This has already been adopted on 4/19/2006.

FORM 2 Notice of Adoption

THIS FORM **MUST BE MAILED** TO DLCD
WITHIN 5 WORKING DAYS AFTER THE FINAL DECISION
PER ORS 197.610, OAR CHAPTER 660 - DIVISION 18

DATE STAMP
DEPT OF
JUL 16 2007
LAND CONSERVATION AND DEVELOPMENT
For DLCD Use Only

Jurisdiction: Umatilla County Local file number: _____

Date of Adoption: January 12, 2004 Date Mailed: July 12, 2007

Date original Notice of Proposed Amendment was mailed to DLCD: May 12, 2003

- [X] Comprehensive Plan Text Amendment
- [ ] Comprehensive Plan Map Amendment
- [ ] Land Use Regulation Amendment
- [ ] Zoning Map Amendment
- [ ] New Land Use Regulation
- [ ] Other: _____

Summarize the adopted amendment. Do not use technical terms. Do not write "See Attached".

Amendment to the County Transportation System Plan. Interchange Area Transportation Plan refines TSP in the vicinity of the I-84/ Westland Road and I-82/ Lamb Road interchange areas.

Describe how the adopted amendment differs from the proposed amendment. If it is the same, write "SAME". If you did not give Notice for the Proposed Amendment, write "N/A".

SAME.

Plan Map Changed from: _____ to: _____

Zone Map Changed from: _____ to: _____

Location: Umatilla Co., I-84/Westland Rd., I-82/ Lamb Acres Involved: 640 Acres

Specify Density: Previous: — New: —

Applicable Statewide Planning Goals: Goal 12 - Transportation

Was and Exception Adopted? [ ] YES [X] NO

DLCD File No.: 004-03 (12881) [13500]

Did the Department of Land Conservation and Development receive a Notice of Proposed Amendment.....

Forty-five (45) days prior to first evidentiary hearing?	☒ **Yes**	☐ **No**
If no, do the statewide planning goals apply?	☐ **Yes**	☐ **No**
If no, did Emergency Circumstances require immediate adoption?	☐ **Yes**	☐ **No**

Affected State or Federal Agencies, Local Governments or Special Districts:

Oregon Department of Transportation

Local Contact: Tamra Mabbott Phone: (541) 278-6246 Extension: —

Address: 216 SE 4th St. City: Pendleton

Zip Code + 4: ~~97801~~ 97801 Email Address: tamrac@cc.umatilla.or.us

ADOPTION SUBMITTAL REQUIREMENTS

This form **must be mailed** to DLCD **within 5 working days after the final decision**
per ORS 197.610, OAR Chapter 660 - Division 18.

1. Send this Form and **TWO (2) Copies** of the Adopted Amendment to:

ATTENTION: PLAN AMENDMENT SPECIALIST
DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT
635 CAPITOL STREET NE, SUITE 150
SALEM, OREGON 97301-2540

2. Submit **TWO (2) copies** the adopted material, if copies are bounded please submit **TWO (2) complete copies** of documents and maps.

3. Please Note: Adopted materials must be sent to DLCD not later than **FIVE (5) working days** following the date of the final decision on the amendment.

4. Submittal of this Notice of Adoption must include the text of the amendment plus adopted findings and supplementary information.

5. The deadline to appeal will not be extended if you submit this notice of adoption within five working days of the final decision. Appeals to LUBA may be filed within **TWENTY-ONE (21) days** of the date, the Notice of Adoption is sent to DLCD.

6. In addition to sending the Notice of Adoption to DLCD, you must notify persons who participated in the local hearing and requested notice of the final decision.

7. **Need More Copies?** You can copy this form on to 8-1/2x11 green paper only; or call the DLCD Office at (503) 373-0050; or Fax your request to:(503) 378-5518; or Email your request to **mara.ulloa@state.or.us** - ATTENTION: PLAN AMENDMENT SPECIALIST.

THE BOARD OF COMMISSIONERS OF UMATILLA COUNTY

STATE OF OREGON

In the Matter of Amending Umatilla County Transportation System Plan and Comprehensive Plan for Westland Road/I-84/ I-82 Interchange Area	)))))	ORDINANCE NO. 2003-09

WHEREAS pursuant to Chapter 660, Division 12, of the Oregon Administrative Rules, and specifically OAR 660-12-0045, Umatilla County, as part of its Comprehensive Plan, adopted by Ordinance No. 2003-03, a Transportation System Plan for Umatilla County; and

WHEREAS the Umatilla County Transportation System Plan ("TSP") is to guide the management of existing transportation facilities and the design and the implementation of future facilities for the next 20 years; and

WHEREAS Umatilla County identified the area of Westland Road/I-84/I-82 for further study and transportation planning;

WHEREAS Umatilla County received a Transportation and Growth Management (TGM) Grant to complete a transportation plan study and proposal for the Westland Road/I-84/I-82 interchange area; and

WHEREAS input from the property owners in the study area, local stakeholders, members of the Planning Commission and Board of Commissioners, was requested and received, in a study and plan for the area; and

WHEREAS the study resulted in a proposed amendment to the TSP to include the Westland Road/I-84/I-82 Interchange Area Transportation Plan to address traffic impacts, access management issues and potential transportation infrastructure investment requirements created by existing and future land use developments within the area bordered by the Westland Road/Agnew Road intersection on the north, the Umatilla River and Cottonwood Bend Road to the east, Noble Road on the south and I-82 on the west, encompassing an area of approximately 640 acres; and

WHEREAS the Westland Road/I-84/I-82 Interchange Area Transportation Plan was presented at a workshop before the

Umatilla County Planning Commission on May 29, 2003, and public hearings before the Planning Commission were held on June 26, 2003, and August 28, 2003; and

WHEREAS the Umatilla County Planning Commission recommended to the Board of Commissioners approval of the study and amendment to the TSP and the Comprehensive Plan; and

WHEREAS on June 30, 2003, a public hearing was held by the Board of Commissioners to hear the Westland Road/I-84/I-82 Interchange Area Transportation Plan and to consider the amendment to the TSP, and the hearing was continued to September 22, 2003, December 3, 2003, and January 12, 2004; and

WHEREAS on January 12, 2004, the Board of Commissioners closed public testimony and voted to accept the Umatilla County Westland Road/I-84/I-82 Interchange Area Transportation Plan prepared by H. Lee & Associates, dated August 28, 2003, identified as Exhibit 53, with two changes; and

WHEREAS a change to the Plan to allow for an exception area to the TSP standards for the area North of the intersection was accepted by the Board of Commissioner on a 3-0 vote, to incorporate the proposed Petro/Kittleson Plan outlined in Figure 13 of Exhibit 62, with an added east entrance at the Truck/light industrial area access; and

WHEREAS a change to the Plan to allow for a hardship variance to the TSP standards for the area South of the intersection was accepted by the Board of Commissioner on a 2-1 vote, to incorporate the Kittleson proposal outlined in Figure 1C of Exhibit 59.

NOW, THEREFORE the Board of Commissioners of Umatilla County ordains as follows:

1. The Westland Road/I-84/I-82 Interchange Area Transportation Plan is accepted and adopted, and the Umatilla County Transportation System Plan and the Umatilla County Comprehensive Plan are amended to include the Interchange Area Transportation Plan. A copy of the Interchange Area Transportation Plan is attached to this ordinance and incorporated by this reference.

2. At such time as a development agreement is executed with the property owner, outlining improvements and responsibilities (including realigned Livestock Road), the Umatilla County

Transportation System Plan and the Umatilla County Comprehensive Plan will be amended to provide an exception to the Westland Area Plan north of I-84 to allow for local access improvements outlined in Figure 13 of Exhibit 62, with additional access on east to be granted at industrial area access.

3. A hardship variance to the TSP standards for the area South of the intersection is granted, to incorporate the Kittleson proposal outlined in Figure 1C of Exhibit 59.

DATED this 12th day of January, 2004.

UMATILLA COUNTY BOARD OF COMMISSIONERS

Dennis D. Doherty, Chair

Emile M. Holeman, Commissioner

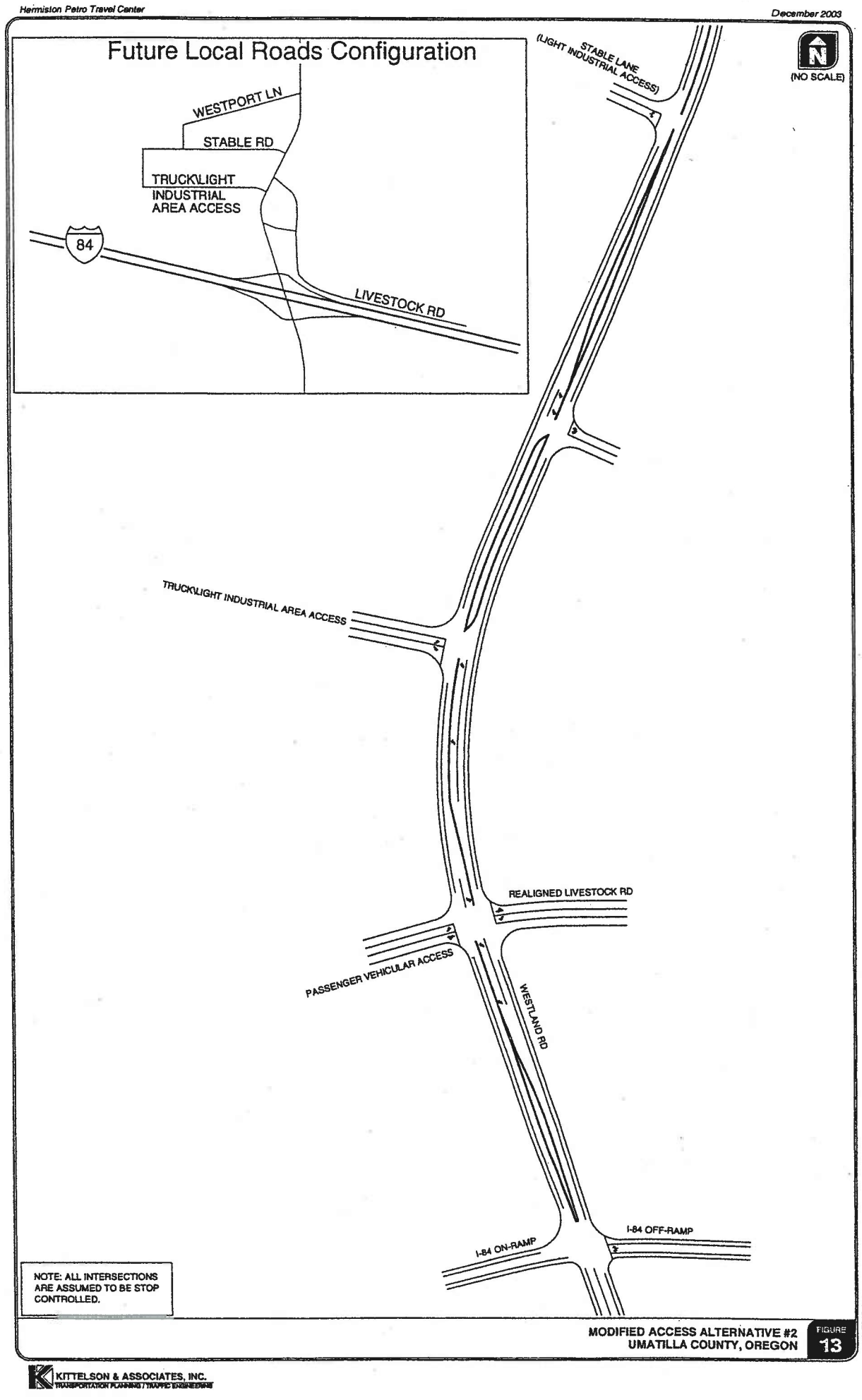
William S. Hansell, Commissioner

BOARD OF COMMISSIONERS UMATILLA COUNTY STATE OF OREGON

ATTEST:
OFFICE OF COUNTY RECORDS

Records Officer

UMATILLA COUNTY STATE OF OREGON



MODIFIED ACCESS ALTERNATIVE #2
UMATILLA COUNTY, OREGON

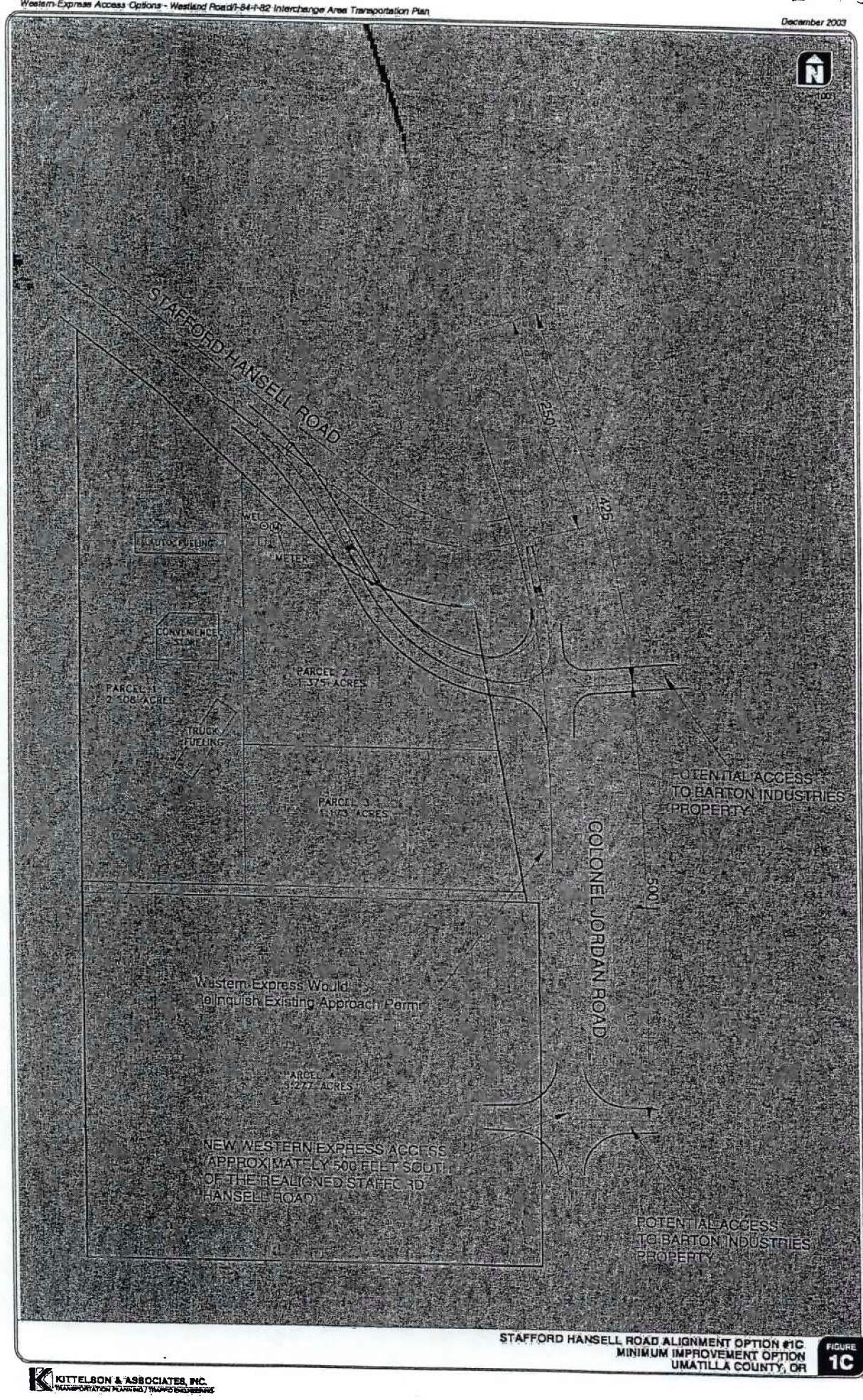
FIGURE 13

6258FD03.dwg

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION PLANNING / TRAFFIC ENGINEERING

Exhibit 59

December 2003



STAFFORD HANSELL ROAD ALIGNMENT OPTION #1C
MINIMUM IMPROVEMENT OPTION
UMATILLA COUNTY, OR

FIGURE 1C

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION PLANNING / TRAFFIC ENGINEERING

Umatilla County
Westland Road/I-84/I-82 Interchange
Area Transportation Plan

Prepared for

Umatilla County

Prepared by

H. Lee & Associates in Association

Adopted January 12, 2004

Section 1.0
Introduction

The purpose of the Umatilla County Westland Road/I-84/I-82 Interchange Area Transportation Plan is to supplement and refine the Umatilla County Transportation System Plan in the project planning area. The goal of the project is to develop a sub-area study that addresses the specific land use and transportation issues in the Westland Road/I-84/I-82 interchange area. The result of the project will be a list of transportation improvements needed to support the 20-year employment growth in the study area and land use policy recommendations.

Since the Umatilla County Westland Road/I-84/I-82 Interchange Area Transportation Plan is a refinement and amendment to the Umatilla County Transportation System Plan, the study follows the same state and federal regulations guiding the development of transportation system plans within Oregon. Specifically, the Westland Road/I-84/I-82 Interchange Area Transportation Plan was developed in compliance with requirements of the Transportation Equity Act for the 21st Century (TEA-21), Statewide Planning Goal 12, the Transportation Planning Rule (TPR – Oregon Administrative Rule (OAR) Chapter 660, Division 12), and Oregon Highway Plan (1999). The long-range planning is intended to serve as a guide for Umatilla County in managing their existing transportation facilities and developing future transportation facilities.

1.1. REQUIREMENTS

The TEA-21, Statewide Planning Goal 12, the Transportation Planning Rule, and Oregon Highway Plan (OHP) requirements guiding the development of the Umatilla County Westland Road/I-84/I-82 Interchange Area Transportation Plan are discussed below.

1.1.1. TEA-21

TEA-21 is federal legislation that was passed in 1998. It specifies requirements for statewide and metropolitan area planning. Although TEA-21 does not specify requirements for areas less than a population of 50,000, it is still relevant to the Umatilla County Westland Road/I-84/I-82 Interchange Area Transportation Plan since it defines how federal aid is dispersed for highway and transit projects. The planning requirements under TEA-21 parallel the requirements under the Transportation Planning Rule (TPR).

1.1.2. Goal 12

Oregon adopted 19 Statewide Planning Goals in the mid-1970s. These goals were to be implemented in each local jurisdiction's comprehensive plan. Goal 12 of the statewide planning goals related to transportation. The intent of Goal 12 is to "provide and encourage a safe,

convenient, and economic transportation system." It provides the following guidelines in creating a transportation element of a local jurisdiction's comprehensive plan:

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

1.1.3. Transportation Planning Rule (TPR)

The Transportation Planning Rule (TPR) was developed by the Department of Land Conservation and Development (DLCD) and Oregon Department of Transportation (ODOT). It was adopted originally in April 1991 to implement Goal 12 of the Statewide Planning Goals.

The TPR requires that cities, counties, Metropolitan Planning Organizations (MPOs), and state agencies prepare and adopt transportation system plans. A transportation system plan is defined in the TPR as: "a plan for one or more transportation facilities that are planned, developed, operated and maintained in a coordinated manner to supply continuity of movement between modes, and within and between geographic and jurisdictional areas." The TPR encourages multi-modal transportation systems to reduce the dependence on auto traffic.

The transportation system plan elements produced included the following:

- Street system plan for a network of arterials, collectors, and local streets
- Bicycle and pedestrian plan and integrate with the parks plan/dream trails map
- Public transportation plan
- Air, rail, water, and gas pipeline plan
- Policies and land use regulations for implementing the TSP
- Transportation system and demand management plan
- Transportation financing plan

1.1.4. Oregon Highway Plan (1999)

The 1999 Oregon Highway Plan (OHP) was adopted by the Oregon Transportation Commission on March 18, 1999. It applies the general directives specified in the 1992 Oregon Transportation Plan. The general directives of the 1992 Oregon Transportation Plan called for a transportation system marked by modal balance, efficiency, accessibility, environmental responsibility,

connectivity among places, connectivity among modes and carriers, safety, and financial stability. The 1999 OHP applies the 1992 Oregon Transportation Plan general directives by emphasizing on:

- Efficient management of the system to increase safety, preserve the system and extend its capacity;
- Increased partnerships, particularly with regional and local governments;
- Links between land use and transportation;
- Access management;
- Links with other transportation modes; and
- Environmental and scenic resources

There are several policies within the 1999 OHP that local jurisdictions are required to be consistent with in their transportation system plans. Specifically, the OHP states:

> "Local and regional jurisdictions must be consistent with Policies 1A, State Highway Classification System; 1B, Land Use and Transportation; 1C, State Highway Freight System; 1D, Scenic Byways; 1F, Highway Mobility Standards; 1G, Major Investments; 2G, Rail and Highway Compatibility; 3A-E, Access Management; 4A, Efficiency of Freight Movement; 4D, Transportation and Demand Management; and the Investment Policy in their local and regional plans when planning for state highway facilities within their jurisdiction."

1.1.5 ODOT Access Management Policy – OAR 734-051-0200

ODOT's access management policy is contained within OAR 734-051. Specific sections relating to interchange access management are OAR 734-51—0200 (Interchange Access Management Area Spacing Standards for Approaches), OAR 734-51-0320 (Requests for Deviations to Access Management Standards), OAR-051-0330 (Process Requests for Deviations), and OAR 734-51-0340 (Deviation Limits for Spacing of Approaches within an Interchange Access).

Since the Westland Road and Lamb Road are solely under the jurisdiction of Umatilla County, ODOT's interchange access management standards and policies under OAR 734-051 are not applicable or enforceable by ODOT. Umatilla County may at its discretion decide to voluntarily implement these standards and policies.

1.1.6 Existing Access Spacing Standards from 2002 Umatilla County Transportation System Plan

There are three relevant access spacing standards in developing the local street network and access management plan. The first standard is the spacing between a freeway ramp junction with a local cross street and the first full public access. The standard adopted in the 2002 Umatilla County Transportation System Plan is 1,320 foot spacing between a freeway ramp intersection

with a local cross street and the first full access. This spacing standard is also consistent with the 1999 Oregon Highway Plan.

The second access spacing standard to consider in the development of the local street network and access management plan is the minimum public street to public street spacing standard. The 2002 Umatilla County Transportation System Plan requires that the minimum spacing standard between public roads on a designated rural collector arterial is 500 feet.

The third and final access spacing standard to consider is the minimum driveway spacing standard. The 2002 Umatilla County Transportation System Plan defines minimum driveway spacing on a rural collector arterial at 250 feet.

1.1.7 Intersection Levels of Service and V/C Ratio Standards

Intersection capacity was measured by the following two methodologies: level of service (LOS) and volume to capacity (v/c) ratio. Level of service to measure the performance at an intersection is the standard practice in the transportation planning and traffic engineering profession. This concept was developed by the Transportation Research Board (TRB). *Special Report 209*[1], also known as the *Highway Capacity Manual*, documents the level of service analysis methodology. The Highway Capacity Manual measures level of service on a scale of LOS A to LOS F. LOS A means that drivers experience no delay or relatively low amounts of delay while traveling through an intersection; while LOS F means that drivers experience a great deal of delay while traveling through an intersection. Typically, most jurisdictions set their level of service standard at LOS D since LOS E denotes that the intersection capacity is being met and LOS F means that conditions beyond the existing intersection capacity are occurring. When LOS F conditions occur, they indicate that it would take motorists multiple signal cycles or a great deal of delay to travel through an intersection. The level of service standard is typically set at LOS D for signalized intersections and LOS E for unsignalized intersections if the intersection does not meet traffic signal warrants.

The Oregon Department of Transportation bases its traffic operation standards based on volume to capacity (v/c) ratio and not level of service. For ODOT facilities, each type of facility has its own standard. Table 1-1 summarizes the v/c standard by ODOT facility type. The standard documented in Table 1-1 is from the *1999 Oregon Highway Plan.*[2]

The v/c ratio is a measure of the percentage of used capacity on the roadway. A value of 0.00 indicates no traffic on the roadway, and a value of 1.00 indicates that the entire capacity of the roadway is being utilized. The *1999 Oregon Highway Plan* indicates that for state highways on the NHS system such as I-82 and I-84, the maximum acceptable v/c is 0.70 within unincorporated areas.

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[1] *Highway Capacity Manual, Special Report 209*, Third Edition; Transportation Research Board, National Research Council; Washington, D.C. 1998.

[2] *1999 Oregon Highway Plan*, Oregon Department of Transportation – Transportation Development Division, Planning Section, March 1999.

For unsignalized intersections, the *1999 OHP* sets the following standard:

> At unsignalized intersections and road approaches, the volume-to-capacity ratios in Table 1-1 shall not be exceeded for either of the state highway approaches that are not stopped. Approaches at which traffic must stop, or otherwise yield the right-of-way, shall be operated to maintain safe operation of the intersection and all of its approaches and shall not exceed the volume-to-capacity ratios for District/Local Interest Roads standard inside of urban growth boundaries.[3]

Table 1-1
Maximum Volume-to-Capacity Ratios for Peak Hour Operating Conditions Through a Planning Horizon for State Highway Sections Located Outside the Portland Metropolitan Area Urban Growth Boundary

	Land Use Type/Speed Limits					
	Inside Urban Growth Boundary				Outside Urban Growth Boundary	
Highway	STAs	MPO	Non-MPO outside of STAs where non-freeway speed limit <45 mph	Non-MPO where non-freeway speed limit >=45 mph	Unincorporated Communities	Rural Lands
Interstate Highways and Statewide (NHS) Expressways	N/A	0.80	0.70	0.70	0.70	0.70
Statewide (NHS) Freight Routes	0.85	0.80	0.75	0.70	0.70	0.70
Statewide (NHS) Non-Freight Routes and Regional or District Expressways	0.90	0.85	0.80	0.75	0.75	0.70
Regional Highways	0.95	0.85	0.80	0.75	0.75	0.70
District/Local Interest Roads	0.95	0.90	0.85	0.80	0.80	0.75

Source: 1999 Oregon Highway Plan (OHP)
Interstates and Expressways shall not be identified as Special Transportation Areas (STAs)
For the purpose of this mobility policy of volume-to-capacity ratio standards, the peak hour shall be the 30th highest annual hour. This approximates weekday peak hour traffic in larger urban areas.

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[3] *1999 Oregon Highway Plan*, Oregon Department of Transportation – Transportation Development Division, Planning Section, March 1999, page 68.

There are no unsignalized intersections within ODOT's jurisdiction in the study area. The interchange ramps at Westland Road and Lamb Road are classified as interchange ramps to define v/c standard and not unsignalized intersection.

