion City : Keizer
 DAY OF WEEK : Mon./Tues. INTERSECTION OF : Salem Hwy #72(OR99EBUS) @ Verda Lane & Hyacinth St.
 HOURS COUNTED : 6AM - 10PM MILE POST : 1.54
 WEATHER : Clear EAST
 FROM : NORTH 10

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE		TOTAL ALL		BI CY CLE
	Cars	WTR	Other	WTR	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl			
06:00-07:00A	4		8		1	1			2	2	1						20	10	
07:00-07:15A	2		6		1					1	1						8	8	
07:15-07:30A	3		2						2	2	2						13	13	
07:30-07:45A	5		3		1					1	1						9	9	
07:45-08:00A	5		3							1	1						7	7	
08:00-08:15A	6									1	1						6	6	
08:15-08:30A	1		3						2	2	2						6	6	
08:30-08:45A	4																4	4	
08:45-09:00A	2				3				1	1	1						9	9	
09:00-10:00A	11		5		1				1	1	4						22	22	
10:00-11:00A	7		8		3				1	1	3						36	36	
11:00-12:00P	7		4		2				2	2	10						35	35	
12:00-01:00P	14		10		1				1	1	8						52	52	
01:00-02:00P	11		9		5				2	2	3						39	39	
02:00-03:00P	12		10		3				1	1	6						40	40	
03:00-04:00P	17		14		1				1	1	3						43	43	
04:00-04:15P	3		1		1				1	1	1						8	8	
04:15-04:30P	4		4		1				1	1	1						7	7	
04:30-04:45P	2		1														5	5	
04:45-05:00P	3		2		1				1	1	1						11	11	
05:00-05:15P	5		4								1						2	2	
05:15-05:30P	1																1	1	
05:30-05:45P	1																1	1	
05:45-06:00P	12		5		1				2	2	1						22	22	
06:00-07:00P	5		2						1	1	1						8	8	
07:00-08:00P	2		3		1						1						29	29	
08:00-09:00P	15		10																
16 HOUR	164		121		9				31	37	3						469	469	

Summarized by: 09/27/07

TRAFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : NORTH

CITY: Keizer
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Varda Lane & Hyacinth St.
 MILE POST : 1.54
 TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SQL UNIT TRUCK			SQL TRAILER TRUCKS			DEL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A	275		101	3		18	4	1	4	17	12	1		2	1				439	
07:00-07:15A	104		34			5	1			7	4								155	
07:15-07:30A	158		40	1		6	4		2	3	3			1					218	
07:30-07:45A	187		43	1		9				10	7								257	
07:45-08:00A	240		40	1		11	4		2	7	10							3	318	
08:00-08:15A	120		24	4		2	3			9	4							1	167	
08:15-08:30A	124		28	4		4	6		2	5	3			2					180	
08:30-08:45A	139	1	29			10	3		3	7	2			1					195	
08:45-09:00A	117		19	1		5	6			6	4			1					159	
09:00-10:00A	362	3	115	9		20	15		3	23	14							1	568	
10:00-11:00A	344		90	8		25	7		3	22	16			4				5	524	
11:00-12:00P	363		109	8		21	6		1	22	16			4				2	554	
12:00-01:00P	328		87			18	10		3	26	11			6				2	494	
01:00-02:00P	407		85	10		15	11		2	19	14			3				1	569	
02:00-03:00P	422	5	104	12		19	7		4	26	14		1					5	621	
03:00-04:00P	531		146			18	8		5	18	6			3				7	742	
04:00-04:15P	127		50	4		6	5			4	2			1				2	201	
04:15-04:30P	160		35	2		7	1		1	4	3			3					219	
04:30-04:45P	139		35	2		4				1								2	184	
04:45-05:00P	174		41	3		4				2								1	225	
05:00-05:15P	160	1	34	1		4	1		1	1				1				3	206	
05:15-05:30P	70	1	33			5	1		2	3								1	118	
05:30-05:45P	124		30	1		1			4	1								1	165	
05:45-06:00P	139		24	1		3	1		2	2	1							2	175	
06:00-07:00P	337		126	6		11			2	2	2				1			2	489	
07:00-08:00P	305		87	2		4	3		1	2	2							3	409	
08:00-09:00P	244		60	3		5	1			3	1							2	320	
09:00-10:00P	231		43	1		4			1	4								4	290	
15 HOUR	6431	12	1692	88		264	106	5	48	256	155	1	6	32	2		13	50	9161	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : NORTH

COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Verda Lane & Hyacinth St.
 CITY: Keizer

MILE POST : 1.54
 ID : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY. CLE
	Cars	Other	WTrlr	Other	2 Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle	8 Axle	9 Axle				
06:00-07:00A	8	1													9	1
07:00-07:15A	2	2													4	
07:15-07:30A	9														8	
07:30-07:45A																
07:45-08:00A	2	2													4	
08:00-08:15A	3														3	
08:15-08:30A	2	1													3	
08:30-08:45A	3	1													4	
08:45-09:00A	2														2	
09:00-10:00A	2														10	
10:00-11:00A	9	1													16	12
11:00-12:00P	12	1													13	
12:00-01:00P	9	1													10	
01:00-02:00P	8	3												1	57	
02:00-03:00P	37	16													21	
03:00-04:00P	13	8													11	
04:00-04:15P	11	3	1												18	
04:15-04:30P	13	6													22	
04:30-04:45P	16	1													8	
04:45-05:00P	7	1													14	
05:00-05:15P	12	1													11	
05:15-05:30P	10	1													11	
05:30-05:45P	8	3													19	
05:45-06:00P	15	2													19	
06:00-07:00P	15	4													24	
07:00-08:00P	24													1	19	
08:00-09:00P	18															
09:00-10:00P																
15 HOUR	269	58	2	2	6	1	1	1						2	347	13

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 50PM
 WEATHER : clear
 FROM : EAST

COUNTY : Marion
 CITY: Keizer
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Verda Lane & Hyacinth. St.
 MILE POST : 1.54
 TO : NORTH

TIME OF DAY	PASSENGER	OTHER 2 AXLE	SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
			2 Axl	3 Axl	4 Axl	5 Axl	>6Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl		
06:00-07:00A	7	5	4	1	2	3	4						26	
07:00-07:15A	1					1							2	
07:15-07:30A	1	3	4			1							9	
07:30-07:45A	3	1				1							6	
07:45-08:00A	1	1				1							3	
08:00-08:15A	1	2											6	
08:15-08:30A	5		1	1									9	
08:30-08:45A	1												3	
08:45-09:00A	1	1											4	
09:00-10:00A	11	10	2	1		7	4			1			37	
10:00-11:00A	9	7	6	2	2	2	10						40	
11:00-12:00P	26	13	3	4		5	7						59	
12:00-01:00P	10	7	2	5		2	4						30	
01:00-02:00P	6	6	2	6		1	6						27	
02:00-03:00P	18	8	2	5		10	2						45	
03:00-04:00P	17	16	2	5		1	1						36	
04:00-04:15P	3	6											9	
04:15-04:30P	5	3											10	
04:30-04:45P	5	5											9	
04:45-05:00P	4	2											10	
05:00-05:15P	6	5	1										12	
05:15-05:30P	7	3											11	
05:30-05:45P	7	3											12	
05:45-06:00P	6	1											16	
06:00-07:00P	9	5	1										8	
07:00-08:00P	7	1											4	
08:00-09:00P	4												6	
09:00-10:00P	5													
16 HOUR	186	114	10	28	26	4	36	45	2	1	1		454	1

TRAFFIC COUNTY SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : EAST

COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Verda Lane & Hyacinth St.
 CITY: Keizer

MILE POST : 1.54
 TO : SOUTH

TIME OF DAY	PASSENGER Cars	OTHER 2 AXLE WTR	SGL UNIT TRUCK			SGL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
			2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A	85	32	7	2	1	1	1	1									129	
07:00-07:15A	27	6	1	1													36	
07:15-07:30A	20	14	4	2		1									1		46	
07:30-07:45A	24	9	4	2													41	
07:45-08:00A	28	16	3	2											1		50	
08:00-08:15A	25	12	7	2													47	
08:15-08:30A	24	15	3												1		45	
08:30-08:45A	24	15	3												1		44	
08:45-09:00A	26	9	1												3		40	
09:00-10:00A	83	38	6	3		1											140	
10:00-11:00A	104	34	10	4		2											161	
11:00-12:00P	121	26	11	2		1									1		172	
12:00-01:00P	122	47	6		1												187	
01:00-02:00P	110	50	11	3	4												182	
02:00-03:00P	125	36	4	6											1		178	
03:00-04:00P	149	52	10	3		5			2								225	
04:00-04:15P	43	18															62	
04:15-04:30P	37	12	1	1													52	
04:30-04:45P	45	14		1		1											64	
04:45-05:00P	42	22	1														65	
05:00-05:15P	54	17	2	3													76	
05:15-05:30P	45	15	1														61	
05:30-05:45P	37	19															57	
05:45-06:00P	31	20		5											1		52	
06:00-07:00P	88	35	1			2									4		136	
07:00-08:00P	71	20	3	1													95	
08:00-09:00P	62	17													3		83	
09:00-10:00P	70	12	1												1		84	
16 HOUR	1722	632	30	101	40	16	25	6	1	1	1	1			17	7	2610	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : Clear
 FROM : EAST
 TO : WEST
 MILE POST : 1.54
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Verda Lane & Nyacloth St.
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DSL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE		TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTRlr	Other	WTRlr	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	7 Axle	8 Axle	>9Axle		SCOOT	CYCLE		
06:00-07:00A	63		14		2									1	1		80	
07:00-07:15A	11		5		1									1	1		19	
07:15-07:30A	33		11						1	1				2	1		49	
07:30-07:45A	22		7		2									1			31	1
07:45-08:00A	19		6											1			26	
08:00-08:15A	18		7		1									4			28	
08:15-08:30A	22		13		1					1				1			42	
08:30-08:45A	26		13		3									1			45	
08:45-09:00A	27		11		1									1			41	
09:00-10:00A	102		44		2				3					3			160	
10:00-11:00A	131		41		8									3			186	
11:00-12:00P	140		43		3				1					3			196	1
12:00-01:00P	84		61		4									3			157	4
01:00-02:00P	182		72		2									3			267	
02:00-03:00P	169		75		2									4			258	2
03:00-04:00P	179		75		1									2			264	
04:00-04:15P	61		35		1				1					1			100	
04:15-04:30P	68		15		5									1			90	
04:30-04:45P	65		29		1									1			96	2
04:45-05:00P	75		19		1									1			111	1
05:00-05:15P	78		31		1									1			99	1
05:15-05:30P	66		32		1									1			118	1
05:30-05:45P	74		38		2									1			70	1
05:45-06:00P	46		24											1			302	2
06:00-07:00P	200		98		1									1			224	
07:00-08:00P	144	1	70		3				1					1			240	1
08:00-09:00P	168		69											1			195	
09:00-10:00P	178		16											1				
16 HOUR	2451	1	974	24	55	13		9	7	2				36	18		3590	17

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion
 INTERSECTION OF : Salem Hwy #72(OR99EBus) @ Yerda lane & Hyacinth St.
 CITY : Keizer
 MILE POST : 1.54
 TO : NORTH

TIME OF DAY	PASSENGER	OTHER 2 AXLE	SGL UNIT TRUCK			SGL TRAILER TRUCKS			DEL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE	TOTAL ALL VEHICLE	BI CY CLE
	Cons	Other	Wt-Lt	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>5Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl				
06:00-07:00A	312	149	4	10	5		2	21	10			2				1	516	
07:00-07:15A	99	32	2	5	8		1	2	4								146	
07:15-07:30A	233	57	1	9	1		5	24	5								342	
07:30-07:45A	119	34		5	1		2	6	1			1				1	169	1
07:45-08:00A	88	34	2	5	2			4									136	
08:00-08:15A	81	35	1	4	3		1	4	3			2					132	
08:15-08:30A	96	19	1	7	1		2	3	2								133	
08:30-08:45A	80	39		9	3		1	8	4			1					145	
08:45-09:00A	90	30	3	9	1		3	2	4								143	
09:00-10:00A	315	118		9	12	2	3	20	15							1	529	
10:00-11:00A	351	130	14	28	10		6	29	28			3					588	
11:00-12:00P	348	158	7	21	10		4	26	19			2					606	
12:00-01:00P	376	96	10	19	15		3	29	8			2				3	563	
01:00-02:00P	352	90	17	17	17		3	27	8			3				3	542	1
02:00-03:00P	298	141	14	21	12		4	21	13			2					536	
03:00-04:00P	451	145	8	25	10		2	12	10			3					662	
04:00-04:15P	125	35	4	17	2			3	4							1	179	
04:15-04:30P	138	27	5	6	4		2	3	1								2	
04:30-04:45P	165	50	6	5	4		2	6	7								247	
04:45-05:00P	155	28	1	8	1		1	1	1								192	
05:00-05:15P	97	31	1	3	4		2	1	2			1					144	
05:15-05:30P	68	43		2	1		1	6	1								125	
05:30-05:45P	140	30		6	1		1	5									179	
05:45-06:00P	116	42	2	3	1		1	3	1								167	
06:00-07:00P	330	111	2	2	1		1	4				2					167	
07:00-08:00P	217	103	14	8	1		1	6									481	
08:00-09:00P	158	80	2	5			1	3	1			1					339	
09:00-10:00P	89	24	7	1	2		2	4	8							1	263	
			1	3				5									230	
6 HOUR	5587	111909	142	263	127	6	54	287	159	2	4	26	1	2		10	8625	3

Summarized by: 09/27/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(COR99EBUS) @ Verde Lane & Hyacinth St.
 CITY: Keizer
 MILE POST : 1.54
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SQL UNIT TRUCK		SQL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES			MOTOR CYCLE		TOTAL ALL VEHICLE	BI CY CLE
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl			SCOOT	VEHICLE		
06:00-07:00A	79		42			6	3										2		1	135	37	
07:00-07:15A	25		10			2	1		1											90	54	
07:15-07:30A	55		29			4	2		2											54	57	
07:30-07:45A	31		18		1	3	2													41	49	
07:45-08:00A	31		16		4	3														25	35	
08:00-08:15A	28		11		1	1														165	164	
08:15-08:30A	25		14		1	3	1		2											181	215	
08:30-08:45A	13	1	7		1	2														173	165	
08:45-09:00A	24		4			4	2													262	80	
09:00-10:00A	92		52		1	11	5		1											233	262	
10:00-11:00A	102		59		3	11	5		3											103	107	
11:00-12:00P	120		71		5	8	1		1											89	74	
12:00-01:00P	106		51		1	10	1		2											83	85	
01:00-02:00P	113		50		2	6	8		4											103	107	
02:00-03:00P	148		59		1	6	7		2											103	107	
03:00-04:00P	171		65		3	4			1											103	107	
04:00-04:15P	56		17			6			1											103	107	
04:15-04:30P	37	1	9			6			1											103	107	
04:30-04:45P	48		11		2	6	1		1											103	107	
04:45-05:00P	37		15			2			1											103	107	
05:00-05:15P	76		17			1			1											103	107	
05:15-05:30P	45		8			2														103	107	
05:30-05:45P	48		9			1														103	107	
05:45-06:00P	42		17			2														103	107	
06:00-07:00P	132		38		1	3	1		2											103	107	
07:00-08:00P	89		40			1														103	107	
08:00-09:00P	74		31			1														103	107	
09:00-10:00P	83		16			1			2											103	107	
16 HOUR	1933	2	786	27	107	39	1	19	24	10							8	11		2964	1	

Summarized by: 09/27/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion
 INTERSECTION OFF : Salem Hwy #72(DR9958us) @ Verca Lane & Myacinch St.
 CITY: Keizer
 MILE POST : 1.54
 TO : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE	TOTAL ALL VEHICLE	BI CY
	Cafe	WTrlf	Other	WTrlf	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	5 Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle	
06:00-07:00A	5		3														9
07:00-07:15A	2		2														4
07:15-07:30A	8		3														11
07:30-07:45A	8		5														13
07:45-08:00A	4		3														7
08:00-08:15A	6																6
08:15-08:30A	10		1														14
08:30-08:45A	7		1														8
08:45-09:00A	9		5														15
09:00-10:00A	27		6														35
10:00-11:00A	29		13														45
11:00-12:00P	44		12														56
12:00-01:00P	62		7														70
01:00-02:00P	53		5														60
02:00-03:00P	49		18														71
03:00-04:00P	64		7														72
04:00-04:15P	20		7														27
04:15-04:30P	13		6														19
04:30-04:45P	25		2														28
04:45-05:00P	18		10														29
05:00-05:15P	39		6														45
05:15-05:30P	38		6														46
05:30-05:45P	24		4														29
05:45-06:00P	36		13														49
06:00-07:00P	68		19														89
07:00-08:00P	45		12														58
08:00-09:00P	44		9														57
09:00-10:00P	29		2														31
16 HOUR	787	4	187	9	7	1								1	5		1003

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 TO : WEST
 COUNTY : Marion
 INTERSECTION OF : Salem Hwy #72(OR99SEUS) @ Verde Lane & Hyacinth St.
 CITY: Keizer
 MILE POST : 1.54
 TO : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle		
06:00-07:00A	56		24			1							1	1	83	
07:00-07:15A	6		1												7	
07:15-07:30A	4		3												7	
07:30-07:45A	4		3												7	
07:45-08:00A	2		2												6	
08:00-08:15A	5		1												5	
08:15-08:30A	7														7	
08:30-08:45A	7														7	
08:45-09:00A	5														5	
09:00-10:00A	8		1												10	
10:00-11:00A	9		3												12	
11:00-12:00P	8		5												14	
12:00-01:00P	9		4												16	
01:00-02:00P	15		6												22	
02:00-03:00P	11		9												20	
03:00-04:00P	14		7												23	
04:00-04:15P	2														3	
04:15-04:30P	1														11	
04:30-04:45P	8		3												8	
04:45-05:00P	4		4												6	
05:00-05:15P	5		1												6	
05:15-05:30P	4		2												1	
05:30-05:45P	1		1												4	
05:45-06:00P	3		7												17	
06:00-07:00P	10		1												11	
07:00-08:00P	10		1												17	
08:00-09:00P	11		5												11	
09:00-10:00P	11															
16 HOUR	240	1	92		3	4	4		1				1	2	348	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 TO : EAST
 MILE POST : 1.54
 COUNTY : Marion
 CITY: Keizer
 INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Verda Lane & Hyacinth St.

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTR	Other	WTR	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	
06:00-07:00A	125		68	1	4	1		1					1	1	201	4
07:00-07:15A	34		16	1	1										52	
07:15-07:30A	12		3			1								1	16	
07:30-07:45A	41		24	1									2		69	1
07:45-08:00A	52		19	1									1		74	
08:00-08:15A	35		18												54	2
08:15-08:30A	40		10										1		54	
08:30-08:45A	28		12										1		44	
08:45-09:00A	23		10										1		36	
09:00-10:00A	94		37			2							2		144	
10:00-11:00A	113		58			4							1		183	1
11:00-12:00P	135		63			2							2		207	1
12:00-01:00P	152		66			5							3		228	2
01:00-02:00P	173		47			6							7		243	1
02:00-03:00P	127		57			7							1		194	1
03:00-04:00P	153		45			7							2		213	1
04:00-04:15P	49		19										1		70	2
04:15-04:30P	40		11												52	
04:30-04:45P	67		11												79	1
04:45-05:00P	41		11										2		55	
05:00-05:15P	31		14												48	1
05:15-05:30P	32		20												55	
05:30-05:45P	44		19										1		66	
05:45-06:00P	27		25												53	4
06:00-07:00P	162		73			2							2		243	3
07:00-08:00P	143		57			1							1		199	4
08:00-09:00P	128		33										1		164	2
09:00-10:00P	109		25												127	
6 HOUR	2198	3	871	24	56	13		4	2	1			35	16	3223	30

Summarized by: _____ | 09/27/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST

COUNTY : Marion
 INTERSECTION OF: Salem Hwy #72(OR09EBus) @ Verda Lane & Hyacinth St.
 MILE POST : 1.54
 TO : SOUTH
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOT		TOTAL ALL VEHICLE		BT CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl			
06:00-07:00A	51		24														75	21	
07:00-07:15A	15		6														24	24	
07:15-07:30A	19		5														40	40	
07:30-07:45A	33		7														37	37	
07:45-08:00A	30		7														26	26	
08:00-08:15A	20		5														29	29	
08:15-08:30A	22		4														20	20	
08:30-08:45A	15		4														16	16	
08:45-09:00A	12		2														43	43	
09:00-10:00A	35		5														71	71	
10:00-11:00A	59		8														81	81	
11:00-12:00P	59		17														67	67	
12:00-01:00P	60		6														78	78	
01:00-02:00P	67		7														67	67	
02:00-03:00P	49		15														81	81	
03:00-04:00P	66		14														17	17	
04:00-04:15P	13		2														24	24	
04:15-04:30P	21		2														27	27	
04:30-04:45P	22		5														16	16	
04:45-05:00P	11		5														23	23	
05:00-05:15P	19		4														15	15	
05:15-05:30P	12		3														32	32	
05:30-05:45P	28		3														16	16	
05:45-06:00P	13		1														71	71	
06:00-07:00P	61		9														61	61	
07:00-08:00P	47		12														58	58	
08:00-09:00P	47		8														47	47	
09:00-10:00P	42		5																
16 HOUR	948	4	195	4	15	6	3										2	6	1183

Summarized by: 09/27/07

WORK 2432

SUMMARY OF BICYCLE COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007
HOURS : 6AM - 10PM
CITY: Keizer
COUNTY : Marion
INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Verda Lane & Hyacinth St.
WEATHER: clear

Tab by: Chk. by: MILE POST : 1.54

TIME OF DAY	BICYCLES MOVING WITH VEHICULAR TRAFFIC												BICYCLES USING CROSS WALKS				
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH	EAST	SOUTH	WEST
06:00-07:00A			1								4		5				
07:00-07:15A																	
07:15-07:30A													1				
07:30-07:45A							1				1		2				
07:45-08:00A																	
08:00-08:15A											2		2				
08:15-08:30A																	
08:30-08:45A																	
08:45-09:00A																	
09:00-10:00A																	
10:00-11:00A													1				
11:00-12:00P				1									3				
12:00-01:00P													17				
01:00-02:00P													3				
02:00-03:00P													4				
03:00-04:00P													1				
04:00-04:15P																	
04:15-04:30P																	
04:30-04:45P																	
04:45-05:00P									1				3				
05:00-05:15P													1				
05:15-05:30P																	
05:30-05:45P																	
05:45-06:00P																	
06:00-07:00P																	
07:00-08:00P																	
08:00-09:00P																	
09:00-10:00P																	
TOTAL VOLUME	13	1	17	3	1	30	1						66				

North and South is: Salem Hwy #72(OR99EBus) East and West is: Verda Lane (W) Hyacinth St. (E)

SUMMARY OF PEDESTRIAN COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 16/17, 2007 DAY : Mon./Tues. CITY: Keizer
HOURS : 6AM - 10PM WEATHER: clear COUNTY : Marion
INTERSECTION OF: Salem Hwy #72(OR99EBus) @ Verda Lane & Hyacinth St.

Tab by: Chk. by: MILE POST : 1.54

TIME OF DAY	STUDENT PEDESTRIANS				OTHER PEDESTRIANS				STUDENT AND OTHER PEDESTRIAN						
	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST	SOUTH	WEST	TOTAL
06:00-07:00A															
07:00-07:15A															
07:15-07:30A															
07:30-07:45A															
07:45-08:00A															
08:00-08:15A															
08:15-08:30A															
08:30-08:45A															
08:45-09:00A															
09:00-10:00A															
10:00-11:00A															
11:00-12:00P															
12:00-01:00P															
01:00-02:00P															
02:00-03:00P															
03:00-04:00P															
04:00-04:15P															
04:15-04:30P															
04:30-04:45P															
04:45-05:00P															
05:00-05:15P															
05:15-05:30P															
05:30-05:45P															
05:45-06:00P															
06:00-07:00P															
07:00-08:00P															
08:00-09:00P															
09:00-10:00P															
TOTAL VOLUME															

TRANSPORTATION DEVELOPMENT BRANCH
TRANSPORTATION SYSTEM MONITORING UNIT
VEHICULAR VOLUME

DATE : July 17/18, 2007

CITY or COUNTY : Keizer

DAY WEEK : Tues./Wed.

INTERSECTION OF: N River Rd. @ Dearborn Ave.

ACT COUNT: 16

HRS COUNT: 6AM - 10PM

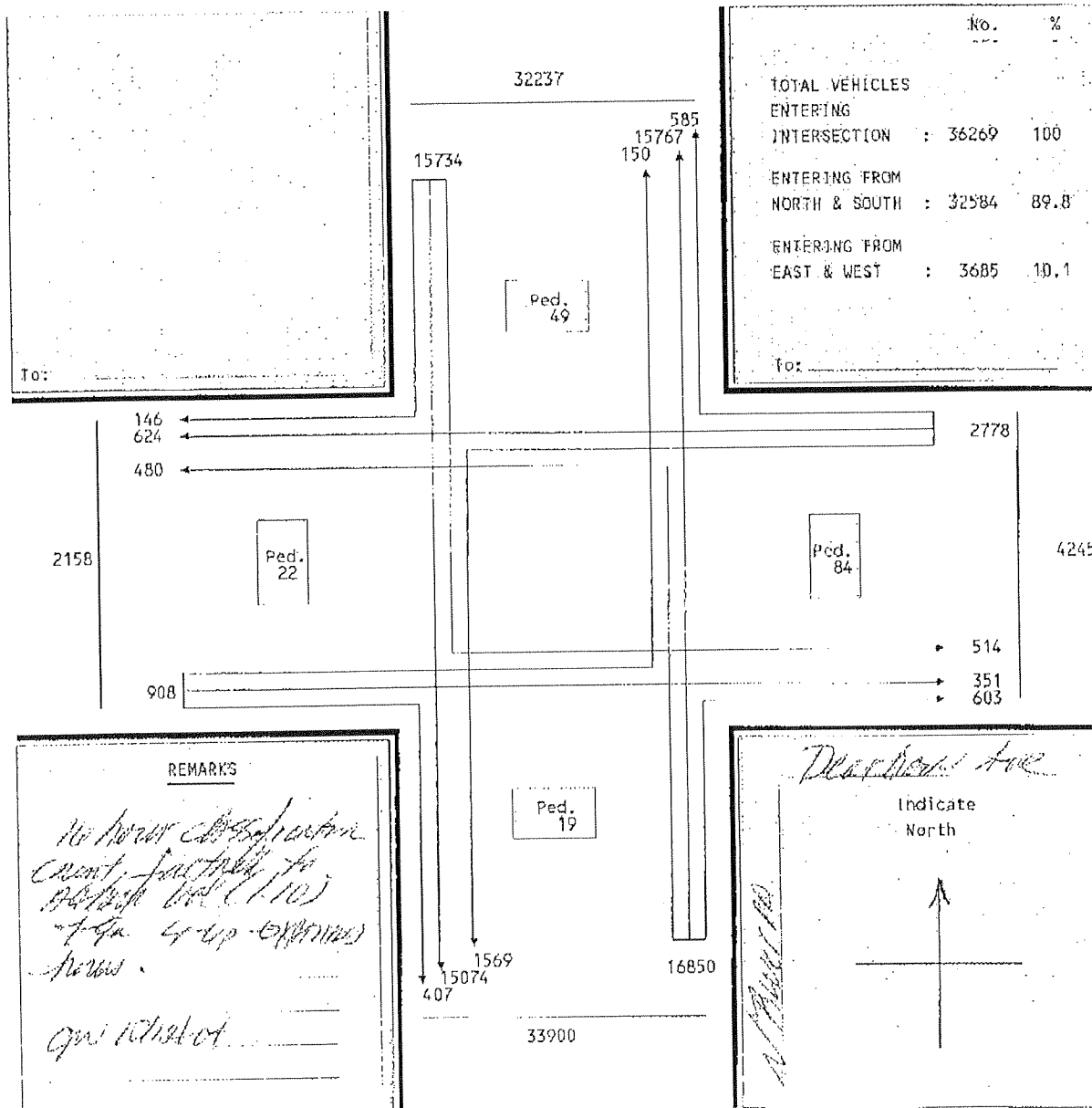
PED COUNT: 16

MILE POST: n/a

HRS COUNT: 6AM - 10PM

CLASSIFICATION : All vehicles

WEATHER : clear



SUMMARY OF TRAFFIC COUNT
ON DEVELOPMENT BRANCH

CITY: KENNER

MILE POST : n/a

SUMMARY BY MOVEMENTS

TIME OF DAY		SUMMARY BY MOVEMENTS														NORTH AND SOUTH		EAST AND WEST		ENTERING VOLUMES BY LEGS							
		N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	AND	PERCENT OF TOTAL	AND	PERCENT OF TOTAL	NORTH		EAST		SOUTH		WEST		
06:00-07:00A	20	536	3	24	19	10	295	18	6	6	15	21	973	878	90.2	95	9.8	559	53	319	42						
07:00-07:15A	5	189	1	2	15	1	85	4	1	2	2	8	313	283	90.4	30	9.6	195	18	88	12						
07:15-07:30A	9	252	1	7	16	4	117	4		9	9	8	427	383	89.7	44	10.3	262	27	121	17						
07:30-07:45A	4	338		8	20	9	107	2	2		13	10	511	453	88.6	58	11.4	342	37	111	21						
07:45-08:00A	8	286	2	4	14	8	158	6		4	7	7	507	460	90.7	47	9.3	296	26	164	21						
08:00-08:15A	8	217		5	13	9	124	7	1	2	5	6	397	357	89.9	40	10.1	225	27	132	13						
08:15-08:30A	5	215	2	5	15	8	127		6	2	14	9	408	355	87.0	53	13.0	222	28	133	25						
08:30-08:45A	2	241		10	22	8	131	3	2	2	7	8	433	379	87.5	54	12.5	243	40	136	14						
08:45-09:00A	8	227	6	12	18	10	197	4	2	3	4	26	494	444	89.9	50	12.1	241	40	205	10						
09:00-10:00A	19	779	9	14	71	24	578	18	18	24	22	34	1602	1421	88.7	181	11.3	807	109	614	72						
10:00-11:00A	46	853	10	44	90	30	768	35	24	4	16	20	1955	1737	88.8	218	11.2	909	164	828	54						
11:00-12:00P	48	904	10	49	86	24	886	34	24	10	26	20	2091	1876	89.7	215	10.3	962	159	914	56						
12:00-01:00P	28	1089	3	15	118	26	1098	38	36	6	14	20	2491	2292	92.0	199	8.0	1172	159	1172	40						
01:00-02:00P	23	1085	5	14	107	24	1068	36	35	8	14	17	2436	2252	92.4	184	7.6	1113	145	1139	39						
02:00-03:00P	22	840	10	32	91	16	1010	48	34	1	14	20	2138	1964	91.9	174	8.1	872	139	1092	35						
03:00-04:00P	24	1315	19	57	148	73	1561	48	42	4	10	12	3335	3009	90.2	326	9.8	1358	278	1651	48						
04:00-04:15P	14	208		11	46	18	302	16	6		6	3	628	568	90.4	60	9.6	217	50	351	10						
04:15-04:30P	2	211	4	11	29	10	327	12	12	1	6	3	678	608	89.7	70	10.3	241	44	367	26						
04:30-04:45P	10	230	1	2	35	7	348	10	9	3	17	6	650	588	90.5	62	9.5	234	44	354	18						
04:45-05:00P	9	225		1	34	9	335	11	10		19	8	820	734	89.5	86	10.5	282	65	483	65						
05:00-05:15P	13	268	1	8	33	24	420	16	16	8	10	3	823	744	90.4	79	9.6	261	63	463	16						
05:15-05:30P	12	245	4	17	27	19	467	5	11	2	11	4	825	746	90.4	79	9.6	256	64	490	15						
05:30-05:45P	11	242	3	16	28	20	466	8	16	5	9	9	850	567	87.2	83	12.8	223	50	344	33						
05:45-06:00P	10	209	4	15	24	13	313	7	24	5	19	18	2584	2249	87.0	335	13.0	1066	280	1183	55						
06:00-07:00P	49	1014	3	44	150	86	1075	64	44	3	3	34	1699	1515	89.2	184	10.8	623	140	892	44						
07:00-08:00P	14	603	6	54	52	34	836	36	20	14	14	11	1400	1276	91.1	124	8.9	545	94	731	30						
08:00-09:00P	20	511	14	20	54	20	677	30	24	6	6	13	1869	938	87.7	131	12.3	408	107	530	24						
09:00-10:00P	24	372	12	33	51	23	491	28	11	11																	
TOTAL COUNT		467	13704	133	532	1426	567	14334	548	456	136	319	370	32912	29622	89.8	3350	10.2	14304	2525	15318	825					
24HR FACTOR		1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10				3686	10.2	15734	2778	16850	908					
24HR VOLUME		514	15074	146	585	1569	624	15767	605	488	150	351	407	36270	32584	89.8											

SUM_2435

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
HOURS : 6AM - 10PM

DAY : Tues./Wed.
WEATHER: clear

COUNTY : Marion
INTERSECTION OF: N River Rd. & Dearborn Ave.

CITY: Keizer

Tab by:

Chk. by:

MILE POST : n/a

TIME OF DAY	SUMMARY BY MOVEMENTS														ENTERING VOLUMES BY LEGS						
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH AND SOUTH	PERCENT OF TOTAL	EAST AND WEST	PERCENT OF TOTAL	ENTERING VOLUMES BY LEGS			
																		NORTH	EAST	SOUTH	WEST
06:00-07:00A	20	536	3	24	19	10	295	18	6	6	15	21	973	878	90.2	95	9.8	559	53	319	42
07:00-08:00A	26	1065	4	21	65	22	465	16	3	6	34	31	1758	1579	89.8	179	10.2	1095	108	484	71
08:00-09:00A	23	900	8	32	68	35	579	14	11	9	30	23	1732	1535	88.6	197	11.4	931	135	604	62
09:00-10:00A	19	779	9	14	71	24	578	18	18	24	22	26	1602	1421	88.7	181	11.3	807	109	614	72
10:00-11:00A	46	853	10	44	90	30	769	35	24	4	16	34	1955	1737	88.8	218	11.2	909	164	828	54
11:00-12:00P	48	904	10	49	86	24	856	34	24	10	26	20	2091	1876	89.7	215	10.3	962	159	914	56
12:00-01:00P	28	1089	3	15	118	26	1098	38	36	6	14	20	2491	2292	92.0	199	8.0	1120	159	1172	40
01:00-02:00P	23	1085	5	14	107	24	1068	36	35	8	14	17	2436	2252	92.4	184	7.6	1113	145	1139	39
02:00-03:00P	22	840	10	32	91	16	1010	48	34	1	14	20	2138	1964	91.9	174	8.1	872	139	1092	35
03:00-04:00P	24	1315	19	57	148	75	1561	48	42	4	10	34	3335	3089	90.2	326	9.8	1358	278	1651	48
04:00-05:00P	35	874	5	25	144	44	1310	49	37	4	35	29	2591	2310	89.2	281	10.8	914	213	1396	68
05:00-06:00P	46	964	12	54	112	76	1666	36	67	20	46	19	3118	2791	89.5	327	10.5	1022	242	1769	85
06:00-07:00P	49	1014	3	44	150	86	1075	64	44	3	18	34	2584	2249	87.0	335	13.0	1066	280	1183	55
07:00-08:00P	14	603	6	54	52	34	836	36	20	14	12	18	1699	1515	89.2	184	10.8	623	140	892	44
08:00-09:00P	20	511	14	20	54	20	677	30	24	6	13	11	1400	1276	91.1	124	8.9	545	94	731	30
09:00-10:00P	24	372	12	33	51	23	491	28	11	11	13	13	1069	938	87.7	131	12.3	468	107	530	24
TOTAL COUNT	467	13704	133	532	1426	567	14334	548	436	136	319	370	32972	29622	89.8	3350	10.2	14304	2525	15318	825
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10									
24HR VOLUME	514	15074	146	585	1569	624	15767	603	480	150	351	407	36270	32584	89.8	3666	10.2	15734	2778	16850	908

North and South is: N River Rd.

East and West is: Dearborn Ave.

SUM_2435

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
DAY OF WEEK : Tues./Wed.
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : NORTH

COUNTY : Marion
INTERSECTION OF : N River Rd. & Dearborn Ave.
MILE POST : n/a
TO : EAST
CITY : Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOT		TOTAL ALL VEHICLE		BI CY CLE
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl			
06:00-07:00A	12		7		1												20	5	
07:00-07:15A	4		1														5	9	
07:15-07:30A	6		2														8	4	
07:30-07:45A	3		1														4	8	
07:45-08:00A	4		2														6	8	
08:00-08:15A	4		3														7	5	
08:15-08:30A	3		1														4	2	
08:30-08:45A	1		1														2	8	
08:45-09:00A	5		3														8	19	
09:00-10:00A	12		6		1												19	46	
10:00-11:00A	34		10														44	48	
11:00-12:00P	40		6		2												48	28	
12:00-01:00P	20		8														28	23	
01:00-02:00P	16		7														23	22	
02:00-03:00P	16		2														18	24	
03:00-04:00P	18		2														20	14	
04:00-04:15P	10		2		2												14	2	
04:15-04:30P	2																2	10	
04:30-04:45P	5		4														9	13	
04:45-05:00P	6		3														9	13	
05:00-05:15P	8		4														12	11	
05:15-05:30P	10		2														12	11	
05:30-05:45P	9		2														11	10	
05:45-06:00P	9		1														10	49	
06:00-07:00P	42		6														48	14	
07:00-08:00P	12				2												14	20	
08:00-09:00P	20																20	20	
09:00-10:00P	22		2														24	24	
16 HOUR	353		86		6		11	4		1		1					3	467	

Summarized by: 10/12/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
DAY OF WEEK : Tues./Wed.
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : NORTH

COUNTY : Marion
INTERSECTION OF: N River Rd. & Dearborn Ave.
MILE POST : n/a
TO : SOUTH

CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE	TOTAL ALL VEHICLE	ST CY CLE
	Cars	Wt/Lr	Other	Wt/Lr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl
06:00-07:00A	362	161	2	2	2	3		2					3	1	536	1
07:00-07:15A	136	48			2			1					2		189	
07:15-07:30A	212	34		1		1		1					2	1	252	
07:30-07:45A	249	83		1	2			1					2		338	1
07:45-08:00A	196	76		4	7		1						2	2	286	
08:00-08:15A	162	42			6			2		3			1		217	
08:15-08:30A	142	62		3	4								4		215	
08:30-08:45A	176	56		1	3			1		1			2		241	1
08:45-09:00A	170	51		3	2										227	
09:00-10:00A	546	203		12	10		2						4	1	779	
10:00-11:00A	596	214		4	22			4					6	4	853	
11:00-12:00P	652	204		8	14			4					10		904	
12:00-01:00P	781	270		14	10					2			6		1089	
01:00-02:00P	775	280		15	6			1					6		1085	
02:00-03:00P	607	198		8	12								12		840	
03:00-04:00P	903	374		12	16								6		1315	
04:00-04:15P	150	55			1								2		208	
04:15-04:30P	143	58		2	5								2	1	211	
04:30-04:45P	167	56		4	1								2		230	
04:45-05:00P	173	56		1	1								1		225	
05:00-05:15P	188	76		1	2								1		268	
05:15-05:30P	179	59			3								4		245	
05:30-05:45P	175	61		1	3								2		242	
05:45-06:00P	166	42											1		209	
06:00-07:00P	658	336		2	10								6	2	1014	
07:00-08:00P	458	138		2	4								1		603	
08:00-09:00P	402	104		2									1	2	571	
09:00-10:00P	315	49		2	5								1		372	
16 HOUR	9835	3440		104	153	38	5	17	6				92	14	13704	3

Summarized by: 10/12/07

WORK_2435

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : WEST
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Dearborn Ave.
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SEL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	Wtrtr	Other	Wtrtr	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	6 Axle	>7Axle	8 Axle	>9Axle			
06:00-07:00A	2														3	
07:00-07:15A	1														1	
07:15-07:30A	1														1	
07:30-07:45A																
07:45-08:00A	2														2	
08:00-08:15A																
08:15-08:30A	1				1										2	
08:30-08:45A																
08:45-09:00A	6														6	
09:00-10:00A	2					3									10	
10:00-11:00A	6														10	
11:00-12:00P	10														3	
12:00-01:00P	2														5	
01:00-02:00P	2														10	
02:00-03:00P	10														19	
03:00-04:00P	12					2							1		4	
04:00-04:15P	3														1	
04:15-04:30P	1															
04:30-04:45P																
04:45-05:00P	1														1	
05:00-05:15P																
05:15-05:30P	4														4	
05:30-05:45P	3														3	
05:45-06:00P	4														3	
06:00-07:00P	2														6	
07:00-08:00P	6														14	
08:00-09:00P	14														12	
09:00-10:00P	10															
16 HOUR	105		21		1	5							1		133	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

CITY: Keizer

COUNTY : Marion
INTERSECTION OF: N River Rd. & Dearborn Ave.

MILE POST : n/a
TO : NORTH

DATE : July 17/18, 2007
DAY OF WEEK : Tues./Wed.
HOURS COUNTED: 6AM - 10PM
WEATHER : clear
FROM : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	Wtrlr	Other	Wtrlr	2 Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle	8 Axle	9 Axle				
06:00-07:00A	19		5												24	
07:00-07:15A	1		1												2	
07:15-07:30A	7														7	
07:30-07:45A	5		2												8	
07:45-08:00A	2		2												4	
08:00-08:15A	4		1												5	
08:15-08:30A	3		1												5	
08:30-08:45A	6		4												10	
08:45-09:00A	10		1												12	
09:00-10:00A	11		3												14	
10:00-11:00A	36		8												44	
11:00-12:00P	42		6												49	
12:00-01:00P	13		1												15	
01:00-02:00P	12		1												14	
02:00-03:00P	24		6												32	
03:00-04:00P	42		12												57	
04:00-04:15P	10		1												11	
04:15-04:30P	7		4												11	
04:30-04:45P	2														2	
04:45-05:00P	1														1	
05:00-05:15P	6		2												8	
05:15-05:30P	12		5												17	
05:30-05:45P	11		5												16	
05:45-06:00P	10		3												13	
06:00-07:00P	34		10												44	
07:00-08:00P	46		8												54	
08:00-09:00P	12		4												20	
09:00-10:00P	25		7												33	
15 HOUR	413		100		2	13		2					2		532	

WORK 2435

Summarized by: 10/12/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

CITY: Keizer

DATE : July 17/18, 2007

DAY OF WEEK : Tues./Wed.

HOURS COUNTED: 6AM - 10PM

WEATHER : clear

FROM : EAST

COUNTY : Marion

INTERSECTION OF: N River Rd. @ Dearborn Ave.

MILE POST : n/a

TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY. GLE
	Cars	WTrlr	Other	WTrlr	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	5 Axle	>7Axle	7 Axle	8 Axle	>9Axle			
06:00-07:00A	12		7													19	
07:00-07:15A	13		2													15	
07:15-07:30A	12		4													16	
07:30-07:45A	18		2													20	
07:45-08:00A	8		6													14	
08:00-08:15A	7		5													13	
08:15-08:30A	12		1													15	
08:30-08:45A	17		4													22	
08:45-09:00A	11		6													18	
09:00-10:00A	48		20												1	90	
10:00-11:00A	64		21												1	86	
11:00-12:00P	66		14													118	
12:00-01:00P	76		34													107	
01:00-02:00P	69		32													91	
02:00-03:00P	56		30													148	
03:00-04:00P	110		38													46	
04:00-04:15P	30		14													29	
04:15-04:30P	17		11													35	
04:30-04:45P	18		15													34	
04:45-05:00P	19		13													33	
05:00-05:15P	22		11													27	
05:15-05:30P	13		14													28	
05:30-05:45P	12		16													24	
05:45-06:00P	16		8													150	
06:00-07:00P	120		30													52	
07:00-08:00P	46		6													54	
08:00-09:00P	40		14													51	
09:00-10:00P	36		14														
16 HOUR	988		392	6	32	2	1	2						1	2	1426	

WORK 2435

Summarized by: 10/12/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 COUNTY : Marion
 INTERSECTION OF: N River Rd. & Dearborn Ave.
 CITY: Keizer
 MILE POST : r/a
 TO : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS			DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER VEHICLE	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTRFL	Other	WTRFL	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl				
06:00-07:00A	9		1													10	1
07:00-07:15A	1															4	
07:15-07:30A	2		2													9	
07:30-07:45A	7		1													8	
07:45-08:00A	6		3													9	
08:00-08:15A	3		3													8	
08:15-08:30A	3		4													10	
08:30-08:45A	3		5													24	
08:45-09:00A	9		1													30	
09:00-10:00A	16		8													26	
10:00-11:00A	14		16													24	
11:00-12:00P	12		10													16	
12:00-01:00P	22		2			2										24	
01:00-02:00P	20		3			1										73	
02:00-03:00P	10		6													18	
03:00-04:00P	50		23													10	
04:00-04:15P	16		2													7	
04:15-04:30P	5		5													9	
04:30-04:45P	6		1													24	
04:45-05:00P	7		2													19	
05:00-05:15P	23					1										20	
05:15-05:30P	13		6													13	
05:30-05:45P	16		4													86	
05:45-06:00P	10		3													34	
06:00-07:00P	70		16													23	
07:00-08:00P	30		4														
08:00-09:00P	16		4														
09:00-10:00P	21		2														
16 HOUR	421		137		1	4									4	567	1

Summarized by: 10/12/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion
 INTERSECTION OF : N River Rd. @ Dearborn Ave.
 CITY : Keizer
 MILE POST : N/A
 TO : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SQL UNIT TRUCK		SQL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTr-Lr	Other	WTr-Lr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl
06:00-07:00A	189		86	2	2	6	4	1	2				6	1	295	
07:00-07:15A	48		28	2	2	1	1	1	1				1	3	83	
07:15-07:30A	87		22			4		1					3	1	117	
07:30-07:45A	76		24			5							1	1	107	
07:45-08:00A	92		49	1	1	5	3		1				5	1	158	
08:00-08:15A	76		36	2	2	4	1		2				2	1	124	
08:15-08:30A	83		33	4	4	2			1				3	1	127	
08:30-08:45A	97		29	1	1	3	1						2		131	
08:45-09:00A	135		48			11	1		2				2		197	
09:00-10:00A	408		146	1	1	14	2	1	2				4		578	1
10:00-11:00A	554		182	8	8	12	6		2				4		769	
11:00-12:00P	620		204	8	8	16	2		2				4		856	
12:00-01:00P	803		241	6	6	16	15	2	2				12		1098	
01:00-02:00P	800		225	3	3	12	13	2	1				10		1068	
02:00-03:00P	732		223	24	24	14	2	2	2				6	5	1010	
03:00-04:00P	1072		426	22	22	16	3	2	2		2		18	2	1561	1
04:00-04:15P	214		83	3	3	2	1						2	1	302	
04:15-04:30P	246		72	3	3	2	1						2	3	327	
04:30-04:45P	247		85	7	7	3	1						2	3	348	
04:45-05:00P	246		81	2	2	1	1						2	2	333	
05:00-05:15P	336		77	1	1	3							2	1	420	
05:15-05:30P	365		98	1	1	1							1	2	467	
05:30-05:45P	357		103	2	2	1							2	2	466	
05:45-06:00P	247		57	1	1	4							2	2	313	
06:00-07:00P	834		224	3	3	8	2						5	1	1075	
07:00-08:00P	632		198	2	2	2							2	2	836	2
08:00-09:00P	550		124	2	2	1							1	1	677	1
09:00-10:00P	414		74										1		491	
15 HOUR	10560		3278	111	169	57		10	14	9	2		101	23	14334	5

Summarized by: _____ 10/12/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 TO : NORTH
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Dearborn Ave.
 CITY: Keizer
 MILE POST : n/a
 TO : EAST

TIME OF DAY	PASSENGER	OTHER 2 AXLE	SGL UNIT TRUCK	SGL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE	
	Cars	Other	WTLR	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl		
06:00-07:00A	12	5		1												18	
07:00-07:15A	4															4	
07:15-07:30A	4															4	
07:30-07:45A	2															2	
07:45-08:00A	6															6	
08:00-08:15A	7															7	
08:15-08:30A																	
08:30-08:45A	2	1														3	
08:45-09:00A	4															4	
09:00-10:00A	18															18	
10:00-11:00A	26	8		1												35	
11:00-12:00P	32	2														34	
12:00-01:00P	30	2			6											38	
01:00-02:00P	26	3		1	6											36	
02:00-03:00P	41	5		2												48	
03:00-04:00P	38	10														48	
04:00-04:15P	12	2		2												16	
04:15-04:30P	6	3		2												12	
04:30-04:45P	10															10	
04:45-05:00P	9	2														11	
05:00-05:15P	10	5		1												16	
05:15-05:30P	4	1														5	
05:30-05:45P	6	2														8	
05:45-06:00P	6			1												7	
06:00-07:00P	50	12		2												64	
07:00-08:00P	34	2														36	
08:00-09:00P	24	6														30	
09:00-10:00P	24	4														28	
16 HOUR	447	75	4	10	12											548	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

CITY: Keizer

DATE : July 17/18, 2007

DAY OF WEEK : Tues./Wed.

HOURS COUNTED: 6AM - 10PM

WEATHER : clear

FROM : SOUTH

COUNTY : Marion

INTERSECTION OF: N River Rd. @ Dearborn Ave.

MILE POST : 0/0

TO : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SQL UNIT TRUCK		SQL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	
06:00-07:00A	2		3											1		6	1
07:00-07:15A	1															2	2
07:15-07:30A																	
07:30-07:45A	2															1	1
07:45-08:00A																6	6
08:00-08:15A	3		1											2		2	2
08:15-08:30A			2													18	18
08:30-08:45A	2		6													24	24
08:45-09:00A	12		8													36	36
09:00-10:00A	16		2													35	35
10:00-11:00A	22		4													34	34
11:00-12:00P	32		5											2		42	42
12:00-01:00P	30		4													12	12
01:00-02:00P	28		12													9	9
02:00-03:00P	30		2													10	10
03:00-04:00P	4		4													16	16
04:00-04:15P	8		1													11	11
04:15-04:30P	8		3													15	15
04:30-04:45P	7		3													24	24
04:45-05:00P	16		3													44	44
05:00-05:15P	8		3													20	20
05:15-05:30P	13		6													24	24
05:30-05:45P	17		8													11	11
05:45-06:00P	36		4														
06:00-07:00P	14		4														
07:00-08:00P	20		2														
08:00-09:00P	9																
09:00-10:00P																	
16 HOUR	340		87			2			2					5		436	

Summarized by: | 10/12/07

WORK 2435

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

CITY: Keizer

COUNTY : Marion
INTERSECTION OF: N River Rd. @ Dearborn Ave.

DATE : July 17/18, 2007

DAY OF WEEK : Tues./Wed.

HOURS COUNTED: 6AM - 10PM

WEATHER : clear

FROM : WEST

MILE POST : n/a

TO : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS				BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY	CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	3 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl			
06:00-07:00A	6																6		
07:00-07:15A	2																2		
07:15-07:30A																			
07:30-07:45A	4																4		
07:45-08:00A	1																2		
08:00-08:15A	2																2		
08:15-08:30A	2																2		
08:30-08:45A	2																3		
08:45-09:00A	16																24		
09:00-10:00A	2																4		
10:00-11:00A	10																10		
11:00-12:00P	6																6		
12:00-01:00P	5																8		
01:00-02:00P	1																1		
02:00-03:00P	2																4		
03:00-04:00P																			
04:00-04:15P																			
04:15-04:30P	1																1		
04:30-04:45P	2																3		
04:45-05:00P																			
05:00-05:15P	5																8		
05:15-05:30P	2																2		
05:30-05:45P	5																5		
05:45-06:00P	4																5		
06:00-07:00P	2																3		
07:00-08:00P	8																14		
08:00-09:00P	4																6		
09:00-10:00P	7																11		
16 HOUR	101		32			3											136		

WORK 2435

Summarized by: _____ | 10/12/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 17/18, 2007
 DAY OF WEEK : Tues./Wed.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 TO : EAST
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Dearborn Ave.
 CITY: Keizer
 MILE POST : n/a

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	Wtrlr	Wtrlr	Other	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl				
06:00-07:00A	10			5											15	
07:00-07:15A	2														2	
07:15-07:30A	8			1											9	
07:30-07:45A	10			3											13	
07:45-08:00A	9			1											10	
08:00-08:15A	5														5	
08:15-08:30A	7			4											14	
08:30-08:45A	2			2											4	
08:45-09:00A	7														7	
09:00-10:00A	10			12											22	
10:00-11:00A	12			4											16	
11:00-12:00P	20			6											26	
12:00-01:00P	12			1											14	
01:00-02:00P	11			3											14	
02:00-03:00P	12			2											14	
03:00-04:00P	2			6										2	10	1
04:00-04:15P	2														2	
04:15-04:30P	2			4											6	
04:30-04:45P	8			9											17	
04:45-05:00P	6			4											10	
05:00-05:15P	7			3											10	
05:15-05:30P	9			2											11	
05:30-05:45P	5			1											6	
05:45-06:00P	13			6											19	
06:00-07:00P	14			4											18	
07:00-08:00P	6			6											12	
08:00-09:00P	11			2											13	
09:00-10:00P																
15 HOUR	222			91		1							2		319	2

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

CITY: Keizer

DATE : July 17/18, 2007

DAY OF WEEK : Tues./Wed.

HOURS COUNTED: 6AM - 10PM

WEATHER : clear

FROM : WEST

COUNTY : Marion

INTERSECTION OF: N River Rd. @ Dearborn Ave.

MILE POST : n/a

TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SQL UNIT TRUCK		SQL TRAILER TRUCKS		DEL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	5 Axle	6 Axle				
06:00-07:00A	17		2		1								1		21	
07:00-07:15A	8														8	
07:15-07:30A	7		1												8	
07:30-07:45A	7		1												8	
07:45-08:00A	5		2												7	
08:00-08:15A	4		2												6	
08:00-08:15A	4		2												9	
08:15-08:30A	7		1												8	
08:30-08:45A	5		2		1								1			
08:45-09:00A																
09:00-10:00A	20		5		1										26	
10:00-11:00A	30		4												34	
11:00-12:00P	18					2									20	
12:00-01:00P	16		2												20	
01:00-02:00P	14		2		2										17	
02:00-03:00P	20				1										20	
03:00-04:00P	30		2			2									34	
04:00-04:15P	10		2												12	
04:15-04:30P	3														3	
04:30-04:45P	5		1												6	
04:45-05:00P	6		2												8	
05:00-05:15P	3														3	
05:15-05:30P	2														3	
05:30-05:45P	3		1												4	
05:45-06:00P	7		2												9	
06:00-07:00P	28		6												34	
07:00-08:00P	16		2												18	
08:00-09:00P	7		4												11	
09:00-10:00P	8		5												13	
16 HOUR	306		51		1	8	2						2		370	

Summarized by: | 10/12/07

WORK_2435

TRANSPORTATION DEVELOPMENT BRANCH
TRANSPORTATION SYSTEM MONITORING UNIT
VEHICULAR VOLUME

DATE : July 30/31, 2007

DAY WEEK : Mon./Tues.

ACT COUNT: 16

HRS COUNT: 6AM - 10PM

EXPED COUNT: 16

HRS. COUNT: 6AM - 10PM

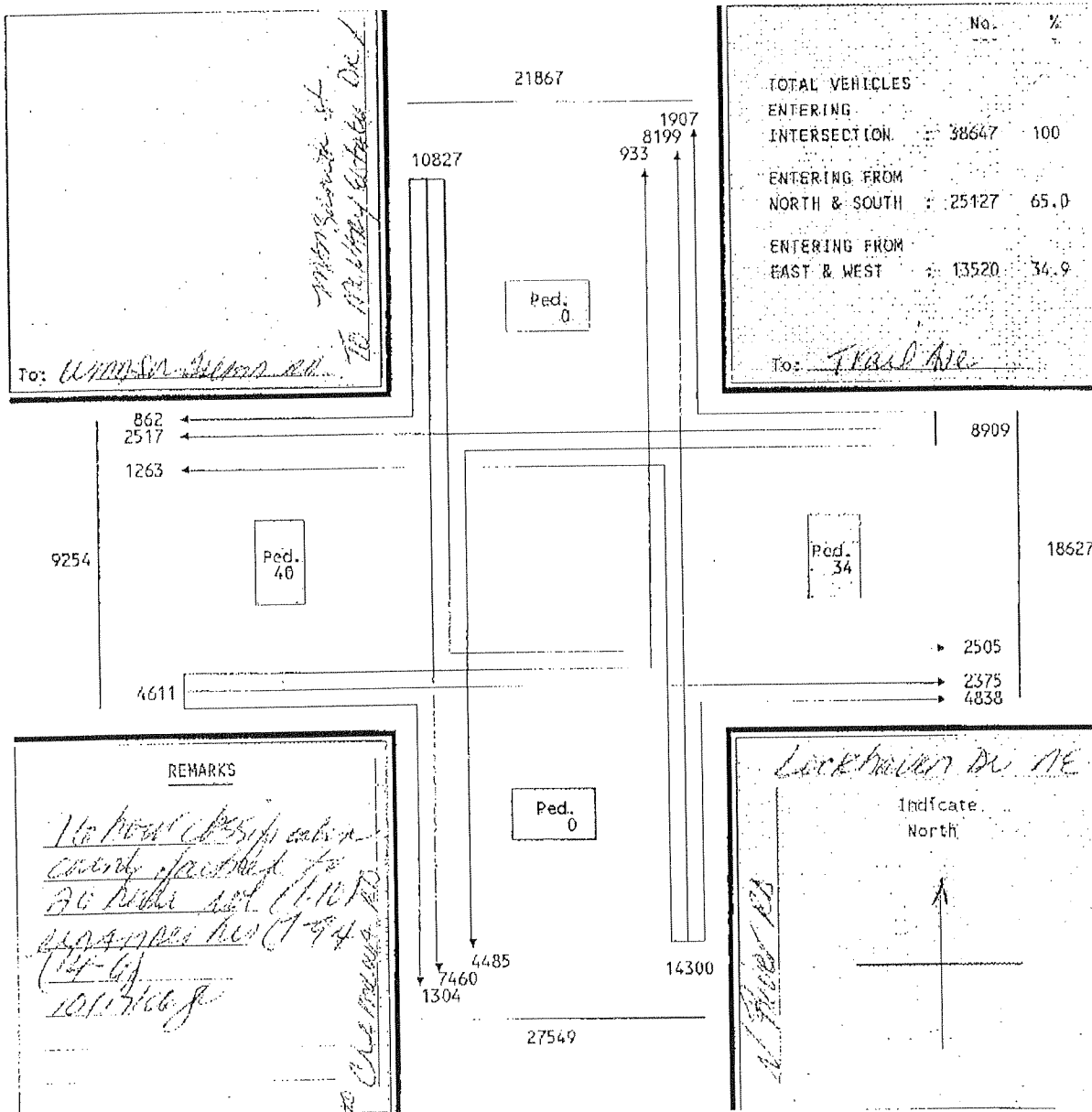
WEATHER : clear

CITY or COUNTY : Keizer

INTERSECTION OF: N River Rd. @ Lockhaven Dr. NE

MILE POST: n/a

CLASSIFICATION : All vehicles


$$\sqrt{P_K}$$

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 30/31, 2007 DAY : Mon./Tues. COUNTY : Marion CITY: Keizer
HOURS : 6AM - 10PM WEATHER: clear INTERSECTION OF: N. River Rd. @ Lockhaven Dr. NE

Tab by: CHK. BY: NILE POST : 07/2

SUMMARY BY MOVEMENTS

TIME OF DAY	MOVEMENTS				ENTERING VOLUMES BY LEGS				TOTAL				NORTH AND SOUTH		EAST AND WEST		PERCENT OF TOTAL	PERCENT OF TOTAL			
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	AND SOUTH	OF WEST	AND EAST			SOUTH	WEST	
06:00-07:00A	113	386	29	42	95	74	212	177	22	57	172	49	1428	939	489	65.8	34.2	528	211	411	278
07:00-07:15A	52	153	4	14	36	23	63	36	4	11	48	11	455	312	143	68.6	31.4	209	73	103	70
07:15-07:30A	43	185	6	23	62	21	46	36	13	12	35	15	497	329	168	66.2	33.8	234	106	95	62
07:30-07:45A	55	202	5	8	56	17	88	47	8	9	45	15	555	405	150	73.0	27.0	262	81	143	69
07:45-08:00A	50	188	7	18	69	21	70	48	11	15	50	19	566	374	192	66.1	33.9	245	108	129	84
08:00-08:15A	30	141	16	31	53	18	65	59	13	14	33	20	493	324	169	65.7	34.3	187	102	137	67
08:15-08:30A	22	78	7	25	41	15	61	23	3	5	18	8	306	194	112	63.4	36.6	107	81	87	31
08:30-08:45A	50	128	23	25	54	19	65	42	9	13	43	16	487	317	170	65.1	34.9	201	98	116	72
08:45-09:00A	46	107	11	23	53	36	87	60	15	14	35	18	505	326	179	64.6	35.4	164	112	162	67
09:00-10:00A	101	429	55	39	240	124	337	212	67	52	128	79	1863	1201	662	64.5	35.5	585	403	616	259
10:00-11:00A	150	498	40	43	264	124	363	241	66	41	154	87	2071	1358	713	65.6	34.4	688	431	670	282
11:00-12:00P	175	457	29	45	283	128	473	280	74	49	151	107	2251	1488	763	66.1	33.9	661	436	827	307
12:00-01:00P	107	313	24	56	193	107	630	351	114	34	93	66	2088	1539	549	73.7	26.3	444	336	1095	193
01:00-02:00P	151	486	40	94	326	111	430	337	90	49	130	87	2331	1534	797	65.8	34.2	677	531	857	266
02:00-03:00P	167	423	46	161	356	176	531	359	83	47	158	91	2598	1609	989	61.9	38.1	636	693	973	296
03:00-04:00P	191	482	60	179	332	196	580	320	90	48	181	97	2756	1723	1033	62.5	37.5	733	707	990	326
04:00-04:15P	47	83	7	47	87	47	186	94	26	16	42	17	699	443	256	63.4	36.6	137	181	306	75
04:15-04:30P	36	122	15	40	85	65	184	79	33	14	38	24	735	469	266	63.8	36.2	173	190	296	76
04:30-04:45P	28	59	7	36	45	63	189	101	26	24	58	25	661	410	251	62.0	38.0	94	144	316	107
04:45-05:00P	41	153	19	46	99	46	212	78	25	21	61	15	816	528	288	64.7	35.3	213	191	315	97
05:00-05:15P	34	109	25	36	87	66	217	113	36	15	54	32	824	534	290	64.8	35.2	168	189	366	101
05:15-05:30P	45	100	28	56	80	73	228	95	19	23	32	30	809	515	294	63.7	36.3	173	209	342	85
05:30-05:45P	53	107	24	54	82	52	216	151	48	31	41	20	879	599	280	68.1	31.9	184	188	415	92
05:45-06:00P	55	126	27	51	97	73	209	92	26	26	34	21	837	535	302	63.9	36.1	208	221	327	81
06:00-07:00P	145	472	78	155	291	177	613	282	79	87	89	71	2359	1669	870	65.7	34.3	695	623	974	247
07:00-08:00P	130	350	64	124	286	158	446	266	49	56	68	65	2062	1305	757	63.3	36.7	544	568	761	189
08:00-09:00P	95	247	51	151	194	147	335	235	47	36	88	51	1677	1010	667	60.2	39.8	393	492	617	175
09:00-10:00P	65	198	37	112	131	111	318	184	52	29	80	29	1346	854	492	63.4	36.6	300	354	554	138
TOTAL COUNT	2277	6782	784	1734	4077	2288	7454	4398	1148	848	2159	1185	35134	22843	12291	65.0	35.0	9843	8099	13000	4192
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	25127	13520	65.0	35.0	10827	8909	14300	4611
24HR VOLUME	2505	7460	862	1907	4485	2517	8199	4838	1263	933	2375	1304	38648	25127	13520	65.0	35.0				

North and South is: N River Rd.