For signalized intersections, the *1999 OHP* sets the following standard:

> At signalized intersections other than crossroads of freeway ramps, the total volume-to-capacity ratio for the intersection considering all critical movements shall not exceed the volume-to-capacity ratios in Table 1-1. Where two state highways of different classifications intersect, the lower of the volume-to-capacity ratios in the table shall apply. Where a state highway intersects with a local road or street, the volume to capacity ratio for the state highway shall apply.[4]

There are no signalized intersections within ODOT's jurisdiction in the study area.

The interchange ramps with I-82 at Lamb Road and I-84 at Westland Road would fall under the following *1999 OHP* standard:

> ...The primary cause of traffic queuing at freeway off-ramps is inadequate capacity at the intersections of the freeway ramps with the crossroad. These intersections are referred to as ramp terminals. In many instances where ramp terminals connect with another state highway, the volume to capacity standard for the connecting highway will generally be adequate to avoid traffic backups onto the freeway. However, in some instances where the crossroad is another state highway or a local road, the standards will not be sufficient to avoid this problem. Therefore, the maximum volume to capacity ratio for the ramp terminals of interchange ramps shall be the smaller of the values of the volume to capacity ratio for the crossroad, or 0.85.[5]

Based on the ramp terminal standard above, the interchange ramp intersections at Lamb Road and Westland Road have a maximum v/c standard of 0.85 for all intersection approaches.

The 1999 OHP specifies that the v/c ratio mobility standards shall be used for the following:

- Identifying state highway mobility performance expectations for planning and plan implementation.

- Evaluating the impacts on state highways of amendments to transportation plans, acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-060); and

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[4] *1999 Oregon Highway Plan*, Oregon Department of Transportation – Transportation Development Division, Planning Section, March 1999, page 68.

[5] *1999 Oregon Highway Plan*, Oregon Department of Transportation – Transportation Development Division, Planning Section, March 1999, page 68.

- Guiding operations decisions such as managing access and traffic control systems to maintain acceptable highway performance.

1.1.8 Westland Road Interchange Development Study (September 2000) by Access Management

The purpose of the Westland Road Interchange Development Study was to evaluate the access locations proposed by development plans in the I-82/I-84 Westland Road interchange area. A Petro Stopping Center northwest of the I-84/Westland Road interchange was the primary focus of the study. In addition, the study also analyzed the impact of full build out of light industrial and tourist commercial lands within the study area.

The finding of the study was that the development of the Petro Stopping Center would not cause operational problems in the study area. For the future improvement at the Westland Road/Lamb Road intersection, it is recommended that the Walker Road intersection be moved north along Westland Road, auxiliary turn lanes on the approaches be provided, and an all-way stop control be planned for the intersection.

The final recommendation of the study was to provide driveways at 600 and 1100 feet north of the I-84 westbound ramp intersection for the Petro Stopping Center. The design for Westland Road north of the interchange should include a median from the I-84 westbound ramps to the Petro Stopping Center driveway. The design speed should be reduced to 50 mph. Left turn lanes, a minimum of 150 feet in length, should be provided at the access driveways and right-turn deceleration and acceleration lanes should also be provided southbound as shown on the site plan.

1.1.9. Other Plans

In addition to those specific requirements described above, coordination with other specific state plans is also required. These plans include:

- Oregon Bicycle and Pedestrian Plan, ODOT, June14, 1995
- Oregon Rail Freight Plan, ODOT, August 17, 1994
- Oregon Rail Passenger Policy and Plan, ODOT, 1992
- Oregon's Mobility Needs, Final Report, June 1999
- 1997 Oregon Public Transportation Plan, ODOT
- Freight Moves the Oregon Economy, ODOT, July 1999

1.2. PLANNING AREA

1.2.1. Study Area

The study area boundaries of the Westland Road/I-82/I-84 Interchange Area Transportation Plan are shown in Figure 1-1. The Westland Road/Agnew Road intersection marks the most northern area of the study area. The eastern study boundary is the Umatilla River and Cottonwood Bend Road. The southern boundary is Noble Road south of I-84. And finally, the western boundary is I-82. The major area of focus within these boundaries is the land that is zoned commercial and industrial. The study area is approximately 640 acres.

Major uses within the study area are listed below. The land uses within the study area are spaced sporadically and are not generally land intensive.

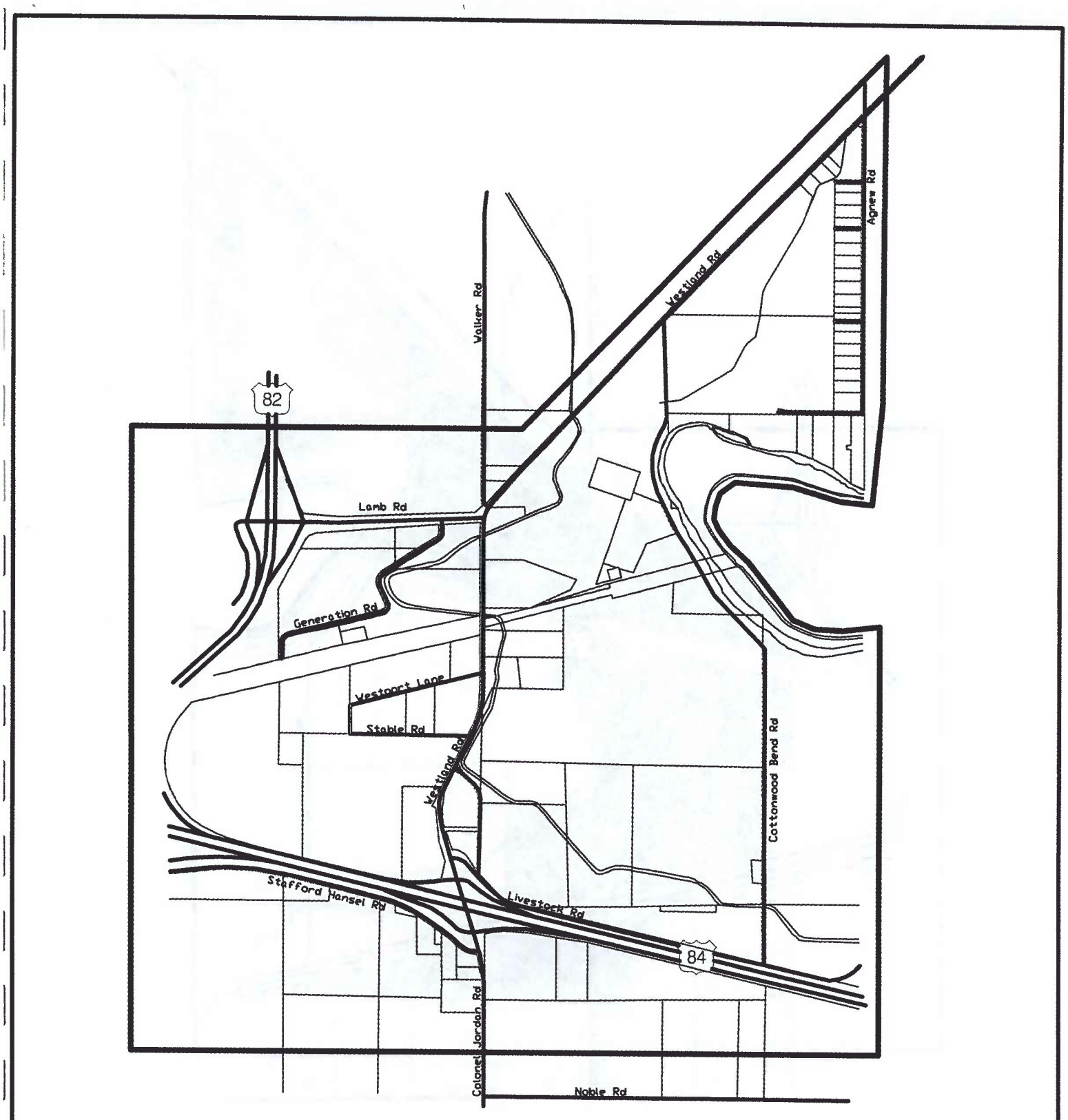
- Shell Truck Stop
- Barton Industries
- Freightliner Truck Shop
- Lamb Weston
- Natural Gas Power Generator
- Kaybe Orchards
- American Onion

Transportation facilities within the study area are limited and rural in nature. The major roadway is Westland Road, which bisects the center of the study area. Westland Road provides access to I-84 to the south and Hermiston to the east. Lamb Road provides the study area access to the Umatilla Army Depot and I-82. The remainder of the roadways within the study area provides local access to adjacent properties.

1.2.2. Study Area Zoning

There are five zoning designations within the study area. These designations are EFU, TC, LI, AB, and RR. Figure 1-2 shows the study area zoning. Each of these zoning designations is defined below:

> EFU – Exclusive Farm Use: The purposes of the EFU, Exclusive Farm Use Zone, are to preserve and maintain agricultural lands for farm use, including range and grazing uses, consistent with existing and future needs for agricultural products, forest and open spaces; to conserve and protect scenic resources; to maintain and improve the quality of air, water and land resources of the county and to establish criteria and standards for farm uses and related and supportive uses which are deemed appropriate. It is also the purpose of this use zone to provide the automatic farm use valuation for farms which qualify under the provisions of O.R.S. Chapter 308.



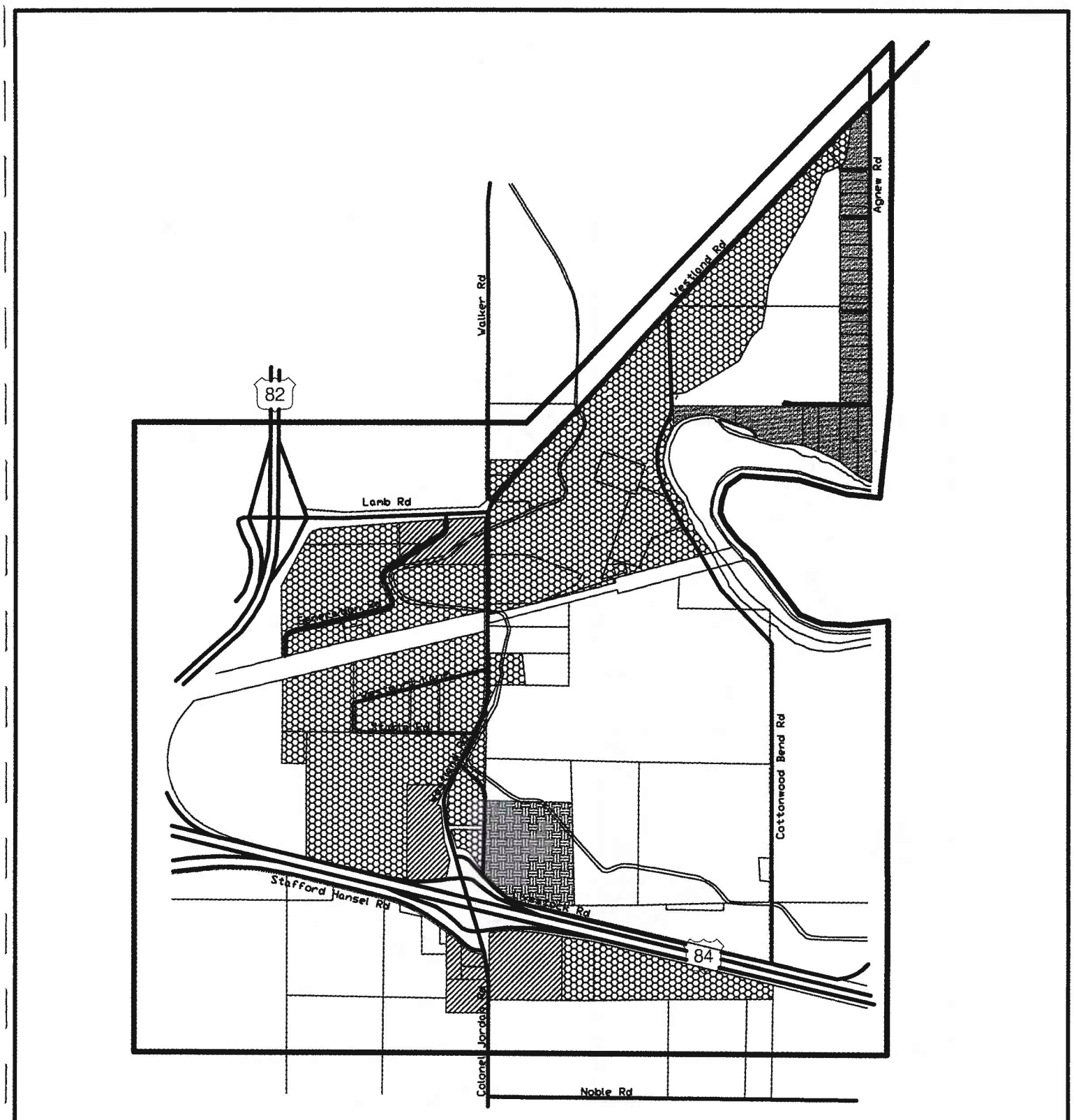
Westland Road Interchange Area Transportation Plan

Figure 1-1
Study Area

LEGEND

Study Area

NOT TO SCALE



Westland Road Interchange Area Transportation Plan

Figure 1-2
Study Area Zone Map

LEGEND
- Tourist Commercial Zoning
- Industrial Zoning
- Rural Residential Zoning
- Agribusiness Zoning
- Exclusive Farm Use

NOT TO SCALE

TC – Tourist Commercial: The TC Tourist Commercial Zone is designed to serve the traveling public along major corridors or at appropriate recreational locations. Facilities may include service station, eating establishments or over-night accommodation. The TC Zone is appropriate along major interstate interchange as discussed in the Comprehensive Plan.

LI – Light Industrial: The LI Light Industrial Zone is designed to provide areas for industrial use that are less intensive than heavy industrial uses, and are less offensive to adjacent land uses, and are compatible with certain commercial uses. It is designed to help the county expand and diversify its economic base. The LI Zone is appropriate for areas near major transportation facilities which are generally suited for industry and include highways, railroads, and waterways.

AB – Agribusiness: The Agribusiness Zone is designed to provide areas of certain types of agriculturally oriented businesses and services which may not otherwise need to be located in more intensive commercial or industrial areas. It may be appropriate for storage, handling or processing of agricultural products, or provide area for agriculturally oriented businesses which require larger areas.

RR4 – Rural Residential The RR-4 Rural Residential Zone is designed to provide lands to enhance the value of rural living and maintain a rural residential atmosphere while accommodating the demand for rural residences. Lots need to be sufficiently large to accommodate private wells and sewage disposal systems as well as gardens and farm animals. Standards for rural land use and development consistent with desired rural character and the capability of the land and natural resources are provided. The zone is applied to areas committed to non-resource use or needed for rural residential land use as provided for in the Comprehensive Plan.

The commercially zoned property within the study area is in two general areas. The first commercially zoned area is south of Lamb Road between I-82 and Walker Road. It is approximately 14.3 acres. The second commercial area within the study area is around the Westland Road interchange at I-84. There are five parcels south of I-84 immediately adjacent to the freeway and one parcel in the northwest quadrant of the Westland Road/I-84 interchange. Four of the five commercially zoned properties south of I-84 is the Western Express/Shell Truck Stop, which is approximately 10.2 acres. The fifth parcel south of I-84 is owned by the Barton's and is approximately 18.6 acres. The one parcel in the northwest quadrant of the Westland Road/I-84 interchange is the proposed Petro Stopping Center site and is approximately 13.6 acres. The total amount of tourist commercial zoned property within the study area is 56.7 acres.

There are three distinct industrial zoned areas within the study area. The first area is the most northern area of the study area that is bounded by Westland Road to the north and west, the Westland Canal and Cottonwood Bend Road to the east, the Union Pacific Railroad to the south, and Walker Road/Westland Road to the west. The second distinct industrial area is bounded by Lamb Road to the north, I-84 to the south, east of I-82 to the east, and Westland Road to the west. The third industrially zoned area within the study area is south of I-84 and east of Colonel

Jordan Road. The industrially zoned property within the study area is comprised of approximately 515 acres.

There is a limited amount of rural residential land within the study area. The rural residential area is located along the west side of Agnew Road south of Westland Road. At the Umatilla River, this area extends west of Agnew Road to form a reverse 'L".

An approximately 33 acre parcel at the northeast quadrant of the Westland Road interchange with I-84 is zoned agribusiness.

The remainder of the zoning within the study is exclusive farm use (EFU). Property owners of EFU land adjacent to Stafford Hansel Road; between I-82, I-84, and the existing industrially zoned properties, and east of Westland Road and south of the Union Pacific Railroad have all expressed an interest in having their properties rezoned to either commercial or industrial zoning.

1.2.3. Street System

The roadways within the study area fall under the jurisdiction of Umatilla County. Two rural major collectors exist in the study area. These rural major collectors are Lamb Road and Westland Road. Both of these roadways have interchanges with the interstate system. Lamb Road has an interchange to provide access to I-82. Westland Road has an interchange to provide access to I-84. Lamb Road connects to Westland Road and Westland Road provides access into the City of Hermiston to the east. The remaining roadways within the study area are local streets providing access to adjacent parcels.

1.3 PLANNING PROCESS

The interchange area transportation plan (TSP) was developed through a series of technical exercises and input from the public, citizen advisory committee, and technical advisory committee. The key elements of the process to develop the plan are listed below.

- Define project goals
- Review of existing plans and policies
- Solicit public involvement and input
- Conduct an existing inventory and condition analysis
- Project future traffic volumes
- Define deficiencies and needs
- Develop transportation improvement projects

1.4. OTHER PLANNING CONSIDERATIONS

Environmental conditions have a potentially significant impact to the development of new transportation infrastructure. TPR requirement OAR 660-012-0035 (3) (c) states that "the transportation system shall minimize adverse economic, social, environmental and energy consequences." In the development of transportation improvements, a cursory look at environmental impacts was conducted from existing sources and known environmental issues by the Umatilla County staff. The goal in the cursory environmental analysis was to minimize environmental impacts by any proposed transportation improvement.

Section 2.0
Goals

The goals below are derived from the project scope of work and are only intended to guide the study process.

- Goal 1 – Balance land use and transportation planning to develop an interchange plan that can achieve acceptable traffic operations along the areas transportation system and provide for safe access to adjacent land uses.

- Goal 2 – Maximize transportation management techniques in the study area to mitigate future traffic impacts generated by future developments and to minimize the necessary transportation infrastructure investment.

- Goal 3 – Solicit significant public input throughout the study process to assure ownership of the plan by study area stakeholders, property owners, and public.

- Goal 4 – Develop a comprehensive list of deficiencies in the project area that should be addressed by the study.

- Goal 5 – Develop future improvement alternatives that address short and long term capacity deficiencies, connectivity, and safety around the two study interchanges and study area roadways and intersections.

- Goal 6 - Develop conceptual 20-year land use plans in the study area to support the traffic forecasting task and to develop a basis for a sensitivity analysis for the range of traffic impacts that could occur in the study area.

In addition to the goals above, Policy 3C, Interchange Access Management Areas, in the 1999 Oregon Highway Plan (OHP) is the primary policy directive that creates the context for the development of interchange access management plans. This 1999 OHP policy is the primary tool used by ODOT to managing interchange areas within the state. Since the Westland Road and Lamb Road interchanges are not within ODOT's jurisdiction, Umatilla County does not have to strictly comply with Policy 3C. However, it may be prudent to use Policy 3C as a guideline for the development the Westland Road/I-84/I-82 Interchange Area Transportation Plan. Policy 3C is quoted below from the 1999 Oregon Highway Plan.

Policy 3C: Interchange Access Management Areas[1]

It is the policy of the State of Oregon to plan for and manage grade-separated interchange areas to ensure safe and efficient operation between connecting roadways.

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[1] 1999 Oregon Highway Plan, Oregon Department of Transportation, Transportation Development Division, Planning Section, 1999, pages 102-104.

Action 3C1

Develop interchange area management plans to protect the function of interchanges to provide safe and efficient operations between connecting roadways and to minimize the need for major improvements of existing interchanges.

Action 3C.2

To improve an existing interchange or construct a new interchange:

- The interchange access management spacing standards are shown in Tables 16-19 in Appendix C;

- These standards do not retroactively apply to interchanges existing prior to adoption of this Oregon Highway Plan, except or until any redevelopment, change of use, or highway construction, reconstruction or modernization project affecting these existing interchanges occur. It is the goal at that time to meet the appropriate spacing standards, if possible, but, at the very least, to improve the current conditions by moving in the direction of the spacing standards;

- Necessary supporting improvements, such as roadway networks, channelization, medians and access control n the interchange management area must be identified in the local comprehensive plan and committed with an identified funding source, or must be in place;

- Access to cross streets shall be consistent with established standards for a distance on either side of the ramp connections so as to reduce conflicts and manage ramp operations. The Interchange Access Management Spacing Standards supercede the Access Management Classification and Spacing Standards (Policy 3A), unless the latter distance standards are greater (see Appendix C);

- Where possible, interchanges on Freeways and Expressways shall connect to state highways, major or minor arterials;

- Interchanges on Statewide, Regional or District Highways may connect to state highways, major or minor arterials, other county or city roads, or private roads, as appropriate;

- The design of urban interchanges must consider the need for transit and park-and-ride facilities, along with the interchange's effect on pedestrian and bicycle traffic, and

- When possible, access control shall be purchased on crossroads for a minimum distance of 1320 feet (400 meters) from a ramp intersection or the end of a free flow ramp terminal merge lane taper.

Action 3C3

Establish criteria for when deviations to the interchange access management spacing standards may be considered. The kinds of considerations likely to be included area:

- Location of existing parallel roadways (e.g., Highways 99W or 99E which are parallel Interstate 5);
- Use of traffic controls;
- Potential queuing, increased delays and safety impacts, and
- Possible use of non traversable medians for right-in/right-out movements.

Action 3C4

When new approach roads or intersections are planned or constructed near existing interchanges, property is redeveloped or there is a change of use, wherever possible, the following access spacing and operation standards should be applied within the Interchange Access Management Area (measurements are from ramp intersection or the end of a free flow ramp terminal merge lane taper).

- Approach roads on the crossroads at no closer than 750 feet (230 meters), and between 750 feet (230 meters) and 1320 feet (400 meters), shall be limited to right-in/right-out. This may require construction of a non-traversable median or a median barrier.
- The first full intersection on a crossroad should be no closer than 1320 feet (400 meters).

Action 3C.5

As opportunities arise, rights of access shall be purchased on crossroads around existing interchanges. Whenever possible, this protective buying should be for a distance of 1320 feet (400 meters) on the crossroads.

Action 3C.6

Plan for and operate traffic controls within the Interchange Access Management Area with a priority of moving traffic off the main highway, freeway or Expressway and away from the interchange area. Within the Interchange Access Management Area, priority shall be given to operating signals for the safe and efficient operation of the interchange.

Action 3C.7

Use grade-separated crossings without connecting ramps to provide crossing corridors that relieve traffic crossing demands through interchanges.

Section 3.0
Existing Conditions

3.1. INTRODUCTION

This section describes existing conditions in the Westland Road/I-84/I-82 Interchange Area Transportation Plan related to its transportation system. The section reviews past plans and studies and inventories existing transportation conditions. This will be used as a foundation for identifying short-term transportation improvement needs and developing and evaluating longer-term transportation system alternatives.

3.2. ROAD CLASSIFICATION AND CHARACTERISTICS

The roadway functional classifications were obtained from ODOT's Oregon Transportation Map for Umatilla County. This map is typically coordinated between the State of Oregon and Umatilla County to coordinate classifications of roadways between jurisdictions.

As shown on Figure 3-1, there are only three functional classifications of roadways within the study area: interstate, rural major collector, and local street.

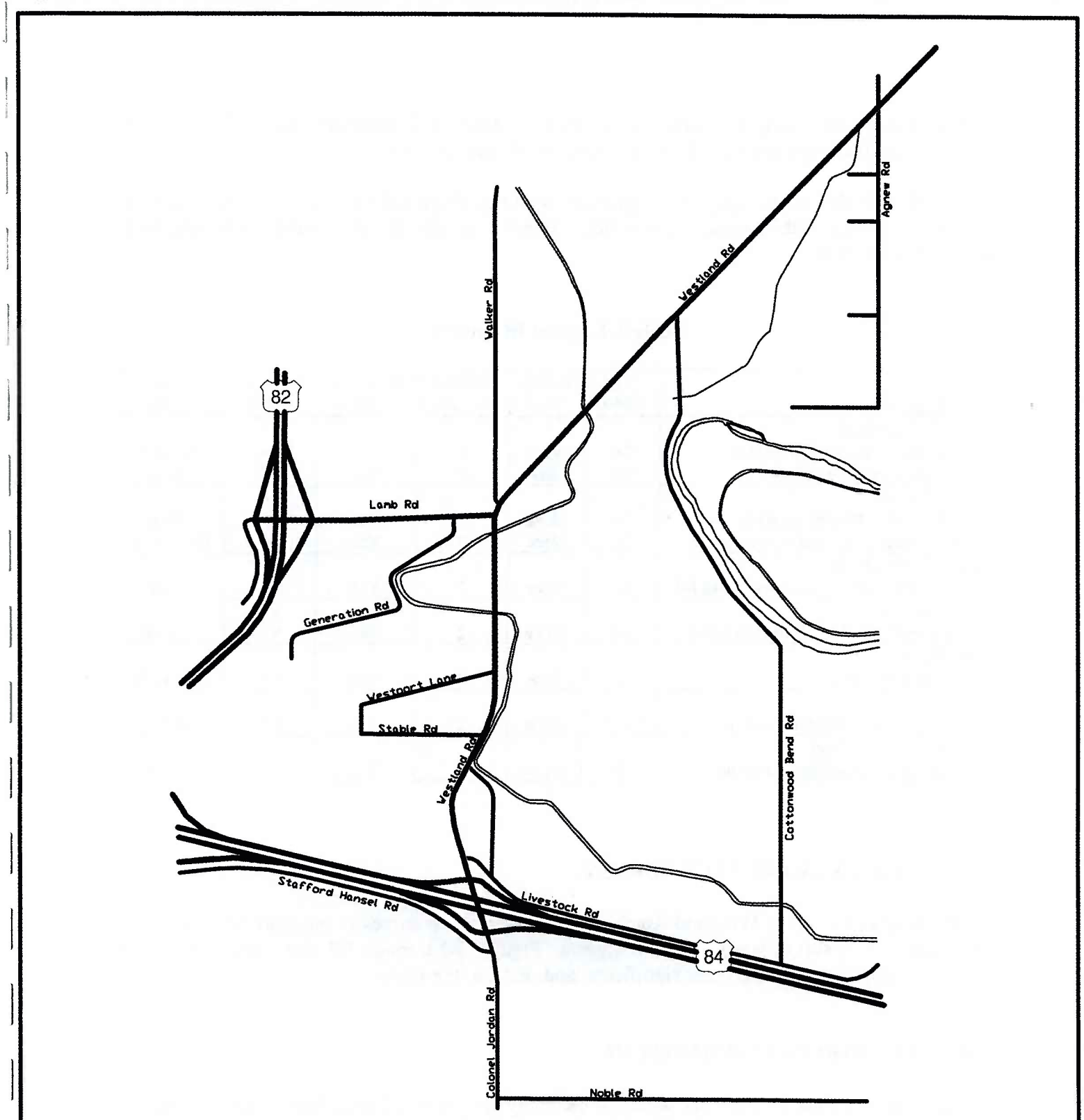
The remainder of this section describes the major roadways within the study area.

I-84, known as the Old Oregon Trail and ODOT Highway Number 6, is classified in the 1999 Oregon Highway Plan as an interstate highway. It is on the NHS system and is classified as a freight route. I-84 provides east-west access through Umatilla County and extends into the adjacent counties of Morrow to the west and Union to the east. The posted speed limit is 65 mph for passenger vehicles and 55 mph for large trucks. I-84 is a four-lane divided highway with two travel lanes in each direction.

I-82, known as McNary Highway and ODOT Highway Number 70, is classified in the 1999 Oregon Highway Plan as an interstate highway. It is also on the NHS system and is classified as a freight route. I-82 is a four-lane divided highway with two travel lanes in each direction. The posted speed limit is 65 mph for passenger vehicles and 55 mph for large trucks. I-84 is oriented north-south and provides a connection from the Oregon-Washington state line to I-84.

Westland Road is a two-lane rural major collector. The roadway has two-to-four foot shoulders. There is no posted speed limit on Westland Road. Westland Road has an interchange with I-84 and connects I-84 with Hermiston. This access into Hermiston from I-84 is only a secondary access into Hermiston from I-84.

Lamb Road is a two-lane rural major collector. It has no shoulders to shoulder two feet in width. There is no posted speed limit on Lamb Road. Lamb Road provides access from the Umatilla Army Depot to Westland Road. Lamb Road also has an interchange with I-82.



Westland Road Interchange Area Transportation Plan

Figure 3-1
Roadway Classification

LEGEND
- Interstate
- Rural Major Collector
- Local Street

NOT TO SCALE

The remainder of the study area roadways are all local streets with two travel lanes. The function of these local roadways are typically local access to adjacent parcels.

Table 3-1 provides a summary of the physical roadway characteristics. This street inventory contains roadway width, posted speed limit, number of travel lanes, shoulder width, and pavement condition.

Table 3-1. Street Inventory

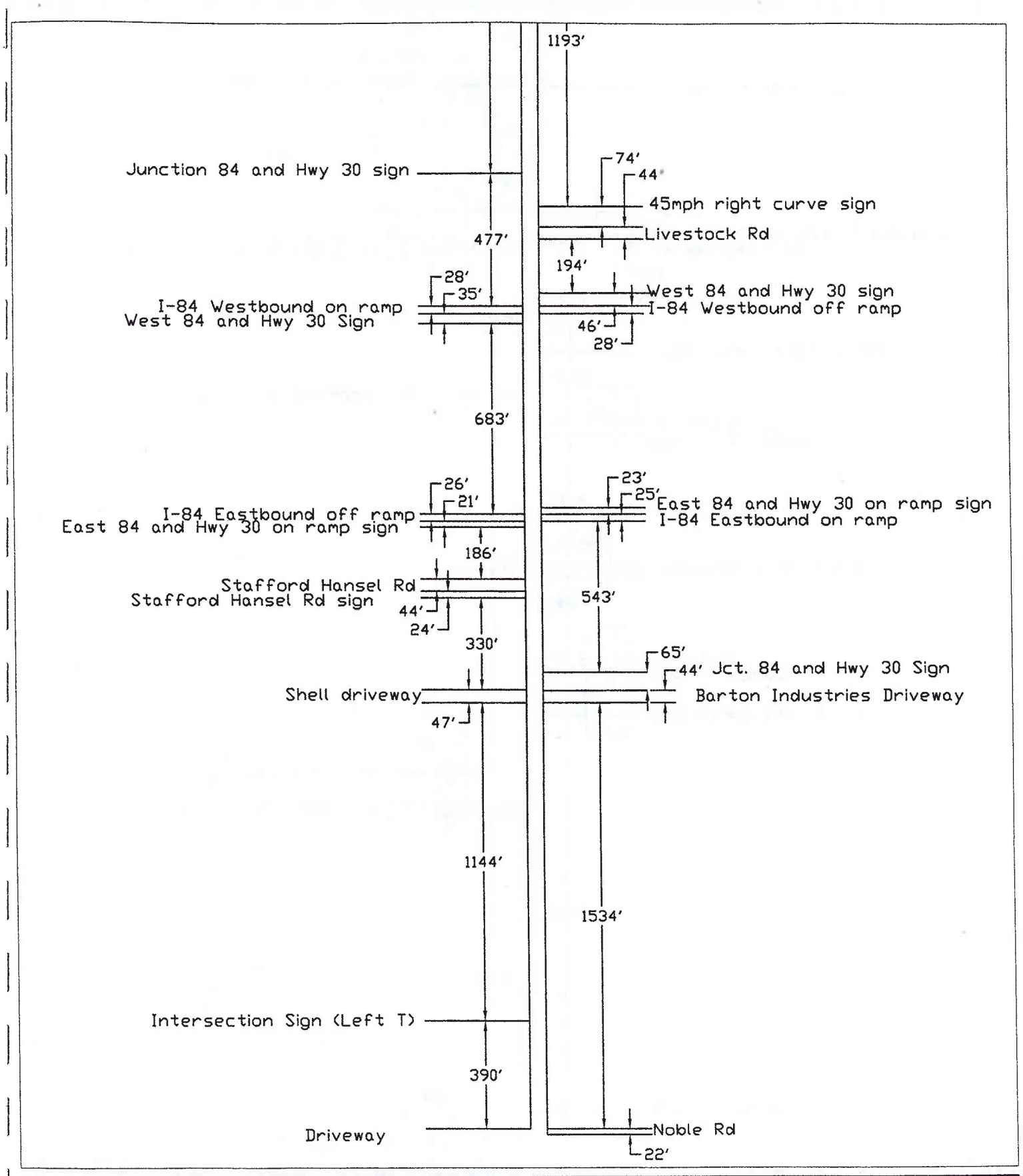
Street Segment	Road Width	Posted Speed	Number of Lanes	Shoulders (yes/no)	Shoulder Width	Pavement Condition
Colonel Jordan Road						
Noble Rd to Stafford Hansel Rd	28'	None	2	No	NA	Gravel
Stafford Hansel Rd to I-84	29'	None	2	Yes	2-4	Poor
Westland Road						
I-84 to Union Pacific Railroad	29'	None	2	Yes	2-4	Poor
Union Pacific Railroad to Agnew Rd	29'	None	2	Yes	2-4	Poor to Fair
Stafford Hansel Road						
Western terminus to Colonel Jordan Rd	22'	None	2	Yes	3-4'	Fair
Livestock Road						
Westland Rd to Cottonwood Bend Rd	23'	None	2	No	NA	Gravel
Lamb Road						
I-82 to Westland Rd	32'	None	2	Yes	0-2'	Poor to Fair
Walker Road						
Westland Rd to Westland Canal	19-22'	None	2	No	NA	Gravel
Cottonwood Bend Road						
Westland Rd to southern terminus	24'	None	2	Yes	0-2'	Poor

3.3 DRIVEWAY LOCATON SURVEY

A driveway survey along Westland Road was conducted. This survey is summarized in Table 3-2. The driveway survey was depicted in figures. Figures 3-2 through 3-7 show the driveways in relation to public streets and other significant landmarks in the study area.

3.4 TAX PARCEL INFORMATION

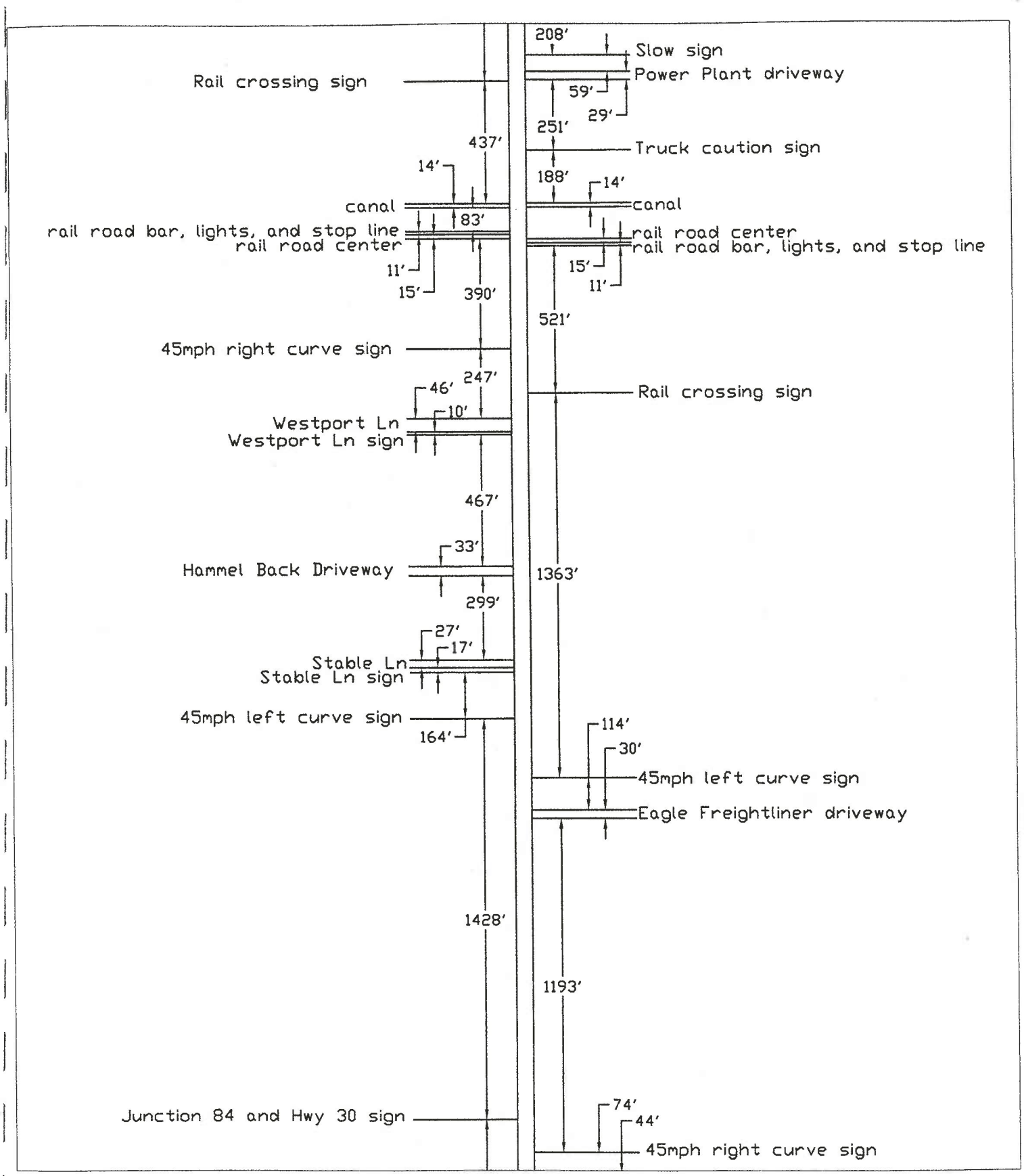
County assessor data for each tax parcel in the study area was collected from Umatilla County. This information is summarized in Table 3-3. As shown in Table 3-3, the County assessor data available includes owner, address, assessor map number, zoning, acreage, and total assessed value.



Westland Road Interchange Transportation Plan

Figure 3-2
Westland Road Driveway Inventory

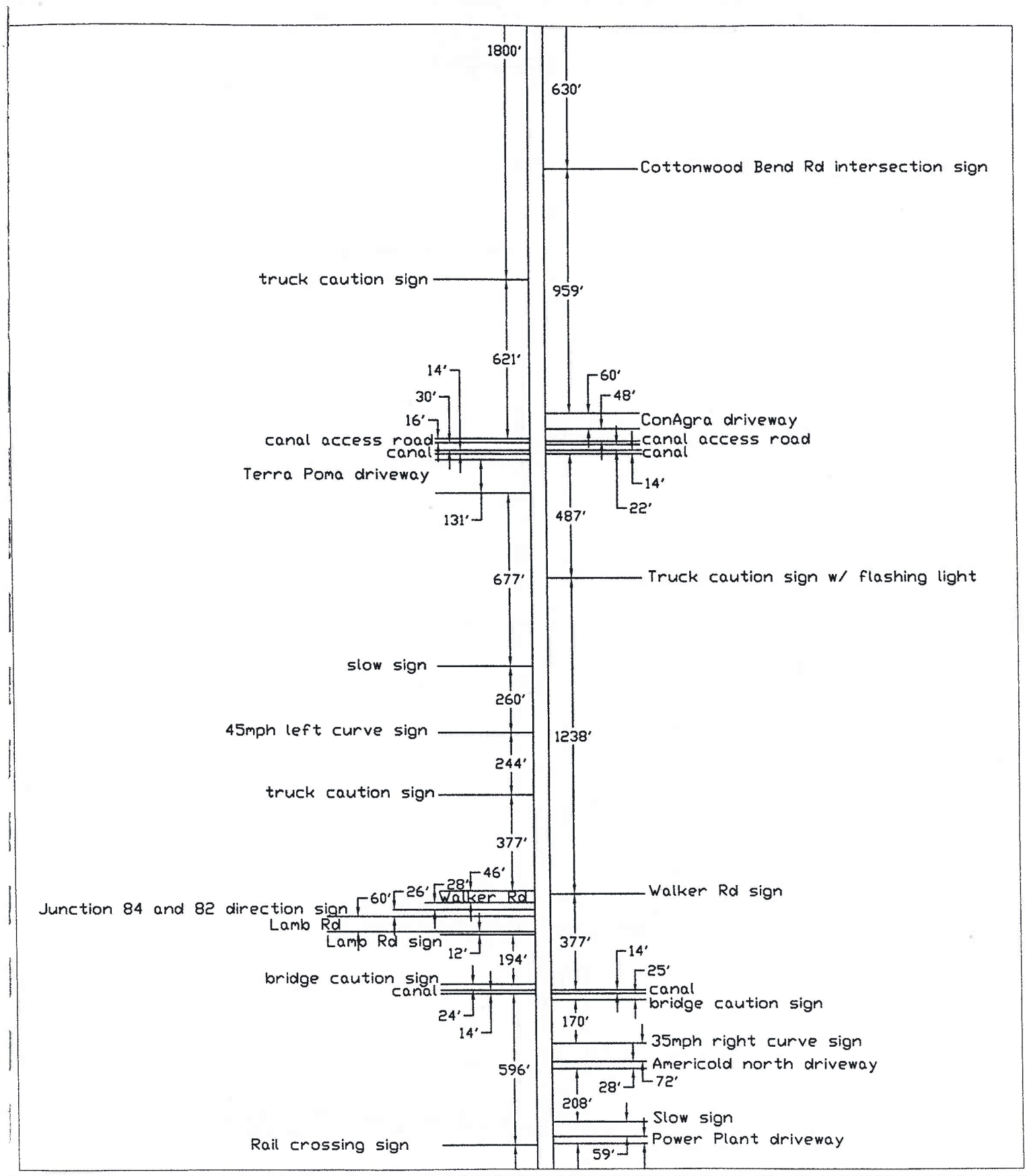
NOT TO SCALE



Westland Road Interchange Transportation Plan

Figure 3-3
Westland Road Driveway Inventory

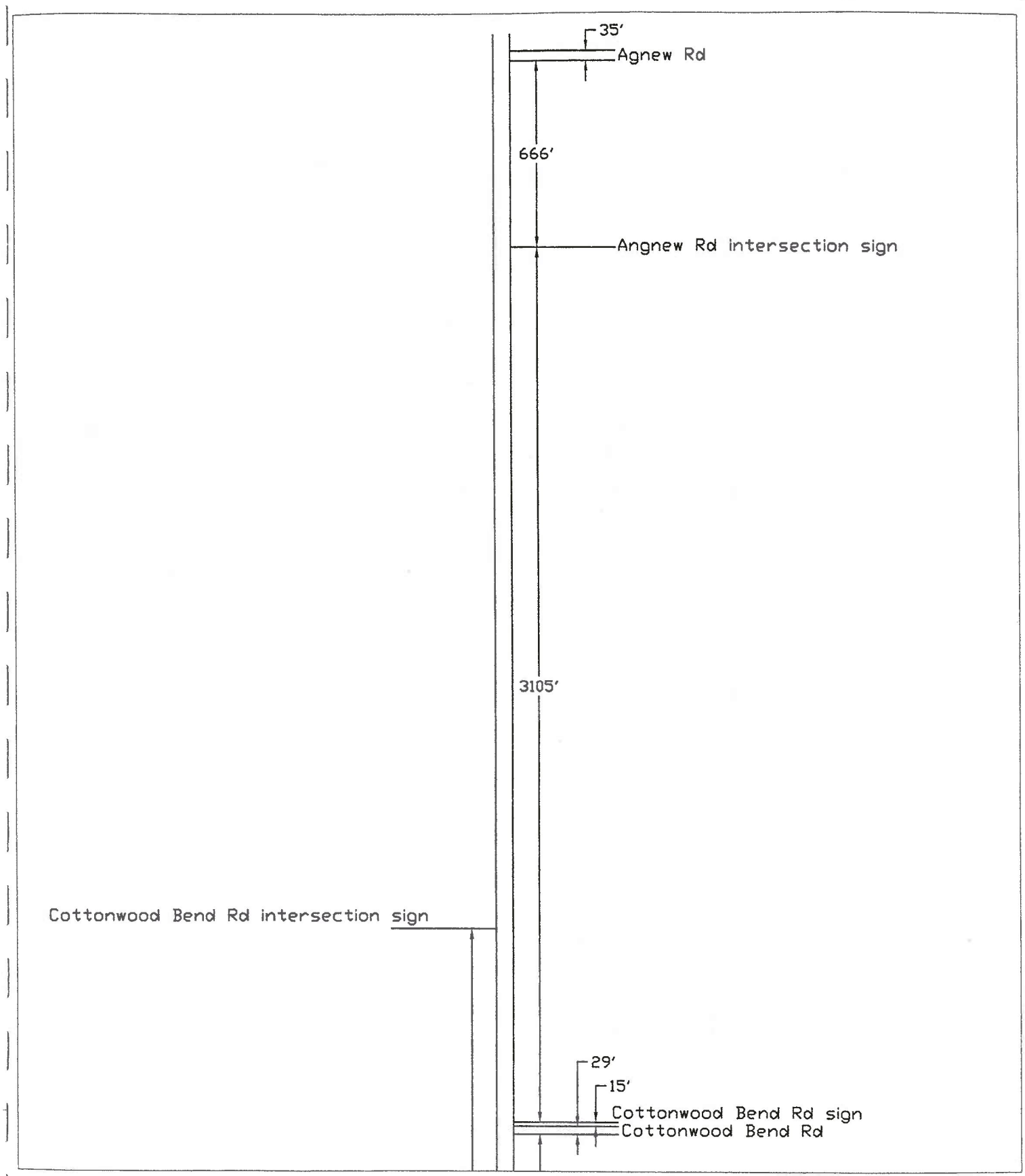
NOT TO SCALE



Westland Road Interchange Transportation Plan

Figure 3-4
Westland Road Driveway Inventory

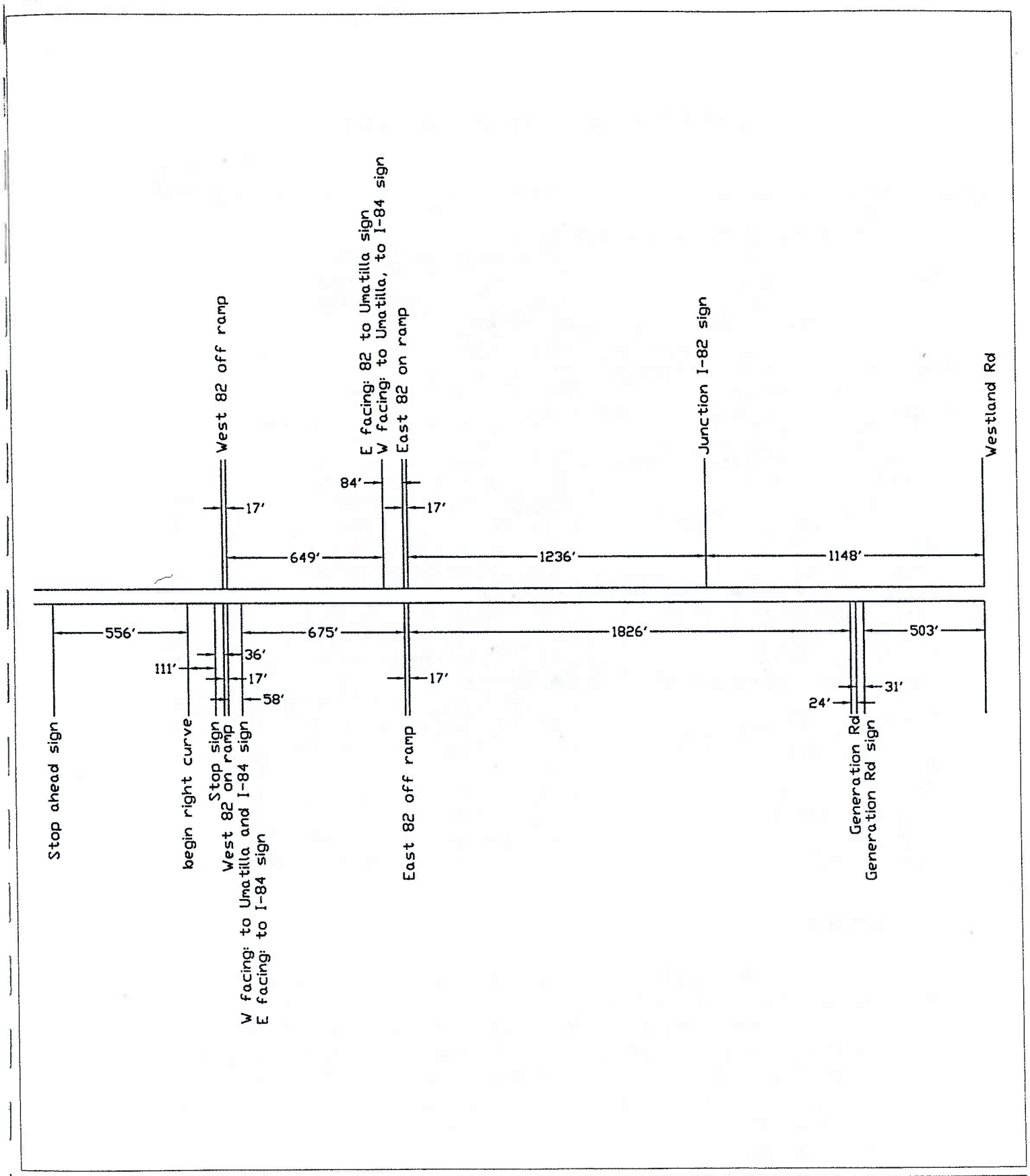
NOT TO SCALE



Westland Road Interchange Transportation Plan

Figure 3-5
Westland Road Driveway Inventory

NOT TO SCALE



Westland Road Interchange Transportation Plan

Figure 3-6
Lamb Road Driveway Inventory

NOT TO SCALE

Table 3-2. Westland Road Driveway Inventory

Street Segment	Location	Driveway Width (ft)
Westland Road		
Noble Road to Stafford Hansel Road – block length: 1,935 feet		
Agriculture Field – east side	1,247 to 1,263 feet from Noble Road	16
Shell Truck Stop – west side	1,534 to 1,581 feet from Noble Road	47
Barton Industries – east side	1,534 to 1,578 feet from Noble Road	44
Livestock Road to Street to Stable Road – block length: 1,800 feet		
Freightliner – east side	1,267 to 1,297 feet from Livestock Road	30
Stable Road to Westport Lane – block length: 809 feet		
American Onion – west side	299 to 332 feet from Stable Road	33
Westport Lane to Railroad Tracks – block length: 611 feet		
Railroad Access – west side	371 to 383 feet from railroad tracks	12
Railroad Tracks to Lamb Road – block length: 1,360 feet		
Canal Access – both sides	140 to 152 feet from railroad tracks	12
Power Plant – east side	565 to 624 feet from railroad tracks	59
Americold/Lamb Weston – east side	832 to 860 feet from railroad tracks	28
Canal Access – both sides	1,117 to 1,137 feet from railroad tracks	20
Field Access – west side	1,217 to 1,242 feet from railroad tracks	25
Lamb Road to Cottonwood Bend Road – block length: 3,556 feet		
Terra Poma Land Company – west side	1,789 to 1,812 feet from Walker Road	32
Canal Access – west side	1,757 to 1,773 feet from Walker Road	20
Lamb Weston – east side	1,812 to 1872 feet from Walker Road	60
Cottonwood Bend Road to Agnew Road – block length: 3,788 feet		
Home – west side	1,531 to 1,555 feet from Cottonwood Bend Rd	24
Utilities Access – west side	1,767 to 1,789 feet from Cottonwood Bend Rd	22
Home & Kaybe Orchards – west side	2,151 to 2,198 feet from Cottonwood Bend Rd	47
Home – east side	2,598 to 2,785 feet from Cottonwood Bend Rd	187
Kaybe Orchards - west side	2,727 to 2,767 feet from Cottonwood Bend Rd	40
Columbia Basin Sheds – east side	3,011 to 3,053 feet from Cottonwood Bend Rd	42
Home – west side	3,162 to 3,186 feet from Cottonwood Bend Rd	24
Home – west side	3,364 to 3,392 feet from Cottonwood Bend Rd	28

3.5. BRIDGES

The Oregon Department of Transportation maintains an up to date inventory and appraisal of Oregon bridges. Part of this inventory involves the evaluation of three mutually exclusive elements of bridges. One element identifies which bridges are structurally deficient. This is determined based on the condition rating for the deck, superstructure, substructure, or culvert and retaining walls. It may also be based on the appraisal rating of the structural condition or waterway adequacy. Another element identifies which bridges are functionally obsolete. This element is determined based on the appraisal rating for the deck geometry, underclearances, approach roadway alignment, structural condition, or waterway adequacy. The third element summarizes the sufficiency ratings for all bridges. The sufficiency rating is a complex formula which takes into account four separate factors to obtain a numeric value rating the ability of a bridge to service demand. The scale ranges from 0 to 100 with higher ratings indicating optimal