East and West is: Lockhaven Dr. NE

SUM_2436

SUMMARY OF TRAFFIC COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 30/31, 2007
HOURS : 6AM - 10PM

DAY : Mon./Tues.
WEATHER: clear

COUNTY : Marion
INTERSECTION OF: N River Rd. @ Lockhaven Dr. NE

CITY: Keizer

Tab by:

Chk. by:

MILE POST : n/a

TIME OF DAY	SUMMARY BY MOVEMENTS													TOTAL	NORTH AND SOUTH	PERCENT OF TOTAL	EAST AND WEST	PERCENT OF TOTAL	ENTERING VOLUMES BY LEGS			
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	NORTH						EAST	SOUTH	WEST	
06:00-07:00A	113	386	29	42	95	74	212	177	22	57	172	49	1428	939	65.8	489	34.2	528	211	411	278	
07:00-08:00A	200	728	22	63	223	82	267	167	36	47	178	60	2073	1420	68.5	653	31.5	950	368	470	285	
08:00-09:00A	148	454	57	104	201	88	278	184	40	46	129	62	1791	1161	64.8	630	35.2	559	393	502	237	
09:00-10:00A	101	429	55	39	240	124	337	212	67	52	128	79	1863	1201	64.5	662	35.5	585	403	616	259	
10:00-11:00A	150	498	40	43	264	124	363	241	66	41	154	87	2071	1358	65.6	713	34.4	688	431	670	282	
11:00-12:00P	175	457	29	45	283	128	473	280	74	49	151	107	2251	1488	66.1	763	33.9	661	456	827	307	
12:00-01:00P	167	313	24	36	193	107	630	351	114	34	93	66	2088	1539	73.7	549	26.3	444	356	1095	193	
01:00-02:00P	151	486	40	94	326	111	430	337	90	49	130	87	2331	1534	65.8	797	34.2	677	531	857	266	
02:00-03:00P	167	423	46	161	356	176	531	359	83	47	158	91	2598	1609	61.9	989	38.1	636	693	973	296	
03:00-04:00P	191	482	60	179	332	196	580	320	90	48	181	97	2756	1723	62.5	1033	37.5	733	707	990	326	
04:00-05:00P	152	417	48	169	316	221	771	352	110	75	199	81	2911	1850	63.6	1061	36.4	617	706	1233	355	
05:00-06:00P	187	442	104	197	346	264	870	451	129	95	161	103	3349	2183	65.2	1166	34.8	733	807	1450	359	
06:00-07:00P	145	472	78	155	291	177	613	282	79	87	89	71	2539	1669	65.7	870	34.3	695	623	974	247	
07:00-08:00P	130	350	64	124	286	158	446	266	49	56	68	65	2062	1305	63.3	757	36.7	544	568	761	189	
08:00-09:00P	95	247	51	151	194	147	335	235	47	36	88	51	1677	1010	60.2	667	39.8	393	492	617	175	
09:00-10:00P	65	198	37	112	131	111	318	184	52	29	80	29	1346	854	63.4	492	36.6	300	354	554	138	
TOTAL COUNT	2277	6782	784	1734	4077	2288	7454	4398	1148	848	2159	1185	35134	22843	65.0	12291	35.0	9843	8099	13006	4192	
24HR FACTOR	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10										
24HR VOLUME	2505	7460	862	1907	4485	2517	8199	4836	1265	933	2375	1304	35648	25127	65.0	13520	35.0	10827	8909	14306	4611	

North and South is: N River Rd.

East and West is: Lockhaven Dr. NE

SUM_2436

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 30/31, 2007
DAY OF WEEK : Mon./Tues.
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : NORTH

COUNTY : Marion
INTERSECTION OF: N River Rd. @ Lockhaven Dr. NE
MILE POST : n/a
TO : EAST
CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE/SCOOT		TOTAL ALL VEHICLE		BI CY CLE	
	Cars	Wtrlp	other	Wtrlp 2 Axl	3-Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl					
06:00-07:00A	87		24		1								1				113			
07:00-07:15A	27		24														52			
07:15-07:30A	30	1	12														43			
07:30-07:45A	41		11														55			
07:45-08:00A	40		10														50			
08:00-08:15A	20		9	1													30			
08:15-08:30A	18		2	1													22			
08:30-08:45A	38		8		2												50			
08:45-09:00A	58		7														46			
09:00-10:00A	58	1	32	2	5	3											101			
10:00-11:00A	103		37	1	6	1											150			
11:00-12:00P	130	1	37		5	2											175			
12:00-01:00P	60		40		5												107			
01:00-02:00P	97		40	3	6	4											151			
02:00-03:00P	97		59		2	3											167			
03:00-04:00P	119		50		13	6											191			
04:00-04:15P	30		13		2	1											47			
04:15-04:30P	25		7		3	1											36			
04:30-04:45P	20		8														28			
04:45-05:00P	21		13		2												41			
05:00-05:15P	23		4	1	4	1											34			
05:15-05:30P	29		16														45			
05:30-05:45P	40		12			1											53			
05:45-06:00P	39		16														55			
06:00-07:00P	105		36		2		1										145			2
07:00-08:00P	83		45		1												130			
08:00-09:00P	69		23		2												95			
09:00-10:00P	42		23														65			
16 HOUR	1529	3	618	9	59	27	1	11	3	6			6	5			2277		2	

Summarized by: 10/17/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 30/31, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED : 6AM - 10PM
 WEATHER : clear
 FROM : NORTH
 TO : SOUTH
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF: N River Rd. & Lockhaven Dr. NE
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS				BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl						
06:00-07:00A	298	1	75	1	3	5									1	2	386	
07:00-07:15A	124		21		2	2									1	5	153	
07:15-07:30A	145	1	28		3	3									2	2	185	
07:30-07:45A	174		19	1	3	3		2							1	2	202	1
07:45-08:00A	157		27	1	3	1									1	1	188	
08:00-08:15A	113		23	1	1	1											141	1
08:15-08:30A	60		15	1	2											1	78	
08:30-08:45A	103		21	1	1	1										1	128	
08:45-09:00A	87		15	2	1	3										2	107	
09:00-09:00A	332		75	4	8	7									4	2	429	1
09:00-10:00A	385		93	1	8	3									3		498	
10:00-11:00A	395	2	36	4	12	5									1		457	5
11:00-12:00P	223		78		4	3									1	2	313	
12:00-01:00P	375	2	86	3	9	6									2	2	486	2
01:00-02:00P	326	1	80	3	3	4									3	3	423	4
02:00-03:00P	370		90	1	6	5									3	1	482	
03:00-04:00P	64		15	2	2	1									1		83	3
04:00-04:15P	92		24	2	2	1											122	
04:15-04:30P	47		11	1	1										1	2	59	
04:30-04:45P	123		20	2	4	1									1	3	153	
04:45-05:00P	84		20	1	1										1	3	109	1
05:00-05:15P	57		40												1	1	100	
05:15-05:30P	92		14												1	1	107	1
05:30-05:45P	97		24		2	2									1	4	126	1
05:45-06:00P	386	1	76	3	1												472	
06:00-07:00P	300		45		2											1	350	3
07:00-08:00P	204		39	1	1											1	247	
08:00-09:00P	170		27	1													198	
09:00-10:00P																		
16 HOUR	5383	8	1137	57	80	50	2	12	3	2					29	39	6782	23

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

CITY: Keizer

DATE : July 30/31, 2007

DAY OF WEEK : Mon./Tues.

HOURS COUNTED: 6AM - 10PM

WEATHER : clear

FROM : NORTH

COUNTY : Marion

INTERSECTION OF: N River Rd. @ Lockhaven Dr. NE

MILE POST : n/a

TO : WEST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE		TOTAL ALL VEHICLE	BI CY CLE
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4axl	4 Axl	5 Axl	>6axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	
06:00-07:00A	17		10		2											29	
07:00-07:15A	4		4													4	
07:15-07:30A	2		4													6	
07:30-07:45A	4		1													5	
07:45-08:00A	5		1													7	
08:00-08:15A	10		4		1											16	
08:15-08:30A	4		3													7	
08:30-08:45A	13		7		1											23	
08:45-09:00A	5		3		1											11	
09:00-10:00A	43		9		1											55	
10:00-11:00A	26		7		4											40	
11:00-12:00P	23		3		1											29	
12:00-01:00P	16		5		1											24	
01:00-02:00P	28		6		1											40	1
02:00-03:00P	29		11		3									2		46	
03:00-04:00P	47		8		4											60	
04:00-04:15P	6		1													7	
04:15-04:30P	12		2													15	
04:30-04:45P	7															7	
04:45-05:00P	15		2		1											19	
05:00-05:15P	16		7													25	
05:15-05:30P	21		7													28	
05:30-05:45P	19		3													24	
05:45-06:00P	21		6													27	
06:00-07:00P	58		14		2				2							78	1
07:00-08:00P	50		12					1	1							64	1
08:00-09:00P	35		16											1		51	
09:00-10:00P	24		11													37	
16 HOUR	560	1	163	5	21	21	1	5	1	1	1		2	3		784	3

Summarized by: | 10/17/07

WORK 2436

TRAFFIC COUN. SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 30/31, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : EAST
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Lockhaven Dr. NE
 CITY: Keizer
 MILE POST : N/A
 TO : NORTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		OBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	>9 Axl				
06:00-07:00A	33		6	1		2									42	
07:00-07:15A	7		4			2									14	
07:15-07:30A	12		9			2									23	
07:30-07:45A	8														8	
07:45-08:00A	11		4			2									18	
08:00-08:15A	19		9			1								1	31	
08:15-08:30A	14		5			3									25	
08:30-08:45A	16		7			1									25	
08:45-09:00A	15		4			1							1		23	
09:00-10:00A	33		3			1									39	
10:00-11:00A	31		8			1		2							43	1
11:00-12:00P	30		14			1									45	
12:00-01:00P	30		24			1									56	
01:00-02:00P	55		32			5									94	
02:00-03:00P	107		45			4								2	161	
03:00-04:00P	120		49			6							1	1	179	
04:00-04:15P	37		9			2									47	
04:15-04:30P	29		7			1									40	
04:30-04:45P	30		5			1									36	
04:45-05:00P	42		3			1									46	
05:00-05:15P	31		5												36	
05:15-05:30P	43		12			1									56	
05:30-05:45P	45		9											1	54	
05:45-06:00P	46		4												51	
06:00-07:00P	127		26			2									155	
07:00-08:00P	104		18		2										124	
08:00-09:00P	128		21			2									151	
09:00-10:00P	98		14												112	
16 HOUR	1295		356		6	40	1	5	3				3	5	1734	1

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

CITY: Keizer

DATE : July 30/31, 2007
DAY OF WEEK : Mon./Tues.
HOURS COUNTED: 6AM - 10PM
WEATHER : clear
FROM : EAST
TO : SOUTH

COUNTY : Marion

INTERSECTION OF: N River Rd. @ Lockhaven Dr. NE

MILE POST : n/a
TO : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		OBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
	Cars	Van/Tr	Other	Van/Tr	2 Axle	3 Axle	>4Axle	4 Axle	5 Axle	>6Axle	6 Axle	>7Axle	7 Axle	8 Axle	>9Axle	
06:00-07:00A	68		19	1	2				1	2			2		95	1
07:00-07:15A	27		7										2		36	
07:15-07:30A	43		9	2					3						62	
07:30-07:45A	45		10		1										56	
07:45-08:00A	53	1	12										2	1	69	
08:00-08:15A	40		10	1		1									53	
08:15-08:30A	33		7		1								1		41	
08:30-08:45A	37	1	9		3	1			1						54	
08:45-09:00A	44		7		1				1				3		53	1
09:00-10:00A	183	2	40		10	1			1				1	1	240	
10:00-11:00A	197		53		8	2			2				1		264	
11:00-12:00P	217		50	1	9	3			1				1		283	
12:00-01:00P	145		39	1	7								2		193	
01:00-02:00P	247		59	3	8	2							2	2	326	
02:00-03:00P	295		44	1	10								4	1	356	
03:00-04:00P	280	1	35	1	8			3	1				2	1	332	
04:00-04:15P	67		17		1			1					1		87	
04:15-04:30P	71		12		1								1		85	
04:30-04:45P	37		8												45	
04:45-05:00P	85		12		2								2		99	
05:00-05:15P	75		7		3								1		87	
05:15-05:30P	62		14		3										80	
05:30-05:45P	70		9		2										82	
05:45-06:00P	75		19	1	1								1		97	1
06:00-07:00P	221		59	1	2				1			1	3	3	291	4
07:00-08:00P	225		57						1				2	1	286	
08:00-09:00P	167		19	1	3								3	1	194	
09:00-10:00P	112		16						1				2		131	
16 HOUR	3221	5	659	14	92	10		8	14	3		1	38	12	4077	7

WORK 2436

Summarized by: | 10/17/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 30/31, 2007
DAY OF WEEK : Mon./Tues.
HOURS COUNTED : 6AM - 10PM
WEATHER : clear
FROM : EAST

COUNTY : Marion
INTERSECTION OF : N River Rd. & Lockhaven Dr. NE
CITY : Keizer
MILE POST : n/a
TO : WEST

TIME OF DAY	PASSENGER		OTHER & AXLE		SGL UNIT TRUCK			SGL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	WtFlr	Other	WtFlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A	42		22				2			2									74	
07:00-07:15A	11		10																23	
07:15-07:30A	11		1		2														21	
07:30-07:45A	9		2																17	
07:45-08:00A	14		4																21	
08:00-08:15A	11		5																18	
08:15-08:30A	6		5																15	
08:30-08:45A	13		4		2														19	
08:45-09:00A	22		10					2											36	
09:00-10:00A	84		26																124	
10:00-11:00A	80		33																128	
11:00-12:00P	80		28																107	
12:00-01:00P	77		15		1														111	
01:00-02:00P	55		34		1														176	
02:00-03:00P	120		33		3														196	
03:00-04:00P	137		37		1														47	
04:00-04:15P	37		7																63	
04:15-04:30P	47		11		1														66	
04:30-04:45P	51		9		1														52	
04:45-05:00P	35		7																73	
05:00-05:15P	54		12																73	
05:15-05:30P	54		16																52	
05:30-05:45P	48		2																73	
05:45-06:00P	60		10		1														177	
06:00-07:00P	120		50		1														158	
07:00-08:00P	120		35		1														147	
08:00-09:00P	115		31																111	
09:00-10:00P	94		14		1														1	
16 HOUR	1607	1	473	19	43	35	4	5	17	53			17				2	12	2288	32

Summarized by: 10/17/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 30/31, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 TO : NORTH
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Lockhaven Dr., NE
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SQL UNIT TRUCK		SQL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS		BUSES		MOTOR CYCLE SCOOT		TOTAL ALL VEHICLE		BI CY CLE	
	Cars	WTrlr	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl				
06:00-07:00A	158		42		3	3											212			
07:00-07:15A	40		17		1	2											63			
07:15-07:30A	28		16														46			
07:30-07:45A	68		16		2	1											88			
07:45-08:00A	49		14		3												70			
08:00-08:15A	41		18		2												65			
08:15-08:30A	38		16		3												61			
08:30-08:45A	41		16		3												65			
08:45-09:00A	67		16		2												87			
09:00-10:00A	247		57		16	6											337			
10:00-11:00A	266		72		5	7											363			
11:00-12:00P	358		87		9	3											473			
12:00-01:00P	498		108		11	7											630			
01:00-02:00P	283		119		6	11											430			
02:00-03:00P	417		84		2	12											531			
03:00-04:00P	445		101		5	12											580			
04:00-04:15P	147		32		1	3											186			
04:15-04:30P	144		35		1	1											184			
04:30-04:45P	142		39		3	3											189			
04:45-05:00P	143		57		3	4											212			
05:00-05:15P	166		42		1	1											217			
05:15-05:30P	180		44														228			
05:30-05:45P	173		39		2	1											216			
05:45-06:00P	150		51		4	4											209			
06:00-07:00P	480		117		4	4											613			
07:00-08:00P	345		90		1	3											446			
08:00-09:00P	289		37		1	3											335			
09:00-10:00P	282		29		1	4											318			
16 HOUR	5682	4	1411	45	127	46	2	24	6	4	1						7454	47	14	

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 30/31, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : SOUTH
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Lockhaven Dr. NE
 CITY: Keizer
 MILE POST : n/a
 TO : EAST

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS			DEL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
	Cars	Wtr	Other	Wtr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>5Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl				
06:00-07:00A	116		53		2	3		1	2							1	1	177	
07:00-07:15A	23		9			1												36	
07:15-07:30A	27		7		1													36	
07:30-07:45A	30		15			2												47	
07:45-08:00A	31		12		1	2			2									48	
08:00-08:15A	44		12		2	1												59	
08:15-08:30A	15		6		1	1												23	
08:30-08:45A	33		6		1	1												42	
08:45-09:00A	48		9		2													60	
09:00-10:00A	142		46		2	12	1	1	1							2	2	212	
10:00-11:00A	185		40		4	8			2							1	1	241	
11:00-12:00P	197		68		3	7		1								1		280	
12:00-01:00P	259		75		1	10		1									2	351	
01:00-02:00P	246		77		2	8			1							1	1	337	
02:00-03:00P	260		77		2	13										2	2	359	
03:00-04:00P	262		42		1	11										1	1	320	
04:00-04:15P	76		14			2										3		94	
04:15-04:30P	61		15														1	79	
04:30-04:45P	75		24		1													101	
04:45-05:00P	63		14		1													78	
05:00-05:15P	92		18		1	1			1									113	
05:15-05:30P	80		13			2												95	
05:30-05:45P	128		22			1												151	
05:45-06:00P	70		15			2										1	4	92	
06:00-07:00P	221		49		3	4		1	1								6	282	
07:00-08:00P	214		41			6										1	1	266	
08:00-09:00P	210		22			2										1		235	
09:00-10:00P	146		35													1	1	184	
16 HOUR	3354	3	836	23	99	22	1	5	11	3						17	24	4398	1

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

CITY: Keizer

COUNTY : Marion
INTERSECTION OF: N River Rd. @ Lockhaven Dr., NE

MILE POST : 7/a
TO : WEST

DATE : July 30/31, 2007

DAY OF WEEK : Mon./Tues.

HOURS COUNTED: 6AM - 10PM

WEATHER : clear

FROM : SOUTH

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SQL UNIT TRUCK		SQL TRAILER TRUCKS			DBL TRAILER TRUCKS			TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE		TOTAL ALL VEHICLE	SQL CY QLE
	Cars	Wtrlr	Other	Wtrlr	2 Axl	3 Axl	4 Axl	5 Axl	6 Axl	7 Axl	8 Axl	9 Axl	10 Axl	11 Axl	12 Axl		SCOOT	CY		
06:00-07:00A	13		7			1											1		22	1
07:00-07:15A	2		1																4	
07:15-07:30A	8		3													2			13	
07:30-07:45A	5		2		1														8	
07:45-08:00A	6		4		1														11	
08:00-08:15A	8		5																13	
08:15-08:30A	2		1																3	
08:30-08:45A	7		1																9	
08:45-09:00A	9		4			1													15	
09:00-10:00A	52		12			1													67	1
10:00-11:00A	43		19			1													66	
11:00-12:00P	57		12			1											1		74	
12:00-01:00P	91		19			1											1		114	
01:00-02:00P	71		15			1													90	
02:00-03:00P	66		11			1											2		83	1
03:00-04:00P	70		17			1													90	
04:00-04:15P	22		4																26	
04:15-04:30P	23		10																33	
04:30-04:45P	18		8																26	
04:45-05:00P	16		9																25	
05:00-05:15P	29		7																36	
05:15-05:30P	12		7														1		19	
05:30-05:45P	35		12																48	
05:45-06:00P	19		7														1		26	
06:00-07:00P	58		19																79	
07:00-08:00P	43		6																49	
08:00-09:00P	44		2																47	
09:00-10:00P	46		6																52	
16 HOUR	877		230		1	8	7	2	12	1						3	7		1148	3

WORK 2436

Summarized by: | 10/17/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

CITY: Keizer

COUNTY : Marion
INTERSECTION OF: N River Rd. @ Lockhaven Dr. NE

MILE POST : n/a
TO : NORTH

DATE : July 30/31, 2007
DAY OF WEEK : Mon./Tues.
HOURS COUNTED: 3AM - 10PM
WEATHER : clear
FROM : WEST

TIME OF DAY	PASSENGER Cars	OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOTER	TOTAL ALL VEHICLE	BI CY CLE
		Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	
06:00-07:00A	42	12		1	1									1	57	
07:00-07:15A	10	5												1	11	
07:15-07:30A	7														12	
07:30-07:45A	7	1		1											9	
07:45-08:00A	10	4													15	
08:00-08:15A	6	7		1											14	
08:15-08:30A	4														5	
08:30-08:45A	5	6		1											13	
08:45-09:00A	9	4		1											14	
09:00-10:00A	33	14	1	1	2					1					41	1
10:00-11:00A	30	7		2											49	
11:00-12:00P	36	16		3											34	
12:00-01:00P	17	14		2						1					49	1
01:00-02:00P	33	11	2	5											47	1
02:00-03:00P	36	8		2											48	
03:00-04:00P	12	4													16	
04:00-04:15P	10	3		1											14	
04:15-04:30P	20	2	1												24	
04:30-04:45P	17	2		1											21	
04:45-05:00P	9	4	2							1					15	
05:00-05:15P	16	5													23	
05:15-05:30P	25	6		2											31	
05:30-05:45P	17	6		3											26	
05:45-06:00P	62	21		4											87	
06:00-07:00P	44	11		1										1	56	
07:00-08:00P	25	8		2											36	
08:00-09:00P	22	7													29	
09:00-10:00P																
16 HOUR	588	196	6	22	29		3	1						3	848	3

Summarized by: _____ | 10/17/07

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 30/31, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 TO : EAST
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Lockhaven Dr. NE
 CITY: Keizer

TIME OF DAY	PASSENGER Cars	OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS			DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES	MOTOR CYCLE SCOOT	TOTAL ALL VEHICLE	BI CY CLE
		Other	WTR	2 Axle	3 Axle	4 Axle	5 Axle	>5Axle	5 Axle	6 Axle	>6Axle	7 Axle	8 Axle				
06:00-07:00A	110	46		1	1	2	2	3		1					6	172	
07:00-07:15A	30	12	2		1	1		1							1	48	
07:15-07:30A	23	10						2								35	
07:30-07:45A	34	8	1		1			1								45	
07:45-08:00A	40	7	1		1			1								50	
08:00-08:15A	22	9			1			1								33	
08:15-08:30A	11	5						1								18	
08:30-08:45A	30	10	1		1			1								43	
08:45-09:00A	20	10						2							1	35	
09:00-10:00A	95	20	1	2	3		2	4							1	128	3
10:00-11:00A	109	31	4	1		2	2	5			1					154	6
11:00-12:00P	97	37	2	3	5		6	4							1	151	1
12:00-01:00P	60	19	2	2	2		7	7						1		93	1
01:00-02:00P	82	34		2	2		7	7						1		130	1
02:00-03:00P	110	30	2	3	2		2	5								158	3
03:00-04:00P	116	41	3	5	5		1	2								181	
04:00-04:15P	29	7		1	2			2								42	
04:15-04:30P	28	8			1			1								38	
04:30-04:45P	46	7		2				1							1	58	
04:45-05:00P	50	10	1					1								61	
05:00-05:15P	38	12	2	1				1								54	
05:15-05:30P	24	6		1												32	
05:30-05:45P	30	9			1											41	1
05:45-06:00P	24	9						1								34	
06:00-07:00P	55	28	2		2										3	89	4
07:00-08:00P	40	23														68	
08:00-09:00P	70	13	2	1	1										1	88	
09:00-10:00P	61	17														80	
16 HOUR	1484	478	26	28	33	5	17	55	1	17	2	18	2159	19			

TRAFFIC COUNT SUMMARY SHEET TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 30/31, 2007
 DAY OF WEEK : Mon./Tues.
 HOURS COUNTED: 6AM - 10PM
 WEATHER : clear
 FROM : WEST
 TO : SOUTH
 MILE POST : n/a
 COUNTY : Marion
 INTERSECTION OF: N River Rd. @ Lockhaven Dr. NE
 CITY: Keizer

TIME OF DAY	PASSENGER		OTHER 2 AXLE		SGL UNIT TRUCK		SGL TRAILER TRUCKS		DBL TRAILER TRUCKS		TRP TRAILER TRUCKS			BUSES		MOTORCYCLE		TOTAL ALL VEHICLE		BI CY CLE
	Cars	UTV's	Other	WTrlr	2 Axl	3 Axl	>4Axl	4 Axl	5 Axl	>6Axl	5 Axl	6 Axl	>7Axl	7 Axl	8 Axl	>9Axl	SCOOT	CYCLE		
06:00-07:00A	34		10			1				1							2		49	2
07:00-07:15A	8		2																11	
07:15-07:30A	12		3																15	
07:30-07:45A	14		1																15	
07:45-08:00A	14		5																19	
08:00-08:15A	14		4																20	
08:15-08:30A	5																		8	
08:30-08:45A	10		3																16	
08:45-09:00A	14		2																18	
09:00-10:00A	61		15																79	
10:00-11:00A	67		17																87	
11:00-12:00P	85		18																107	
12:00-01:00P	55		7																66	
01:00-02:00P	60		22																87	
02:00-03:00P	67		19																91	
03:00-04:00P	77		15																97	
04:00-04:15P	12		3																17	
04:15-04:30P	18		6																24	
04:30-04:45P	22		3																25	
04:45-05:00P	9		5																15	
05:00-05:15P	20		4																32	
05:15-05:30P	26		4																30	
05:30-05:45P	17		2																20	
05:45-06:00P	18		3																21	
06:00-07:00P	49		19																71	
07:00-08:00P	46		16																65	
08:00-09:00P	42		8																51	
09:00-10:00P	22		4																29	
16 HOUR	898		223		5	16	1			4							19	6	1185	5

Summarized by: _____ | 10/17/07

SUMMARY OF BICYCLE COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 30/31, 2007 DAY : Mon./Tues. COUNTY : Marion CITY: Keizer
HOURS : 6AM - 10PM WEATHER: clear INTERSECTION OF: N River Rd. @ Lockhaven Dr. NE

Tab by: Chk. by: MILE POST : n/a

TIME OF DAY	BICYCLES MOVING WITH VEHICULAR TRAFFIC												BICYCLES USING CROSS WALKS				
	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S	TOTAL	NORTH	EAST	SOUTH	WEST
06:00-07:00A					1				1			2	4				
07:00-07:15A																	
07:15-07:30A																	
07:30-07:45A		1											1				
07:45-08:00A													1				
08:00-08:15A													3				
08:15-08:30A		1											1				
08:30-08:45A																	
08:45-09:00A													3				
09:00-10:00A													5				
10:00-11:00A													14				
11:00-12:00P													5			2	
12:00-01:00P													5				
01:00-02:00P													5				
02:00-03:00P		2											15				
03:00-04:00P		4											14				
04:00-04:15P																	
04:15-04:30P		3											4				
04:30-04:45P																	
04:45-05:00P																	
05:00-05:15P		1											3				
05:15-05:30P																	
05:30-05:45P		1											5				
05:45-06:00P		1											3				
06:00-07:00P													5				
07:00-08:00P													29				
08:00-09:00P	2												1				
09:00-10:00P																	
TOTAL VOLUME	2	23	3	1	7	32	14	1	3	3	19	5	113			2	

North and South is: N River Rd.

East and West is: Lockhaven Dr. NE

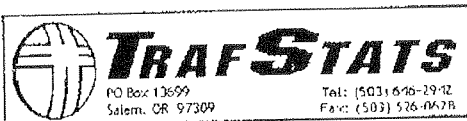
BIKE 2436

SUMMARY OF PEDESTRIAN COUNT TRANSPORTATION DEVELOPMENT BRANCH - RESEARCH SECTION

DATE : July 30/31, 2007 DAY : Mon./Tues. COUNTY : Marion CITY: Keizer
HOURS : 6AM - 10PM WEATHER: Clear INTERSECTION OF: N River Rd. @ Lockhaven Dr. NE

Tab by: Chk. by: Mile Post : n/a

TIME OF DAY	STUDENT PEDESTRIANS				OTHER PEDESTRIANS				STUDENT AND OTHER PEDESTRIAN				TOTAL		
	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST	SOUTH	WEST	TOTAL	NORTH	EAST		SOUTH	WEST
06:00-07:00A															
07:00-07:15A															
07:15-07:30A															
07:30-07:45A															
07:45-08:00A															
08:00-08:15A															
08:15-08:30A															
08:30-08:45A															
08:45-09:00A															
09:00-10:00A															
10:00-11:00A															
11:00-12:00P															
12:00-01:00P															
01:00-02:00P															
02:00-03:00P															
03:00-04:00P															
04:00-04:15P															
04:15-04:30P															
04:30-04:45P															
04:45-05:00P															
05:00-05:15P															
05:15-05:30P															
05:30-05:45P															
05:45-06:00P															
06:00-07:00P															
07:00-08:00P															
08:00-09:00P															
09:00-10:00P															
TOTAL VOLUME															



Intersection Turning Movement Summary Report

Location CHEMAWA ROAD AT VERDA LANE

Date 4/24/2006

Day of Week Monday

Time Begin 16:00

Reviewed By: DH

Time Period	Eastbound			Westbound			Northbound			Southbound			Totals
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
16:00 - 16:15	38	47	4	1	22	15	31	26	33	8	19	0	244
16:15 - 16:30	28	36	9	0	41	20	27	28	36	6	20	0	249
16:30 - 16:45	35	37	3	2	33	20	32	28	35	19	23	1	268
16:45 - 17:00	40	47	8	0	30	30	26	32	38	3	18	1	273
17:00 - 17:15	35	40	9	2	29	26	39	45	36	5	29	1	296
17:15 - 17:30	31	52	5	0	35	19	25	38	44	7	18	1	275
17:30 - 17:45	34	32	8	0	31	31	33	35	39	8	27	3	281
17:45 - 18:00	36	41	10	1	33	21	15	25	43	12	24	2	263
Movement Totals	276	332	56	6	254	182	228	257	304	68	178	9	2149
Enter Totals		663			442			789			255		
Exit Totals		569			626			319			635		

Two-Hour Totals	8	4	0	0	4	0	1	6	3	0	2	0	28
Light Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Medium Trucks	0	0	0	0	2	0	0	0	0	0	0	0	2
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	2.9%	1.2%	0.0%	0.0%	2.4%	0.0%	0.4%	2.3%	1.0%	0.0%	1.1%	0.0%	1.4%
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles	0	0	0	0	3	0	2	6	0	0	1	0	12

	South	West	East	North	
Pedestrians	0	2	8	1	11

Peak Hour Information

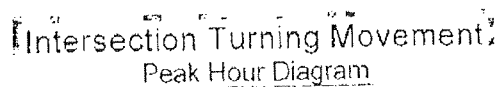
Peak Hour 16:45 17:45

	Eastbound			Westbound			Northbound			Southbound			Totals
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Movement Total	140	171	30	2	125	106	123	150	157	23	92	6	1125
Peak Hour Factor	0.88	0.82	0.83	0.25	0.89	0.85	0.79	0.83	0.89	0.72	0.79	0.50	0.95

Enter Totals	341	121	430	233
Peak Hour Factor	0.90	0.80	0.90	0.94
Exit Totals	300	338	182	305
Peak Hour Factor	0.94	0.92	0.81	0.89

Light Trucks	2	2	0	0	1	0	0	3	1	0	2	0	11
Medium Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	1.4%	1.2%	0.0%	0.0%	0.8%	0.0%	0.0%	2.0%	0.6%	0.0%	2.2%	0.0%	1.0%
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles	0	0	0	0	0	0	0	2	0	0	1	0	3

	South	West	East	North	
Pedestrians	0	0	6	0	6



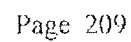
Location CHEMAWA ROAD AT VERDA LANE

Date 4/24/2006

Day of Week Monday

Time Begin 16:00

Reviewed By: DH



TRAFFICSTATS

Title 1 : VERDA LN NORTH OF
 Title 2 : CHEMAWA
 Title 3 : KEIZER

Site: 43
 Date: 04/12/06

Day: Wednesday			
Interval	NB	SB	Combined
12:AM	0	2	2
01:00	6	4	10
02:00	5	2	7
03:00	3	2	5
04:00	5	6	11
05:00	8	16	24
06:00	32	48	80
07:00	68	170	238
08:00	78	114	192
09:00	56	100	156
10:00	57	62	119
11:00	90	87	177
12:PM	98	110	208
01:00	76	84	160
02:00	110	112	222
03:00	169	138	307
04:00	165	161	326
05:00	183	128	311
06:00	134	105	239
07:00	111	86	197
08:00	84	69	153
09:00	41	34	75
10:00	22	21	43
11:00	11	6	17
Totals	1,612	1,667	3,279
Split %	49.2	50.8	
AM Peak	11:00	07:00	07:00
Volume	90	170	238
PM Peak	05:00	04:00	04:00
Volume	183	161	326

TRAFFICSTATS

Site 1: VERDA LN NORTH OF
 Site 2: CHEMAWA
 Site 3: KEIZER

Site: 43
 Date: 04/13/06

Day: Thursday			
Interval Begin	NB	SB	Combined
12:AM	4	2	6
01:00	6	7	13
02:00	7	2	9
03:00	0	3	3
04:00	5	6	11
05:00	10	18	28
06:00	35	38	73
07:00	62	169	231
08:00	78	112	190
09:00	76	82	158
10:00	49	68	117
11:00	89	76	165
12:PM	90	94	184
01:00	90	95	185
02:00	106	96	202
03:00	133	128	261
04:00	163	152	315
05:00	172	126	298
06:00	148	122	270
07:00	111	79	190
08:00	71	60	131
09:00	59	38	97
10:00	45	24	69
11:00	10	8	18
Totals	1,619	1,605	3,224
Split %	50.2	49.8	
AM Peak Volume	11:00 89	07:00 169	07:00 231
PM Peak Volume	05:00 172	04:00 152	04:00 315

TRAFFICSTATS

title1 : VERDA LN SOUTH OF
 title2 : CHEMAWA RD
 title3 : KEIZER

Site: 45
 Date: 04/12/06

Day: Wednesday			
Interval	NB	SB	Combined
12:AM	15	18	33
01:00	17	7	24
02:00	7	2	9
03:00	14	5	19
04:00	16	13	29
05:00	48	44	92
06:00	110	144	254
07:00	208	382	590
08:00	138	212	350
09:00	120	191	311
10:00	134	162	296
11:00	203	198	401
12:PM	222	258	480
01:00	232	204	436
02:00	244	258	502
03:00	314	276	590
04:00	401	342	743
05:00	493	323	816
06:00	318	292	610
07:00	259	340	599
08:00	249	205	454
09:00	159	117	276
10:00	76	85	161
11:00	30	32	62
Totals	4,027	4,110	8,137
Split %	49.5	50.5	
AM Peak	07:00	07:00	07:00
Volume	208	382	590
PM Peak	05:00	04:00	05:00
Volume	493	342	816

TRAFFICSTATS

Site 1 : VERDA LN SOUTH OF
 Site 2 : CHEMAWA RD
 Site 3 : KEIZER

Site: 45
 Date: 04/13/06

Day: Thursday

Interval Begin	NB	SB	Combined
12:AM	11	11	22
01:00	11	6	17
02:00	15	6	21
03:00	9	8	17
04:00	16	12	28
05:00	45	51	96
06:00	108	128	236
07:00	207	362	569
08:00	166	236	402
09:00	169	180	349
10:00	146	158	304
11:00	196	183	379
12:PM	202	234	436
01:00	214	206	420
02:00	238	210	448
03:00	288	281	569
04:00	396	334	730
05:00	487	322	809
06:00	328	326	654
07:00	240	302	542
08:00	184	180	364
09:00	146	108	254
10:00	89	84	173
11:00	39	26	65
Totals	3,950	3,954	7,904
Split %	50.0	50.0	
AM Peak Volume	07:00 207	07:00 362	07:00 569
PM Peak Volume	05:00 487	04:00 334	05:00 809

TRAFFICSTATS

Site 1 : CHEMEWA RD WEST OF
 Site 2 : VERDA LN
 Site 3 : KEIZER

Site: 9
 Date: 04/12/06

Day: Wednesday			
Interval	EB	WB	Combined
begin			
12:AM	21	17	38
01:00	5	9	14
02:00	8	11	19
03:00	8	11	19
04:00	17	13	30
05:00	50	27	77
06:00	134	68	202
07:00	276	246	522
08:00	208	198	406
09:00	184	167	351
10:00	184	165	349
11:00	206	214	420
12:PM	274	222	496
01:00	258	224	482
02:00	292	251	543
03:00	316	308	624
04:00	347	373	720
05:00	388	360	748
06:00	310	278	588
07:00	224	314	538
08:00	194	228	422
09:00	124	142	266
10:00	96	74	170
11:00	36	30	66
Totals	4,160	3,950	8,110
Split %	51.3	48.7	
AM Peak	07:00	07:00	07:00
Volume	276	246	522
PM Peak	05:00	04:00	05:00
Volume	388	373	748

TRAFFICSTATS

Site 1 : CHEMEWA RD WEST OF
 Site 2 : VERDA LN
 Site 3 : KEIZER

Site: 9
 Date: 04/13/06

Day: Thursday

Interval	EB	WB	Combined
egin			
12:AM	9	12	21
01:00	9	12	21
02:00	4	11	15
03:00	6	9	15
04:00	23	16	39
05:00	52	32	84
06:00	142	68	210
07:00	276	245	521
08:00	213	184	397
09:00	182	194	376
10:00	178	174	352
11:00	212	224	436
12:PM	244	218	462
01:00	216	212	428
02:00	268	241	509
03:00	300	285	585
04:00	304	360	664
05:00	356	390	746
06:00	322	403	725
07:00	256	276	532
08:00	214	182	396
09:00	132	131	263
10:00	76	55	131
11:00	41	37	78
Totals	4,035	3,971	8,006
Split %	50.4	49.6	
AM Peak	07:00	07:00	07:00
Volume	276	245	521
PM Peak	05:00	06:00	05:00
	356	390	746

Appendix “E”
Intersection Operations
Worksheets

Kittelton & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

Scenario Report

Scenario: AM
 Command: AM
 Volume: AM
 Geometry: Existing
 Impact Fee: Default Impact Fee
 Trip Generation: AM
 Trip Distribution: Default Trip Distribution
 Paths: Default Path
 Routes: Default Route
 Configuration: Existing

Kittelton & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

Impact Analysis Report
 Level Of Service

Intersection	Base Del/V/ LOS Veh C	Future Del/V/ LOS Veh C	Change in
# 3 River and Wheatland	C 27.3 0.483	C 27.3 0.483	+ 0.000 D/V
# 6 River and Lockhaven	C 33.6 0.539	C 33.6 0.539	+ 0.000 D/V
# 8 River and Chemawa	C 30.2 0.541	C 30.2 0.541	+ 0.000 D/V
# 9 Verda and Chemawa	B 11.5 0.437	B 11.5 0.437	+ 0.000 V/C
# 10 River and Manbrin	A 8.7 0.480	A 8.7 0.480	+ 0.000 D/V
# 26 River and Dearborn	A 8.9 0.470	A 8.9 0.470	+ 0.000 D/V
# 38 Lockhaven and 14th	B 14.2 0.469	B 14.2 0.469	+ 0.000 D/V
# 53 River and Manzanita	C 23.2 0.429	C 23.2 0.429	+ 0.000 D/V
# 64 Lockhaven and Verda	C 23.9 0.000	C 23.9 0.000	+ 0.000 D/V

Kittelson & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 River and Wheatland

Critical Vol./Cap. (X): 0.483
 Cycle (sec): 120
 Loss Time (sec): 16 (Y+R=4.0 sec)
 Optimal Cycle: 49
 Level Of Service: C

Street Name: North Bound River South Bound Wheatland East Bound West Bound

Approach: L - T - R L - T - R L - T - R L - T - R

Control: Prot+Permit Prot+Permit Split Phase Split Phase

Rights: Include Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 1 0 1 0 1 0 1 1 0 0 1 0 0 2 0 0 1 0 0

Volume Module:

Base Vol:	106	283	5	1	547	4	9	1	390	20	1	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	283	5	1	547	4	9	1	390	20	1	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	122	325	6	1	629	5	10	1	448	23	1	6
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MUF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	122	325	6	1	629	5	10	1	448	23	1	6

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.95	0.95	0.96	0.96	0.74	0.94	0.94	0.94
Lanes:	1.00	1.97	0.03	1.00	1.99	0.01	0.90	0.10	2.00	0.77	0.04	0.19
Final Sat.:	1805	3537	62	1805	3580	26	1636	182	2825	1371	69	343

Capacity Analysis Module:

Vol/Sat:	0.07	0.09	0.09	0.00	0.18	0.18	0.01	0.01	0.16	0.02	0.02	0.02
Crit Moves:	0.54	0.50	0.50	0.37	0.36	0.36	0.33	0.33	0.33	0.03	0.03	0.03
Green/Cycle:	0.27	0.18	0.18	0.00	0.48	0.48	0.02	0.02	0.48	0.48	0.48	0.48
Volume/Cap:	0.27	0.18	0.18	0.00	0.48	0.48	0.02	0.02	0.48	0.48	0.48	0.48
Delay/Veh:	15.7	16.6	16.6	24.1	29.8	29.8	27.2	27.2	32.6	62.7	62.7	62.7
User Delay:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.7	16.6	16.6	24.1	29.8	29.8	27.2	27.2	32.6	62.7	62.7	62.7
LOS by Move:	B	B	B	C	C	C	C	C	E	E	E	E
HCM2KAVGQ:	57	84	84	1	237	237	7	7	192	44	44	44

Note: Queue reported is the distance per lane in feet.

Kittelson & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #6 River and Lockhaven

Critical Vol./Cap. (X): 0.539
 Cycle (sec): 120
 Loss Time (sec): 16 (Y+R=4.0 sec)
 Optimal Cycle: 53
 Level Of Service: C

Street Name: North Bound River South Bound Lockhaven East Bound West Bound

Approach: L - T - R L - T - R L - T - R L - T - R

Control: Prot+Permit Prot+Permit Protected Protected

Rights: Include Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 1 0 2 0 1 1 0 1 1 0 0 1 0 0 1 1 1 0 0 1

Volume Module:

Base Vol:	45	269	190	178	716	34	50	163	69	240	77	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	269	190	178	716	34	50	163	69	240	77	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	48	289	204	191	770	37	54	175	74	258	83	86
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MUF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	48	289	204	191	770	37	54	175	74	258	83	86

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.83	0.95	0.94	0.94	0.99	0.99	0.85	0.96	0.96	0.85
Lanes:	1.00	2.00	1.00	1.00	1.91	0.09	0.23	0.77	1.00	1.51	0.49	1.00
Final Sat.:	1805	3610	1580	1805	3422	165	441	1437	1613	2773	890	1615

Capacity Analysis Module:

Vol/Sat:	0.03	0.08	0.13	0.11	0.22	0.22	0.12	0.12	0.05	0.09	0.09	0.05
Crit Moves:	0.25	0.20	0.37	0.50	0.42	0.42	0.23	0.23	0.23	0.17	0.17	0.17
Green/Cycle:	0.22	0.40	0.35	0.29	0.54	0.54	0.54	0.54	0.20	0.54	0.54	0.31
Volume/Cap:	0.22	0.40	0.35	0.29	0.54	0.54	0.54	0.54	0.20	0.54	0.54	0.31
Delay/Veh:	35.1	42.0	27.4	17.4	26.6	26.6	42.3	42.3	37.9	46.2	46.2	44.0
User Delay:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.1	42.0	27.4	17.4	26.6	26.6	42.3	42.3	37.9	46.2	46.2	44.0
LOS by Move:	D	D	C	B	B	C	D	D	D	D	D	D
HCM2KAVGQ:	33	118	130	97	284	284	196	196	56	140	140	67

Note: Queue reported is the distance per lane in feet.

Kittelson & Associates, Inc. - Project #: 8310
Keizer TSP Update -- Keizer, OR

Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #8 River and Chemawa

Intersection:									0.541										
Cycle (sec):	120	Critical Vol./Cap. (X):				30.2													
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):				C													
Optimal Cycle:	53	Level Of Service:																	

Approach:	North Bound		South Bound		East Bound		West Bound												
Movement:	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R										
Control:	Protected	Protected	Protected	Protected	Protected	Protected	Protected	Protected	Protected										
Rights:	Include	Include	Include	Include	Include	Include	Include	Include	Include										
Min. Green:	0	0	0	0	0	0	0	0	0										
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	0	1	0	1	0	1

Volume Module:	83	435	37	43	784	42	78	56	208	67	30	44
Base Vol:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Adj:	83	435	37	43	784	42	78	56	208	67	30	44
Initial Bse:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	87	458	39	45	825	44	82	59	219	71	32	46
PHF Volume:	87	458	39	45	825	44	82	59	219	71	32	46
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	87	458	39	45	825	44	82	59	219	71	32	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MFL Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	87	458	39	45	825	44	82	59	219	71	32	46

Saturation Flow Module:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Sat/Lane:	0.95	0.94	0.94	0.95	0.94	0.94	0.95	1.00	0.83	0.95	1.00	0.84
Adjustment:	1.00	1.84	0.16	1.00	1.90	0.10	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1805	3286	280	1805	3399	182	1805	1900	1584	1805	1900	1605
Final Sat:	1805	3286	280	1805	3399	182	1805	1900	1584	1805	1900	1605

Capacity Analysis Module:	Vol/Sat:	0.05	0.14	0.14	0.03	0.24	0.24	0.05	0.03	0.14	0.04	0.02	0.03
Crit Moves:	0.09	0.46	0.46	0.08	0.45	0.45	0.20	0.26	0.26	0.07	0.13	0.13	0.23
Green/Cycle:	0.54	0.31	0.31	0.31	0.54	0.54	0.23	0.12	0.54	0.54	0.13	0.23	0.23
Volume/Cap:	55.9	20.7	20.7	53.0	24.4	24.4	40.5	34.4	40.1	58.3	46.7	47.6	47.6
Delay/Veh:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
User DelAdj:	55.9	20.7	20.7	53.0	24.4	24.4	40.5	34.4	40.1	58.3	46.7	47.6	47.6
AdjDel/Veh:	55.9	20.7	20.7	53.0	24.4	24.4	40.5	34.4	40.1	58.3	46.7	47.6	47.6
LOS by Move:	E	C	C	D	C	C	D	C	D	E	D	D	D
LOS by Appr:	77	146	145	38	299	298	65	41	186	83	27	42	42
AdjWayVgq:	11.5	11.5	11.5	8.6	8.6	8.6	16.2	16.2	16.2	15.3	15.3	15.3	15.3

Note: Queue reported is the distance per lane in feet.

Traffic 7.9.0415 (c) 2007 Dowling Assoc. Licensed to KITTELSON, BALTIMORE

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Kittelson & Associates, Inc. - Project #: 8310
Keizer TSP Update -- Keizer, OR

Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #9 Verda and Chemawa

Intersection of Nevada and Colorado													
Cycle (sec):	100	Critical Vol./Cap. (X):						0.437					
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):						11.5					
Optimal Cycle:	0	Level Of Service:						B					
Approach:	*****												
Movement:	L - T - R	North Bound			South Bound			East Bound			West Bound		
Control:	Stop Sign	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include	Include			Include			Include			Include		
Min. Green:	0 0 1 0 0	0 0 1 0 0			0 0 1 0 0			0 0 1 0 0			0 0 1 0 0		
Lanes:													

Volume Module:	76	73	59	2	140	28	21	113	142	102	142	5
Base Vol:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Adj:	76	73	59	2	140	28	21	113	142	102	142	5
Initial Bse:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
User Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Adj:	80	77	62	2	147	29	22	119	149	107	149	5
PHF Volume:	80	77	62	2	147	29	22	119	149	107	149	5
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	80	77	62	2	147	29	22	119	149	107	149	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MFL Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	80	77	62	2	147	29	22	119	149	107	149	5

Saturation Flow Module:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adjustment:	0.37	0.35	0.28	0.01	0.83	0.16	0.08	0.41	0.51	0.41	0.57	0.02
Lanes:	220	211	171	7	483	97	51	272	342	254	353	12
Final Sat:	220	211	171	7	483	97	51	272	342	254	353	12

Capacity Analysis Module:	Vol/Sat:	0.36	0.36	0.36	0.30	0.30	0.30	0.44	0.44	0.42	0.42	0.42
Crit Moves:	11.2	11.2	11.2	10.7	10.7	10.7	11.6	11.6	11.6	12.0	12.0	12.0
Delay/Veh:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.2	11.2	11.2	10.7	10.7	10.7	11.6	11.6	11.6	12.0	12.0	12.0
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	B
ApproachDel:	11.2	11.2	11.2	10.7	10.7	10.7	11.6	11.6	11.6	12.0	12.0	12.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.2	11.2	11.2	10.7	10.7	10.7	11.6	11.6	11.6	12.0	12.0	12.0
LOS by Appr:	11.5	11.5	11.5	8.6	8.6	8.6	16.2	16.2	16.2	15.3	15.3	15.3
AdjWayVgq:	11.5	11.5	11.5	8.6	8.6	8.6	16.2	16.2	16.2	15.3	15.3	15.3

Note: Queue reported is the distance per lane in feet.

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Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #10 River and Manbrin

Cycle (sec): 90 Critical Vol./Cap.(X): 0.480
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 8.7
 Optimal Cycle: 39 Level Of Service: A

Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Prot+Permit Prot+Permit Permitted Permitted
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 1 1 0 1 0 1 1 0 0 1 0 1 0 0 2

Volume Module:
 Base Vol: 12 385 7 134 1199 2 14 22 22 28 10 56
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 12 385 7 134 1199 2 14 22 22 28 10 56
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
 PHF Volume: 14 438 8 152 1363 2 16 25 25 32 11 64
 Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 14 438 8 152 1363 2 16 25 25 32 11 64
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Volume: 14 438 8 152 1363 2 16 25 25 32 11 64

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.95 0.95 0.95 0.95 0.85 0.85 0.85 0.75 0.75 0.75 0.75
 Lanes: 1.00 1.96 0.04 1.00 1.99 0.01 0.39 0.61 1.00 0.74 0.26 2.00
 Final Sat: 1805 3535 64 1805 3604 5 626 983 1615 1043 373 2835

Capacity Analysis Module:
 Vol/Sat: 0.01 0.12 0.12 0.08 0.38 0.38 0.03 0.03 0.02 0.03 0.03 0.02
 Crit Moves: ****
 Green/Cycle: 0.49 0.48 0.48 0.85 0.79 0.79 0.06 0.06 0.06 0.06 0.06 0.06
 Volume/Cap: 0.07 0.26 0.26 0.15 0.48 0.48 0.40 0.40 0.24 0.48 0.48 0.35
 Delay/Veh: 11.8 14.1 14.1 1.5 3.4 3.4 43.1 43.1 41.3 44.7 44.7 41.6
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 11.8 14.1 14.1 1.5 3.4 3.4 43.1 43.1 41.3 44.7 44.7 41.6
 LOS by Move: B B A A A D D D D D D D
 HCM2kAvgQ: 5 93 93 18 174 174 40 40 23 46 46 35

Note: Queue reported is the distance per lane in feet.

Kittelson & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #26 River and Dearborn

Cycle (sec): 90 Critical Vol./Cap.(X): 0.470
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 8.9
 Optimal Cycle: 38 Level Of Service: A

Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Prot+Permit Prot+Permit Permitted Permitted
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 1 1 0 1 0 1 1 0 0 1 0 1 0 0 1

Volume Module:
 Base Vol: 3 506 19 29 1093 3 6 37 29 63 24 30
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 3 506 19 29 1093 3 6 37 29 63 24 30
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
 PHF Volume: 3 562 21 32 1214 3 7 41 32 70 27 33
 Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 3 562 21 32 1214 3 7 41 32 70 27 33
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Volume: 3 562 21 32 1214 3 7 41 32 70 27 33

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.95 0.95 0.95 0.95 0.96 0.96 0.85 0.75 0.75 0.85 0.85
 Lanes: 1.00 1.93 0.07 1.00 1.99 0.01 0.14 0.86 1.00 0.72 0.28 1.00
 Final Sat: 1805 3462 130 1805 3600 10 255 1574 1615 1026 391 1615

Capacity Analysis Module:
 Vol/Sat: 0.00 0.16 0.16 0.02 0.34 0.34 0.03 0.03 0.02 0.07 0.07 0.02
 Crit Moves: ****
 Green/Cycle: 0.65 0.65 0.65 0.77 0.72 0.72 0.15 0.15 0.15 0.15 0.15
 Volume/Cap: 0.01 0.25 0.25 0.05 0.47 0.47 0.18 0.18 0.14 0.47 0.47 0.14
 Delay/Veh: 5.5 6.6 6.6 2.8 5.5 5.5 34.1 34.1 33.8 37.0 37.0 33.9
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 5.5 6.6 6.6 2.8 5.5 5.5 34.1 34.1 33.8 37.0 37.0 33.9
 LOS by Move: A A A A A A C C D D C C
 HCM2kAvgQ: 1 87 87 5 186 186 32 32 22 76 76 22

Note: Queue reported is the distance per lane in feet.

Kittelson & Associates, Inc. - Project #: 8310
Keizer TSP Update -- Keizer, OR
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Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #38 Lockhaven and 14th

Cycle (sec): 90 Critical Vol./Cap.(X): 0.469
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 14.2
Optimal Cycle: 38 Level Of Service: B

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Permitted	Permitted	Protected	Protected
Rights:	Include	Include	Include	Include
Min. Green:	0 0 1 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Lanes:	0 0 1 0 0	0 1 0 0 1	1 0 0 1 0	1 0 0 1 0

Volume Module:	8	5	22	128	11	27	21	511	5	12	377	50
Base Vol:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	5	22	128	11	27	21	511	5	12	377	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	9	5	23	136	12	29	22	544	5	13	401	53
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	5	23	136	12	29	22	544	5	13	401	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	9	5	23	136	12	29	22	544	5	13	401	53

Saturation Flow Module:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Sat/Lane:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adjustment:	0.23	0.14	0.63	0.92	0.08	1.00	1.00	0.99	0.01	1.00	0.98	0.12
Lanes:	374	234	1029	1231	106	1615	1805	1880	18	1805	1647	218
Final Sat:	0.23	0.14	0.63	0.92	0.08	1.00	1.00	0.99	0.01	1.00	0.98	0.12

Capacity Analysis Module:	0.02	0.02	0.02	0.11	0.11	0.02	0.01	0.29	0.29	0.01	0.24	0.24
Vol/Sat:	0.02	0.02	0.02	0.11	0.11	0.02	0.01	0.29	0.29	0.01	0.24	0.24
Crit Moves:	0.24	0.24	0.24	0.24	0.24	0.24	0.03	0.62	0.62	0.02	0.60	0.60
Green/Cycle:	0.10	0.10	0.10	0.47	0.47	0.08	0.41	0.47	0.47	0.47	0.41	0.41
Volume/Cap:	27.0	27.0	27.0	30.7	30.7	26.9	47.6	9.6	9.6	56.2	9.7	9.7
Delay/Veh:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.0	27.0	27.0	30.7	30.7	26.9	47.6	9.6	9.6	56.2	9.7	9.7
LOS by Move:	C	C	C	C	C	C	D	A	A	E	A	A
HCM2AVGQ:	21	21	21	101	101	16	15	199	199	10	162	162

Note: Queue reported is the distance per lane in feet.