Table 3-3. County Assessor Data by Tax Lot

Tax Lot #	Map #	Account #	Last	First	Middle Initial	Street Address	City	State	ZIP	Zone	Acres	Total Value (Land)	Total Value (Structures)	Total Value
01400	4N2700-00	116880	BOUNDS	ROGER	S	PO BOX 148	HERMISTON	OR	97838	EFU	65.50	31,000.00	0.00	31,000.00
01403	4N2700-00	117884	PETRO STOPPING CENTERS LP			6080 SURETY DR	EL PASO	TX	79905	LI,TC	81.14	822,050.00	103,160.00	925,210.00
01417	4N2700-00	149114	MEDELEZ TRUCKING LLC			1186 E PUNKIN CTR RD	HERMISTON	OR	97838	LI	7.62	254,120.00	332,730.00	586,850.00
01418	4N2700-00	156881	MEDELEZ TRUCKING LLC			1186 E PUNKIN CTR RD	HERMISTON	OR	97838	LI	4.05	126,360.00	0.00	126,360.00
01419	4N2700-00	156882	MEDELEZ TRUCKING LLC			1186 E PUNKIN CTR RD	HERMISTON	OR	97838	LI	3.29	114,510.00	0.00	114,510.00
01701	4N2700-00	142485	WESTERN IRRIGATION CO THE							EFU	13.00	11,700.00	0.00	11,700.00
02601	4N2700-00	116932	WESTERN INVESTMENTS INC			PO BOX 826	HERMISTON	OR	97838	TC	2.51	109,660.00	707,530.00	817,190.00
02606	4N2700-00	154553	WESTERN LAND & CATTLE INC			PO BOX 826	HERMISTON	OR	97838	TC	1.38	86,530.00	0.00	86,530.00
02607	4N2700-00	154554	WESTERN LAND & CATTLE INC			PO BOX 826	HERMISTON	OR	97838	TC	1.17	76,740.00	0.00	76,740.00
02604	4N2700-00	116938	WESTERN INVESTMENTS INC			PO BOX 826	HERMISTON	OR	97838	TC	5.28	148,100.00	0.00	148,100.00
00100	4N2725-A0	145211	UMATILLA ELECTRIC CO-OP ASSN			PO BOX 1148	HERMISTON	OR	97838	LI	3.30	41,280.00	0.00	41,280.00
00200	4N2725-A0	116888	FIRST OREGON LAND CORP			7500 OLD GEORGTOWN RD	BETHESDA	MD	20814	TC,LI	39.36	456,590.00	320.00	456,910.00
00201	4N2725-A0	149516	LAMB	ROBERT	R	PO BOX 843	JOSEPH	OR	97846	LI	4.35	185,580.00	631,520.00	817,100.00
00202	4N2725-A0	157926	FIRST OREGON LAND CORP			7500 OLD GEORGTOWN RD	BETHESDA	MD	20814	LI,TC	31.03	475,350.00	0.00	475,350.00
00400	4N2725-A0	144879	H-4 FARMS INC			PO BOX 110	HERMISTON	OR	97838	LI	1.34	54,230.00	285,630.00	339,860.00
00500	4N2725-A0	147610	UMATILLA PORT OF	C/O AMERICAN ONION INC, AG	ATTN: TAX DEPT	28790 WESTPORT LN	HERMISTON	OR	97838	LI	9.04	185,040.00	713,960.00	899,000.00
00501	4N2725-A0	153927	HAMMELL TRANSPORT SERVICE INC			PO BOX 189	HERMISTON	OR	97838	LI	5.00	149,710.00	252,970.00	402,680.00
00502	4N2725-A0	153928	UMATILLA PORT OF			PO BOX 879	UMITILLA	OR	97882	LI	15.82	230,890.00	0.00	230,890.00
00503	4N2725-A0	156439	UMATILLA PORT OF			PO BOX 879	UMITILLA	OR	97882	LI	7.64	163,780.00	0.00	163,780.00
00600	4N2725-A0	143635	BT PROPERTY LLC		ATTN: TAX DEPT	PO BOX 28606	ATLANTA	GA	30359	LI	15.85	257,320.00	1,362,350.00	1,619,670.00
00700	4N2725-A0	149098	BOUNDS	ROGER	S	PO BOX 148	HERMISTON	OR	97838	LI	4.38	137,880.00	0.00	137,880.00
02206	4N28C0-00	118203	LAMB-WESTERN INC			PO BOX C-1900	TRI CITIES	WA	99302	LI	85.99	308,410.00	35,256,820.00	35,565,230.00
02210	4N28C0-00	139646	UMATILLA ELECTRIC CO-OP ASSN			PO BOX 1148	HERMISTON	OR	97838	LI	0.52	17,610.00	0.00	17,610.00
02216	4N28C0-00	139645	LAMB-WESTERN INC			PO BOX C-1900	TRI CITIES	WA	99302	LI	0.50	6,330.00	0.00	6,330.00
02218	4N28C0-00	118206	BEATRICE PUBLIC REFRIG SER INC	C/O AMERICOLD CORP OFFICES		PO BOX 42165	HOUSTON	TX	77242	LI	12.40	122,920.00	2,578,030.00	2,700,950.00
02219	4N28C0-00	139644	UMATILLA ELECTRIC CO-OP ASSN			PO BOX 1148	HERMISTON	OR	97838	LI	0.77	22,180.00	0.00	22,180.00
02220	4N28C0-00	151029	HERMISTON GENERATION CO & PACIFICORP			825 NE MULTNOMAH	PORTLAND	OR	97239	LI	12.94	600,000.00	0.00	600,000.00
02700	4N28C0-00	118213	SMITH	DEAN & CONNIE		29224 BLOOM RD	HERMISTON	OR	97838	RR-4	7.09	117,340.00	62,750.00	180,090.00
02701	4N28C0-00	146967	CALLAHAN	GERALD & SUSAN	M & E	PO BOX 931	HERMISTON	OR	97838	RR-4	3.95	69,530.00	53,470.00	123,000.00
02703	4N28C0-00	147745	LOWRANCE	WILLIAM & LORETTA	D & E	29278 BLOOM RD	HERMISTON	OR	97838	RR-4	4.17	76,860.00	65,060.00	141,920.00
02704	4N28C0-00	147746	MIDDLETON	ROBERT & CAROL	L & R	29270 BLOOM RD	HERMISTON	OR	97838	RR-4	4.22	77,570.00	120,060.00	197,630.00
02900	4N28C0-00	118215	HERMISTON GENERATING GO LP			78145 WESTLAND RD	HERMISTON	OR	97838	LI	1.98	62,490.00	75,430.00	137,920.00
02903	4N28C0-00	118216	BISHOP	KAREN		28875 BRIDGE RD	HERMISTON	OR	97838	LI	1.27	54,720.00	0.00	54,720.00
03000	4N28C0-00	118218	COOK	LAQUITA	J	2152 HAW CREEK CIRCLE	EMMET	ID	83617	LI	12.30	122,440.00	0.00	122,440.00
03002	4N28C0-00	118219	HERMISTON GENERATING CO & PACIFICORP			78145 WESTLAND RD	HERMISTON	OR	97838	LI	1.93	62,560.00	0.00	62,560.00
03100	4N28C0-00	118220	GASS	HOWARD	S	C/O JANET M SEVERSON 205 NE 4TH ST	HERMISTON	OR	97838	EFU	14.04	3,630.00	0.00	3,630.00
03200	4N28C0-00	118221	HERMISTON GENERATING CO & PACIFICORP			78145 WESTLAND RD	HERMISTON	OR	97838	LI	5.11	94,210.00	20,070.00	114,280.00
03300	4N28C0-00	118222	GASS	HOWARD	S	C/O JANET M SEVERSON 205 NE 4TH ST	HERMISTON	OR	97838	EFU	14.51	2,340.00	0.00	2,340.00
03400	4N28C0-00	118223	NORTHWEST LIVESTOCK COMM	C/O MILLER GARY		PO BOX 134	HERMISTON	OR	97838	A-B	32.93	501,450.00	114,690.00	616,140.00
03490	4N28C0-00	118225	GASS	HOWARD	S	C/O JANET M SEVERSON 205 NE 4TH ST	HERMISTON	OR	97838	EFU	27.00	3,070.00	250.00	3,320.00
03492	4N28C0-00	118226	GASS	HOWARD	S	C/O JANET M SEVERSON 205 NE 4TH ST	HERMISTON	OR	97838	EFU	2.00	960.00	0.00	960.00
03500	4N28C0-00	118227	GASS	HOWARD	S	C/O JANET M SEVERSON 205 NE 4TH ST	HERMISTON	OR	97838	EFU,LI	5.97	1,940.00	0.00	1,940.00
03501	4N28C0-00	118228	GASS	HOWARD	S	C/O JANET M SEVERSON 205 NE 4TH ST	HERMISTON	OR	97838	EFU	0.57	5,050.00	36,940.00	41,990.00
03502	4N28C0-00	118229	GASS	HOWARD	S	C/O JANET M SEVERSON 205 NE 4TH ST	HERMISTON	OR	97838	LI	0.50	25,300.00	0.00	25,300.00
03503	4N28C0-00	118230	GASS	HOWARD	S	C/O JANET M SEVERSON 205 NE 4TH ST	HERMISTON	OR	97838	EFU	75.25	36,510.00	66,700.00	103,210.00
03505	4N28C0-00	118231	GASS	HOWARD	S	C/O JANET M SEVERSON 205 NE 4TH ST	HERMISTON	OR	97838	EFU	155.87	65,800.00	3,780.00	69,580.00
03506	4N28C0-00	144903	GASS	HOWARD	S	C/O JANET M SEVERSON 205 NE 4TH ST	HERMISTON	OR	97838	EFU	7.00	2,660.00	0.00	2,660.00
03507	4N28C0-00	152309	GASS	HOWARD	S	C/O JANET M SEVERSON 205 NE 4TH ST	HERMISTON	OR	97838	EFU	35.38	13,970.00	0.00	13,970.00
06400	4N28C0-00	118286	BARTON PROPERTIES INC			1390 SW 11TH	HERMISTON	OR	97838	TC,EFU,LI	116.61	61,820.00	2,870.00	64,690.00
06402	4N28C0-00	118287	BARTON	RICHARD	R	77609 COL JORDAN RD	HERMISTON	OR	97838	LI	7.33	123,800.00	209,950.00	333,750.00
00500	4N2819-A0	122142	GASS	MARGARET	A	26400 WILLARD RD	BEND	OR	97701	LI,EFU-40	54.25	12,570.00	0.00	12,570.00
00502	4N2819-A0	122157	RUSSELL	RICHARD & DORENE	A	C/O SANEZ REYES JR & SELMA, AG	PO BOX 359 HERMISTON	OR	97838	LI	1.17	57,500.00	83,450.00	140,950.00
00503	4N2819-A0	139253	RUSSELL	RICHARD & DORENE	A	C/O SANEZ REYES JR & SELMA, AG	PO BOX 359 HERMISTON	OR	97838	LI	0.83	34,680.00	12,090.00	46,770.00
00504	4N2819-A0	139254	RUSSELL	RICHARD & DORENE	A	C/O SANEZ REYES JR & SELMA, AG	PO BOX 359 HERMISTON	OR	97838	LI	1.14	40,300.00	0.00	40,300.00
00600	4N2819-A0	122158	FLORES	PEDRO & RAFAELA		PO BOX 923	UMATILLA	OR	97882	RR-4		38,590.00	98,210.00	136,800.00
00601	4N2819-A0	122160	RIMBEY	ADRION	T	78470 AGNEW RD	HERMISTON	OR	97838	RR-4		37,480.00	60,230.00	97,710.00
00700	4N2819-A0	122162	WATKINS	WILLIAM & LAVANDA	F	78486 S AGNEW RD	HERMISTON	OR	97838	RR-4		44,470.00	43,730.00	88,200.00
00800	4N2819-A0	122164	DAREY	MARVIN & IRENE	E & A	78522 AGNEW RD	HERMISTON	OR	97838	RR-4		46,170.00	51,110.00	97,280.00
00900	4N2819-A0	122165	RODRIGUEZ	PIOQUINTO & VICTORIA		78528 AGNEW RD	HERMISTON	OR	97838	RR-4		45,510.00	50,530.00	96,040.00
01000	4N2819-A0	122167	HAWLEY	LEO 2ND & PENNY	R & S	78544 AGNEW RD	HERMISTON	OR	97838	RR-4		444,470.00	67,120.00	511,590.00
01100	4N2819-A0	122168	CHAFFEE ETAL	RONALD	D	78566 AGNEW RD	HERMISTON	OR	97838	RR-4		42,770.00	39,530.00	82,300.00
01200	4N2819-A0	122170	HATCH	JULIE	A	78582 AGNEW RD	HERMISTON	OR	97838	RR-4		46,170.00	60,300.00	106,470.00
01300	4N2819-A0	122171	MOORE	GERALD & JOAN	A & A	78598 AGNEW RD	HERMISTON	OR	97838	RR-4		40,910.00	50,370.00	91,280.00
01400	4N2819-A0	122173	POLLOCK	SAMUEL & TRACEY	L & A	78614 AGNEW RD	HERMISTON	OR	97838	RR-4		46,170.00	49,220.00	95,390.00
01500	4N2819-A0	122174	CLARK	WILBURN & TREVA		2207 JACINTO RD	BOONEVILLE	MS	38829	RR-4		46,170.00	58,400.00	104,570.00
01600	4N2819-A0	122176	FORDICE	WILLARD & JUDY	K	78642 AGNEW RD	HERMISTON	OR	97838	RR-4		37,510.00	52,440.00	89,950.00
01700	4N2819-A0	122177	GASS	MARGRET	A	26400 WILLARD RD	BEND	OR	97701	RR-4		58,470.00	0.00	58,470.00
01703	4N2819-A0	148698	WHITTLE	BOB & CARMEN	A & M	PO BOX 829	HERMISTON	OR	97838	LI	1.10	388,880.00	9,000.00	397,880.00
00100	4N2819-D0	122179	TOMPKINS	STEVEN & APRIL	M & M	78368 AGNEW RD	HERMISTON	OR	97838	RR-4		56,750.00	60,040.00	116,790.00
00200	4N2819-D0	122180	MARLOW	JOHN & KRYSTA	V & J	78390 AGNEW RD	HERMISTON	OR	97838	RR-4		44,470.00	56,340.00	100,810.00
00300	4N2819-D0	112181	LEAL	ROSENDO & ADOLFO		PO BOX 1334	HERMISTON	OR	97838	RR-4		44,470.00	61,470.00	105,940.00
00400	4N2819-D0	122183	SEARLE	EDDIE & PATIENCE	S & S	78408 S AGNEW RD	HERMISTON	OR	97838	RR-4		34,200.00	26,950.00	61,150.00
00500	4N2819-D0	122186	CRAFTON	VANCE & DEBBIE	J & D	78430 S AGNEW RD	HERMISTON	OR	97838	RR-4		35,430.00	50,460.00	85,890.00
00600	4N2819-D0	122187	SWEEK	CURTIS & KATHLEEN		78444 AGNEW RD	HERMISTON	OR	97838	RR-4		35,430.00	62,770.00	98,200.00
00700	4N2819-D0	122189	HUMBERT	NED	E	78462 AGNEW RD	HERMISTON	OR	97838	RR-4		31,710.00	68,470.00	100,180.00
00800	4N2819-D0	122190	GASS	MARGARET	A	26400 WILLARD RD	BEND	OR	97701	LI,EFU-40	67.02	20,090.00	280.00	20,370.00
00900	4N2819-D0	146968	TOMPSON	JAMES	F	PO BOX 1096	BEMIDJI	MN	56619	RR-4	4.08	70,460.00	24,060.00	94,520.00
00901	4N2819-D0	152145	MCCOMBS	RICHARD	A	29870 BLOOM RD	HERMISTON	OR	97838	RR-4	4.11	70,870.00	91,490.00	162,360.00

conditions and lower ratings indicating insufficiency. Bridges with ratings under 55 may be nearing a structurally deficient condition. In more general terms, a rating under 55 may indicate that significant maintenance is needed or that replacement should be planned. The exception to this are bridges that were built to a much older standard that are in good condition but do not meet today's design standards. These types of bridges can rate fairly low and under 55. The important factor here is that there are no structural integrity issues and loading problems that limit the type of vehicle and weight can cross the structure.

There are two bridges owned by ODOT within the study area. These bridges are the interchange overcrossings at the two interchanges at Lamb Road and Westland Road. Based on a review of the Umatilla County Transportation System Plan, these bridges are not defined as structurally deficient, functionally obsolete, nor have a sufficiency rating of less than 55.

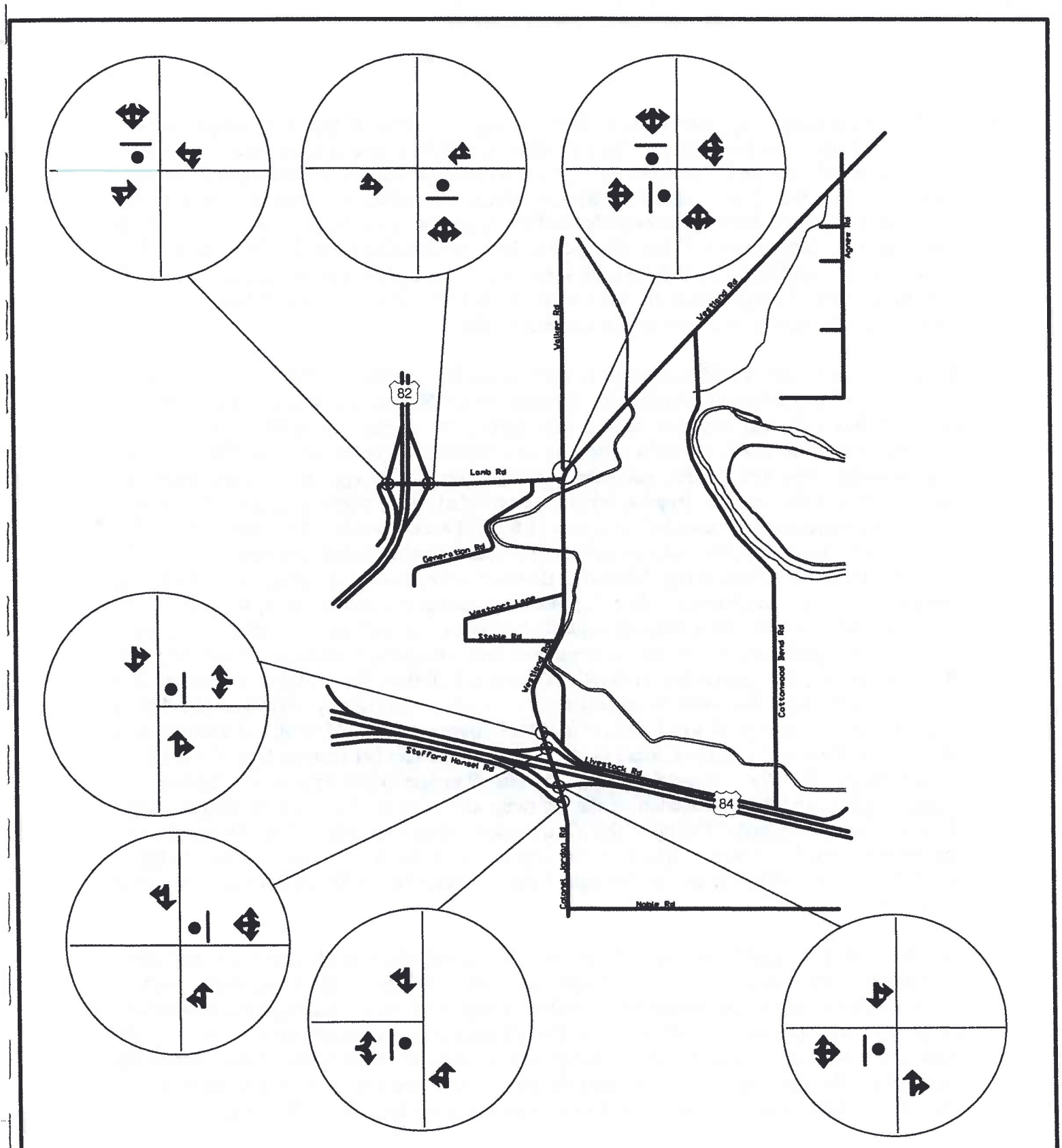
There are three bridges along Westland Road which cross the Westland Canal. These bridge numbers are 304, 305, and 306. Based on information in the Umatilla County Transportation System Plan, these bridges are not defined as structurally deficient, functionally obsolete, nor have a sufficiency rating of less than 55.

3.6. INTERSECTION TRAFFIC CONTROL AND LANE CHANNELIZATION

Figure 3-7 shows the intersection lane geometry and traffic control at the following seven study area intersections:

- Lamb Road/I-82 Southbound Ramps
- Lamb Road/I-82 Northbound Ramps
- Westland Road/Lamb Road/Walker Road
- Westland Road/Livestock Road
- Westland Road/I-84 Westbound Ramps
- Westland Road/I-84 Eastbound Ramps
- Westland Road/Stafford Hansell Road

A qualitative visual evaluation of the Westland Road / I-84 and Lamb Road / I-82 Interchanges was made to assess their existing conditions. This visual evaluation was made from a representative from Sturtevant, Golemo, and Associates, a sub-consultant to H. Lee & Associates. The goal of the evaluation was to compare the existing conditions of the interchanges to the current ODOT interchange design standards. In addition, several rough measurements were made using a measuring wheel. Parcel maps, aerial photography, and USGS maps were also referenced. Detailed topographic information was not available for this study and all measurements are approximate. The 2002 ODOT Highway Design Manual was referenced in addition to AASHTO's "A Policy on Geometric Design of Highways and Streets – 2001". Several design elements were evaluated including; interchange spacing, design speed, typical section, horizontal alignment, vertical alignment, super-elevation, terminal channelization, access control, lane balance, weaving sections, and frontage roads. Not all of these elements will be discussed below and the narrative is focused on elements that visually



Westland Road Interchange Area Transportation Plan

Figure 3-7
Intersection Lane Configurations and Traffic Control

LEGEND
- Lane Usage
- Traffic Signal
- Stop Sign

NOT TO SCALE

vary from the current design standards. Both interchanges are diamond type interchanges and the cross street passes over the freeway. The freeways are both four lane facilities with auxiliary or weaving lanes where noted. The cross streets are both two lane facilities with no right or left turn channelization. Based on current traffic conditions, channelization doesn't appear to be warranted at this time, but may be considered if traffic increases on the cross street. All of the ramps are single lane ramps and they all appear to have adequate lane and shoulder widths. The freeways are currently marked with 65 mph speed limit signs and the ramps are marked with 45 mph speed limits. Design speeds are assumed to be 70 mph (110 km/hr) and 45mph (70 km/hr) respectively. The terrain in the study area is relatively flat.[1]

Westland Road intersects I-84 at an angle of approximately 60 degrees, which skews some of the components of this diamond interchange. This causes the NE and SW quadrant ramp to have sharper radius exit and entrance curves than typical 90 degree crossings. However the acceleration and deceleration lengths appear to be lengthened to compensate for the additional speed reductions required to safely navigate the sharper curves. All legs appear to have adequate acceleration and deceleration lengths, which are provided using tapers and parallel auxiliary lanes. This interchange is located about 1 mile (1.6 km) East of the I-84 / I-82 interchange. This is significantly lower than the 5 km urban and 10 km rural recommended spacing shown in table 9-2 of the ODOT Highway design Manual. However, an additional auxiliary or weaving lane exists between the interchanges. Weaving lanes are commonly used when spacing standards cannot be met. They provide additional capacity between the interchanges but may also present special design problems due to the concentrated lane changing maneuvers of merging and diverging traffic. The intersection of Westland Road and Stafford Hansel Road is less than 250 feet (76 meters) from the south on and off ramps. This is significantly lower than the 400 m recommended access control area listed in the ODOT Highway design Manual. The intersection of Westland Road and Livestock Road is also less than 300 feet (91 meters) from the north on and off ramps. The ODOT manual also recommends 60 meters or greater clearance between the bridge structure and the intersection of the off ramp and cross road to provide adequate sight distance. The westbound off ramp in the NE quadrant is approximately 160 ft. (49 m). Due to the bridge vertical curvature, sight distance appears to be limited at this location. Without detailed horizontal and vertical data the sight distance cannot be verified and is based on visual observation.[1]

The interchange at Lamb Road and I-82 appears to be a standard diamond intersection with a few exceptions. Lamb Road intersects I-82 at approximately 90 degrees. There are not any frontage roads or other intersections near the ramps and there appears to be adequate spacing between the ramps and the structure. Sight distance doesn't appear to be significantly limited at the intersection with the exception to the sharp curves on Lamb road West of the interchange approaching the military depot. Although the acceleration and deceleration lengths appear to meet requirements, the parallel auxiliary lanes on the off ramps are very short or nonexistent.

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[1] From memo by Sturtevant, Golemo, & Associates on Westland Road Railroad Crossing, June 22, 2003.

There is not much merging area for vehicles entering traffic. This interchange is located about 3.1 miles (5 km) North of the I-84 / I-82 interchange. This is meets the 5 km urban but not the 10 km rural recommended spacing shown in table 9-2 of the ODOT Highway design Manual.[2]

3.7. TRAFFIC VOLUMES

3.7.1. Daily Traffic Volumes

Figure 3-8 shows the current daily (24-hour) traffic volumes on study area roadways. These traffic volumes were taken from traffic counts performed by H. Lee & Associates in January 2003 and were adjusted seasonally based on factors available from the ODOT traffic count program. The seasonal factors used to adjust the existing traffic volumes are documented in the appendix. As shown in Figure 3-8, the most significant traffic volumes are along Lamb Road and Westland Road north of Lamb Road. The traffic volume on Lamb Road east of the I-82 interchange is 3,600 vehicles per day. North of Lamb Road, the traffic volumes on Westland Road range from 5,200 to 5,600. South of Lamb Road, the traffic volumes on Westland Road diminish to 1,500 to 1,600 vehicles a day. The remainder of the streets in the study area have volumes in the range of several hundred vehicles per day.

3.7.2. Intersection P.M. Peak Hour Traffic Volumes

P.M. peak hour turning movement counts at the seven study area intersections were counted by H. Lee & Associates in January 2003. These traffic volumes were adjusted seasonally based on factors available from the ODOT traffic count program. The P.M. peak hour turning movement counts are summarized in Figure 3-9.

3.7.3. Truck Traffic Volumes

Truck traffic volumes were collected with the average daily traffic counts. These truck volumes are summarized in Table 3-4. Table 3-4 contains total number of daily number of trucks, total daily traffic volume, daily truck percentage, P.M. peak hour number of trucks, total P.M. peak hour traffic volume, and P.M. peak hour truck percentage.