Kittelson & Associates, Inc. - Project #: 8310
Keizer TSP Update -- Keizer, OR
Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #53 River and Manzanita

Cycle (sec): 120 Critical Vol./Cap.(X): 0.429
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 23.2
Optimal Cycle: 45 Level Of Service: C

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Protected	Protected	Protected	Protected
Rights:	Include	Include	Include	Include
Min. Green:	0 0 1 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Lanes:	1 0 1 1 0	1 0 1 1 0	1 0 0 1 0	1 0 0 1 0

Volume Module:	24	326	58	163	799	19	24	24	55	38	16	53
Base Vol:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	326	58	163	799	19	24	24	55	38	16	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	29	393	70	196	963	23	29	29	66	46	19	64
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	393	70	196	963	23	29	29	66	46	19	64
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	29	393	70	196	963	23	29	29	66	46	19	64

Saturation Flow Module:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Sat/Lane:	0.95	0.93	0.93	0.95	0.95	0.95	0.95	0.90	0.89	0.95	0.89	0.88
Adjustment:	1.00	1.70	0.30	1.00	1.95	0.05	1.00	0.30	0.70	1.00	0.23	0.77
Lanes:	1805	2994	533	1805	3516	84	1805	513	1176	1805	387	1281
Final Sat:	0.02	0.13	0.13	0.11	0.27	0.27	0.02	0.06	0.06	0.03	0.05	0.05

Capacity Analysis Module:	0.02	0.13	0.13	0.11	0.27	0.27	0.02	0.06	0.06	0.03	0.05	0.05
Vol/Sat:	0.02	0.13	0.13	0.11	0.27	0.27	0.02	0.06	0.06	0.03	0.05	0.05
Crit Moves:	0.04	0.37	0.37	0.31	0.64	0.64	0.05	0.13	0.13	0.06	0.14	0.14
Green/Cycle:	0.43	0.35	0.35	0.35	0.43	0.43	0.35	0.43	0.43	0.43	0.35	0.35
Volume/Cap:	60.8	27.6	27.6	32.8	10.9	10.9	57.9	49.3	49.3	57.2	47.1	47.1
Delay/Veh:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.8	27.6	27.6	32.8	10.9	10.9	57.9	49.3	49.3	57.2	47.1	47.1
LOS by Move:	E	C	C	C	B	B	D	D	D	E	D	D
HCM2AVGQ:	26	156	155	134	230	230	36	92	91	54	76	75

Note: Queue reported is the distance per lane in feet.

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Kittelston & Associates, Inc. - Project #: 8310
Keizer TSP Update -- Keizer, OR
Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #64 Lockhaven and Verda

Average Delay (sec/veh): 1.1 Worst Case Level Of Service: C [23.9]

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1 0 0 0 0 0 0 0 0 0 1 0 1 0 0

Volume Module:
Base Vol: 39 0 5 0 0 0 0 547 40 14 436 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 39 0 5 0 0 0 0 547 40 14 436 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91
PHF Volume: 43 0 5 0 0 0 0 601 44 15 479 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 43 0 5 0 0 0 0 601 44 15 479 0

Critical Gap Module:
Critical Gp: 6.4 6.5 6.2 xxxxx xxxxx xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 xxxxx xxxxx xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx

Capacity Module:
Conflict Vol: 1133 1133 623 xxxxx xxxxx xxxxx xxxxx xxxxx 645 xxxxx xxxxx
Potent Cap.: 226 205 490 xxxxx xxxxx xxxxx xxxxx xxxxx 950 xxxxx xxxxx
Move Cap.: 224 201 490 xxxxx xxxxx xxxxx xxxxx xxxxx 950 xxxxx xxxxx
Volume/Cap: 0.19 0.00 0.01 xxxxx xxxxx xxxxx xxxxx xxxxx 0.02 xxxxx xxxxx

Level Of Service Module:
2Way95thQ: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 1.2 xxxxx xxxxx
Control Del: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 8.9 xxxxx xxxxx
LOS by Move: * * * * * A * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 238 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue: xxxxx 0.7 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd Condel: xxxxx 23.9 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: C * * * * * * * *
ApproachDel: 23.9 xxxxx xxxxx
ApproachLOS: C * * * * *

Note: Queue reported is the distance per lane in feet.

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 Kittelson & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

 Scenario: AM Scenario Report
 Command: AM
 Volume: AM
 Geometry: Existing
 Impact Fee: Default Impact Fee
 Trip Generation: AM
 Trip Distribution: Default Trip Distribution
 Paths: Default Path
 Routes: Default Route
 Configuration: Existing

AM Thu Feb 7, 2008 17:00:19 Page 2-1

 Kittelson & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

 Impact Analysis Report
 Level Of Service

Intersection	Base Del/V/ LOS Veh C	Future Del/V/ LOS Veh .C	Change in D/V
# 12 Salem Parkway and Cherry	C 29.6 0.631	C 29.6 0.631	+ 0.000 D/V
# 20 Verda and Salem Parkway	C 31.2 0.660	C 31.2 0.660	+ 0.000 D/V

Kittelson & Associates, Inc. - Project #: 8310
Keizer TSP Update -- Keizer, OR

Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #12 Salem Parkway and Cherry

Cycle (sec):	120	Critical Vol./Cap.(X):	0.631
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	29.6
Optimal Cycle:	63	Level Of Service:	C

Approach:	North Bound	South Bound	East Bound
Movement:	L - T - R	L - T - R	L - T - R
Control:	Protected	Protected	Protected
Rights:	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0
Lanes:	1 0 2 0 1	2 0 1 1 0	1 0 1 1 0

Volume Module:	35	156	55	109	312	66	78	651	91	113	1001	189
Base Vol:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	156	55	109	312	66	78	651	91	113	1001	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	39	175	62	122	351	74	88	731	102	127	1125	212
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	39	175	62	122	351	74	88	731	102	127	1125	212

Saturation Flow Module:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Sat/Lane:	0.92	0.92	0.83	0.89	0.90	0.89	0.92	0.91	0.90	0.92	0.92	0.81
Adjustment:	1.00	2.00	1.00	2.00	1.65	0.35	1.00	1.75	0.25	1.00	2.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.65	0.35	1.00	1.75	0.25	1.00	2.00	1.00
Final Sat:	1660	3321	1486	3221	2667	564	1660	2860	400	1660	3321	1464

Capacity Analysis Module:	0.02	0.05	0.04	0.04	0.13	0.13	0.05	0.26	0.26	0.08	0.34	0.15
Vol/Sat:	0.02	0.05	0.04	0.04	0.13	0.13	0.05	0.26	0.26	0.08	0.34	0.15
Crit Moves:	0.04	0.14	0.29	0.10	0.21	0.21	0.08	0.48	0.48	0.14	0.54	0.54
Green/Cycle:	0.63	0.37	0.15	0.37	0.63	0.63	0.63	0.54	0.54	0.63	0.27	0.27
Volume/Cap:	75.9	47.0	32.1	50.9	45.2	45.2	62.2	22.3	22.3	50.1	20.2	15.2
Delay/Veh:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
User Delay:	75.9	47.0	32.1	50.9	45.2	45.2	62.2	22.3	22.3	50.1	20.2	15.2
AdjDel/Veh:	75.9	47.0	32.1	50.9	45.2	45.2	62.2	22.3	22.3	50.1	20.2	15.2
LOS by Move:	E	D	C	D	D	D	E	C	C	D	C	B
HCM2kAVQ:	62	84	43	63	209	209	106	285	284	108	377	102

Note: Queue reported is the distance per lane in feet.

Kittelson & Associates, Inc. - Project #: 8310
Keizer TSP Update -- Keizer, OR

Year 2007 Existing Traffic Conditions - Weekday AM Peak Hour

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #20 Verda and Salem Parkway

Cycle (sec):	120	Critical Vol./Cap. (X):		0.660	Average Delay (sec/veh):	31.2
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):		31.2	Level Of Service:	C
Optimal Cycle:	66	Level Of Service:		C		

Street Name:	Salem Parkway		Verda Lane			
Approach:	North Bound	South Bound	East Bound	West Bound		
Movement:	L - T - R	L - T - R	L - T - R	L - T - R		

Control:	Protected	Protected	Protected	Protected		
Rights:	Include	Include	Include	Include		
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0		
Lanes:	1 0 2 0 1	1 0 1 1 0	1 0 1 0 1	1 0 1 0 1		

Volume Module:	37	779	242	37	960	12	25	213	128	184	134	24
Base Vol:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	779	242	37	960	12	25	213	128	184	134	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	40	838	260	40	1032	13	27	229	138	198	144	26
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	40	838	260	40	1032	13	27	229	138	198	144	26

Saturation Flow Module:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Sat/Lane:	0.95	0.95	0.83	0.95	0.95	0.95	0.95	1.00	0.83	0.95	1.00	0.84
Adjustment:	1.00	2.00	1.00	1.00	1.98	0.02	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.98	0.02	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat:	1710	3420	1495	1710	3571	42	1710	1800	1502	1710	1800	1509

Capacity Analysis Module:	0.02	0.24	0.17	0.02	0.31	0.31	0.02	0.13	0.09	0.12	0.08	0.02
Vol/Sat:	0.02	0.24	0.17	0.02	0.31	0.31	0.02	0.13	0.09	0.12	0.08	0.02
Crit Moves:	0.04	0.46	0.46	0.04	0.46	0.46	0.06	0.19	0.19	0.18	0.31	0.31
Green/Cycle:	0.66	0.54	0.38	0.66	0.54	0.66	0.26	0.66	0.48	0.66	0.26	0.06
Volume/Cap:	81.1	23.9	21.9	63.9	25.9	25.9	55.2	49.5	44.3	51.5	31.5	29.3
Delay/Veh:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
User Delay:	81.1	23.9	21.9	63.9	25.9	25.9	55.2	49.5	44.3	51.5	31.5	29.3
AdjDel/Veh:	81.1	23.9	21.9	63.9	25.9	25.9	55.2	49.5	44.3	51.5	31.5	29.3
LOS by Move:	F	C	C	E	C	C	E	D	D	C	C	C
HCM2kAVQ:	39	284	152	56	401	401	50	220	124	197	99	17

Note: Queue reported is the distance per lane in feet.

 Kittelson & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday PM Peak Hour

Scenario Report

Scenario: PM
 Command: PM
 Volume: PM
 Geometry: Existing
 Impact Fee: Default Impact Fee
 Trip Generation: PM
 Trip Distribution: Default Trip Distribution
 Paths: Default Path
 Routes: Default Route
 Configuration: Existing

 Kittelson & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday PM Peak Hour

Impact Analysis Report
 Level Of Service

Intersection	Base Del/V/ LOS	Future Del/V/ LOS	Change in
# 3 River and Wheatland	C 27.7 0.715	C 27.7 0.715	+ 0.000 D/V
# 6 River and Lockhaven	D 38.2 0.786	D 38.2 0.786	+ 0.000 D/V
# 8 River and Chemawa	C 34.1 0.677	C 34.1 0.677	+ 0.000 D/V
# 9 Verda and Chemawa	C 17.9 0.754	C 17.9 0.754	+ 0.000 V/C
# 10 River and Mandrin	B 11.0 0.662	B 11.0 0.662	+ 0.000 D/V
# 26 River and Dearborn	B 14.6 0.770	B 14.6 0.770	+ 0.000 D/V
# 38 Lockhaven and 14th	B 17.7 0.787	B 17.7 0.787	+ 0.000 D/V
# 53 River and Manzanita	C 33.4 0.662	C 33.4 0.662	+ 0.000 D/V
# 64 Lockhaven and Verda	F 54.2 0.000	F 54.2 0.000	+ 0.000 D/V

Kittelston & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday PM Peak Hour

Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #6 River and Lockhaven

Cycle (sec): 120 Critical Vol./Cap.(X): 0.786
 Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 38.2
 Optimal Cycle: 89 Level Of Service: D
 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Prot+Permit Prot+Permit Protected Protected
 Rights: Ovl Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 2 0 1 1 0 1 1 0 0 1 0 0 1 1 0 0 1

Volume Module:
 Base Vol: 129 870 451 187 442 104 95 161 103 346 264 197
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 129 870 451 187 442 104 95 161 103 346 264 197
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
 PHF Volume: 136 916 475 197 465 109 100 169 108 364 278 207
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 136 916 475 197 465 109 100 169 108 364 278 207
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 FinalVolume: 136 916 475 197 465 109 100 169 108 364 278 207

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.95 0.95 0.83 0.95 0.92 0.92 0.98 0.98 0.84 0.97 0.97 0.84
 Lanes: 1.00 2.00 1.00 1.00 1.62 0.38 0.37 0.63 1.00 1.13 0.87 1.00
 Final Sat.: 1805 3610 1577 1805 2838 668 692 1173 1587 2095 1599 1588

Capacity Analysis Module:
 Vol/Sat: 0.08 0.25 0.30 0.11 0.16 0.16 0.14 0.14 0.07 0.17 0.17 0.13
 Crit Moves: 0.49 0.32 0.54 0.46 0.32 0.32 0.18 0.18 0.18 0.22 0.22 0.22
 Green/Cycle: 0.31 0.79 0.55 0.63 0.52 0.52 0.79 0.79 0.37 0.79 0.79 0.59
 Volume/Cap: 18.3 40.5 18.6 27.8 34.0 34.0 58.1 58.1 43.7 49.1 49.1 44.5
 Delay/Veh: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 18.3 40.5 18.6 27.8 34.0 34.0 58.1 58.1 43.7 49.1 49.1 44.5
 LOS by Move: B D B C C E E D D D D D
 HCM2kAVGQ: 70 414 281 132 220 219 284 284 94 273 273 163

Note: Queue reported is the distance per lane in feet.

Kittelston & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday PM Peak Hour

Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 River and Wheatland

Cycle (sec): 120 Critical Vol./Cap.(X): 0.715
 Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 27.7
 Optimal Cycle: 75 Level Of Service: C
 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Prot+Permit Prot+Permit Split Phase Split Phase
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 1 0 1 0 1 0 0 1 0 0 2 0 0 1 0 0

Volume Module:
 Base Vol: 494 700 15 5 583 17 11 0 293 10 1 1
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 494 700 15 5 583 17 11 0 293 10 1 1
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89
 PHF Volume: 555 787 17 6 655 19 12 0 329 11 1 1
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 555 787 17 6 655 19 12 0 329 11 1 1
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 FinalVolume: 555 787 17 6 655 19 12 0 329 11 1 1

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.95 0.95 0.95 0.95 1.00 0.74 0.95 0.95 0.95 0.95 0.95 0.95
 Lanes: 1.00 1.96 0.04 1.00 1.94 0.06 1.00 0.00 2.00 0.84 0.08 0.08
 Final Sat.: 1805 3524 76 1805 3494 102 1809 0 2799 1503 150 150

Capacity Analysis Module:
 Vol/Sat: 0.31 0.22 0.22 0.00 0.19 0.19 0.01 0.00 0.12 0.01 0.01 0.01
 Crit Moves: 0.27 0.26 0.26 0.16 0.00 0.16 0.01 0.01 0.01 0.01 0.01 0.01
 Green/Cycle: 0.73 0.68 0.68 0.03 0.72 0.72 0.04 0.00 0.72 0.72 0.72 0.72
 Volume/Cap: 0.65 0.33 0.33 0.03 0.42 0.42 0.0 52.8 141.4 141 141.4
 Delay/Veh: 19.8 7.9 7.9 32.0 42.9 42.9 42.2 0.0 52.8 141.4 141 141.4
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 19.8 7.9 7.9 32.0 42.9 42.9 42.2 0.0 52.8 141.4 141 141.4
 LOS by Move: B A A C D D A D F F F F
 HCM2kAVGQ: 256 152 152 4 324 324 10 0 199 36 36 36

Note: Queue reported is the distance per lane in feet.

Kittelton & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday PM Peak Hour

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #9 Verda and Chemawa

Cycle (sec): 100 Critical Vol./Cap.(X): 0.754
 Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 17.9
 Optimal Cycle: 0 Level Of Service: C
 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Stop Sign Stop Sign Stop Sign Stop Sign
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0

Volume Module:
 Base Vol: 157 150 123 6 92 23 30 171 140 106 125 2
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 157 150 123 6 92 23 30 171 140 106 125 2
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
 PHF Volume: 165 158 129 6 97 24 32 180 147 112 132 2
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 165 158 129 6 97 24 32 180 147 112 132 2
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 FinalVolume: 165 158 129 6 97 24 32 180 147 112 132 2

Saturation Flow Module:
 Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lanes: 0.36 0.35 0.29 0.05 0.76 0.19 0.09 0.50 0.41 0.45 0.54 0.01
 Final Sat.: 219 210 172 24 364 91 51 292 239 238 280 4

Capacity Analysis Module:
 Vol/Sat: 0.75 0.75 0.75 0.27 0.27 0.27 0.62 0.62 0.62 0.47 0.47 0.47
 Crit Moves: 22.7 22.7 22.7 11.3 11.3 11.3 16.7 16.7 16.7 14.1 14.1 14.1
 Delay/Veh: 22.7 22.7 22.7 11.3 11.3 11.3 16.7 16.7 16.7 14.1 14.1 14.1
 AdjDel/Veh: 22.7 22.7 22.7 11.3 11.3 11.3 16.7 16.7 16.7 14.1 14.1 14.1
 LOS by Move: C C C B B C C C B B B
 ApproachDel: 22.7 11.3 16.7 14.1
 Delay Adj: 1.00 1.00 1.00 1.00
 ApprAdjDel: 22.7 11.3 16.7 14.1
 LOS by Appr: C B C B
 AllWayAvgQ: 58.0 58.0 58.0 6.3 6.3 6.3 31.7 31.7 31.7 17.2 17.2 17.2

Note: Queue reported is the distance per lane in feet.

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Kittelton & Associates, Inc. - Project #: 8310
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Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #8 River and Chemawa

Cycle (sec): 120 Critical Vol./Cap.(X): 0.677
 Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 34.1
 Optimal Cycle: 69 Level Of Service: C
 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Protected Protected Protected Protected
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1

Volume Module:
 Base Vol: 259 1208 76 79 694 81 149 75 190 92 105 106
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 259 1208 76 79 694 81 149 75 190 92 105 106
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
 PHF Volume: 264 1233 78 81 708 83 152 77 194 94 107 108
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 264 1233 78 81 708 83 152 77 194 94 107 108
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 FinalVolume: 264 1233 78 81 708 83 152 77 194 94 107 108

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.95 0.94 0.94 0.95 0.93 0.93 0.95 1.00 0.83 0.95 1.00 0.81
 Lanes: 1.00 1.88 0.12 1.00 1.79 0.21 1.00 1.00 1.00 1.00 1.00 1.00
 Final Sat.: 1805 3365 212 1805 3180 371 1805 1900 1568 1805 1900 1546

Capacity Analysis Module:
 Vol/Sat: 0.15 0.37 0.37 0.04 0.22 0.22 0.08 0.04 0.12 0.05 0.06 0.07
 Crit Moves: 0.24 0.54 0.54 0.07 0.37 0.37 0.14 0.18 0.18 0.08 0.12 0.12
 Green/Cycle: 0.61 0.68 0.68 0.68 0.61 0.61 0.59 0.22 0.68 0.68 0.48 0.59
 Delay/Veh: 43.0 20.9 20.9 69.3 31.8 31.8 52.0 42.1 52.1 66.5 51.1 55.4
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 43.0 20.9 20.9 69.3 31.8 31.8 52.0 42.1 52.1 66.5 51.1 55.4
 LOS by Move: D C C E C D D D E D E
 HCM2XAVGQ: 206 439 438 77 307 307 152 61 196 117 105 118

Note: Queue reported is the distance per lane in feet.

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Level of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #26 River and Dearborn

Cycle (sec): 90 Critical Vol./Cap.(X): 0.770
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 14.6
 Optimal Cycle: 69 Level of Service: B
 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Prot+Permit Prot+Permit Include Permitted Include Permitted Include
 Rights: 0
 Min. Green: 1 0 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
 Lanes: 1 0 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1

Volume Module:
 Base Vol: 67 1666 36 46 964 12 20 46 19 112 76 54
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 67 1666 36 46 964 12 20 46 19 112 76 54
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
 PHF Volume: 71 1772 38 49 1026 13 21 49 20 119 81 57
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 71 1772 38 49 1026 13 21 49 20 119 81 57
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Volume: 71 1772 38 49 1026 13 21 49 20 119 81 57

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
 Lanes: 1.00 1.96 0.04 1.00 1.98 0.02 0.30 0.70 1.00 0.60 0.40 1.00
 Final Sat: 1805 3523 76 1805 3558 44 505 1161 1584 867 588 1584

Capacity Analysis Module:
 Vol/Sat: 0.04 0.50 0.50 0.03 0.29 0.29 0.04 0.04 0.01 0.14 0.14 0.04
 Crit Moves: 0.73 0.65 0.65 0.64 0.61 0.61 0.18 0.18 0.18 0.18 0.18 0.18
 Green/Cycle: 0.18 0.77 0.77 0.33 0.48 0.48 0.24 0.24 0.07 0.77 0.77 0.20
 Volume/Cap: 5.1 12.5 12.5 12.2 10.0 10.0 32.1 32.1 30.9 48.4 48.4 31.9
 Delay/Veh: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 5.1 12.5 12.5 12.2 10.0 10.0 32.1 32.1 30.9 48.4 48.4 31.9
 LOS by Move: A B B B B B C C D D C
 HCM2kAvgQ: 14 477 477 14 202 202 45 45 12 182 182 37

Note: Queue reported is the distance per lane in feet.

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Level of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #10 River and Manbrin

Cycle (sec): 90 Critical Vol./Cap.(X): 0.662
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 11.0
 Optimal Cycle: 53 Level of Service: B
 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Prot+Permit Prot+Permit Include Permitted Include Permitted Include
 Rights: 0
 Min. Green: 1 0 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1

Volume Module:
 Base Vol: 43 1434 20 93 935 3 15 22 13 39 37 142
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 43 1434 20 93 935 3 15 22 13 39 37 142
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
 PHF Volume: 49 1630 23 106 1063 3 17 25 15 44 42 161
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 49 1630 23 106 1063 3 17 25 15 44 42 161
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Final Volume: 49 1630 23 106 1063 3 17 25 15 44 42 161

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
 Lanes: 1.00 1.97 0.03 1.00 1.99 0.01 0.41 0.59 1.00 0.51 0.49 2.00
 Final Sat: 1805 3553 50 1805 3598 12 645 946 1615 789 748 2786

Capacity Analysis Module:
 Vol/Sat: 0.03 0.46 0.46 0.06 0.30 0.30 0.03 0.03 0.01 0.06 0.06 0.06
 Crit Moves: 0.76 0.69 0.69 0.83 0.72 0.72 0.08 0.08 0.08 0.08 0.08 0.08
 Green/Cycle: 0.11 0.66 0.66 0.37 0.41 0.41 0.31 0.31 0.11 0.86 0.66 0.68
 Volume/Cap: 8.2 5.3 5.3 40.0 40.0 38.4 51.9 51.9 47.9 51.9 51.9 47.9
 Delay/Veh: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 3.0 8.5 8.5 8.2 5.3 5.3 40.0 40.0 38.4 51.9 51.9 47.9
 LOS by Move: A A A A A A D D D D D
 HCM2kAvgQ: 8 347 347 18 156 156 36 36 12 91 91 97

Note: Queue reported is the distance per lane in feet.

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Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #38 Lockhaven and 14th

Cycle (sec): 90 Critical Vol./Cap.(X): 0.787
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 17.7
 Optimal Cycle: 72 Level Of Service: B
 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Permitted Permitted Protected Protected Protected Protected
 Rights: Include Include Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 0 0 1 0 0 0 1 0 0 1 1 0 0 1 0 1 0 1 0

Volume Module:
 Base Vol: 5 21 10 119 10 35 57 629 11 34 752 160
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 5 21 10 119 10 35 57 629 11 34 752 160
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91
 PHF Volume: 5 23 11 131 11 38 63 691 12 37 826 176
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 5 23 11 131 11 38 63 691 12 37 826 176
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 FinalVolume: 5 23 11 131 11 38 63 691 12 37 826 176

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.92 0.92 0.92 0.70 0.71 0.83 0.95 1.00 1.00 0.95 0.97 0.97
 Lanes: 0.14 0.58 0.28 0.92 0.08 1.00 1.00 0.98 0.02 1.00 0.82 0.18
 Final Sat.: 243 1019 485 1232 104 1572 1805 1862 33 1805 1526 325

Capacity Analysis Module:
 Vol/Sat: 0.02 0.02 0.02 0.11 0.11 0.02 0.03 0.37 0.37 0.02 0.54 0.54
 Crit Moves: 0.13 0.13 0.13 0.13 0.13 0.13 0.04 0.69 0.69 0.04 0.69 0.69
 Green/Cycle: 0.17 0.17 0.17 0.79 0.79 0.79 0.79 0.54 0.54 0.54 0.79 0.79
 Volume/Cap: 34.8 34.8 34.8 57.9 57.9 57.9 34.9 81.9 7.2 7.2 50.4 12.9
 Delay/Veh: 34.8 34.8 34.8 57.9 57.9 57.9 34.9 81.9 7.2 7.2 50.4 12.9
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 34.8 34.8 34.8 57.9 57.9 57.9 34.9 81.9 7.2 7.2 50.4 12.9
 LOS by Move: C C C E E C F A A D B B
 HCM2kAvgQ: 27 27 27 147 148 27 45 227 227 27 495 495

Note: Queue reported is the distance per lane in feet.

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Level Of Service Computation Report
 2000 HCM Operations Method (Base Volume Alternative)

Intersection #53 River and Manzanita

Cycle (sec): 120 Critical Vol./Cap.(X): 0.662
 Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 33.4
 Optimal Cycle: 67 Level Of Service: C
 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Protected Protected Protected Protected Protected Protected
 Rights: Include Include Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 1 1 0 1 0 1 1 0 1 0 1 0 1 0 1 0

Volume Module:
 Base Vol: 145 943 68 140 654 32 29 61 122 41 92 176
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 145 943 68 140 654 32 29 61 122 41 92 176
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
 PHF Volume: 136 1014 73 151 703 34 31 66 131 44 99 189
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 136 1014 73 151 703 34 31 66 131 44 99 189
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 FinalVolume: 136 1014 73 151 703 34 31 66 131 44 99 189

Saturation Flow Module:
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
 Adjustment: 0.95 0.94 0.94 0.95 0.94 0.94 0.95 0.90 0.89 0.95 0.90 0.90
 Lanes: 1.00 1.87 0.13 1.00 1.91 0.09 1.00 0.33 0.67 1.00 0.34 0.66
 Final Sat.: 1805 3333 240 1805 3418 167 1805 567 1135 1805 987 1122

Capacity Analysis Module:
 Vol/Sat: 0.09 0.30 0.30 0.08 0.21 0.21 0.02 0.12 0.12 0.02 0.17 0.17
 Crit Moves: 0.17 0.46 0.46 0.13 0.41 0.41 0.03 0.23 0.23 0.05 0.25 0.25
 Green/Cycle: 0.50 0.66 0.66 0.66 0.50 0.50 0.66 0.50 0.50 0.50 0.66 0.66
 Volume/Cap: 46.1 26.2 26.2 57.1 26.3 26.3 87.8 41.0 41.0 60.0 43.9 43.9
 Delay/Veh: 46.1 26.2 26.2 57.1 26.3 26.3 87.8 41.0 41.0 60.0 43.9 43.9
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 46.1 26.2 26.2 57.1 26.3 26.3 87.8 41.0 41.0 60.0 43.9 43.9
 LOS by Move: D C C E C C F D D E D D
 HCM2kAvgQ: 123 389 389 130 250 250 56 167 166 57 260 260

Note: Queue reported is the distance per lane in feet.

Kittelson & Associates, Inc. - Project #: 8310
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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #64 Lockhaven and Verda

Average Delay (sec/veh): 2.4 Worst Case Level Of Service: F (54.2)

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled

Rights: Include Include Include Include

Lanes: 0 0 1 0 0 0 0 0 0 0 0 1 0 1 0 0

Volume Module:

Base Vol: 50 0 19 0 0 0 0 693 82 23 768 0

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 50 0 19 0 0 0 0 693 82 23 768 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96

PHF Volume: 52 0 20 0 0 0 0 722 85 24 800 0

Reduced Vol: 0 0 0 0 0 0 0 722 85 24 800 0

Final Volume: 52 0 20 0 0 0 0 722 85 24 800 0

Critical Gap Module:

Critical Gap: 6.4 6.5 6.2 xxxxx xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx

Followup PTH: 3.5 4.0 3.3 xxxxx xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx

Capacity Module:

Critical Vol: 1613 1613 765 xxxxx xxxxx xxxxx xxxxx 807 xxxxx xxxxx

Potent Cap.: 116 105 407 xxxxx xxxxx xxxxx xxxxx 827 xxxxx xxxxx

Move Cap.: 113 102 407 xxxxx xxxxx xxxxx xxxxx 827 xxxxx xxxxx

Volume/Cap: 0.46 0.00 0.05 xxxxx xxxxx xxxxx xxxxx 0.03 xxxxx xxxxx

Level Of Service Module:

2Way5thQ: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx

Control Del: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 9.5 xxxxx xxxxx

LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxxx 141 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Shared Queue: xxxxx 2.4 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Strd Condel: xxxxx 54.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Shared LOS: F F F F F F F F F F F F

Approach Del: 54.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Approach LOS: F F F F F F F F F F F F

Note: Queue reported is the distance per lane in feet.

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Impact Analysis Report
Level Of Service

Intersection	Base Del/ V/ LOS Veh C	Future Del/ V/ LOS Veh C	Change in
# 12 Salem Parkway and Cherry	D 35.6 0.707	D 35.6 0.707	+ 0.000 D/V
# 20 Verda and Salem Parkway	D 40.5 0.839	D 40.5 0.839	+ 0.000 D/V

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Scenario Report

Scenario:	PM
Command:	PM
Volume:	PM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	PM
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Existing

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Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #12 Salem Parkway and Cherry

Cycle (sec): 120 Critical Vol./Cap.(X): 0.707
 Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 35.6
 Optimal Cycle: 73 Level Of Service: D

Street Name: North Bound South Bound East Bound West Bound
 Approach: L - T - R L - T - R L - T - R L - T - R
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Protected Protected Protected Protected
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0
 Lanes: 1 0 2 0 1 2 0 1 0 1 0 1 0 1 0 2 0 1

Volume Module:
 Base Vol: 110 479 133 228 252 126 86 983 55 106 975 241
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 110 479 133 228 252 126 86 983 55 106 975 241
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 PHF Adj: 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
 PHF Volume: 113 494 137 235 260 130 89 1013 57 109 1005 248
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 113 494 137 235 260 130 89 1013 57 109 1005 248
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 FinalVolume: 113 494 137 235 260 130 89 1013 57 109 1005 248

Saturation Flow Module:
 Sat/Lane: 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800
 Adjustment: 0.92 0.92 0.81 0.89 0.88 0.87 0.92 0.92 0.91 0.92 0.92 0.81
 Lanes: 1.00 2.00 1.00 2.00 1.33 0.67 1.00 1.89 0.11 1.00 2.00 1.00
 Final Sat: 1660 3321 1456 3221 2098 1049 1660 3120 175 1660 3321 1464

Capacity Analysis Module:
 Vol/Sat: 0.07 0.15 0.09 0.07 0.12 0.12 0.05 0.32 0.32 0.07 0.30 0.17
 Crit Moves: *****
 Green/Cycle: 0.11 0.21 0.30 0.10 0.20 0.20 0.08 0.46 0.46 0.09 0.47 0.47
 Volume/Cap: 0.61 0.71 0.31 0.71 0.61 0.61 0.64 0.71 0.71 0.71 0.64 0.36
 Delay/Veh: 56.8 47.3 32.5 58.8 45.4 45.4 63.3 27.5 27.5 66.7 25.1 20.6
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 56.8 47.3 32.5 58.8 45.4 45.4 63.3 27.5 27.5 66.7 25.1 20.6
 LOS by Move: E D C E D E C E C E C C
 HCM2kAvgQ: 124 253 99 144 192 191 108 431 431 98 356 138

Note: Queue reported is the distance per lane in feet.

Kittelson & Associates, Inc. - Project #: 8310
 Keizer TSP Update -- Keizer, OR
 Year 2007 Existing Traffic Conditions - Weekday PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #20 Verda and Salem Parkway

Cycle (sec): 120 Critical Vol./Cap.(X): 0.839
 Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 40.5
 Optimal Cycle: 104 Level Of Service: D

Street Name: North Bound South Bound East Bound West Bound
 Approach: L - T - R L - T - R L - T - R L - T - R
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Protected Protected Protected Protected
 Rights: Include Include Include Include
 Min. Green: 0 0 0 0 0 0 0 0
 Lanes: 1 0 2 0 1 1 0 1 0 1 0 1 0 1 0 1 0 1

Volume Module:
 Base Vol: 121 771 274 25 834 59 28 234 90 257 393 38
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 121 771 274 25 834 59 28 234 90 257 393 38
 User Adj: 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10 1.10
 PHF Adj: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
 PHF Volume: 143 912 324 30 986 70 33 277 106 304 465 45
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 143 912 324 30 986 70 33 277 106 304 465 45
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 FinalVolume: 143 912 324 30 986 70 33 277 106 304 465 45

Saturation Flow Module:
 Sat/Lane: 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800
 Adjustment: 0.95 0.95 0.83 0.95 0.94 0.94 0.95 1.00 0.84 0.95 1.00 0.84
 Lanes: 1.00 2.00 1.00 1.00 1.87 0.13 1.00 1.00 1.00 1.00 1.00 1.00
 Final Sat: 1710 3420 1495 1710 3162 224 1710 1800 1510 1710 1800 1505

Capacity Analysis Module:
 Vol/Sat: 0.08 0.27 0.22 0.02 0.31 0.31 0.02 0.15 0.07 0.18 0.26 0.03
 Crit Moves: *****
 Green/Cycle: 0.10 0.44 0.44 0.03 0.37 0.37 0.03 0.18 0.18 0.21 0.37 0.37
 Volume/Cap: 0.84 0.60 0.49 0.60 0.84 0.84 0.70 0.84 0.38 0.84 0.70 0.08
 Delay/Veh: 82.2 26.1 24.4 76.8 39.6 39.6 96.0 64.4 44.0 61.1 35.8 24.8
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 82.2 26.1 24.4 76.8 39.6 39.6 96.0 64.4 44.0 61.1 35.8 24.8
 LOS by Move: F C C E D F E D E D C
 HCM2kAvgQ: 137 321 202 51 523 523 61 308 93 331 385 27

Note: Queue reported is the distance per lane in feet.

HCM Signalized Intersection Capacity Analysis

3: Shangri & River Road

Year 2007 Existing Traffic
Weekday PM Peak Hour



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations	W	W	N	N	N	S	S	S	N	N
Volume (vph)	2	26	0	1690	21	10	361	637	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		4.0	4.0			
Lane Util. Factor	1.00			0.95		1.00	0.95			
Frt	0.87			1.00		1.00	0.90			
Flt Protected	1.00			1.00		0.95	1.00			
Satd. Flow (prot)	1607			3498		1752	3169			
Flt Permitted	1.00			1.00		0.95	1.00			
Satd. Flow (perm)	1607			3498		1752	3169			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	28	0	1817	23	11	388	685	0	0
RTOR Reduction (vph)	23	0	0	1	0	0	183	0	0	0
Lane Group Flow (vph)	7	0	0	1839	0	11	890	0	0	0
Turn Type						Prot				
Protected Phases	8			2		1	6			
Permitted Phases										
Actuated Green, G (s)	16.0			58.0		4.0	66.0			
Effective Green, g (s)	16.0			58.0		4.0	66.0			
Actuated g/C Ratio	0.18			0.64		0.04	0.73			
Clearance Time (s)	4.0			4.0		4.0	4.0			
Lane Grp Cap (vph)	286			2254		78	2324			
v/s Ratio Prot	c0.00			c0.53		0.01	c0.28			
v/s Ratio Perm										
v/c Ratio	0.02			0.82		0.14	0.38			
Uniform Delay, d1	30.6			12.0		41.3	4.5			
Progression Factor	1.00			0.73		1.00	1.00			
Incremental Delay, d2	0.2			2.7		3.8	0.5			
Delay (s)	30.7			11.4		45.1	4.9			
Level of Service	C			B		D	A			
Approach Delay (s)	30.7			11.4			5.3		0.0	
Approach LOS	C			B			A		A	

Intersection Summary			
HCM Average Control Delay	9.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 6: Stark Street & River Road

Year 2007 Existing Traffic
Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↩			↩			↔	↗		↩	
Volume (veh/h)	0	1	13	0	2	0	15	0	1015	0	632	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	1	14	0	2	0	16	0	1091	0	680	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)								None			None	
Median type												
Median storage (veh)											250	
Upstream signal (ft)												
pX, platoon unblocked										0		
vC, conflicting volume	717	716	683	730	719	0	687					
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	717	716	683	730	719	0	687			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	97	100	99	100	98			100		
cM capacity (veh/h)	337	348	447	321	347	1082	902			1617		
Direction Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total	15	2	380	728	687							
Volume Left	0	0	16	0	0							
Volume Right	14	0	364	728	8							
cSH	438	347	902	1700	1700							
Volume to Capacity	0.03	0.01	0.02	0.43	0.40							
Queue Length 95th (ft)	3	0	1	0	0							
Control Delay (s)	13.5	15.5	0.6	0.0	0.0							
Lane LOS	B	C	A									
Approach Delay (s)	13.5	15.5	0.2		0.0							
Approach LOS	B	C										
Intersection Summary												
Average Delay			0.3									
Intersection Capacity Utilization			51.9%			ICU Level of Service				A		
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis 7: Stark Street & Broadway

Year 2007 Existing Traffic
Weekday PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	YY			↑↑	↑↑	
Volume (vph)	1007	9	1	704	360	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.97			0.95	0.95	
Frt	1.00			1.00	1.00	
Flt Protected	0.95			1.00	1.00	
Satd. Flow (prot)	3405			3505	3503	
Flt Permitted	0.95			0.95	1.00	
Satd. Flow (perm)	3405			3346	3503	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1083	10	1	757	387	1
RTOR Reduction (vph)	1	0	0	0	0	0
Lane Group Flow (vph)	1092	0	0	758	388	0
Turn Type	Perm					
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	44.0			38.0	38.0	
Effective Green, g (s)	44.0			38.0	38.0	
Actuated g/C Ratio	0.49			0.42	0.42	
Clearance Time (s)	4.0			4.0	4.0	
Lane Grp Cap (vph)	1665			1413	1479	
v/s Ratio Prot	c0.32				0.11	
v/s Ratio Perm				c0.23		
v/c Ratio	0.66			0.54	0.26	
Uniform Delay, d1	17.3			19.4	16.9	
Progression Factor	1.00			1.00	0.96	
Incremental Delay, d2	2.0			1.5	0.4	
Delay (s)	19.3			20.9	16.6	
Level of Service	B			C	B	
Approach Delay (s)	19.3			20.9	16.6	
Approach LOS	B			C	B	

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Appendix "F"
ODOT Crash Data

ACTION CODE TRANSLATION LIST

ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
000	NONE	NO ACTION OR NON-WARRANTED
001	SKIDDED	SKIDDED
002	ON/OFF V	GETTING ON OR OFF STOPPED OR PARKED VEHICLE
003	LOAD OVR	OVERHANGING LOAD STRUCK ANOTHER VEHICLE, ETC.
006	SLOW DN	SLOWED DOWN
007	AVOIDING	AVOIDING MANEUVER
008	PAR PARK	PARALLEL PARKING
009	ANG PARK	ANGLE PARKING
010	INTERFERE	PASSENGER INTERFERING WITH DRIVER
011	STOPPED	STOPPED IN TRAFFIC NOT WAITING TO MAKE A LEFT TURN
012	STP/L TRN	STOPPED BECAUSE OF LEFT TURN SIGNAL OR WAITING, ETC.
013	STP TURN	STOPPED WHILE EXECUTING A TURN
015	GO A/STOP	PROCEED AFTER STOPPING FOR A STOP SIGN/FLASHING RED.
016	TRN A/RED	TURNED ON RED AFTER STOPPING
017	LOSTCTRL	LOST CONTROL OF VEHICLE
018	EXIT DMV	ENTERING STREET OR HIGHWAY FROM ALLEY OR DRIVEWAY
019	ENTR DMV	ENTERING ALLEY OR DRIVEWAY FROM STREET OR HIGHWAY
020	STR ENTR	BEFORE ENTERING ROADWAY, STRUCK PEDESTRIAN, ETC. ON SIDEWALK OR SHOULDER
021	NO DVR	CAR RAN AWAY - NO DRIVER
022	PREV COL	STRUCK, OR WAS STRUCK BY, VEHICLE OR PEDESTRIAN IN PRIOR COLLISION BEFORE ACC. STABILIZED
023	STALLED	VEHICLE STALLED
024	DVR DEAD	DEAD BY UNASSOCIATED CAUSE
025	FATIGUE	FATIGUED, SLEEPY, ASLEEP
026	SUN	DRIVER BLINDED BY SUN
027	HDLGHTS	DRIVER BLINDED BY HEADLIGHTS
028	ILLNESS	PHYSICALLY ILL
029	THRU MED	VEHICLE CROSSED, PLUNGED OVER, OR THROUGH MEDIAN BARRIER
030	PURSUIT	PURSUING OR ATTEMPTING TO STOP ANOTHER VEHICLE
031	PASSING	PASSING SITUATION
032	PRKOFERD	VEHICLE PARKED BEYOND CURB OR SHOULDER
033	CROS MED	VEHICLE CROSSED EARTH OR GRASS MEDIAN
034	X N/SGNL	CROSSING AT INTERSECTION - NO TRAFFIC SIGNAL PRESENT
035	X W/SGNL	CROSSING AT INTERSECTION - TRAFFIC SIGNAL PRESENT
036	DIAGONAL	CROSSING AT INTERSECTION - DIAGONALLY
037	BTWN INT	CROSSING BETWEEN INTERSECTIONS
038	DISTRCT	DRIVER'S ATTENTION DISTRACTED
039	W/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC
040	A/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC
041	W/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC
042	A/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC
043	PLAYINRD	PLAYING IN STREET OR ROAD
044	PUSH MV	PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER
045	WORK ON	WORKING IN ROADWAY OR ALONG SHOULDER
050	LAY ON RD	STANDING OR LYING IN ROADWAY
051	ENT OFFRD	ENTERING / STARTING IN TRAFFIC LANE FROM OFF-ROAD
088	OTHER	OTHER ACTION
999	UNK	UNKNOWN ACTION

CAUSE CODE TRANSLATION LIST

CAUSE CODE	SHORT DESCRIPTION	LONG DESCRIPTION
00	NO CODE	NO CAUSE ASSOCIATED AT THIS LEVEL
01	TOO-FAST	TOO FAST FOR CONDITIONS (NOT EXCEED POSTED SP
02	NO-YIELD	DID NOT YIELD RIGHT-OF-WAY
03	PAS-STOP	PASSED STOP SIGN OR RED FLASHER
04	DIS--RAG	DISREGARDED R-A-G TRAFFIC SIGNAL.
05	LEFT-CTR	DRIVE LEFT OF CENTER ON TWO-WAY ROAD
06	IMP-OVER	IMPROPER OVERTAKING
07	TOO-CLOS	FOLLOWED TOO CLOSELY
08	IMP-TURN	MADE IMPROPER TURN
09	DRINKING	ALCOHOL OR DRUG INVOLVED
10	OTHR-IMP	OTHER IMPROPER DRIVING
11	MECH-DEF	MECHANICAL DEFECT
12	OTHER	OTHER (NOT IMPROPER DRIVING)
13	IMP LN C	IMPROPER CHANGE OF TRAFFIC LANES
14	DIS TCD	DISREGARDED OTHER TRAFFIC CONTROL DEVICE
15	WRNG WAY	WRONG WAY ON ONE-WAY ROADWAY
16	FATIGUE	DRIVER DROWSY/FATIGUED/SLEEPY
18	IN RWY	NON-MOTORIST ILLEGALLY IN ROADWAY
19	NT VISBL	NON-MOTORIST CLOTHING NOT VISIBLE
20	IMP PRNG	VEHICLE IMPROPERLY PARKED
21	DEF STER	DEFECTIVE STEERING MECHANISM
22	DEF BRKE	INADEQUATE OR NO BRAKES
24	LOADSHT	VEHICLE LOST LOAD OR LOAD SHIFTED
25	TIREFAIL	TIRE FAILURE
26	PHANTOM	PHANTOM / NON-CONTACT VEHICLE
27	INATTENT	INATTENTION
30	SPEED	DRIVING IN EXCESS OF POSTED SPEED
31	RACING	SPEED RACING (PER PAR)
32	CARELESS	CARELESS DRIVING (CITATION ISSUED)
33	RECKLESS	RECKLESS DRIVING (CITATION ISSUED)
34	AGGRESV	AGGRESSIVE DRIVING (PER PAR)
35	RD RAGE	ROAD RAGE (PER PAR)

COLLISION TYPE CODE TRANSLATION LIST

COLL CODE	SHORT DESCRIPTION	LONG DESCRIPTION
4	OTH	MISCELLANEOUS
-	BACK	BACKING
0	PED	PEDESTRIAN
1	ANGL	ANGLE
2	HEAD	HEAD-ON
3	REAR	REAR-END
4	SS-M	SIDESWIP - MEETING
5	SS-O	SIDESWIP - OVERTAKING
6	TURN	TURNING MOVEMENT
7	PARK	PARKING MANEUVER
8	NCOL	NON-COLLISION
9	FIX	FIXED OBJECT OR OTHER OBJECT

CRASH TYPE CODE TRANSLATION LIST

CRASH TYPE	SHORT DESCRIPTION	LONG DESCRIPTION
6	OVERTURN	OVERTURNED
0	NON-COLL	OTHER NON-COLLISION
1	OTH RWY	MOTOR VEHICLE ON OTHER ROADWAY
2	PRKD MV	PARKED MOTOR VEHICLE
3	PED	PEDESTRIAN
4	TRAIN	RAILWAY TRAIN
6	BIKE	PEDALCYCLIST
7	ANIMAL	ANIMAL
8	FIX OBJ	FIXED OBJECT
9	OTH OBJ	OTHER OBJECT
A	ANGL-STP	ENTERING AT ANGLE - ONE VEHICLE STOPPED
B	ANGL-OTH	ENTERING AT ANGLE - ALL OTHERS
C	S-STRGHT	FROM SAME DIRECTION - BOTH GOING STRAIGHT
D	S-1TURN	FROM SAME DIRECTION - ONE TURN, ONE STRAIGHT
E	S-1STOP	FROM SAME DIRECTION - ONE STOPPED
F	S-OTHER	FROM SAME DIRECTION-ALL OTHERS, INCLUDING PARKING
G	O-STRGHT	FROM OPPOSITE DIRECTION - BOTH GOING STRAIGHT
H	O-1TURN	FROM OPPOSITE DIRECTION - ONE TURN, ONE STRAIGHT
I	O-1STOP	FROM OPPOSITE DIRECTION - ONE STOPPED
J	O-OTHER	FROM OPPOSITE DIRECTION-ALL OTHERS INCL. PARKING

DRIVER RESIDENCE CODE TRANSLATION LIST

DRIVER LICENSE CODE TRANSLATION LIST

LIC CODE	SHORT DESC	LONG DESCRIPTION	RES CODE	SHORT DESC	LONG DESCRIPTION
0	NONE	NOT LICENSED (HAD NEVER BEEN LICENSED)	1	OR<25	OREGON RESIDENT WITHIN 25 MILE OF HOME
1	OR-Y	VALID OREGON LICENSE	2	OR>25	OREGON RESIDENT 25 OR MORE MILES FROM HOME
2	OTH-Y	VALID LICENSE, OTHER STATE OR COUNTRY	3	OR-?	OREGON RESIDENT - UNKNOWN DISTANCE FROM HOME
3	SUSP	SUSPENDED/REVOKED	4	N-RES	NON-RESIDENT
			9	UNK	UNKNOWN IF OREGON RESIDENT

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
000	NONE	NO ERROR
001	WIDE TRN	WIDE TURN
002	CUT CORN	CUT CORNER ON TURN
003	FAIL TRN	FAILED TO OBEY MANDATORY TRAFFIC TURN SIGNAL, SIGN OR LANE MARKINGS
004	L IN TRF	LEFT TURN IN FRONT OF ONCOMING TRAFFIC
005	L PROHIB	LEFT TURN WHERE PROHIBITED
006	FRM WRNG	TURNED FROM WRONG LANE
007	TO WRNG	TURNED INTO WRONG LANE
008	ILLEG U	U-TURNED ILLEGALLY
009	IMP STOP	IMPROPERLY STOPPED IN TRAFFIC LANE
010	IMP SIG	IMPROPER SIGNAL OR FAILURE TO SIGNAL
011	IMP BACK	BACKING IMPROPERLY (NOT PARKING)
012	IMP PARK	IMPROPERLY PARKED
013	UNPARK	IMPROPER START LEAVING PARKED POSITION
014	IMP STRT	IMPROPER START FROM STOPPED POSITION
015	IMP LGHT	IMPROPER OR NO LIGHTS (VEHICLE IN TRAFFIC)
016	INATTENT	FAILED TO DIM LIGHTS (UNTIL 4/1/97) / INATTENTION (AFTER 4/1/97)
017	UNSF VEH	DRIVING UNSAFE VEHICLE (NO OTHER ERROR APPARENT)
018	OTH PARK	ENTERING, EXITING PARKED POSITION WITH INSUFFICIENT CLEARANCE OR OTHER IMPROPER PARKING MANUEVER
019	DTS DRIV	DISREGARDED OTHER DRIVER'S SIGNAL
020	DTS SGNL	DISREGARDED TRAFFIC SIGNAL
021	RAN STOP	DISREGARDED STOP SIGN OR FLASHING RED
022	DTS SIGN	DISREGARDED WARNING SIGN, FLARES OR FLASHING AMBER
023	DTS OFCR	DISREGARDED POLICE OFFICER OR FLAGMAN
024	DTS EMER	DISREGARDED SIREN OR WARNING OF EMERGENCY VEHICLE
025	DTS RR	DISREGARDED RR SIGNAL, RR SIGN, OR RR FLAGMAN
026	REAR-END	FAILED TO AVOID STOPPED OR PARKED VEHICLE AHEAD OTHER THAN SCHOOL BUS
027	BIKE ROW	DID NOT HAVE RIGHT-OF-WAY OVER PEDALCYCLIST
028	NO ROW	DID NOT HAVE RIGHT-OF-WAY
029	FED ROW	FAILED TO YIELD RIGHT-OF-WAY TO PEDESTRIAN
030	PAS CURV	PASSING ON A CURVE
031	PAS WRNG	PASSING ON THE WRONG SIDE
032	PAS TANG	PASSING ON STRAIGHT ROAD UNDER UNSAFE CONDITIONS
033	PAS X-WK	PASSED VEHICLE STOPPED AT CROSSWALK FOR PEDESTRIAN
034	PAS INTR	PASSING AT INTERSECTION
035	PAS HILL	PASSING ON CREST OF HILL
036	N/PAS 2N	PASSING IN "NO PASSING" ZONE
037	PAS TRAF	PASSING IN FRONT OF ONCOMING TRAFFIC
038	CUT-IN	CUTTING IN (TWO LANES - TWO WAY ONLY)
039	WRNGSIDE	DRIVING ON WRONG SIDE OF THE ROAD
040	THRU MED	DRIVING THROUGH SAFETY ZONE OR OVER ISLAND
041	F/ST BUS	FAILED TO STOP FOR SCHOOL BUS

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
042	F/SLO MV	FAILED TO DECREASE SPEED FOR SLOWER MOVING VEHICLE
043	TO CLOSE	FOLLOWING TOO CLOSELY (MUST BE ON OFFICER'S REPORT)
044	STRDL LN	STRADDLING OR DRIVING ON WRONG LANES
045	IMP CHG	IMPROPER CHANGE OF TRAFFIC LANES
046	WRNG WAY	WRONG WAY ON ONE-WAY ROADWAY (VEHICLE IS DELIBERATELY TRAVELING ON WRONG SIDE)
047	BASCRULE	DRIVING TOO FAST FOR CONDITIONS (NOT EXCEEDING POSTED SPEED)
048	OPN DOOR	OPENED DOOR INTO ADJACENT TRAFFIC LANE
049	IMPEDING	IMPEDING TRAFFIC
050	SPEED	DRIVING IN EXCESS OF POSTED SPEED
051	RECKLESS	RECKLESS DRIVING (PER PAR)
052	CARELESS	CARELESS DRIVING (PER PAR)
053	RACING	SPEED RACING (PER PAR)
054	X N/SGNL	CROSSING AT INTERSECTION - NO TRAFFIC SIGNAL PRESENT
055	X W/SGNL	CROSSING AT INTERSECTION - TRAFFIC SIGNAL PRESENT
056	DIAGONAL	CROSSING AT INTERSECTION - DIAGONALLY
057	BTWN INT	CROSSING BETWEEN INTERSECTIONS
059	W/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC
060	A/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC
061	W/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC
062	A/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC
063	PLAYINRD	PLAYING IN STREET OR ROAD
064	PUSH MV	PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER
065	WK IN RD	WORKING IN ROADWAY OR ALONG SHOULDER
070	LAYON RD	STANDING OR LYING IN ROADWAY
073	DIS POL	DISREGARDING POLICE (ELUDING)
080	FAIL LN	FAILED TO MAINTAIN LANE
081	OFF RD	RAN OFF ROAD
082	NO CLEAR	DRIVER MISJUDGED CLEARANCE
083	OVRSTEER	OVER CORRECTING
084	NOT USED	CODE NOT IN USE
085	OVRLD	OVERLOADING OR IMPROPER LOADING OF VEHICLE WITH CARGO OR PASSENGERS
097	UNA DIS TC	UNABLE TO DETERMINE WHICH DRIVER DISREGARDED TRAFFIC CONTROL DEVICE

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
001	FEL/JUMP	OCCUPANT FELL, JUMPED OR WAS EJECTED FROM MOVING VEHICLE
002	INTERFER	PASSENGER INTERFERED WITH DRIVER
003	BUG INTF	ANIMAL OR INSECT IN VEHICLE INTERFERED WITH DRIVER
004	PED INV	PEDESTRIAN INVOLVED (NON-PEDESTRIAN ACCIDENT)
005	SUB-PED	"SUB-PED": PEDESTRIAN INJURED SUBSEQUENT TO COLLISION, ETC.
006	BIKE INV	TRICYCLE-BICYCLE INVOLVED
007	HITCHIKR	HITCHHIKER (SOLICITING A RIDE)
008	PSNGR TOW	PASSENGER BEING TOWED OR PUSHED ON CONVEYANCE
009	ON/OFF V	GETTING ON OR OFF STOPPED OR PARKED VEHICLE (OCCUPANTS ONLY)
010	SUB OTRN	OVERTURNED AFTER FIRST HARMFUL EVENT
011	MV PUSHD	VEHICLE BEING PUSHED
012	MV TOWED	VEHICLE TOWED OR HAD BEEN TOWING ANOTHER VEHICLE
013	FORCED	VEHICLE FORCED BY IMPACT INTO ANOTHER VEHICLE, PEDALCYCLIST OR PEDESTRIAN
014	SET MOTN	VEHICLE SET IN MOTION BY NON-DRIVER (CHILD RELEASED BRAKES, ETC.)
015	RR ROW	AT OR ON RAILROAD RIGHT-OF-WAY (NOT LIGHT RAIL)
016	LT RL ROW	AT OR ON LIGHT-RAIL RIGHT-OF-WAY
017	RR HIT V	TRAIN STRUCK VEHICLE
018	V HIT RR	VEHICLE STRUCK TRAIN
019	HIT RR CAR	VEHICLE STRUCK RAILROAD CAR ON ROADWAY
020	JACKNIFE	JACKNIFE; TRAILER OR TOWED VEHICLE STRUCK TOWING VEHICLE
021	TRL OTRN	TRAILER OR TOWED VEHICLE OVERTURNED
022	CN BROKE	TRAILER CONNECTION BROKE
023	DETACH IRL	DETACHED TRAILING OBJECT STRUCK OTHER VEHICLE, NON-MOTORIST, OR OBJECT
024	V DOOR OFN	VEHICLE DOOR OPENED INTO ADJACENT TRAFFIC LANE
025	WHEEL OFF	WHEEL CAME OFF
026	HOOD UP	HOOD FLEW UP
028	LOAD SHIFT	LOST LOAD, LOAD MOVED OR SHIFTED
029	TIREFAIL	TIRE FAILURE
030	PET	PET: CAT, DOG AND SIMILAR
031	LIVSTOCK	STOCK: COW, CALF, BULL, STEER, SHEEP, ETC.
032	HORSE	HORSE, MULE, OR DONKEY
033	HRSE&RID	HORSE AND RIDER
034	GAME	WILD ANIMAL, GAME (INCLUDES BIRDS; NOT DEER OR ELK)
035	DEER ELK	DEER OR ELK, WAPITI
036	ANML VEH	ANIMAL-DRAWN VEHICLE
037	CULVERT	CULVERT, OPEN LOW OR HIGH MANHOLE
038	ATTENUATN	IMPACT ATTENUATOR
039	PK METER	PARKING METER
040	CURB	CURB (ALSO NARROW SIDEWALKS ON BRIDGES)
041	JIGGLE	JIGGLE BARS OR TRAFFIC SNAKE FOR CHANNELIZATION
042	GRDL END	LEADING EDGE OF GUARDRAIL
043	GUARDRAIL	GUARD RAIL (NOT METAL MEDIAN BARRIER)
044	BARRIER	MEDIAN BARRIER (RAISED OR METAL)
045	WALL	RETAINING WALL OR TUNNEL WALL
046	BR RAIL	BRIDGE RAILING (ON BRIDGE AND APPROACH)
047	BR ABUT	BRIDGE ABUTMENT (APPROACH ENDS)
048	BR COLUMN	BRIDGE PILLAR OR COLUMN (EVEN THOUGH STRUCK PROTECTIVE GUARD RAIL FIRST)
049	BR GIRDR	BRIDGE GIRDER (HORIZONTAL STRUCTURE OVERHEAD)
050	ISLAND	TRAFFIC RAISED ISLAND
051	GORE	GORE
052	POLE UNK	POLE - TYPE UNKNOWN
053	POLE UTL	POLE - POWER OR TELEPHONE
054	ST LIGHT	POLE - STREET LIGHT ONLY
055	TRF SGNL	POLE - TRAFFIC SIGNAL AND PED SIGNAL ONLY
056	SGN BRDG	POLE - SIGN BRIDGE
057	STOP SIGN	STOP OR YIELD SIGN
058	OTH SIGN	OTHER SIGN, INCLUDING STREET SIGNS
059	HYDRANT	HYDRANT

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
060	MARKER	DELINATOR OR MARKER (REFLECTOR POSTS)
061	MAILBOX	MAILBOX
062	TREE	TREE, STUMP OR SHRUBS
063	VEG OHED	TREE BRANCH OR OTHER VEGETATION OVERHEAD, ETC.
064	WIRE/CBL	WIRE OR CABLE ACROSS OR OVER THE ROAD
065	TEMP SGN	TEMPORARY SIGN OR BARRICADE IN ROAD, ETC.
066	PERM SGN	PERMANENT SIGN OR BARRICADE IN/OFF ROAD
067	SLIDE	SLIDES, ROCKS OFF OR ON ROAD, FALLING ROCKS
068	FRGN OBJ	FOREIGN OBSTRUCTION/DEBRIS IN ROAD (NOT GRAVEL)
069	EQP WORK	EQUIPMENT WORKING IN/OFF ROAD
070	OTH EQP	OTHER EQUIPMENT IN OR OFF ROAD (INCLUDES PARKED TRAILER, BOAT)
071	MAIN EQP	WRECKER, STREET SWEEPER, SNOW PLOW OR SANDING EQUIPMENT
072	OTHER WALL	ROCK, BRICK OR OTHER SOLID WALL
073	IRRL PVMT	SPEED BUMP, OTHER BUMP, POTHOLE OR PAVEMENT IRREGULARITY (PER PAR)
075	CAVE IN	BRIDGE OR ROAD CAVE IN
076	HI WATER	HIGH WATER
077	SNO BANK	SNOW BANK
078	HOLE	CHUCKHOLE IN ROAD, LOW OR HIGH SHOULDER AT PAVEMENT EDGE
079	DITCH	CUT SLOPE OR DITCH EMBANKMENT
080	OBJ F MV	STRUCK BY ROCK OR OTHER OBJECT SET IN MOTION BY OTHER VEHICLE (INCL. LOST LOADS)
081	FLY-OBJ	STRUCK BY OTHER MOVING OR FLYING OBJECT
082	VEH HID	VEHICLE OBSCURED VIEW
083	VEG HID	VEGETATION OBSCURED VIEW
084	BLDG HID	VIEW OBSCURED BY FENCE, SIGN, PHONE BOOTH, ETC.
085	WIND GUST	WIND GUST
086	IMMERSED	VEHICLE IMMERSSED IN BODY OF WATER
087	FIRE/EXP	FIRE OR EXPLOSION
088	FENC/BLD	FENCE OR BUILDING, ETC.
089	OTH ACDT	ACCIDENT RELATED TO ANOTHER SEPARATE ACCIDENT
090	TO I SIDE	TWO-WAY TRAFFIC ON DIVIDED ROADWAY ALL ROUTED TO ONE SIDE
092	PHANTOM	OTHER (PHANTOM) NON-CONTACT VEHICLE (ON PAR OR REPORT)
093	CELL-POL	CELL PHONE (ON PAR OR DRIVER IN USE)
094	VIOL GDL	TEENAGE DRIVER IN VIOLATION OF GRADUATED LICENSE PGM
095	GUY WIRE	GUY WIRE
096	BERM	BERM (EARTHEN OR GRAVEL MOUND)
097	GRAVEL	GRAVEL IN ROADWAY
098	ABR EDGE	ABRUPT EDGE
099	CELL-WTN	CELL PHONE USE WITNESSED BY OTHER PARTICIPANT
100	UNK FIXD	UNKNOWN TYPE OF FIXED OBJECT
101	OTHER OBJ	OTHER OR UNKNOWN OBJECT, NOT FIXED
104	OUTSIDE V	PASSENGER RIDING ON VEHICLE EXTERIOR
105	PEDAL FSGR	PASSENGER RIDING ON PEDALCYCLE
106	MAN WHCHR	PEDESTRIAN IN NON-MOTORIZED WHEELCHAIR
107	MTR WHCHR	PEDESTRIAN IN MOTORIZED WHEELCHAIR
110	N-MTR	NON-MOTORIZED STRUCK VEHICLE
111	S CAR VS V	STREET CAR/TROLLEY (ON RAILS AND/OR OVERHEAD WIRE SYSTEM) STRUCK VEHICLE
112	V VS S CAR	VEHICLE STRUCK STREET CAR/TROLLEY (ON RAILS AND/OR OVERHEAD WIRE SYSTEM)
113	S CAR ROW	AT OR ON STREET CAR/TROLLEY RIGHT-OF-WAY
114	RR EQUIP	VEHICLE STRUCK RAILROAD EQUIPMENT (NOT TRAIN) ON TRACKS
120	WIRE BAR	WIRE OR CABLE MEDIAN BARRIER
124	SLIPPERY	SLIDING OR SWERVING DUE TO WET, ICY, SLIPPERY OR LOOSE SURFACE
125	SHLDR	SHOULDER GAVE WAY