As shown in Table 3-4, the daily truck percentage along the city's truck route ranges from 11.7 percent to 42.6 percent. In general, the higher traffic volumes are along the roadways with lower traffic volumes that provide local access to heavy truck generators. The lower truck percentages are generally on the roadways with the higher daily traffic counts over 1,000 vehicles per day.

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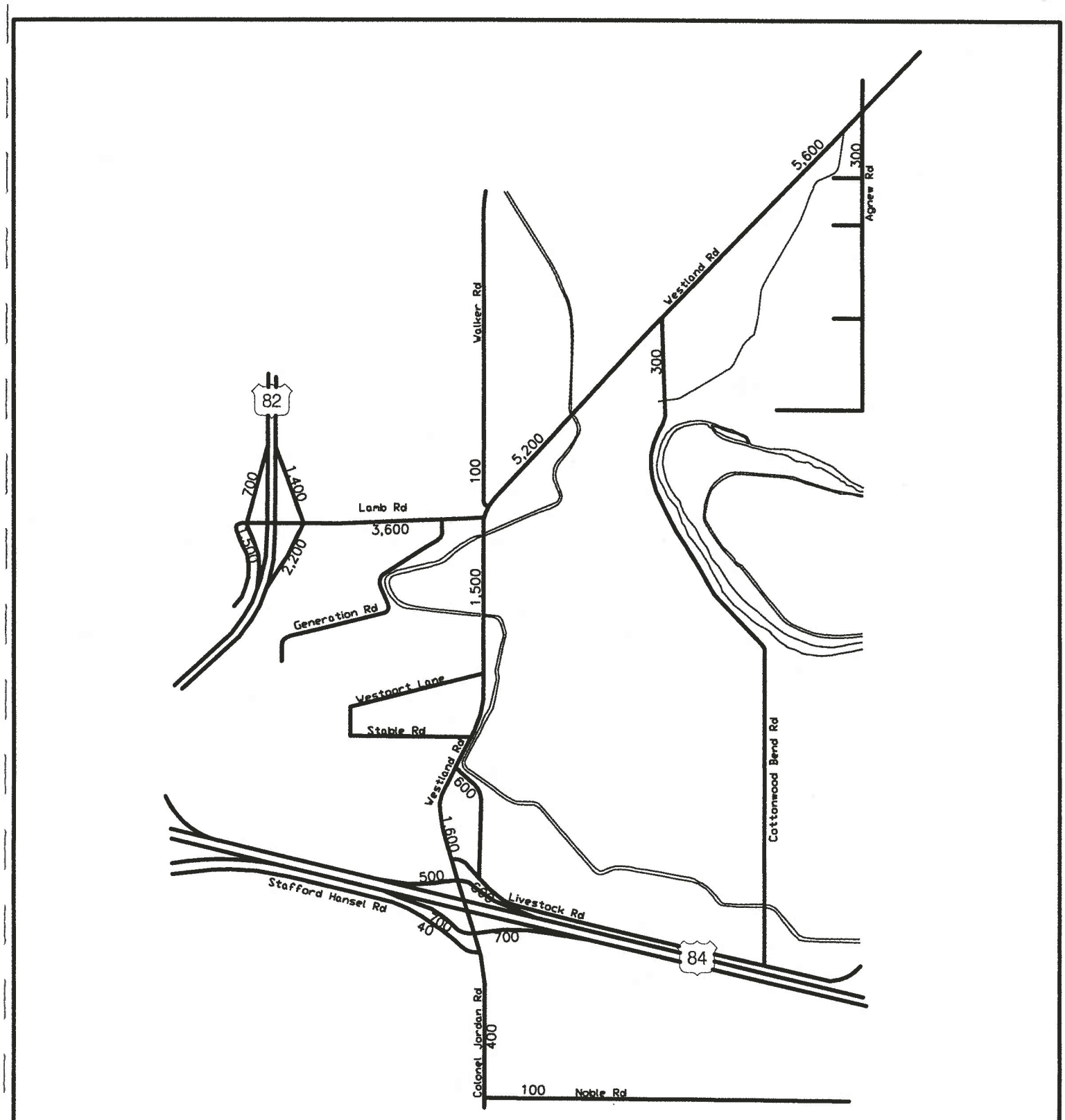
[2] From memo by Sturtevant, Golemo, & Associates on Westland Road Railroad Crossing, June 22, 2003.

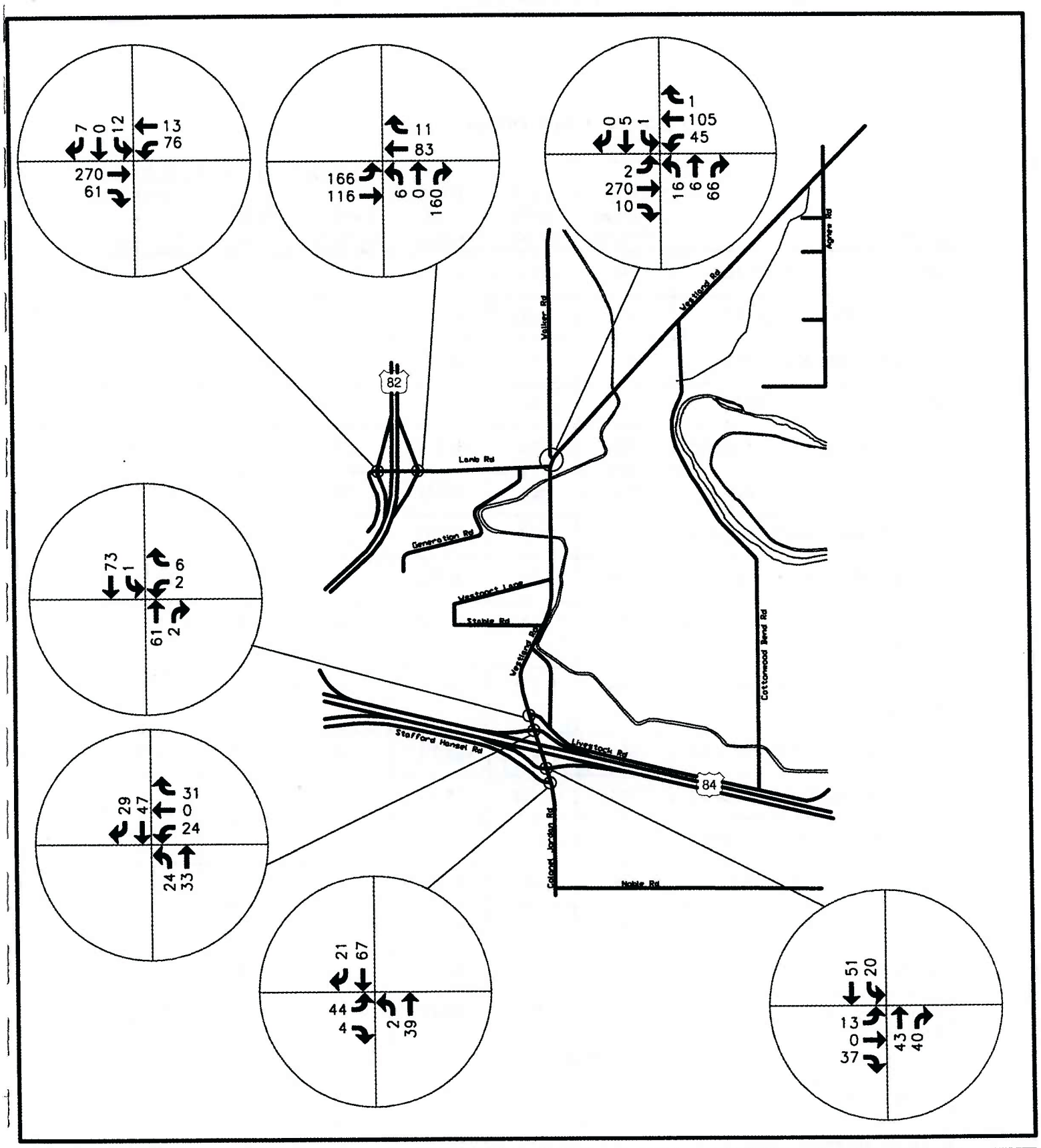


Westland Road Interchange Area Transportation Plan

Figure 3-8
2003 Existing Daily Traffic Counts

LEGEND
100 Average Daily Traffic Volume

NOT TO SCALE



Westland Road Interchange Area Transportation Plan

LEGEND
15 P.M. Peak Hour Traffic Volume

NOT TO SCALE

Figure 3-9
2003 Existing P.M. Peak Hour Traffic Volumes

Table 3-4. Truck Volume Summary

Location	Daily Number of Trucks	Daily Traffic Volume	Daily Truck Percentage	P.M. Peak Hour Number of Trucks	P.M. Peak Hour Traffic Volume	P.M. Peak Hour Truck Percentage
I-82 SB Off-Ramp at Lamb Rd	154	724	21.3%	10	43	23.3%
I-82 NB On-Ramp at Lamb Rd	165	1,406	11.7%	13	153	8.5%
I-82 SB On-Ramp at Lamb Rd	213	1,460	14.6%	18	145	12.4%
I-82 NB Off-Ramp at Lamb Rd	563	2.219	25.4%	25	170	14.7%
I-84 WB Off-Ramp at Westland Rd	254	612	41.3%	25	58	43.1%
I-84 EB On-Ramp at Westland Rd	262	659	39.8%	16	59	27.1%
I-84 WB On-Ramp at Westland Rd	232	545	42.6%	20	56	35.7%
I-84 EB Off-Ramp to Westland Rd	277	680	40.7%	16	53	30.2%
Westland Rd north of Cottonwood Bend Rd	599	5,607	11.8%	50	435	11.5%
Westland Rd south of Cottonwood Bend Rd	1,106	5,161	21.4%	243	669	36.3%
Westland Rd north of Livestock Rd	384	1,514	25.2%	37	129	28.7%
Westland Rd south of Livestock Rd	582	1,628	35.7%	50	133	37.6%
Col Jordan Rd north of Noble Rd	124	402	30.8%	14	32	43.8%
Walker Rd north of Lamb Rd	16	113	14.2%	3	11	27.3%
Lamb Rd east of I-82	540	3,617	14.9%	36	369	9.8%
Agnew Rd east of Westland Rd	49	296	16.6%	6	29	20.7%
Cottonwood Bend Rd east of Westland Rd	55	299	18.4%	3	18	16.7%
Livestock Rd west of east of Westland Rd	251	610	41.1%	24	49	49.0%
Stafford Hansel Rd west of Col Jordan Rd	14	38	36.8%	1	1	100%
Noble Rd east of Col Jordan Rd	22	110	20.0%	1	10	10%

Table 3-4 also summarizes the P.M. peak hour truck volumes. The P.M. peak hour truck percentage ranged from 9.8 percent to 49.0 percent. These P.M. peak hour truck percentages are very similar to the daily truck percentages.

3.8. INTERSECTION LEVELS OF SERVICE AND V/C RATIO ANALYSIS

Intersection capacity was measured by the following two methodologies: level of service (LOS) and volume to capacity (v/c) ratio. Level of service to measure the performance at an intersection is the standard practice in the transportation planning and traffic engineering profession. This concept was developed by the Transportation Research Board (TRB). *Special Report 209*[3], also known as the *Highway Capacity Manual*, documents the level of service analysis methodology. The Highway Capacity Manual measures level of service on a scale of LOS A to LOS F. LOS A means that drivers experience no delay or relatively low amounts of delay while traveling through an intersection; while LOS F means that drivers experience a great deal of delay while traveling through an intersection. Typically, most jurisdictions set their level of service standard at LOS D since LOS E denotes that the intersection capacity is being met and LOS F means that conditions beyond the existing intersection capacity are occurring. When LOS F conditions occur, they indicate that it would take motorists multiple signal cycles or a great deal of delay to travel through an intersection. The level of service standard is typically set at LOS D for signalized intersections and LOS E for unsignalized intersections if the intersection does not meet traffic signal warrants.

The Oregon Department of Transportation bases its traffic operation standards based on volume to capacity (v/c) ratio and not level of service. For ODOT facilities, each type of facility has its own standard. Table 3-5 summarizes the v/c standard by ODOT facility type. The standard documented in Table 3-5 is from the *1999 Oregon Highway Plan.*[4]

The v/c ratio is a measure of the percentage of used capacity on the roadway. A value of 0.00 indicates no traffic on the roadway, and a value of 1.00 indicates that the entire capacity of the roadway is being utilized. The *1999 Oregon Highway Plan* indicates that for state highways on the NHS system such as I-82 and I-84, the maximum acceptable v/c is 0.70 within unincorporated areas.

For unsignalized intersections, the *1999 OHP* sets the following standard:

> At unsignalized intersections and road approaches, the volume-to-capacity ratios in Table 3-5 shall not be exceeded for either of the state highway approaches that are not stopped. Approaches at which traffic must stop, or otherwise yield the right-of-way, shall be operated to maintain safe operation of the intersection and all of its approaches and shall

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[3] *Highway Capacity Manual, Special Report 209*, Third Edition; Transportation Research Board, National Research Council; Washington, D.C. 1998.

[4] *1999 Oregon Highway Plan*, Oregon Department of Transportation – Transportation Development Division, Planning Section, March 1999.

not exceed the volume-to-capacity ratios for District/Local Interest Roads standard inside of urban growth boundaries.[5]

Table 3-5
Maximum Volume-to-Capacity Ratios for Peak Hour Operating Conditions Through a Planning Horizon for State Highway Sections Located Outside the Portland Metropolitan Area Urban Growth Boundary

Highway	Land Use Type/Speed Limits					
	Inside Urban Growth Boundary				Outside Urban Growth Boundary	
	STAs	MPO	Non-MPO outside of STAs where non-freeway speed limit <45 mph	Non-MPO where non-freeway speed limit >=45 mph	Unincorporated Communities	Rural Lands
Interstate Highways and Statewide (NHS) Expressways	N/A	0.80	0.70	0.70	0.70	0.70
Statewide (NHS) Freight Routes	0.85	0.80	0.75	0.70	0.70	0.70
Statewide (NHS) Non-Freight Routes and Regional or District Expressways	0.90	0.85	0.80	0.75	0.75	0.70
Regional Highways	0.95	0.85	0.80	0.75	0.75	0.70
District/Local Interest Roads	0.95	0.90	0.85	0.80	0.80	0.75

Source: 1999 Oregon Highway Plan (OHP)
Interstates and Expressways shall not be identified as Special Transportation Areas (STAs)
For the purpose of this mobility policy of volume-to-capacity ratio standards, the peak hour shall be the 30th highest annual hour. This approximates weekday peak hour traffic in larger urban areas.

There are no unsignalized intersections within ODOT's jurisdiction in the study area. The interchange ramps at Westland Road and Lamb Road are classified as interchange ramps to define v/c standard and not unsignalized intersection.

For signalized intersections, the *1999 OHP* sets the following standard:

> At signalized intersections other than crossroads of freeway ramps, the total volume-to-capacity ratio for the intersection considering all critical movements shall not exceed the volume-to-capacity ratios in Table 3-5. Where two state highways of different classifications intersect, the lower of the volume-to-capacity ratios in the table shall

[5] *1999 Oregon Highway Plan*, Oregon Department of Transportation – Transportation Development Division, Planning Section, March 1999, page 68.

> apply. Where a state highway intersects with a local road or street, the volume to capacity ratio for the state highway shall apply.[6]

There are no signalized intersections within ODOT's jurisdiction in the study area.

The interchange ramps with I-82 at Lamb Road and I-84 at Westland Road would fall under the following *1999 OHP* standard:

> ...The primary cause of traffic queuing at freeway off-ramps is inadequate capacity at the intersections of the freeway ramps with the crossroad. These intersections are referred to as ramp terminals. In many instances where ramp terminals connect with another state highway, the volume to capacity standard for the connecting highway will generally be adequate to avoid traffic backups onto the freeway. However, in some instances where the crossroad is another state highway or a local road, the standards will not be sufficient to avoid this problem. Therefore, the maximum volume to capacity ratio for the ramp terminals of interchange ramps shall be the smaller of the values of the volume to capacity ratio for the crossroad, or 0.85.[7]

Based on the ramp terminal standard above, the interchange ramp intersections at Lamb Road and Westland Road have a maximum v/c standard of 0.85 for all intersection approaches.

The 1999 OHP specifies that the v/c ratio mobility standards shall be used for the following:

- Identifying state highway mobility performance expectations for planning and plan implementation.

- Evaluating the impacts on state highways of amendments to transportation plans, acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-060); and

- Guiding operations decisions such as managing access and traffic control systems to maintain acceptable highway performance.

The level of service and v/c analysis performed for this study for the typical weekday p.m. peak hour revealed that traffic operations at the major intersections in the study area are acceptable. Table 3-6 summarizes the level of service at the study area intersections. The level of service table summary is sectioned into two categories: ODOT ramp terminal intersections, and Umatilla County unsignalized intersections. Each of these categories of intersections has a different performance standard.

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[6] *1999 Oregon Highway Plan*, Oregon Department of Transportation – Transportation Development Division, Planning Section, March 1999, page 68.

[7] *1999 Oregon Highway Plan*, Oregon Department of Transportation – Transportation Development Division, Planning Section, March 1999, page 68.

Table 3-6. Year 2003 Existing Levels of Service and V/C Ratio

ODOT Unsignalized Intersection	PM Peak Hour		
	LOS	Average Delay (sec)	V/C Ratio
Lamb Road/I-82 Southbound Ramps			
Westbound Left	A	8.9	0.13
Southbound Approach	B	14.4	0.09
Lamb Road/I-82 Southbound Ramps			
Eastbound Left	A	8.3	0.21
Northbound Approach	B	12.0	0.31
Westland Road/I-84 Westbound Ramps			
Westbound Approach	A	9.7	0.08
Northbound Left	A	7.7	0.03
Westland Road/I-84 Eastbound Ramps			
Eastbound Approach	A	9.7	0.08
Southbound Left	A	7.9	0.02
County Unsignalized Intersection			
Westland Road/Lamb Road/Walker Road			
Eastbound Left	A	7.6	0.01
Westbound Left	A	8.8	0.08
Northbound Approach	C	15.9	0.26
Southbound Approach	C	20.7	0.03
Westland Road/Livestock Road			
Westbound Approach	A	9.4	0.01
Southbound Left	A	7.9	0.01
Westland Road/Stafford-Hansel Road			
Eastbound Approach	A	9.8	0.01
Northbound Left	A	7.6	0.08

All of the study area intersections are operating at LOS C or better and a v/c within the maximum standard of 0.85.

3.9. CRASH ANALYSIS

Crash data was obtained from the Oregon Department of Transportation for the period between January 1, 1997 and December 31, 2001. The crash data summarized are only reported crashes and

there may be other crashes that occurred that was not reported. The data available includes total crashes, crashes by severity (i.e. fatal, injury or property damage only). The intersection crash data is summarized in Table 3-7 and the mid-block crash data is summarized in Table 3-8. These tables only contain crashes by severity type, crashes per year, and crash rates (crashes per million vehicle miles traveled and crashes per million entering vehicles). Since the crash data is given as an average over a five year period, the data is shown in fractions of a crash to the nearest hundredth.

Table 3-7. Intersection Crash Summary

Intersection	Average Annual Accidents				Crashes per million entering vehicles
	Property Damage Only	Injury	Fatal	Total	
Westland Rd/Lamb Rd/Walker Rd	0.6	0.0	0.00	0.6	0.31
Westland Rd/Cottonwood Bend Rd	0.0	0.2	0.00	0.2	0.10
Lamb Rd/I-82 Southbound Ramps	0.4	0.4	0.00	0.8	0.50

Table 3-8. Mid-Block Crash Summary

Roadway Section	Average Annual Accidents				Crashes per million vehicle miles
	Property Damage Only	Injury	Fatal	Total	
Westland Rd					
Stafford Hansel Rd to Walker/Lamb Rd	0.2	0.0	0.0	0.2	0.36
Walker/Lamb Rd to Agnew Rd	0.4	0.4	0.0	0.8	0.41
Lamb Rd					
I-82 Ramps to Walker/Lamb Rd	0.2	0.0	0.0	0.2	0.26

To evaluate intersection crashes, two factors were considered. First, an acceptable intersection crash rate standard is typically 1.00 crashes per million entering vehicles. However, the crashes per year should also be considered as secondary criteria for a high crash location in conjunction with this crash rate standard because the crash rate does not always indicate that there is a crash issue. The crash rate can be skewed by low traffic volumes where one crash is weighted highly in the crash rate formula. Therefore, a secondary measure of five crashes per year was also used in evaluating intersection locations for high crashes. The five crashes per year secondary threshold was used because it is the threshold for one of the traffic signal warrants. If an unsignalized intersection has five or more crashes per year, the Manual on Uniform Traffic Control Devices (MUTCD),[8] allows the intersection for consideration of signalization. Based on the criteria above and the crash rates shown in Table 3-7, there are no intersections that have crash rates over 1.00 crashes per million entering vehicles.

[8] Manual on Uniform Traffic Control Devices (MUTCD), U.S. Department of Transportation, Federal Highway Administration, 1988 Edition, page 4C-6.

The criteria typically used for high mid-block crash locations are the state average. Based on ODOT's most recent statewide crash report,[9] the 2000 average statewide crash rate for urban non-freeway state facilities is 2.90 crashes per million vehicle miles traveled. Since the mid-block crash rate can be skewed high by a short mid-block section and low traffic volumes, a secondary measure was also used to evaluate for high mid-block crash locations. As with the intersection crash analysis, five crashes per year was used as a secondary threshold. As shown in Table 3-8, all of the mid-block locations have crash rates much lower than the state-wide average for urban, non-freeway state facilities. Therefore, none of the mid-block locations can be considered as high crash locations.

Since there are no high crash locations within the study area, further analysis was not conducted with crash collision type.

3.10. EXISTING STUDY AREA TRAFFIC PROBLEMS

Neither the level of service or v/c ratio analysis shows operational problems in the study area. Based on discussions with local representatives and field observations, although there are no calculated traffic operations problems, there are several deficient traffic conditions within the study area. First, both the Lamb Road interchange with I-82 and the Westland Road interchange with I-84 are rural freeway interchanges with constrained geometrics. The geometric constraints include narrow bridge width and steep vertical curves over the freeway. Both interchanges would be considered sub-standard compared to ODOT's current interchange standard with a freeway.

Through input from the first project Public Open House, an existing traffic deficiency was identified at the Union Pacific Railroad crossing with Westland Road. Future plans should consider improving this deficient condition at the at-grate railroad crossing with Westland Road.

The most awkward traffic deficiency within the study area is the odd intersection configuration at the Westland Road/Lamb Road/Walker Road intersection. The Lamb Road and Walker Road approaches of this intersection come together at a right angle and are the eastbound and southbound approaches of the intersection. Westland Road makes up the northbound and southwest bound approaches. The Walker Road approach enters the intersection at an offset and is not paved. Although the Westland Road approaches have the right-of-way, the eastbound Lamb Road approach also has similar traffic volumes.

The final major existing traffic deficiency is the distance between the Westland Road/I-84 Eastbound off-ramp and Westland Road/Stafford Hansell Road intersections. The ODOT spacing standard between a freeway terminal off-ramp and a local full access intersection is 1320 feet. These intersections are much closer apart and realignment and separation of these intersections should be considered in the future.

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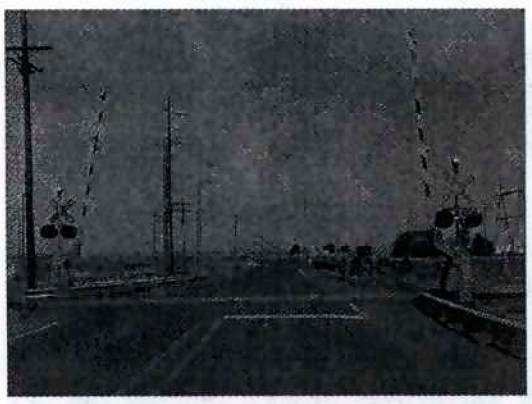
[9] 2000 State Highway Crash Rate Tables, ODOT, Transportation Development Division, October 2001.

3.11. RAIL SERVICE/ROADWAY GRADE CROSSINGS

The Union Pacific Railroad bisects the study area just north of Westport Lane. One at-grade crossing with the Union Pacific Railroad exists just north of Westport Lane. More information regarding rail service exists in the Umatilla County Transportation System Plan.

A representative from Sturtevant, Golemo, and Associates conducted a site visit to visually evaluate the railroad crossing. The crossing is an at grade concrete crossing. There is a single track that is owned by Union Pacific. There are currently crossing gates and flashing lights in both directions. They appear to be in good shape and fully functional. A date stamp was found on the concrete crossing and it was installed in 1991 and was manufactured by the Fite Corporation. The crossing is a little rough and some of the concrete panels move when vehicles cross the tracks. In addition, the tracks have also worked loose and rattle. Several loose ties were observed and many of the spikes in the vicinity of the intersection are missing or loose (See picture below). The concrete appears to be in fairly good condition and no cracking was observed. Tightening down the panels and securing the rails would significantly improve the comfort of the crossing. However the condition of the ties under the crossing is unknown and securing the concrete panels and rails may involve repairing or replacing components of the rail.[10]

CROSSING GATES



LOOSE RAILS AND SPIKES

3.10. AIR TRANSPORTATION

There are no airports near the study area.

[10] From memo by Sturtevant, Golemo, & Associates on Westland Road Railroad Crossing, June 22, 2003.

Section 4.0
Traffic Forecast

4.1. TRAFFIC FORECAST METHODOLOGY

Based on ODOT's 2001 Transportation System Planning Guidelines[1], there are four approved methodologies to forecast future traffic volumes. These methodologies are described below:

- Level 1 – Trending Forecast
  The trending forecast is based on historical traffic counts in the study area. The methodology requires existing traffic counts as well as 20-year old historical traffic counts to establish a growth rate. This methodology is typically employed in areas where traffic patterns are simple and that have low to moderate growth. It is the simplest methodology used to project future traffic volumes.

- Level 2 – Cumulative Analysis
  The cumulative analysis uses historical trending information as well as an examination of future development. This analysis requires a good understanding of development trends in the study area. Based on the understanding of future development, each area of projected development is assigned a trip making characteristic and those trips are manually assigned to the street network. The cumulative analysis methodology is typically used small cities where traffic patterns are not complex. This methodology is also best employed where significant shifting of traffic is not expected between alternatives since the difference in how the traffic patterns would change is to be done manually.

- Level 3 – Transportation Model
  A transportation model is a very sophisticated methodology in forecasting future traffic volumes. It requires a significant amount of traffic and land use data as well as specialized software. Transportation models are typically developed where there is a need to study complex alternatives that can affect traffic patterns significantly. Transportation models are good to compare alternatives to each other since they effectively show the difference in travel behavior between alternatives. This forecast methodology is beyond the scope of this study process.

- Level 4 – Regional Transportation Model
  A regional transportation model is developed in a similar manner as the Level 3, Transportation Model except that it involves a larger study area. The study area in a regional model encompasses several urban areas as well as rural areas. It is typically employed at the Metropolitan Planning Organization (MPO) level. This forecast methodology is beyond the scope of this study process.

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[1] 2001 Transportation System Planning Guidelines, Oregon Department of Transportation, Transportation Development Division, May 2001.

4.2. TYPES OF TRAFFIC FORECAST METHODOLOGIES EMPLOYED BY PREVIOUS STUDIES

Two other traffic studies have been completed in the area recently. The first study is the 2002 Umatilla County Transportation System Plan. The other traffic study completed was the Westland Road Developments Traffic Impact Study performed by Access Engineering in September 22, 2000.

The traffic projections in the 2002 Umatilla County Transportation System Plan were based on a Level 1 trending analysis. This is the simplest method of travel demand forecasting and is typically employed in rural areas. Umatilla County is mostly rural in nature and this type of analysis would be most relevant in most parts of the county.

The Westland Road Developments Traffic Impact Study is based on a Level 2 cumulative analysis. This traffic study analyzes the impacts of future developments in the Westland Road interchange area. Travel forecasts conducted in traffic studies to assess development impacts are typically Level 2 cumulative analyses.

4.3. TRAFFIC FORECAST METHODOLOGY USED FOR WESTLAND ROAD INTERCHANGE AREA STUDY

The 20-year, 2023 P.M. peak hour traffic volumes were the basis for the future alternatives analysis for mitigating the conditions listed above. Several methodology options were available to project the 2023 traffic volumes. Twenty-year historical traffic counts were available along I-82 and I-84 adjacent to the study area. Since I-82 and I-84 are regionally facilities with a wide influence area, this data does not correlate well with the profile of the study area. The study area is not regionally impacted and is mostly influenced by local conditions within the study area. Therefore, the regional historical growth factor methodology to project the study area traffic volumes was not employed.

The next methodology considered is referred by ODOT as a Level 2, Cumulative Analysis. This methodology considers background traffic growth from derived growth factors as well as considers the cumulative traffic impacts of future land developments. Since the regional growth factors were not representative of growth conditions in the study area and a more complex traffic forecast methodology such as a travel demand model is beyond the scope of the study, a Level 2, Cumulative Analysis was conducted to estimate the 2023 traffic volumes in the study area.

A 1.5 percent per year background growth factor was applied to the 2003 existing traffic volumes to account for unforeseen traffic growth and through traffic volumes traveling through the study area. This annual background growth factor was derived from historical traffic count data available on a nearby facility (US 395 at the south city limits of Stanfield) with similar characteristics as Westland Road. In addition, the cumulative impacts of developing industrial and commercial land within the study area was added. Only two types of zoning with the

potential for future development exist in the study area. These zoning types are industrial and commercial.

4.4. DEMOGRAPHIC INFORMATION

The population information for Umatilla County is summarized in Table 4-1. Based on a comparison of 1990 and 2000 population in Umatilla County, the entire county's population grew by 19.1 percent. This translates to an annual population growth rate of 0.88 percent for both the incorporated and unincorporated areas. The unincorporated areas of the county grew by 15.3 percent from 1990 to 2000. The unincorporated area annual population growth rate from 1990 to 2000 was 0.72 percent. Both the average county and unincorporated area growth rates are very low. This trend indicates slow growth. However, certain areas of Umatilla County grew at a much higher rate such as the City of Umatilla and Hermiston. This indicates that although much of Umatilla County's growth between 1990 and 2000 was relatively stagnant, significant growth in pockets of the county can grow significantly if the right conditions exist.

Table 4-1. 1990 and 2000 Population of Umatilla County

Area	1990 Population	2000 Population	Percent Change Between 1990 and 2000
Umatilla County	59,249	70,548	19.1%
Adams	223	297	33.2%
Athena	997	1,221	22.5%
Echo	499	650	30.3%
Helix	150	183	22.0%
Hermiston	10,040	13,154	31.0%
Milton-Freewater	5,533	6,470	16.9%
Pendleton	15,126	16,354	8.1%
Pilot Rock	1,478	1,532	3.7%
Stanfield	1,568	1,979	26.2%
Ukiah	250	255	2.0%
Umatilla	3,046	4,978	63.4%
Weston	606	717	18.3%
Unincorporated	19,733	22,758	15.3%

Source: 2000 US Census

The most recent employment projections available are from the Office of Economic Analysis (OEA), State of Oregon. The OEA data is from 1997. Updated employment forecasts are expected sometime this year. Table 4-2 summarizes the OEA employment projections for Umatilla County.

Based on the OEA employment projections from 2000 to 2020, Umatilla County is expected to have an annual employment growth of only 0.62 percent. This correlates at almost a similar rate as the population growth rate. Based on the OEA employment projections, Umatilla County is only expected to have modest increases in future employment.

Between 2000 and 2020, Umatilla County is expected to generate 3,453 new jobs. It is likely that most of the employment growth with occur within the urban areas of the larger cities within Umatilla County such as Hermiston, Milton-Freewater, Umatilla, and Pendleton. The unincorporated county areas are not expected to significantly compete with urban areas for job creation because of limited utilities and amenities available in the unincorporated areas.

Table 4-2. 2000 to 2020 Employment Forecast

Area	1990 Employment	2000 Employment	2020 Employment	2000 to 2020 Employment Annual Growth Rate
Umatilla County	21,060	26,313	29,766	0.62

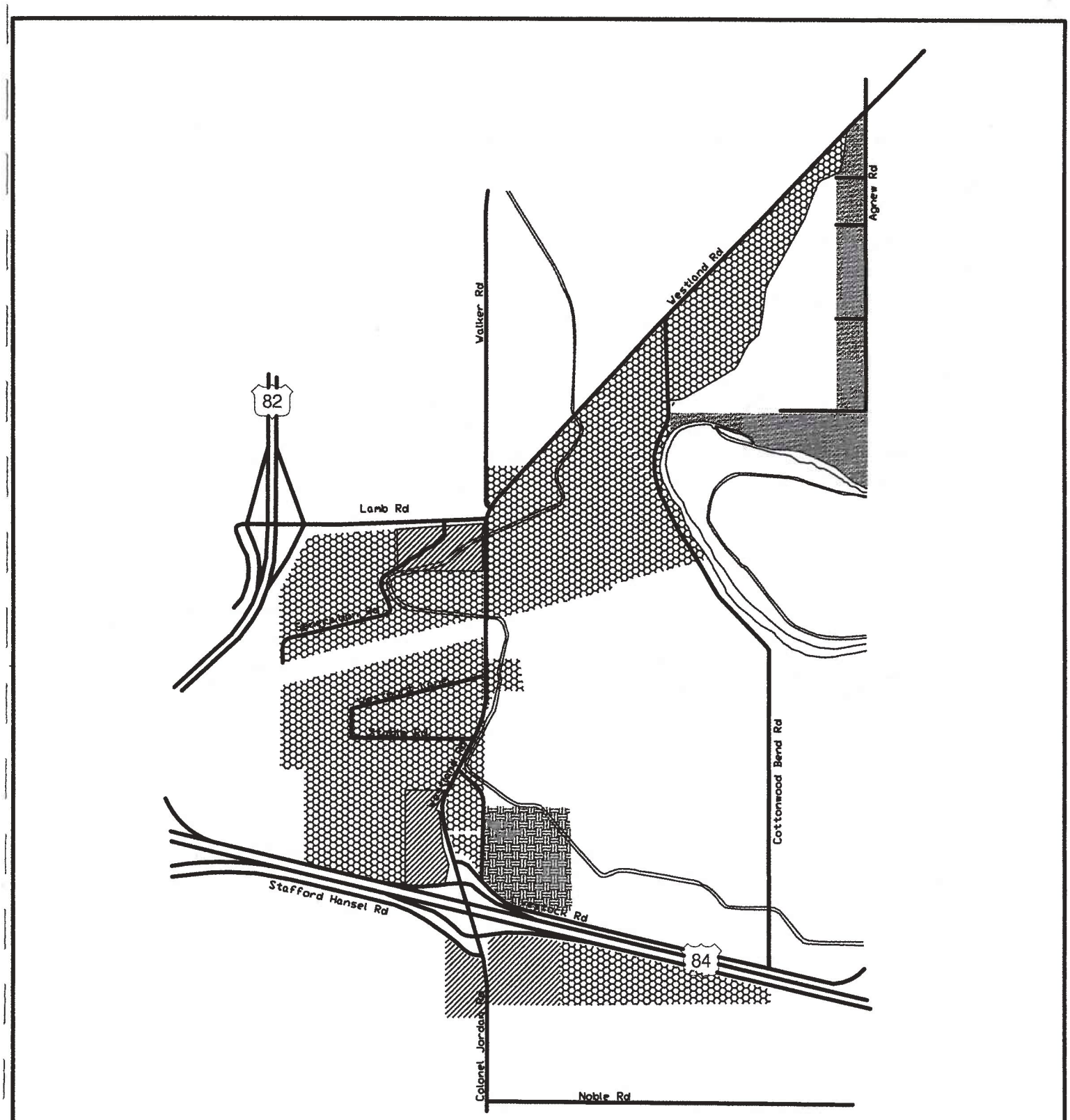
Source: Office of Economic Analysis, State of Oregon

4.5. LAND INVENTORY

The study area zoning was identified based on information obtained from Umatilla County. Figure 4-1 shows the zoning within the project study area.

There area five major types of zoning designations within the study area boundaries. These zoning designations are commercial, industrial, rural residential (RR-4), exclusive farm use (EFU), and agribusiness.

The commercially zoned property within the study area is in two general areas. The first commercially zoned area is south of Lamb Road between I-82 and Walker Road. It is approximately 14.3 acres. The second commercial area within the study area is around the Westland Road interchange at I-84. There are five parcels south of I-84 immediately adjacent to the freeway and one parcel in the northwest quadrant of the Westland Road/I-84 interchange. Four of the five commercially zoned properties south of I-84 is the Western Express/Shell Truck Stop, which is approximately 10.2 acres. The fifth parcel south of I-84 is owned by the Barton's and is approximately 18.6 acres. The one parcel in the northwest quadrant of the Westland Road/I-84 interchange is the proposed Petro Stopping Center site and is approximately 13.6 acres. The total amount of tourist commercial zoned property within the study area is 56.7 acres.



Westland Road Interchange Area Transportation Plan

Figure 4-1
Study Area Zone Map

LEGEND
- Tourist Commercial Zoning
- Industrial Zoning
- Rural Residential Zoning
- Agribusiness Zoning
- Exclusive Farm Use

NOT TO SCALE

There are three distinct industrial zoned areas within the study area. The first area is the most northern area of the study area that is bounded by Westland Road to the north and west, the Westland Canal and Cottonwood Bend Road to the east, the Union Pacific Railroad to the south, and Walker Road/Westland Road to the west. The second distinct industrial area is bounded by Lamb Road to the north, I-84 to the south, east of I-82 to the east, and Westland Road to the west. The third industrially zoned area within the study area is south of I-84 and east of Colonel Jordan Road. The industrially zoned property within the study area is comprised of approximately 515 acres.

There is a limited amount of rural residential land within the study area. The rural residential area is located along the west side of Agnew Road south of Westland Road. At the Umatilla River, this area extends west of Agnew Road to form a reverse 'L".

An approximately 33 acre parcel at the northeast quadrant of the Westland Road interchange with I-84 is zoned agribusiness.

The remainder of the zoning within the study is exclusive farm use (EFU). Property owners of EFU land adjacent to Stafford Hansel Road; between I-82, I-84, and the existing industrially zoned properties, and east of Westland Road and south of the Union Pacific Railroad have all expressed an interest in having their properties rezoned to either commercial or industrial zoning.

4.6. LOW TRAFFIC FORECAST SCENARIO

A low traffic forecast scenario consistent with the Office of Economic Analysis employment projections was developed as the conservative end of what could be expected to develop in the Westland Road/I-84/I-82 Interchange Area. The low traffic forecast was derived by first applying a background growth factor of 1.5 percent per year to the 2003 P.M. peak hour turning movement counts for 20 years to account for unforeseen traffic growth and through traffic volumes traveling through the study area. This annual background growth factor was derived from historical traffic count data available on a nearby facility (US 395 at the south city limits of Stanfield) with similar characteristics as Westland Road. The second step of the low traffic forecast was to account for the cumulative impacts of future industrial and commercial land within the study area.

The amount of future industrial and commercial land assumed to be developed in 2023 under the low traffic forecast scenario was based on applying the 0.62 percent annual employment growth rate for Umatilla County. This rate was derived from the most recent Office of Economic Analysis data. The only issue to resolve to apply the 0.62 percent annual employment growth rate is the existing employment count within the study area. Based on the aggregate daily local side street traffic volumes, local development in the study area generates roughly 1,613 daily traffic volumes. Assuming that the general type of existing development corresponds with the characteristic of warehouse development, the ITE Trip Generation daily warehouse trip generation rate for employees (3.89 daily trips per employee) was used to divide into the 1,613

daily trips to derive the estimated number of existing employees in the study area. This exercise resulted in an estimate of 414 existing employees.

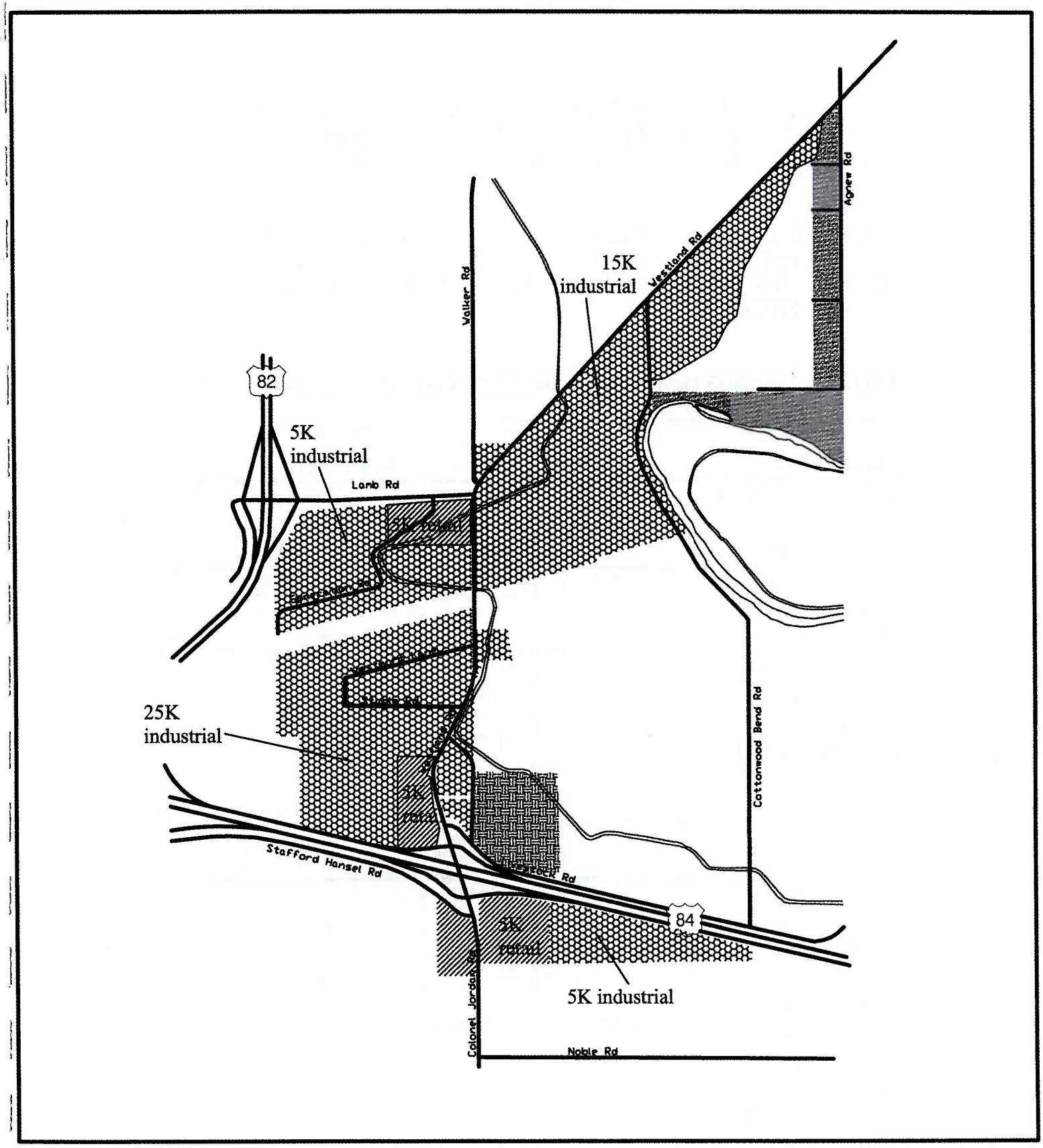
Applying the 0.62 percent annual employment growth rate to the existing number of employees in the study area results in an estimate of 468 total employees in the study area by 2023. This results in a net increase of 54 new employees. Based on the daily warehouse trip generation rate for employees (3.89 daily trips per employee), the additional employees would generate 212 new daily trips. These new daily trips were converted to square footage of new warehouse development by dividing the daily trips by the daily square footage ITE Trip Generation rate for warehouse (4.96 daily trips per 1,000 square feet of warehouse). This results in approximately 43,000 gross square feet of new warehouse space by 2023. The 43,000 was rounded up to 50,000 gross square feet to develop the cumulative analysis. Figure 4-2 shows the assumed distribution of growth of new warehouse use in the study area.

There are three vacant commercial properties within the study area. To forecast build out conditions in 2023, it was assumed that each commercial site would build out at a maximum of 5,000 square feet of commercial/retail space. A total of 15,000 square feet was assumed to be developed by 2023 within the study area. With the limited base to attract patrons, 15,000 square feet of commercial/retail development seems more than reasonable.

The trip generation rates for industrial and commercial uses used in the low traffic forecast are summarized in Table 4-3.

Table 4-3. Trip Generation for the Westland Road Interchange Area – Low Density

		Average	AM Peak			PM Peak		
Land Use	**Amount**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Warehouse – ITE Code 150								
Rate per 1,000 s.f.		4.96	0.37	0.08	0.45	0.12	0.39	0.51
Trips	50,000 s.f.	248	19	4	23	6	20	26
Shopping Center – ITE Code 820								
Rate per 1,000 s.f.		42.92	0.63	0.40	1.03	1.80	1.94	3.74
Trips	15,000 s.f.	644	9	6	15	27	29	56
Total New Trips in Study Area		892	28	10	38	33	49	82



Westland Road Interchange Area Transportation Plan

Figure 4-2
Future Land Use Growth Assumptions
for Low Traffic Forecast

LEGEND
- Tourist Commercial Zoning
- Industrial Zoning
- Rural Residential Zoning
- Agribusiness Zoning
- Exclusive Farm Use

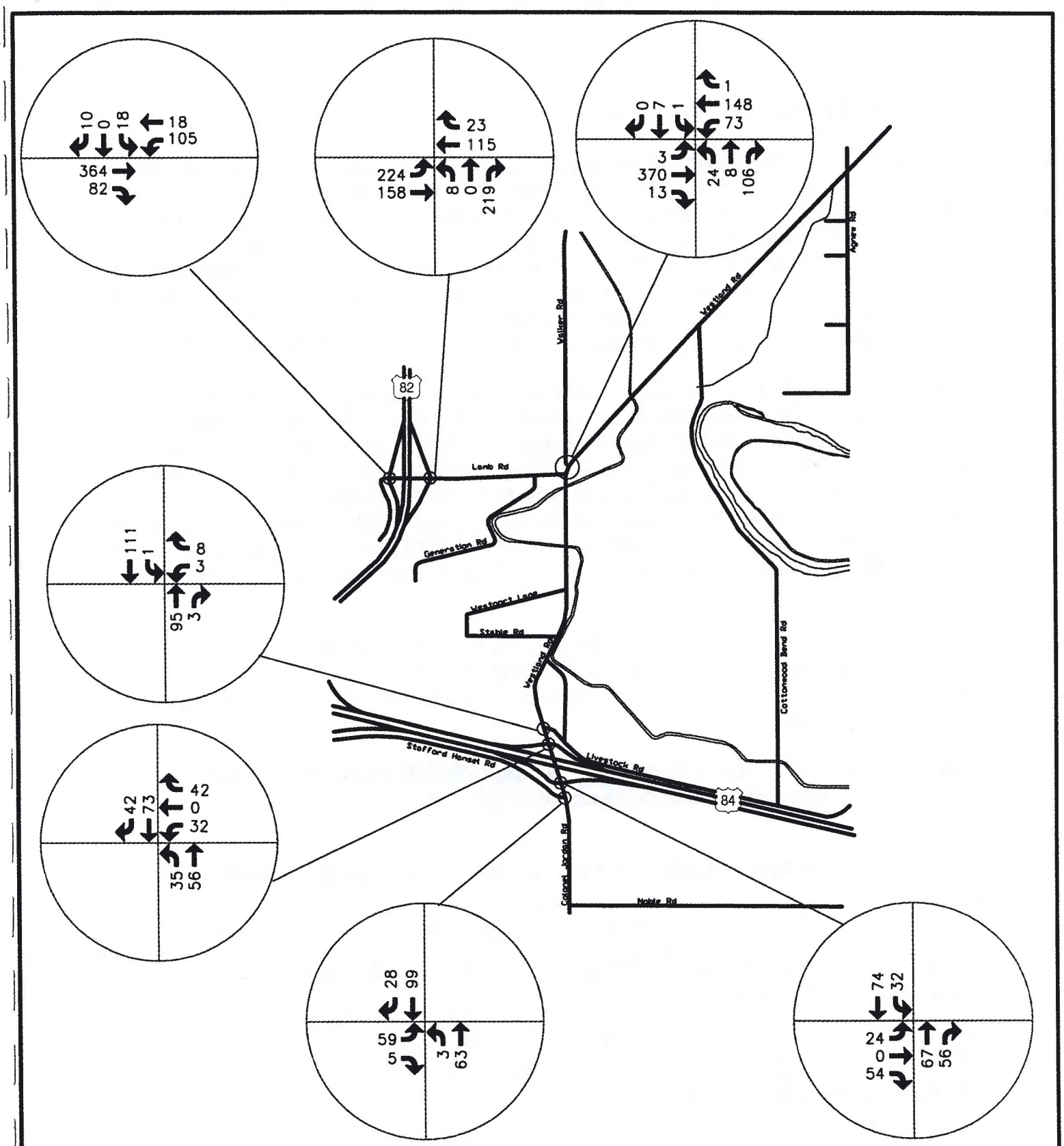
NOT TO SCALE

The low traffic forecast, 2023 P.M. peak hour traffic volumes are shown in Figure 4-3. Based on the forecasted 2023 traffic volumes for the low density scenario, levels of service and v/c ratio analyses were conducted at the study area intersections. This analysis is summarized in Table 4-4.

As shown in Table 4-4, all of the study area intersections are projected to operate at acceptable levels of service and v/c ratios with the exception of the Lamb Road/Walker Road/Westland Road intersection. The southbound movement of this intersection is projected to operate at LOS E with a v/c ratio of 0.24.

Table 4-4. Year 2023 Future Low Density Build Level of Service and V/C Ratio

	PM Peak Hour		
ODOT Unsignalized Intersection	LOS	Average Delay (sec)	V/C Ratio
Lamb Road/I-82 Southbound Ramps			
Westbound Left	A	9.9	0.20
Southbound Approach	C	21.3	0.20
Lamb Road/I-82 Southbound Ramps			
Eastbound Left	A	8.9	0.31
Northbound Approach	C	16.2	0.49
Westland Road/I-84 Westbound Ramps			
Westbound Approach	B	10.4	0.12
Northbound Left	A	7.9	0.04
Westland Road/I-84 Eastbound Ramps			
Eastbound Approach	B	10.5	0.15
Southbound Left	A	8.0	0.03
County Unsignalized Intersection			
Westland Road/Lamb Road/Walker Road			
Eastbound Left	A	7.8	0.01
Westbound Left	A	9.8	0.15
Northbound Approach	D	34.8	0.62
Southbound Approach	E	38.0	0.24
Westland Road/Livestock Road			
Westbound Approach	A	10.0	0.02
Southbound Left	A	8.0	0.01
Westland Road/Stafford-Hansell Road			
Eastbound Approach	B	10.6	0.12
Northbound Left	A	7.7	0.01



Westland Road Interchange Area Transportation Plan

Figure 4-3
2023 P.M. Peak Hour Traffi Volumes
for Low Traffic Forecast

LEGEND
15 P.M. Peak Hour Traffic Volume

NOT TO SCALE

4.7. HIGH FORECAST SCENARIO

The study area is approximately 640 acres and has a significant potential for development. There are approximately 100 acres of commercially zoned land and over 400 acres of industrial zoned land. Based on field reconnaissance and inspection of an aerial photo of the study area, well over half of the land within the study area is available for development, increase in density, or redevelopment. Many of the large parcels with existing development are underutilized and could easily be expanded. Some transitionary uses such as agricultural storage sheds are prime for redevelopment should demand for a more intensive use materialize. Based on the available industrial land, it is not likely that the study area industrial land could be built out by 2023.

To conduct the high forecast scenario, 1,000,000 square feet of warehouse development was assumed. Based on a building floor area to gross site area ratio of 25 percent, this corresponds to a build out of approximately 23 percent of the available industrial land or approximately 92 acres of development. It should be noted that 1,000,000 square feet of future warehouse development corresponds to an increase of 1,275 new employees in the study area. The 1,275 increase in employees is approximately 37 percent of the total 20-year OEA employment forecast for Umatilla County. Based on the new employee count as it compares with the OEA employment forecast, the high traffic volume forecast is definitely on the very high end of forecasts for the study area.

As for the commercially zoned land, the high traffic forecast scenario doubled the future commercial development from the low traffic forecast scenario. So, under the high traffic forecast scenario, 30,000 square feet of commercial development was assumed to occur within the study area by 2023.

Based on 30,000 square feet of commercial space and 1,000,000 square feet of warehouse space, trip generation was developed and is summarized in Table 4-5.