FUNCTIONAL CLASSIFICATION TRANSLATION LIST

FUNC CLASS	DESCRIPTION
01	RURAL PRINCIPAL ARTERIAL - INTERSTATE
02	RURAL PRINCIPAL ARTERIAL - OTHER
06	RURAL MINOR ARTERIAL
07	RURAL MAJOR COLLECTOR
08	RURAL MINOR COLLECTOR
09	RURAL LOCAL
11	URBAN PRINCIPAL ARTERIAL - INTERSTATE
12	URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXP
14	URBAN PRINCIPAL ARTERIAL - OTHER
16	URBAN MINOR ARTERIAL
17	URBAN COLLECTOR
19	URBAN LOCAL
78	UNKNOWN RURAL SYSTEM
79	UNKNOWN RURAL NON-SYSTEM
98	UNKNOWN URBAN SYSTEM
99	UNKNOWN URBAN NON-SYSTEM

HIGHWAY COMPONENT TRANSLATION LIST

CODE	DESCRIPTION
0	MAINLINE STATE HIGHWAY
1	COUplet
3	FRONTAGE ROAD
6	CONNECTION
8	HIGHWAY - OTHER

INJURY SEVERITY CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
1	KILL	FATAL INJURY
2	INJA	INCAPACITATING INJURY - BLEEDING, BROKEN BONES
3	INJB	NON-INCAPACITATING INJURY
4	INJC	POSSIBLE INJURY - COMPLAINT OF PAIN
5	FRI	DIED PRIOR TO CRASH
7	NO<5	NO INJURY - 0 TO 4 YEARS OF AGE

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	DAY	DAYLIGHT
2	DLIT	DARKNESS - WITH STREET LIGHTS
3	DARK	DARKNESS - NO STREET LIGHTS
4	DAWN	DAWN (TWILIGHT)
5	DUSK	DUSK (TWILIGHT)

INJURY TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	NONE	NO MEDIAN
1	RSDMD	SOLID MEDIAN BARRIER
2	DIUMD	EARTH, GRASS OR PAVED MEDIAN

CODE	LONG DESCRIPTION
0	REGULAR MILEAGE
T	TEMPORARY
Y	SFUR
Z	OVERLAPPING

MOVEMENT TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	STRGHT	STRAIGHT AHEAD
2	TURN-R	TURNING RIGHT
3	TURN-L	TURNING LEFT
4	U-TURN	MAKING A U-TURN
5	BACK	BACKING
6	STOP	STOPPED IN TRAFFIC
7	PRKD-P	PARKED - PROPERLY
8	PRKD-I	PARKED - IMPROPERLY

PARTICIPANT TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	OCC	UNKNOWN OCCUPANT TYPE
1	DRVR	DRIVER
2	PSNG	PASSENGER
3	PED	PEDESTRIAN
4	CONV	PEDESTRIAN USING A PEDESTRIAN CONV
5	PTOW	PEDESTRIAN TOWING OR TRAILERING AN
6	BIKE	PEDALCYCLIST
7	BTOW	PEDALCYCLIST TOWING OR TRAILERING A
8	PRKD	OCCUPANT OF A PARKED MOTOR VEHICLE
9	UNK	UNKNOWN TYPE OF NON-MOTORIST

PEDESTRIAN LOCATION CODE TRANSLATION LIST

CODE	LONG DESCRIPTION
00	AT INTERSECTION - NOT IN ROADWAY
01	AT INTERSECTION - INSIDE CROSSWALK
02	AT INTERSECTION - IN ROADWAY, OUTSIDE CROSSWALK
03	AT INTERSECTION - IN ROADWAY, XWALK AVAIL UNKNOWN
04	NOT AT INTERSECTION - IN ROADWAY
05	NOT AT INTERSECTION - ON SHOULDER
06	NOT AT INTERSECTION - ON MEDIAN
07	NOT AT INTERSECTION - WITHIN TRAFFIC RIGHT-OF-WAY
08	NOT AT INTERSECTION - IN BIKE PATH
09	NOT-AT INTERSECTION - ON SIDEWALK
10	OUTSIDE TRAFFICWAY BOUNDARIES
15	NOT AT INTERSECTION - INSIDE MID-BLOCK CROSSWALK
18	OTHER, NOT IN ROADWAY
99	UNKNOWN LOCATION

TRAFFIC CONTROL DEVICE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
000	NONE	NO CONTROL
001	TRF SIGNAL	TRAFFIC SIGNALS
002	FLASHSCN-R	FLASHING BEACON - RED (STOP)
003	FLASHSCN-A	FLASHING BEACON - AMBER (SLOW)
004	STOP SIGN	STOP SIGN
005	SLOW SIGN	SLOW SIGN
006	REG-SIGN	REGULATORY SIGN
007	YIELD	YIELD SIGN
008	WARNING	WARNING SIGN
009	CURVE	CURVE SIGN
010	SCHL X-ING	SCHOOL CROSSING SIGN OR SPECIAL SIGNAL
011	OFCR/FLAG	POLICE OFFICER, FLAGMAN - SCHOOL PATROL
012	BRDG-GATE	BRIDGE GATE - BARRIER
013	TEMP-BARR	TEMPORARY BARRIER
014	NO-PASS-ZN	NO PASSING ZONE
015	ONE-WAY	ONE-WAY STREET
016	CHANNEL	CHANNELIZATION
017	MEDIAN BAR	MEDIAN BARRIER
018	PILOT CAR	PILOT CAR
019	SP PED SIG	SPECIAL PEDESTRIAN SIGNAL
020	X-BUCK	CROSSBUCK
021	THR-GN-SIG	THROUGH GREEN ARROW OR SIGNAL
022	L-GRN-SIG	LEFT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
023	R-GRN-SIG	RIGHT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
024	WGNAG	WIGWAG OR FLASHING LIGHTS W/O DROP-ARM GATE
025	X-BUCK WRN	CROSSBUCK AND ADVANCE WARNING
026	WW W/ GATE	FLASHING LIGHTS WITH DROP-ARM GATES
027	OVRHD SGNL	SUPPLEMENTAL OVERHEAD SIGNAL (RR XING ONLY)
028	SP RR STOP	SPECIAL RR STOP SIGN
029	ILUM GRD X	ILLUMINATED GRADE CROSSING
037	RAMP METER	METERED RAMPS
038	RUMBLE STR	RUMBLE STRIP
090	L-TURN REF	LEFT TURN REFUGE (WHEN REFUGE IS INVOLVED)
091	R-TURN ALL	RIGHT TURN AT ALL TIMES SIGN, ETC.
092	EMR SGN/FL	EMERGENCY SIGNS OR FLARES
093	ACCEL LANE	ACCELERATION OR DECELERATION LANES
094	R-TURN PRO	RIGHT TURN PROHIBITED ON RED AFTER STOPPING

ROAD CHARACTER CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	INTER	INTERSECTION
2	ALLEY	DRIVEWAY OR ALLEY
3	STRGHT	STRAIGHT ROADWAY
4	TRANS	TRANSITION
5	CURVE	CURVE (HORIZONTAL CURVE)
6	OPENAC	OPEN ACCESS OR TURNOUT
7	GRADE	GRADE (VERTICAL CURVE)
8	BRIDGE	BRIDGE STRUCTURE
9	TUNNEL	TUNNEL

095 BUS STPSGN BUS STOP SIGN AND RED LIGHTS
099 UNKNOWN UNKNOWN OR NOT DEFINITE

WEATHER CONDITION CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	CLR	CLEAR
2	CLD	CLOUDY
3	RAIN	RAIN
4	SLEET	SLEET
5	FOG	FOG
6	SNOW	SNOW
7	DUST	DUST
8	SMOK	SMOKE
9	ASH	ASH

VEHICLE TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
01	PSSNGR CAR	PASSENGER CAR, PICKUP, ETC.
02	BOBTAIL	TRUCK TRACTOR WITH NO TRAILERS (BOBTAIL)
03	FARM TRCTR	FARM TRACTOR OR SELF-PROPELLED FARM EQUIPMENT
04	SEMI TOW	TRUCK TRACTOR WITH TRAILER/MOBILE HOME IN TOW
05	TRUCK	TRUCK WITH NON-DETACHABLE BED, PANEL, ETC.
06	MOPED	MOPED, MINIBIKE, MOTOR SCOOTER, OR MOTOR BICYCLE
07	SCHL BUS	SCHOOL BUS (INCLUDES VAN)
08	OTH BUS	OTHER BUS
09	MTRCYCLE	MOTORCYCLE
10	OTHER	OTHER: FORKLIFT, BACKHOE, ETC.
11	MOTRHOME	MOTORHOME
12	TROLLEY	MOTORIZED STREET CAR/TROLLEY (NO RAILS/WIRES)
13	ATV	ATV
14	MTRSCTR	MOTORIZED SCOOTER
15	SNOWMOBILE	SNOWMOBILE
99	UNKNOWN	UNKNOWN VEHICLE TYPE

Lockhaven at 14th in Keizer
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	TOTAL PEOPLE KILLED	TOTAL PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION RELATED	INTER- SECTION OFF- ROAD
YEAR: 2006													
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	1	0	1	0
2006 TOTAL	0	0	2	2	0	0	0	1	1	2	0	2	0
YEAR: 2003													
HEAD-ON	0	1	0	1	0	2	0	1	0	0	1	1	0
2003 TOTAL	0	1	0	1	0	2	0	1	0	0	1	1	0
YEAR: 2002													
REAR-END	0	2	0	2	0	2	0	2	0	2	0	2	0
2002 TOTAL	0	2	0	2	0	2	0	2	0	2	0	2	0
FINAL TOTAL	0	3	2	5	0	4	0	4	1	4	1	5	0

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CDS180 9/26/2007

CITY OF KEIZER, MARION COUNTY

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
Lockhaven at 14th in Keizer
1-1-2002 through 12-31-2006

PAGE: 1

S	D	P	R	S	M	DATE	CLASS	CITY STREET	INT-TYP	RD CHAR	INT-REL	OFF-RO	WTHR	CRASH TYP	SECL USE	MOVE	TRLR QTY	OWNER	FROM	PRIC	INJ	A	S	E	LICNS	PED	LOC	ERROR	ACTN	EVENT	CAUSE
SER#	E	L	G	H	R	DAY	DIST	FIRST STREET	LEGS	DIRECT	TRAF-	FNDET	SURF	COLL TYP	V#	VEH TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACTN	EVENT	CAUSE			
INVEST	D	C	S	L	K	TIME	FROM	SECOND STREET	(#LANES)	CONTL	DRWAY	LIGHT	SVRTY																		
03508	N	N	N	Y	Y	09/20/2006	14	LOCKHAVEN DR	CROSS	INTER	N	STOP SIGN	N	RAIN	ANGI-STP	01	NONE	TURN-R		01	DRVR	NONE	21	M	OR-Y	047,001,026	017			000	01,08
						5P	0	14TH AVE	0	06						PSNGR CAR	E	N					OR<25						000	00	
																02	NONE	STOP	N	S	01	DRVR	NONE	00	M	UNK			011	00	
																PSNGR CAR							UNK						000	00	
03214	N	N	N	Y	Y	08/28/2006	14	LOCKHAVEN DR	CROSS	INTER	N	TRF SIGNAL	N	CLR	ANGI-OTH	01	NONE	STRGHT		01	DRVR	NONE	22	F	OR-Y				000	04	
						7P	0	14TH AVE	0	02						PSNGR CAR	E	W					OR<25						000	00	
																02	NONE	STRGHT	S	N	01	DRVR	NONE	00	M	UNK			000	00	
																PSNGR CAR							OR<25						000	00	
04042	N	N	N	N	N	07/31/2002	14	LOCKHAVEN DR	CROSS	INTER	N	TRF SIGNAL	N	CLR	S-1STOP	01	NONE	STRGHT		01	DRVR	NONE	59	M	OR-Y				000	01	
						5P	0	14TH AVE NE	0	06						PSNGR CAR	E	W					OR<25						026	01	
																02	NONE	STOP			01	DRVR	INJC	40	F	OR-Y			011		
																PSNGR CAR	E	W					OR<25						000		
05945	N	N	N	N	N	10/29/2002	14	LOCKHAVEN DR	CROSS	INTER	N	TRF SIGNAL	N	CLR	S-1STOP	01	NONE	STRGHT		01	DRVR	NONE	19	F	OR-Y				000	01	
						Tue	0	14TH AVE NE	0	06						PSNGR CAR	E	W					OR<25						026	038	
						1P										02	NONE	STOP			01	DRVR	INJC	70	F	OR-Y			011		
																PSNGR CAR	E	W					OR<25						000		
00277	N	N	N	N	N	01/15/2003	14	LOCKHAVEN DR	CROSS	INTER	N	TRF SIGNAL	N	CLR	O-1STOP	01	NONE	STRGHT		01	DRVR	INJC	46	F	OR-Y				000	05	
						Wed	0	14TH AVE NE	0	06						PSNGR CAR	E	W					OR<25						000	05	
						8P										02	NONE	STOP			01	DRVR	INJC	44	M	OR-Y			011	00	
																PSNGR CAR	E	W					OR<25						000	00	

CDS150 3/2007 OREGON DEPARTMENT OF TRANSPORTATION TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
River at Broadway at Commercial in Salem
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES		NON-FATAL CRASHES		PROPERTY DAMAGE ONLY		TOTAL CRASHES		PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION RELATED	INTER-SECTION OFF-ROAD
YEAR: 2006																	
REAR-END	0		1		1		2		0	1	0	2	0	1	1	2	0
2006 TOTAL	0		1		1		2		0	1	0	2	0	1	1	2	0
FINAL TOTAL	0		1		1		2		0	1	0	2	0	1	1	2	0

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

River at Chemawa in Keizer
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY		WET		DAY	DARK	INTER- SECTION RELATED		OFF- ROAD
								SURF	SURF	SURF	SURF			SECTION	SECTION	
YEAR: 2006																
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	2	0	0	0	2	2	2	0	0
2006 TOTAL	0	1	2	3	0	1	0	3	0	1	0	2	2	3	0	0
YEAR: 2005																
ANGLE	0	1	0	1	0	4	0	0	0	1	1	0	0	1	0	0
REAR-END	0	3	1	4	0	3	0	3	0	4	0	4	0	4	0	0
2005 TOTAL	0	4	1	5	0	7	0	3	1	5	0	0	0	5	0	0
YEAR: 2004																
REAR-END	0	0	3	3	0	0	0	3	0	2	0	2	1	3	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	2	0	2	0	2	0	2	0	0
2004 TOTAL	0	1	4	5	0	1	0	5	0	4	0	4	1	5	0	0
YEAR: 2003																
REAR-END	0	4	2	6	0	8	0	6	0	5	0	5	1	6	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	1	0	0
2003 TOTAL	0	4	3	7	0	8	0	7	0	6	0	6	1	7	0	0
YEAR: 2002																
PEDESTRIAN	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0	0
REAR-END	0	4	0	4	0	5	0	4	0	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	2	0	1	0	1	1	2	0	0
2002 TOTAL	0	7	1	8	0	8	0	8	0	7	0	7	1	8	0	0
FINAL TOTAL	0	17	11	28	0	25	0	26	1	23	5	28	5	28	0	0

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

River at Chemawa in Keizer
1-1-2002 through 12-31-2006

CITY OF KEIZER, VARION COUNTY

SER#	INVEST	S E A L C S L K	D U O H R K	N N N	CITY	DATE	CLASS	CITY STREET	FIRST STREET	SECOND STREET	RD CHAR	INT-TYP (MEDIAN) LEGS (#LANES)	INT-REL OFF-RD TRAF- CONTL	WHHR	CRASH TYP	SPCL USE	TRKR QTY	MOVE	P#	TYPE	INJ	A	S	E	G	LICNS	PED	LOC	ERROR	ACTN	EVENT	CAUSE	
04748	NONE	N	N	N	N	09/10/2003 Wed 7P	14 0	CHEMAMA RD	RIVER RD		INTER N 06	CROSS 99	N TRF SIGNAL	N CLR N DRY N DUSK	S-1STOP REAR INJ	01 NONE PRVTE PSNGR CAR	STRGHT N S	01	DRVR	NONE	NONE	32	M	OR-Y	OR<25				026,047	000	000	01	
00983	NONE	N	N	N	N	03/16/2004 Tue 7P	14 0	CHEMAMA RD	RIVER RD		INTER N 06	CROSS 99	N TRF SIGNAL	N CLR N DRY N DLIT	S-1STOP REAR PDO	01 NONE PRVTE PSNGR CAR	STRGHT N S	01	DRVR	INJC	64	M	OR-Y	OR<25				026,047	000	011	000	01	
01437	NONE	N	N	N	N	04/18/2004 Sun 6P	14 0	CHEMAMA RD	RIVER RD		INTER N 06	CROSS 99	N TRF SIGNAL	N CLR N DRY N DAY	S-1STOP REAR PDO	01 NONE PRVTE PSNGR CAR	STRGHT N S	01	DRVR	NONE	NONE	17	F	OR-Y	OR<25				026	000	011	000	07
04612	NONE	N	N	N	N	11/18/2004 Thu 4P	14 0	CHEMAMA RD	RIVER RD		INTER N 06	CROSS 99	N TRF SIGNAL	N CLR N DRY N DAY	S-1STOP REAR PDO	01 NONE PRVTE PSNGR CAR	STRGHT N S	01	DRVR	NONE	NONE	19	M	OR-Y	OR<25				000	011	000	00	
04187	NONE	N	N	N	N	10/21/2005 Fri 5P	14 0	CHEMAMA RD	RIVER RD		INTER N 06	CROSS 99	N TRF SIGNAL	N CLR N DRY N DAY	S-1STOP REAR INJ	01 NONE PRVTE PSNGR CAR	STRGHT N S	01	DRVR	NONE	NONE	19	M	OR-Y	OR<25				026	000	000	07	

DEPARTMENT OF TRANSPORTATION - CRASH ANALYSIS AND REPORTING UNIT
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF KEIZER, MARION COUNTY

1-1-2002 through 12-31-2006

1-1-2002 through 12-31-2006

[illegible]

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING
River at Chemawa in Kelzer
1-1-2002 through 12-31-2006

CITY OF KEIZER, MARION COUNTY

SER#	INVEST	D C S L K	E A U C O	P R S W	DATE	CLASS	CITY STREET FIRST STREET SECOND STREET	R D CHAR DIRECT LOCIN	INT-TYP (MEDIAN) LEGS (PLANES)	INT-REL OFF-RD TRAF- RANDBT CONTL DRVWY	CRASH TYP COLL TYP SURTJ	VEH TYPE V#	SPCL USE TLR QTY OWNER	MOVE FROM TO	PRIC INJ	A S E LICNS	PED LOC ERROR	ACTN EVENT	CAUSE
01912	N N N	N	N	N	05/22/2005	16	CHEMAMA RD RIVER RD	INTER W 06	CROSS TRF SIGNAL 99	N N N	CLR DRY DAY	S-1STOP REAR INJ	01 NONE PRVTE PSNGR CAR	STRGHT W E	01 DRVR NONE	00 F UNK UNK	026,047	000	01
02107	N N N	N	N	N	06/03/2005	16	CHEMAMA RD RIVER RD	INTER W 06	3-LEG TRF SIGNAL 99	N N N	UNK UNK DAY	S-1STOP REAR PDO	01 NONE PRVTE PSNGR CAR	STRGHT W E	01 DRVR NONE	00 F OR-Y OR<25	026	000	07
00641	N N N	N	N	N	02/18/2004	14	CHEMAMA RD RIVER RD	INTER CN 01	CROSS TRF SIGNAL 99	N N N	CLR DRY DAY	S-ITURN TURN PDO	01 NONE PUBLIC OTH BUS	STRGHT N S	01 DRVR NONE	54 M OR-Y OR<25	000	000	08
02626	N N N	N	N	N	07/15/2004	14	CHEMAMA RD RIVER RD	INTER CN 02	CROSS TRF SIGNAL 99	N N N	CLR DRY DAY	BIKE TURN INJ	01 NONE PRVTE PSNGR CAR	TURN-R E N	01 DRVR NONE	57 F OR-Y OR<25	027	000	02
04372	N N N	N	N	N	11/01/2005	14	CHEMAMA RD RIVER RD	INTER CN 04	CROSS TRF SIGNAL 99	N N N	OLD WET DAY	ANGL-OTH ANGL INJ	01 NONE PRVTE PSNGR CAR	STRGHT W E	01 DRVR INJC	41 M OR-Y OR<25	000	000	04
															02 PSNG INJC	35 F OR<25	000	000	00
															03 PSNG INJC	05 F OR<25	000	000	00
															01 DRVR NONE	82 M OR-Y OR<25	020	000	04
															01 DRVR INJC	81 F OR-Y OR<25	000	000	00

CDS380 9/25/2007

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
River at Chemawa in Keizer
1-1-2002 through 12-31-2006

CITY OF KEIZER, MARION COUNTY

S E A U C O		D R S W		DATE		CLASS		CITY STREET		RD CHAR		INT-TYP		INT-REL OFF-RD		WTHR		CRASH TYP		SPECI USE		MOVE		A S		LOC		PED		CAUSE							
SEQ#	INVEST	D	C	S	L	K	FROM	DIST	SECOND STREET	LOCIN	DRY	WET	CROSS	TRF SIGNAL	CONTL	DRVWY	LIGHT	CLR	TURN	PDO	PRVTE	PSNGR CAR	TURN-L	N	E	P#	TYPE	SVRTY	E	X	RES	LOC	EVENT				
03058	N	N	N	N	N	08/24/2006	14	0	CHEMAWA RD	INTER	N	CLR	CROSS	N	TRF SIGNAL	N	DRY	N	O-1TURN	TURN	N	PRVTE	PSNGR CAR	TURN-L	N	E	01	DRVR	NONE	60	F	OR-Y	020	000	013	04	
	CITY					Thu 8P			RIVER RD	CN			0				DUSK		TURN														000	000	00		
										04																								000	000	04	
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04781	N	N	N	N	N	12/09/2006	14	0	CHEMAWA RD	INTER	N	CLR	CROSS	N	TRF SIGNAL	N	DLIT	N	ANGL-OTH	TURN	N	PRVTE	PSNGR CAR	TURN-L	N	E	01	DRVR	NONE	20	M	OR-Y	000	000	000	27,04	
	CITY					Sat 8P			RIVER RD	CN			0						TURN														000	000	00		
										04									INJ														000	000	00		
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CITY OF KEIZER, MARION COUNTY

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
River at Chemawa in Kelzer
1-1-2002 through 12-31-2006

[illegible]

OREGON DEPARTMENT OF TRANSPORTATION
TRANSPORTATION DATA SECTION
CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

River at Dearborn in Keizer
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	TOTAL PEOPLE KILLED	TOTAL PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2006													
ANGLE	0	2	0	2	0	0	6	2	0	2	0	2	0
PEDESTRIAN	0	1	0	1	0	0	1	1	0	1	0	1	0
REAR-END	0	0	1	1	0	0	0	1	0	0	1	0	0
2006 TOTAL	0	3	1	4	0	0	7	4	0	3	1	4	0
YEAR: 2005													
ANGLE	0	1	0	1	0	0	2	1	0	0	1	1	0
REAR-END	0	2	0	2	0	0	2	2	0	2	0	2	0
TURNING MOVEMENTS	0	2	3	5	0	0	2	3	2	2	3	5	0
2005 TOTAL	0	5	3	8	0	0	6	6	2	4	4	8	0
YEAR: 2004													
REAR-END	0	2	0	2	0	0	2	2	0	2	0	2	0
2004 TOTAL	0	2	0	2	0	0	2	2	0	2	0	2	0
YEAR: 2003													
ANGLE	0	2	0	2	0	0	2	2	0	2	0	2	0
PEDESTRIAN	0	1	0	1	0	0	1	0	1	0	1	1	0
TURNING MOVEMENTS	0	2	1	3	0	0	4	2	1	3	0	3	0
2003 TOTAL	0	5	1	6	0	0	7	4	2	5	1	6	0
YEAR: 2002													
ANGLE	0	1	0	1	0	0	1	1	0	1	0	1	0
PEDESTRIAN	0	1	0	1	0	0	1	1	0	1	0	1	0
REAR-END	0	2	0	2	0	0	2	2	0	2	0	2	0
TURNING MOVEMENTS	0	2	0	2	0	0	2	2	0	1	1	2	0
2002 TOTAL	0	6	0	6	0	0	6	6	0	5	1	6	0
FINAL TOTAL	0	21	5	26	0	0	28	22	4	19	7	26	0

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CDS380 9/25/2007

CITY OF KEIZER, MARION COUNTY

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 URBAN NON-SYSTEM CRASH LISTING
 River at Dearborn in Keizer
 1-1-2002 through 12-31-2006

SER#	INVEST	D C S L K	P A U C O	R S W	E L G H R	D A Y	C I T Y	C L A S S	D I S T	F I R S T S T R E E T	S E C O N D S T R E E T	R D C H A R	I N T - T Y P	I N T - R E L	O F F - R D	W T H R	C R A S H T Y P	S P C L U S E	M O V E	F R O M	T O	P #	T Y P E	S T R Y	E	A	S	C	E L I C H S	P E D	L O C	E R R O R	A C T N	E V E N T	C A U S E
03015	City	N N N N	N	N	N	08/19/2006	14	DEARBORN AVE	0	RIVER RD		INTER	CROSS	N	TRF SIGNAL	N	CLR	PED	TURN-R	01	PRVTE	W S	01	DRVR	NONE	49	M	OR-Y	000	000	000	000	00	04	
						Sat 7P						W 06	0			N	DAY	INJ	PSNGR CAR																
																				STRGHT	S N		01	PED	INJB	91	M	OR<25	01	055	035				
01291	City	N N N	N	N	N	04/07/2005	14	DEARBORN AVE	0	RIVER RD		INTER	CROSS	N	TRF SIGNAL	N	RAIN	O-1TURN	01	NONE	TURN-L	S W	01	DRVR	NONE	53	F	OR-Y	004,028	000	000	000	000	02	013
						Fri 2P						CN 01	99			N	WET	TURN	PRVTE				01	DRVR	NONE	53	F	OR-Y	004,028	000	000	000	00	00	
																N	DAY	INJ	PSNGR CAR																
																			02	NONE	STRGHT	N S	01	DRVR	NONE	43	F	NONE	000	000	000	000	00	00	
																			PRVTE																
																			PSNGR CAR																
																			03	NONE	STOP	W E	01	DRVR	INJB	66	M	OR-Y	000	000	000	000	00	00	
																			PRVTE																
																			PSNGR CAR																
03605	City	N N N N	N	N	N	09/29/2006	14	DEARBORN AVE	0	RIVER RD		INTER	CROSS	N	TRF SIGNAL	N	CLR	ANGL-OTH	01	NONE	STRGHT	N S	01	DRVR	INJC	84	F	OR-Y	997	000	000	000	000	04	00
						Fri 9A						CN 01	0			N	DRY	ANGL	PRVTE																
																N	DAY	INJ	PSNGR CAR																
																			02	NONE	STRGHT	E W	01	DRVR	INJB	40	F	OR-Y	097	000	000	000	000	00	00
																			PSNGR CAR																
01037	NO RPT	N N N	N	N	N	02/24/2003	14	DEARBORN AVE	0	RIVER RD		INTER	CROSS	N	TRF SIGNAL	N	CLR	ANGL-OTH	01	NONE	STRGHT	S N	01	DRVR	NONE	72	M	OR-Y	020	000	000	000	000	04	04
						Mon 5P						CN 02	99			N	DAY	INJ	PRVTE																
																			02	NONE	STRGHT	E W	01	DRVR	INJC	24	F	OR-Y	000	000	000	000	00	00	
																			PSNGR CAR																
04764	City	N N N	N	N	N	09/07/2003	14	DEARBORN AVE	0	RIVER RD		INTER	CROSS	N	TRF SIGNAL	N	CLD	ANGL-OTH	01	NONE	STRGHT	S N	01	DRVR	INJB	67	F	OR-Y	020	000	000	000	000	04	04
						Sun 11A						CN 02	99			N	DAY	INJ	PRVTE																
																			02	NONE	STRGHT	E W	01	DRVR	NONE	50	F	OR-Y	000	000	000	000	00	00	
																			PSNGR CAR																
06354	City	N N N	N	N	N	11/22/2003	14	DEARBORN AVE	0	RIVER RD		INTER	CROSS	N	TRF SIGNAL	N	CLD	PED	01	NONE	TURN-R	E N	01	DRVR	NONE	57	F	OR-Y	029	000	000	000	000	02	02
						Sat 5P						CN 02	99			N	WET	PED	PRVTE																
																N	DRY	INJ	PSNGR CAR																
																			02	NONE	STRGHT	E W	01	DRVR	NONE	50	F	OR-Y	000	000	000	000	00	00	00
																			PSNGR CAR																

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

River at Dearborn in Kelzer
1-1-2002 through 12-31-2006

[illegible]

CDS1: 3/2007 OREGON DEPARTMENT OF TRANSPORTATION TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

River at Lockhaven in Keizer
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION RELATED	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2005														
PEDESTRIAN	0	1	0	1	0	1	0	1	0	1	0	1	0	0
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	0	0	1	1	0	0
2005 TOTAL	0	2	1	3	0	2	0	3	0	2	1	3	0	0
YEAR: 2004														
REAR-END	0	3	2	5	0	3	0	4	1	3	2	5	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	0	1	1	0	0
2004 TOTAL	0	4	2	6	0	4	0	4	2	3	3	6	0	0
YEAR: 2003														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	1	0	1	0	1
REAR-END	0	1	2	3	0	3	0	2	1	3	0	3	0	0
2003 TOTAL	0	1	3	4	0	3	0	3	1	4	0	4	0	1
YEAR: 2002														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	1	1	2	0	1	0	2	0	0	2	2	0	0
2002 TOTAL	0	1	2	3	0	1	0	3	0	1	2	3	0	0
FINAL TOTAL	0	8	8	16	0	10	0	13	3	10	6	16	0	1

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

012512007

CITY OF KEIZER, MARION COUNTY

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
PLANNING, DESIGN AND CONSTRUCTION UNIT

DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT, CRASH ANALYSIS AND REPORTING UNIT - RECORDATION DATA SECTION

CRASH ANALYSIS

River at Lockhaven in Keizer

1-1-2002 through 12-31-2006

[illegible]

CITY OF KEIZER, MARION COUNTY

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
IBRAN NON-SYSTEM CRASH LISTING

River at Lockhaven in Kelzer
1-1-2002 through 12-31-2006

S	P	D	INT-TYP	INT-REL	OFF-RD	WTHR	CRASH	TYP	SECL	USE	MOVE	TRLR	QTY	A	S	FED	CAUSE										
E	A	V	CITY STREET	TRAF- RNDRT	CONTL	DRYV	LIGHT	SUPP	OWNER	PRIC	INJ	G	E	LICNS	PED	LOC	ERROR										
SER#	E	L	LEGs	DIRCT	LOCIN	(#LANES)	DRYV	DRYV	DRYV	DRYV	DRYV	DRYV	DRYV	DRYV	DRYV	DRYV	DRYV										
INVEST	D	C	S	L	K	T	IME	FROM	SECOND STREET	RD CHAR	(MEDIAN)	LEGS	CONTL	DRYV	LIGHT	SUPP	COLL										
07149	N	N	N	12/30/2003	14	LOCKHAVEN DR	INTER	CROSS	N	STOP SIGN	N	CLD	S-1STOP	01	NONE	STRGHT	SE NW	01	DRVR	NONE	43 F	OR-Y	026,047	000	001	00	01
NONE	N	N	N	2P	0	RIVER RD	SE	1	N	DAY	N	REAR	INJ	PSNGR	CAR	01	DRVR	NONE	43 F	OR-Y	026,047	000	000	000	00	01	
05263	N	N	N	10/05/2003	14	LOCKHAVEN DR	INTER	CROSS	N	TRF SIGNAL	N	CLR	S-1STOP	01	NONE	STRGHT	SW NE	01	DRVR	NONE	32 M	OR-Y	016,026,047	038	000	00	01,27
NONE	N	N	N	11A	0	RIVER RD	SW	06	N	DAY	N	REAR	PDO	PSNGR	CAR	01	DRVR	NONE	32 M	OR-Y	016,026,047	038	000	00	00	01,27	
04112	N	N	N	10/20/2005	14	LOCKHAVEN DR	INTER	CROSS	N	TRF SIGNAL	N	CLD	S-1STOP	01	NONE	STRGHT	SW NE	01	DRVR	NONE	25 F	OR-Y	053,047,026	080	000	00	004,013
CITY	N	N	N	12P	0	RIVER RD	SW	06	N	DAY	N	REAR	INJ	PSNGR	CAR	01	DRVR	NONE	25 F	OR-Y	053,047,026	080	000	000	00	01	

TRANSPORTATION DATA SECTION, CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

River at Manbrin in Keizer
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2006														
ANGLE	0	2	0	2	0	5	0	1	1	0	2	2	0	0
REAR-END	0	1	0	1	0	1	0	0	1	0	1	1	0	0
2006 TOTAL	0	3	0	3	0	6	0	1	2	0	3	3	0	0
YEAR: 2005														
ANGLE	0	0	1	1	0	0	0	0	0	1	0	1	0	0
PEDESTRIAN	0	1	0	1	0	3	0	1	0	1	0	1	0	0
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
2005 TOTAL	0	2	2	4	0	5	0	3	0	4	0	4	0	0
YEAR: 2004														
REAR-END	0	1	2	3	0	1	0	1	2	2	1	3	0	0
TURNING MOVEMENTS	0	4	2	6	0	5	0	4	1	4	2	6	0	0
2004 TOTAL	0	5	4	9	0	6	0	5	3	6	3	9	0	0
YEAR: 2003														
REAR-END	0	1	0	1	0	1	0	0	1	1	0	1	0	0
TURNING MOVEMENTS	0	0	3	3	0	0	0	2	0	3	0	3	0	0
2003 TOTAL	0	1	3	4	0	1	0	2	1	4	0	4	0	0
YEAR: 2002														
TURNING MOVEMENTS	0	2	0	2	0	3	0	2	0	1	1	2	0	0
2002 TOTAL	0	2	0	2	0	3	0	2	0	1	1	2	0	0
FINAL TOTAL	0	13	9	22	0	21	0	13	6	15	7	22	0	0

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
River at Manbrin in Keizer
1-1-2002 through 12-31-2006

CDS380 9/25/2007

CITY OF KEIZER, MARION COUNTY

SER#	INVEST	D C S L K TIME	DATE	CLASS	CITY STREET	RD CHAR	INT-TYP	INT-REL	OFF-RD	WTHR	CRASH TYP	MOVE	SPCL USE	TO	FROM	TRLR QTY	OWNER	V#	VEH TYPE	P#	TYPE	SVRTY	E X RES	A S	G E LICHS	PED	LOC ERROR	ACTN EVENT	CAUSE	
02079	CITY	N N N	N 06/07/2004 Mon 6P	14 0	MANBRIN DR RIVER RD	INTER CN 03	CROSS	N	TRF SIGNAL	N	CLD	ANGL-OTH	01	NONE	STRGHT	N S	PRVTE	PSNGR CAR	01	DRVR	NONE	34	F	OR-Y	020	000	000	000	000	00
00365	CITY	N N N	N 01/29/2006 Sun 7A	14 0	MANBRIN DR RIVER RD	INTER CN 03	CROSS	N	TRF SIGNAL	N	WET	ANGL	01	NONE	STRGHT	W E	PRVTE	PSNGR CAR	01	DRVR	NONE	30	M	OR-Y	020	000	000	000	000	00
00744	CITY	N N N	N 02/10/2004 Tue 3P	14 0	MANBRIN DR RIVER RD	INTER CN 04	CROSS	N	TRF SIGNAL	N	CLR	O-ITURN	01	NONE	STRGHT	S N	PRVTE	PSNGR CAR	01	DRVR	NONE	19	F	OR-Y	000	000	000	000	000	02
02938	CITY	N N N	N 08/03/2004 Tue 6P	14 0	MANBRIN DR RIVER RD	INTER CN 04	CROSS	N	TRF SIGNAL	N	CLR	O-ITURN	01	NONE	TURN-L	N E	PRVTE	PSNGR CAR	01	DRVR	NONE	45	F	OR-Y	004,028	000	000	000	000	00
03082	CITY	N N N	N 08/12/2004 Thu 6P	14 0	MANBRIN DR RIVER RD	INTER CN 04	CROSS	N	TRF SIGNAL	N	CLR	O-ITURN	01	NONE	STRGHT	S N	PRVTE	PSNGR CAR	01	DRVR	NONE	55	M	OR-Y	004,028	000	000	000	000	02

River at Manzanita at Wheatland in Keizer
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES		NON-FATAL CRASHES		PROPERTY DAMAGE ONLY		TOTAL CRASHES		PEOPLE KILLED		PEOPLE INJURED		TRUCKS		DRY SURF		WET SURF		DAY		DARK		INTER-SECTION RELATED		INTER-SECTION OFF-ROAD	
	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION RELATED	INTER-SECTION OFF-ROAD													
YEAR: 2006																										
ANGLE	0	0	3	3	0	0	0	1	2	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	
2006 TOTAL	0	1	3	4	0	1	0	2	2	3	1	4	0	0	2	2	0	0	0	0	0	0	0	0	0	
YEAR: 2005																										
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	
2005 TOTAL	0	1	0	1	0	1	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	
YEAR: 2004																										
REAR-END	0	3	0	3	0	5	0	3	0	3	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	
TURNING MOVEMENTS	0	0	2	2	0	0	0	1	1	1	1	2	0	0	1	1	0	0	0	0	0	0	0	0	0	
2004 TOTAL	0	3	2	5	0	5	0	4	1	4	1	5	0	0	4	1	1	0	0	0	0	0	0	0	0	
YEAR: 2003																										
REAR-END	0	0	2	2	0	0	0	2	0	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	
TURNING MOVEMENTS	0	1	1	2	0	2	0	1	1	1	1	2	0	0	1	1	0	0	0	0	0	0	0	0	0	
2003 TOTAL	0	1	3	4	0	2	0	3	1	3	1	4	0	0	3	1	1	0	0	0	0	0	0	0	0	
YEAR: 2002																										
REAR-END	0	1	3	4	0	3	0	4	0	3	1	4	0	0	4	0	0	0	0	0	0	0	0	0	0	
TURNING MOVEMENTS	0	2	0	2	0	5	0	2	0	1	1	2	0	0	2	0	0	0	0	0	0	0	0	0	0	
2002 TOTAL	0	3	3	6	0	8	0	6	0	4	2	6	0	0	6	0	0	0	0	0	0	0	0	0	0	
FINAL TOTAL	0	9	11	20	0	17	0	16	4	15	5	20	0	0	16	4	4	0	0	0	0	0	0	0	0	

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 URBAN NON-SYSTEM CRASH LISTING
 River at Manzanita at Wheatland in Keizer
 1-1-2002 through 12-31-2006

CDS380 9/25/2007

CITY OF KEIZER, MARION COUNTY

SER#	INVEST	D C S L K	P E A U C O	R S W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYP	INT-REL	OFF-AD	WTRF	CRASH TYP	SPCL USE	MOVE	FROM	TO	P#	TYPE	INJC	A S	E L I C N S	PED	LOC	ERROR	ACTN	EVENT	CAUSE								
00916	N N N	03/06/2004	14	MANZANITA ST	INTER	N	06	06	CROSS	N	TRF SIGNAL	N	CLR	N	DRY	N	DAY	INJ	S-1STOP	01	NONE	STRGHT	N	S	01	DRVR	NONE	21	F	OR-Y	OR<25	016,026,047	038	000	01,27	
	NO RPT		0	RIVER RD					99				REAR	PRVTE	N	S																	00	00		
													INJ	PSNGR CAR																			01,27			
02305	N N N	06/21/2004	14	MANZANITA ST	INTER	S	06	06	CROSS	N	TRF SIGNAL	N	CLR	N	DRY	N	DAY	INJ	S-1STOP	01	NONE	STRGHT	S	N	01	DRVR	INJC	38	M	OR-Y	OR<25	026,047	000	000	00	00
	CITY		0	RIVER RD					99				REAR	PRVTE	N	S																	00	00		
					10A								INJ	PSNGR CAR																			00	01		
01840	N N N	05/21/2006	14	MANZANITA ST	INTER	CN	04	04	CROSS	N	TRF SIGNAL	N	RAIN	N	WET	N	DUSK	PDO	ANGL-OTH	01	NONE	STRGHT	S	N	01	DRVR	INJC	37	M	OR-Y	OR<25	000	011	000	00	00
	CITY		0	RIVER RD					99					PRVTE	N																			04	00	
					8P									PSNGR CAR																				00	00	
03356	N N N	09/09/2006	14	MANZANITA ST	INTER	CN	04	04	CROSS	N	TRF SIGNAL	N	CLR	N	DRY	N	DAY	PDO	ANGL-OTH	01	NONE	STRGHT	S	N	01	DRVR	NONE	27	F	OR-Y	OR<25	000	000	000	00	00
	CITY		0	RIVER RD					0					PRVTE	N																			04	00	
					11A									PSNGR CAR																				00	00	
04439	N N N	11/17/2006	14	MANZANITA ST	INTER	CN	04	04	CROSS	N	TRF SIGNAL	N	FOG	N	WET	N	DAY	PDO	ANGL-OTH	01	NONE	STRGHT	W	E	01	DRVR	NONE	82	F	OR-Y	OR<25	000	000	000	04,27	00
	CITY		0	RIVER RD					0					PRVTE	N																			00	00	
					7A									PSNGR CAR																				00	00	
02920	N N N	06/02/2004	16	RIVER RD	INTER	N	06	06	3-LEG	N	TRF SIGNAL	N	CLR	N	DRY	N	DAY	INJ	S-1STOP	01	NONE	STRGHT	S	N	01	DRVR	NONE	24	M	OR-Y	OR<25	020,016	000	000	00	00
	NONE		0	WHEATLAND RD					99					PRVTE	N																			04,27	00	
					9A									PSNGR CAR																				038	00	
02920	N N N	06/02/2004	16	RIVER RD	INTER	N	06	06	3-LEG	N	TRF SIGNAL	N	CLR	N	DRY	N	DAY	INJ	S-1STOP	01	NONE	STRGHT	N	S	01	DRVR	NONE	54	M	OR-Y	OR<25	026	000	000	07	07
	NONE		0	WHEATLAND RD					99					PRVTE	N																			000	00	
					9A									PSNGR CAR																				000	07	

CDS380 9/25/2007

CITY OF KEIZER, MARION COUNTY

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 URBAN NON-SYSTEM CRASH LISTING
 River at Manzanita at Wheatland in Keizer
 1-1-2002 through 12-31-2006

SER#	INVEST	D C S L K	P A U C O	R S W	E L G H R	D A Y	CITY STREET	CLASS	FROM	RD CHAR	INT-TYP	INT-REL	OFF-RD	WTHR	CRASH TYP	SPCL USE	MOVE	FROM	TO	V#	VEH TYPE	P#	TYPE	SVRTY	E X RES	A S	LOC ERROR	ACTN EVENT	CAUSE									
0183	NONE	N N N	N N N	N N N	N N N	06/18/2003	14	14	0	WHEATLAND RD	INTER	3-LEG	N	STOP SIGN	N	CLR	N	CL	S-1STOP	01	NONE	PRVTE	PSNGR CAR	01	DRVR	NONE	20	M	OR-Y	OR<25	026	000	000	07				
						Wed				06	99							SW	NE												00	00	07					
						3p																																
02938	NONE	N N N	N N N	N N N	N N N	06/06/2003	14	14	0	WHEATLAND RD	INTER	3-LEG	N	STOP SIGN	N	CLR	N	CL	O-1TURN	01	NONE	PRVTE	PSNGR CAR	01	DRVR	NONE	50	M	OR-Y	OR<25	000	012	000	00				
						Fri				01	99							NE	SW													013	000	013	00			
						7A													INJ													000	000	00				
																																			000	000	02	
01061	CITY	N N N	N N N	N N N	N N N	02/27/2002	14	14	0	WHEATLAND RD	INTER	3-LEG	N	STOP SIGN	N	CLR	N	CL	O-1TURN	01	NONE	PRVTE	PSNGR CAR	01	DRVR	NONE	36	F	OR-Y	OR<25	000	011	000	00				
						Wed				02	0								INJ														000	000	00			
						6p																													000	000	02	
																																				000	000	02
03306	CITY	N N N	N N N	N N N	N N N	06/21/2002	14	14	0	WHEATLAND RD	INTER	3-LEG	N	STOP SIGN	N	CLR	N	CL	O-1TURN	01	NONE	PRVTE	PSNGR CAR	01	DRVR	NONE	16	M	OR-Y	OR<25	000	000	000	00	000	02		
						Fri				02	0								INJ															004	000	02		
						2p																														000	000	02
																																				000	000	02

OREGON DEPARTMENT OF TRANSPORTATION TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Salem Parkway/Salem Hwy (Hwy 72, Route 99E bus.) at Cherry in Salem
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	TOTAL PEOPLE KILLED	TOTAL PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION RELATED	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2006														
ANGLE	0	1	0	1	0	0	0	0	1	0	1	1	0	0
2006 TOTAL	0	1	0	1	0	0	0	0	1	0	1	1	0	0
YEAR: 2005														
REAR-END	0	2	2	4	0	2	0	3	1	3	1	4	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	1	0	1	1	0	1	0	0
2005 TOTAL	0	3	2	5	0	3	1	3	2	4	1	5	0	0
YEAR: 2004														
REAR-END	0	2	0	2	0	3	0	2	0	1	1	2	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	0	1	1	0	1	0	0
2004 TOTAL	0	3	0	3	0	5	0	2	1	2	1	3	0	0
YEAR: 2003														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	1	1	2	0	1	0	2	0	2	0	2	0	0
2003 TOTAL	0	1	2	3	0	1	0	3	0	3	0	3	0	0
YEAR: 2002														
ANGLE	0	2	0	2	0	2	0	2	0	2	0	2	0	0
REAR-END	0	4	3	7	0	9	0	7	0	6	1	7	0	0
TURNING MOVEMENTS	0	2	1	3	0	3	0	2	1	1	2	3	0	0
2002 TOTAL	0	8	4	12	0	14	0	11	1	9	3	12	0	0
FINAL TOTAL	0	16	8	24	0	24	1	19	5	18	6	24	0	0

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING
Salem Parkway/Salem Hwy (Hwy 72, Route 99E bus.) at Cherry in Salem
1-1-2002 through 12-31-2006

[illegible]

CITY OF SALEM, MARION COUNTY

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
Salem Parkway/Salem Hwy (Hwy 72, Route 99F Bus.) at Cherry in Salem
1-1-2002 through 12-31-2006

[illegible]

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Verda at Chemawa in Keizer
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2005														
ANGLE	0	0	1	1	0	0	0	1	0	0	1	1	0	0
2005 TOTAL	0	0	1	1	0	0	0	1	0	0	1	1	0	0
YEAR: 2003														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2003 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR: 2002														
ANGLE	0	2	0	2	0	2	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
2002 TOTAL	0	2	1	3	0	2	0	3	0	2	1	3	0	0
FINAL TOTAL	0	2	3	5	0	2	0	5	0	3	2	5	0	0

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF KEITZER, MARION COUNTY

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

RSAN NON-SYSTEM CRASH LISTING
Verda at Chemawa in Keizer
1-1-2002 through 12-31-2006

[illegible]

Verda at Lockhaven in Keizer
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES		NON-FATAL CRASHES		TOTAL CRASHES	PEOPLE KILLED		PEOPLE INJURED		TRUCKS	DRY SURF		WET SURF		DAY	DARK		INTER-SECTION RELATED		OFF-ROAD
	FATAL CRASHES	ONLY	PROPERTY DAMAGE ONLY	ONLY		PEOPLE KILLED	PEOPLE INJURED	PEOPLE KILLED	PEOPLE INJURED		DRY SURF	WET SURF	DRY SURF	WET SURF		DAY	DARK	INTER-SECTION RELATED	SECTION RELATED	
YEAR: 2006																				
TURNING MOVEMENTS	0	0	1	1	1	1	0	0	0	0	1	0	0	0	0	1	1	1	0	0
2006 TOTAL	0	0	1	1	1	1	0	0	0	0	1	0	0	0	0	1	1	1	0	0
YEAR: 2005																				
ANGLE	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	1	0	0
2005 TOTAL	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	1	0	0
YEAR: 2004																				
TURNING MOVEMENTS	0	1	0	1	1	1	0	0	2	0	1	0	0	0	1	0	0	1	0	0
2004 TOTAL	0	1	0	1	1	1	0	0	2	0	1	0	0	0	1	0	0	1	0	0
YEAR: 2002																				
TURNING MOVEMENTS	0	0	1	1	1	1	0	0	0	0	1	0	0	0	1	0	0	1	0	0
2002 TOTAL	0	0	1	1	1	1	0	0	0	0	1	0	0	0	1	0	0	1	0	0
FINAL TOTAL	0	1	3	4	4	4	0	0	2	0	3	1	1	1	3	1	1	4	0	0

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Verda at Salem Parkway in Salem
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	TOTAL PEOPLE KILLED	TOTAL PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION RELATED	INTER- SECTION RELATED ROAD
YEAR: 2006													
ANGLE	0	1	0	1	0	0	1	0	1	1	0	1	0
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0
2006 TOTAL	0	1	1	2	0	1	0	1	1	2	0	2	0
YEAR: 2005													
REAR-END	0	1	0	1	0	2	0	0	1	1	0	1	0
TURNING MOVEMENTS	0	2	0	2	0	3	0	1	1	1	1	2	0
2005 TOTAL	0	3	0	3	0	5	0	1	2	2	1	3	0
YEAR: 2004													
ANGLE	0	1	0	1	0	1	0	0	1	0	1	1	0
REAR-END	0	2	1	3	0	2	0	1	2	2	1	3	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0
2004 TOTAL	0	3	2	5	0	3	0	2	3	3	2	5	0
YEAR: 2003													
REAR-END	0	1	2	3	0	1	0	2	1	2	1	3	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0
2003 TOTAL	0	2	2	4	0	3	0	3	1	3	1	4	0
YEAR: 2002													
REAR-END	0	1	4	5	0	4	0	2	2	5	0	5	0
2002 TOTAL	0	1	4	5	0	4	0	2	2	5	0	5	0
FINAL TOTAL	0	10	9	19	0	16	0	9	9	15	4	19	0

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CDS380 9/26/2007

CONTINUOUS SYSTEM CRASH LISTING

Verda at Salem Parkway in Salem
1-1-2002 through 12-31-2006

072 SALEM

S D P R S W E A U C O D A T E C I T Y C I T Y U R B A N A R E A	R D # F C C O M P T M I L E N T	C O N N # F I R S T S T R E E T S E C O N D S T R E E T	R D C H A R D I R E C T L O C U T I O N	I N T - T Y P (M E D I A N) I N T - R E L (# L A N E S) C H I L	S P C I A L U S E T R A F - C O L L I S I O N O W N E R V E H I C L E T Y P E T O	P R I C I N J P # T Y P E S V A R I E T Y	A S L I C E N S E R E X R E S L O C E R R O R	A C T I V E E V E N T	C A U S E
03481 N N N N 09/10/2005 WABION CITY Sat 9P	1 12 0 0 1.54	SALEM PKY	INTER CN	CROSS N TRF SIGNAL N DLIT INJ	N CLD O-TURN PRIVATE TURN-L SW NW	01 NONE		000	04 00

Appendix "G"
ODOT Collision Diagrams

RIFE Christina M

To: Alek Pochowski
: RIFE Christina M
Subject: Diagrams for Keizer/Salem locations

Mr. Pochowski,

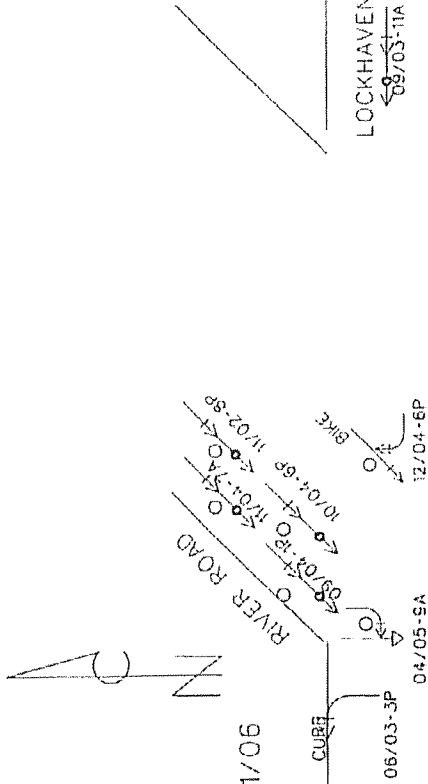
Enclosed are the diagrams for Keizer/Salem locations for 1-1-2002 through 12-31-2006 that you requested. The River, Manzanita, and Wheatland combined signal is actually two (2) signals, and we found that because one of our people used to live there. The River, Broadway, and Commercial North City of Salem are two (2) intersections and are far apart. I diagrammed River at Broadway. The reports that are enclosed are revised from the first ones.

Christina Rife
Crash Data Technician
Crash Analysis and Reporting Unit
Transportation Data Section
555 13th Street NE, Suite 2
Salem, OR 97301-4178
503-986-4239
Fax: 503-986-4249
<mailto:christina.m.rife@odot.state.or.us>

- ◁--- Path of Pedestrian
- ←--- Path of Vehicle
- ←--- Path of Animal
- ←--- Vehicle Moving
- ←--- Vehicle Stopped
- ←--- Vehicle Backing
- ←--- Properly Parked
- ←--- Improperly Parked
- ←--- Vehicle Overturned
- ←--- Vehicle Skidded

LEGEND

- Person Killed
- Ped. Killed
- Person Inj.
- Ped. Inj.
- Property Damage Only
- Collision - Rear-end
- Collision - Head-on
- Collision - Sideswipe
- Awaiting Left Turn



LOCKHAVEN DRIVE

09/03-11A

12/04-2P

11/04-7A

02/05-6P

LOCKHAVEN DRIVE

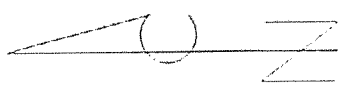
RIVER ROAD

CITY - KEIZER
 CNTY - MARION
 DATE - 10/16/07
 PERIOD FR. - 01/01/02 TO - 12/31/06
 COMPILED BY - CMR

CITY - KEIZER
 CNTY - MARION
 DATE - 10/11/07
 PERIOD FR. - 01/01/02 TO - 12/31/06
 COMPILED BY - CMP

LEGEND

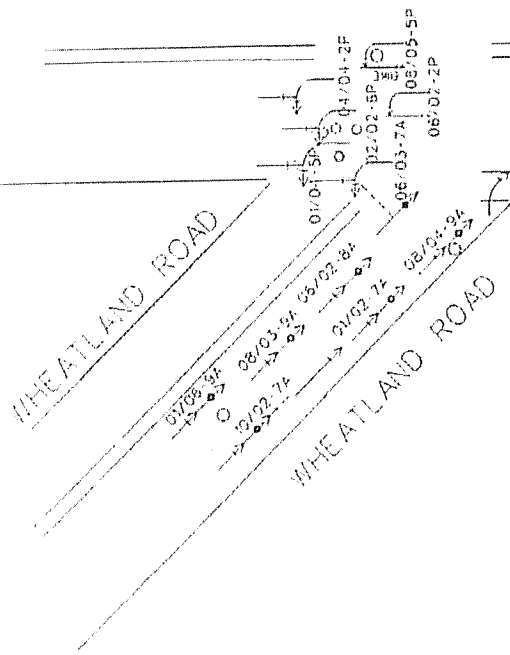
- Person Killed
- Person Killed
- Person Inj.
- Person Inj.
- Property Damage Only
- Collision - Rear-end
- Collision - Head-on
- Collision - Sideswipe
- Avoiding Left Turn
- Path of Recession
- Path of Vehicle
- Path of Animal
- Vehicle Moving
- Vehicle Stopped
- Vehicle Backing
- Properly Parked
- Improperly Parked
- Vehicle Overturned
- Vehicle Skiddec



RIVER ROAD

MANZANITA STREET

MANZANITA STREET

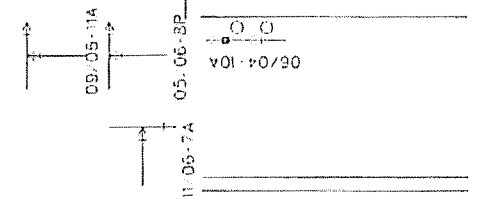


RIVER ROAD

McNARY ESTATES DRIVE

McNARY ESTATES DRIVE

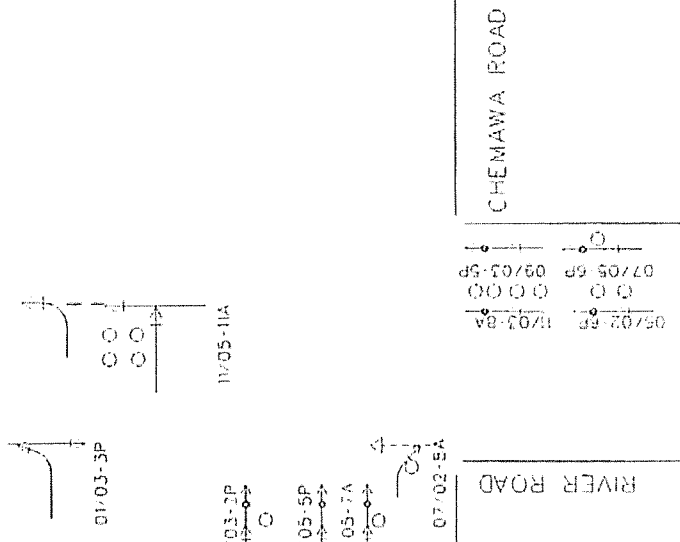
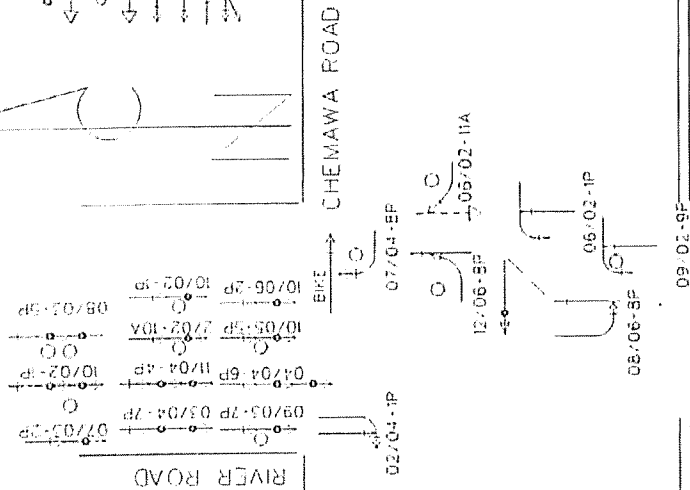
RIVER ROAD



CITY - KEIZER
 CHTY - MAPIOH
 DATE - 10/10/07
 PERIOD FR. - 01/01/02 TO - 12/31/06
 COMPILED BY - CMR

LEGEND

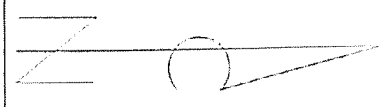
- Person Killed
- Person Injured
- Person In
- Person Out
- Property Damage Only
- Collision - Rear-end
- Collision - Head-on
- Collision - Sideswipe
- Avoiding Left Turn
- Path of Pedestrian
- Path of Vehicle
- Vehicle Moving
- Vehicle Stopped
- Vehicle Backing
- Freeway Rollover
- Improperly Parked
- Vehicle Overturned
- Vehicle Skidded



CITY - KEIZER
 CITY - MARION
 DATE - 10/10/07
 PERIOD FR. - 01/01/02 TO - 12/31/06
 COMPILED BY - CMR

RIVER ROAD

07/02-4P
 03/05-8A
 09/06-10P
 12/05-1P
 05/04-11A

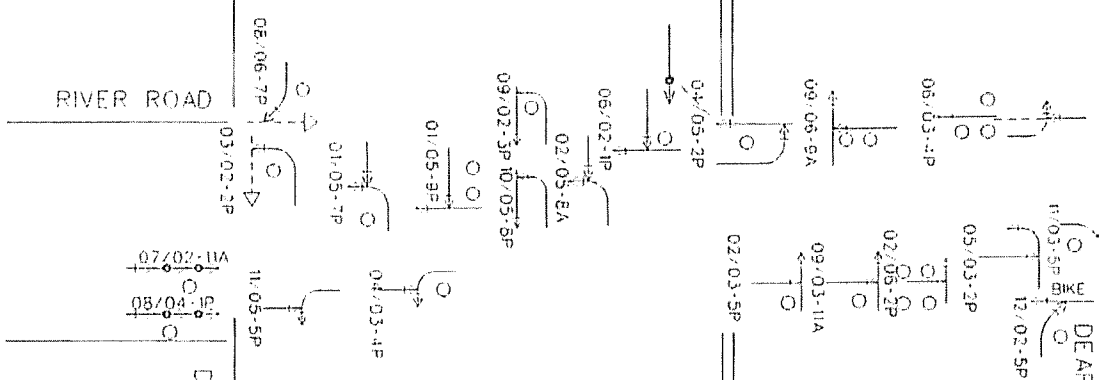


LEGEND

- Person Killed
- Person Injured
- Person Hit
- Property Damage Only
- Collision - Rear-end
- Collision - Head-on
- Collision - Sideswipe
- Avoiding Left Turn

- Run of P
- Run of V
- Run of A
- Vehicle Moving
- Vehicle Stopped
- Vehicle Backing
- Properly Parked
- Improperly Parked
- Vehicle Overturned
- Vehicle Struck

DEARBORN AVENUE



RIVER ROAD

DEARBORN AVENUE

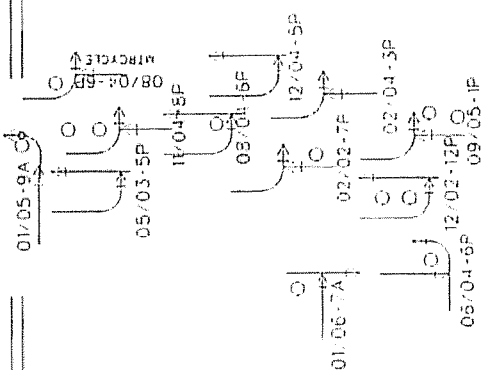
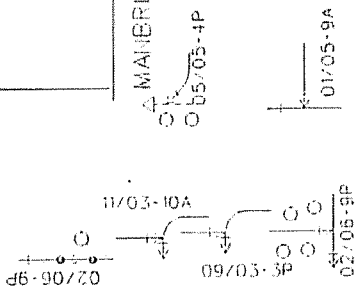
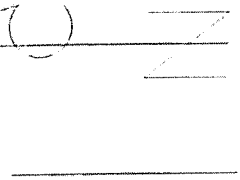
CITY - KEIZER
 CNTY - MARION
 DATE - 10/10/07
 PERIOD FR. - 01/01/02 TO - 12/31/06
 COMPILED BY - CMR

RIVER ROAD

LEGEND

- Person Killed
- Person Inj
- Property Damage Only
- Collision - Rear-end
- Collision - Head-on
- Collision - Sideswipe
- Angling Left Turn
- Path of Pedestrian
- Path of Vehicle
- Path of Animal
- Vehicle Moving
- Vehicle Stopped
- Vehicle Backing
- Property Parked
- Improperly Parked
- Vehicle Overturned
- Vehicle Skidded

MAHERIN DRIVE



MAHERIN DRIVE

02/03-3P 10/04-11A
 08/04-2P 02/05-4P

RIVER ROAD

BROADWAY STREET

05/06-8P

09-90/60

BROADWAY STREET

[illegible]

LEGEND

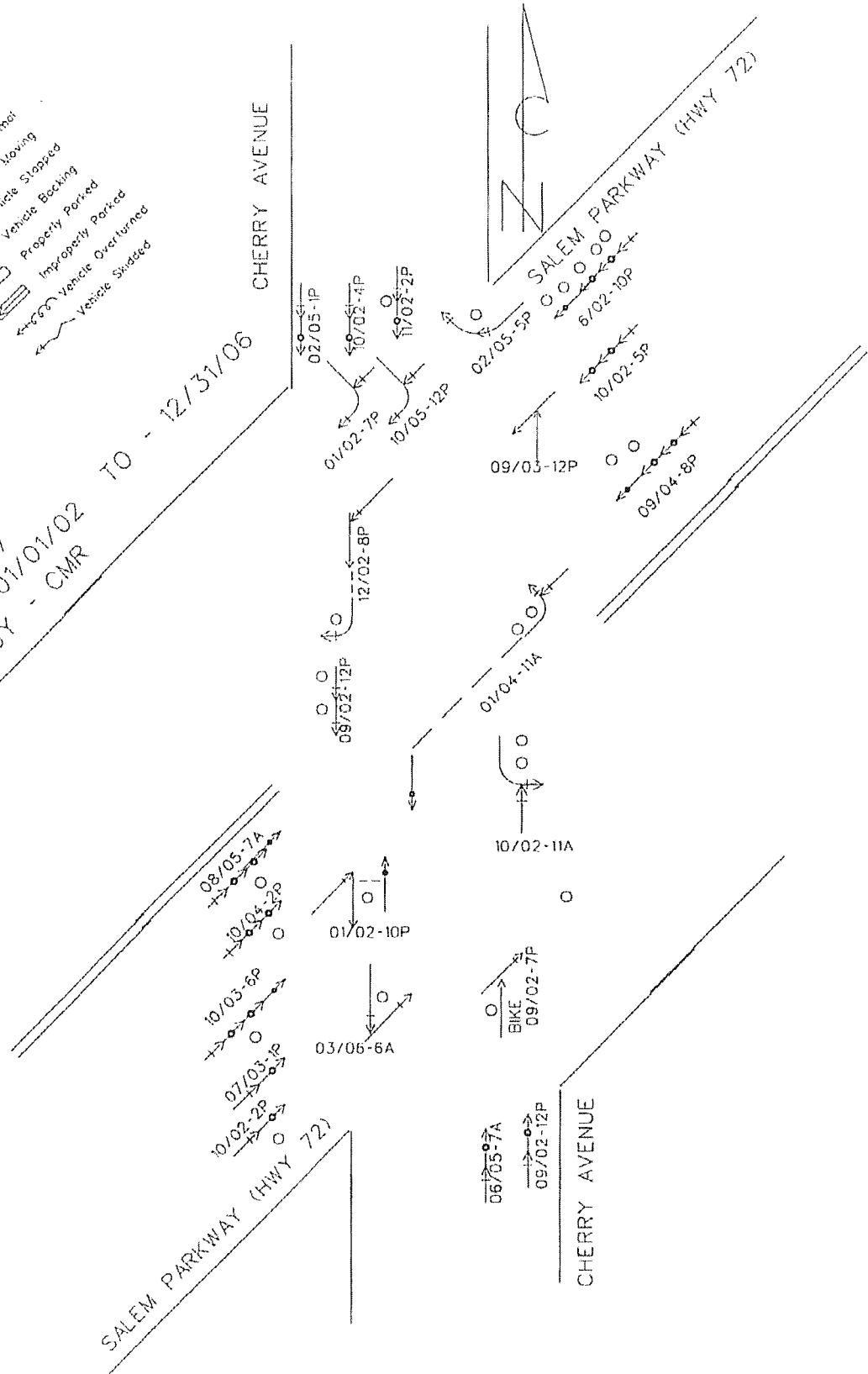
[illegible]

RIVER ROAD
 COMPILED BY - GMS
 DATE - 10/10/07
 CITY - SALT LAKE CITY
 PERIOD FR - 01/01/02 TO - 10/31/08

LEGEND

- Person Killed
- Ped. Killed
- Person inj.
- Ped. inj.
- Properly Damage Only
- Collision - Rear-end
- Collision - Head-on
- Collision - Sideswipe
- Awaiting Left Turn
- Path of Pedestrian
- Path of Vehicle
- Path of Armot
- Vehicle Moving
- Vehicle Stopped
- Vehicle Backing
- Vehicle Parked
- Properly Parked
- Improperly Parked
- Vehicle Overturned
- Vehicle Skidded

CITY - SALEM
 CNTY - MARION
 DATE - 10/15/07
 PERIOD FR. - 01/01/02
 COMPILED BY - CMR





SALEM PARKWAY (HWY 72)

VERDA LAKE

SALEM PARKWAY (HWY 72)

SALEM PARKWAY

VERDA LAKE

LEGEND

CITY OF SALEM (KEIZER)
DATE: 10/12/07
PERIOD: FR - 01/01/02
COMPILED BY: CMR

CITY - KEIZER
 CITY - MARION
 DATE - 10/10/07
 PERIOD FR. - 01/01/02 TO - 12/31/06
 COMPILED BY - CMR

VERDA LANE

- LEGEND**
- Person Killed
 - Person Injured
 - Person Only
 - Property Damage Only
 - Collision - Rear-end
 - Collision - Head-on
 - Collision - Sideswipe
 - Armed Left Turn
 - Path of Ped.
 - Path of Vehicle
 - Path of Armcar
 - Vehicle Moving
 - Vehicle Stopped
 - Vehicle Backing
 - Properly Parked
 - Improperly Parked
 - Vehicle Overturned
 - Vehicle Struck

CHEMAWA ROAD

05/02-5P



05/02-5P



05/02-5P



12/05-6P

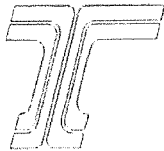
CHEMAWA ROAD

05/03-4P

VERDA LANE

OREGON DEPARTMENT OF TRANSPORTATION

HIGHWAY DIVISION
TRAFFIC SECTION



COLLISION
DIAGRAM

SYSTEM

Completed by CMR Date 10/11/07

City KEIZER County MARION

Intersection of VERDA LANE

and LOCKHAVEN DRIVE

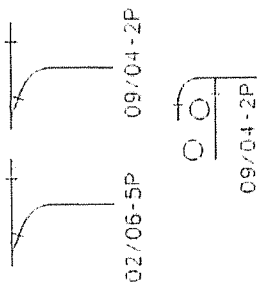
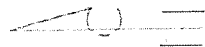
Highway and No. _____

M.P. _____ Period Fr. 01/01/02 To 12/31/06

LEGEND

- Person Killed
- Ped. Killed
- Person inj
- Ped. Inj
- Property Damage Only
- Collision - Rear end
- Collision - Head on
- Collision - Sideswipe
- Awaiting Left Turn

LOCKHAVEN DRIVE



02/02-2P

VERDA LANE

- Path of Pedestrian
- Path of Vehicle
- Path of Animal
- Vehicle Moving
- Vehicle Stopped
- Vehicle Backing
- Property Parked
- Improperly Parked
- Vehicle Overturned
- Vehicle Skidded

CITY - KEIZER
 CNTY - MARION
 DATE - 10/10/07
 PERIOD FR. - 01/01/02 TO - 12/31/06
 COMPILED BY - CMR

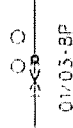
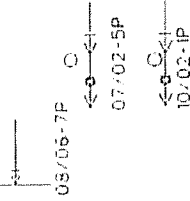
14TH AVENUE



LEGEND

- Person Killed
- Person Inj
- Property Damage Only
- Collision - Rear-end
- Collision - Head-on
- Collision - Sideswipe
- Avoiding Left Turn
- Path of Pedestrian
- Path of Vehicle
- Vehicle Moving
- Vehicle Stopped
- Vehicle Backing
- Properly Parked
- Improperly Parked
- Vehicle Overturned
- Vehicle Skidded

LOCKHAVEN DRIVE



LOCKHAVEN DRIVE

KAFIR DRIVE

Appendix “H”
Rate-Quality Control
Criteria Methodology

Critical Rate

Strengths

- Limited data is needed
- Reduces exaggeration effect of low volume locations
- Considers variance in crash data
- Establishes a threshold for comparison

Weaknesses

- Does not account for regression to the mean

11.3.5. Critical Rate Method

Definition

The observed crash rate at each site is compared to a calculated critical crash rate that is unique to each site. Sites that exceed their respective critical rate are flagged for further review. The critical crash rate depends on the average crash rate at similar sites, traffic volume, and a statistical constant that represents a desired level of significance.

Data Needs and Inputs

- Crash counts and location. The critical rate method could also be applied by specific type or severity of crashes.
- Average Daily Traffic Volumes (ADT), or Annual Average Daily Traffic Volumes (AADT)

Applications

Sites that have crash rates higher than their calculated critical crash rate are identified for further detailed analysis. This method is an extension of the Crash Rate Method.

Method

1. Categorize sites according to appropriate characteristics as described in Section 11.2: Step 2 – Identify and Categorize the Roadway Network for Screening.
2. For intersections, sum the annual average daily traffic (AADT) counts for each intersection approach to calculate the total entering volume (TEV) in millions for each intersection.

$$TMEV_i = \left(\frac{TEV_i}{1,000,000} \right) (Y)(365)$$

Where,

TMEV_i = Total Million Entering Vehicles for the specific site

TEV_i = Total Entering Vehicles for the specific site

Y = Number of years of crash data

3. For road segments, multiply the annual average daily traffic volume (AADT) for the road segment by the length of the road segment and the number of years of crash data to calculate the vehicle miles traveled (VMT). Divide by 1,000,000 to calculate the million vehicle miles of travel (MVMT)

$$MVMT_i = \frac{(AADT)(Segment\ Length)(365)(Y)}{1,000,000}$$

Where,

MVMT_i = Million vehicle miles traveled for the specific site

Y = Number of years of study period

4. Calculate the observed crash rate for each site by dividing the total number of site crashes by the TMEV (for intersections) or MVMT (for road segments).

$$\text{Crash Rate}_i = K_i / \text{TMEV}_i$$

Where,

K_i = Total number of observed crashes at site i

TMEV_i = Total million entering vehicles at site i

Calculate the average crash rate (R_a) for each category of sites under consideration.

Calculate the critical crash rate for each site (each site will have its own unique critical crash rate to which the site's observed crash rate will be compared).

$$R_{Ci} = R_a + K_c \sqrt{\frac{R_a}{\text{TMEV}_i}} + \frac{1}{(2)(\text{TMEV}_i)}$$

Where,

R_{Ci} = Critical Crash Rate for a site

R_a = Average Crash Rate

K_c = Probability constant based on desired level of significance

TMEV_i = Total million entering vehicles for a site

Exhibit 11-14: K_c Values for Confidence Intervals

Confidence Level	K_c – Value ⁽¹⁾
85 Percent	1.036
90 Percent	1.282
95 Percent	1.645
99 Percent	2.326
99.5 Percent	2.576

(1) Assumes Poisson Distribution and one-tailed standard normal random variable

5. Compare the observed crash rate at each site to the critical crash rate for each site.
6. Conduct detailed evaluation at sites that have an observed crash rate higher than their critical crash rate. (See Chapter 12 for guidance.)

Shown below is short example of applying the Critical Rate method. A more thorough example of the method is applied to intersections in Appendix A and to roadway segments in Appendix B.

Ranking of Sites According to Critical Rate Method

Location	Total Crashes for Study Period	Study Period (years)	TEV	TMEV per Study Period	Annual Crash Rate R_i	Average Crash Rate, R_A	Critical Crash Rate, R_c	$R_i > R_c$?
Intersection A	80	4	34,500	50.36	1.59	1.30	1.57	Yes
Intersection B	141	4	65,000	94.92	1.49	1.30	1.50	No
Intersection C	78	4	37,500	54.76	1.42	1.30	1.56	No
Intersection D	62	5	30,000	54.75	1.13	1.30	1.56	No
Intersection E	32	5	20,000	36.50	0.88	1.30	1.62	No
*95% confidence level								
*Assuming all five intersections have similar characteristics								

The crash rate is calculated for each site in the study category. Similarly, an average crash rate for each category is calculated. Using the average crash rate, traffic volumes and a statistical constant representing a desired significance level, a critical crash is calculated for each site. The site crash rate is compared to site critical crash rate to identify whether or not the site should be flagged for further study.

722

11.3.6. Method of Moments

Definition

In the method of moments, a site's observed accident frequency is adjusted to partially account for regression to the mean. The adjusted observed frequency is compared to the average frequency of crashes for the reference population to determine the potential for improvement (PI). The potential for improvement of all reference populations (e.g. signalized four-legged intersections, unsignalized three-legged intersections, urban and rural, etc) are combined into one comprehensive ranking list.

Data Needs and Inputs

- Crashes by type and location
- Average Daily Traffic Volumes (ADT), or Annual Average Daily Traffic Volumes (AADT)

Applications

The potential for improvement of all reference populations (e.g. signalized four-legged intersections, unsignalized three-legged intersections, urban and rural, etc) are combined into one comprehensive ranking list.

Method

1. Categorize sites according to appropriate characteristics as described in Section 11.2: Step 2 – Identify and Categorize the Roadway Network for Screening.
2. Calculate the average crash frequency for each category.

/43

Method of Moments

Strengths

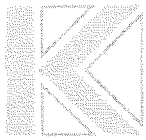
- Limited Data is needed.
- Establishes a threshold of expected performance for a site.
- Considers variance in crash data.
- Allows sites of all types to be ranked in one list.
- Method concepts are very similar to empirical bayes methods.

Weaknesses

- Effects of RTM may still be present in the results.
- Ranking results are influenced by groupings; sites near boundaries of groupings may be over-emphasized.

Appendix E

Future Conditions Analysis



TECHNICAL MEMORANDUM

City of Keizer, Transportation System Plan Update

Future No-Build Conditions

Date: April 2, 2008 **Project #:** 8310.04

To: Technical Advisory Committee

From: Elizabeth Wemple, P.E.; Alek Pochowski, E.I.; Matt Hughart, AICP

CC: Sam Litke, City of Keizer

This memorandum presents a forecast of future conditions for the transportation system within the Keizer urban growth boundary, over the 2031 planning horizon. The analysis highlights the transportation needs that will result if no improvements were made to the City's transportation system.

FUTURE TRANSPORTATION DEMAND

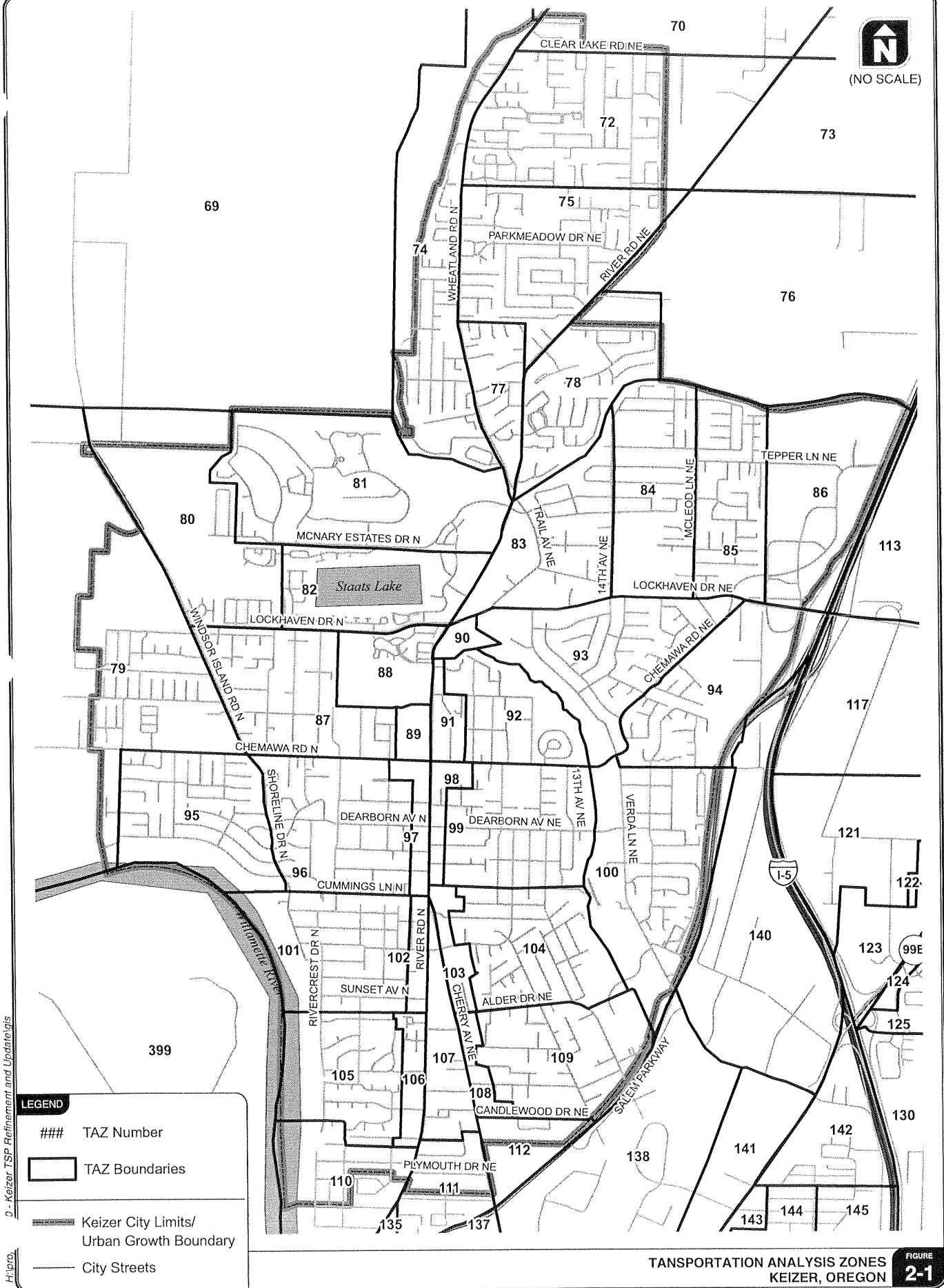
GROWTH FORECASTS

Future transportation demand within the City of Keizer was estimated based on data from the Salem Keizer Area Transportation Study (SKATS) forecast model. For the purposes of the model, the Salem-Keizer area is divided into a number of traffic analysis zones (TAZs), which are intended to represent areas that contain similar land uses and access similar roadways. Figure 2-1 depicts the TAZ boundary locations for the City of Keizer and the immediate surrounding areas.

SKATS currently uses 2005 household and employment data as its base, and has developed year 2031 household and employment forecasts, which include estimates of future households and employment in areas that are not yet developed and re-development, where appropriate. Table 1 presents SKATS population and employment data for both 2005 and 2031 in TAZs wholly or partially within the City of Keizer. As shown in the Table, significant employment increases are shown in the TAZs that make up the developing Keizer Station retail center and along portions of River Road. Significant increases in the number of households are shown in those zones that border Wheatland Road and the northerly portions of River Road. It is likely that the residential growth is primarily infill development as the majority of vacant land within Keizer is already built out.



(NO SCALE)



0 - Keizer TSP Refinement and Updates
H:\proj

LEGEND

- ### TAZ Number
- TAZ Boundaries

- Keizer City Limits/
Urban Growth Boundary
- City Streets

Table 1 SKATS Population and Employment Forecasts for the City of Keizer

TAZ	2005		2031		Growth 2005-2031	
	Total Employment	HH	Total Employment	HH	Total Employment	HH
70	32	83	33	103	1	20
72	83	781	97	974	14	193
74	142	628	155	693	13	65
75	67	776	73	861	6	85
77	26	303	26	304	0	1
78	11	549	21	658	10	109
80	63	225	63	229	0	4
81	188	528	188	529	0	1
82	202	310	392	308	190	-2
83	116	257	311	631	195	374
84	170	403	174	450	4	47
85	17	409	278	431	261	22
86	44	19	2359	19	2315	0
87	10	542	14	604	4	62
88	*	144	165	143	*	-1
89	262	29	262	37	0	8
90	187	57	187	56	0	-1
91	351	0	375	0	24	0
92	10	371	13	419	3	48
93	87	606	140	639	53	33
94	23	376	349	600	326	224
95	69	540	69	538	0	-2
96	55	552	57	599	2	47
97	268	70	348	72	80	2
98	360	35	381	36	21	1
99	88	467	129	490	41	23
100	106	592	109	638	3	46
101	37	369	39	402	2	33
102	127	101	127	103	0	2
103	173	120	179	133	6	13
104	17	565	17	596	0	31
105	12	360	12	361	0	1
106	303	246	372	245	69	-1
107	596	210	667	217	71	7
108	55	82	128	120	73	38
109	137	640	233	805	96	165
110	73	311	121	313	48	2
111	*	485	310	517	*	32
112	502	113	809	113	307	0

Note: HH = households, Total Emp. = Total Employment

* These zones do not display the 2005 Employment estimates due to State regulations covering the confidentiality of data. The regulations state that areas that either have less than three employers or that have one employer representing 80 percent of the aggregation total, may not be displayed on public maps or tables.

MODEL PROCESS

The SKATS transportation planning model was used to develop the 2031 weekday p.m. peak hour forecasts. The travel forecasting model assigns future traffic to the transportation system based on the level of household and employment growth in each TAZ. Trips are assigned to the transportation system based on the minimum time path; this reflects the fact that travelers will seek the routes with the shortest travel time and may choose to divert their route to avoid congestion during peak periods.

The “no-build” scenario transportation analysis consists of 2031 forecasted traffic volumes planned on the existing roadway system, with no capacity improvements other than those currently programmed (i.e. those projects with committed funding). These programmed improvements include the following:

- Additional east/west travel lanes on Lockhaven Drive between McLeod Lane to Ridge Drive.
- Widening of Verda Lane from Chemawa Road to the south City limits to include additional travel lanes, bicycle lanes, and sidewalks.
- Widening of Chemawa Road to full urban standards, including sidewalks and bike lanes.
- Traffic signal interconnects along River Road and Lockhaven Drive.

TRAFFIC VOLUME FORECASTS

The transportation model produces 2031 daily traffic forecasts for the study area network. For the purposes of the analysis, it was necessary to convert these daily forecasts to single one-hour p.m. peak forecasts.

The National Cooperative Highway Research Program (NCHRP) Report 255 was used to convert the model peak one-hour volumes to volumes for the traffic operations analysis. The NCHRP 255¹ process works as follows:

- Existing turning movement volumes and patterns are used as a starting point. For example, a particular movement at an intersection might currently have 50 vehicles per hour.
- The percentage change in the model’s traffic volumes for a movement between the model’s base and future years is calculated. For example, if the model’s base year volume is 25 vehicles per hour and the future year volume is 75 vehicles per hour, the movement’s volume triples during that time. Tripling the actual volumes would result in 150 vehicles per hour.

¹ Intersection operations and delays are not modeled within the Emme/2 model. As a result, the model’s turning movements generally should not be relied upon by themselves. To compensate, the NCHRP 255 process is a technique that modifies existing intersection turning patterns based on traffic growth modeled on the intersection approaches.

- The numerical change in the model's traffic volumes is also calculated. In the example, the model's volume for the movement increased by 50 vehicles per hour, from 25 to 75. Increasing the actual volumes by 50 vehicles per hour results in a total of 100 vehicles.
- The results obtained from the two methods, percentage and numerical change, are averaged to obtain the traffic volume used as the future year forecast. In this example, 150 and 100 would be averaged to obtain a movement volume of 125 vehicles per hour.

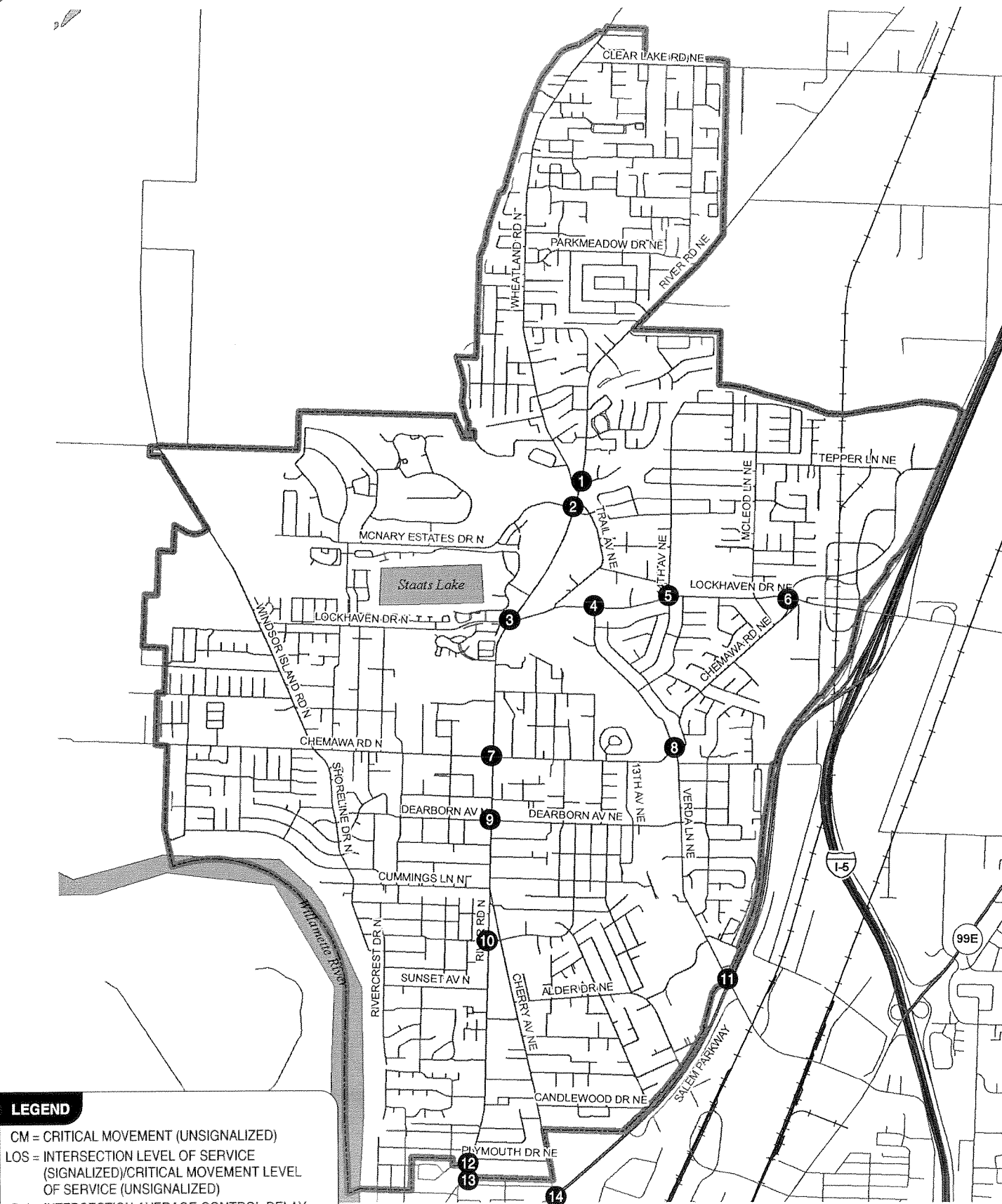
This process was applied to all of the study intersection in the City of Keizer. Occasionally, the NCHRP 255 process produces some unreasonable results for a particular movement. In general, this occurred when the existing model volume was extremely small, resulting in a 30-40-fold increase in volumes from existing to future years. When this occurred, the model's unadjusted future volume was used, rather than the adjusted volume.

For those intersections or approaches that were not included in the SKATS base year model, growth factors were estimated for each intersection approach based on the growth calculated for other nearby intersections that are included in the base year model. In addition, where intersections are closely spaced, with little or no opportunity for access between the intersections, traffic volumes were balanced between the two intersections. The resulting 2031 traffic volumes are shown in Figure 2-2.

As can be seen in the figure, the high growth in volumes along the regionally significant facilities such as River Road and Lockhaven Drive will diminish the performance of these roadways and the intersections that reside along these corridors. The 2031 operational analysis for each intersection is outlined in the following section.

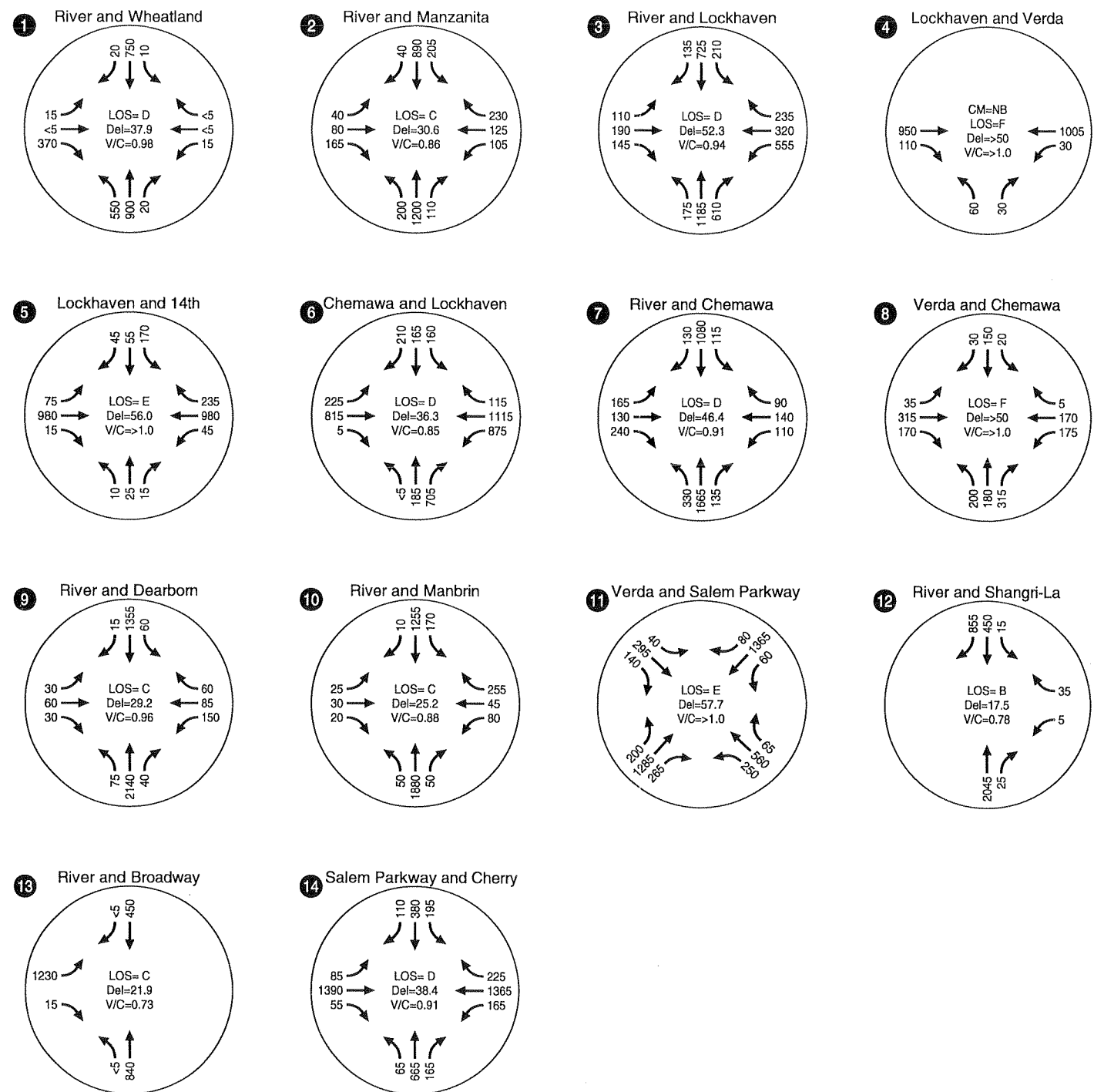


NO SCALE



LEGEND

CM = CRITICAL MOVEMENT (UNSIGNALIZED)
LOS = INTERSECTION LEVEL OF SERVICE
(SIGNALIZED)/CRITICAL MOVEMENT LEVEL
OF SERVICE (UNSIGNALIZED)
Del = INTERSECTION AVERAGE CONTROL DELAY
(SIGNALIZED)/CRITICAL MOVEMENT CONTROL
DELAY (UNSIGNALIZED)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO



**FUTURE YEAR 2031 NO-BUILD TRAFFIC CONDITIONS
WEEKDAY PM PEAK HOUR
KEIZER, OREGON**

FIGURE 2-2

Future Intersection Operations

Assuming the existing system plus the programmed projects shown above, and if growth occurs as assumed in the SKATS model, all intersections in the City of Keizer will experience a degradation in performance. Table 2 summarizes the results of the 2031 base intersection operations. Specifically, the level-of-service and capacity conditions are reported for each intersection. A description of level of service and the criteria by which they are determined is presented in Appendix A.

Table 2 2031 Base Intersection Operations

Intersection	Existing 2007		Future 2031	
	LOS	Capacity	LOS	Capacity
Two-Way Stop Controlled Intersections				
Verda Lane / Lockhaven Drive	F	Under Capacity	F	Over Capacity
All-Way Stop Controlled Intersections				
Verda Lane / Chemawa Road	C	Under Capacity	F	Over Capacity
Signalized Intersections				
River Road / Wheatland Road	C	Under Capacity	C	At Capacity
River Road / Manzanita Street	C	Under Capacity	C	Under Capacity
River Road / Lockhaven Drive	D	Under Capacity	D	Near Capacity
Lockhaven Drive / 14 th Avenue	B	Under Capacity	E	Over Capacity
Lockhaven Drive / Chemawa Road	B	Under Capacity	D	Under Capacity
River Road / Chemawa Road	D	Under Capacity	D	Near Capacity
River Road / Dearborn Avenue	B	Under Capacity	C	At Capacity
River Road / Manbrin Drive	B	Under Capacity	C	Under Capacity
River Road / Shangri-La	A	Under Capacity	B	Under Capacity
River Road / Broadway	B	Under Capacity	C	Under Capacity
Salem Parkway / Cherry Avenue	C	Under Capacity	D	Near Capacity
Salem Parkway / Verda Lane	D	Under Capacity	E	Over Capacity

Notes:

- Shading represents intersections where the level of service (LOS) is exceeding adopted standards or the volume-to-capacity ratio is near, at, or over capacity.
- Under Capacity = V/C Ratio <0.90, Near Capacity = V/C Ratio 0.90-0.94, At Capacity = V/C Ratio 0.95-0.99, Over Capacity = V/C Ratio ≥1.0
- Signalized and all-way stop delay represents the average vehicle delay for the whole intersection.
- Unsignalized delay represents the highest minor street approach delay.
- For a detailed review of the intersection level of service and capacity conditions, see Appendix B.

Notably, the following signalized intersections are forecast to operate at an unacceptable level-of-service (LOS "E" or worse) and exceed their available capacity by the year 2031:

- 14th Street/Lockhaven Drive
- Verda Lane/Salem Parkway

The critical movements at the following unsignalized intersections are projected to exceed capacity, and operate with a level-of-service "F" in year 2031:

- Verda Lane/Chemawa
- Verda Lane/Lockhaven Drive

In addition to the failing intersections, several intersections are projected to operate near, at, or over capacity by the year 2031 without exceeding the level-of-service standards. These intersections include:

- River Road/Wheatland Road
- River Road/Lockhaven Drive
- River Road/Chemawa Road
- River Road/Dearborn Avenue
- Salem Parkway/Cherry Avenue

Pedestrian Deficiencies

The existing conditions memorandum identified the sections of arterials and collectors that lack sidewalks on one or both sides. As current City of Keizer policies require all new development to provide adequate sidewalk facilities, some of those sections will be completed as development occurs. Consequently, the sidewalk focus in the alternatives analysis phase of the TSP development will be on completing short gaps in the existing sidewalk system, identifying and prioritizing longer sidewalk gaps in already developed areas, and continuing the expansion of the City's off-street pathway network.

Sidewalk gaps that were specifically raised as issues at the public open house consist of the following:

- Areas around McNary High School and Cummings Elementary lack sidewalks.
- Dearborn Avenue between 13th Avenue and Verda Lane.
- Chemawa Road west of River Road.
- Wheatland Road north of River Road.

Comments at the public open house also related to improving pedestrian crossings in the vicinity of schools, churches, etc.

Bicycle Deficiencies

Improved bicycle facilities were the primary bicycle need identified by both the technical analysis and public comment. Specific areas of concern expressed by the public include the following:

- Provide bicycle lanes on Rivercrest and Shoreline Drives.
- Improve River Road for bicycling, particularly the section south of Chemawa Road.

Public Transportation

Providing new fixed route transit service where service is not currently offered was the focus of many of the transit-related comments. Specific issues included the provision of more cross-town service and new service to Keizer Station.

Next Steps

The next major activity on this project is the development of transportation system improvements. The deficiencies identified in this future no-build transportation analysis inform the development of alternative transportation system alternatives. The future conditions alternative analysis will be discussed at the April TAC meeting.

Appendix "A"
Description of Level-of-
Service Methods and
Criteria

Appendix B Level-of-Service Concept

Level of service (LOS) is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or roadway segment. Six grades are used to denote the various level of service from "A" to "F".¹

SIGNALIZED INTERSECTIONS

The six level-of-service grades are described qualitatively for signalized intersections in Table B1. Additionally, Table B2 identifies the relationship between level of service and average control delay per vehicle. Control delay is defined to include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Using this definition, Level of Service "D" is generally considered to represent the minimum acceptable design standard.

Table B-1 Level-of-Service Definitions (Signalized Intersections)

Level of Service	Average Delay per Vehicle
A	Very low average control delay, less than 10 seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Average control delay is greater than 10 seconds per vehicle and less than or equal to 20 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for a level of service A, causing higher levels of average delay.
C	Average control delay is greater than 20 seconds per vehicle and less than or equal to 35 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Average control delay is greater than 35 seconds per vehicle and less than or equal to 55 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle length, or high volume/capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Average control delay is greater than 55 seconds per vehicle and less than or equal to 80 seconds per vehicle. This is usually considered to be the limit of acceptable delay. These high delay values generally (but not always) indicate poor progression, long cycle lengths, and high volume/capacity ratios. Individual cycle failures are frequent occurrences.
F	Average control delay is in excess of 80 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation. It may also occur at high volume/capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such high delay values.

¹ Most of the material in this appendix is adapted from the Transportation Research Board, Highway Capacity Manual, (2000).

Table B2 Level-of-Service Criteria for Signalized Intersections

Level of Service	Average Control Delay per Vehicle (Seconds)
A	<10.0
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80

UNSIGNALIZED INTERSECTIONS

Unsignalized intersections include two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections. The 2000 Highway Capacity Manual (HCM) provides models for estimating control delay at both TWSC and AWSC intersections. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table B3. A quantitative definition of level of service for unsignalized intersections is presented in Table B4. Using this definition, Level of Service "E" is generally considered to represent the minimum acceptable design standard.

Table B3 Level-of-Service Criteria for Unsignalized Intersections

Level of Service	Average Delay per Vehicle to Minor Street
A	- Nearly all drivers find freedom of operation. - Very seldom is there more than one vehicle in queue.
B	- Some drivers begin to consider the delay an inconvenience. - Occasionally there is more than one vehicle in queue.
C	- Many times there is more than one vehicle in queue. - Most drivers feel restricted, but not objectionably so.
D	- Often there is more than one vehicle in queue. - Drivers feel quite restricted.
E	- Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. - There is almost always more than one vehicle in queue. - Drivers find the delays approaching intolerable levels.
F	- Forced flow. - Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.

Table B4 Level-of-Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay per Vehicle (Seconds)
A	<10.0
B	>10.0 and ≤ 15.0
C	>15.0 and ≤ 25.0
D	>25.0 and ≤ 35.0
E	>35.0 and ≤ 50.0
F	>50.0

It should be noted that the level-of-service 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 galling 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 control delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection. While overall intersection level of service is calculated for AWSC intersections, level of service is only calculated for the minor approaches and the major street left turn movements at TWSC intersections. No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection level of service remains undefined: level of service is only calculated for each minor street lane.

In the performance evaluation of TWSC intersections, it is important to consider other measures of effectiveness (MOEs) in addition to delay, such as v/c ratios for individual movements, average queue lengths, and 95th-percentile queue lengths. By focusing on a single MOE for the worst movement only, such as delay for the minor-street left turn, users may make inappropriate traffic control decisions. The potential for making such inappropriate decisions is likely to be particularly pronounced when the HCM level-of-service thresholds are adopted as legal standards, as is the case in many public agencies.

Appendix "B"
Detailed Intersection
Operations

The table below outlines the detailed level of service, delay, and volume-to-capacity ratios for the study intersections.

Intersection	Existing 2007			Future 2031		
	LOS	Average Delay (seconds)	Volume/Capacity	LOS	Average Delay (seconds)	Volume/Capacity
Two-Way Stop Controlled Intersections						
Verda Lane / Lockhaven Drive	F	54.2	0.51	F	321.3	1.34
All-Way Stop Controlled Intersections						
Verda Lane / Chemawa Road	C	17.9	0.75	F	148.1	1.52
Signalized Intersections						
River Road / Wheatland Road	C	26.3	0.81	C	37.9	0.98
River Road / Manzanita Street	C	23.4	0.64	C	30.6	0.86
River Road / Lockhaven Drive	D	40.4	0.71	D	52.3	0.94
Lockhaven Drive / 14 th Avenue	B	17.7	0.79	E	56.0	1.09
Lockhaven Drive / Chemawa Road	B	19.6	0.51	D	36.3	0.85
River Road / Chemawa Road	D	36.2	0.67	D	46.4	0.91
River Road / Dearborn Avenue	B	17.7	0.74	C	29.2	0.96
River Road / Manbrin Drive	B	13.3	0.63	C	25.2	0.88
River Road / Shangri-La	A	9.4	0.64	B	17.5	0.78
River Road / Broadway	B	19.4	0.60	C	21.9	0.73
Salem Parkway / Cherry Avenue	C	34.4	0.67	D	38.4	0.91
Salem Parkway / Verda Lane	D	38.0	0.80	E	57.7	1.02

Notes:

Signalized and all-way stop delay represents the average vehicle delay for the whole intersection.
Unsignalized delay represents the highest minor street approach delay.

Kittelson & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year 2031 Future Traffic Conditions, Weekday PM Peak Hour

Scenario Report

Scenario: PM
Command: PM
Volume: PM
Geometry: Future
Impact Fee: Default Impact Fee
Trip Generation: PM
Trip Distribution: Default Trip Distribution
Paths: Default Path
Routes: Default Route
Configuration: Future

Kittelson & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year 2031 Future Traffic Conditions, Weekday PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base Del/V/ LOS Veh C	Future Del/V/ LOS Veh C	Change in
# 3 River/Wheatland	D 40.2 0.932	D 40.2 0.932	+ 0.000 D/V
# 6 River/Lockhaven	E 57.7 1.021	E 57.7 1.021	+ 0.000 D/V
# 8 River/Chemawa	D 45.1 0.919	D 45.1 0.919	+ 0.000 D/V
# 9 Verda/Chemawa	F 148.2 1.523	F 148.2 1.523	+ 0.000 V/C
# 10 River/Mandarin	C 23.2 0.920	C 23.2 0.920	+ 0.000 D/V
# 26 River/Deardorn	C 27.8 0.991	C 27.8 0.991	+ 0.000 D/V
# 38 14th/Lockhaven	E 56.0 1.088	E 56.0 1.088	+ 0.000 D/V
# 53 River/Manzanita	D 44.9 0.883	D 44.9 0.883	+ 0.000 D/V
# 64 Verda/Lockhaven	F 321.3 0.000	F 321.3 0.000	+ 0.000 D/V

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Kittelton & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year 2031 Future Traffic Conditions, Weekday PM Peak Hour
Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #3 River/Wheatland
Cycle (sec): 120 Critical Vol./Cap.(X): 0.932
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 40.2
Optimal Cycle: 148 Level Of Service: D
Street Name: North Bound South Bound East Bound West Bound
Approach: L - T - R L - T - R L - T - R L - T - R
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Prot+Permit Prot+Permit Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 1 1 0 1 0 1 0 0 1 0 2 0 0 1 0 0
Volume Module: >> Count Date: 1 Jan 2031 << Future PM Peak Hour
Base Vol: 620 900 20 10 805 20 15 1 400 15 1 1
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 620 900 20 10 805 20 15 1 400 15 1 1
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 689 1000 22 11 894 22 17 1 444 17 1 1
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume: 689 1000 22 11 894 22 17 1 444 17 1 1
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.95 0.95 0.95 0.96 0.96 0.73 0.95 0.95 0.95 0.95
Lanes: 1.00 1.96 0.04 1.00 1.95 0.05 0.94 0.06 2.00 0.88 0.06 0.06
Final Sat.: 1805 3521 78 1805 3508 87 1701 113 2763 1593 106 106
Capacity Analysis Module:
Vol/Sat: 0.38 0.28 0.28 0.01 0.25 0.25 0.01 0.01 0.16 0.01 0.01 0.01
Crit Moves: ****
Green/Cycle: 0.72 0.67 0.67 0.29 0.27 0.27 0.17 0.17 0.17 0.01 0.01 0.01
Volume/Cap: 0.86 0.42 0.42 0.06 0.93 0.93 0.06 0.06 0.93 0.93 0.93 0.93
Delay/Veh: 36.0 9.3 9.3 30.8 57.5 57.5 41.6 41.6 74.3 226.9 227 226.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 36.0 9.3 9.3 30.8 57.5 57.5 41.6 41.6 74.3 226.9 227 226.9
LOS by Move: D A A C E E D D E F F F
HCM2kAvgQ: 22 9 9 0 22 22 1 13 2 2 2
Note: Queue reported is the number of cars per lane.

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Kittelton & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year 2031 Future Traffic Conditions, Weekday PM Peak Hour
Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #6 River/Lockhaven
Cycle (sec): 120 Critical Vol./Cap.(X): 1.021
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 57.7
Optimal Cycle: 180 Level Of Service: E
Street Name: North Bound South Bound East Bound West Bound
Approach: L - T - R L - T - R L - T - R L - T - R
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Prot+Permit Prot+Permit Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 2 0 1 1 0 1 1 0 0 1 1 0 0 1
Volume Module: >> Count Date: 1 Jan 2031 << Future PM Peak Hour
Base Vol: 175 1185 610 210 725 135 110 190 145 555 320 235
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 175 1185 610 210 725 135 110 190 145 555 320 235
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 184 1247 642 221 763 142 116 200 153 584 337 247
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume: 184 1247 642 221 763 142 116 200 153 584 337 247
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.95 0.83 0.80 0.93 0.92 0.98 0.98 0.84 0.97 0.97 0.84
Lanes: 1.00 2.00 1.00 1.00 1.69 0.31 0.37 0.63 1.00 1.27 0.73 1.00
Final Sat.: 1805 3610 1576 1511 2969 553 684 1182 1588 2336 1347 1590
Capacity Analysis Module:
Vol/Sat: 0.10 0.35 0.41 0.15 0.26 0.26 0.17 0.17 0.10 0.25 0.25 0.16
Crit Moves: ****
Green/Cycle: 0.49 0.34 0.58 0.45 0.33 0.33 0.17 0.17 0.17 0.24 0.24 0.24
Volume/Cap: 0.60 1.02 0.70 0.79 0.79 0.79 1.02 1.02 0.58 1.02 1.02 0.64
Delay/Veh: 25.9 71.8 20.1 35.1 40.2 40.2 107.6 108 49.5 81.6 81.6 44.1
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 25.9 71.8 20.1 35.1 40.2 40.2 107.6 108 49.5 81.6 81.6 44.1
LOS by Move: C E C D D D F D F D
HCM2kAvgQ: 6 32 17 9 17 17 17 6 24 24 9
Note: Queue reported is the number of cars per lane.

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Kittelson & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year 2031 Future Traffic Conditions, Weekday PM Peak Hour
Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
Intersection #9 Verda/Chemawa
Cycle (sec): 100 Critical Vol./Cap.(X): 1.523
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 148.2
Optimal Cycle: 0 Level Of Service: F
Street Name: Verda North Bound South Bound East Bound West Bound
Approach: L - T - R L - T - R L - T - R L - T - R
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0
Lanes: 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0
Volume Module: >> Count Date: 1 Jan 2031 << Future PM Peak Hour
Base Vol: 200 180 315 20 150 30 35 315 170 175 170 5
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 200 180 315 20 150 30 35 315 170 175 170 5
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 211 189 332 21 158 32 37 332 179 184 179 5
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume: 211 189 332 21 158 32 37 332 179 184 179 5
Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.29 0.26 0.45 0.10 0.75 0.15 0.07 0.60 0.33 0.50 0.49 0.01
Final Sat.: 138 124 218 40 303 61 32 290 156 221 215 6
Capacity Analysis Module:
Vol/Sat: 1.52 1.52 1.52 0.52 0.52 0.52 1.14 1.14 1.14 0.83 0.83 0.83
C/Crit Moves: ****
Delay/Veh: 265.9 266 265.9 20.2 20.2 20.2 113.2 113.2 113.2 39.6 39.6 39.6
AdjDel/Veh: 265.9 266 265.9 20.2 20.2 20.2 113.2 113.2 113.2 39.6 39.6 39.6
LOS by Move: F F F C C C F F F E E E
ApproachDel: 265.9 20.2 113.2 39.6
Delay Adj: 1.00 1.00 1.00 1.00
ApprAdjDel: 265.9 20.2 113.2 39.6
LOS by Appr: F F F C
AllWayAvgQ: 34.1 34.1 34.1 1.0 1.0 1.0 13.6 13.6 13.6 3.5 3.5 3.5
Note: Queue reported is the number of cars per lane.

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Kittelson & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year 2031 Future Traffic Conditions, Weekday PM Peak Hour
Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #8 River/Chemawa
Cycle (sec): 120 Critical Vol./Cap.(X): 0.919
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 45.1
Optimal Cycle: 139 Level Of Service: D
Street Name: River North Bound South Bound East Bound West Bound
Approach: L - T - R L - T - R L - T - R L - T - R
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Protected Protected Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0
Lanes: 1 0 1 1 0 1 0 1 0 1 0 1 0 1 0 1
Volume Module: >> Count Date: 1 Jan 2031 << Future PM Peak Hour
Base Vol: 330 1665 135 115 1080 130 165 130 240 110 140 90
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 330 1665 135 115 1080 130 165 130 240 110 140 90
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
PHF Volume: 337 1699 138 117 1102 133 168 133 245 112 143 92
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume: 337 1699 138 117 1102 133 168 133 245 112 143 92
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.94 0.94 0.95 0.93 0.93 0.95 1.00 0.84 0.95 1.00 0.84
Lanes: 1.00 1.85 0.15 1.00 1.78 0.22 1.00 1.00 1.00 1.00 1.00 1.00
Final Sat.: 1805 3302 268 1805 3169 382 1805 1900 1587 1805 1900 1587
Capacity Analysis Module:
Vol/Sat: 0.19 0.51 0.51 0.07 0.35 0.35 0.09 0.07 0.15 0.06 0.08 0.06
C/Crit Moves: ****
Green/Cycle: 0.22 0.56 0.56 0.07 0.41 0.41 0.13 0.17 0.17 0.07 0.11 0.11
Volume/Cap: 0.85 0.92 0.92 0.92 0.85 0.85 0.71 0.42 0.92 0.92 0.71 0.55
Delay/Veh: 60.3 31.3 31.3 110.6 36.8 36.8 60.0 45.5 83.3 112.3 63.5 54.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 60.3 31.3 31.3 110.6 36.8 36.8 60.0 45.5 83.3 112.3 63.5 54.9
LOS by Move: E C C F D E D F F E D
HCM2KAVGQ: 14 36 36 7 24 24 7 5 12 7 7 4
Note: Queue reported is the number of cars per lane.

Kittelton & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year 2031 Future Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #26 River/Dearborn
Cycle (sec): 90 Critical Vol./Cap.(X): 0.991
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 27.8
Optimal Cycle: 162 Level Of Service: C

Street Name: River Dearborn
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Prot+Permit Prot+Permit Permitted Permitted
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0
Lanes: 1 0 1 1 0 1 0 1 0 1 0 1 0 1 0 1

Volume Module: >> Count Date: 1 Jan 2031 << Future PM Peak Hour
Base Vol: 75 2140 40 60 1355 15 30 60 30 150 85 60
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 75 2140 40 60 1355 15 30 60 30 150 85 60
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHE Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHE Volume: 80 2277 43 64 1441 16 32 64 32 160 90 64
Reduced Vol: 80 2277 43 64 1441 16 32 64 32 160 90 64
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume: 80 2277 43 64 1441 16 32 64 32 160 90 64

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
Lanes: 1.00 1.96 0.04 1.00 1.98 0.02 0.33 0.67 1.00 0.64 0.36 1.00
Final Sat.: 1805 3533 66 1805 3563 39 401 803 1589 890 505 1589

Capacity Analysis Module:
Vol/Sat: 0.04 0.64 0.64 0.04 0.40 0.40 0.08 0.08 0.02 0.18 0.18 0.04
Vol/Sat: 0.04 0.64 0.64 0.04 0.40 0.40 0.08 0.08 0.02 0.18 0.18 0.04
Crit Moves: ****
Green/Cycle: 0.73 0.65 0.65 0.65 0.62 0.62 0.18 0.18 0.18 0.18 0.18 0.18
Volume/Cap: 0.32 0.99 0.99 0.43 0.65 0.65 0.44 0.44 0.11 0.99 0.99 0.22
Delay/Veh: 8.9 32.0 32.0 7.6 11.7 11.7 34.2 34.2 31.0 90.8 90.8 31.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 8.9 32.0 32.0 7.6 11.7 11.7 34.2 34.2 31.0 90.8 90.8 31.9
LOS by Move: A C C A B B C C C F F C
HCM2kAvgQ: 1 42 42 1 14 3 3 1 12 12 2

Note: Queue reported is the number of cars per lane.

Kittelton & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year 2031 Future Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #10 River/Manbrin
Cycle (sec): 90 Critical Vol./Cap.(X): 0.920
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 23.2
Optimal Cycle: 112 Level Of Service: C

Street Name: River Manbrin
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Prot+Permit Prot+Permit Permitted Permitted
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0
Lanes: 1 0 1 1 0 1 0 1 0 1 0 1 0 1 0 2

Volume Module: >> Count Date: 1 Jan 2031 << Future PM Peak Hour
Base Vol: 50 1880 50 170 1255 10 25 30 20 80 45 255
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 50 1880 50 170 1255 10 25 30 20 80 45 255
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHE Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHE Volume: 56 2089 56 189 1394 11 28 33 22 89 50 283
Reduced Vol: 56 2089 56 189 1394 11 28 33 22 89 50 283
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume: 56 2089 56 189 1394 11 28 33 22 89 50 283

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
Lanes: 1.00 1.95 0.05 1.00 1.98 0.02 0.45 0.55 1.00 0.64 0.36 2.00
Final Sat.: 1805 3502 93 1805 3578 29 549 659 1589 924 520 2767

Capacity Analysis Module:
Vol/Sat: 0.03 0.60 0.60 0.10 0.39 0.39 0.05 0.05 0.01 0.10 0.10 0.10
Vol/Sat: 0.03 0.60 0.60 0.10 0.39 0.39 0.05 0.05 0.01 0.10 0.10 0.10
Crit Moves: ****
Green/Cycle: 0.70 0.65 0.65 0.81 0.71 0.71 0.10 0.10 0.10 0.10 0.10 0.10
Volume/Cap: 0.19 0.92 0.92 0.65 0.55 0.55 0.48 0.48 0.13 0.92 0.92 0.98
Delay/Veh: 4.9 20.3 20.3 31.7 6.6 6.6 40.9 40.9 37.0 89.9 89.9 87.3
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 4.9 20.3 20.3 31.7 6.6 6.6 40.9 40.9 37.0 89.9 89.9 87.3
LOS by Move: A C C A D D D F F F F
HCM2kAvgQ: 1 32 32 4 10 2 2 1 7 7 8

Note: Queue reported is the number of cars per lane.