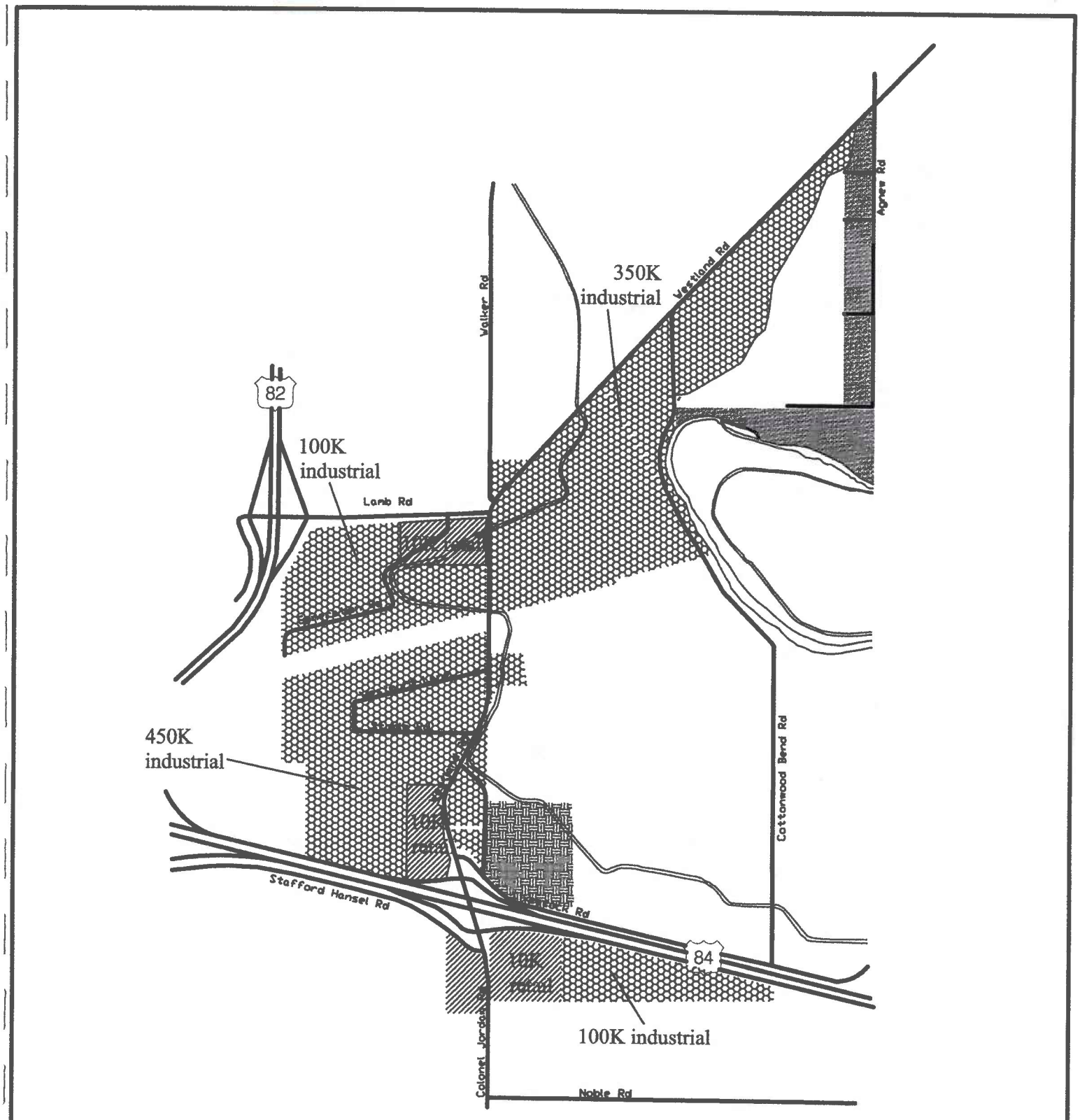
Table 4-5. Trip Generation for the Westland Road Interchange Area – High Density

		Average	AM Peak			PM Peak		
Land Use	**Amount**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Warehouse – ITE Code 150								
Rate per 1,000 s.f.		4.96	0.37	0.08	0.45	0.12	0.39	0.51
Trips	100,000 s.f.	4,960	370	80	450	120	390	510
Shopping Center – ITE Code 820								
Rate per 1,000 s.f.		42.92	0.63	0.40	1.03	1.80	1.94	3.74
Trips	30,000 s.f.	1,288	19	12	31	54	58	112
Total New Trips in Study Area		6,248	389	92	481	174	448	622

These trips were then assigned to the study area roadway network to project 2023 high traffic volume forecast. The spatial distribution of future developments is shown in Figure 4-4. The result of this 2023 high traffic forecast are shown in Figure 4-5. Based on the forecasted 2023 traffic volumes for the high density scenario, levels of service and v/c ratio analyses were conducted at the study area intersections. This analysis is summarized in Table 4-6.

Table 4-6. Year 2023 Future High Density Build Level of Service and V/C Ratio

	PM Peak Hour		
ODOT Unsignalized Intersection	LOS	Average Delay (sec)	V/C Ratio
Lamb Road/I-82 Southbound Ramps			
Westbound Left	B	10.1	0.23
Southbound Approach	D	33.5	0.42
Lamb Road/I-82 Southbound Ramps			
Eastbound Left	A	9.5	0.34
Northbound Approach	C	17.0	0.52
Westland Road/I-84 Westbound Ramps			
Westbound Approach	B	12.0	0.18
Northbound Left	A	8.4	0.07
Westland Road/I-84 Eastbound Ramps			
Eastbound Approach	B	12.8	0.25
Southbound Left	A	8.4	0.08
County Unsignalized Intersection			
Westland Road/Lamb Road/Walker Road			
Eastbound Left	A	7.9	0.01
Westbound Left	B	11.5	0.34
Northbound Approach	F	>100	>1.00
Southbound Approach	F	>100	>1.00
Westland Road/Livestock Road			
Westbound Approach	B	11.2	0.07
Southbound Left	A	8.2	0.01
Westland Road/Stafford-Hansell Road			
Eastbound Approach	B	11.4	0.13
Northbound Left	A	7.8	0.01

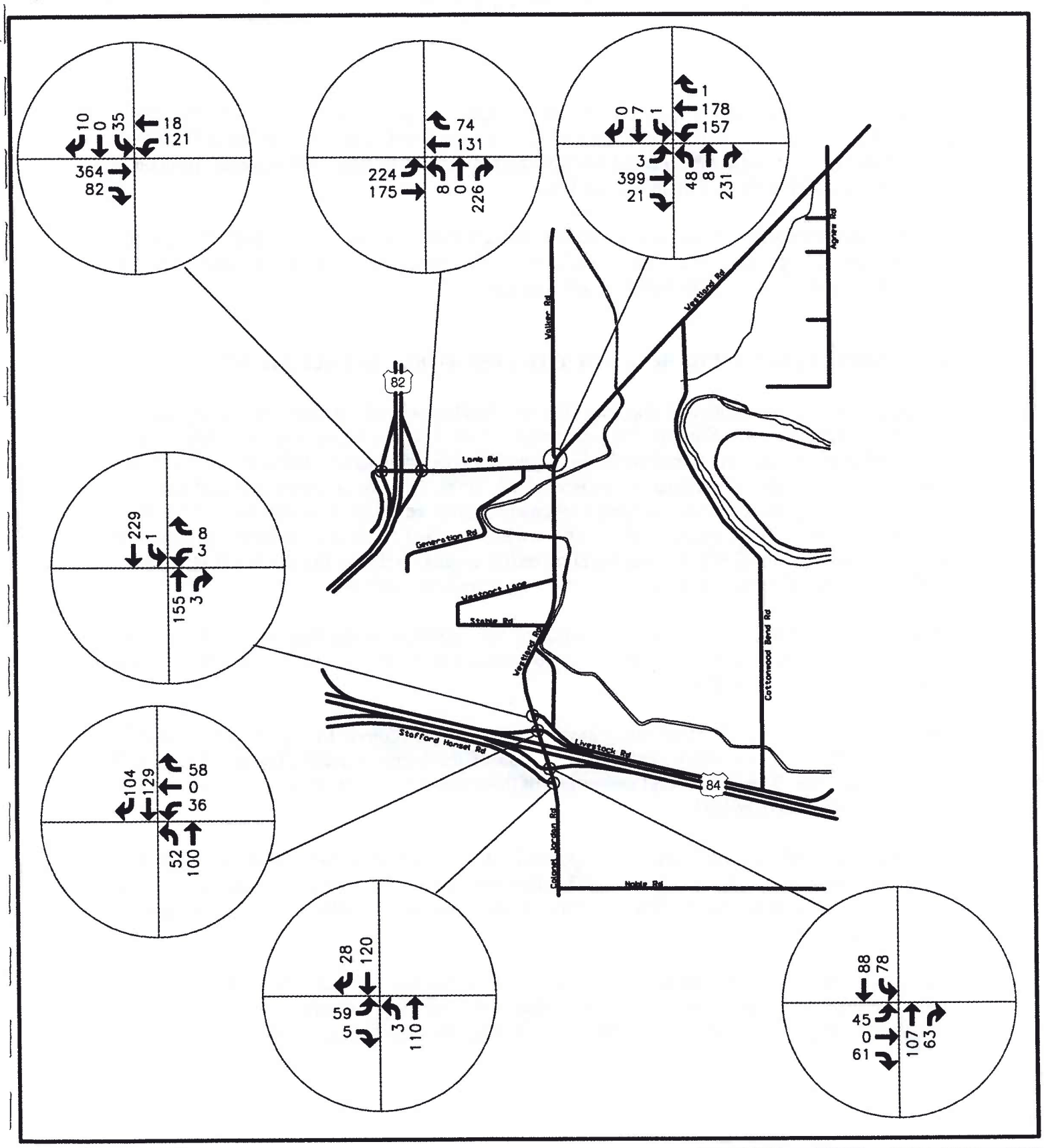


Westland Road Interchange Area Transportation Plan

Figure 4-4
Future Land Use Growth Assumptions
for High Traffic Forecast

LEGEND
- Tourist Commercial Zoning
- Industrial Zoning
- Rural Residential Zoning
- Agribusiness Zoning
- Exclusive Farm Use

NOT TO SCALE



Westland Road Interchange Area Transportation Plan

Figure 4-5
2023 P.M. Peak Hour Traffic Volumes
for High Traffic Forecast

LEGEND
15 P.M. Peak Hour Traffic Volume

NOT TO SCALE

As shown in Table 4-6, all of the study area intersections are projected to operate at acceptable levels of service and v/c ratios with the exception of the Lamb Road/Walker Road/Westland Road intersection. The northbound and southbound movements of this intersection are projected to operate at LOS F with a v/c ratio of over 1.00.

All of the ramp terminal intersections at Westland Road and Lamb Road are projected to operate well within the maximum v/c standard of 0.85. The worst v/c ratio at the ramp terminal intersections is 0.34 in the 2023 high forecast scenario.

4.8. MAXIMUM ZONING BUILD OUT TRAVEL FORECAST SCENARIO

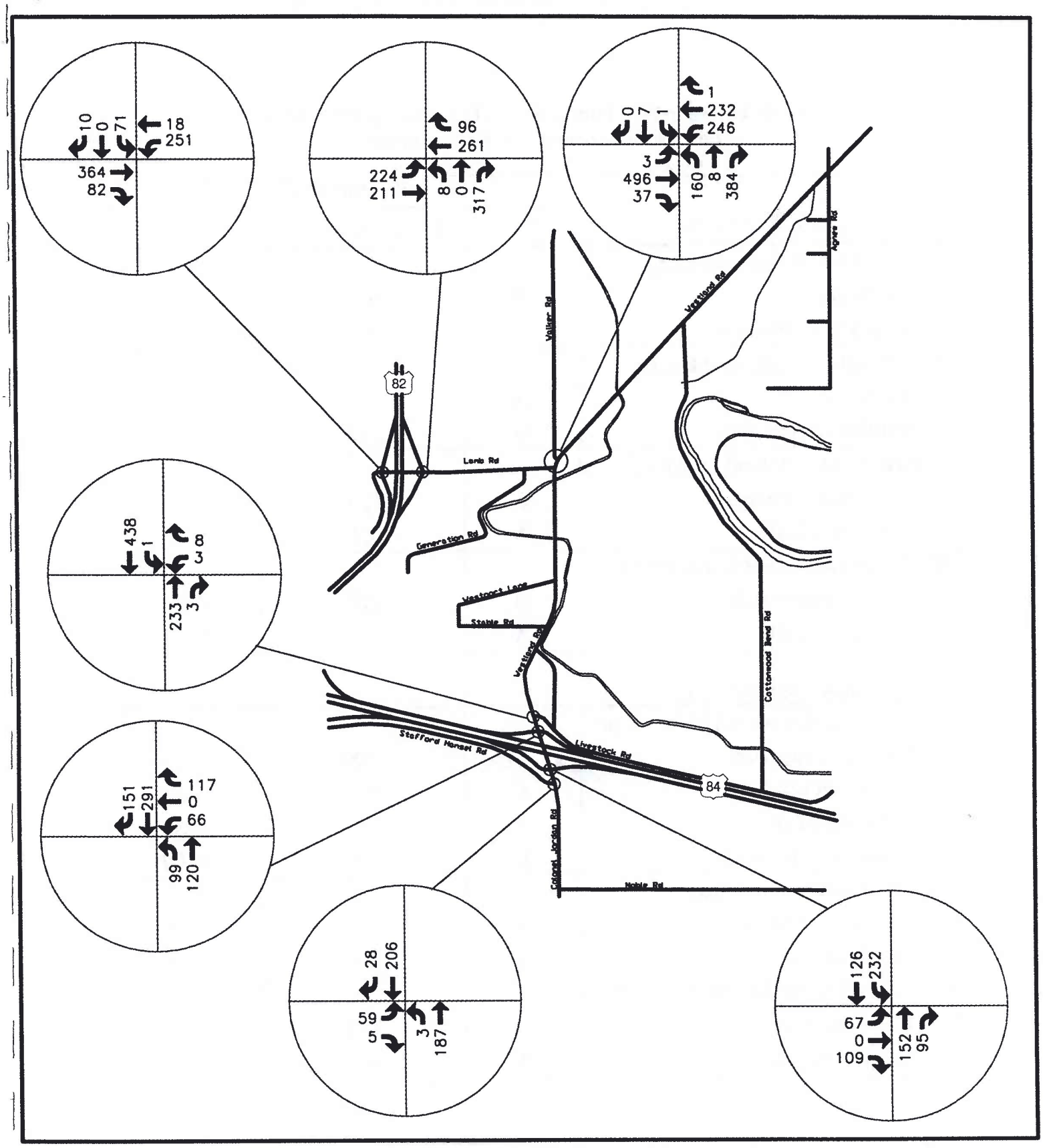
To study the maximum potential impact of the full development of the study area, every vacant or under utilized parcel within the study area was assumed with a future build out assumption. This condition was well developed in the Westland Road Developments Traffic Impact Analysis conducted by Access Engineering in September 22, 2000. H. Lee & Associates updated this analysis by using current 2003 turning movement traffic volumes as a baseline. The trips generated by future development in the study area as identified by the Access Engineering study was then added to the 2003 existing baseline traffic counts to derive the 2023 full study area build out traffic volumes. These traffic volumes are shown in Figure 4-6.

Based on the forecasted 2023 traffic volumes for the maximum study area build out scenario, levels of service and v/c ratio analyses were conducted at the study area intersections. This analysis is summarized in Table 4-7.

As shown in Table 4-7, all of the study area intersections are projected to operate at acceptable levels of service and v/c ratios with the exception of the Lamb Road/Walker Road/Westland Road intersection. The southbound movement of this intersection is projected to operate at LOS F with a v/c ratio of over 1.00.

It should be noted that the southbound approach of the Lamb Road/I-84 Southbound Ramps intersection is projected to operate at LOS F. However, since this is an ODOT intersection, the standard is based on v/c ratio. The v/c ratio of this movement is only 0.65 and is within the allowable v/c ratio standard.

Even the maximum study area build out scenario indicates that the roadways within the study area should be adequate to serve all future development. The only exception to this is the need to improve the alignment of the Westland Road/Lamb Road/Walker Road intersection.



Westland Road Interchange Area Transportation Plan

Figure 4-6
2023 P.M. Peak Hour Traffic Volumes
for Maximum Study Area Build Out

LEGEND
15 P.M. Peak Hour Traffic Volume

NOT TO SCALE

Table 4-7. Year 2023 Future Access Engineering Alternative
Level of Service and V/C Ratio Summary

ODOT Unsignalized Intersection	PM Peak Hour		
	LOS	Average Delay (sec)	V/C Ratio
Lamb Road/I-82 Southbound Ramps			
Westbound Left	B	10.5	0.32
Southbound Approach	F	60.0	0.65
Lamb Road/I-82 Southbound Ramps			
Eastbound Left	B	10.3	0.37
Northbound Approach	D	29.3	0.75
Westland Road/I-84 Westbound Ramps			
Westbound Approach	C	22.3	0.52
Northbound Left	A	9.7	0.16
Westland Road/I-84 Eastbound Ramps			
Eastbound Approach	D	33.9	0.65
Southbound Left	A	9.6	0.27
County Unsignalized Intersection			
Westland Road/Lamb Road/Walker Road			
Eastbound Approach	F	>100	>1.00
Westbound Left	A	9.7	0.29
Northbound Left	A	8.5	0.16
Southbound Approach	F	>100	>1.00
Westland Road/Livestock Road			
Westbound Approach	B	14.2	0.11
Southbound Left	A	8.5	0.01
Col Jordan Road/Stafford-Hansel Road			
Eastbound Approach	C	15.1	0.20
Northbound Left	A	8.1	0.01

4.9. FUTURE TRANSPORTATION DEFICIENCIES

Westland Road/Lamb Road/Walker Road Existing Alignment

The Westland Road/Lamb Road/Walker Road intersection is awkwardly aligned and the travel right-of-way is given to the minor traffic movements. The awkwardness of the intersection alignment is how Walker Road enters the intersection at an offset just north of the main intersection. In addition, the condition of the main travel right-of-way being along the Westland Road alignment rather than the main movement of Lamb Road to and from the north leg of Westland Road adds to the awkwardness of the Westland Road/Lamb Road/Walker Road intersection.

Stafford Hansel Road Realignment

The Stafford Hansel Road spacing from the I-84 Eastbound Ramps interchange with Westland Road is well below the ideal intersection spacing standard of 1,320 feet of an interchange ramp.

Railroad Crossing at Westland Road North of Westport Lane

Public comments received mentioned the at-grade railroad crossing at Westland Road north of Westport Lane is deficient. Vehicles crossing the railroad crossing at any significant speed complain about the roughness of the crossing.

Widening Westland Road to Current Roadway Standards

Based on the roadway inventory, the pavement section of Westland Road is 29 feet wide with two to four foot shoulders. Including the shoulder width, Westland Road ranges from 31 to 33 feet wide. The newly adopted road standard in the Umatilla County Transportation System Plan for rural major collector arterials such as Westland Road is 24 feet for the travel lanes plus paved four foot shoulders for a total pavement width of 32 feet. The existing roadway width with theshoulders is wide enough to meet the new standards. Next time Westland Road receives an overlay, the roadway should be paved to meet the new rural major collector standard of 32 feet.

Curve Along the South End of Westland Road

Between I-84 interchange ramps and Livestock Road, there is a curve along Westland Road that may restrict sight distance for certain parcels in this vicinity.

Rezoning

Several property owners within the study area would like to have their properties rezoned from EFU to LI (light industrial) or TC (tourist commercial). Their issue is that their property has little to no value as EFU (exclusive farm use) and should be rezoned to a more applicable zoning.

Section 5.0
Development of Improvements

5.1 DEVELOPMENT OF IMPROVEMENTS TO ADDRESS EXISTING AND FUTURE DEFICIENCES

Westland Road/Lamb Road/Walker Road Realignment

To mitigate the awkward intersection and poor levels of service of the Westland Road/Lamb Road/Walker Road intersection, two alternative intersection realignments were considered. The first realignment alternative involves realigning Walker Road away from the Lamb Road/Westland Road intersection. Under this improvement alternative, Walker Road would be aligned directly across Generation Road. Lamb Road would then "T" into Westland Road at a right angle. Westland Road would remain with the traffic right-of-way. The only draw back of this improvement is that it does not address to mitigate the heavy left turn movement from Lamb Road eastbound to Westland Road northbound. In the 2023 High Traffic Forecast Scenario, this intersection would meet signal warrants. The estimated planning cost estimate for this improvement is $405,320.

The second improvement alternative to mitigate the awkward intersection levels of service of the Westland Road/Lamb Road/Walker Road intersection would be to realign the west leg of Lamb Road and the north leg of Westland Road as a continuous curve with the traffic right-of-way. Walker Road would then be realigned at a right angle to the west with the new Lamb Road/Westland Road alignment. The south leg of Westland Road would be reconstructed to the west with the intersection created by Walker Road. Generation Road would remain as is. However, if problems occur, then Generation Road could be realigned to intersect with the south leg of Westland Road to minimize conflicts with the major thoroughfare of Lamb Road/Westland Road. The planning cost estimate for this project is $580,635. Figure 5-1 illustrates the two Westland Road/Lamb Road/Walker Road realignment options.

Stafford Hansel Road Realignment

Stafford Hansel Road is well within the ideal intersection spacing standard of 1,320 feet of an interchange ramp. Its realignment is addressed in the Local Street Plan section.

Railroad Crossing at Westland Road North of Westport Lane

Public comments received mentioned the need to upgrade and improve the railroad crossing at Westland Road north of Westport Lane. Upgrades to railroad crossings are typically very expensive. The estimated cost of upgrading and improving the railroad crossing is between $30,000 and $125,000.

Widening Westland Road to Current Roadway Standards

Based on the roadway inventory, the pavement section of Westland Road is 29 feet wide with two to four foot shoulders. Including the shoulder width, Westland Road ranges from 31 to 33 feet wide. The newly adopted road standard in the Umatilla County Transportation System Plan for rural major collector arterials such as Westland Road is 24 feet for the travel lanes plus paved four foot shoulders for a total pavement width of 32 feet. The existing roadway width with the shoulders are wide enough to meet the new standards. Next time Westland Road receives an overlay, the roadway should be paved to meet the new rural major collector standard of 32 feet. The estimated cost of this overlay is $641,900.

Curve Along the South End of Westland Road

Between I-84 interchange ramps and Livestock Road, there is a curve along Westland Road that may restrict sight distance for certain parcels in this vicinity. Since the additional future traffic volumes are only anticipated to increase moderately, it is not recommended to invest in the realignment of e Westland Road to straighten the curve. Instead, future development should look to create an east-west local access road north of Livestock Road at a point on Westland Road where sight distance is not restricted. This east-west road could provide sufficient access to most of the properties between the Union Pacific Railroad and I-84.

Rezoning

Rezoning of additional properties is not recommended at this time because of the enormous development potential of the existing commercial and industrial properties within the study area. Rezoning EFU (exclusive farm use) land would require a goal exception. Based on the current land supply in the study area, unincorporated Umatilla County, and adjacent cities, it is not likely that any attempts for a goal exception to rezone EFU would succeed or be technically justified.

5.2. TRANSPORTATION SYSTEM MANAGEMENT MEASURES

Due to limited congestion problems and limited existing and future utilization of roadway capacity, the need for the implementation of TSM measures is limited.

Ride Sharing Program

Some years ago ODOT has approached employers in this area to develop a ride share program. However, due to the limited number of employees in the study area and long and varying commute patterns of employees, the ride share program was not well received.

Westland Road Median

At the time of development of the Petro Stopping Center, it is anticipated that through the developed access management plan and local street network plan that Westland Road from the I-84 Westbound Ramps to the main full access intersection servicing the Petro Stopping Center that a median would be installed. This measure will help preserve capacity through the north end of the interchange area. The access management plan and local street network plan also allows a right in, right out driveway on both sides of Westland Road approximately 500 to 600 feet from the interchange ramps to facilitate local access.

Signage

During the public involvement process, it was mentioned that better signage in the study area was needed. Based on the field inventory and site visits, it was observed that signage does exist in the area. However, the location, condition, and size of the existing signage are not always effective. Signage is typically a maintenance issue and not covered in this type of plan. However, to facilitate the maintenance and better use of signs in the area, the discussion below establishes some standards and conventions of sign location and installation.

First, the location of signage should be such as to allow motorists adequate time to react to the signage and make proper decisions. For example, due to the rural nature of the area and the situation of many items such as signage to blend into the background unnoticed, signage should give adequate warning to the motorist before needing to make a decision and should be of maximum size recommended by the Manual of Uniform Traffic Control Devices or ODOT Sign Policy and Guidelines. Warning signs should be installed prior to stop signs and cross-street signs. Typically for an un-posted facility with a 50 mph speed limit, a warning sign associated with a stopping condition should be installed 375 from the point of interest.

The most typical advance warning signs that would be used in the study area would be a stop ahead sign known as a W3-1a sign, side road sign known as a W2-2 or W2-3 sign with a supplemental street name sign, a cross road known as a W2-1 sign with a supplemental street name sign. The supplemental street name sign may have standard lettering from 4 to 9 inches. Other warning signs that could be placed in the study include railroad crossing and fire station warning signs. The typical sizes of these warning signs range from 36 to 48 inches. Due to the vastness of the study area it may be desirable to use 48 inch warning signs. It is suggested that through the maintenance process of the Umatilla County Public Works Department that the signage within the study area be upgraded and replaced.

Upgrade of guide signs to the interstate can be coordinated with ODOT as to the type, location, and size of these signs.

5.3 LOCAL STREET NETWORK AND ACCESS MANAGEMENT PLAN

Introduction

The purpose of the development of a local street network and access management plan in the Westland Road/I-84/I-82 interchange area is to predefine the location of the local streets and driveways in relation to the two rural collector streets, Westland Road and Lamb Road.

The local street network and access management plan was developed by using the access spacing standards in the adopted 2002 Umatilla County Transportation System Plan as a guideline. Where physical constraints and/or long lot frontage existed, variances to the standards were sought to balance the need for local access versus through trip capacity.

Existing Access Spacing Standards

There are three relevant access spacing standards in developing the local street network and access management plan. The first standard is the spacing between a freeway ramp junction with a local cross street and the first full public access. The standard adopted in the 2002 Umatilla County Transportation System Plan is 1,320 foot spacing between a freeway ramp intersection with a local cross street and the first full access. This spacing standard is also consistent with the 1999 Oregon Highway Plan.

The second access spacing standard to consider in the development of the local street network and access management plan is the minimum public street to public street spacing standard. The 2002 Umatilla County Transportation System Plan requires that the minimum spacing standard between public roads on a designated rural collector arterial is 500 feet.

The third and final access spacing standard to consider is the minimum driveway spacing standard. The 2002 Umatilla County Transportation System Plan defines minimum driveway spacing on a rural collector arterial at 250 feet.

Existing Accesses on Westland Road south of I-84

Along Westland Road/Colonel Jordan Road, south of I-84 there are two public streets and three driveways within the study area. The two public streets are Stafford Hansel Road and Noble Road. Stafford Hansel Road is less than 200 feet from the I-84 Eastbound Ramp intersection with Westland Road/Colonel Jordan Road. Noble Road is more than 2,000 feet from the I-84 Eastbound Ramp intersection with Westland Road/Colonel Jordan Road.