PM Thu Feb 7, 2008 17:24:02 Page 9-1
Kittelton & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year 2031 Future Traffic Conditions, Weekday PM Peak Hour
Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #38 14th/Lockhaven
Cycle (sec): 90 Critical Vol./Cap.(X): 1.088
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 56.0
Optimal Cycle: 180 Level Of Service: E
Street Name: 14th Lockhaven
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Permitted Permitted Protected Protected Protected
Rights: Include Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1 0 0 0 1 0 0 1 1 0 0 1 0 0 1 0
Volume Module: >> Count Date: 1 Jan 2031 << Future PM Peak Hour
Base Vol: 10 25 15 170 55 45 75 980 15 45 980 235
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 10 25 15 170 55 45 75 980 15 45 980 235
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91
PHF Volume: 11 27 16 187 60 49 82 1077 16 49 1077 258
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PCE Adj: 11 27 16 187 60 49 82 1077 16 49 1077 258
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume: 11 27 16 187 60 49 82 1077 16 49 1077 258
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.75 0.75 0.74 0.75 0.76 0.83 0.95 1.00 1.00 0.95 0.97 0.97
Lanes: 0.20 0.50 0.30 0.76 0.24 1.00 1.00 0.98 0.02 1.00 0.81 0.19
Final Sat.: 284 710 426 1080 350 1569 1805 1868 29 1805 1487 357
Capacity Analysis Module:
Vol/Sat: 0.04 0.04 0.04 0.17 0.17 0.03 0.05 0.58 0.58 0.03 0.72 0.72
Crit Moves: ****
Green/Cycle: 0.16 0.16 0.16 0.16 0.16 0.16 0.04 0.68 0.68 0.03 0.67 0.67
Volume/Cap: 0.24 0.24 0.24 1.09 1.09 0.20 1.09 0.85 0.85 0.85 1.09 1.09
Delay/Veh: 33.7 33.7 33.7 123.0 123.0 33.3 172.6 16.9 16.9 111.5 68.1 68.1
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 33.7 33.7 33.7 123.0 123.0 33.3 172.6 16.9 16.9 111.5 68.1 68.1
LOS by Move: C C C F F F B B B F E E
HCM2kAVGQ: 2 2 2 13 13 1 6 26 26 3 55 55
Note: Queue reported is the number of cars per lane.

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PM Thu Feb 7, 2008 17:24:02 Page 10-1
Kittelton & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year 2031 Future Traffic Conditions, Weekday PM Peak Hour
Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #53 River/Manzanita
Cycle (sec): 120 Critical Vol./Cap.(X): 0.883
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 44.9
Optimal Cycle: 121 Level Of Service: D
Street Name: River Manzanita
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 1 1 0 1 0 1 1 0 1 0 1 0 1 0
Volume Module: >> Count Date: 1 Jan 2031 << Future PM Peak Hour
Base Vol: 200 1200 110 205 890 40 40 80 165 105 125 230
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 200 1200 110 205 890 40 40 80 165 105 125 230
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 215 1290 118 220 957 43 43 86 177 113 134 247
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PCE Adj: 215 1290 118 220 957 43 43 86 177 113 134 247
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume: 215 1290 118 220 957 43 43 86 177 113 134 247
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.94 0.94 0.95 0.94 0.94 0.95 0.90 0.89 0.95 0.90 0.89
Lanes: 1.00 1.83 0.17 1.00 1.91 0.09 1.00 0.32 0.68 1.00 0.35 0.65
Final Sat.: 1805 3263 299 1805 3434 154 1805 553 1141 1805 600 1103
Capacity Analysis Module:
Vol/Sat: 0.12 0.40 0.40 0.12 0.28 0.28 0.02 0.16 0.16 0.06 0.22 0.22
Crit Moves: ****
Green/Cycle: 0.18 0.45 0.45 0.14 0.41 0.41 0.03 0.20 0.20 0.08 0.25 0.25
Volume/Cap: 0.68 0.88 0.88 0.88 0.68 0.68 0.88 0.78 0.78 0.78 0.88 0.88
Delay/Veh: 52.2 36.5 36.5 79.5 30.2 30.2 144.3 56.2 56.2 76.8 61.9 61.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 52.2 36.5 36.5 79.5 30.2 30.2 144.3 56.2 56.2 76.8 61.9 61.9
LOS by Move: D D D E C C F E E E
HCM2kAVGQ: 9 28 28 11 16 16 3 11 11 6 17 17
Note: Queue reported is the number of cars per lane.

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Kittelson & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year: 2031 Future Traffic Conditions, Weekday PM Peak Hour

Impact Analysis Report Level Of Service

Intersection	Base Del/ LOS	V/ Veh C	Future Del/ LOS	Change in C
# 12 Cherry/Salem Parkway	E 63.0	1.032	E 63.0	0.000 D/V
# 20 Salem Parkway/Verda	F 90.2	1.164	F 90.2	0.000 D/V

Kittelson & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year 2031 Future Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

```
*****
Intersection #12 Cherry/Salem Parkway
*****
Cycle (sec):      120      Critical Vol./Cap. (X):      1.032
Loss time (sec):  16 (X+R=4.0 sec)      Average Delay (sec/veh):      63.0
Optimal Cycle:    180      Level Of Service:      E
*****
```

Street Name:		Cherry				Salem Parkway			
Approach:		North Bound		South Bound		East Bound		West Bound	
Movement:		L	T - R	L	T - R	L	T - R	L	T - R
Control:		Protected		Protected		Protected		Protected	
Rights:		Ovl		Include		Include		Include	
Min. Green:		0	0	0	0	0	0	0	0
Lanes:		1	0	2	0	1	2	0	1

Volume Module:	>> Count	Date: 1 Jan 2031	<< Future PM	Peak Hour
Base Vol:	150 665	180 220 380	140 100 1470	85 190 1485 270
Growth Adj:	1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00 1.00
Initial Bse:	150 665	180 220 380	140 100 1470	85 190 1485 270
User Adj:	1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00 1.00
PHF Adj:	0.97 0.97	0.97 0.97 0.97	0.97 0.95 0.95	0.95 0.95 0.95 0.95
PHF Volume:	155 686	186 227 392	144 105 1547	89 200 1563 284
Reduc Vol:	0 0 0	0 0 0	0 0 0	0 0 0 0
Reduct Vol:	155 686	186 227 392	144 105 1547	89 200 1563 284
PCE Adj:	1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00 1.00
MLF Adj:	1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00 1.00
FinalVolume:	155 686	186 227 392	144 105 1547	89 200 1563 284

Saturation Flow Module:									
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.92	0.92	0.81	0.89	0.89	0.88	0.92	0.92	0.81
Lanes:	1.00	2.00	1.00	2.00	1.46	1.54	1.00	1.89	1.00
Final Sat.:	1660	3321	1461	3221	2327	857	1660	3114	1461

Capacity Analysis Module:									
Vol/Sat:	0.09	0.21	0.13	0.07	0.17	0.17	0.06	0.50	0.12 0.47 0.19
Crit Moves:	0.09	0.21	0.13	0.07	0.17	0.17	0.06	0.50	0.12 0.47 0.19
Green/Cycle:	0.10	0.20	0.32	0.07	0.17	0.17	0.07	0.48	0.48 0.12 0.53 0.53
Volume/Cap:	0.97	1.03	0.40	1.03	0.97	0.97	0.89	1.03	1.03 1.03 0.89 0.37
Delay/Veh:	117.7	91.3	32.6	125.1	81.2	81.2	106.4	62.3	62.3 126.2 31.6 16.9
User Delays:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00 1.00 1.00 1.00
AdjDelVeh:	117.7	91.3	32.6	125.1	81.2	81.2	106.4	62.3	62.3 126.2 31.6 16.9
LOS by Move:	F	F	S	F	F	F	F	E	F C B
LOS by Move:	F	F	S	F	F	F	F	E	F C B
HCM2KAVQ:	9	19	8	15	15	15	6	41	12 30 6

Note: Queue reported is the number of cars per lane.

Kittelson & Associates, Inc. - Project #8310
City of Keizer TSP - Keizer, Oregon
Year 2031 Future Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #20 Salem Parkway/Verda

Cycle (sec): 120 Critical Vol./Cap. (X): 1.164
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/Veh): 90.2
Optimal Cycle: 180 Level Of Service: F

Street Name: Salem Parkway Verda

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected Protected Protected

Rights: Include Include Include Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 1 0 2 0 1 1 0 1 1 0 1 1 0 1 0 1

Volume Module: >> Count Date: 1 Jan 2031 << Future PM Peak Hour

Base Vol: 220 1330 320 60 1450 80 40 320 165 330 560 65

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 220 1330 320 60 1450 80 40 320 165 330 560 65

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95

PHF Volume: 232 1400 337 63 1526 84 43 344 177 355 602 70

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 232 1400 337 63 1526 84 43 344 177 355 602 70

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

MTF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Final Volume: 232 1400 337 63 1526 84 43 344 177 355 602 70

Saturation Flow Module:

Sat/Lane: 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800

Adjustment: 0.95 0.95 0.82 0.95 0.94 0.94 0.95 1.00 0.84 0.95 1.00 0.84

Lanes: 1.00 2.00 1.00 1.00 1.00 1.90 0.10 1.00 1.00 1.00 1.00 1.00

Final Sat: 1710 3420 1483 1710 3215 177 1710 1800 1505 1710 1800 1503

Capacity Analysis Module:

Vol/Sat: 0.14 0.41 0.23 0.04 0.47 0.47 0.03 0.19 0.12 0.21 0.33 0.05

Crit Moves: ****

Green/Cycle: 0.12 0.48 0.48 0.04 0.41 0.41 0.02 0.16 0.16 0.18 0.32 0.32

Volume/Cap: 1.16 0.85 0.47 0.85 1.16 1.16 1.05 1.16 0.72 1.16 1.05 0.15

Delay/Veh: 168.0 31.9 21.4 114.2 118 117.7 214.4 155 57.3 153.0 92.3 29.4

User Delay: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 168.0 31.9 21.4 114.2 118 117.7 214.4 155 57.3 153.0 92.3 29.4

LOS by Move: F C F F F F F F F F F C

HCM2kAvgQ: 16 26 8 48 48 4 22 8 22 31 2

Note: Queue reported is the number of cars per lane.

HCM Signalized Intersection Capacity Analysis

3: Shangri & River Road

Year 2031 Future Traffic

Weekday PM Peak Hour

										
Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Volume (vph)	5	35	0	2045	25	15	450	855	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		4.0	4.0			
Lane Util. Factor	1.00			0.95		1.00	0.95			
Frt	0.88			1.00		1.00	0.90			
Flt Protected	0.99			1.00		0.95	1.00			
Satd. Flow (prot)	1615			3498		1752	3160			
Flt Permitted	0.99			1.00		0.95	1.00			
Satd. Flow (perm)	1615			3498		1752	3160			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	38	0	2199	27	16	484	919	0	0
RTOR Reduction (vph)	31	0	0	1	0	0	245	0	0	0
Lane Group Flow (vph)	12	0	0	2225	0	16	1158	0	0	0
Turn Type	Prot									
Protected Phases	8			2		1	6			
Permitted Phases										
Actuated Green, G (s)	16.0			58.0		4.0	66.0			
Effective Green, g (s)	16.0			58.0		4.0	66.0			
Actuated g/C Ratio	0.18			0.64		0.04	0.73			
Clearance Time (s)	4.0			4.0		4.0	4.0			
Lane Grp Cap (vph)	287			2254		78	2317			
v/s Ratio Prot	c0.01			c0.64		0.01	c0.37			
v/s Ratio Perm										
v/c Ratio	0.04			0.99		0.21	0.50			
Uniform Delay, d1	30.6			15.6		41.5	5.1			
Progression Factor	1.00			0.75		1.00	1.00			
Incremental Delay, d2	0.3			12.7		5.9	0.8			
Delay (s)	30.9			24.5		47.3	5.8			
Level of Service	C			C		D	A			
Approach Delay (s)	30.9			24.5			6.3		0.0	
Approach LOS	C			C			A		A	
Intersection Summary										
HCM Average Control Delay			17.5			HCM Level of Service			B	
HCM Volume to Capacity ratio			0.78							
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			12.0	
Intersection Capacity Utilization			67.3%			ICU Level of Service			C	
Analysis Period (min)			15							

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 6: Stark Street & River Road

Year 2031 Future Traffic
Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2	20	1	3	0	25	0	1243	0	850	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	22	1	3	0	27	0	1337	0	914	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											250	
pX, platoon unblocked												
vC, conflicting volume	975	973	919	996	978	0	925			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	975	973	919	996	978	0	925			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	93	99	99	100	96			100		
cM capacity (veh/h)	221	242	327	201	240	1082	735			1617		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total	24	4	472	891	925							
Volume Left	0	1	27	0	0							
Volume Right	22	0	446	891	11							
cSH	317	229	735	1700	1700							
Volume to Capacity	0.07	0.02	0.04	0.52	0.54							
Queue Length 95th (ft)	6	1	3	0	0							
Control Delay (s)	17.3	21.0	1.0	0.0	0.0							
Lane LOS	C	C	A									
Approach Delay (s)	17.3	21.0	0.4		0.0							
Approach LOS	C	C										
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			61.3%		ICU Level of Service					B		
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis 7: Stark Street & Broadway

Year 2031 Future Traffic
Weekday PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰↱	↰↱	
Volume (vph)	1230	15	2	840	448	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.97			0.95	0.95	
Frt	1.00			1.00	1.00	
Flt Protected	0.95			1.00	1.00	
Satd. Flow (prot)	3404			3504	3503	
Flt Permitted	0.95			0.95	1.00	
Satd. Flow (perm)	3404			3345	3503	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1323	16	2	903	482	2
RTOR Reduction (vph)	1	0	0	0	1	0
Lane Group Flow (vph)	1338	0	0	905	483	0
Turn Type	Perm					
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	46.0			36.0	36.0	
Effective Green, g (s)	46.0			36.0	36.0	
Actuated g/C Ratio	0.51			0.40	0.40	
Clearance Time (s)	4.0			4.0	4.0	
Lane Grp Cap (vph)	1740			1338	1401	
v/s Ratio Prot	c0.39				0.14	
v/s Ratio Perm				c0.27		
v/c Ratio	0.77			0.68	0.35	
Uniform Delay, d1	17.7			22.2	18.8	
Progression Factor	1.00			1.00	0.95	
Incremental Delay, d2	3.3			2.8	0.6	
Delay (s)	21.1			25.0	18.4	
Level of Service	C			C	B	
Approach Delay (s)	21.1			25.0	18.4	
Approach LOS	C			C	B	
Intersection Summary						
HCM Average Control Delay			21.9		HCM Level of Service	C
HCM Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			66.8%		ICU Level of Service	C
Analysis Period (min)			15			

c Critical Lane Group

Appendix F

Alternatives Analysis



KITTELSON & ASSOCIATES, INC.

TRANSPORTATION ENGINEERING / PLANNING

610 SW Alder Street, Suite 700, Portland, OR 97205 • 503.228.5230 • 503.273.8169

TECHNICAL MEMORANDUM

City of Keizer, Transportation System Plan Update

Alternatives Analysis

Date: March 31, 2008 Project #: 8310.04

To: Technical Advisory Committee

From: Elizabeth Wemple, P.E.; Matt Hughart, AICP; Alek Pochowski, E.I.

CC: Sam Litke, City of Keizer

The previous memorandum on future conditions identified transportation system deficiencies that will develop in Keizer through the year 2031 if no improvements are made to the system. Attention now turns to ways of addressing these deficiencies. This memorandum presents the transportation improvement alternatives that could mitigate existing and forecast future transportation deficiencies.

ALTERNATIVES ANALYSIS

MOTOR VEHICLE SYSTEM ROADWAY CAPACITY ALTERNATIVES

The results of the future conditions no-build analysis showed a number of intersections that are projected to have operating deficiencies. Notably, the following signalized intersections are forecast to operate at an unacceptable level-of-service (LOS "E" or worse) and exceed their available capacity by the year 2031:

- 14th Street/Lockhaven Drive
- Verda Lane/Salem Parkway

The critical movements at the following unsignalized intersections are projected to exceed capacity, and operate with a level-of-service "F" in year 2031:

- Verda Lane/Chemawa
- Verda Lane/Lockhaven Drive

In addition to the failing intersections, several intersections are projected to operate near, at, or over capacity by the year 2031 without exceeding the level-of-service standards. These intersections include:

- River Road/Wheatland Road
- River Road/Lockhaven Drive
- River Road/Chemawa Road
- River Road/Dearborn Avenue
- Salem Parkway/Cherry Avenue

This section provides an evaluation of intersection improvements and other street improvements that could potentially mitigate the above deficiencies. Following the project descriptions below are a series of sketches and preliminary evaluations matrices.

River Road/Wheatland Drive

This intersection is forecast to operate near capacity ($v/c=0.98$) due to a heavy northbound and southbound traffic on River Road and a particularly heavy northbound left-turn movement from River Road to Wheatland Drive. Given the constrained geographic nature of the northern part of the City and the lack of parallel north/south roadways, the River Road/Wheatland Road intersection is an intersection of local and regional significance. As such, the noted capacity constraints will need to be addressed at the intersection.

To provide additional long-term capacity and minimize vehicle queuing, the heavy northbound left-turn movement will need dual left-turn lanes. In addition, the outside southbound through lane will need to be lengthened to improve lane utilization and better accommodate directional southbound through volumes. A sketch and evaluation of the alternative is presented in Table 1.

Extension of Verda Lane

The north-south movements within the City of Keizer are currently limited to a few key corridors such as River Road and portions of Verda Lane/Chemawa Avenue. Opportunities for the development of new corridors are limited. One potential corridor that could still be established is an extension of Verda Lane from its current terminus at Lockhaven Drive to a new connection with River Road just south of the existing Manzanita Street intersection. Utilizing a portion of the Trail Avenue corridor, this extension would provide an alternative route that would allow some traffic the opportunity to bypass the River Road/Lockhaven Drive intersection. In addition, the more direct connection between River Road and Lockhaven Drive would potentially minimize the amount of neighborhood cut-through traffic that currently takes place along the 14th Avenue and Harmony Road corridors. A conceptual layout and evaluation of the alternative is presented in Table 2. Coupled with the Verda Lane extension, intersection modifications would need to occur at the Lockhaven Drive/Verda Lane and River Road/Manzanita Street intersections as outlined in the following sections.

Lockhaven Drive/Verda Lane Alternatives

In order to establish the Verda Lane extension, consideration was given to its intersection at Lockhaven Drive. In particular, two intersection treatments were considered. The first alternative would include a full movement intersection that would allow full movements across Lockhaven Drive. In turn, this intersection form would allow Verda Lane to become a de-facto north/south parallel route to River Road. A sketch and evaluation of the intersection treatment is presented in Table 3.

As an alternative, a second intersection treatment was considered that would limit the amount of through traffic volumes along Verda Lane south of Lockhaven Drive. Given that this portion of Verda Lane is a local street and travels through a residential neighborhood, the restriction of north/south through volumes through special median treatments is one possible way to maintain local street volumes on this portion of Verda Lane that are consistent with local streets and residential neighborhoods. A sketch and evaluation of the alternative is also presented in Table 3.

River Road/Manzanita Street

The River Road/Manzanita Street intersection is currently located within close proximity of the River Road/Wheatland Drive intersection. Given the projected traffic volume increases along River Road, greater separation between these two intersections would improve the progression of traffic flow along River Road and minimize the potential for vehicle queue spillback. One alternative to achieve greater intersection separation would involve the relocation of the River Road/Manzanita Street intersection by approximately 250 feet to the south. This relocation would involve the reconstruction of both the McNary Estates Drive and Manzanita Street approaches. Coupled with the extension of Verda Lane as noted above, this intersection would become a key component in the establishment of a partial north/south alternative to River Road. A sketch and evaluation of the alternative is presented in Table 4.

River Road/Lockhaven Drive

Although the River Road/Lockhaven Drive intersection is projected to operate at an acceptable LOS D, the long-term capacity of the intersection is limited due to some geometric and signal phasing inefficiencies. To improve the long-term capacity, the westbound approach will need dual left-turn lanes, a single through lane, and a separate right-turn lane. This widening and lane reconfiguration will allow the existing east-west split phasing to be replaced with a more conventional and efficient protected left-turn phasing. A sketch and evaluation of the alternative is presented in Table 5.

Lockhaven Drive Expansion

Lockhaven Drive from River Road to just east of Chemawa Road is primarily a three-lane roadway. By 2031, traffic volumes are projected to be great enough to necessitate either indirect transportation demand management measures or a more direct widening of this roadway to a

five-lane section (two through lanes in each direction and a center left-turn lane). A conceptual illustration and evaluation of the corridor alternatives is presented in Table 6.

A widening of Lockhaven Drive could potentially take place in two phases. The first phase would include a widening from Chemawa Road to Verda Lane. The second phase would complete the widening from Verda Lane to River Road.

Lockhaven Drive/14th Avenue

A high east/west travel demand is projected to limit the long-term capacity of the Lockhaven Drive/14th Avenue intersection. To maximize the available capacity of the intersection, a westbound right-turn lane will be needed to accommodate the high right-turn demand. In addition, the north and south 14th Avenue approaches will need to be modified to include a separate left-turn lane and shared through/right-turn lane. A sketch and evaluation of the alternative is presented in Table 7.

Verda Lane/Chemawa Road

This intersection is forecast to operate at LOS "F" and exceed its available capacity as an all-way stop-controlled intersection. PM peak hour signal warrants are forecast to be met at this intersection. Installing a traffic signal with separate left-turn lanes on each intersection approach would improve the intersection LOS from "F" to "A" and under capacity conditions. Some widening on each intersection approach would be necessary to provide the separate left-turn lanes, sidewalks, bike lanes, and better intersection geometrics.

As an alternative to a traffic signal, a roundabout may also be an appropriate mitigation measure. A single lane roundabout would operate comparatively to a signalized intersection. Compared to a traffic signal, a roundabout would have a larger footprint and require greater right-of-way acquisition. A sketch and evaluation of the two alternatives are presented in Table 8.

Access Management

Managing access to the City's road system is necessary to preserve the capacity of the City's arterial street system, by minimizing the number of points where traffic flow may be disrupted by traffic entering and exiting the roadway, and to enhance safety along all City roadways by minimizing the number of potential conflict points.

Several access management measures can potentially be implemented as described below:

- Work with developers during the application process to consolidate driveways and limit new ones where feasible.
- Consider the use of raised medians on busy arterials to limit driveway access to right-in/right-out turning movements.

- Develop access management plans for arterials and collector streets.

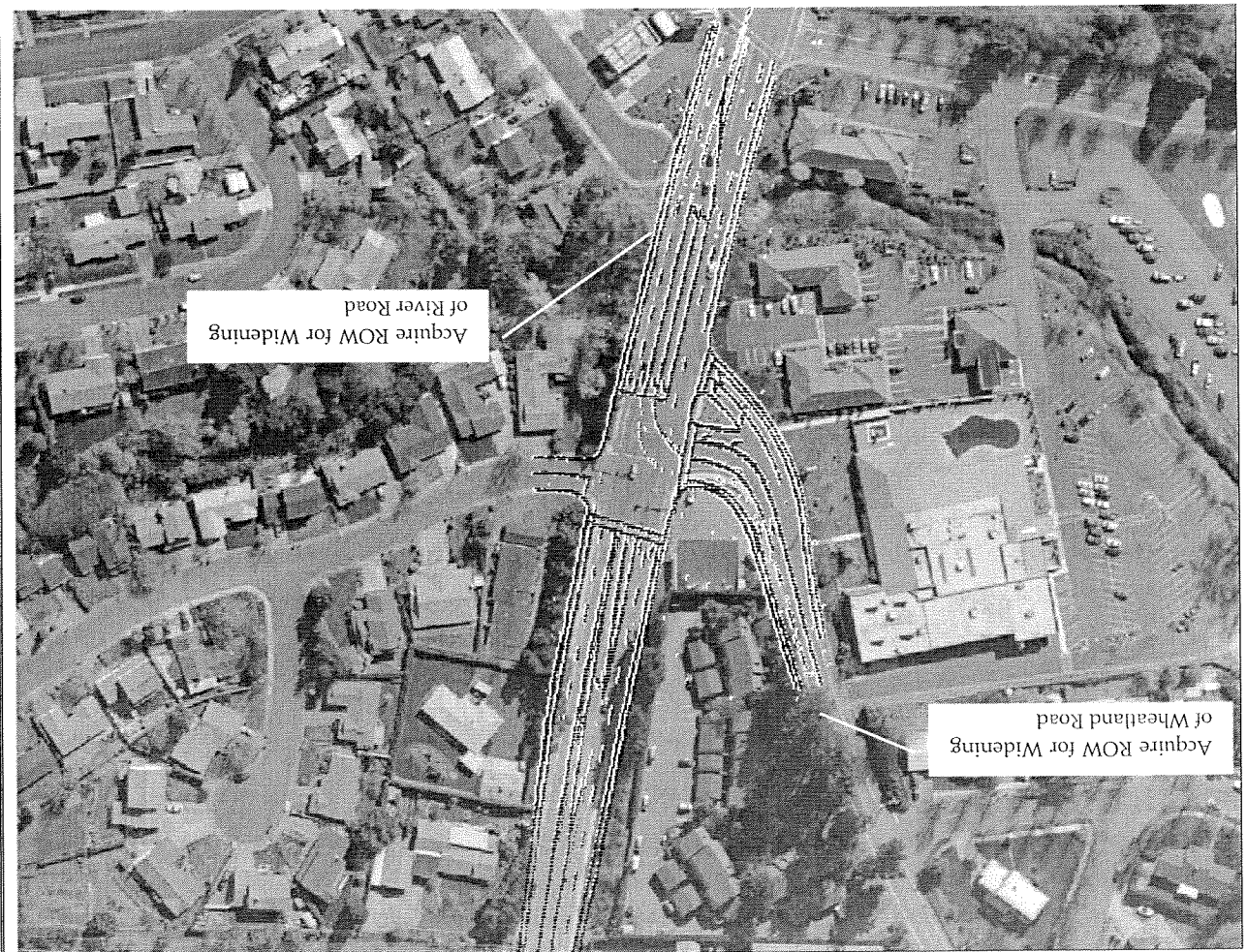
These types of access management measures should be considered on segments such as:

- River Road from the south City Limits to Lockhaven Drive;
- Lockhaven Drive between Windsor Island Drive and Chemawa Road; and
- Chemawa Avenue between Lockhaven Drive and Windsor Island Drive

Salem Parkway

The Salem Parkway is an ODOT owned and maintained facility. The two study intersections at Cherry Avenue and Verda Lane are under the jurisdiction of ODOT, but have been included in the long-term analysis as they are significant portals to/from the City of Keizer. Due to a projected increase in regional transportation demand, both intersections are forecast to operate above ODOT's 0.85 volume/capacity standard. While the Cherry Avenue intersection is forecast to have available capacity, the Verda Lane intersection is forecast to operate above capacity. To mitigate these forecast conditions, improvements would need to include a separate southbound right-turn lane and dual northbound left-turn lanes on the Salem Parkway. In addition, Verda Lane would need additional through lanes to better facilitate movements across the Parkway. Given that this intersection is an ODOT owned and maintained facility, the City of Keizer will want to coordinate closely with State transportation officials regarding future improvements to this intersection.

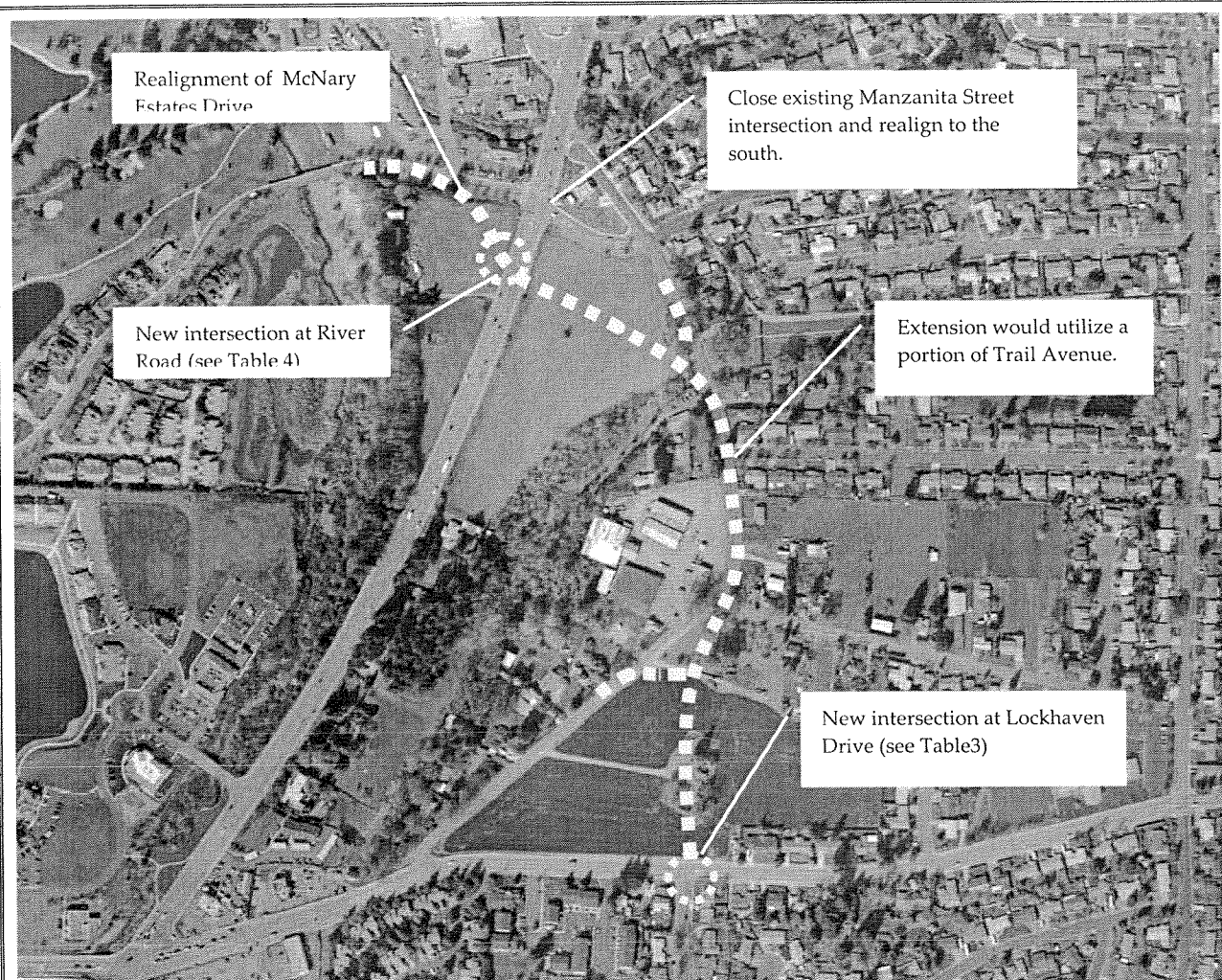
Table 1 Wheatland Road / River Road Alternative



Sketch is for illustration purposes only

	Do Nothing Alternative	- Construct dual northbound left-turn lanes. - Change NB/SB to a protected left-turn phase. - Extend length of second southbound through lane.
Traffic Operations	- Will operate at capacity. - Excessive vehicle queues on the northbound left-turn lane and southbound through lane.	- Will operate with sufficient capacity. - Better southbound through lane utilization and vehicle queues.
Safety	- Likely to see crash patterns consistent with existing conditions which include rear-end collisions and angle collisions associated with the northbound left-turn. - Increasing traffic volumes and vehicle queuing concerns may lead to additional collisions involving the northbound left-turn movement.	- Protected left-turn phasing has the potential to reduce the propensity and severity of angle type crashes. - Better southbound through lane utilization has the potential to reduce vehicle queues and limit rear-end collisions.
Impacts	- Potential for bottleneck conditions. - Increasing vehicle delay, intersection safety, and congestion.	- Will require significant intersection modifications and lane widening on River Road and Wheatland Road. - Significant property impacts to the northwest quadrant of intersection.
Cost	- N/A	- High (\$) due to significant ROW needs, additional receiving lanes on Wheatland Road, and property impacts.

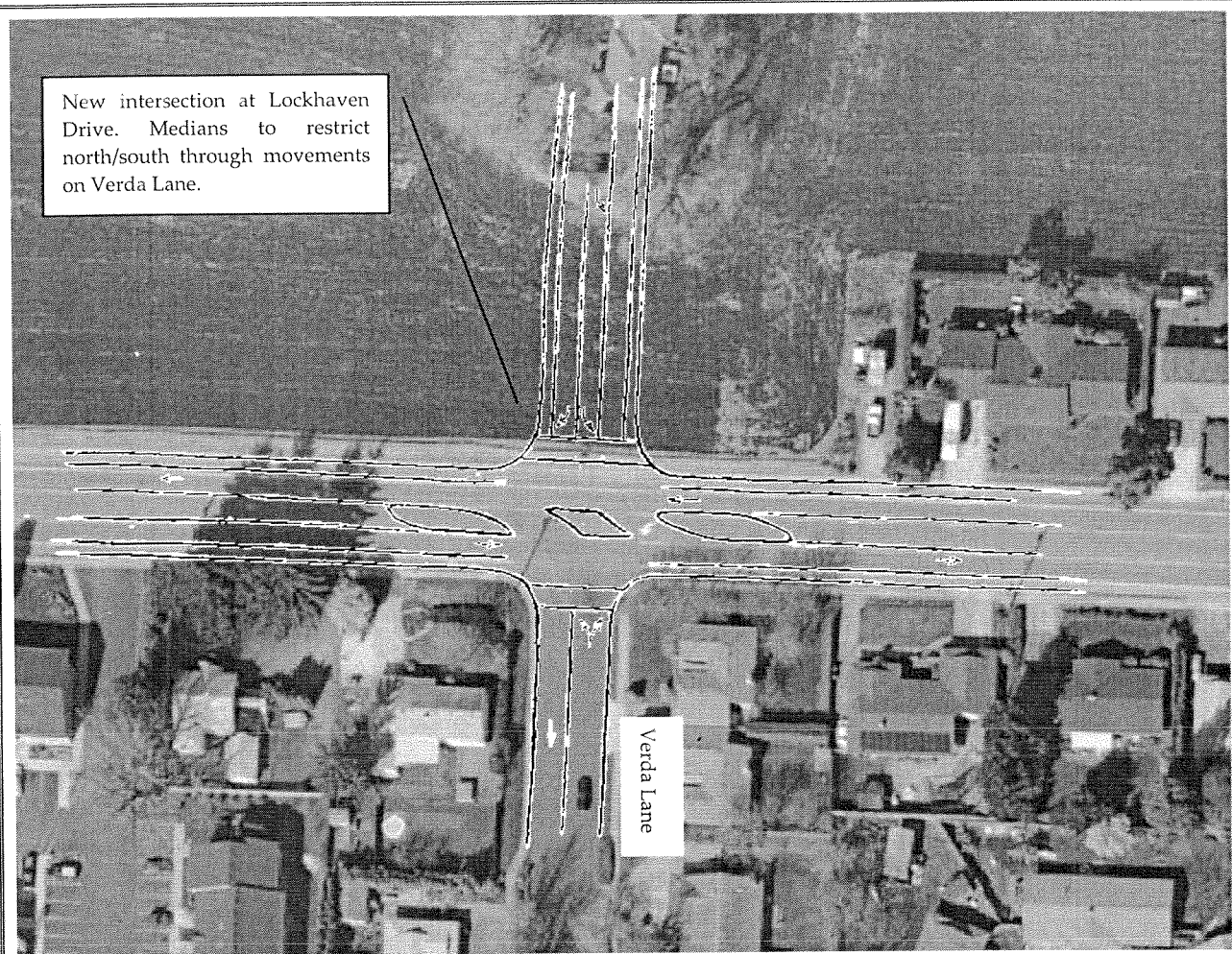
Table 2 Verda Lane Extension



Sketch is for illustration purposes only

	Do Nothing Alternative	Extension Alternative
		- Extend Verda Lane north of Lockhaven Drive and connect to River Road at a new alignment of McNary Estates Drive. - Close the existing River Road/Manzanita Street/McNary Estates Drive.
Traffic Operations	- Traffic destined for River Road will continue to cut through the residential neighborhoods to the north using 14th Avenue, Harmony Drive, and Mandarin Street.	- Alternative route has the potential to reduce cut-through traffic on local streets. - May potentially reduce traffic demand at the River Road/Lockhaven Drive intersection.
Safety	- No change to the existing condition.	- Would help to reduce through traffic on residential streets, thereby improving the safety of those streets.
Impacts	- Continue to see cut-through traffic on local neighborhood streets. - River Road/Lockhaven Drive will continue to be the primary intersection for accommodating traffic from the northern part of the City that is destined to/from the Chemawa interchange.	- Would require significant amounts of right-of-way. - Special intersection design treatments would be necessary at the Lockhaven Drive/Verda lane intersection to reduce north-south through movements (see Lockhaven Drive/Verda Lane intersection alternative).
Cost	- N/A	- High (\$) due to ROW acquisition needs, roadway construction costs, and property impacts.

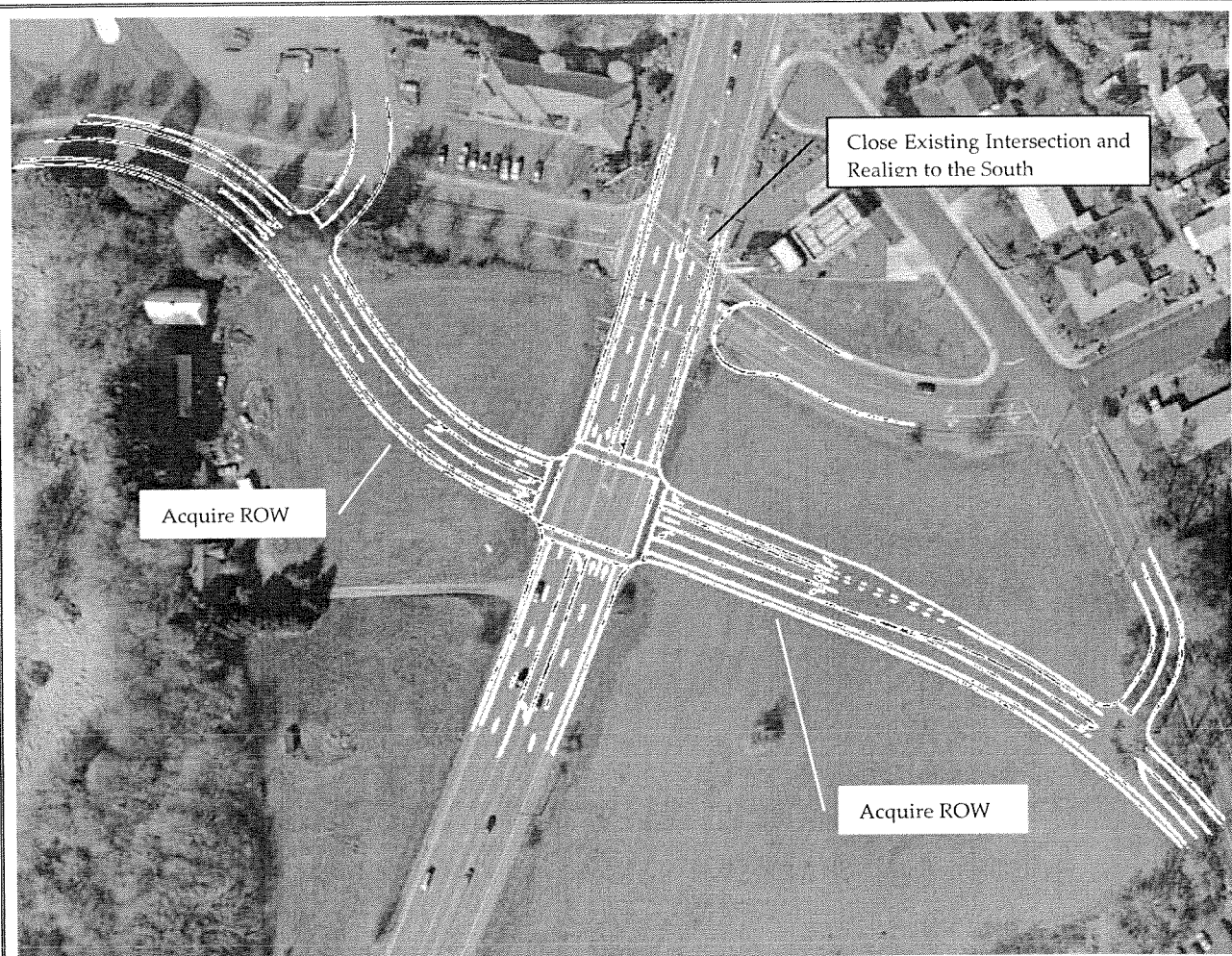
Table 3 Lockhaven Drive / Verda Lane Alternatives Comparison



Sketch is for illustration purposes only

	Full Movement Intersection Alternative	Limited Movement Intersection Alternative
	- Extend Verda Lane to the north of Lockhaven Drive. - Signalize the intersection and allow full turning movements.	- Extend Verda Lane to the north of Lockhaven Drive. - Signalize the intersection. - Restrict north/south through movements on Verda Lane.
Traffic Operations	- As a signalized intersection with full turning movements, the intersection will operate moderately poorly (LOS D and near capacity).	- As a signalized intersection with limited movements, the improvement will result in LOS A with sufficient longer-term capacity.
Safety	- Signalization will improve the accessibility and safety for turning movements to/from Verda Lane.	- Signalization will improve the accessibility and safety for turning movements to/from Verda Lane.
Impacts	- Extension of Verda Lane will require right-of-way. Adjacent property is currently undeveloped, resulting in minimal impacts to existing properties. - Verda Lane south of Lockhaven Drive is a local street that serves the adjacent neighborhood. A full movement intersection at Lockhaven Drive is likely to increase traffic volumes to levels that are undesirable for a local street and the adjacent neighborhood.	- Extension of Verda Lane will require right-of-way. Adjacent property is currently undeveloped, resulting in minimal impacts to existing properties. - Restriction of through movements will likely keep traffic volumes to levels that are desirable for a local street through a residential neighborhood.
Cost	- Moderate (\$) due to traffic signal construction costs and other intersection modifications.	- Moderate (\$) due to traffic signal construction costs, medians, and other intersection modifications.

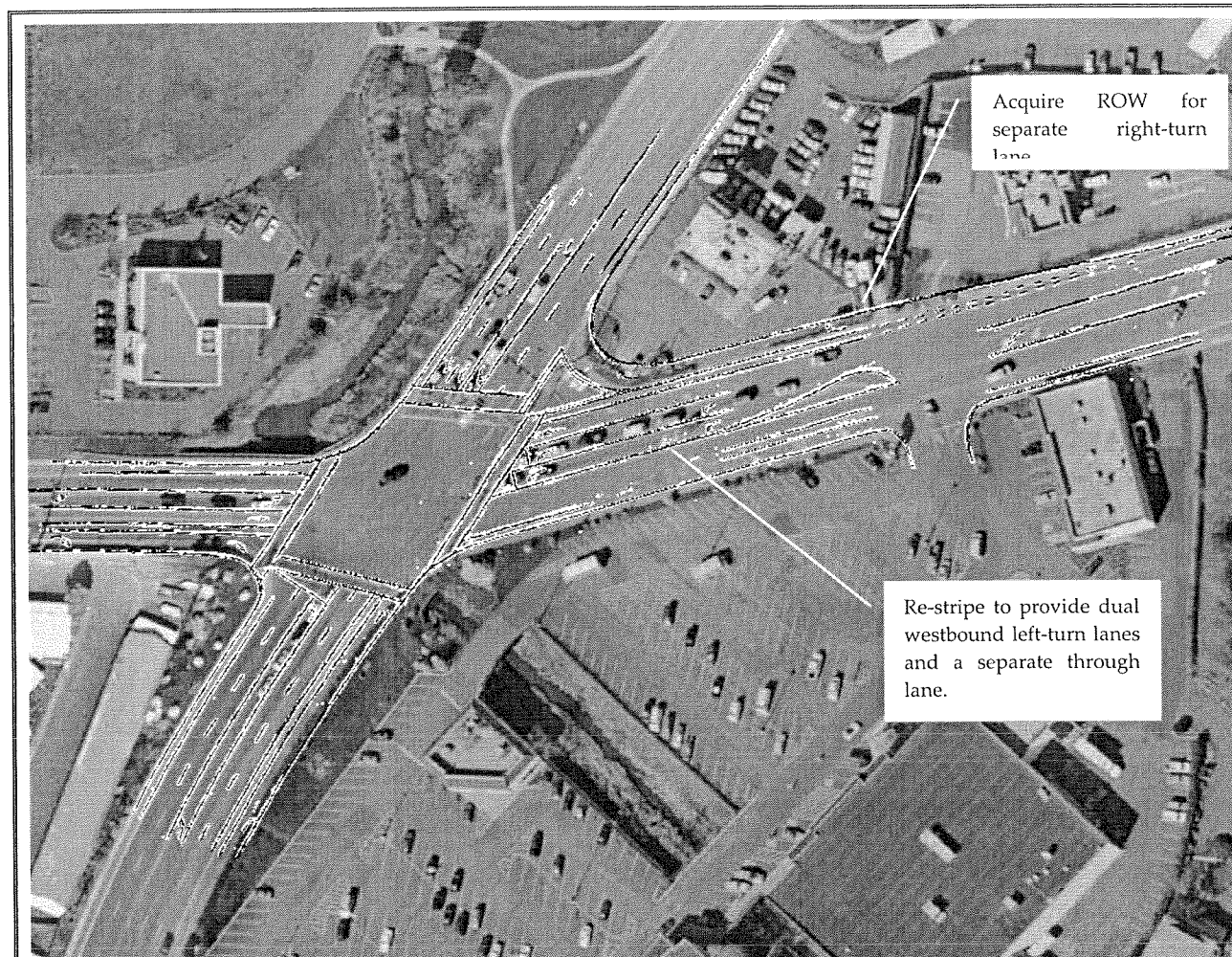
Table 4 River Road / Manzanita Street Alternative



Sketch is for illustration purposes only

	Do Nothing Alternative	Realignment Alternative
		- Move intersection approximately 250 feet to the south. - Construct separate WB through and right-turn lanes.
Traffic Operations	- Will operate near capacity. - Close spacing to River Road/Wheatland Drive intersection will result in poor progression and queuing conflicts. - Long westbound vehicle queues.	- Will operate with sufficient longer-term capacity. - Better intersection spacing with River Road/Wheatland Drive. - WB right-turn lane will decrease delay and add long-term capacity to the intersection.
Safety	- No change to the existing condition; therefore safety concerns are likely to continue which include rear-end collisions along River Road.	- Increased intersection spacing from Wheatland Road will reduce the potential for vehicle queue backups and rear end crashes.
Impacts	- Without improvements, queue spillbacks are likely from the River Road/Wheatland intersection. - Increasing vehicle delay, intersection safety, and congestion.	- Both the McNary Estates Drive and Manzanita Street approaches will need to be reconstructed, requiring significant amounts of right-of-way. - Although right-of-way will be needed, adjacent properties are currently undeveloped.
Cost	- N/A	- High (\$) due to ROW acquisition needs, roadway and traffic signal construction costs, intersection realignment, and property impacts.

Table 5 River Road / Lockhaven Drive Alternative



Sketch is for illustration purposes only

	Do Nothing Alternative	Improvement Alternative
		- Convert WB approach to dual WB left-turn lanes, a single through lane, and a separate right-turn lane. - Convert E/W split phasing to a more conventional protected left-turn phasing. - Upon redevelopment of adjacent properties, implement access management measures for those driveways within the influence area of the signalized intersection.
Traffic Operations	- Will operate at LOS D and near capacity. - Excessive vehicle queues on the westbound approach.	- With WB dual left-turn lanes and separate through and right-turn lanes, the intersection will operate at LOS D and under capacity.
Safety	- No change to the existing layout; therefore safety concerns are likely to worsen as traffic volumes grow.	- Additional westbound lanes will minimize vehicle queues and reduce the potential for rear-end collisions. - Improved access management will reduce turning movement conflicts within the influence area of the intersection.
Impacts	- Without improvements, the long-term capacity of the intersection is limited up through the 2031 study period. - Increasing vehicle delay, intersection safety, and congestion.	- Lane additions on Lockhaven Drive will require right-of-way and will likely have significant property impacts to adjacent businesses.
Cost	- N/A	- Moderate (\$) due to ROW acquisition needs for the WB right-turn lane and traffic signal modification.

Table 6 Lockhaven Drive

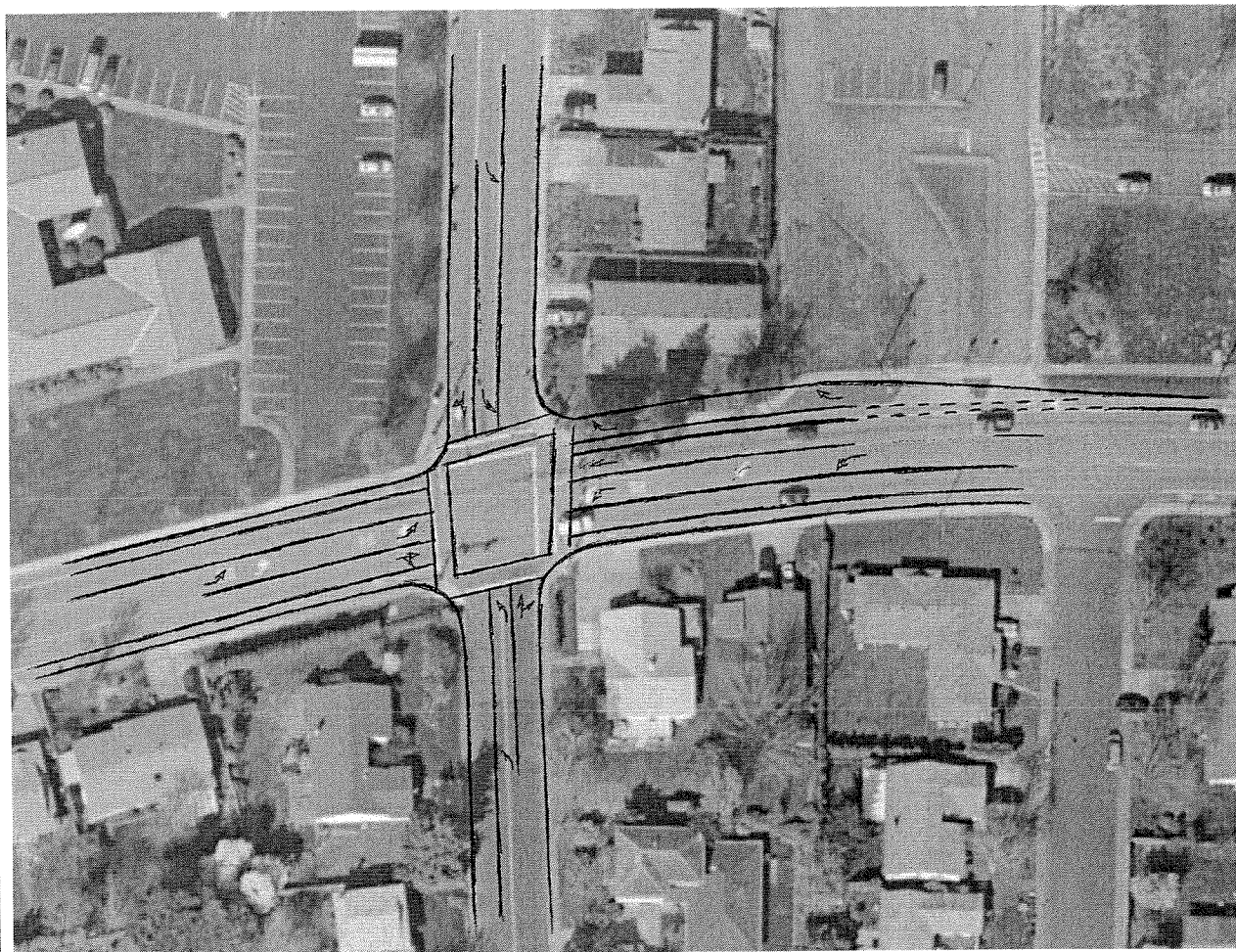


Sketch is for illustration purposes only

	Do Nothing Alternative	Demand Management Alternative	Widening Alternative
		- Improve transit service along the corridor. - Implement access management measures as possible. - Consider lower intersection operations standards that allow a greater degree of congestion.	- Widen Lockhaven Drive to 5-lanes from River Road to Chemawa Road.
Traffic Operations	- As the main east-west arterial, the capacity of Lockhaven Drive is limited as a 3-lane facility.	- Improved transit service has the potential to reduce vehicle travel, particularly during the peak travel periods.	- Will restore capacity to the Lockhaven Drive corridor and improve operations at the Lockhaven Drive/14th Avenue intersection.
Safety	- Increasing congestion on Lockhaven Drive may force additional east-west traffic on local and collector streets.	- Access management measures will reduce vehicle conflicts and minimize the potential for certain types of vehicle collisions.	- Increased capacity will improve traffic flow and minimize vehicle queuing and the resulting safety deficiencies.
Impacts	- Without improvements, long-term accessibility to/from the Chemawa interchange is limited.	- Access management measures such as medians can limit access to private property.	- Widening of Lockhaven Drive will require significant amounts of right-of-way.

Cost	- N/A	- Low to Moderate (\$)	- High (\$) due to significant ROW needs and property impacts.
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Table 7 Lockhaven Drive/14th Avenue Alternative

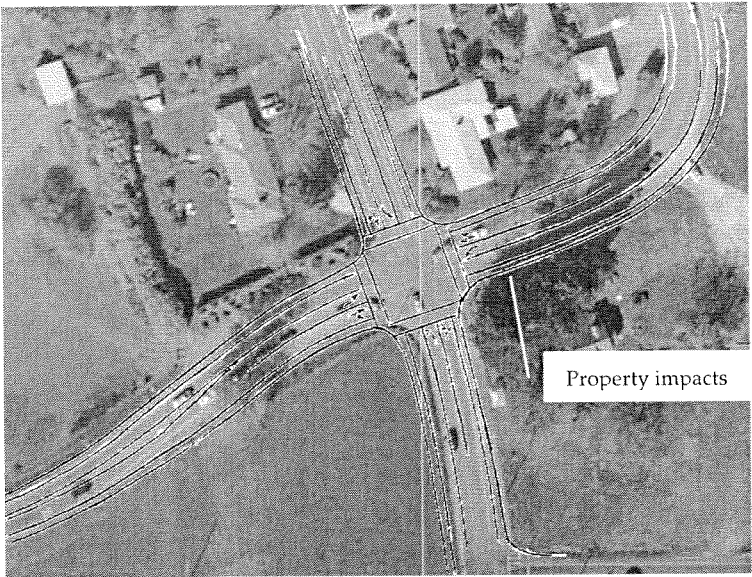
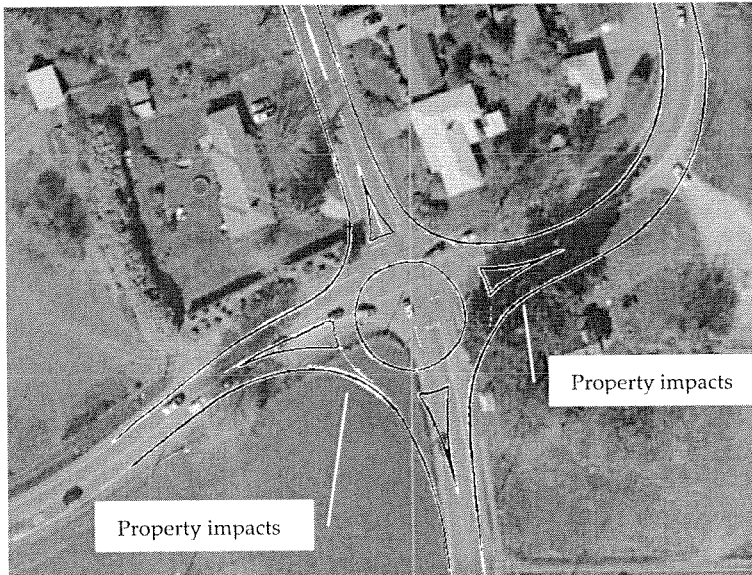


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	Do Nothing Alternative	Improvement Alternatives
		- Construct a westbound right-turn lane. - Modify the northbound & southbound approaches to include a separate left-turn lane and shared through/right-turn lane.
Traffic Operations	- Traffic volumes are projected to continue to increase, limiting the overall capacity of the intersection along this primary east/west arterial.	- A westbound right-turn lane will provide additional longer-term capacity at the intersection.
Safety	- No change from existing conditions.	- May reduce the potential for rear-end collisions along Lockhaven Road.

Impacts	- Significant vehicle queues and delays.	- Will require some ROW acquisition and have some property impacts.
Cost	- N/A	- Low (\$) due to some relatively minor ROW needs and traffic signal modification requirements.

Table 8 Verda Lane/Chemawa Intersection Alternatives

		TRAFFIC SIGNAL
		ROUNDAABOUT

Sketch is for illustration purposes only

	Traffic Signal Alternative	Roundabout Alternative
	- Widen all four approaches to include separate left and through/right-turn lanes. - Install traffic signal.	- Acquire right-of-way (SW & NW quadrants) - Install single-lane roundabout (120 ft inscribed circle diameter).
Traffic Operations	- Eliminates forecast congestion. - LOS B, $v/c=0.72$	- Eliminates forecast congestion. - $v/c=0.69$
Safety	- Would perform comparable to other traffic signals in Keizer.	- Roundabouts typically have fewer high-speed injury collisions and collisions are typically less severe than signalized intersections.
Impacts	- Some right-of-way required for lane widening along the southwest and southeast quadrants.	- The larger footprint of the roundabout requires more right-of-way compared to the signalized intersection. Some potentially significant property impacts are likely along the southwest and southeast quadrants.
Cost	- Moderate (\$) due to ROW acquisition and roadway/traffic signal construction costs.	- Moderate to High (\$) due to increased ROW acquisition, property impacts, and roadway construction costs.