The Shell Gas Station and Truck Stop and Barton Industries driveways are across from each other along Westland Road/Colonel Jordan Road and approximately 308 feet south of the I-84 Eastbound Ramp intersection. The only other driveway between Stafford Hansel Road and

Noble Road is an agricultural driveway to a field approximately 300 feet south of the Shell and Barton Industries driveways.

There are several substandard conditions along Westland Road/Colonel Jordan Road south of I-84. First, Stafford Hansel Road does not meet the minimum spacing standard between an interchange ramp and the first full access public street. The adopted Umatilla County Transportation System Plan standard is 1,320 feet, which is also consistent with the 1999 Oregon Highway Plan. Based on the 1,320 foot spacing standard, none of the driveways meet the current standard either.

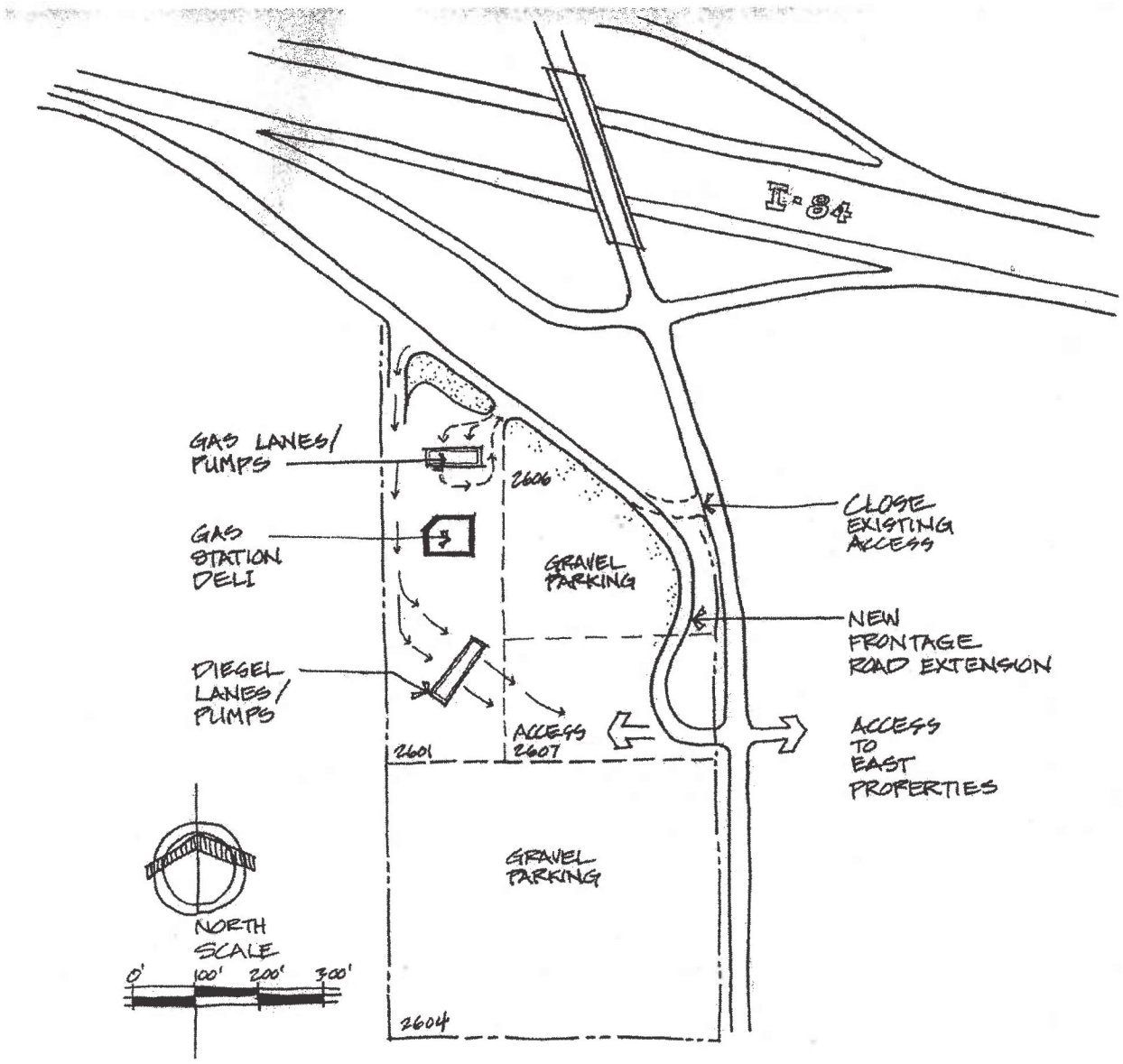
Proposed Future Accesses on Westland Road/Colonel Jordan Road South of I-84

The current 1,320 access spacing standards do not apply until the adjacent property redevelops. Redevelopment is possible only along the areas that are currently zoned commercial or industrial south of I-84. Even at the time of redevelopment, the subject parcels cannot meet the minimum 1,320 foot spacing requirement from the I-84 Eastbound Ramp intersection since the parcel length are less than 900 feet. Therefore, a variance to the standard is needed.

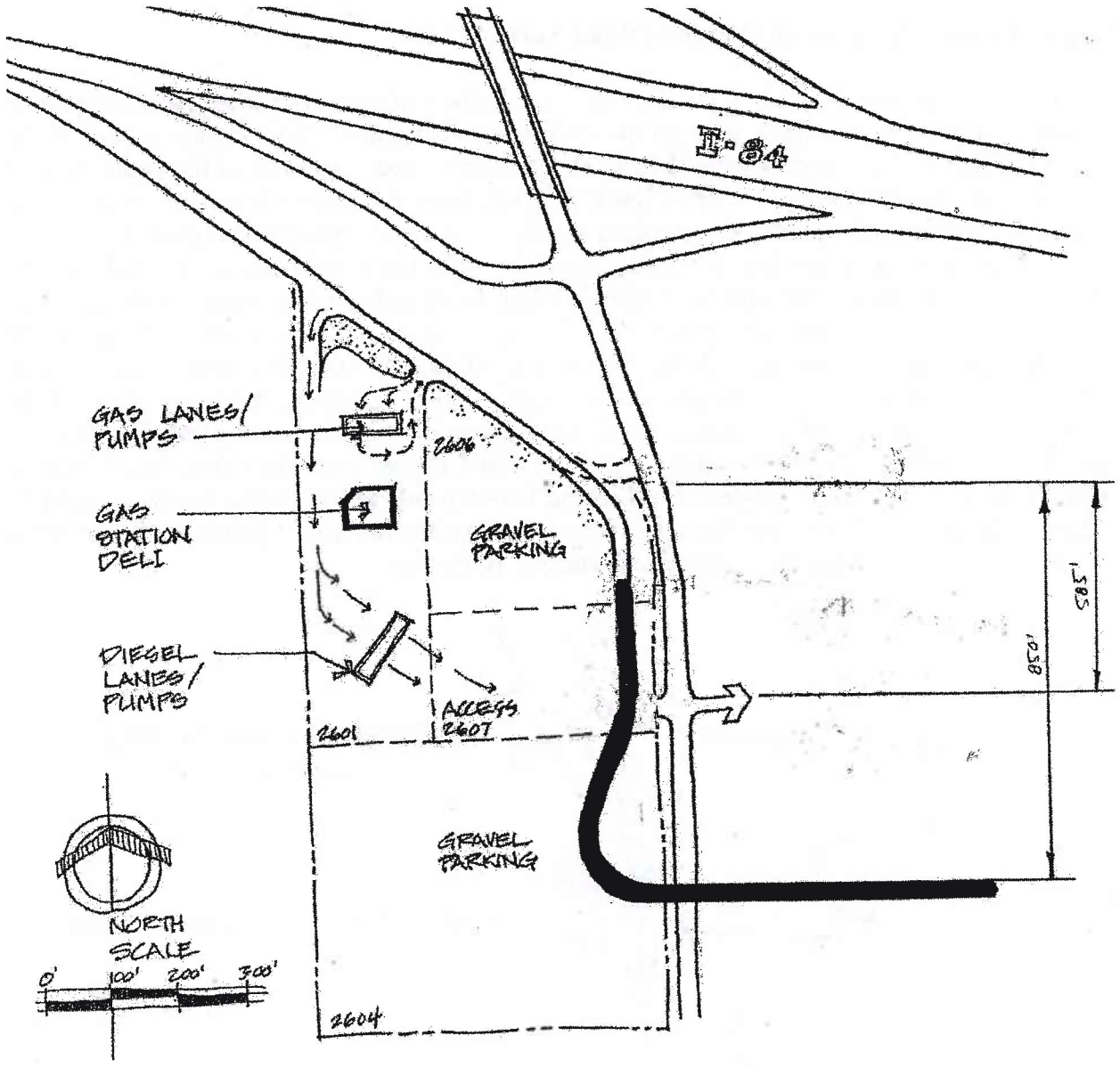
One of the purposes of this plan is to develop a future access plan that would be implemented at the time of redevelopment. By creating this plan in advance of development or redevelopment, the interchange area can be protected and any deviations to the standards pre-approved through the adoption of the local street network and access management plan of this study.

The most logical access management principal to guide the development of future access along Westland Road/Colonel Jordan Road south of I-84 is to consolidated driveways on both sides of the roadway and to make sure that driveways are across from each other. There are two alternatives that could work.

The Shell Gas Station/Truck Stop driveway is already along the southern parcel boundary and is directly across from the Barton Industries driveway. Stafford Hansel Road could be realigned by closing the existing Colonel Jordan Road/Stafford Hansel Road intersection and realigning Stafford Hansel parallel and southward along Colonel Jordan Road. This alignment would intersection at Colonel Jordan Road at the existing Shell Gas Station/Truck Stop and Barton Industries driveway. Although the spacing does not come close to the 1,320 foot spacing standard, it does significantly improve safety and the interaction between the I-84 Eastbound Ramp and Stafford Hansel Road traffic. Since the traffic volumes on Westland Road/Colonel Jordan Road south of I-84 are relatively low compared to the rest of the study area, the compromised spacing standards are not likely to generate any operational or safety problems. The figure on the next page illustrates this future access concept.



The other access option is to realign Stafford Hansel Road further south at the southern end of the Barton parcel. This would provide approximately 800 to 900 feet of separation between the I-84 Eastbound Ramps, Stafford Hansell Road, Shell Gas Station/Truck Stop access, and Barton Industries driveway. The figure below depicts this second access concept for Colonel Jordan Road south of I-84.



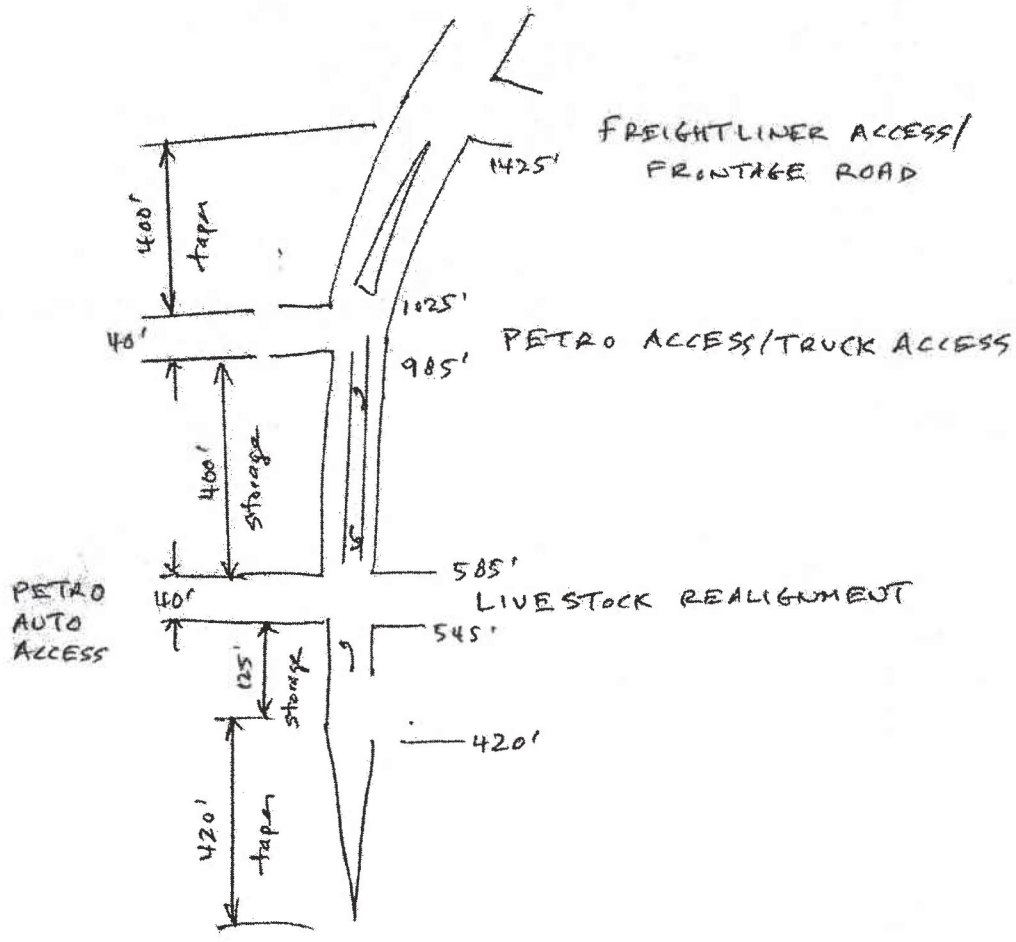
Existing Accesses on Westland Road North of I-84

Livestock Road is the only street or driveway that encroaches on the minimum access spacing standard from an interchange ramp. Livestock Road is less than 200 feet from the I-84 Westbound Ramp intersection with Westland Road.

The next access north of Livestock Road along Westland Road is the public street serving Freightliner. This street is approximately 1,425 feet from the I-84 Westbound Ramp intersection with Westland Road. It meets the minimum spacing requirement of 1,320 feet from the interchange ramp intersection.

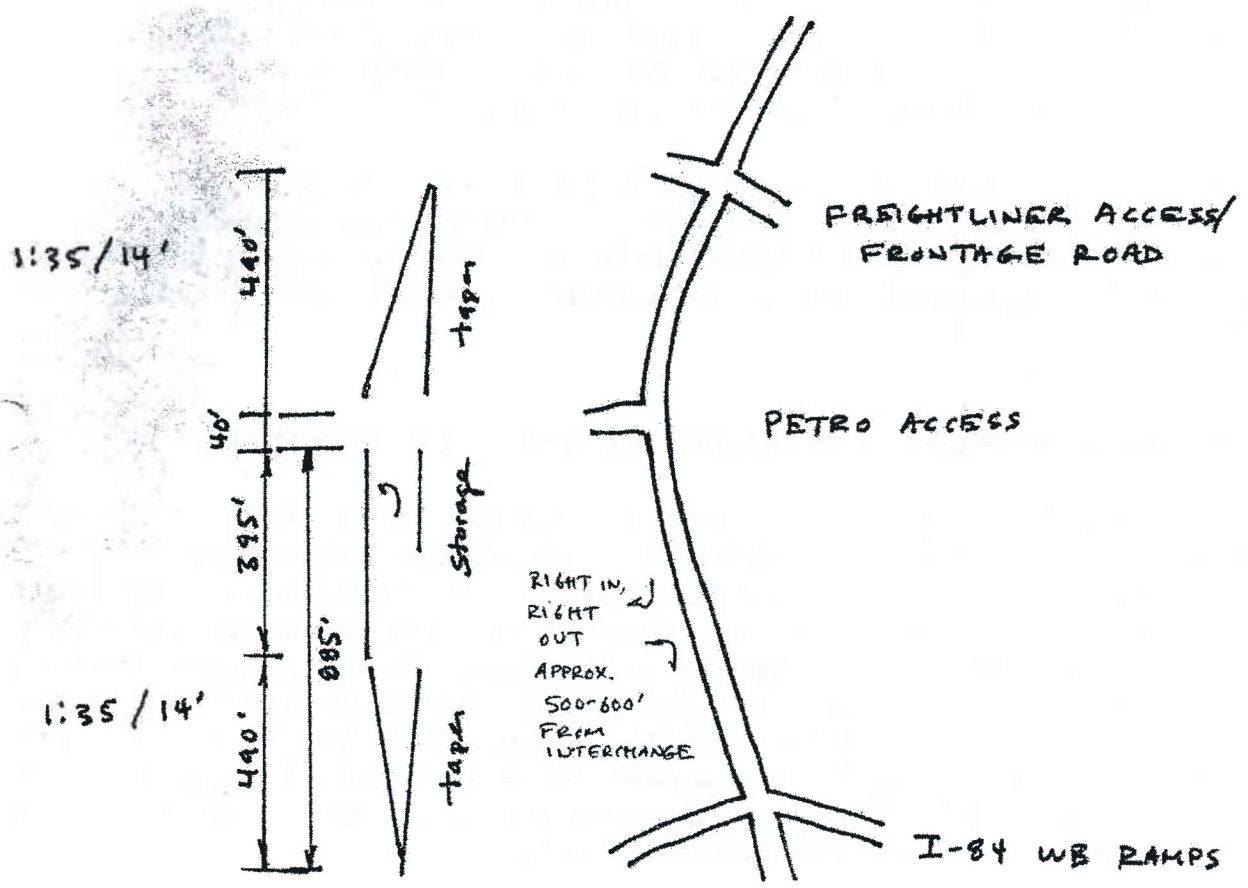
Proposed Future Accesses on Westland Road North of I-84

Although all of the access spacing standards are met in the section of Westland Road between I-84 and the Union Pacific Railroad with the exception of Livestock Road, future access of the Petro site on the west side of Westland Road street dictates reconsideration of the application of the access spacing standards. The Petro Truck Stop/Gas Station proposes to serve both autos and trucks. For this type of facility, it is standard practice to provide separate accesses for autos and trucks. If there is a need for two full access points between the Freightliner access and the I-84 interchange, then public street spacing becomes a significant issue in conjunction with necessary taper length and storage for queuing vehicles. The figure below shows how this concept would work in balancing all of the major design issues. Essentially the first full access would occur at 545 feet from the interchange ramps. This access would serve both the Petro site and the Livestock site. The second access full access for the trucks would then occur 985 feet from the interchange ramps. This access spacing standard would almost meet the public street spacing standard of 500 feet. Four hundred feet spacing between full access public accesses could be achieved. It should be noted that this concept assumes that the full access points would be public streets that would serve all of the adjacent and nearby properties.



Since the access option listed above is well below the access spacing standard between the interchange ramp and the first full access along Westland Road, if this alternative is implemented with the Petro development, then it shall be conditional. Umatilla County will allow this access concept as long as traffic congestion is limited and does not compromise the function of the Westland Road interchange ramps.

The second option in providing the Petro site access is to consolidate the truck and auto accesses to one access point along Westland Road. Based on necessary taper and storage requirements, a full access point would be provided at 885 feet from the interchange ramps. Right in, right out auto traffic could be accommodated by another driveway approximately 500 to 600 feet from the interchange ramps. This access alternative would force the Livestock Yard traffic to use the frontage road to access the Freightliner access to the north because the Petro access at 885 feet would be controlled by a median and would block left in and out traffic to and from Livestock Road. The other drawback to this alternative is that it mixes auto and truck traffic. This alternative concept is illustrated below.



Stable Road and Westport Lane should eventually be looped to provide better local access and circulation. Also, the Petro public street should be tied into this loop system.

Section 6.0
Improvements

The improvement alternatives were narrowed into four specific capital improvement projects. Each improvement is described and their funding potential discussed.

UPGRADE EXISTING STREET SIGNAGE IN AREA

Although the replacement and installation of signs is typically considered a maintenance issues, a street sign upgrade, replace, and addition project was developed to give Umatilla County and option to implement this improvement in the short term as one project rather than replacing and adding signs incrementally.

The signage improvement project includes $5,000 to replace and add signs in the study area. This budget allows for 10 to 20 news signs in the study area to be installed. The primary funding source for the signage improvement is Umatilla County's responsibility. In addition, if some of the ODOT signs are worn out and in need of replacement, Umatilla County may request that those signs be replaced through ODOT's maintenance program.

The new signage should be larger for easier visibility in the study area. Typically, the maximum size of warning signs is 48 inches by 48 inches. Also, lettering on supplemental street signs on cross street warning signs or street signs should be larger as well in the neighborhood of 9 inch lettering. These signs should be reflectorized according to the ODOT Sign Policy and Guidelines for easy visibility at night.

RAILROAD CROSSING AT WESTLAND ROAD NORTH OF WESTPORT LANE

The Westland Road at-grade railroad crossing is a concrete crossing. Based on a qualitative visual evaluation, the railroad crossing is a little rough and some of the concrete panels move when vehicles cross the tracks. In addition, the tracks have also worked loose and rattle. Several loose ties were observed and many of the spikes in the vicinity of the intersection are missing. This improvement project would tighten down the panels, secure the rails, and replace the crossing with a newer style concrete and rubber crossing to significantly improve the comfort of traveling over the crossing. In addition, since the condition under the crossing is unknown there is a possibility that securing the concrete panel and rail may involve repairing or replacing components of the rail. The cost of this improvement ranges from $55,000 to $125,000 depending on the actual condition of the existing crossing.

Funding for this project may be obtained from a variety of sources. First, since this crossing receives significant rail traffic from the Hinkle Rail Yards east of the study area, the Union Pacific Railroad may be approached for funding to maintain this crossing. Also, existing truck generators in the study area may be willing to voluntarily contribute toward the improvement if

there are assurances from Umatilla County that they would fund the balance of the project and the truck generators experience immediate benefit of the improvement.

WESTLAND RD/LAMB RD/WALKER RD REALIGNMENT

The preferred Westland Road/Lamb Road/Walker Road realignment is to realign the west leg of Lamb Road and the north leg of Westland Road as a continuous curve with the traffic right-of-way. Walker Road and the south leg of Westland Road would be realigned to be at a right angle with Lamb Road. In addition left turn pockets would be added on Lamb Road and the north leg of Westland Road. The total cost for this improvement is $590,000.

Although this project is likely the sole responsibility of Umatilla County, the county may consider approaching ODOT for some funding. The rationale of approaching ODOT for some funding is that the Lamb Road/I-82 interchange acts as a by-pass over the Union Pacific Railroad and increases the traffic pressure at the Westland Road/Lamb Road/Walker Road intersection. This additional traffic is a significant reason why this improvement is needed.

WIDENING WESTLAND ROAD TO CURRENT ROADWAY STANDARDS

Based on the roadway inventory, the pavement section of Westland Road is 29 feet wide with two to four foot shoulders. Including the shoulder width, Westland Road ranges from 31 to 33 feet wide. The newly adopted road standard in the Umatilla County Transportation System Plan for rural major collector arterials such as Westland Road is 24 feet for the travel lanes plus paved four foot shoulders for a total pavement width of 32 feet. The existing roadway width with the paving the shoulders is wide enough to meet the new standards. Next time Westland Road receives an overlay, the roadway should be paved to meet the new rural major collector standard of 32 feet. The cost of the overlay project is $642,000.

The funding of this project is the sole responsibility of Umatilla County. However, there may be some bicycle funding that could be applied for to pave the gravel shoulders.

PRIORITY OF IMPROVMENTS

The priority of improvements is listed in Table 1 below with a brief project description and planning level cost estimate.

The priority of the improvements in Table 1 was based on developing short range projects first that had a high likelihood of funding. Project #1, the upgrade of signage in the study area, is very inexpensive and Umatilla County may have the ability to fund this improvement project immediately. The Westland Road At-Grad Railroad Crossing Rebuild is a very popular project among truck generators in the study area and may have the ability to be funded from private

interests as well as Umatilla County, ODOT, and the Union Pacific Railroad. Therefore, it is prioritized as Project #2.

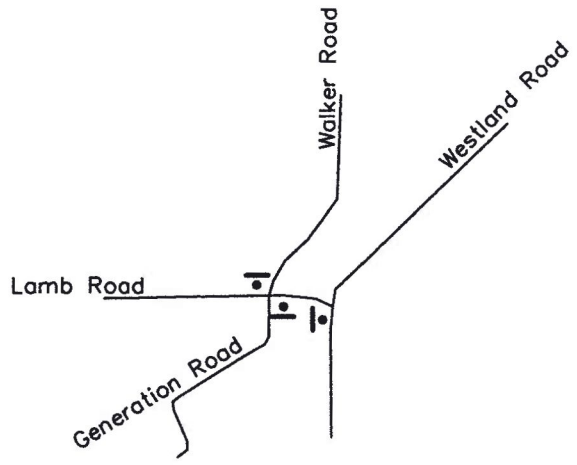
Mid-range to long range projects includes the Westland Road/Lamb Road/Walker Road Intersection Realignment and the Westland Road Overlay and Minor Widening. These projects are classified as mid-range to long range improvement projects due to their cost.

Table 1
Capital Improvement Cost – Street Improvements

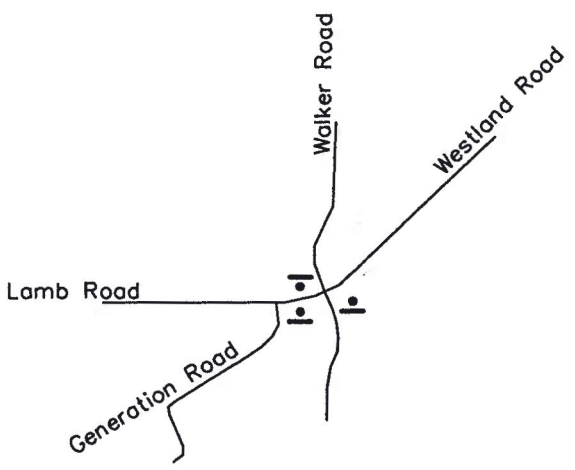
Improvement Description	Cost
1. Upgrade existing signage in study area	$5,000
2. Westland Road At-Grade Railroad Crossing Rebuild - Tighten down existing panels, secure loose rails, and replace existing crossing with new concrete and rubber style crossing	$125,000[1]
3. Westland Road/Lamb Road/Walker Road Intersection Realignment – Realign intersection for Lamb Road and the north leg of Westland Road to have the travel right-of-way, realign Walker Road with the south leg of Westland Road, add left turn pockets to Lamb Road and north leg of Westland Road approaches	$590,000
4. Westland Road Overlay and Minor Widening – Overlay Westland Road from the I-84 Westbound Ramps to Agnew Road and minor widening and paving of shoulders to develop four foot paved shoulders on Westland Road	$642,000
Grand Total	**$1,362,000**

[1] This project cost estimate may actually be as low as $55,000, depending on the conditions of the ties under the crossing.

Alternative 1



Alternative 2



Westland Road Interchange Transportation Plan

Figure 5-1
Westland Road/Lamb Road/Walker Road
Realignment Options

NOT TO SCALE