Table 9 River Road

		Do Nothing Alternative
	Traffic Operations	- Traffic volumes are projected to continue to increase, limiting the overall capacity of the roadway along this primary north-south arterial.
	Safety	- No change from existing conditions, therefore the River Road corridor will continue to see a high propensity of rear-end and turning movement collisions.
	Impacts	- Significant vehicle queues and delays along the corridor.
	Cost	- N/A
		Improvement Alternatives
		- Implement access management measures for properties that directly access River Road.
		- Improve transit service along the River Road corridor.
		- Construct right-turn deceleration lanes at major intersections.
		- Consider lower intersection operations standards that allow a greater degree of congestion.
	Traffic Operations	- Right-turn lanes at major intersections along the corridor will increase intersection capacity. - Improved transit service has the potential to reduce vehicle travel, particularly during the peak travel periods.
	Safety	- Access management measures will reduce vehicle conflicts and minimize the potential for certain types of vehicle collisions.
	Impacts	- Access management measures such as medians can limit access to private property.
	Cost	- Low to Moderate (\$) - Access management measures and the construction of right-turn lanes can be implemented with a combination of capital facilities projects and private redevelopment projects.
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PEDESTRIAN IMPROVEMENT ALTERNATIVES

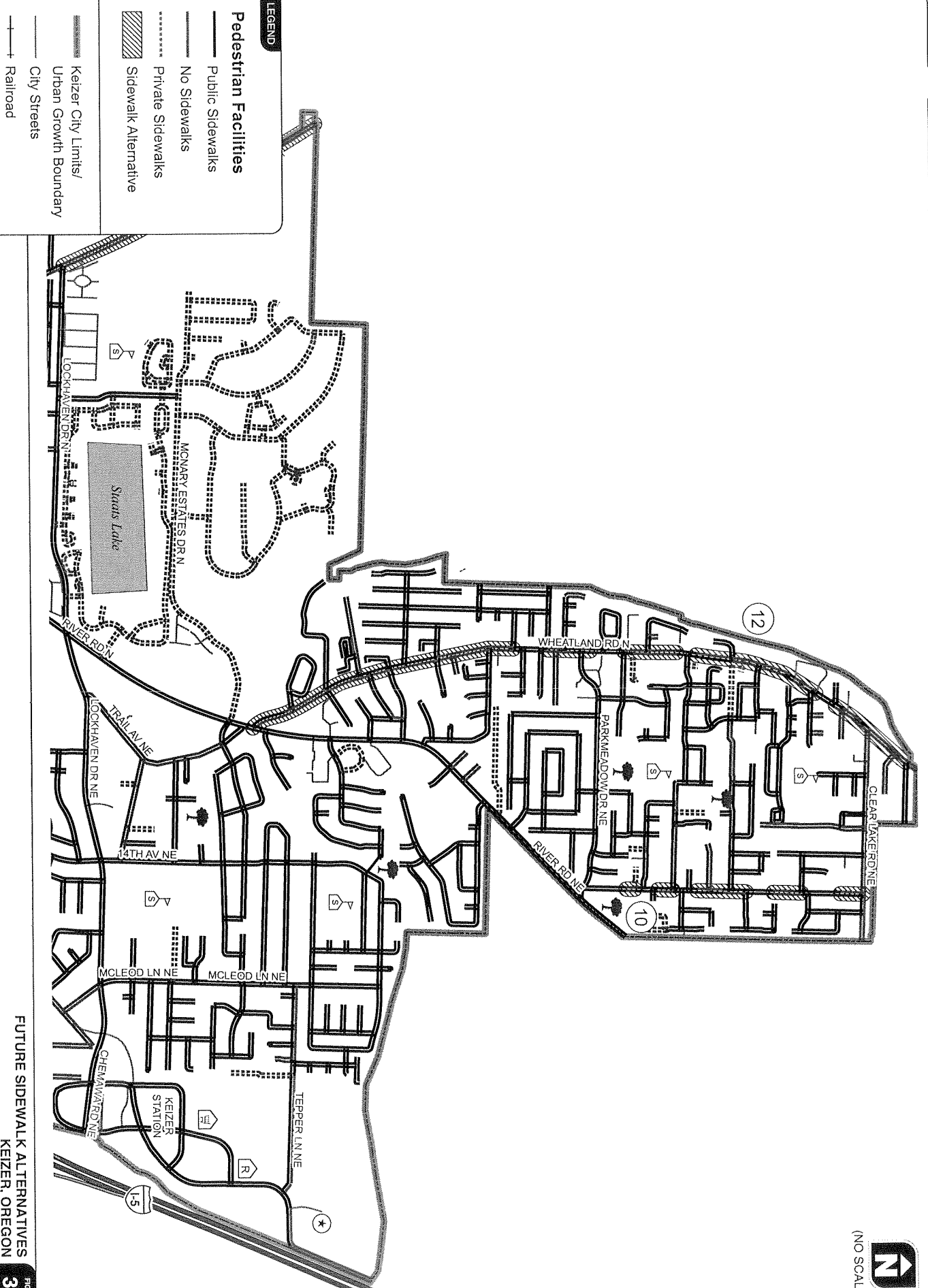
Providing a connected network of pedestrian facilities is a significant component in the overall livability of a community. A safe and comfortable pedestrian network can be used for three primary purposes:

- Serving shorter pedestrian trips from neighborhoods to area activity centers such as schools, churches, and commercial centers
- Providing access to public transit
- Meeting recreational needs

In general, a large majority of arterial, collector, and local streets have sidewalk facilities. However, the pedestrian network is lacking in older neighborhoods and along significant east/west and north/south corridors that serve schools, public parks, and commercial centers. These deficiencies are identified in Figures 3-1 and 3-2. To address these deficiencies, the following improvement alternatives are identified in Table 8 below.

BICYCLE IMPROVEMENT ALTERNATIVES

Similar to the pedestrian network, the bicycle network expands the non-automotive transportation system within Keizer. A well designed bicycle network can provide regional access to school, shopping, and recreational destinations. Keizer currently has a number of roadway facilities with bicycle lanes or bicycle route designations. However, some gaps exist in this network as outlined in Figure 3-3. To mitigate these gaps, improvement alternatives are identified in Table 9.



FUTURE SIDEWALK ALTERNATIVES
KEIZER, OREGON
FIGURE 3-1

LEGEND

Pedestrian Facilities

- Public Sidewalks
- No Sidewalks
- Private Sidewalks
- Sidewalk Alternative

- Keizer City Limits/
Urban Growth Boundary
- City Streets
- Railroad



Bicycle Attractions

-  School
-  City Hall
-  Parks
-  Library
-  Stadium
-  Grocery Store
-  Retail Store



(NO SCALE)

LEGEND

Bicycle Facilities

-  Bike Lanes
-  Bike Route
-  Multiuse Path

Bicycle Facilities Alternative

-  Bike Lane Alt.
-  Bike Route Alt.
-  Multiuse Path Alt.

 Keizer City Limits/
Urban Growth Boundary

-  City Streets
-  Railroad

10 - Keizer TSP Refinement and Update

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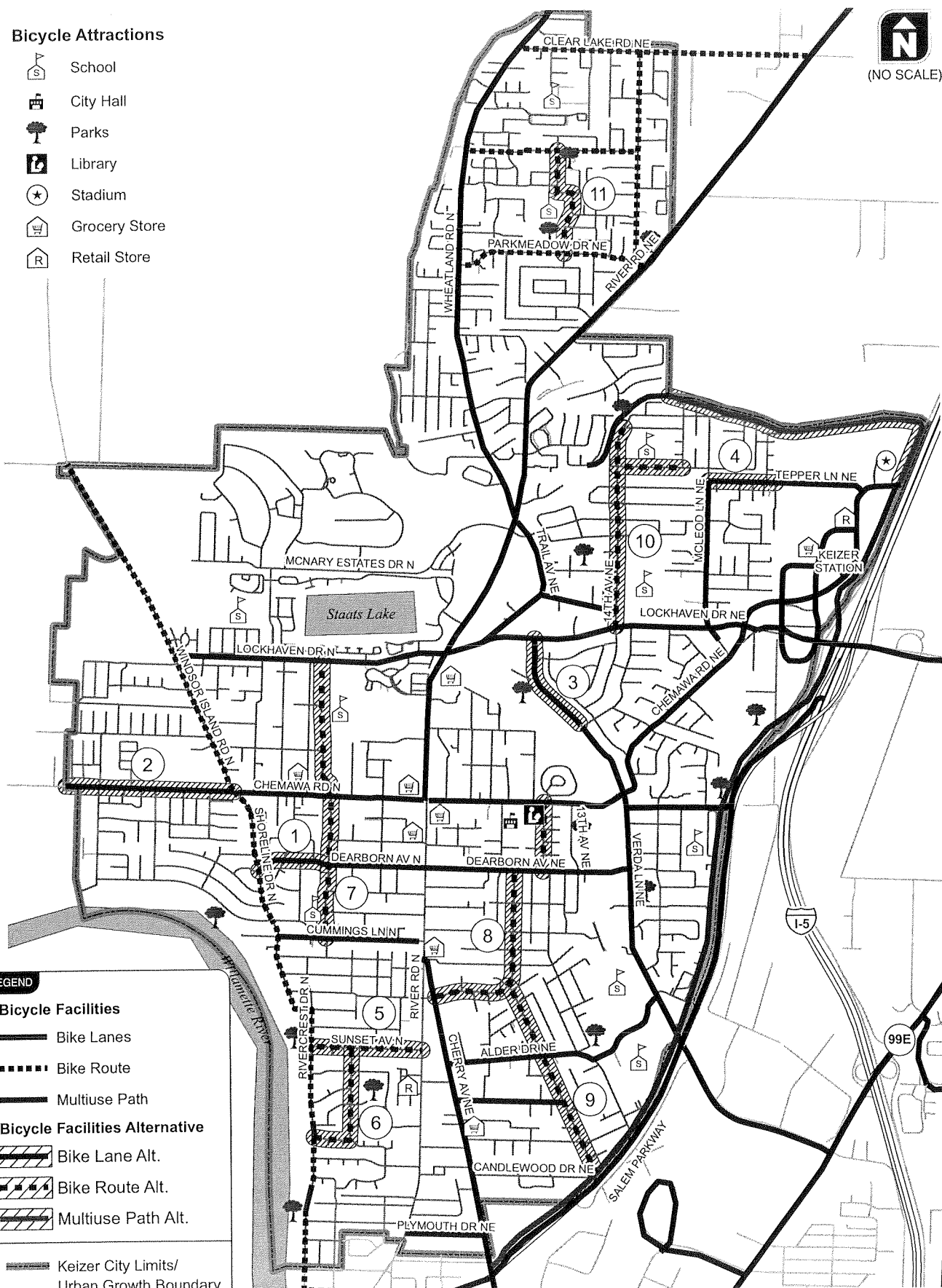


Table 10 Pedestrian Improvement Alternatives

Alt.	Roadway	Description	From	To	Reasons for Improvement	Priority	Cost*
1	Sunset Avenue	Construct sidewalks	Rivercrest Drive	River Road	- Sunset Ave is a collector roadway and a direct connection between Rivercrest Drive and River Road. - Would provide better neighborhood and regional access to Sunset Park and transit stops.	Low	\$\$
2	Mandarin Avenue	Fill in sidewalk gaps	Tori Ave.	River Road	- Would improve sidewalk continuity west of River Road by filling in a relatively small gap along Sunset Avenue.	Low	\$
3	Cummings Lane	Construct sidewalks	Palma Ciega Park	River Road	- Cummings Lane is a collector roadway and a direct connection between Rivercrest Drive and River Road. - Would provide better regional access to Palma Ciega Park, existing transit stops, and commercial centers along River Road. - Would provide better access to Cummings Elementary School.	High	\$\$
4	Chemawa Road	Construct sidewalks	West City Limits	River Road	- Would provide a continuous east-west sidewalk network with regional access to Keizer Rapids Park. - Chemawa Road is a minor arterial and provides regional access to commercial areas and transit opportunities.	High	\$\$\$
5	Dearborn Avenue	Construct sidewalks	Delight Street	River Road	- Would improve sidewalk continuity west of River Road and fill in a significant gap in the sidewalk network.	Medium	\$\$
6	Delight Street	Construct sidewalks	Cummings Lane	Chemawa Road	- Would provide better neighborhood access to Cummings Elementary School. - Would improve north/south sidewalk continuity west of River Road.	Medium	\$\$
7	Dearborn Avenue	Construct sidewalks	13 th Avenue	Verda Lane	- Would fill in a small gap in the east-west sidewalk network.	Medium	\$\$
8	Verda Lane	Construct sidewalks	Alder Drive	Kalmia Drive	- Would establish a continuous north-south sidewalk connection between Lockhaven Drive and the Salem Parkway.	Medium	\$\$\$
9	Windsor Island Road	Fill in sidewalk gaps	Chemawa Road	City Limits	- Would provide better sidewalk connectivity and access to transit stops.	Low	\$\$\$
10	O'Neil Road	Fill in sidewalk gaps	Parkmeadow Drive	Clear Lake Road	- Would provide a continuous north-south alternative to River Road and Wheatland Road.	Medium	\$
11	Chemawa Road	Construct sidewalks	Verda Lane	Lockhaven Drive	- Would provide a continuous east-west sidewalk connection from River Road to Keizer Station.	Medium	\$\$
12	Wheatland Road	Fill in sidewalk gaps	River Road	Clear Lake Road	- Would provide a continuous north/south sidewalk alternative to River Road.	Low	\$

* \$\$\$ - Would have major ROW needs and/or a significant project scope.
 \$\$ - Would have some ROW needs and/or a moderate project scope.
 \$ - Would have minor ROW needs and/or a small project scope.

Table 11 Bicycle Improvement Alternatives

Alt.	Roadway	Description	From	To	Reasons for Improvement	Priority	Cost*
1	Dearborn Avenue	Stripe in bicycle lanes on both sides of the roadway.	Delight Street	Shoreline Drive	- Would fill in a small gap and provide continuous bike lanes from Verda Lane to Shoreline Drive.	Low	\$
2	Chemawa Road	Construct bicycle lanes on both sides of the roadway	Windsor Island Road	West City Limit	- Would provide a continuous east-west bicycle network. - Chemawa Road is a minor arterial. - Would provide regional access to Keizer Rapids Park.	High	\$\$\$
3	Verda Lane	Construct bicycle lanes on both sides of the roadway.	Kalmia Drive	Lockhaven Drive	- Would fill in a small gap and provide a continuous bike lane from Lockhaven Drive to Salem Parkway.	Medium	\$\$
4	Tepper Lane	Construct bicycle lanes on both sides of the roadway.	McLeod Drive	Railroad tracks	- Better neighborhood access to Keizer Station and multi-use path.	Medium	\$\$
5	Sunset Avenue	Designate as a bicycle route.	Rivercrest Drive	River Road	- Sunset Ave is a collector roadway and a direct connection between Rivercrest Drive and River Road. - Would provide better neighborhood and regional access to Sunset Park and transit stops.	Medium	\$
6	Fall Creek Drive/5 th Avenue	Designate as a bicycle route.	Rivercrest Drive	Sunset Avenue	- Would provide better neighborhood and regional access to Willamette Manor Park.	Low	\$
7	Delight Street	Designate as a bicycle route.	Cummings Lane	Lockhaven Drive	- Would provide neighborhood and regional route designation to Cummings Elementary School and McNary High School	High	\$
8	Mandbrin Dr/Thorman Avenue	Designate as a bicycle route.	Cherry Avenue	Dearborn Avenue	- Would provide neighborhood and regional route designation between Cherry Avenue and Dearborn Avenue.	Low	\$
9	Brooks Avenue	Designate as a bicycle route.	Mandbrin Drive	Salem Parkway	- Would provide neighborhood and regional route designation to the Salem Parkway multiuse path.	Low	\$
10	14 th Avenue	Designate as a bicycle route.	Lockhaven Drive	Gubser Elementary	- Would provide neighborhood and regional route designation to Gubser Elementary.	High	\$
11	Meadow-Glenn St.	Designate as a bicycle route.	Parkmeadow Street	Clear Lake Elementary	- Would provide neighborhood and regional route designation to Clear Lake Elementary.	High	\$

* \$\$\$ - Would have major ROW needs and/or a significant project scope.
 \$\$ - Would have some ROW needs and/or a moderate project scope.
 \$ - Would have minor ROW needs and/or a small project scope.

Next Steps

The next major activity on this project is the public open house scheduled for April 15, 2008. The improvements identified in this alternatives analysis will be formally presented to the public for review and comment. Following the open house, refinements will be made to the alternatives analysis if necessary.

Appendix G
Proposed
Development Code
Amendments

Memorandum

Date: March 2, 2009
To: Sam Litke, City of Keizer Planning Department
cc: Elizabeth Wemple, PE, Kittelson & Associates
From: Frank Angelo, Angelo Planning Group
Darci Rudzinski, AICP, Angelo Planning Group
Re: City of Keizer Transportation System Plan – Recommended Changes to the Keizer Development Code for TPR Compliance

The purpose of this memorandum is to provide the City of Keizer with regulatory language that will implement the updated Transportation System Plan (TSP) pursuant to the provisions of the Oregon Transportation Planning Rule (the "TPR," as codified in OAR 660-012-0045). The Plan and Policy Review memoranda prepared for the TSP update includes outlines that present required TPR code elements compared with the current adopted city code language.¹ This "TPR code audit" identified areas of the City's Development Code that need revisions in order to comply with the TPR. What follows in this technical memorandum are recommended changes to the City of Keizer's code based on the TPR code audit. Only areas of OAR 660-12-0045 that the City does not currently comply with will be addressed in this memorandum.

The discussion of recommended changes is generally organized in this memorandum through references to the applicable section(s) of the TPR that prompt a change in the City's implementing ordinances, followed by the recommended revisions.

The TPR requirement, the recommendation for text changes to the Development Code, and, where applicable, outstanding issues, are presented in text boxes.

Revisions to existing code language are presented with deletions shown ~~strike through~~ and additions shown underlined. Where APG has developed new code language to meet TPR requirements, this also will be shown underlined. In some instances, APG utilized the *Model Development Code & Users Guide for Small Jurisdictions* (2005)² as a reference document for recommended code revisions.

To the extent possible, proposed text is organized using the numbering hierarchy provided by the Development Code. Where [REDACTED] follows a reference in the proposed text, this is an indication that the referenced section is in the body of the memorandum and does not reference an

¹ See Table 1, *TPR Requirements and City of Keizer*, in the City of Keizer Transportation System Plan DRAFT Plan and Policy Review, August 13, 2007, and the table in the TPR Compliance Supplement to the DRAFT Plan and Policy Review, September 18, 2007.

² <http://www.oregon.gov/LCD/TGM/modelCode05.shtml>

existing code section. If the City decides to use the proposed language, this marker should be deleted before adoption.

The City may find that suggested language is more appropriately placed elsewhere in the Development Code, or may wish to include reference in more than one section. In such cases, the City will need to revise the section and subsection headings and numbering accordingly. The City is advised to review the recommendations carefully to ensure that proposed language does not conflict with existing code language and, where conflicts do exist, to identify additional areas of the adopted ordinance that should be modified to better comply with the TPR. It is also possible that some additional amendments to proposed language may be necessary to more adequately express the City's needs.

Requirements: Local governments must provide for consolidated review of land use decisions required to permit a transportation project (OAR Section 660-12-0045(1)(c)).

Local governments must adopt land use or subdivision ordinance standards to ensure that there is coordinated review of future land use decisions affecting transportation facilities, corridors or sites (OAR Section 660-12-0045(2)(d)).

Local jurisdictions must adopt regulations to provide notice to public agencies providing transportation facilities of land use applications that require public hearings, subdivision and partition applications, and applications which affect private access to roads, applications within airport noise corridor and imaginary surfaces which affect airport operations (OAR Section 660-12-0045(2)(f)).

Recommendation: The Development Code should be amended to include requirements for notice to ODOT for applicable land use applications and notice procedures specific to land use reviews for transportation-related facilities. Section 3.202, Public Notice Requirements, and Section 3.204, Public Notice Requirements, should be amended to include such provisions.

3.202.04 Procedures for Type II and Type III Actions

C. Agency Referrals. Referrals will be sent to interested agencies such as City departments, police and fire departments, school district, utility companies, and applicable city, county, and state agencies. Affected jurisdictions and agencies could include the Department of Environmental Quality, the Oregon Department of Transportation, Salem-Keizer Transit District, and the City of Salem. Notice of projects affecting state transportation facilities will be sent to ODOT. Referrals will be sent to affected neighborhood associations.

3.204.04 ~~Notice for Appeals of Public Hearing~~

Notice of a hearing for any Type II, III or IV proposal that includes a new transportation facility or improvement, and where these facilities or improvements include or may impact a collector or arterial street, will be sent to the Oregon Department of Transportation and any special interest transportation groups as appropriate. Special interest transportation groups could include trucking organizations, bicycle and pedestrian interest groups, and disabled persons interest groups. Information that should be conveyed with the notice includes the following:

- (a) Project location
- (b) Proposed land use action
- (c) Location of project access point(s)

3.204.04~~5~~ Notice for Appeals

3.204.05~~6~~ Public Hearing Notice Requirements

Requirement: Local governments must adopt land use or subdivision ordinance regulations that protect transportation facilities for their identified functions, including access control. (OAR Section 660-12-0045(2)(a)).

Recommendation: Currently the City regulates access through public works standards. The Development Code does not include a specific "access control" section that articulates the City's interest in maintaining a roadway system that accommodates the community's transportation needs.

In order to better meet the TPR requirement, a new Subsection P, Access Control Standards, is recommended for inclusion under Section 2.302.03. Proposed Code language limits access on arterials and/or collectors, specifies the minimum distance between driveway access points on arterials, and includes special access control standards for certain types of developments (subdivisions located on arterial streets, double-frontage lots). The access spacing standards in the Arterial Access Spacing Standards Table are consistent with the revised TSP; existing public works standards should be reviewed for consistency with this proposed code section.

2.302.03 General Provisions

The following provisions shall apply to the dedication, construction, improvement or other development of all public streets in the City of Keizer:

O. Access Control Standards

The following access control standards apply to public, industrial, commercial and residential developments including land divisions. Access shall be managed to maintain an adequate level of service and to maintain the functional classification of roadways as required by the City of Keizer Transportation System Plan. Major roadways, including arterials and collectors, serve as the primary system for moving people and goods within and through the city. Access management is a primary concern on these roads. Local streets and alleys provide access to individual properties. If vehicular access and circulation are not properly designed, these roadways will be unable to accommodate the needs of development and serve their transportation function.

The regulations in this section further the orderly layout and use of land, protect community character, and conserve natural resources by promoting well-designed road and access systems and discouraging the unplanned subdivision of land.

1. Traffic Impact Analysis Requirements. The City or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to determine access, circulation and other transportation requirements. (See also, Section 2.301.03 Traffic Impact Analysis.)
2. The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.
3. Access Options. When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the

following methods (a minimum of 10 feet per lane is required; planned access shall be consistent with adopted public works standards for road construction). These methods are "options" to the developer/subdivider.

- a. Option 1. Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not permitted.
- b. Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., "shared driveway"). A public access easement covering the driveway shall be recorded in this case to assure access to the closest public street for all users of the private street/drive.
- c. Option 3. Access is from a public street adjacent to the development parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the access spacing standards in Subsection 6, below.
4. Subdivisions Fronting Onto an Arterial Street. New residential land divisions fronting onto an arterial street shall be required to provide alleys or secondary (local or collector) streets for access to individual lots. When alleys or secondary streets cannot be constructed due to topographic or other physical constraints, access may be provided by consolidating driveways for clusters of two or more lots (e.g., includes flag lots and mid-block lanes).
5. Double-Frontage Lots. When a lot has frontage onto two or more streets, access shall be provided first from the street with the lowest classification. For example, access shall be provided from a local street before a collector or arterial street.
6. Access Spacing: The following minimum access spacing standards apply to public streets and driveways on arterial streets:

Arterial Access Spacing Standards

Posted Speed (miles per hour)	Minimum Spacing (feet)
25	150
30	150
35	150
40	185
45	230
50 or higher	275

7. Number of Access Points. For single-family (detached and attached), two-family, and three-family housing types, one street access point is permitted per lot, when alley access cannot otherwise be provided; except that two access points may be permitted for two-family and three-family housing on corner lots (i.e., no more than one access per street), subject to the access spacing standards in Subsection 6, above. The number of street access points for multiple family, commercial, industrial, and public/institutional developments shall be minimized to protect the function, safety and operation of the street(s) and sidewalk(s) for all users. Shared access may be required, in conformance with Subsection 8 below, in order to maintain the required access spacing, and minimize the number of access points.
8. Shared Driveways. The number of driveway and private street intersections with public

streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The City shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes in accordance with the following standards:

- a. Shared driveways and frontage streets may be required to consolidate access onto a collector or arterial street. When shared driveways or frontage streets are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway or street temporarily ends at the property line, but may be extended in the future as the adjacent parcel develops. "Developable" means that a parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).
- b. Access easements (i.e., for the benefit of affected properties) shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.
- c. Exception. Shared driveways are not required when existing development patterns or physical constraints (e.g., topography, parcel configuration, and similar conditions) prevent extending the street/driveway in the future.

C. Street Connectivity and Formation of Blocks Required. In order to promote efficient vehicular and pedestrian circulation throughout the City, land divisions and large site developments shall produce complete blocks bounded by a connecting network of public and/or private streets, in accordance with the following standards:

1. Block Length and Perimeter. The maximum block length shall not exceed 600 feet for all streets except arterials, and shall not exceed 800 feet along an arterial, consistent with 2.310.04 Additional Design Standards for Subdivisions.
2. Street Standards. Public and private streets shall also conform to Section 2.302 Street Standards in the City of Keizer Development Code (Table 4.1 Street Design Standards in the TSP).
3. Exception. Exceptions to the above standards may be granted when blocks are divided by one or more pathway(s), in conformance with the provisions of 2.310.04(C)(2), Pedestrian/Bicycle Accessways:. Pathways shall be located to minimize out-of-direction travel by pedestrians and may be designed to accommodate bicycles.

Requirements: Local governments must adopt land use or subdivision ordinance standards to protect the future operations of roadways and transit corridors. (OAR Section 660-12-0045(2)(b)).

Local governments must adopt a process that allows conditioning development proposals in order to minimize impacts and protect transportation facilities (OAR Section 660-12-0045(2)(e)).

Recommendation: These sections of the TPR address the need to account for potential development impacts to roadways and transit corridors and to ensure that transportation facilities continue to meet community needs. An effective way to ensure that roadways are protected for their planned function and capacity is to require a transportation impact analysis (TIA) as part of a development application. Currently the City requires a TIA for development proposals in the Activity Center Overlay (2.125(B)(2) and in the Keizer Station Master Plan that will generate in excess of 250 average daily vehicle trips (3.113).

In order to better meet the TPR requirement, recommended code changes (below) require a TIA for all new development that would potentially impact the roadway system. The following draft language for a new section 2.301.03 Traffic Impact Analysis, would require a traffic study under prescribed conditions and lists the required elements of such a study. Since the City already has an established threshold of 250 average daily trips in the Activity Center Overlay and Keizer Station Master Plan area, this number is used in the proposed language and would be applicable to development in all areas of the City. Proposed language makes explicit that transportation related conditions of approval may be applied to development proposals.

In addition, proposed amendments to Section 3.108 Subdivisions, Planned Unit Developments and Manufactured Home Parks, cross reference the TIA submittal requirement.

2.301.03 Traffic Impact Analysis (TIA).

- A. Purpose. The purpose of this section of the code is to implement Section 660-012-0045 (2) (e) of the State Transportation Planning Rule that requires the City to adopt a process to apply conditions to development proposals in order to minimize adverse impacts to and protect transportation facilities. This section establishes the standards for when a proposal must be reviewed for potential traffic impacts; when a Traffic Impact Analysis must be submitted with a development application in order to determine whether conditions are needed to minimize impacts to and protect transportation facilities; what must be in a Traffic Impact Study; and who is qualified to prepare the Study.
- B. Typical Average Daily Trips. The latest edition of the Trip Generation manual, published by the Institute of Transportation Engineers (ITE) shall be used as standards by which to gauge average daily vehicle trips.
- C. When Required. A Traffic Impact Analysis may be required to be submitted to the City with a land use application, when the following conditions apply:
 - 1. The development application involves one or more of the following actions:
 - a. A change in zoning or a plan amendment designation; or
 - b. The development shall cause one or more of the following effects, which can be determined by field counts, site observation, traffic impact analysis or

study, field measurements, crash history, Institute of Transportation Engineers Trip Generation manual; and information and studies provided by the local reviewing jurisdiction and/or ODOT;

- (i.) An increase in site traffic volume generation by 250 Average Daily Trips (ADT) or more (or as required by the City Engineer); or
- (ii.) An increase in use of adjacent streets by vehicles exceeding the 20,000 pound gross vehicle weights by 10 vehicles or more per day; or
- (iii.) The location of the access driveway does not meet minimum intersection sight distance requirements, or is located where vehicles entering or leaving the property are restricted, or such vehicles queue or hesitate, creating a safety hazard; or
- (iv.) The location of the access driveway does not meet the access spacing standard of the roadway on which the driveway is located; or
- (v.) A change in internal traffic patterns that may cause safety problems, such as back up onto the highway or traffic crashes in the approach area.

D. Traffic Impact Analysis Requirements.

- 1. Preparation. A Traffic Impact Analysis shall be prepared by a professional engineer in accordance with OAR 734-051-180. The traffic analysis will be paid for by the applicant.
- 2. Transportation Planning Rule Compliance. See Section 3.111.05 Transportation Planning Rule Compliance. NEW SECTION.
- 3. Pre-application Conference. The applicant will meet with Keizer Public Works prior to submitting an application that requires a Traffic Impact Application. This meeting will determine the required elements of the TIA and the level of analysis expected.

E. Approval Criteria.

- 1. Criteria. When a Traffic Impact Analysis is required, approval of the development proposal requires satisfaction of the following criteria:
 - a. The Traffic Impact Analysis was prepared by a professional engineer in accordance with OAR 734-051-180; and
 - b. If the proposed development shall cause one or more of the effects in Section 2.301.03.C, above, or other traffic hazard or negative impact to a transportation facility, the Traffic Impact Analysis includes mitigation measures that meet the City's Level-of-Service and Volume/Capacity standards and are satisfactory to the City Engineer, and ODOT when applicable; and
 - c. The proposed site design and traffic and circulation design and facilities, for all transportation modes, including any mitigation measures, are designed to:
 - (i.) Have the least negative impact on all applicable transportation facilities; and
 - (ii.) Accommodate and encourage non-motor vehicular modes of transportation to the extent practicable; and
 - (iii.) Make the most efficient use of land and public facilities as practicable; and
 - (iv.) Provide the most direct, safe and convenient routes practicable between on-site destinations, and between on-site and off-site destinations; and
 - (v.) Otherwise comply with applicable requirements of the City of Keizer Development Code.

F. Conditions of Approval. The City may deny, approve, or approve a development

proposal with appropriate conditions.

1. Where the existing transportation system will be impacted by the proposed development, dedication of land for streets, transit facilities, sidewalks, bikeways, paths, or accessways may be required to ensure that the transportation system is adequate to handle the additional burden caused by the proposed use.
2. Where the existing transportation system is shown to be burdened by the proposed use, improvements such as paving, curbing, installation or contribution to traffic signals, construction of sidewalks, bikeways, accessways, paths, or streets that serve the proposed use may be required.

3.108.04 Submittal Requirements

C. Supplemental Information. The following supplemental information shall be required for all PUD Preliminary Plan applications:

6. Traffic Impact Analysis, if required pursuant to Section 2.301.03 of this code.

Requirements: Local governments must adopt land use or subdivision ordinance regulations that ensure amendments to land use designations, densities, and design standards are consistent with the function, capacities, and levels of service of facilities designated in the TSP. (OAR Section 660-12-0045(2)(g)).

Amendments to functional plans, acknowledged comprehensive plans, and land use regulations that significantly affect an existing or planned transportation facility shall assure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility. (OAR Section 660-12-0060).

Recommendation: This TPR requirement ensures that amendments to the comprehensive plan and land use regulations are reviewed for their impact on transportation facilities identified in the TSP. To better comply with the TPR, it is recommended that Development Code include clarification that approval of amendments to land use designations, densities, and design standards is contingent on findings of consistency with the planned transportation system, as adopted in the City's TSP.

Below is a proposed new Subsection 3.111.05, Transportation Planning Rule Compliance, to be added to Section 3.111, Text Amendments. The purpose of this subsection is to specify how land use amendments are to comply with the TPR. New language is included to provide guidance in determining when a code amendment is considered to have an impact on transportation facilities. The new subsection also discusses how to ensure that proposed amendments to the comprehensive plan or to the development code are consistent with the TSP when the amendment significantly affects a transportation facility. *[Note: City will need to check for consistency between this new subsection and Subsection 3.111.04 Criteria for Approval.]*

These proposed code amendments are consistent with OAR 660-12-060, which requires that amendments to functional plans, acknowledged comprehensive plans, and land use regulations that significantly affect an existing or planned transportation facility must ensure that the allowed land uses are consistent with the identified function, capacity, and performance standards of the facility.

3.111.01 Purpose

The purpose of this chapter is to provide standards and procedures for legislative and quasi-judicial amendments to this Code and the land use district map. These will be referred to as "map & text amendments." Amendments may be necessary from time to time to reflect changing community conditions, needs and desires, to correct mistakes, or to address changes in law.

3.111.05 Transportation Planning Rule Compliance

A. Review of Applications for Effect on Transportation Facilities. A proposed comprehensive plan amendment, zone change or land use regulation change, whether initiated by the City or by a private interest, shall be reviewed to determine whether it significantly affects a transportation facility, in accordance with Oregon Administrative Rule (OAR) 660-012-0060 (the Transportation Planning Rule – "TPR"). "Significant" means the proposal would:

- 1. Change the functional classification of an existing or planned transportation**

- facility (exclusive of correction of map errors in an adopted plan);
- 2. Change standards implementing a functional classification system; or
- 3. As measured at the end of the planning period identified in the adopted transportation system plan;
 - a. Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;
 - b. Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP; or
 - c. Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.
- B. Amendments That Affect Transportation Facilities. Amendments to the comprehensive plan and land use regulations that significantly affect a transportation facility shall ensure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the TSP. This shall be accomplished by one or a combination of the following:
 - a. Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.
 - b. Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of Section -0060 of the TPR.
 - c. Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes of transportation.
 - d. Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.
- C. Traffic Impact Analysis. A Traffic Impact Analysis shall be submitted with a plan amendment or zone change application. (See Section 2.301.03 Traffic Impact Analysis (TIA)).

Requirements: Local governments must adopt land use or subdivision ordinance regulations that provide "safe and convenient" pedestrian and bicycle connections from new subdivisions/multifamily development to neighborhood activity centers; require bikeways along arterials and major collectors; and require sidewalks along arterials, collectors, and most local streets in urban areas (OAR Section 660-12-0045(3)(b)).

Recommendation: The purpose of these sections of the TPR is to ensure that safe and convenient circulation and facilities are provided for pedestrians and bicyclists, within new residential and commercial development and on public streets.

New TSP Table 4.1 Street Design Standards meets the TPR requirement for pedestrian and connectivity by requiring sidewalks on all street functional classifications. The proposed Street Design Standards also require bike lanes on arterials and collectors, consistent with this section of the TPR. The recommendation is to replace the Street Standards table under Section 2.302.04 General Right-of-Way and Improvement Widths with TSP Table 4.1. (See recommendation addressing OAR Section 660-12-0045(7) on page 15).

Requirement: Local governments must adopt land use or subdivision ordinance regulations to support transit, including requiring new retail, office, and institutional buildings at or near major transit stops to provide convenient pedestrian access to transit (OAR Section 660-12-0045(4)(b)).

Recommendation: The Development Code should be amended to include standards consistent with TPR -0045(4) for development proposals that are within a certain distance from a transit stop. Proposed amendments to Section 2.315, Development Standards, are shown below. Traffic Circulation Standards in Section 2.310.04, Additional Design Standards for Subdivisions, uses the distance of ¼ mile to distinguish if desirable uses and amenities are "nearby." The distance of ¼ mile from a transit stop is the threshold proposed for the requirements below.

2.315.08 Development Standards

[Note: A new subsection G. is recommended to meet TPR 660-12-0045(4)(e), as discussed later in this memorandum.]

H. Transit Access. New retail, office and institutional buildings at, or within ¼ mile of a transit stop, as identified in the city TSP, shall provide for convenient pedestrian access to transit through the measures listed in Subsections 1. and 2. below.

1. Walkways shall be provided connecting building entrances and streets adjoining the site;
2. Pedestrian connections to adjoining properties shall be provided except where such a connection is impracticable. Pedestrian connections shall connect the on site circulation system to existing or proposed streets, walkways, and driveways that abut the property. Where adjacent properties are undeveloped or have potential for redevelopment, streets, accessways and walkways on site shall be laid out or stubbed to allow for extension to the adjoining property;
3. In addition to Subsections 1. and 2. above, sites at transit stops must provide the following:
 - a. Either locate buildings within 20 feet of the transit stop, a transit street, or an intersecting street or provide a pedestrian plaza at the transit stop or a street intersection;
 - b. A reasonably direct pedestrian connection between the transit stop and building entrances on the site;

- c. A transit passenger landing pad accessible to disabled persons;
- d. An easement or dedication for a passenger shelter if requested by the transit provider;
and
- e. Lighting at the transit stop.

Requirement: Local governments must adopt land use or subdivision regulations to support public transit, including allowing redevelopment of existing parking areas for transit-oriented uses (OAR Section 660-12-0045(4)(e)).

Recommendation: A new subsection should be added to 2.303 Off-Street Parking and Loading that will allow the redevelopment of existing parking areas for transit-oriented uses.

2.303.11 Parking Area Redevelopment.

Existing development may redevelop a portion of existing parking areas in order to accommodate or provide transit-related amenities such as transit stops, pull-outs, shelters, and park and ride stations. The number of parking spaces may be reduced by up to 10% of the minimum required parking spaces for that use.

Requirement: Local governments must adopt land use or subdivision regulations to support public transit, including requiring new development to provide road systems that can be adequately served by transit and pedestrian access to existing and identified future transit routes. (OAR Section 660-12-0045(4)(f)).

Recommendation: Development standards should be modified to clarify that development proposals must address pedestrian access to planned, not only existing, transit stops.

2.315.08 Development Standards

A. Pedestrian Circulation.

1. Connection Required. The pedestrian circulation system for the proposed development must connect uses, building entrances, adjacent streets, and nearby existing and planned (as adopted in the City Transportation System Plan) transit stops on, and within ¼ mile of the site.

Requirement: In MPO areas, local governments must adopt land use and subdivision regulations to reduce reliance on the automobile (OAR Section 660-12-0045(5)). One required element of this TPR section that the City has not yet met is requiring all major industrial, institutional, retail, and office developments to provide a transit stop on site or provide a connection to a transit stop when a transit operator requires such an improvement.

Recommendation: A new subsection G. under the Development Standards should be added to address when transit stops are required. (See proposed language below.) To facilitate the development of transit stops when required pursuant to this new section, improvements related to transit stops should be listed as allowed uses in the City's commercial, mixed-use, and industrial zone districts. *[Note: Because multiple zoning districts will need to be amended to include transit-related improvements as allowed uses, proposed edits are not shown here.]*

2.315.08 Development Standards

G. Transit Stop Requirement. New retail, office and institutional buildings at, or within ¼ mile of an existing or planned transit stop, as identified in the city TSP, shall provide either a transit stop on site or connection to a transit stop along a transit route when the transit operator requires such an improvement.

Requirement: Local governments are required to establish standards for local streets and accessways that minimize pavement width and total ROW consistent with the operational needs of the facility (OAR Section 660-12-0045(7)).

Recommendation: The Street Standards table in Section 2.302.04 should be amended to be consistent with Street Design Standards in Chapter 4 the TSP. The TSP provides for the use of a narrower local street design if the standards/criteria for this option can be met.

2.302.04 General Right-of-Way and Improvement Widths

The following standards are general criteria for public streets in the City of Keizer.

These standards shall be the minimum requirements for all streets, except where modifications are permitted under Subsection 2.202.05.

STREET STANDARDS *[Replace table with draft TSP Table 4.1 Street Design Standards.]*

COUNCIL MEETING: June 1, 2009

AGENDA ITEM NUMBER: _____

TO: MAYOR CHRISTOPHER AND CITY COUNCIL MEMBERS

THROUGH: CHRIS EPPLEY, CITY MANAGER
NATE BROWN, COMMUNITY DEVELOPMENT DIRECTOR

FROM: SAM LITKE, SENIOR PLANNER

SUBJECT: REVISED NOXIOUS VEGETATION ORDINANCE

Attachments:

- **Revised Noxious Vegetation Ordinance**

ISSUE:

The Noxious Vegetation Ordinance governs overgrown weeds, yards, etc. The Planning Commission reviewed the revisions and recommended by a 5-1 vote that it be adopted.

DISCUSSION:

During the year, particularly during the growing season, the city receives and acts on approximately 150 complaints related to noxious vegetation. Typically, these involve weeds or overgrown yards in need of mowing. In the majority of cases the property owner corrects the problem, but when a property owner fails to correct the problem the ordinance requires the city to abate the nuisance.

The proposed amendment modifies the ordinance in a number of ways. It amends the definition to include invasive vegetation; that cane berries must be contained, or harnessed or will be considered as a noxious vegetation; and, that grasses over 12 inches in height will be considered as noxious vegetation. Currently, grasses can grow to a height of 18 inches before they are considered as noxious vegetation. The Planning Commission recommended that the current 18 inch height is too tall and should be lowered. This may result in additional code enforcement complaints.

For lots larger than 20,000 square feet, cane berries (blackberries, etc) must be setback at least 20 feet from adjacent parcels. The amendment allows correction notice to be sent by regular mail if the property is posted rather than by certified mail. This will result in a savings of about \$500 per year. Another revision allows the city to assess the actual cost of abatement plus 10% administrative fee, rather than using an out of date cost assessment in an abatement situation. Finally, an increased penalty clause for repeat violators has been added.

RECOMMENDATION:

Adopt the attached Ordinance.

BILL NO. _____

A BILL

ORDINANCE NO.

2009-_____

FOR

AN ORDINANCE

PROVIDING FOR THE CONTROL AND
REMOVAL OF NOXIOUS VEGETATION;
DECLARING AN EMERGENCY; **REPEALING**
ORDINANCE NO. 00-417 (NOXIOUS
VEGETATION ORDINANCE)

The City of Keizer ordains as follows:

Section 1. DEFINITIONS.

(A) As used in this Ordinance, "noxious vegetation" means:

(1) Weeds or grasses more than ~~18~~ 12 inches in height, or
poison oak or poison ivy present on any lot or parcel of land in
the City of Keizer.

(2) Cane berry bushes on any portion of a ~~located within 5~~
~~feet of the boundary of the~~ lot or parcel of land less than 20,000
square feet in size ~~upon which the cane berries bush is located.~~

For the purpose of this Ordinance Cane berry means any plant
that bears fruit from a vine that originates from the ground.

(3) Cane berry bushes within 20 feet of any property line on lots
20,000 square feet in size or larger.

(4) Any invasive vegetation competitive with, and destructive to,
native vegetation and desired landscape and garden plants but only
if such vegetation extends into an adjacent property.

~~(5)(3)~~ Any vegetation that is:

(a) A health hazard; due to presence of solid waste, vector, or rodent harborage.

(b) A fire hazard; as declared by the local fire district or

(c) A traffic hazard because it impairs the view or use of a public street or sidewalk, or otherwise makes use of a public street or sidewalk hazardous.

~~(6)(4)~~ "Noxious Vegetation" does not include vegetation that constitutes an agricultural crop unless the vegetation falls within the meaning of paragraph (A) ~~(3)~~ (5) of this section. Cane berry bushes which are harnessed, or contained, by acceptable agricultural practices will not constitute a noxious vegetation.

(B) "Person" means a natural person, firm, partnership, association or corporation.

(C) "Person in charge of property" means an agent, occupant, lessee, contract purchaser or other person having possession or control of property or the supervision of any construction project.

(D) "Person responsible" means the person responsible for abating noxious vegetation and shall include:

(1) The owner, and

(2) The person in charge of property, as defined in subsection (C).

Section 2. NUISANCE DECLARED. The Council hereby finds, declares and determines that the existence of noxious vegetation as defined in Section 1 is a detriment or menace to neighboring property and to the health, safety and welfare

of the residents in the vicinity and as such is a public nuisance and shall be abated in the manner provided in this Ordinance.

Section 3. WAIVER OF DECLARATION OF NUISANCE. The council hereby authorizes the City Manager or designee to waive the application of this Ordinance to specific property upon application of the person in charge of the property if the City Manager or designee finds at his discretion that:

(A) The vegetation located on the lot or parcel of land meets the definition of noxious vegetation but was ~~were~~ planted or allowed to grow as part of an intentional plan to encourage wildlife habitation.

(B) The noxious vegetation is ornamental in nature and is otherwise unobtrusive to the surrounding properties.

Section 4. DUTY OF PERSON RESPONSIBLE. No person responsible shall allow noxious vegetation to be on the property or in the right of way of a public street abutting the property. It shall be the duty of the person responsible to cut down or destroy noxious vegetation as often as needed in order to comply with this Ordinance.

Section 5. NOTICE. If the person responsible for the property within the City of Keizer shall fail or neglect to remove the noxious vegetation from that property as required by this Ordinance, the City Manager or his designee shall cause written notice to remove the noxious vegetation within fourteen (14) days to be served upon the person responsible by personal service or by first class regular mail, address change service requested and notice shall be posted on the subject property, certified mail, return receipt requested, Notice shall be

1 mailed to the address listed on the Marion County Tax Assessors record and a
2 ~~notice~~ to the subject property if the property is occupied. The notice shall state
3 that the person responsible for the property shall either request Judicial Review as
4 set forth in Section 6 or remove the noxious vegetation within fourteen (14) days
5 or the City will cause the noxious vegetation to be removed and charge the cost
6 thereof as a lien against the property. The notice may also direct the removal of
7 any junk, rubbish, trash, fallen trees, tree limbs, tree trunks, concrete rubble
8 or other debris existing on the property found necessary to be removed and
9 abated to effectively carry out the provisions of this Ordinance. ~~If the~~
10 ~~notices are returned by mail as undeliverable a copy of said notice shall be~~
11 ~~posted in a conspicuous place upon said premises.~~

12 Section 6. JUDICIAL REVIEW. The ~~owner or person~~ person
13 responsible in charge of a property to whom a notice has been given or who
14 denies that noxious vegetation exists on the property may file with the Keizer
15 Municipal Court and the City Manager or designee a request for judicial review.
16 The request must be within the time set forth for abating the noxious vegetation.
17 The request need not be in any particular form except that it must:

- 18 (A) Be in writing;
- 19 (B) Identify the place and nature of the alleged violation;
- 20 (C) Specify the name and address of the person seeking judicial
21 review;
- 22 (D) Set forth the reasons why the condition of the subject property
23 does not constitute a violation of this Ordinance ~~nuisance~~.

1 If the Responsible Person fails to request judicial review within the time
2 set forth in the Notice to Abate, then such person waives their right to
3 any review or appeal. The Judicial Review shall be conducted as
4 provided in the Keizer Uniform Nuisance Abatement Procedures
5 Section 7(d). The filing of a request for review shall stay all
6 proceedings for abatement until final disposition of the review.

7 Section 7. ABATEMENT BY CITY. If any person responsible shall fail or
8 neglect to cut and remove or destroy the noxious vegetation within fourteen
9 (14) days after the notice provided for in this Ordinance, the City Manager or
10 designee may go upon such lots or parcels with such assistance as he may
11 deem necessary, cut and remove or destroy such noxious vegetation in such
12 manner as shall be most effective in his judgment. The cost for abatement
13 will be actual costs plus 10 percent for administrative fees. If abatement
14 involves cane berry bushes, the most effective removal method for the
15 purposes of this section will be complete eradication, including using an
16 appropriate method designed to prevent reoccurrence. Removal of noxious
17 vegetation within delineated wetlands and riparian areas of rivers and creeks
18 shall comply with the requirements within Ordinance 2009-585 (Establishing
19 Stormwater Discharge Control Regulations).

20 Section 8. FINE ALTERNATIVE TO ABATEMENT.

21 (A) The City will have the option to issue an infraction for this violation
22 pursuant to the Civil Infraction Procedure ORD 86-063.

23 (B) The minimum fine amount for a first offense will be \$100 per day.

1 (C) Penalty for repeat violations: If the respondent is found in violation
2 of a second and similar violation within 24-months of the initial
3 violation, the fine amount may be increased.

4 ~~Section 8. ABATEMENT FEES. The fees required by the City of Keizer~~
5 ~~for the abatement of noxious vegetation shall be \$75.00 for the first hour of~~
6 ~~work and \$50.00 for each additional hour or fraction thereof with a minimum~~
7 ~~charge of \$75.00.~~

8 Section 9. BILLING AND LIEN PROCEDURES.

9 (A) Following completion of abatement by the City, the City Manager or
10 designee, by certified mail, postage prepaid, return receipt requested, shall
11 forward to the Responsible Person a statement of costs which includes:

12 (1) The total cost of abatement, including administrative
13 overhead.

14 (2) A statement that the costs as indicated will be assessed
15 against the subject property unless paid within ten (10) days
16 from the date of the statement.

17 (B) After the expiration of ten (10) days after the date of the statement,
18 the City Council, in the regular course of business, shall hold a public
19 hearing to hear those statements exceeding \$1,000.00. Following the
20 hearing, the Council may, by Ordinance, determine that correctness of
21 such statement and declare the same to be a lien upon the subject
22 property. The correctness of all others is to be determined by the City
23 Manager and declare the same to be a lien upon the subject property.

Each lien placed upon the subject property in this manner is to be entered in the lien docket and enforced against the property, in the same manner provided for the enforcement of liens for street improvement.

(C) ~~(B)~~ An error in the name of the Responsible Person shall not void the assessment, nor will a failure to receive the notice of the proposed assessment render the assessment void, but it shall remain a valid lien against the property.

(D) ~~(C)~~ The lien shall bear interest at the rate of nine percent (9%) per annum. The interest shall commence to run from the date of entry of the lien in the lien docket.

Section 10. REPEAL. Ordinance number 00-417 ~~83-014~~, ~~(Providing for the Control and Removal of Noxious Vegetation)~~ ~~an~~ ~~Ordinance regulating Noxious Vegetation, enacted August 25, 1983~~ is hereby repealed but such Ordinance shall remain in force for the purpose of authorizing the citation, prosecution, conviction and judgment of a person who violated that Ordinance, or for the purposes of abating a nuisance that occurred when such Ordinance was in effect.

Section 11. SAVINGS CLAUSE. Should any section or portion of this Ordinance be held unlawful and unenforceable by any court of competent jurisdiction, such decision shall apply only to the specific section, or portion thereof, directly specified in the decision. All other sections or portions of this Ordinance shall remain in full force and effect.

Section 12. EFFECTIVE DATE. This Ordinance being necessary for the immediate preservation of the public welfare, an emergency is declared and found to exist, and this Ordinance takes effect immediately.

PASSED this _____ day of _____, 2009.

SIGNED this _____ day of _____, 2009.

Mayor

City Recorder

BILL NO. ____

A BILL

ORDINANCE NO.

2009-_____

FOR

AN ORDINANCE

PROVIDING FOR THE CONTROL AND
REMOVAL OF NOXIOUS VEGETATION;
DECLARING AN EMERGENCY; **REPEALING**
ORDINANCE NO. 00-417 (NOXIOUS
VEGETATION ORDINANCE)

The City of Keizer ordains as follows:

Section 1. DEFINITIONS.

(A) As used in this Ordinance, "noxious vegetation" means:

(1) Weeds or grasses more than 12 inches in height, or poison oak or poison ivy present on any lot or parcel of land in the City of Keizer.

(2) Cane berry bushes on any portion of a lot or parcel of land less than 20,000 square feet in size. For the purpose of this Ordinance Cane berry means any plant that bears fruit from a vine that originates from the ground.

(3) Cane berry bushes within 20 feet of any property line on lots 20,000 square feet in size or larger.

(4) Any invasive vegetation competitive with, and destructive to, native vegetation and desired landscape and garden plants but only if such vegetation extends into an adjacent property.

(5) Any vegetation that is:

(a) A health hazard; due to presence of solid waste, vector,

1 or rodent harborage.

2 (b) A fire hazard; as declared by the local fire district or

3 (c) A traffic hazard because it impairs the view or use of a
4 public street or sidewalk, or otherwise makes use of a
5 public street or sidewalk hazardous.

6 (6) "Noxious Vegetation" does not include vegetation that
7 constitutes an agricultural crop unless the vegetation falls within
8 the meaning of paragraph (A)(5) of this section. Cane berry
9 bushes which are harnessed, or contained, by acceptable
10 agricultural practices will not constitute a noxious vegetation.

11 (B) "Person" means a natural person, firm, partnership, association
12 or corporation.

13 (C) "Person in charge of property means an agent, occupant, lessee,
14 contract purchaser or other person having possession or control of property
15 or the supervision of any construction project.

16 (D) "Person responsible" means the person responsible for abating
17 noxious vegetation and shall include:

18 (1) The owner, and

19 (2) The person in charge of property, as defined in subsection (C).

20 Section 2. NUISANCE DECLARED. The Council hereby finds, declares and
21 determines that the existence of noxious vegetation as defined in Section 1 is a
22 detriment or menace to neighboring property and to the health, safety and welfare
23 of the residents in the vicinity and as such is a public nuisance and shall be

1 abated in the manner provided in this Ordinance.

2 Section 3. WAIVER OF DECLARATION OF NUISANCE. The council
3 hereby authorizes the City Manager or designee to waive the application of this
4 Ordinance to specific property upon application of the person in charge of the
5 property if the City Manager or designee finds at his discretion that:

6 (A) The vegetation located on the lot or parcel of land meets the
7 definition of noxious vegetation but was planted or allowed to grow as part
8 of an intentional plan to encourage wildlife habitation.

9 (B) The noxious vegetation is ornamental in nature and is otherwise
10 unobtrusive to the surrounding properties.

11 Section 4. DUTY OF PERSON RESPONSIBLE. No person responsible
12 shall allow noxious vegetation to be on the property or in the right of way of a
13 public street abutting the property. It shall be the duty of the person
14 responsible to cut down or destroy noxious vegetation as often as needed in
15 order to comply with this Ordinance.

16 Section 5. NOTICE. If the person responsible for the property within
17 the City of Keizer shall fail or neglect to remove the noxious vegetation from
18 that property as required by this Ordinance, the City Manager or his designee
19 shall cause written notice to remove the noxious vegetation within fourteen (14)
20 days to be served upon the person responsible by personal service or by first
21 class regular mail, address change service requested and notice shall be posted
22 on the subject property. Notice shall be mailed to the address listed on the
23 Marion County Tax Assessors record and to the subject property if the property

1 is occupied. The notice shall state that the person responsible for the property
2 shall either request Judicial Review as set forth in Section 6 or remove the noxious
3 vegetation within fourteen (14) days or the City will cause the noxious
4 vegetation to be removed and charge the cost thereof as a lien against the
5 property. The notice may also direct the removal of any junk, rubbish, trash,
6 fallen trees, tree limbs, tree trunks, concrete rubble or other debris existing on
7 the property found necessary to be removed and abated to effectively carry
8 out the provisions of this Ordinance.

9 Section 6. JUDICIAL REVIEW. The person responsible to whom a
10 notice has been given or who denies that noxious vegetation exists on the
11 property may file with the Keizer Municipal Court and the City Manager or
12 designee a request for judicial review. The request must be within the time set
13 forth for abating the noxious vegetation. The request need not be in any particular
14 form except that it must:

- 15 (A) Be in writing;
- 16 (B) Identify the place and nature of the alleged violation;
- 17 (C) Specify the name and address of the person seeking judicial
18 review;
- 19 (D) Set forth the reasons why the condition of the subject property
20 does not constitute a violation of this Ordinance.

21 If the Responsible Person fails to request judicial review within the time
22 set forth in the Notice to Abate, then such person waives their right to
23 any review or appeal. The Judicial Review shall be conducted as

provided in the Keizer Uniform Nuisance Abatement Procedures
Section 7(d). The filing of a request for review shall stay all
proceedings for abatement until final disposition of the review.

Section 7. ABATEMENT BY CITY. If any person responsible shall fail or
neglect to cut and remove or destroy the noxious vegetation within fourteen
(14) days after the notice provided for in this Ordinance, the City Manager or
designee may go upon such lots or parcels with such assistance as he may
deem necessary, cut and remove or destroy such noxious vegetation in such
manner as shall be most effective in his judgment. The cost for abatement
will be actual costs plus 10 percent for administrative fees. If abatement
involves cane berry bushes, the most effective removal method for the
purposes of this section will be complete eradication, including using an
appropriate method designed to prevent reoccurrence. Removal of noxious
vegetation within delineated wetlands and riparian areas of rivers and creeks
shall comply with the requirements within Ordinance 2009-585 (Establishing
Stormwater Discharge Control Regulations).

Section 8. FINE ALTERNATIVE TO ABATEMENT.

(A) The City will have the option to issue an infraction for this violation
pursuant to the Civil Infraction Procedure ORD 86-063.

(B) The minimum fine amount for a first offense will be \$100 per day.

(C) Penalty for repeat violations: If the respondent is found in violation
of a second and similar violation within 24-months of the initial
violation, the fine amount may be increased.

1 Section 9. BILLING AND LIEN PROCEDURES.

2 (A) Following completion of abatement by the City, the City Manager or
3 designee, by certified mail, postage prepaid, return receipt requested, shall
4 forward to the Responsible Person a statement of costs which includes:

5 (1) The total cost of abatement, including administrative
6 overhead.

7 (2) A statement that the costs as indicated will be assessed
8 against the subject property unless paid within ten (10) days
9 from the date of the statement.

10 (B) After the expiration of ten (10) days after the date of the statement,
11 the City Council, in the regular course of business, shall hold a public
12 hearing to hear those statements exceeding \$1,000.00. Following the
13 hearing, the Council may, by Ordinance, determine that correctness of
14 such statement and declare the same to be a lien upon the subject
15 property. The correctness of all others is to be determined by the City
16 Manager and declare the same to be a lien upon the subject property.
17 Each lien placed upon the subject property in this manner is to be
18 entered in the lien docket and enforced against the property, in the same
19 manner provided for the enforcement of liens for street improvement.

20 (C) An error in the name of the Responsible Person shall not void the
21 assessment, nor will a failure to receive the notice of the proposed
22 assessment render the assessment void, but it shall remain a valid lien
23 against the property.

(D) The lien shall bear interest at the rate of nine percent (9%) per annum. The interest shall commence to run from the date of entry of the lien in the lien docket.

Section 10. REPEAL. Ordinance number 00-417 (Providing for the Control and Removal of Noxious Vegetation) is hereby repealed but such Ordinance shall remain in force for the purpose of authorizing the citation, prosecution, conviction and judgment of a person who violated that Ordinance, or for the purposes of abating a nuisance that occurred when such Ordinance was in effect.

Section 11. SAVINGS CLAUSE. Should any section or portion of this Ordinance be held unlawful and unenforceable by any court of competent jurisdiction, such decision shall apply only to the specific section, or portion thereof, directly specified in the decision. All other sections or portions of this Ordinance shall remain in full force and effect.

Section 12. EFFECTIVE DATE. This Ordinance being necessary for the immediate preservation of the public welfare, an emergency is declared and found to exist, and this Ordinance takes effect immediately.

PASSED this _____ day of _____, 2009.

SIGNED this _____ day of _____, 2009.

Mayor

City Recorder

CITY COUNCIL MEETING: June 1, 2009

AGENDA ITEM NUMBER: _____

TO: MAYOR CHRISTOPHER AND COUNCIL MEMBERS

THROUGH: CHRISTOPHER C. EPPLEY, CITY MANAGER

FROM: E. SHANNON JOHNSON, CITY ATTORNEY

SUBJECT: *RESOLUTION AUTHORIZING CITY MANAGER TO SIGN CONTRACT FOR CUSTODIAL SERVICES*

The City contracts for custodial services with Willamette Valley Rehabilitation Center, Inc. Staff has determined at this point it makes sense to continue on with the contractual services rather than bringing this job in-house.

Willamette Valley Rehabilitation Center is a "Qualified Rehabilitation Facility". State law requires that the Qualified Rehabilitation Facility be used when the particular product or service is available.

The attached contract provides for a three year term with a monthly fee of \$5,223.32. This includes cleaning the entire civic center as well as the public works shop pursuant to the task lists attached to the contract. The monthly fee is within the recommended budget amount.

Staff is pleased with the quality of work that Willamette Valley Rehabilitation Center has provided. The attached Resolution authorizes the City Manager to enter into the three year contract.

RECOMMENDATION:

Adopt the attached Resolution.

Please let me know if you have questions. Thank you.

ESJ/tmh
attachment

CITY COUNCIL, CITY OF KEIZER, STATE OF OREGON

Resolution R2009-_____

AUTHORIZING CITY MANAGER TO SIGN
CONTRACT FOR CUSTODIAL SERVICES

WHEREAS, the City of Keizer and Willamette Valley Rehabilitation Center, Inc.

entered into a contract for custodial services on or about December 19, 2007;

WHEREAS, such contract expires on June 30, 2009;

WHEREAS, the City of Keizer and Willamette Valley Rehabilitation Center, Inc. wish
to enter into a new contract for custodial services for cleaning the entire civic center as well as
the public works shop pursuant to the task lists attached to the contract;

NOW, THEREFORE,

BE IT RESOLVED by the City Council of the City of Keizer that the City Manager is
authorized to sign the attached contract with Willamette Valley Rehabilitation Center, Inc.

BE IT FURTHER RESOLVED by the City Council of the City of Keizer that the City
Manager is authorized to take such further action as required under state law.

PASSED this _____ day of _____, 2009.

SIGNED this _____ day of _____, 2009.

Mayor

City Recorder

**CITY OF KEIZER
CUSTODIAL SERVICES**

This Contract is between the CITY OF KEIZER, an Oregon municipal corporation ("City") and WILLAMETTE VALLEY REHABILITATION CENTER, INC. ("Contractor").

The parties mutually covenant and agree as follows:

1. Effective Date and Duration.

The period of this Contract shall be July 1, 2009 to June 30, 2012. The Contract may be extended on an annual basis if agreed upon in writing by both the City and Contractor. There can be no more than two (2) one-year extensions of this Contract. Annual renewals of the Contract will be contingent upon the approval of the costs in the City's annual fiscal year budget.

2. Statement of Work.

The work required under this Contract is contained in "Contractor's Response to RFP for City of Keizer, Scope of Services", the "Standard Terms and Conditions for Standard Public Contracts" and the "Request for Price Approval", attached hereto. The Contractor shall comply in every way with the requirements of the Scope of Services that are hereby made a part of this Contract by attachment and by this reference.

3. Consideration.

- a. City agrees to pay the Contractor, at the times and in the manner provided in the Scope of Services attached hereto.
- b. City certifies that sufficient funds are available and authorized for expenditure to finance the cost of this Contract.
- c. Annual renewals of the Contract may include a price adjustment if agreed upon by both the City and Contractor. The Contractor must submit written documentation supporting the price adjustment to the City for consideration at least 90 days prior to the expiration date of the Contract.

CITY OF KEIZER

WILLAMETTE VALLEY REHABILITATION
CENTER, INC.

By: _____
Christopher C. Eppley,
City Manager

By: _____
Bob Taylor,
Contract Services Manager

Dated: _____

Dated: _____

**CITY OF KEIZER
STANDARD TERMS AND CONDITIONS FOR
STANDARD PUBLIC CONTRACTS**

1. Contractor is a Qualified Rehabilitation Facility

a. Contractor shall perform the work required by this Contract as a suitable provider. Although the City reserves the right (i) to determine (and modify) the delivery schedule for the work to be performed and (ii) to evaluate the quality of the completed performance, the City cannot and will not control the means or manner of the Contractor's performance. The Contractor is responsible for determining the appropriate means and manner of performing the work.

b. The Contractor represents and warrants that Contractor (i) is not currently an employee of the federal government or the State of Oregon, and (ii) meets the standards of OAR 125-055-0015 and OAR 125-055-0020.

c. Contractor will be responsible for any federal or state taxes applicable to any compensation or payment paid to Contractor under this Contract.

d. Contractor is not eligible for any federal Social Security, unemployment insurance, or workers' compensation benefits from compensation or payments to Contractor under this Contract.

2. Subcontracts and Assignment

Contractor shall not subcontract any of the work required by this Contract, or assign or transfer any of its interest in this Contract, without the prior written consent of the City. Contractor agrees that if subcontractors are employed in the performance of this Contract, the Contractor and its subcontractors are subject to the requirements and sanction of ORS Chapter 656, Workers' Compensation.

3. No Third Party Beneficiaries

City and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this Contract give or provide any benefit or right, whether directly, indirectly, or otherwise, to third persons unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of the terms of this Contract.

4. Successors in Interest

The provisions of this Contract shall be binding upon and shall inure to the benefit of the parties hereto, and their respective successors and approved assigns, if any.

///

///

5. Contract Documents

The Contract Documents, which comprise the entire Contract between the City and Contractor, include the Request for Proposals, Technical Specifications, Contractor's Statement of Qualification, Proposal, and Standard Public Contract.

All exhibits, schedules and lists attached to the Contract Documents, or delivered pursuant to the Contract Documents, shall be deemed a part of the Contract Documents and incorporated herein, where applicable, as if fully set forth herein.

6. Contractor's Representations

By executing this Contract, the Contractor hereby represents that:

a. Contractor has familiarized itself with the nature and extent of the Contract Documents, project work, site, locality, general nature of work to be performed by City or others at the site that relates to the project work required by the Contract Documents, local conditions, and federal, state, and local Laws and Regulations that in any manner may affect cost, progress, performance, or furnishing of the project work.

b. Contractor has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) examinations, investigations, explorations, tests, and studies which pertain to the conditions (subsurface or physical) at or contiguous to the site or otherwise and which may affect the cost, progress, performance, or furnishing of the project work as Contractor deems necessary for the performance and furnishing of the project work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents; and no additional or supplementary examinations, investigations, explorations, tests, reports, or similar information or data are or will be required by Contractor for such purposes.

c. Contractor has given the City written notice of conflicts, errors, ambiguities, or discrepancies that it has discovered in the Contract Documents, and the written resolution thereof by the City is acceptable to the Contractor, and the Contract Documents are generally sufficient to indicate and convey understanding of terms and conditions for performing and furnishing the project work.

7. Drug Testing Policy

Does not apply.

8. Notice to Proceed

Written Notice to Proceed will be given by the City after the Contract has been executed and the performance bond and all required insurance documents approved. The Contractor shall commence the project work within five (5) days of the date of the written Notice to Proceed.

9. Suspension of the Work

The City, and its authorized representatives, may suspend portions or all of the project work due to causes including, but not limited to:

- a. Failure of the Contractor to correct unsafe conditions;
- b. Failure of the Contractor to carry out any provision of the Contract;
- c. Failure of the Contractor to carry out orders;
- d. Conditions, in the opinion of the City, which are unsuitable for performing the project work;
- e. Allowance of time required to investigate differing site conditions;
- f. Any reason considered to be in the public interest.

The Contract time will not be extended, nor will the Contractor be entitled to any additional compensation if the work is suspended pursuant to subsections (a), (b) or (c). If the project work is suspended pursuant to subsection (f), the Contractor is entitled to a reasonable extension of the Contract time and reasonable compensation for all costs resulting from the suspension plus a reasonable allowance for overhead with respect to such costs.

10. Early Termination

- a. This City and the Contractor, by mutual written agreement, may terminate this Contract at any time.
- b. The City may terminate the Contract in whole or in part whenever the City determines that termination of the Contract is in the best interest of the public. The City will provide the Contractor, and the Contractor's surety, seven (7) days prior written notice of a termination for public convenience. After such notice, the Contractor and the Contractor's surety shall provide the City with immediate and peaceful possession of the Project site and premises, and materials located on and off the Project site and premises for which the Contractor received progress payment. In no circumstances shall Contractor be entitled to lost profits due to termination.
- c. Either the City or the Contractor may terminate this Contract in the event of a breach of the Contract by the other. Prior to such termination, however, the party seeking the termination shall give to the other party written notice of the breach and of the party's intent to terminate. If the Party has not entirely cured the breach within 15 days of the notice, then the party giving the notice may terminate the Contract at any time thereafter by giving a written notice of termination.

11. Payment on Early Termination

- a. If this Contract is terminated under 10(a) or 10(b), the City shall pay the Contractor for work performed in accordance with the Contract prior to the termination date.
- b. If this Contract is terminated under 10(c), by the Contractor due to a breach by the City, then the City shall pay the Contractor as provided in subsection (a) of this section.
- c. If this Contract is terminated under 10(c), by the City due to a breach by the Contractor, then the City shall pay the Contractor as provided in subsection (a) of this section, subject to set off of excess costs, as provided for in section 12, Remedies.

12. Remedies

a. In the event of termination under 10(c), by the City due to a breach by the Contractor, then the City may complete the work either itself, by agreement with another contractor, or by a combination thereof. In the event the cost of completing the work exceeds the remaining unpaid balance of the total compensation provided under this Contract, then the Contractor shall pay to the City the amount of the reasonable excess.

b. The remedies provided to the City under Section 10 and Section 12 for a breach by the Contractor shall not be exclusive. The City also shall be entitled to any other equitable and legal remedies that are available.

c. In the event of breach of this Contract by the City, then the Contractor's remedy shall be limited to termination of the Contract and receipt of payment as provided in Sections 10(c) and 11(b).

13. Access to Records

Contractor shall maintain and the City, and its authorized representatives, shall have access to all books, documents, papers and records of Contractor which relate to this Contract for the purpose of making audit, examination, excerpts, and transcripts for a period of three years after final payment. Copies of applicable records shall be made available upon request. Payment for cost of copies is reimbursable by the City.

14. Ownership of Work

All work products of the Contractor, including background data, documentation and staff work that is preliminary to final reports, which result from this Contract are the property of City. Use of any work product of the Contractor for any purpose other than the use intended by this Contract is at the risk of the City.

15. Compliance with Applicable Law

Contractor shall comply with all federal, state, and local laws and ordinances applicable to the work under this Contract, including, without limitation, ORS chapter 279, and specifically the provisions of ORS 279.312, 279.314, 279.316, 279.320, and 279.445 as set forth on Exhibit A. In addition, the provisions of ORS 279.435 and ORS 279.526 - 279.542 are incorporated by this reference as though fully set forth. Without limiting the foregoing, Contractor expressly agrees to comply with: (i) Title VI of the Civil Rights Act of 1964; (ii) Section V of the Rehabilitation Act of 1973; (iii) the Americans with Disabilities Act of 1990 (Pub L No. 101-336), ORS 659.425, and all regulations and administrative rules established pursuant to those laws; and (iv) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations.

16. Registration with Construction Contractor's Board

Does not apply.

17. Progress Payments

The Contractor shall submit a monthly invoice for services rendered to the City. The Contractor shall invoice only for services rendered. The invoice(s) shall be delivered to:

Finance Department
City of Keizer
PO Box 21000
Keizer, OR 97307

The invoice must show the name, address, and telephone number of Contractor, invoice number, billing period, and amount due.

Payment shall not exceed the amounts listed in the proposal without the prior approval of the City. Total payments to Contractor shall not exceed the amount specified in the Contract without prior written approval of the City. Payment will be made as promptly as the ordinary payment procedure of the City will permit.

18. Retainage

Does not apply.

19. Change Orders

The Contractor agrees to complete this Contract in accordance with the attached specifications and requirements, including any change orders. A change order submitted by the City must be agreed upon by the Contractor and the City, and in the event of failure to so agree, the City may then proceed with any additional work in any manner the City may choose. A decision by the City to proceed to have work done by another party shall in no way relieve either the Contractor or City of this Contract and neither will such action be cause for collection of damages by either party to the Contract, one from the other.

20. Contractor/Subcontractor Payment Obligations

a. The Contractor is required to include in each subcontract for property or services entered into by the Contractor and a first-tier subcontractor, including a material supplier, for the purpose of performing this Contract:

A. A payment clause that obligates the Contractor to pay the first-tier subcontractor for satisfactory performance under its subcontract within 10 days out of such amounts as are paid to the Contractor by the City under such Contract; and

B. An interest penalty clause that obligates the Contractor, if payment is not made within 30 days after receipt of payment from the City, to pay to the first-tier subcontractor an interest penalty on amounts due in the case of each payment not made in accordance with the payment clause included in the subcontract pursuant to paragraph (A) of this subsection. A contractor or first-tier subcontractor shall not be obligated to pay an interest penalty if the only reason that the contractor or first-tier subcontractor did not make payment when payment was due is that the contractor or first-tier subcontractor did not receive payment from the City or contractor when payment was due. The interest penalty shall be:

(a). For the period beginning on the day after the required payment date and ending on the date on which payment of the amount is due made; and

(b). Computed at the rate specified in ORS 279.435 (2).

b. The Contractor is further required to include in each of its subcontracts, for the purpose of performance of such Contract condition, a provision requiring the first-tier subcontractor to include a payment clause and an interest penalty clause conforming to the standards of this section in each of its subcontracts and to require each of its subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.

c. The Contractor shall not request payment of any amount withheld or retained in accordance with ORS 279.445(6) until such time as the Contractor has determined and certified to the City that the subcontractor is entitled to the payment of such amount.

d. A dispute between the Contractor and a subcontractor relating to the amount or entitlement of a subcontractor to a payment or a late payment interest penalty under a clause included in the subcontract pursuant to subsection (4) or (5) or ORS 279.445 does not constitute a dispute to which the City is a party. The City shall not be included as a party in any administrative or judicial proceeding involving such a dispute.

e. The Contractor shall pay all contributions or amounts due the Industrial Accident Fund and the State Unemployment Compensation Fund from the Contractor or Subcontractor incurred in the performance of the Contract. The Contractor shall be responsible for any lien or claim filed against the City on account of any labor or material furnished. The Contractor shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.

f. Pursuant to ORS 279.314, if Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to the Contractor or a subcontractor by any person in connection with the Contract as such claim becomes due, the proper officer(s) representing the City may pay the claim and charge the amount of the payment against funds due or to become due Contractor under this Contract. Payment of claims in this manner shall not relieve the Contractor or the Contractor's surety from obligation with respect to any unpaid claims.

21. Inspection and Acceptance

Inspection and acceptance of all work required under this Contract shall be performed by the City. The Contractor shall be advised of the acceptance or of any deficiencies in the deliverable items.

22. Liquidated Damages

Does not apply.

23. Indemnity and Hold Harmless

a. Except for the professional negligent acts covered by paragraph 23.b., Contractor shall defend, save, hold harmless, and indemnify the City, its officers, agents, and employees from all

claims, suits, or actions of whatsoever nature resulting from or arising out of the activities of Contractor or its officers, employees, subcontractors, or agents under this Contract.

b. Contractor shall defend, save, hold harmless, and indemnify the City, its officers, agents, and employees from all claims, suits, or actions arising out of the professional negligent acts, errors, or omissions of Contractor or its officers, employees, subcontractors, or agents under this Contract.

24. Insurance

Contractor shall provide insurance in accordance with the Request for Proposals.

25. Bonds

Contractor shall provide bonds in accordance with the Request for Proposals.

26. One Year Maintenance and Warranty

Does not apply.

27. Waiver

The failure of the City to enforce any provision of this Contract shall not constitute a waiver by the City of that or any other provision.

28. Errors

The Contractor shall perform such additional work as may be necessary to correct errors in the work required under this Contract without undue delays and without additional cost.

29. Governing Law

The provisions of this Contract shall be construed in accordance with the laws of the State of Oregon and ordinances of the City of Keizer, Oregon. Any action or suits involving any question arising under this Contract must be brought in the appropriate court in Marion County, Oregon. Provided, however, if the claim must be brought in a federal forum, then it shall be brought and conducted in the United States District Court for the District of Oregon.

30. Severability

If any term or provision of this Contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the particular term or provision held invalid.

31. Attorney's Fees

If a suit or action is filed to enforce any of the terms of this Contract, the prevailing party shall be entitled to recover from the other party, in addition to costs and disbursements provided by

statute, any sum which a court, including any appellate court, may adjudge reasonable as attorney's fees.

32. Merger Clause

THIS CONTRACT AND ATTACHED EXHIBITS CONSTITUTES THE ENTIRE AGREEMENT BETWEEN THE PARTIES. NO WAIVER, CONSENT, MODIFICATION OR CHANGE OF TERMS OF THIS CONTRACT SHALL BIND EITHER PARTY UNLESS IN WRITING AND SIGNED BY BOTH PARTIES. SUCH WAIVER, CONSENT, MODIFICATION OR CHANGE, IF MADE, SHALL BE EFFECTIVE ONLY IN THE SPECIFIC INSTANCE AND FOR THE SPECIFIC PURPOSE GIVEN. THERE ARE NO UNDERSTANDINGS, AGREEMENTS, OR REPRESENTATIONS, ORAL OR WRITTEN, NOT SPECIFIED HEREIN REGARDING THIS CONTRACT. BY ITS SIGNATURE, CONTRACTOR ACKNOWLEDGES IT HAS READ AND UNDERSTANDS THIS CONTRACT, AND AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS.



Willamette Valley Rehabilitation Center, Inc.

1853 Airway Road • Lebanon, Oregon 97355 • (541) 258-8121

February 28, 2006

Mr. Bill Lawyer
Public Works Superintendent
City of Keizer
930 Chemawa Rd. NE
Keizer, OR. 97307-1000

Subject: Response to your Request for Proposals (RFP) On Janitorial Services
Attachments: "A"—Response to your general requirements
 "B"—References
 "C"—Summary of Costs, DAS/QRF costing workbooks, and
 Request for Approval of Price Determination form

Dear Mr. Lawyer:

Willamette Valley Rehabilitation Center, Inc. (WVRC) has been performing custodial work since 1988. We have over 18 years of experience and training in the custodial services field. We currently provide services to 20 sites. These include 3 federal customers, 15 state accounts, and 2 private accounts. We clean over .5 million square feet on a daily basis for customers in Marion, Linn, Benton, and Lane Counties.

We have extensive knowledge in the products, equipment, and chemicals necessary to provide a professional and consistent appearance to all facilities we service. We are committed to ensuring adequate and on going training for all of our employees with the belief that training is the key to continued improvement. Additionally we have established a proactive Quality Control program with the intent of finding and resolving items before they become issues to our customers. All customers and their tenants and employees have the right to expect a clean and orderly working environment. This expectation should be achieved by custodial personnel in an unobtrusive manner. The requirements in your RFP reflect the same type of services that we currently provide to the majority of our customers. Everything discussed during my walk through with Greg Wingett on Thursday February 23rd is well within our current capabilities and are tasks that we perform on a daily basis.

Cleaning frequencies are maintained per contractual obligations. We also maintain a WVRC standard of quality that in some cases may exceed the customer's requirements. If it does, we work to the higher level of performance. Areas of high activity require additional attention to detail and may include more frequent performance of tasks such as vacuuming, dusting, and removal of marks and debris. Main entrances and entrance

glass is always a focal point for our crews. Cleanliness is a matter of perception. External conditions like leaves by the entrances can have a negative impact on overall perception even if the interior of the building is in excellent condition.

All periodical tasks such as carpet cleaning, hard floor surface care and other tasks are performed by a special crew that is trained and certified to provide this service. Our regular custodians work only on the other janitorial tasks for which they are specifically trained. This approach affords the maximum in service and customer satisfaction.

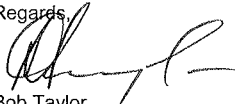
We are committed to providing you with outstanding janitorial coverage in conjunction with exceptional customer service, and look forward to working closely with you to ensure continued service improvements are made. We are eager to enter into a long-term relationship that is mutually beneficial to all parties. We believe that it is essential to establish open channels of communication with all our customers in order to promote the exchange of ideas that further enhance our ability to effectively service their needs.

As a Qualified Rehabilitation Facility (QRF) we provide a noble service to the community and the people we serve; however, we also provide a service to our customers and they have every right to expect that the service we provide will meet all contractual obligations and their expectations. Our goal is to provide a quality service, as scheduled, at a competitive cost.

We want to thank you for this opportunity to provide a bid for your janitorial services. It is through the efforts of organizations such as yours that we are able to continue to expand our ability to provide employment opportunities to Oregonians with disabilities.

Please contact me at your convenience if you have any questions, or would like to discuss this bid in more detail.

Regards,

A handwritten signature in black ink, appearing to read 'Bob Taylor', with a stylized flourish at the end.

Bob Taylor
Contract Services Manager

Attachment "A"

General Requirements

1. Maximum of four workers plus a supervisor.

In order to provide coverage in the event of vacation or absenteeism, and to ensure adequate supervisory support, we would request that we be allowed to have a crew that would include 7 people as follows:

- (1) regular crew supervisor
- (2) regular custodians
- (1) back up custodian
- (1) back up supervisor
- (1) periodics person
- (1) custodial coordinator

It would be the responsibility of the periodics person to perform tasks such as floor work, high dusting (light fixtures) and cleaning of blinds. The custodial coordinator is responsible for all night time operations and would perform site inspections and be available to support the crew if issues arise.

2. Personnel background checks are required and conducted by the City staff.

We have no problem with the City running additional background checks. All of our personnel are required to pass a criminal history background check and drug screen prior to employment. We have been a drug free organization since 1998. Additionally, we perform random drug and alcohol testing on all members of the Custodial Division.

3. Replacement personnel must have a background check prior to entering City facilities.

Our reason for requesting that we have seven people allocated to work at your site is to minimize the need for additional replacement personnel; however, if this becomes necessary, we have no problem in getting them cleared prior to working at your facilities.

4. Regular turnover of workers is unacceptable. The City expects workers to pass background checks and then be dependable and long term.

There is no way we can ensure that there will not be turnover of personnel. Attrition in some cases is an uncontrollable situation. We can say that persons with disabilities tend to appreciate their opportunity to work, and do not change jobs as frequently. I can state that WVRC only occasionally uses temporary personnel, and that we have none at this time. The people we would assign to clean your facilities currently clean five other sites in Salem, and have been with WVRC on a longer term basis. The breakdown of the seven people is as follows:

- The regular site supervisor has been with us over a year and has supervised this crew that entire period.
- One regular custodian has been with us 13 years and lives in the Salem area.
- The back up supervisor has been with us 6 years and also lives in the Salem area.
- Our periodics supervisor has been with us 5 years and has been performing periodical tasks and supervising personnel during that time.

- Our Custodial Coordinator has worked with WVRC for 10 years and also lives in Salem.
- The other regular custodian and the back up custodian have not yet been identified, but most probably will be current WVRC employees. We have one person currently on our training crew that lives in Salem.

5. Staff identification cards must be visible while performing janitorial services.

All of our personnel will wear WVRC badges and WVRC uniform shirts.

6. Janitorial services shall be conducted at night.

Our current Salem crew does all cleaning at night. We will provide services to your buildings after 5:00 PM and be finished by 6:00 AM. This will apply to all service days requested.

7. Paper products and garbage bags are provided by the City. All other cleaning supplies need to be provided by the successful contractor.

This is not an issue. Most of our current contracts are handled in this same manner. On others we also provide the consumable supplies and bill monthly on an as used basis. We purchase all products using State Price Agreements.

8. 30-day notice of termination by either party.

We will comply with this request within the scope of the Products of Disabled Individuals Law.

9. Invoice billings submitted monthly.

We will bill at the end of each month for the service provided during that month.

10. Perform the work per the scope of work provided.

We will perform all tasks as specified in the scope of work included in this RFP. Based on the walk through with Greg Wingett on Thursday 2/23/06 we will place emphasis on general dusting, and also dust light fixtures and blinds on a monthly basis.

Attachment "B"

References

1. Jim Archambault
Contract Administrator
Oregon Department of Transportation
885 Airport Rd. Bldg. X
Salem, OR 97301
(503) 986-5779
2. John Wakefield
Office of the State Fire Marshall
4760 Portland Rd. NE
Salem, Or. 97305
(503) 373-1540, ext.202
3. Bill Callender
Associate Director of Facilities
and Risk Management
Department of Recreational Sports
Oregon State University
Dixon Recreation Center
425 SW 26th St.
Corvallis, Or. 97331-3301
(541) 737-6827

Attachment "C" Summary of Costs

The costs for providing custodial services to your city buildings are as follows:

- A. City Hall
 - For all tasks per your scope of work the cost would be \$662.09 per month.
- B. Police Station
 - For all tasks per your scope of work the cost would be \$942.33 per month.
- C. Public Works
 - For all tasks per your scope of work the cost would be \$234.66 per month.
- D. Exceptional service rate = \$25.50 per hour. This is for work requested that is outside of the scope of the contract.

Based on the walk through we suggest that your carpet and hard surface floor care be put on a regular cleaning schedule. We would suggest that the hard surface floors be stripped and wax at least two times per year in addition to the weekly buffing. Your carpets should be fully cleaned annually and the high traffic areas also done at least one time per year. We could provide you a formal bid for this work at your request.

Please see the attached DAS/QRF costing workbooks for detailed information on the cost breakdown for each facility.

CITY OF KEIZER STATEMENT OF JANITORIAL SERVICES

New Keizer Community Center & City Hall—two day per week service on Tuesday and Thursday

NO	TASK DESCRIPTION	2/wk	1/wk	1/mo	2/yr	4/yr	As needed
1	Clean all restroom and locker room surfaces/ Clean and disinfect baby diaper changing tables	X					
2	Clean all restroom and locker room sinks and mirrors & showers	X					
3	Clean toilets and urinals	X					
4	Descalc toilet and urinals			X			
5	Sweep and wet mop restroom floors	X					
6	Refill/clean paper dispensers	X					
7	Refill/clean soap dispensers	X					
8							
9	Vacuum heavy traffic carpeted areas	X					
10	Vacuum carpet in general use areas		X				
12	Sweep/dust mop hard surface floors	X					
13	Damp mop all hard surface floors	X					
15	Clean interior floor mats		X				
16	Remove Trash and debris	X					
17							
18	Spot clean						X
19	Spot clean carpet and upholstery as required						X
20	Dust furniture		X				
21	Dust building surfaces			X			
22	Clean drinking fountains	X					
23	Clean and disinfect tables/counter tops in the kitchen/break rooms/conference rooms, lobbies and break room and kitchen sinks	X					
24	Arrange furniture						X
25							
27	Clean entrance glass	X					

NO	TASK DESCRIPTION						
28	Spot clean interior window glass						X
		2/wk	1/wk	1/mo	2/yr	4/yr	As needed
30	Empty ash receptacles						X
31	Sweep exterior entrances	X					
32	Clean exterior entrance mats		X				
33	Building security	X					

**CITY OF KEIZER
STATEMENT OF JANITORIAL SERVICES**

New Keizer Police Department—3 day per week service on Monday, Wednesday and Friday

NO	TASK DESCRIPTION	3/wk	1/wk	1/mo	2/yr	4/yr	As needed
1	Clean all restroom and locker room surfaces	X					
2	Clean all restroom and locker room sinks and mirrors	X					
3	Clean toilets and urinals	X					
4	Descalc toilet and urinals			X			
5	Sweep and wet mop restroom floors	X					
6	Refill/clean paper dispensers	X					
7	Refill/clean soap dispensers	X					
8							
9	Vacuum heavy traffic carpeted areas	X					
10	Vacuum carpet in general use areas		X				
12	Sweep/dust mop hard surface floors	X					
13	Damp mop all hard surface floors	X					
15	Clean interior floor mats		X				
16	Remove Trash and debris	X					
17							
18	Spot clean						X
19	Spot clean carpet and upholstery as required						X
20	Dust furniture		X				
21	Dust building surfaces			X			
22	Clean drinking fountains	X					
23	Clean and disinfect tables/counter tops in the kitchen/break rooms/conference rooms, lobbies and break room and kitchen sinks	X					
24	Arrange furniture						X
25							
27	Clean entrance glass	X					
28	Spot clean interior window glass						X

NO	TASK DESCRIPTION						
		3/wk	1/wk	1/mo	2/yr	4/yr	As needed
30	Empty ash receptacles						X
31	Sweep exterior entrances	X					
32	Clean exterior entrance mats		X				
33	Building security	X					

CUSTODIAL TASK LIST

Keizer Public Works
Clean on Tuesday and Thursday

NO	TASK DESCRIPTION	2/ wk	1/ wk	1/ mo	As Req'd
1	CLEAN RESTROOM SURFACES	X			
2	CLEAN RESTROOM SINKS AND MIRRORS	X			
3	CLEAN TOILETS AND URINALS	X			
4	DESCALE TOILETS AND URINALS			X	
5	SWEEP AND WET MOP RESTROOM FLOORS	X			
6	REFILL/CLEAN PAPER DISPENSERS	X			
7	REFILL/CLEAN SOAP DISPENSERS	X			
	Note: Restroom is downstairs. This is the only area downstairs that gets cleaned. Also refill paper towel dispenser by counter on the North end downstairs.				
8	CLEAN ALL ENTRANCE GLASS/LOBBY WINDOWS/INTERIOR WINDOWS	X			
9	CLEAN AND SANITIZE COUNTERS—MOVING ITEMS ON COUNTER IF NECESSARY	X			
10	CLEAN AND SANITIZE ALL DESKTOPS AND TABLES—MOVING AS MANY ITEMS AS POSSIBLE WITHOUT DISTURBING PAPER WORK	X			
11	DUST ALL SURFACES—WORKSTATIONS, COMPUTER SCREENS, PHONES, PRINTERS, KEYBOARDS, WINDOW FRAMES AND SILLS, SHELVES, BOOKCASES ETC.				X
12	DUST AIR VENTS			X	
13	DUST TOPS OF LIGHT FIXTURES			X	
14	CLEAN EXTERIOR OF APPLIANCES SUCH AS REFRIGERATORS AND MICROWAVES	X			
15	EMPTY TRASH RECEPTACLES AND RELACE LINERS	X			
16	EMPTY ASH RECEPTACLES/SAND URNS				X
17	DETAIL VACUUM ALL CARPETED SURFACES	X			
18	VACUUM INTERIOR FLOOR MATS	X			
19	DUST MOP AND WET MOP ALL HARD FLOORS AND STAIRS. NOTE: DO NOT MOP CONCRETE DOWNSTAIRS	X			
20	CLEAN SINKS AND COUTERS IN BREAK/LUNCH ROOMS	X			

NO	TASK DESCRIPTION				
		2/ wk	1/ wk	1/ mo	As Req'd
21	CLEAN DRINKING FOUNTAINS	X			
22	ARRANGE FURNITURE				X
23	BUILDING SECURITY CHECK (LIGHTING, EQUIPMENT, DOORS AND WINDOWS)	X			
24	SANITIZE TELEPHONE HANDSETS			X	
	PERIODICS TASKS				
25	HIGH DUST				X

- A. They provide all consumable products such as--
 1. Paper towels, toilet tissue, wax liners, hand soap, seat covers, trash can liners, light bulbs and tubes, and paper cups. Air fresheners and batteries.
- B. We do not pick up any recycle material.
- C. We do not wash dishes



DEPARTMENT OF ADMINISTRATIVE SERVICES
Request for Price Approval

For JANITORIAL SERVICE, Contract # _____
(Product or Service)

Total Price: \$ 5223.32, per MO (month, year, each, doz.)

Requesting Agency: CITY OF KEIZER

Requesting QRF: WILLAMETTE VALLEY REHABILITATION CENTER, INC.
SEE ATTACHED PRICING SCHEDULE

Agency and QRF agree the proposed price and supporting
documentation meets the requirements of OAR 125-055-0030.

_____, date: _____
Authorized Agency Signature

_____, phone # _____
Email Address

[Signature], date: 4/20/09
Authorized QRF Signature

bobt@wvrc.org, phone # 541-258-8121
Email Address

DAS/SPO has reviewed the submitted documentation supporting the
price offered by the QRF and approves the price for procurement of the
above stated product or service in accordance with OAR 125-055-0030.

_____, date: _____
DAS QRF Coordinator

CITY OF KEIZER
JANITORIAL PRICING SCHEDULE

1. Custodial service for the Police Department:
 - a. Three day per week service on Monday, Wednesday and Friday
 - b. Doesn't include periodics
 - c. Cost per month = \$2451.87
2. Custodial service for the City Hall and Community Center
 - a. Two day per week service on Tuesday and Thursday
 - b. Doesn't include periodics
 - c. Cost per month = \$2439.16
3. Custodial service for Public Works
 - a. Two day per week service on Tuesday and Thursday
 - b. Cost per month = \$332.29



MINUTES
KEIZER CITY COUNCIL
Monday, April 20, 2009
Keizer City Hall Council Chambers
Keizer, Oregon

CALL TO ORDER

Mayor Christopher called the regular meeting to order at 7:02 pm. Roll Call was taken as follows:

Present:

Lore Christopher, Mayor
Jim Taylor, Council President
Richard Walsh, Councilor
David McKane, Councilor
Brandon Smith, Councilor
Cathy Clark, Councilor
Mark Caillier, Councilor (by phone)

Staff:

Shannon Johnson, City Attorney
Chris Eppley, City Manager
Kevin Watson, Assistant to the City Manager
Rob Kissler, Public Works
Nate Brown, Community Development
Marc Adams, Chief of Police
Tracy Davis, City Recorder

FLAG SALUTE

Former Councilor Chuck Lee led the pledge of allegiance.

PUBLIC TESTIMONY

Chuck Lee, Keizer, invited citizens to Salem-Keizer School District Budget meetings to provide input regarding planned substantial budget cuts and/or to call him at 503-304-9135.

David Philbrick, Keizer, reported that the Parks Advisory Board passed unanimously a recommendation to

- Name the Keizer Rapids park amphitheatre "Keizer Rotary Amphitheatre" because of the significant contribution the Keizer Rotary has made throughout the city of Keizer.
- Spend \$3,000 SDC funds to be used towards completion of the concrete work around the top of the amphitheatre.
- Support changing the rules pertaining to Keizer Rapids Park to allow alcohol to be served following the appropriate permitting process.

Mr. Philbrick also reported that the Board is sponsoring "Hands on Keizer" – a day of volunteer work on May 30 and is hoping the City will be identified as one of the sponsors. Mr. Philbrick then fielded questions and provided additional information regarding progress on clean-up of various City parks including Bair and Wallace House Park.

Jeanne Bond-Esser, Keizer, provided additional information regarding the play structure at Wallace House Park explaining that this particular style will help memorialize the historical aspect of the park. She added that the Parks Foundation had received a grant from the Marion Cultural Development Corporation for installation of a heritage marker to explain

why Keizer is so significant in the valley. She provided considerable information regarding the historical significance.

Marty Matiska, Keizer, commended the Transportation System Plan which would be offered for approval later in the meeting. Councilor Clark echoed his remarks and commended the consultant.

Bill Quinn, Keizer, voiced opposition to giving pay raises to City employees due to the trying times, criticized the City for not having a management plan in place for the amphitheatre, and urged the City to decide if the community center was going to be a convention center. Mayor Christopher urged Mr. Quinn to air his thoughts at the upcoming Budget Committee meetings.

Rick Day, Keizer, urged that the proposed parking spaces at the Keizer Rapids Park include an area for mass transit turnaround and noted that Habitat for Humanity has four events tentatively planned for the amphitheater including some movie nights. He explained that work is underway to design and build a screen and this would be an amenity that the City would receive under the management of the Park Management Team.

Greg Rands, Keizer, reported that the Planning Commission has been reviewing the Transportation System Plan since February and recommends the plan to Council.

PUBLIC HEARING

a. Update of Transportation System Plan (TSP) and Related Keizer Development Code Text Amendments

Community Development Director Nate Brown reviewed the TSP update process noting that it was made possible with a TGM grant. He introduced the Consultant, Beth Wemple with Kittelson & Associates and Steve Oulman with DLCD who played a significant part in the update process. Ms. Wemple reviewed the process, evaluations and conclusions. Nate then reviewed changes that were made and the effect of those changes.

Mayor Christopher opened the Public Hearing and incorporated the testimony of Beth Wemple and Nate Brown.

Mr. Brown and Ms. Wemple then fielded questions and provided additional information regarding infill, freeway interchange plans and clarification of the verbiage relating to freeway interchange. Following lengthy discussion, Council added verbiage relating to widening Lockhaven Drive and freeway interchange; the need for safe pedestrian and bicycle access to the Kroc Center; commuter rail/train opportunities; and pedestrian improvement projects. Councilor Clark then suggested that completion of through connectivity for Rivercrest Drive be added to the miscellaneous project section. Councilor McKane questioned the appropriateness of adding this project to the list without allowing the opportunity for public input. Councilor Walsh voiced opposition to creating this corridor.

Councilor Clark moved to add Rivercrest Drive to complete through

connectivity for the entire length of the road with special attention to bike and pedestrian safety for additional investigation on the Miscellaneous Projects list. Mayor Christopher seconded. Motion passed as follows:

AYES: Christopher, Caillier, Taylor and Clark (4)

NAYS: Walsh, McKane and Smith (3)

ABSTENTIONS: None (0)

ABSENT: None (0)

Councilor Walsh moved to connect Trail to Wheatland and take one of the options to do this rather than Trail to McNary Estates as a north south corridor

Ms. Wemple provided additional information regarding proposed north-south corridors. Nate Brown added that the costs of restoring the intersection significantly outweigh the benefits.

Motion died for lack of second.

Additional discussion took place regarding making Verda Lane a north-south corridor with Mr. Eppley explaining that Verda as a north-south corridor is not a possibility within the timeframe of this TSP and Ms. Wemple adding that modeling results showed that River Road from Lockhaven south will continue to operate at an acceptable level within a 20-year time frame.

With no further testimony, Mayor Christopher closed the Public Hearing.

Councilor Taylor moved to direct staff to prepare an ordinance with findings adopting the proposed update of the TSP and related text amendments as amended. Councilor Clark seconded. Motion passed as follows:

AYES: Christopher, Smith, McKane, Caillier, Taylor and Clark (6)

NAYS: Walsh (1)

ABSTENTIONS: None (0)

ABSENT: None (0)

**b. Parks SDC
Methodology
Update –
continued from
October 20, 2008**

Mayor Christopher opened the Public Hearing.

Discussion took place regarding putting this off for another six months.

With no testimony, Mayor Christopher continued the Public Hearing for six months.

**ADMINISTRATIVE
ACTION**

Postponed to next meeting.

- A. RESOLUTION Naming the Keizer Rapids Park Amphitheatre – Keizer Rotary Amphitheatre**
- B. ORDINANCE Amending Keizer Park Regulations Regarding Use of Alcohol at Keizer Rapids Park**
- C. RESOLUTION Authorizing City Manager to Enter Into Agreements**

for Consultant Services and Management Services (Keizer Community Rooms)

D. **ORDINANCE** Providing for Emergency Management

E. **RESOLUTION** Authorizing the City Manager to Sign Second Amendment to Option Agreement – Buchanan Property

CONSENT CALENDAR

- A. **RESOLUTION** – Supporting the Nomination of Bill Schonely for the Curt Gowdy Award – Naismith Basketball Hall of Fame.
- B. **RESOLUTION** – Authorizing the City Manager to Enter Agreement with Rainbow Park and Playground for Wallace House Park Play Structure.
- C. **Approval of February 2, 2009 Work Session Minutes**
- D. **Approval of February 17, 2009 Work Session Minutes**
- E. **Approval of February 17, 2009 Regular Session Minutes**

Mayor Christopher moved for approval of the Consent Calendar.

Councilor Taylor seconded. Motion passed unanimously as follows:

AYES: Christopher, Walsh, Smith, McKane, Caillier, Taylor and Clark (7)

NAYS: None (0)

ABSTENTIONS: None (0)

ABSENT: None (0)

COMMITTEE REPORTS

a. 2010 Census Presentation

Taken out of Order. *Ping Sutherland, Portland*, requested support from the City in promoting the census, reviewed differences from censuses done in the past and explained the importance of accurate numbers. Ms. Sutherland then fielded questions and provided additional information regarding the questions asked on the survey and the purpose of the census. Councilor Clark suggested that notification of the census be placed on Keizer 23 Television

b. Presentation by Marion County for Population Estimates

Taken out of Order. *Brandon Reich, Salem* with Marion County Planning explained that Marion County is one of the few counties that actually develops population forecasts for cities. This forecast can be used as a tool for the City's comprehensive planning process. *Les Sasaki, Keizer*, also with Marion County reviewed the handout in detail including cyclical growth and lower and higher growth scenarios. He then fielded questions and provided additional information regarding annual average growth rates, urban growth boundary, breakout of components, the complexity of the information, the methodology used to develop the forecast, and uses for the forecasts. Mr. Sasaki explained differences between the median growth and the higher growth and their relation to economic cycles. The SKATS forecast was then reviewed with Mr. Reich noting that this one is different because it uses both population and employment and uses different assumptions. Lengthy discussion then took place regarding what appeared to be a discrepancy in the forecasted population growth numbers and revenue sharing. In conclusion Mr. Reich requested that the City provide a letter indicating support of the forecast.

**c. West Keizer
Neighborhood
Association
Annual Report –
Extending
Recognition**

***Taken out of Order.** Rhonda Rich, President of the West Keizer Neighborhood Association summarized the highlights of the Association activities and meetings for 2008, encouraged neighbors not involved in the Association to attend the meetings and become active members, thanked Councilors Clark, McKane and Walsh, and the Board members for their support of the Association, and summarized future plans for the Association.*

Eric Duran thanked Council for allowing the incorporation of the South portion of the West Keizer Neighborhood Association and encouraged the Council to continue working with the Association.

In conclusion President Rich requested that the Council continue their annual recognition of the association.

Councilor McKane moved to extend recognition to the West Keizer Neighborhood Association for another year through 2009 and part of 2010. Councilor Walsh seconded. Motion passed unanimously as follows:

AYES: Christopher, Walsh, Smith, McKane, Caillier, Taylor and Clark (7)

NAYS: None (0)

ABSTENTIONS: None (0)

ABSENT: None (0)

**d. Keizer
Community
Library Report**

***Taken out of Order.** Art Burr, Interim Director of the Keizer Community Library, thanked Council for their continued support and reviewed the history of the formation of the library. He directed attention to his proposal for the purchase of property adjacent to City Hall for a library and asked Council to help figure out how this could be accomplished. Mayor Christopher responded that as places become available home owners adjacent to the City Hall have shown that they want to work with the City and Council will certainly consider keeping this option open. Mr. Burr then fielded questions and provided additional information regarding membership, election and projected costs. Additional discussion took place regarding whether or not the property in question is in the Urban Renewal District.*

**OTHER
BUSINESS**
**a. New Business or
Old Business
Issues**

Referring to the American Recovery and Reinvestment Act of 2009, Mr. Johnson reported that the agreement is non-matching, however, the City has to deposit 10% to cover non-recoverable costs. The resolution before Council represents \$960,000 of stimulus funds. Rob Kissler added that this will have an impact on the Street Fund budget in the next budget year; the City might have to postpone one small project because of the deposit but he voiced confidence in the engineering staff and optimism in having the deposit refunded.

Mayor Christopher moved to suspend the rules. Councilor Taylor seconded. Motion passed unanimously as follows:

AYES: Christopher, Walsh, Smith, McKane, Caillier, Taylor and Clark (7)

NAYS: None (0)

ABSTENTIONS: None (0)
ABSENT: None (0)

Councilor Taylor moved to adopt a Resolution Authorizing City Manager and Public Works Director to enter into a Local Agency Agreement with Oregon Department of Transportation for Paving And Signal Detection Upgrade (American Recovery and Reinvestment Act of 2009). Councilor Clark seconded.

Councilor Smith noted that he could not vote in favor of this without having an opportunity to read it. Mr. Kissler explained that he received it April 14 and reviewed it with the City Attorney on April 17 but it needs to be back to ODOT by April 24.

Motion passed as follows:

AYES: Christopher, Walsh, McKane, Caillier, Taylor and Clark (6)
NAYS: Smith (1)
ABSTENTIONS: None (0)
ABSENT: None (0)

Mayor Christopher moved to direct staff to negotiate a mutually agreeable management agreement with Clint Holland and associates for management of the Keizer Rapids Park Amphitheater from now until December 2009. Councilor Walsh seconded.

Councilor Clark urged that citizens of the community be allowed the opportunity to maximize use of the facility and that the use be kept affordable for the citizens of Keizer.

Motion passed unanimously as follows:

AYES: Christopher, Walsh, Smith, McKane, Caillier, Taylor and Clark (7)
NAYS: None (0)
ABSTENTIONS: None (0)
ABSENT: None (0)

Mayor Christopher moved to authorize staff to submit an earmark with Senator Shrader for improved access from Keizer to the KROC Center to include the environmental impact study, design work and perhaps property acquisition. Councilor Clark seconded. Motion passed unanimously as follows:

AYES: Christopher, Walsh, Smith, McKane, Caillier, Taylor and Clark (7)
NAYS: None (0)
ABSTENTIONS: None (0)
ABSENT: None (0)

Councilor Walsh moved to direct staff to spend \$3,000 of SDC funds towards the cost of a concrete apron on top of the amphitheater. Councilor Taylor seconded. Motion passed unanimously as follows:

AYES: Christopher, Walsh, Smith, McKane, Caillier, Taylor and Clark (7)
NAYS: None (0)
ABSTENTIONS: None (0)
ABSENT: None (0)

**WRITTEN
COMMUNICATIONS
AGENDA INPUT**

None

May 4, 2009

7:00 p.m. City Council Meeting

May 11, 2009

5:45 p.m. City Council Work Session

May 18, 2009

7:00 p.m. City Council Meeting

ADJOURNMENT

Mayor Christopher adjourned the meeting 11:10 pm to go into Executive Session.

APPROVED:

MAYOR:

Lore Christopher

Debbie Lockhart, Deputy City Recorder

COUNCIL MEMBERS

Councilor #1 – David McKane

Councilor #4 – Cathy Clark

Councilor #2 – Brandon Smith

Councilor #5 – Richard Walsh

Councilor #3 – Mark Caillier

Councilor #6 – James Taylor

Minutes approved:

CITY OF KEIZER MISSION STATEMENT
***KEEP CITY GOVERNMENT COSTS AND SERVICES TO A MINIMUM BY PROVIDING CITY
SERVICES TO THE COMMUNITY IN A COORDINATED, EFFICIENT AND LEAST COST FASHION***

A G E N D A

URBAN RENEWAL AGENCY OF THE CITY OF KEIZER

Monday, June 1, 2009

**Immediately Following the Adjournment of the Keizer City Council Meeting
Keizer Civic Center - Council Chambers
Keizer, Oregon**

1. CALL TO ORDER

2. ROLL CALL

3. PUBLIC TESTIMONY

This time is provided for citizens to address the Urban Renewal Agency on any matter not scheduled for public hearing.

4. PUBLIC HEARING

5. ADMINISTRATIVE ACTION

a. Landscape Grant Application – Sonic Restaurant – 3775 River Road N.

6. CONSENT CALENDAR

a. Approval of April 20, 2009 Agency Minutes

7. OTHER BUSINESS

This time is provided to allow Urban Renewal Agency members the opportunity to bring matters before the Agency that are not on tonight's agenda.

8. AGENDA INPUT

9. ADJOURN



URBAN RENEWAL AGENCY MEETING: JUNE 1, 2009

TO: MAYOR CHRISTOPHER AND CITY COUNCIL MEMBERS

**THROUGH: CHRIS EPPLEY, CITY MANAGER
NATE BROWN, COMMUNITY DEVELOPMENT DIRECTOR**

FROM: SAM LITKE, SENIOR PLANNER

SUBJECT: Landscape Grant Application for the Sonic Restaurant – 3775 River Road N, Keizer

ATTACHMENTS:

- **Grant application**
- **Site plan**

BACKGROUND:

On May 26th the Keizer Urban Renewal Board unanimously approved a grant request submitted by Bill Pufall, on behalf of Sonic Restaurant for frontage improvements along property located along the west side of River Road and along the south side of Hollyhock Place. The proposed work includes removal and relocation of the existing curb-side sidewalk along River Road to allow a planting strip between the curb and the new sidewalk. The new sidewalk will be 6 feet wide with stamped colored sidewalk at the driveway, intersection and in the pedestrian plaza. Street trees will be planted in the new planting strip and a water feature will be added in the pedestrian plaza. The relocated sidewalk will be placed within an easement to be granted to the city for public use.

Based upon the bid information provided by the applicant, KURB recommended that Professional Landscaping be funded \$25,695 and Dan Thomas Construction be funded \$19,263.50 for a combined project award of \$44,958.50. In addition, the \$3,000 expense for the engineering portion be funded, and a \$2,000 contingency be included, thereby resulting in the total project cost of \$49,958.50.

In addition, KURB recommended the following conditions also apply to this grant request:

1. Improvements funded by the KURB and Urban Renewal Agency shall be maintained by the property owner in good order for a period of 5 years.
2. Applicant shall show evidence of insurance coverage for the grant funded improvements to not less than the value of the improvements.
3. Applicant shall obtain all necessary permits
4. Applicant shall comply with any terms or conditions of approval for the grant.
5. All work approved by this grant must be completed within 1 year.
6. Applicant shall submit verification of expenses for work seeking reimbursement.
7. Reimbursement shall not exceed funded amount.
8. All contractors shall be licensed by the State of Oregon.
9. Project shall display signage indicating Urban Renewal Agency funding.

10. Project shall include detailed plans with the application.
11. Project shall be constructed to approved plans.
12. Any significant changes from the approved plans shall require KURB review and approval.
13. Applicant shall sign a grant agreement with the City before work begins.
14. City shall hold back 10% of any reimbursement funds until a close out report is presented to KURB and KURB authorizes final payment.
15. City shall review and approve project plans. Any change of work orders shall require City approval.

RECOMMENDATION:

Staff recommends the Urban Renewal Agency approve a sidewalk and landscape grant to Sonic Restaurant in the amount of **\$49,958.50** with the conditions outlined in this memo.



CITY OF KEIZER URBAN RENEWAL GRANT APPLICATION

Type of Grant Requested

(Please check one)

- ☒ Sidewalk & Landscaping Improvements
☐ Building Façade Improvements

Grant Terms Requested

(Please check one)

- ☒ \$1 to \$1 Match (Typical)
☐ Other Methodology (*see next page)

Applicant Name

WILLIAM PUFALL

Address, City, Zip & Phone Number

835 HARRITT DR NW, #118
SALEM, OR. 97304
Phone 503-302-4208
Fax 503-364-9265
Email bpufall@sonicpartners.net.com

Business Name

SONIC DRIVE-IN

Address, City, Zip, & Phone Number

3775 RIVER ROAD N.
KEIZER, OR. 97304
Phone 503-362-1279
Fax 503-364-9265
Email bpufall@sonicpartners.net.com

Project Description

SIDEWALK & LANDSCAPE IMPROVEMENTS TO FRONT OF
PROPERTY ALONG RIVER ROAD AND SIDEWALK & LANDSCAPE
IMPROVEMENTS TO NORTH SIDE OF PROPERTY ALONG
HOLLY HOCK. IMPROVEMENTS ALONG RIVER ROAD ARE TO
HAVE PLAZA, WATER FEATURE, CONCRETE STAMPING &
LANDSCAPING.

Please submit the following along with this form:

1. Site and Landscaping Design Plan
2. Copies of at least three bids for the work to be completed



**220 Lancaster Dr. SE
Salem, Or. 97317**

TOTAL IMPROVEMENTS
FOR RIVER ROAD N. AND HOLLYHOCK

#1 Veritas and Classic (high side) : \$64,400.00

#2 Professional and Thomas (low side) : \$60,217.00

Thank you for the opportunity to present these proposals to you for your consideration in efforts to help beautify our community.

William R Pufall

Sonic Drive-In ,Supervising Partner
503-302-4208



220 Lancaster Dr. SE
Salem, Or. 97317

Proposals for Sonic Drive-In 3775 River Road N. Keizer Or.

- *Frontage improvements along River Road
- *Improvements along Hollyhock

#1. "Veritas Landscaping Services":

Landscaping and water feature: \$35,810.00
2 bronze bench allowance : \$3000.00
TOTAL: \$38,810.00

#2. Professional Landscapes and Irrigation, INC. :

Landscaping and water feature: \$34,325.00
2 bronze bench allowance : \$3000.00
TOTAL: \$37,325.00

#1. Classic Concrete Design:

Concrete work for River Road and Hollyhock: \$25,590.00

#2. Dan Thomas Construction, Inc. :

Concrete work for River Road and Hollyhock: \$22,892.00



P.O. BOX 13296
Salem, OR 97309

Estimate

Date	Estimate #
5/19/09	45

BILL TO:
NorthStarConstruction 303 N. 10th St., Suite 1 PO Box 326 Ozark, MO 65721

PROJECT:

Item	Description	Material and Labor	Total
Plants	River Road Side (Between River Road and Sidewalk) As per plan dated 2-4-09 (look at drawing for exact plant details) -see plan	1,380.00	1,380.00
Bark	Bark 2 in. in these flowerbeds	450.00	450.00
Irrigation	Approx. one zone of irrigation	980.00	980.00
Plants	River Road Side (Between Sidewalk and Sonic parking/drive thru) As per plan dated 2-4-09 (look at drawing for exact plant details) -4 Bowhall red maples	0.00	0.00
Grass seed	-approx. 15 five gal Lilac	1,360.00	1,360.00
Irrigation	Approx. 7000 sq. ft of grass seed, fertilizer, and topsoil Approx. 4 zones of irrigation General Contractor to leave final excavation with 1/10 of a foot	1,950.00 3,550.00	1,950.00 3,550.00

Total	\$9,670.00
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Phone #
503 409-9107

Signature _____



P.O. BOX 13296
Salem, OR 97309

Estimate

Date	Estimate #
5/19/09	46

BILL TO:

NorthStarConstruction
303 N. 10th St., Suite 1
PO Box 326
Ozark, MO 65721

PROJECT:

Item	Description	Material and Labor	Total
Plants	Hollyhook Place (between road and side walk) As per plan dated 2-4-09 (look at drawing for exact plant details) -11 Bowhall Red Maple -see plan	4,485.00	4,485.00
Irrigation	Approx. one zone of irrigation	980.00	980.00
Bark	To be 2"	1,380.00	1,380.00
	Hollyhook Place (between sidewalk and Sonic parking) As per plan dated 2-4-09 (look at drawing for exact plant details) see plan	3,250.00	3,250.00
Plants			
Irrigation	Approx. 5 Zones	4,050.00	4,050.00
Bark	To be 2"	850.00	850.00
Grass seed	Approx. 3,500 sq. ft of grass	925.00	925.00
	General Contractor will leave all final elevations within 1/10 of a foot		

Total

\$15,920.00

Phone #

503 409-9107

Signature _____



P.O. BOX 13296
Salem, OR 97309

Estimate

Date	Estimate #
5/19/09	44

BILL TO:
NorthStarConstruction 303 N. 10th St., Suite 1 PO Box 326 Ozark, MO 65721

PROJECT:

Item	Description	Material and Labor	Total
Water Bubbler	Bubbler will be built as follows: -one 4' rock, two 3' rocks with drilled hole to allow water through -3 manual ball valves -45 ml pond liner -valves to be in one standard valve box -1 auto fill -1 manual drain valve -1 overflow tube -1 pump	4,400.00	4,400.00
Retaining Wall	-general contractor will provided power for pump As per plan 4-30-09 - one approx. 50' by 3', other approx. 42' by 3' -boulders to be used as per plan All final elevations to be left by general contractor within 1/10 of a foot	5,820.00	5,820.00

Total	\$10,220.00
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Phone #
503 409-9107

Signature _____

PROFESSIONAL LANDSCAPES AND IRRIGATION, INC.

"The Finest in Quality Landscaping"

License #5866 & 12106

May 19, 2009

Northstar Construction Services LLC

Attn: Heath

Po Box 326 Ozark, MO 65721

417 582 0177/417 582 2011 fax

Re: Sonic Keizer Oregon Fountain

Thank you for considering our bid on this project! My bid is as follows:

- A) Material and labor for fountain assembly
- B) Excavation work
- C) Pond liner
- D) Pump assembly and piping
- E) 1 year warranty
- F) Clean up of scope and related debris

Base Bid \$5,880

Thank you again for this opportunity.

Respectfully,

Brad Jefferson

PROFESSIONAL LANDSCAPES AND IRRIGATION, INC.

"The Finest in Quality Landscaping"

License #5866 & 12106

May 19, 2009

Northstar Construction Services LLC

Attn: Heath

Po Box 326 Ozark, MO 65721

417 582 0177/417 582 2011 fax

Re: Sonic Keizer Oregon Landscaping -- River Road

Thank you for considering our bid on this project! My bid is as follows:

- A) All Landscaping between River Road and Sonic Parking Lot
- B) Shrubs
- C) Irrigation
- D) Grass Seed and topsoil
- E) Additional 4 Red Maples
- F) Additional 15 Lilacs
- G) 1 Year Warranty
- H) 30 days Maintenance
- I) Clean up of scope related debris

Base Bid \$11,185

Thank you again for this opportunity.

Respectfully,

Brad Jefferson

PROFESSIONAL LANDSCAPES AND IRRIGATION, INC.

"The Finest in Quality Landscaping"

License #5866 & 12106

May 19, 2009

Northstar Construction Services LLC

Attn: Heath

Po Box 326 Ozark, MO 65721

417 582 0177/417 582 2011 fax

Re: Sonic Kelzer Oregon Landscaping - Hollyhock Dr

Thank you for considering our bid on this project! My bid is as follows:

- A) All Landscaping between Hollyhock Drive and Sonic Parking Lot
- B) Shrubs
- C) 5 Zones of Irrigation
- D) Grass Seed
- E) Additional 11 Red Maples
- F) 1 Year Warranty
- G) 30 days Maintenance
- H) Clean up of scope related debris

Base Bid \$17,260

Thank you again for this opportunity.

Respectfully,

Brad Jefferson



Classic Concrete Design

PO Box 729

Benton City, WA 99320

(509) 528-2193 Phone

OR CCB# 151850

WA L&I # classcd007b1

Submitted to:

Northstar Construction Services LLC

PO Box 326

Ozark, MO 65721

Project:

Sonic Drive-In - Keizer, OR

Scope of Work: Concrete for River Road side of Lot

We Have Included the Following:

1. Concrete Retaining Wall	\$3,250.00
2. Stamped Concrete	\$5,300.00
3. 6' Sidewalk	\$6,300.00
4. New bus stop loop	\$1,080.00
5. 1 ADA ramp with truncated dome	\$1,500.00

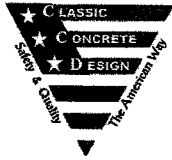
We Have Excluded the Following:

1. Any excavation work required for concrete prep
2. Surveying or Staking Work

*** Contractor to have Subgrade +/- 1"

Total Base Bid Price:

\$17,430.00



Classic Concrete Design

PO Box 729

Benton City, WA 99320

(509) 528-2193 Phone

OR CCB# 151850

WA L&I # classcd007b1

Submitted to:

Northstar Construction Services LLC
PO Box 326
Ozark, MO 65721

Project:

Sonic Drive-In - Keizer, OR

Scope of Work: Concrete for Hollyhock

We Have Included the Following:

1. 6' Sidewalk from west side of property line on Hollyhock
To stamped concrete corner of Hollyhock & River Rd. \$8,160.00

We Have Excluded the Following:

1. Any excavation work required for concrete prep
2. Surveying or Staking Work

*** Contractor to have Subgrade +/- 1"

Total Base Bid Price:

\$8,160.00



MINUTES
KEIZER URBAN RENEWAL AGENCY
Monday, April 20, 2009
Keizer Civic Center
Keizer, Oregon

CALL TO ORDER Agent Christopher called the session to order at 6:45 p.m. Roll Call was taken as follows:

Present:

Lore Christopher
Richard Walsh
Cathy Clark
Brandon Smith
David McKane
Jim Taylor
Mark Caillier

Staff:

Chris Eppley, City Manager
Kevin Watson, Assistant to the City Manager
Rob Kissler, Public Works
Chief Marc Adams, Police
Nate Brown, Community Development Director
Shannon Johnson, City Attorney
Tracy Davis, City Recorder

**PUBLIC
TESTIMONY**

None

**PUBLIC
HEARING**

None

**ADMINISTRATIVE
ACTION**

City Attorney Shannon Johnson explained that this issue had been before Council on April 6, 2009, and now needed Urban Renewal Agency ratification.

**a. RESOLUTION –
Ratifying City
Manager’s
Execution of
Agreement
with
Northwood
Holdings, LLC**

Agent Taylor moved to adopt a Resolution Ratifying City Manager’s Execution of Agreement with Northwood Holdings, LLC. Agent Walsh seconded. Motion passed unanimously as follows:

AYES: Christopher, Walsh, Smith, McKane, Caillier, Taylor and Clark (7)

NAYS: None (0)

ABSTENTIONS: None (0)

ABSENT: None (0)

**OTHER
BUSINESS**

None

**CONSENT
CALENDAR**

- a. Approval of February 17, 2009 Agency Minutes
- b. Approval of March 16, 2009 Agency Minutes

Agent Taylor moved for approval of the Consent Calendar. Agent McKane seconded. Motion passed unanimously as follows:

AYES: Christopher, Walsh, Smith, McKane, Caillier, Taylor and Clark (7)

NAYS: None (0)

ABSTENTIONS: None (0)

ABSENT: None (0)

ADJOURNMENT The meeting was adjourned at 6:57 p.m.

APPROVED:

Lore Christopher, Chair

Debbie Lockhart, Deputy City Recorder

AGENCY MEMBERS

David McKane

Mark Caillier

Jim Taylor

Cathy Clark

Brandon Smith

Richard Walsh

Minutes approved:
