



# Oregon

John A. Kitzhaber, M.D., Governor

**Department of Land Conservation and Development**

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## **NOTICE OF ADOPTED CHANGE TO A COMPREHENSIVE PLAN OR LAND USE REGULATION**

Date: 10/10/2014  
Jurisdiction: Morrow County  
Local file no.: ATSP-082,ATSP-083,AC  
DLCD file no.: 007-14

The Department of Land Conservation and Development (DLCD) received the attached notice of adopted amendment to a comprehensive plan or land use regulation on 10/03/2014. A copy of the adopted amendment is available for review at the DLCD office in Salem and the local government office.

Notice of the proposed amendment was submitted to DLCD 35 days prior to the first evidentiary hearing.

### Appeal Procedures

Eligibility to appeal this amendment is governed by ORS 197.612, ORS 197.620, and ORS 197.830. Under ORS 197.830(9), a notice of intent to appeal a land use decision to LUBA must be filed no later than 21 days after the date the decision sought to be reviewed became final. If you have questions about the date the decision became final, please contact the jurisdiction that adopted the amendment.

A notice of intent to appeal must be served upon the local government and others who received written notice of the final decision from the local government. The notice of intent to appeal must be served and filed in the form and manner prescribed by LUBA, (OAR chapter 661, division 10).

If the amendment is not appealed, it will be deemed acknowledged as set forth in ORS 197.625(1)(a). Please call LUBA at 503-373-1265, if you have questions about appeal procedures.

### DLCD Contact

If you have questions about this notice, please contact DLCD's Plan Amendment Specialist at 503-934-0017 or [plan.amendments@state.or.us](mailto:plan.amendments@state.or.us)



## NOTICE OF ADOPTED CHANGE TO A COMPREHENSIVE PLAN OR LAND USE REGULATION

FOR DLCD USE

File No.: 007-14 {22383}

Received: 10/3/2014

Local governments are required to send notice of an adopted change to a comprehensive plan or land use regulation **no more than 20 days after the adoption.** (See [OAR 660-018-0040](#)). The rules require that the notice include a completed copy of this form. **This notice form is not for submittal of a completed periodic review task or a plan amendment reviewed in the manner of periodic review.** Use [Form 4](#) for an adopted urban growth boundary including over 50 acres by a city with a population greater than 2,500 within the UGB or an urban growth boundary amendment over 100 acres adopted by a metropolitan service district. Use [Form 5](#) for an adopted urban reserve designation, or amendment to add over 50 acres, by a city with a population greater than 2,500 within the UGB. Use [Form 6](#) with submittal of an adopted periodic review task.

Jurisdiction: Morrow County

Local file no.: **ATSP-082; ATSP-083; AC(M)-084; AZ-085; AZ(M)-086**

Date of adoption: 10/01/14

Date sent: 10/3/2014

Was Notice of a Proposed Change (Form 1) submitted to DLCD?

Yes: Date (use the date of last revision if a revised Form 1 was submitted): 07/22/14

No

Is the adopted change different from what was described in the Notice of Proposed Change? Yes No

If yes, describe how the adoption differs from the proposal:

Local contact (name and title): Carla McLane, Planning Director

Phone: 541-922-4624

E-mail: [cmclane@co.morrow.or.us](mailto:cmclane@co.morrow.or.us)

Street address: P.O. Box 40

City: Irrigon, OR

Zip: 97844-

### PLEASE COMPLETE ALL OF THE FOLLOWING SECTIONS THAT APPLY

#### **For a change to comprehensive plan text:**

Identify the sections of the plan that were added or amended and which statewide planning goals those sections implement, if any:

Added two Interchange Area Management Plans as part of the Transportation Element and the Transportation System Plan. Goal 12 was addressed.

#### **For a change to a comprehensive plan map:**

Identify the former and new map designations and the area affected:

Change from \_\_\_\_\_ to Interchange Management Area 20,872 in both counties acres. A goal exception was required for this change.

Change from \_\_\_\_\_ to \_\_\_\_\_ acres. A goal exception was required for this change.

Change from \_\_\_\_\_ to \_\_\_\_\_ acres. A goal exception was required for this change.

Change from \_\_\_\_\_ to \_\_\_\_\_ acres. A goal exception was required for this change.

Location of affected property (T, R, Sec., TL and address):

The subject property is entirely within an urban growth boundary

The subject property is partially within an urban growth boundary

**If the comprehensive plan map change is a UGB amendment** including less than 50 acres and/or by a city with a population less than 2,500 in the urban area, indicate the number of acres of the former rural plan designation, by type, included in the boundary.

Exclusive Farm Use – Acres:	Non-resource – Acres:
Forest – Acres:	Marginal Lands – Acres:
Rural Residential – Acres:	Natural Resource/Coastal/Open Space – Acres:
Rural Commercial or Industrial – Acres:	Other: – Acres:

**If the comprehensive plan map change is an urban reserve** amendment including less than 50 acres, or establishment or amendment of an urban reserve by a city with a population less than 2,500 in the urban area, indicate the number of acres, by plan designation, included in the boundary.

Exclusive Farm Use – Acres:	Non-resource – Acres:
Forest – Acres:	Marginal Lands – Acres:
Rural Residential – Acres:	Natural Resource/Coastal/Open Space – Acres:
Rural Commercial or Industrial – Acres:	Other: – Acres:

**For a change to the text of an ordinance or code:**

Identify the sections of the ordinance or code that were added or amended by title and number:

Morrow County Zoning Ordinance Article 4 Supplementary Provisions Section 4.010 Access.

**For a change to a zoning map:**

Identify the former and new base zone designations and the area affected:

Change from	to	Acres:
Change from	to	Acres:
Change from	to	Acres:
Change from	to	Acres:

Identify additions to or removal from an overlay zone designation and the area affected:

Overlay zone designation: Interchange Management Area      Acres added: 20,872 in both counties  
Acres removed:

Location of affected property (T, R, Sec., TL and address): Umatilla Army Depot and select adjacent properties.

List affected state or federal agencies, local governments and special districts: ODOT, Port of Morrow, US Army, DLCD, Morrow County Public Works, Umatilla County, UMADRA (now the CDA)

Identify supplemental information that is included because it may be useful to inform DLCD or members of the public of the effect of the actual change that has been submitted with this Notice of Adopted Change, if any. If the submittal, including supplementary materials, exceeds 100 pages, include a summary of the amendment briefly describing its purpose and requirements.

Included are two Interchange Area Management Plans, the combined technical appendices, Morrow County Zoning Ordinance Article 4 Supplementary Procedures, vicinity map that also identifies the Interchange Management Area, and the adopting ordinance. The material exceeds 100 pages and the size available to upload or email. The combined technical appendices will be provided to DLCD under separate cover.



## PLANNING DEPARTMENT

P. O. Box 40 • Irrigon, Oregon 97844  
(541) 922-4624 or (541) 676-9061 x 5503  
FAX: (541) 922-3472

### NOTICE OF DECISION

October 3, 2014

ATSP-082-14; ATSP-083-14; AC(M)-084-14; AZ-085-14; AZ(M)-086-14  
Morrow County Transportation System Plan, Comprehensive Plan and Map; and Morrow  
County Zoning Ordinance and Map amendments effecting the Army Depot Access Road and  
Paterson Ferry interchanges in the vicinity of the Umatilla Army Depot.

This notice is to inform you that on October 1, 2014, the Morrow County Court adopted  
Ordinance Number ORD-2014-9 amending the Morrow County Transportation Plan,  
Comprehensive Plan, Comprehensive Plan Map, Zoning Ordinance, and Zoning Ordinance  
Map. Specifically the amendment adopts two Interchange Area Management Plans, their  
Technical Appendices, changes to the Morrow County Zoning Ordinance Article 4  
Supplementary Provisions Section 4.010 Access, and amendment to both the Comprehensive  
Plan and Zoning Maps adding the Interchange Management Area. Enclosed is the adoption  
ordinance; other documents are available by request.

The requirements for filing an appeal of the decision to the Land Use Board of Appeals (LUBA)  
are set forth in ORS 197.830 to 197.845. State law and associated administrative rules  
promulgated by LUBA describe the period within which any appeal must be filed and the  
manner in which such an appeal must be commenced. Presently, ORS 197.830(9) requires  
that a notice of intent to appeal plan or land use regulation amendments adopted pursuant to  
ORS 197.610 to 197.625 "shall be filed not later than 21 days after notice of the decision sought  
to be reviewed is mailed or otherwise submitted to parties entitled to notice under ORS  
197.615." Notice of this decision was mailed on October 3, 2014. The deadline to appeal is  
October 24, 2014.

Cordially,

A handwritten signature in cursive script, appearing to read "Carla McLane".

Carla McLane  
Planning Director

I certify that on October 3, 2014, I mailed a copy of this Notice of Decision by first class mail to  
all persons entitled to notice of this decision.

A handwritten signature in cursive script, appearing to read "Stephen W. Harris".  
Signature Date 10/3/14

BEFORE THE MORROW COUNTY COURT  
OF MORROW COUNTY

AN ORDINANCE AMENDING THE MORROW COUNTY COMPREHENSIVE PLAN BY INCORPORATING TWO INTERCHANGE AREA MANAGEMENT PLANS AS PART OF THE TRANSPORTATION SYSTEM PLAN, AMEND THE COMPREHENSIVE PLAN AND ZONING MAPS DEPICTING THE INTERCHANGE MANAGEMENT AREA, AND AMENDING THE ZONING ORDINANCE ARTICLE 4 SUPPLEMENTARY PROVISIONS, SPECIFICALLY SECTION 4.010 ACCESS..

COUNTY ORDINANCE

NO. ORD-2014-9

WHEREAS, ORS 203.035 authorizes Morrow County to exercise authority within the County over matters of County concern; and

WHEREAS, Morrow County adopted a Comprehensive Land Use Plan which was acknowledged by the Land Conservation and Development Commission on January 15, 1986; and

WHEREAS, the Umatilla Army Depot has been in operation since the 1940s with limited review under Oregon's statewide planning goals; and

WHEREAS, Morrow County is a partner in the Local Reuse Authority (LRA) which is working to receive property at the Umatilla Army Chemical Depot (UMCD) upon its closure under the Base Realignment and Closure process and planning and zoning those lands is a necessary task; and

WHEREAS, Morrow County did take limited action in 1994 to plan and zone a portion of the southwest corner of the Umatilla Army Depot; and

WHEREAS, based on work of the Local Reuse Authority Morrow County initiated work to plan and zone all of the Umatilla Army Depot lands within Morrow County which will be effective November 1, 2014; and

WHEREAS, this action completes the necessary planning and zoning by addressing the requirements of Goal 12 Transportation; and

WHEREAS, the Morrow County Planning Commission held a public hearing to review the request on August 26, 2014, at the Heppner City Hall in Heppner, Oregon; and

WHEREAS, the Morrow County Planning Commission considered the request and unanimously recommended approval of the request and adopted Planning Commission Final Findings of Fact; and

WHEREAS, the Morrow County Court held a public hearing to consider the recommendation of the Morrow County Planning Commission on September 17, 2014, at the Port of Morrow Riverfront Center in Boardman, Oregon; and

WHEREAS, the Morrow County Court accepted the Planning Commission recommendation and deemed the amendments appropriate to facilitate development of the Umatilla Army Depot lands.

NOW THEREFORE THE COUNTY COURT OF MORROW COUNTY ORDAINS AS FOLLOWS:

Section 1 Title of Ordinance:

This Ordinance shall be known, and may be cited, as the 2014 Transportation System Plan Amendment to address future development of the Umatilla Army Depot.

Section 2 Affected Documents:

Transportation System Plan: Attachment A, consisting of the Paterson Ferry Interchange Area Management Plan, the Army Depot Access Road Interchange Area Management Plan, and the shared Technical Appendices, will be added to the Transportation System Plan

Comprehensive Plan and Zoning Maps: Attachment B represents the Interchange Management Area which will be mapped as part of the Comprehensive Plan and Zoning Maps.

Use Zones: Attachment C is Article 4 Supplementary Provisions, which will be adopted in its entirety, to capture changes in Section 4.010 Access that deals with notice provisions of actions within the Interchange Management Area.

Section 3 Effective Date

As the transfer of land from the Federal Government to the Local Reuse Authority is not scheduled to take place until at least 2015 and more likely 2016, the Morrow County Court would not declare an emergency. This Adopting Ordinance and

changes to its affected documents would be effective on November 1, 2014, to correspond with the effective date of the land use adoptions.

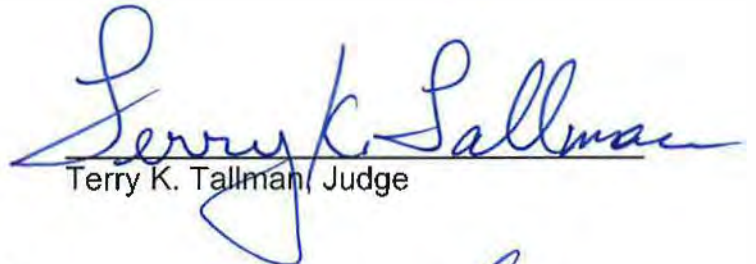
Date of First Reading: September 24, 2014


Date of Second Reading: October 1, 2014

DONE AND ADOPTED BY THE MORROW COUNTY COURT THIS 1<sup>st</sup> DAY OF OCTOBER, 2014

MORROW COUNTY COURT:

ATTEST:

  
Terry K. Tallman, Judge

  
Bobbi Childers  
County Clerk



  
Ken Grieb, Commissioner

  
Leann Rea, Commissioner

## ARTICLE 4. SUPPLEMENTARY PROVISIONS

**SECTION 4.010. ACCESS.** Intent and Purpose: The intent of this ordinance is to manage access to land development while preserving the flow of traffic in terms of safety, capacity, functional classification, and level of service.

Major roadways, including highways, arterials, and collectors serve as the primary network for moving people and goods. These transportation corridors also provide access to businesses and homes and have served as the focus for commercial and residential development. If access points are not properly designed, these roadways will be unable to accommodate the needs of development and retain their primary transportation function. This ordinance balances the right of reasonable access to private property with the right of the citizens of Morrow County and the State of Oregon to safe and efficient travel.

This ordinance shall apply to all public roadways under the jurisdiction of Morrow County and to application for development for any property that abuts these roadways.

This ordinance is adopted to implement the land access and access management policies of Morrow County as set forth in the Transportation System Plan. Access shall be provided based upon the requirements below:

A. Minimum Lot Frontage Requirement. Every lot shall abut a street, other than an alley, for at least 50 feet, except on cul-de-sacs where the frontage may be reduced to 30 feet.

B. Access Permit Requirement. Where access to or construction on a county road is needed, an access permit or right-of-way permit from Morrow County Public Works department is required subject to the requirements in this Ordinance. Where access to a state highway is needed, an access permit from ODOT is required as part of the land use application. Where access is needed to a road managed by the Forest Service or other entity, an access permit or other authorization from the appropriate entity shall be required as part of the land use application.

C. Emergency Vehicle Access. It is the responsibility of the landowner to provide appropriate access for emergency vehicles at the time of development. A dead-end private street exceeding one hundred-fifty (150) feet in length shall have an adequate turn around facility approved by the appropriate Fire Marshal or, if the Fire Marshal fails to review the private street, approval by the Building Official or his designee.

D. Easements and Legal Access: All lots must have access onto a public right of way. This may be provided via direct frontage onto an existing public road, a private roadway, or an easement. Minimum easement requirements to provide legal access shall be as follows:

1. 1000' or less, a minimum easement width of 20'
2. More than 1000', a minimum easement width of 40'
3. Parcels where 3 or more lots share an access (current or potential), a minimum easement of 60'.

E. Access Spacing Requirements for Development Accessing State Highways. Applications for development with access onto state highways shall be provided to ODOT for review, to



ensure consistency with adopted ODOT Access Management Standards shown in Table 4.010-1. These standards apply only to unsignalized access points. Where a right of access exists, a property shall be allowed to have access onto a state highway at less than adopted access spacing requirements only if all the following conditions are met:

1. The property does not have reasonable access via an alternative to the state highway;
2. There are no other possible access options along the parcel's highway frontage; and
3. The access spacing standards cannot be accomplished.

When a proposed access onto a state highway does not meet the access spacing standards in Table 4.010-1, a deviation from standard will be considered by the ODOT Region Manager, subject to requirements in OAR 734-051-0135.

TABLE 4.010-1  
ACCESS MANAGEMENT STANDARDS FOR MORROW COUNTY  
NON-INTERSTATE HIGHWAYS

Highway	Classification	Access Spacing Standards for Public or Private Unsignalized Access (ft) for Posted Speed Indicated (mph)				
		>55	50	40 & 45	30 & 35	<25
US 730, OR 74	Regional	990	830	750	600	450
OR 206, OR 207	District	700	550	500	400	400

REFERENCE: OREGON ADMINISTRATIVE RULES SECTION 734-051 (2004)

F. Access within the Influence Area of an Interchange

1. Access within the influence area of existing or proposed state highway interchanges for which there is no adopted Interchange Area Management Plan is regulated by standards in OAR 734-051. These standards do not retroactively apply to interchanges existing prior to adoption of the 1999 Oregon Highway Plan, except or until any redevelopment, change of use, or highway construction, reconstruction or modernization project affecting these existing interchanges occurs. 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 standard.
2. Access within a mapped and adopted IAMP Management Area of an existing or proposed state highway interchange is regulated by the adopted plan associated with that interchange. In an IAMP Management Area, proposed access shall be consistent with the associated Access Management Plan.

G. Signalized Intersection Spacing on State Facilities. New traffic signals proposed for state facilities, whether the intersecting facility is a public or private road, shall meet the requirements for installation of a traffic signal on a state highway in OAR 734-020-0400. New traffic signals on state facilities must be approved by the State Traffic Engineer. For approval of a new traffic signal on a County facility as part of a condition of development approval, the applicant shall be required to show, through analysis prepared by a qualified professional engineer registered in the State of Oregon, that the signal is warranted to improve traffic operations, address safety deficiencies, or a combination, based upon traffic signal warrants in the current version of the *Manual on Uniform Traffic Control Devices*.

H. Access Spacing Requirements for Development Accessing County Facilities. All developments shall have legal access to a County or public road. Except for interim access as provided in Section 4.010 H [Interim Access], access onto any County road in the unincorporated or incorporated urban area shall be permitted only upon issuance of an access permit upon demonstration of compliance with the provisions of the County road standards and the standards of Section 4.010.

For County roadways designated as major collector or arterial in the Transportation System Plan, the standards in Table 4.010-2 apply for intersections created by a new public roadway, new private roadway or new private driveway. For County roadways designated as minor collectors or local access roads, intersections created by a new public roadway, new private roadway or new private driveway shall meet minimum County traffic safety and operational requirements, including sight distance, as determined by the County Engineer.

TABLE 4.010-2  
ACCESS MANAGEMENT STANDARDS FOR MORROW COUNTY ROADWAYS

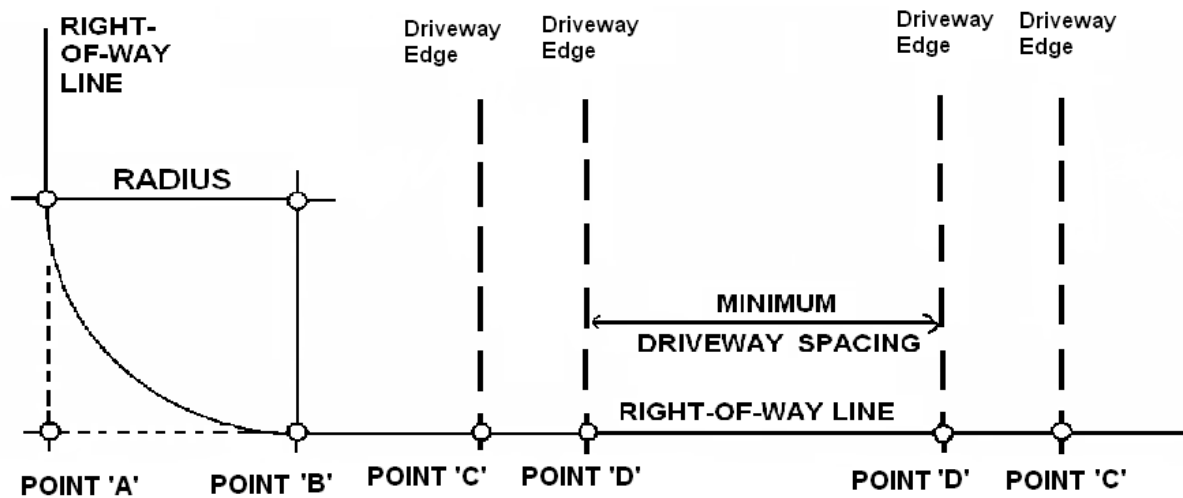
Classification	Access Spacing Standards for Public or Private Access (ft)		
	Public Roadway	Private Roadway	Private Driveway <sup>a</sup>
Arterial	600	600	300
Collector	300	300	100
Local	200	200	Access to each lot

a. For most roadways, at-grade crossings are appropriate. Also, allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety. Any access to a state highway requires a permit from the district office of ODOT and is subject to the access spacing standards in Table 4.010-1 in this section.

No use will be permitted to have direct access to a street or road except as specified below, or as provided in Section 4.010.H (Interim Access). Access spacing shall be measured from existing or approved accesses on either side of a street or road. Measurements shall be made from easement or right-of-way line to easement or right-of-way line. (See following access diagram where R/W = Right-of-Way; P.I. = Point-of-Intersection where P.I. shall be located based upon a 90 degree angle of intersection between ultimate right-of-way lines, and 'C' and 'D' = each side of adjacent accesses to private property.

1. All minimum distances stated in the following sections shall be governed by sight distance requirements according to this Ordinance and applicable County Road Standards.

2. All minimum distances stated in the following sections shall be measured to the nearest easement line of the access or edge of travel lane of the access on both sides of the road.
3. The minimum curb radius shown in the diagram below (i.e., distance from Point "A" to Point "B") shall be 15 feet. In areas zoned for industrial uses, the minimum curb radius shall be 30 feet. At intersections between facilities classified as major collector, arterial or highway, any new or modified intersection shall be designed to accommodate a WB-50 Semitrailer Design Vehicle. If either route is designated by the County as a truck route, the intersection shall be designed to accommodate a WB-65 Interstate Semitrailer Design Vehicle. The curb alignment shall be designed so that the design vehicle can complete a right turn without entering a lane used by opposing traffic.
4. All minimum distances between accesses shall be measured from existing or approved accesses on both sides of the road.
5. Minimum spacing between driveways shall be measured from Point "D" to Point "D" as shown below (i.e., the edges of adjacent driveways closest to each other).
6. In all instances, access points near an intersection with a Collector or Arterial shall be located beyond the influence of standing queues of the intersection in accordance with AASHTO standards. Additionally, access shall be located beyond the back of any left turn refuge either existing on the affected road or required to accommodate the proposed development. This requirement may result in an access spacing greater than one hundred (100) feet in the case of a collector, or 300 feet in the case of an arterial.
7. Access onto local roads will not be permitted within ten (10) feet of Point "B" as shown below. If no radius exists, access will not be permitted within twenty-five (25) feet of Point "A".
8. Access onto collector roads will not be permitted within fifty (50) feet of Point "B" as shown below. If no radius exists, access will not be permitted within sixty-five (65) feet of Point "A". Where a common or shared access is available it shall be used, provided that such use will not result in operational or safety problems. Minimum spacing between driveways shall be one-hundred (100) feet.
9. Direct access to an arterial will be permitted provided that Point 'C' of such access is more than three hundred (300) feet from any intersection Point 'A' or other access to that minor arterial.



I. Interim Access onto County Facilities. No development with sole access onto a County arterial or major collector shall be denied based only on an inability to provide an access that meets applicable access spacing standards. In such an event, the use may be issued an interim access permit which shall expire when access as required under this Ordinance becomes available. An interim access permit may be granted based upon the following:

1. The site is situated such that adequate access cannot otherwise be provided in accord with the access spacing requirements of this Code.
2. The interim access shall meet minimum County traffic safety and operational requirements, including sight distance.
3. Alternate access shall *not* be deemed adequate and connections to alternate access shall *not* be required if the resulting route of access would require a trip in excess of one (1) block or five-hundred (500) feet out of direction (whichever is less).
4. The property owner signs a consent to participate agreement for the formation of a Local Improvement District or similar financing mechanism for the primary purpose of constructing a public road or right-of-way providing access to the arterial or collector road; such access shall meet the minimum applicable County standard.
5. The property owner records an agreement to participate in any project that would consolidate access points where such project would not result in new or more severe traffic operation or safety problems.
6. The property owner records an agreement to abandon use of the existing private access way when an adequate alternative access becomes available.

**SECTION 4.020. SIGHT DISTANCE.** In all zones, adequate sight distance shall be maintained at the intersection of two roads (public or private), a road intersecting a private driveway, or a road crossing a railroad.

A. Sight Distance Requirements for New Accesses. It is the intent of this section to ensure that each new access point or each new lot or parcel created or development in the County will have a safe access to a public road, with the exception of development actions listed in Section 4.020.B. but are subject to improvements to maximize sight distance to the extent practicable by the County Operations Division through an Access Permit or Right-of-way Permit:

1. Existing access points that do not satisfy the sight distance standards and are on property included with a development action which will not add any additional vehicle trips to that access, are exempt from this Section. Improvements at these existing access points may be required of the applicant to maximize sight distance to the extent practicable through an Access Permit application.
2. The minimum intersectional sight distance shall be based on the vehicular speeds of the road. The vehicular speeds for the purpose of determining intersectional sight distance shall be the greater of the following, to be selected by the County Engineer or designee.
  - a. Design Speed - A speed selected by a registered engineer (Oregon) for purposes of design and correlation of those features of a road, such as curvature, superelevation, and sight distance, upon which the safe operation of vehicles is dependent.
  - b. Posted Speed - That speed which has been established by the Oregon State Speed Control Board and is posted by the County.
  - c. Eighty-fifth Percentile Speed - That speed as certified by a registered engineer (Oregon) below which 85 percent of all traffic units travel, and above which 15 percent travel. The eighty-fifth percentile speed shall be measured at the point where the sight restriction occurs.
3. The intersectional sight distance shall:
  - a. Be based on an eye height of 3.5 feet and an object height of 4.25 feet above the road; and
  - b. Be assumed to be 10 feet from the near edge of pavement or the extended curb line or the near edge of the graveled surface of a gravel road to the front of a stopped vehicle.
4. Minimum intersectional sight distance shall be equal to ten (10) times the vehicular speed of the road such as in the table below.

**INTERSECTIONAL SIGHT DISTANCE**

MPH	DISTANCE ALONG CROSSROAD (FT)
25	250
30	300
35	350
40	400
45	450
50	500
55	550

5. Intersectional sight distance values shall conform to (3) above. For significant road improvement projects, the above intersectional standards shall be met in addition to the applicable AASHTO roadway sight distance standards.
  
6. In those instances where there are no access locations available to the site that meet or can meet the sight distance requirements, a written request for modification may be submitted to the County Engineer or designee. The request for modification of the sight distance requirements shall be subject to the following requirements:
  - a. Submitted and certified by a registered engineer (Oregon);
  - b. Nationally accepted specifications or standards are documented and referenced;
  - c. Certification that the modification will not compromise safety or the intent of the County's transportation standards;
  - d. Agreement that the cost of any modifications agreed to must be borne by the applicant; and
  - e. Statement that there is no location available to provide an alternative access location which currently meets the sight distance requirements, or which can be altered to meet the sight distance requirements. Alterations needed to provide adequate sight distance include but are not limited to grading and the removal of vegetation. For the purpose of this subsection alternative access location means:
    - i. Any location on the proposed development site which meets or can meet the sight distance requirements; or
    - ii. Any location off the proposed development site which can provide access to the site by an existing access easement or through an access easement which will be provided to the site as part of the development application. Such an off-site access must be shown to meet or be able to meet sight distance requirements.

B. Accesses Exempt from Sight Distance Requirements. Accesses for the following development actions are exempt from the Sight Distance standards (Section 4.020.A), but

are subject to improvements to maximize sight distance to the extent practicable by the County Operations Division through an Access Permit or Right-of-way Permit:

1. Replacement dwellings;
2. Nonbuildable parcels;
3. Applications for one dwelling on an existing vacant parcel;
4. Home Occupation applications in the EFU, FU, SF-40, FR-2 and RR-1 zones; or
5. Applications which will not add additional vehicle trips to an existing access which does not meet the sight distance standards.

**SECTION 4.035 PERMIT REQUIREMENTS FOR LAND USE DEVELOPMENT.** Except where otherwise noted, all proposed projects should meet the following Plot Plan Requirements as described in Table 4.035-1 below. A common threshold for a TIA (traffic impact analysis) applying to all types of development is 400 daily trips (e.g., 40 houses). Trip generation should be estimated using the current edition of *Trip Generation* by the Institute of Transportation Engineers, other similar published resources, or actual driveway counts of similar land uses. The County Planning Commission, County Planning Director or County Public Works Director or designee may require a TIA for any level of development. TIA requirements are described in the Appendix.

TABLE 4.035-1  
PERMIT REQUIREMENTS BY TYPE OF LAND USE DEVELOPMENT

Permit Type	Plot Plan Requirements		Conditions				Review/Approval Type	
	<u>Footprint (setbacks)</u>	<u>Access*</u>	<u>Transportation Improvements</u>	<u>DEQ Site Suitability</u>	<u>Parking</u>	<u>Sign</u>	<u>Review</u>	<u>Action</u>
<b>Zoning Permit</b>								
Residential	Yes	Designated access.	Frontage improvements.	Yes	N/A	N/A	Staff	Bldg. permits Road approach permit
Commercial	Yes	Legal access via r/w or easement.	Under 400 trips: Frontage improvements. Over 400 trips: TIA.		Yes	Yes	Staff	Bldg. permits Road approach permit
Industrial	Yes	Legal access via r/w or easement.	Under 400 trips: Frontage improvements. Over 400 trips: TIA.		Yes	Yes	Staff	Bldg. permits Road approach permit
Farm Exempt	Yes	Yes	N/A	N/A	N/A	N/A	Staff	County issues a Farm Agriculture Bldg Exemption Certificate

TABLE 4.035-1  
 PERMIT REQUIREMENTS BY TYPE OF LAND USE DEVELOPMENT

Permit Type	Plot Plan Requirements	Conditions	Review/Approval Type				
<b>Land Partition</b>							
1 to 3 Lots	Legal access via r/w or easement.	Frontage improvements.			Planning Comm.	Approval Road Approach permit	
<b>Subdivision</b>							
4 to 39 lots	Legal access via r/w.	Frontage improvements.			Planning Comm.	Approval Road Approach Permit	
40 or more lots	Legal access via r/w.	Frontage improvements, TIA.			Planning Comm.	Approval Road Approach Permit	
<b>Conditional Use Permit</b>							
	Yes	Legal access via r/w or easement.	Under 400 trips: frontage improvements. Over 400 trips: TIA.	Review	Review	Planning Comm.	Approval, Bldg. permit Road Approach

\*1000' or less, 20' easement; 1000' or more 40' easement; . 3 or more lots (current or potential), 60' easement.

r/w = Right-of-way.

TIA = Traffic Impact Analysis.

N/A = not applicable.

A. Consent to Participate Agreement Required. For those Local roads which are not improved in accordance with Morrow County Road Standards or maintained by the County, and which abut the property owner's proposed development or which do not abut the development but provide direct access to the development, the property owner shall sign a consent to participate agreement for the potential formation of a local improvement district or other mechanism to improve and maintain these roads to County standards, per the Morrow County standard Consent to Participate Agreement. Applications for property line adjustments, nonbuildable parcels, temporary housing permits, land partitions in resource zones, and one dwelling on an existing vacant parcel, are not subject to this requirement.

For those Arterial and Collector roads which are not improved in accordance with Morrow County Road Standards and which abut the development site or those roads which do not abut the development site but provide access to the site, the property owner shall sign a consent to participate agreement for the potential formation of a local improvement district or other mechanism to improve the base facility of this road(s) to County standards, per the Morrow County standard Consent to Participate Agreement. Applications for property line adjustments, nonbuildable parcels, temporary housing permits, land partitions in resource zones, and one dwelling on an existing vacant parcel, are not subject to this requirement.

**SECTION 4.040. OFF-STREET VEHICLE PARKING REQUIREMENTS.** Because vehicle parking facilities can occupy large amounts of land, they must be planned and designed carefully to use the land efficiently while maintaining the visual character of the community. At the time of construction, reconstruction, or enlargement of a structure, or at the time a use is changed in any zone, off-street parking space shall be provided as follows unless greater



requirements are otherwise established. When the requirements are based on the number of employees, the number counted shall be those working on the premises during the largest shift at peak season. Fractional space requirements shall be counted as a whole space. Off-street parking spaces may include spaces in garages, carports, parking lots, and/or driveways if vehicles are not parked in a vehicle travel lane (including emergency or fire access lanes), public right-of-way, pathway or landscape area. The County may allow credit for “on-street parking”, as provided in Section 4.050. For uses not specified in Table 4.040-1, parking requirements shall be determined by the use in Table 4.040-1 found to be most similar in terms of parking needs.

TABLE 4.040-1

MINIMUM PARKING REQUIREMENTS

USE	MINIMUM VEHICLE PARKING REQUIREMENTS
A. Residential 1. One, two, and three family dwelling 2. Residential use containing four or more dwelling units 3. Rooming or boarding house	Two spaces per dwelling unit One and one-half spaces per dwelling unit  One space per guest room
B. Commercial Residential 1. Hotel or Motel	One space per guest room, plus one space for the manager
C. Public and Institutional Uses 1. Welfare or correctional institution 2. Convalescent hospital, nursing home, sanitarium, rest home, home for the aged 3. Hospital 4. Church	One space per six beds One space per four beds  Two spaces per bed One space per four seats at maximum occupancy
5. Library, reading room  6. Daycare, pre-school or kindergarten 7. Elementary or junior high school  8. High school, college, commercial school for adults	One space per 400 gross square feet  Two spaces per FTE staff One and one-half spaces per classroom or one space per four seats or eight feet of bench length in the auditorium or assembly room whichever is greater. One and one-half spaces per classroom plus one space for each 10 students the school is designed to accommodate, or one space for four seats or eight feet of bench length in the main auditorium or assembly room, whichever is greater.
9. Other auditorium or meeting room	One space per six seats or 12 feet of bench length, whichever is greater, or one space for each 75 gross square feet of assembly room not containing fixed seats.
D. Commercial Amusement 1. Stadium, arena, theater  2. Bowling Alley	One space per four seats or eight feet of bench length, whichever is greater. Five spaces per alley
3. Dance hall, skating rink	One space per 100 gross square feet
E. Commercial 1. Retail store except as provided in	One space per 350 gross square feet

**MINIMUM PARKING REQUIREMENTS**

<b>USE</b>	<b>MINIMUM VEHICLE PARKING REQUIREMENTS</b>
subsection (f)(2) of this section 2. Service or repair shop, retail store handling exclusively bulky merchandise, such as automobiles and furniture 3. Bank, office (except medical and dental) 4. Medical and dental clinic 5. Eating or drinking establishment 6. Mortuaries	One space per 750 gross square feet  One space per 350 gross square feet  One space per 300 gross square feet One space per 100 gross square feet or one space per four seats, whichever is less. One space per six seats or eight feet of bench length in chapels
F. Industrial 1. Storage warehouse, manufacturing establishment, rail or trucking freight terminal 2. Wholesale establishment	One space per employee on the largest shift.  One space per employee on the largest shift plus one space per 700 square feet of patron-serving area.

**SECTION 4.045. BICYCLE PARKING REQUIREMENT.**

This chapter also provides standards for bicycle parking, because children as well as adults need safe and adequate spaces to park their bicycles throughout the community. All uses subject to Design Review that are located within an Urban Growth Boundary shall provide bicycle parking in conformance with the following guidelines. Uses outside an Urban Growth Boundary are encouraged to provide bicycle parking based on these guidelines.

A. Number of Parking Spaces. A minimum of two bicycle parking spaces is recommended for each use with greater than 10 vehicle parking spaces. The following additional standards apply to uses within an Urban Growth Boundary, and are recommended for other areas of the County:

1. Multi-family residences: At least one sheltered bicycle space per four dwelling units, for uses of four or more units. Bicycle spaces may be located within a garage, storage shed, basement, utility room, or other similar area. If a residential development use has no such protected areas, bicycle parking spaces can be located under an eave, overhang or similar cover to be protected from rain and sun.
2. Parking Lots: At least one bicycle parking space for every ten vehicle spaces at commercial and public parking lots.
3. Schools: One bicycle parking space for every 10 vehicle spaces, at public or private elementary and middle schools. High schools should provide one bicycle space for every five students.
4. Colleges and trade schools: One bicycle space for every 10 motor vehicle spaces. At least half of the spaces should be sheltered under an eave, overhang or similar cover.
5. Multiple Uses: For buildings with multiple uses, such as a commercial building or mixed use development, one bicycle space for every 10 motor vehicle spaces is recommended.

- B. Exemptions. This Section does not apply to single family, two-family, and three-family housing (attached, detached or manufactured housing), home occupations, agriculture and livestock uses, or other developments with fewer than 10 vehicle parking spaces.
- C. Location and Design. Bicycle parking should be conveniently located no farther away than the closest parking space.
- D. Visibility and Security. Bicycle parking should be visible to cyclists from street sidewalks or building entrances, so that it provides sufficient security from theft and damage.
- E. Options for Storage. Bicycle parking requirements for long-term and employee parking can be met by providing a bicycle storage room, bicycle lockers, racks, or other secure storage space inside or outside of the building.
- F. Lighting. Bicycle parking should be least as well lit as vehicle parking for security.
- G. Hazards. Bicycle parking shall not impede or create a hazard to pedestrians. Parking areas shall be located so as to not conflict with vision clearance standards in Section 4.020.

**SECTION 4.050. OFF-STREET PARKING AND LOADING.** Buildings or structures to be built or substantially altered which receive and distribute materials and merchandise by trucks shall provide and maintain off-street loading berths in sufficient number and size to handle adequately the needs of the particular use. Off-street parking areas used to fulfill the requirements of this Ordinance shall not be used for loading and unloading operations except during periods of the day when not required to care for parking needs. General provisions are as follows:

- A. The provisions and maintenance of off-street parking and loading space is a continuing obligation of the property owner. Should the owner or occupant of any lot or building change the use to which the lot or building is put, thereby increasing off-street parking and loading requirements, it shall be a violation of this Ordinance to begin or maintain such altered use until such time as the increased off-street parking or loading requirements are complied with.
- B. Requirements for types of buildings and uses not specifically listed in this Ordinance shall be determined by the Planning Commission based upon the requirements for comparable use listed.
- C. In the event multiple uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of each use computed separately.
- D. Owners of two or more uses, or parcels of land may agree to utilize jointly the same parking and loading spaces when the hours of operation do not overlap, provided that satisfactory legal evidence is presented to the County in the form of deeds, leases, or contracts to establish the joint use.
- E. Off-street parking spaces for dwellings shall be located on the same parcel with the dwelling. Other required parking spaces for residential uses shall be located not farther than 500 feet from the building or use they are required to serve, measured in a straight line from the building.

F. Required parking spaces shall be available for the parking of passenger automobiles of residents, customers, patrons, and employees only, and shall not be used for storage of vehicles or materials or for the parking of trucks used in conducting the business or use.

G. Parking designated exclusively for people with disabilities shall be provided in conformance with the Americans with Disabilities Act.

H. The Director may, upon request, allow a reduction in the number of required off-street parking spaces in housing developments for elderly or disabled persons if such reduction is deemed appropriate after analysis of the size and location of the development, resident auto ownership, number of employees, possible future conversion to other residential uses and other similar relevant factors.

#### **SECTION 4.060. DESIGN AND IMPROVEMENT STANDARDS - Parking Lots**

A. Except for single-family and duplex dwellings, areas used for parking for more than two vehicles shall have durable and dustless surfaces adequately maintained.

B. Except for parking in connection with single-family and duplex dwellings, parking and loading areas adjacent to or within a residential zone or adjacent to a dwelling shall be designed to minimize disturbance to residents by the erection between the uses of a sight-obscuring fence or planted screen of not less than six (6) feet in height except where vision clearance is required.

C. Parking spaces along the outer boundaries of a parking lot shall maintain a minimum setback from the property line of five feet, unless a greater setback is specified for a structure in the zoning district, and shall be contained by a bumper rail or by a curb which is at least four inches high.

D. Artificial lighting which may be provided shall not shine or create glare in any residential zone or on any adjacent dwelling.

E. Access aisles shall be a minimum of 24 feet wide for two-way traffic. The minimum aisle width for emergency vehicle access (with one-way traffic) is 20 feet.

F. Except for single-family and duplex dwellings, groups of more than two parking spaces shall be so located and served by a driveway that their use will require no backing movements or other maneuvering within a street right-of-way other than an alley.

G. Service drives to off-street parking areas shall be a minimum of 24 feet wide for two-way traffic flow, and 20 feet wide for one-way traffic flow. The number of service drives shall be limited to the minimum that will accommodate anticipated traffic.

H. Driveways shall maintain minimum sight distance per the standards of Section 4.020 of this Ordinance.

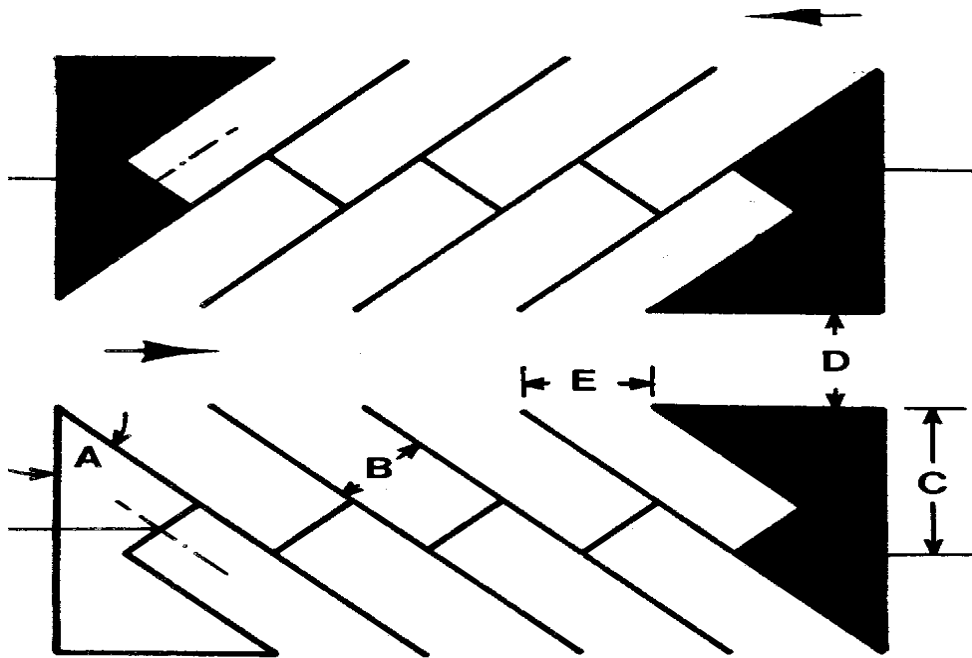
I. The standards set forth in the table below shall be the minimum for parking lots approved under this Ordinance (all figures are in feet except as noted). The letters in the first row of the table correspond to the letters in the following diagram.

TABLE 4.060-1

**OFF-STREET PARKING DESIGN STANDARDS**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
parking angle degree	stall width	stall to curb (19' long stall)	aisle width	curb length per car
0	8.5	8.5	12.0	23.0
45	8.5	19.4	12.0	12.0
60	8.5	20.0	15.0	9.8
75	8.5	19.6	24.0*	8.8
90	8.5	19.0	24.0*	8.5

\*Two-way circulation



**SECTION 4.070. SIGN LIMITATIONS AND REGULATIONS.** In addition to sign limitations and regulations set forth in a specific zone, the following limitations and regulations shall apply to any sign hereafter erected, moved or structurally altered within the jurisdiction of the County. In addition to the standards and limitations set forth in this Ordinance, signs shall be installed in accordance with applicable regulations of state and federal agencies. No sign will hereafter be erected, moved or structurally altered without being in conformity with the provisions of this Ordinance. Official traffic control signs and instruments of the state, county or municipality are exempt from all provisions of this Ordinance.

A. All outdoor advertising signs shall be in compliance with the provisions of this Ordinance and the provisions of ORS Chapter 377 when applicable.

B. No outdoor advertising sign permitted by ORS Chapter 377 shall be erected within 300 feet of a residential dwelling without written consent of the owner and/or occupant of said dwelling.

C. No sign shall be placed so as to interfere with visibility or effectiveness of any permanent traffic control device.

D. No sign shall be placed so as to impede the sight distance triangle at any access point or intersection as specified in Section 4.020 of this Ordinance.

E. No sign shall cause glare, distraction or other driving hazards within a street or road right-of-way.

F. No sign shall shine directly upon a residential dwelling or otherwise create a nuisance.

G. In addition to the limitations on signs as provided by (1) through (5) above, additional sign restrictions may be required as determined by the Planning Commission in approving conditional uses, as provided by Article 6.

H. Signs erected along Scenic Byways or other roads with similar designations must meet applicable criteria for sign placement.

I. Residents may request specific cautionary signage for individual resident(s) to be installed within County right-of-way. All costs including materials, installation, maintenance, and removal, shall be borne by the requestor, and shall otherwise conform with Morrow County Policy M-43674.

J. Installation of Regulatory Signs in Public Right-of-Way. Developers are to install street name, posted speed, and other traffic control signage required for private developments, per applicable standards from Morrow County and the Manual on Uniform Traffic Control Devices (MUTCD).

**SECTION 4.080. AUTHORIZATION OF SIMILAR USES.** A use that is similar to a use provided for in a zone may be allowed in that zone with Planning Commission Approval unless:

A. It is specifically provided for in another zone, or

B. It is more similar to uses provided for in another zone.

**SECTION 4.090. GENERAL PROVISIONS REGARDING ACCESSORY USES.**

An accessory use shall comply with all requirements for a principal use, except as this ordinance specifically allows to the contrary, and shall comply with the following limitations:

A. A side yard or rear yard may be reduced to three feet for an accessory structure erected more than 65 feet from a front lot line, provided the structure is detached from other buildings by five feet or more and does not exceed a height of one story nor an area of 450 square feet.

B. Boats, trailers, Recreational Vehicles and similar recreational equipment may be stored on a lot but not used as an accessory use in any zone provided that:

1. In a residential zone, parking or storage in a front yard or in a side yard abutting a street other than an alley shall be permitted only on a driveway.

2. Parking or storage shall be at least three feet from an interior side lot line.

**SECTION 4.100. PROJECTIONS FROM BUILDINGS.** Architectural features such as cornices, eaves, canopies, sunshades, gutters, chimneys and flues shall not project more than

three (3) feet into a required yard, provided that the projection is not closer than three (3) feet to a property line.

**SECTION 4.110. MINIMUM STANDARDS FOR A MANUFACTURED HOME ON INDIVIDUAL LOTS OR PARCELS AS A SINGLE-FAMILY DWELLING.** (Amended 10/28/06 MC-05-2006)

A. Manufactured Homes in a Farm or Forest Use Zone: A manufactured home permitted to be sited as a single-family dwelling on an individual lot or parcel in farm and forest use zones shall be in compliance with the following standards and regulations as a minimum. If the manufactured home is placed within one half mile of a residential zone (Rural Residential, Farm Residential or Suburban Residential) the standards of subsection B of this section shall apply. The distance of one-half mile will be measured from the site of the home to the boundary of the residential zone in a direct line and not specifically along roads or streets.

1. The manufactured home shall be a 14-foot single-wide, at a minimum, or a multi-sectional unit and shall contain at least 745 square feet of space as determined by measurement of the exterior dimensions of the unit exclusive of any trailer hitch device.
2. The manufactured home unit shall be manufactured no more than ten years before the receipt date of the siting request application by the Planning Department and bear the Oregon Department of Commerce 'Insignia of Compliance.' All pre-owned and pre-occupied units (i.e. used) shall be inspected by a certified Building Official prior to installation and occupancy to insure compliance with applicable standards required for the 'Insignia of Compliance' and to insure that such units are in such a condition as to not be detrimental to the public health, safety and general welfare or to adjoining properties.
3. The manufactured home shall be installed according to the specifications outlined in the Oregon Manufactured Dwelling and Park Specialty Code in effect at the time of installation and as utilized by the Morrow County Building Official. (See ORS 446 and OAR 918 Division 500.)
4. All manufactured home accessory buildings and structures shall comply with state and local construction and installation standards. Roofing and siding materials shall be of similar material and color and complementary to the existing manufactured home unit. Manufactured home accessory structures include porches and steps, awnings, cabanas, or any other structure or addition that depends in part on the manufactured home for its structural support, or in any manner is immediately adjacent to or attached to the manufactured home. Such structures or additions shall not total more than 40 % of the total living space of the manufactured home. Garages and carports, either attached or detached, are not counted in this percentage. Ramadas, as defined in ORS 446, shall not be permitted.
5. When removing a manufactured home the owner of the property shall remove the foundation and all accessory structures and additions to the manufactured home and permanently disconnect sewer, water and other utilities if the manufactured home is removed from its foundation unless otherwise authorized by the County. In the event the owner fails to accomplish said work within 30-days from the day on which the manufactured home is moved from its foundation, the County may perform such work and place a lien against the property for the cost of such work. This condition shall not apply in the event that the manufactured home is replaced on the original foundation, or

on the original foundation as modified, or by another approved manufactured home within 30-days of the original unit's removal. Said lien may be initiated by the County Court.

B. Manufactured Homes in a Rural Residential Zone: A manufactured home permitted as a single-family dwelling on an individual lot or parcel in a residential zone (Rural Residential, Farm Residential or Suburban Residential) shall be in compliance with the following standards and regulations as a minimum.

1. Be multi-sectional (double-wide or larger); be a minimum of 1000 square feet; and be manufactured no more than ten years before the receipt date of the siting request application by the Planning Department.
2. Placed on an excavated and back-filled foundation and enclosed at the perimeter such that the manufactured home is located not more than 12 inches above grade.
3. Have a pitched roof with a nominal slope of at least three feet in height for each 12 feet in width.
4. Certified by the manufacturer to have an exterior thermal envelope meeting performance standards which reduce levels equivalent to the performance standards required of single-family dwellings constructed under the state building code.
5. Have exterior siding and roofing materials which in color, material and appearance is similar to the exterior siding and roofing material commonly used on residential dwellings within the community or which is comparable to the predominant materials used on surrounding dwellings as determined by the Planning Department.
6. Have a garage or carport sited on the same lot or parcel of at least 180 square feet in size of like materials constructed before occupancy.
7. All manufactured home accessory buildings and structures shall comply with state and local construction and installation standards. Roofing and siding materials shall be of similar material and color and complementary to the existing manufactured home unit. Manufactured home accessory structures include porches and steps, awnings, cabanas, or any other structure or addition that depends in part on the manufactured home for its structural support, or in any manner is immediately adjacent to or attached to the manufactured home. Such structures or additions shall not total more than 40% of the total living space of the manufactured home. Garages or carports, either attached or detached, are not counted in this percentage. Ramadas, as defined in ORS 446, shall not be permitted.
8. When removing a manufactured home the owner of the property shall remove the foundation and all accessory structures and additions to the manufactured home and permanently disconnect sewer, water and other utilities if the manufactured home is removed from its foundation unless otherwise authorized by the County. In the event the owner fails to accomplish said work within 30-days from the day on which the manufactured home is moved from its foundation, the County may perform such work and place a lien against the property for the cost of such work. This condition shall not apply in the event that the manufactured home is replaced on the original foundation, or on the original foundation as modified, or by another approved manufactured home



within 30-days of the original unit's removal. Said lien may be initiated by the County Court.

C. **Manufactured Homes and other uses:** Manufactured homes are to only be used as single-family dwellings as stated in ORS 446.245. Any changes to a use of a manufactured home requires approval of the Planning Commission and compliance with ORS 446.245.

**SECTION 4.130 Hardship Dwellings**

A. A hardship dwelling is a temporary use of a manufactured home, recreational vehicle or an existing building necessary for a relative or other designated caregiver to care for or provide custody for an elderly, mentally handicapped, or infirm person whom a medical professional certifies needs this kind of care or custody. This certification will be on the medical professional's stationery or stamped by the medical professional's office, and will indicate that the patient is not physically or mentally capable of maintaining himself/herself in a residence on a separate property and is dependent on someone being close by for assistance. As an alternative, the medical professional can stamp and sign the application form available through the Planning Department for a medical hardship. Financial hardship conditions, child care, and other convenience arrangements not relating to physical and/or mental impairment are not considered an infirm condition.

The provisions of this section are to apply when the proposed use does not qualify as a continuation of a nonconforming use, not permitted by right, nor permitted through the operations of other more pertinent procedures and provisions of this zoning ordinance. Temporary use permits for hardship dwellings are not to be construed, permitted nor utilized as a means to abrogate the intent, purpose or procedures of the County's Comprehensive Plan or Zoning Ordinance regulations.

No temporary permit shall be granted that would have the effect of creating a permanent zoning or result in a hardship when the use is not permitted to continue at the expiration of the permit periods. Further, no temporary permit will be granted which has the effect of conferring a special privilege for which other property within the same zone would not be equally eligible.

B. As a temporary use in a residential zone, the Commission may allow as a variance one manufactured home, recreational vehicle, or temporary use of an existing building complying with the standards of Section 4.110, as applicable, and providing that no additions, except approaches or handicapped ramps, to the temporary residence shall be permitted in conjunction with a primary dwelling with the following findings:

1. That an accessory dwelling is necessary to care for or provide custody of an elderly, mentally handicapped, or infirm person who a medical professional certifies needs this kind of care or custody as required in A. above.
2. Electric, water and sewer utility connections shall be made to the temporary residence. If the hardship dwelling will not use a public sanitary sewer system, the dwelling shall use the same subsurface sewage disposal system used by the existing dwelling if that disposal system is adequate to accommodate the additional dwelling or as otherwise allowed and conditioned by the Planning Commission.
3. Within 90 days of the end of the hardship, the manufactured dwelling or recreational vehicle shall be removed or, in the case of an existing building, the building shall be removed, demolished, or returned to an allowed non-residential use.

C. As a temporary use in a resource zone, the Commission may allow under a Conditional Use Permit, one manufactured home, recreational vehicle, or temporary use of an existing building complying with the standards of Section 4.110(A) as applicable, and providing that no additions, excepting approaches or handicapped ramps, to the temporary residence shall be permitted in conjunction with a primary dwelling with the following findings:

1. That the hardship dwelling use will not force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use;
2. The hardship dwelling use will not significantly increase the cost of accepted farm or forest practices on lands devoted to farm or forest use.
3. The manufactured dwelling, or recreational vehicle, or the temporary residential use of an existing building allowed as a hardship dwelling shall be connected to electricity, domestic water, and use the same subsurface sewage disposal system used by the existing dwelling if that disposal system is adequate to accommodate the additional dwelling. If the manufactured home will use a public sanitary sewer system such condition will not be required.
4. The landowner for the hardship dwelling shall sign and record in the deed records for the County a Right-to-Farm or a Right-to-Forest Statement binding the landowner and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from customary farm or forest practices.
5. Within 90 days of the end of the hardship, the manufactured dwelling or recreational vehicle shall be removed or, in the case of an existing building, the building shall be removed, demolished, or returned to an allowed non-residential use.

D. A temporary use permit granted under this section is void when the elderly, mentally handicapped, or infirm existing resident or other person who is the subject of the permit no longer needs care, moves to another residence, is absent from the residence for more than 120 days or leaves the residence with no likelihood of returning for continued residency of at least 30 days. Exception to the 120-day limit can be provided for in the case of extraordinary circumstances such as extended hospitalization. These extensions can be approved by the Planning Director for up to an additional 60 days without Planning Commission approval. Additional extensions will require Planning Commission review and approval.

E. The County Planning Director or designee may review permits issued under this section at any time and may revoke permits when they are found to be out of compliance. After the initial approval by the Planning Commission any required renewal shall be applied for as a hardship dwelling extension. The decision to approve a hardship dwelling extension shall be an administrative decision of the Planning Director.

F. Any accessory dwelling placed under a permit authorized by this section must be located as close as possible to the primary dwelling. Unless there are physical limitations of the land this should be within 100 feet of the primary dwelling.

G. County Zoning and Building Permits will be required. A Rural Address will also be required to facilitate emergency response.

H. A temporary medical hardship permit is valid for up to 2 years from the date of initial issuance, i.e., permits issued in an odd-numbered year will expire in the next odd-numbered year. All permits will have an expiration date of January 31. The County will process all

temporary medical hardship permit renewal requests once per year in January. The County will give permittees not less than 30 calendar days written notice of the pending expiration of their permits, advising that a renewal will be required. Failure to receive notification of pending expiration does not constitute an extension of time for the permit. The Planning Director shall not renew the hardship permit until the permittee has shown compliance with the conditions for issuance specified in this Section at the time of renewal and the County has received evidence of the continued validity of the medical hardship.

**SECTION 4.140. MANUFACTURED HOME AS A SECONDARY ACCESSORY FARM DWELLING.**

(Amended 10/28/06 MC-05-2006) A manufactured home permitted as a secondary accessory farm dwelling shall only be permitted in accordance with the following requirements:

A. The dwelling may only be occupied as a secondary farm accessory dwelling; i.e., there must exist on the subject property an owner-occupied primary conventional dwelling or a manufactured home complying with the conditions set forth in Section 4.110 of this ordinance, and there shall not be more than one such unit permitted for each 160 acres in the farm unit, and in the case of 4 or more dwellings manufactured home park standards shall apply, except as approved by the Commission.

B. The occupant of the manufactured home shall be an employee of the owner or an immediate family member engaged in the farm operation.

C. The manufactured home shall further meet the requirements for the siting of a manufactured home in a farm use zone as defined in Section 4.110A.

D. The dwelling shall be considered a temporary installation. If the need for an accessory dwelling ends the dwelling shall be removed. The dwelling can not be converted to other uses or used as a rental.

**4.145 TEMPORARY STORAGE OF A MANUFACTURED HOME.** (Amended 10/28/06 MC-05-2006) A manufactured or mobile home may be stored on an individual bare lot or parcel for not more than six months. Authorization for the storage of a manufactured home shall be obtained through application for a Zoning Permit and must meet the following conditions:

A. It will not be used for residential or other purposes.

B. There will be no electrical, plumbing or sewer connections to the stored manufactured or mobile dwelling.

C. All normal setback standards of the zone will be met.

D. The manufactured dwelling will not be located in a Floodplain or other natural hazard area.

E. Only one manufactured dwelling storage permit may be issued to a property owner for a specific lot or parcel within any five-year period.

**4.150 TEMPORARY USE OF A RECREATIONAL VEHICLE.** (Amended 10/28/06 MC-05-2006)

Recreational vehicles are not designed for residential purposes according to standards and specifications of the Uniform Building Code which has been established to protect public health, safety and welfare. Recreational vehicles shall not be used for housing or residential purposes except:

A. When the recreational vehicle is located on an individual lot or parcel during the construction of a dwelling and meets the requirements of Section 4.120.

B. When the recreational vehicle is located on an individual lot or parcel for use in the temporary care of a relative and meets the requirements of Section 4.130.

C. For temporary housing to accommodate visitors of the primary residence in a residential or farm use zone not to exceed 30 days in any 12 month period.

D. For seasonal recreational (i.e. summer camping or hunting season) use by the land owner or lessee in the Forest Use Zone after obtaining a Zoning Permit and Rural Address.

**SECTION 4.160 STANDARDS FOR TRANSPORTATION IMPROVEMENTS.** The intent of these provisions is to provide clear directions and guidelines when considering installation of transportation facilities in Morrow County.

A. Although some zone designations may address certain uses listed below, these provisions generally apply to all zones in the County. Thus, except where otherwise specifically regulated by this ordinance, the following improvements are permitted outright:

1. Normal operation, maintenance, repair, and preservation of existing transportation facilities (roadways, bridges, etc.) including the use of stockpile sites in support of operation, maintenance, repair and preservation. (MC OR-1-2013)

2. Installation of culverts, pathways, medians, fencing, guardrails, lighting, and similar types of improvements within the existing right-of-way.

3. Projects specifically identified in the Transportation System Plan as not requiring further land use regulation.

4. Landscaping as part of a transportation facility.

5. Emergency measures necessary for the safety and protection of property.

6. Acquisition of the right-of-way for public roads, highways, and other transportation improvements designated in the Transportation System Plan except those that are located in exclusive farm use or forest zones.

7. Construction of a street or road as part of an approved subdivision or land partition approved consistent with the applicable land division ordinance.

8. Establishment or continuation of no spray zones on private property.

9. Cattle guards to be installed per Morrow County Court Policy M-43673.

10. Pavement aprons to be installed at intersections of gravel roads or driveways with paved roads per Morrow County Court Resolution R-29-2000.

11. Any excavation within Morrow County right-of-way shall conform to Morrow County Ordinance MC-PW-1-81, the Road and Street Excavation Ordinance.

B. Uses Permitted by Conditional Use Permit.

1. Construction, major reconstruction, or widening of highways, roads, bridges, or other transportation projects that are not designed and constructed as part of a subdivision or planned development shall comply with the Transportation System Plan and applicable standards, and shall address the following criteria. For State projects that require an Environmental Impact Statement (EIS) or Environmental Assessment (EA), the draft EIS or EA shall be reviewed and used as the basis for findings to comply with the following criteria:
  - a. The project is designed to be compatible with existing land use patterns, noise generation, safety, and zoning.
  - b. The project is designed to minimize avoidable environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities.
  - c. The project preserves or improves the safety and function of the facility through access management, traffic calming, or other design features.
  - d. The project includes provision for bicycle and pedestrian circulation as consistent with the Transportation Element of the Comprehensive Plan and other requirements of this Ordinance.
2. Construction of rest areas, weigh stations, temporary aggregate storage, and aggregate processing sites.
3. If review under this Section indicates that the use or activity is inconsistent with the Transportation Element of the Comprehensive Plan, the procedure for a plan amendment shall be undertaken prior to or in conjunction with the conditional use permit review.

C. Private Streets Outside an Urban Growth Boundary. All private streets providing access from a public roadway to a proposed land division shall meet the following standards:

1. Have a minimum sight distance in compliance with adopted County Standards at any intersection with a public road. Additional sight distance or advance warning signage or other devices may be required where known safety hazards exist.
2. For each private street, there shall be a legal recorded document which includes:
  - a. A legal description of the proposed easement;
  - b. Ownership of the street;
  - c. Use rights; and
  - d. A maintenance and construction agreement which includes Fire Marshal approved street specifications and turn around area (if required) and the allocation and/or method of determining liability for maintenance.

3. Where drainage conditions require it, a private street shall be ditched in conformance with the County Road Standards.
4. Private streets which access public or County roads shall be located, designed and constructed (within the public right-of-way) in accordance with adopted standards for County roads.
5. Prior to establishing a private driveway or a private street, the owner shall obtain an access permit for access to the intersecting public road. As a condition of granting access to a public road, the County may require the applicant to clean the ditch serving the parcel and remove sight obstructing vegetation in the vicinity of the access.

#### **SECTION 4.165 SITE PLAN REVIEW**

Site Plan Review is a non-discretionary or “ministerial” review conducted without a public hearing by the County Planning Director or designee. Site Plan Review is for less complex developments and land uses that do not require site development or conditional use review and approval through a public hearing.

A. Purpose. The purpose of Site Plan Review (ministerial review) is based on clear and objective standards and ensures compliance with the basic development standards of the land use district, such as building setbacks, lot coverage, maximum building height, and similar provisions. Site Plan review also addresses conformity to floodplain regulations, consistency with the Transportation System Plan, and other standards identified below.

B. Pre-application review. Prior to filing its application for site plan review, the applicant shall confer with the County Planning Director or designee, who shall identify and explain the relevant review procedures and standards.

C. Applicability. Site Plan Review shall be required for all land use actions requiring a Zoning Permit as defined in Section 1.050 of this Ordinance. The approval shall lapse, and a new application shall be required, if a building permit has not been issued within one year of Site Review approval, or if development of the site is in violation of the approved plan or other applicable codes.

D. Review Criteria.

1. The lot area shall be adequate to meet the needs of the establishment.
2. The proposed land use is permitted by the underlying land use district.
3. The land use, building/yard setback, lot area, lot dimension, density, lot coverage, building height and other applicable standards of the underlying land use district and any sub-district(s) are met.
4. Development in flood plains shall comply with Section 3.100 Flood Hazard Overlay Zone of the Ordinance.
5. Development in hazard areas identified in the Morrow County Comprehensive Plan shall safely accommodate and not exacerbate the hazard and shall not create new hazards.

6. Off-street parking and loading-unloading facilities shall be provided as required in Section 4.040 and 4.050 of the Morrow County Zoning Ordinance. Safe and convenient pedestrian access to off-street parking areas also shall be provided as applicable.
7. County transportation facilities shall be located, designed and constructed in accordance with the design and access standards in the Morrow County Transportation System Plan.
8. Site planning, including the siting of structures, roadways and utility easements, shall provide, wherever practicable, for the protection of trees eight inch caliper or greater measured four feet from ground level, with the exception of noxious or invasive species, such as Russian olive trees.
9. Development shall comply with Section 3.200 Significant Resources Overlay Zone or 3.300 Historic Buildings and Sites protecting inventoried significant natural and historic resources.
10. The applicant shall determine if compliance is required with Oregon Water Resources Department water quantity and/or Oregon Department of Environmental Quality water quality designations.
11. The applicant shall determine if previous Code Enforcement violations have been cleared as applicable.
12. The applicant shall determine the method of disposal for solid waste, with staff providing information to the applicant about recycling opportunities.
13. The applicant shall obtain the necessary access permit through the Public Works Department as required by Morrow County Resolution R-29-2000.

E. Submittal Requirements. A site plan shall be submitted including all of the following information except for specific items determined at the pre-application review not to be applicable. All site plans shall have dimensions clearly indicated. An applicant may provide the information on separate sheets, if necessary or desirable for clarity.

1. North arrow and scale.
2. Location of property boundaries, including adjacent public or private streets and rights of way.
3. Location of existing structures and natural features.
4. Areas affected by the proposed development with slopes in excess of 10 percent.
5. Location of utilities and facilities, or proposed locations (sewer, water, fire hydrants, septic system, storm water facilities, etc.).
6. Proposed landscaping.
7. Exterior lighting.
8. Circulation plan for vehicles, pedestrians, and bicyclists, including existing and proposed points of access and sidewalks.

9. Parking lot layout, with circulation plan and striping details.

10. Sign location and details.

F. Application Completeness/Request for Additional Information. The County Planning Director or designee shall determine the application to be complete based on the above standard criteria within 14 days of the application submittal. If the application is found to be incomplete or additional information is needed it may be requested from the applicant. A request for additional information beyond the standard review criteria cannot be used to rule an application incomplete.

G. Minimum Standards for Roadway Design Plans Submitted for County Review. Any transportation facility or transportation improvement to be constructed as part of a private development and subsequently dedicated to the County must first receive design approval by the Morrow County Public Works Department, based on applicable design criteria and the rationale for establishing the criteria to be provided by the County. Design approval shall also include all other pertinent issues related to roadway construction and operations, including but not limited to drainage, maintenance, serviceability, and pavement design. Street design plans submitted for County approval shall be stamped by a registered professional engineer with appropriate experience.

H. Conditions Requiring Variance Application. In the case of transportation improvement plans that do not meet the above minimum standards, the Morrow County Public Works Department may work with the applicant to determine whether an alternate design standard is appropriate (design modification). Design modifications are reviewed and approved by Morrow County Public Works Department staff. If upon mutual agreement it is determined that an alternate design standard cannot be met, an application for a design variance will be required, subject to review and approval by the Morrow County Planning Commission.

#### **SECTION 4.170 SITE DEVELOPMENT REVIEW (MC-C-1-02)**

A. Purpose. The purposes of site development review are to encourage site planning in advance of development that is permitted under Morrow County's Comprehensive Plan and land use regulations; assure that development is supported with appropriate types and levels of transportation improvements and public facilities and services; and implement the Morrow County Comprehensive Plan and land use regulations with respect to development standards and policies.

B. Preapplication review. Prior to filing its application for site development review, the applicant shall confer with the Planning Director, who shall identify and explain the relevant review procedures and standards.

C. When required.

1. Site development review shall be required for all major developments in industrial and commercial zones. As used in this Section, a "major development" is an industrial development utilizing 100 or more acres of real property. When development is proposed in phases, site development review shall apply to each phase of the development, whether or not the phase meets the site development review threshold.



2. Site development review also shall apply when required by the Planning Commission as a condition of approval of a land use decision not otherwise subject to site development review; provided that, in a condition imposing such a requirement, the Planning Commission may waive one or more site development review information requirements and/or approval standards that the Planning Commission finds the application already has fulfilled or are not relevant or otherwise are not warranted.

3. No building permit shall be issued prior to site development review approval whenever site development review is required by this section. Site development review shall not alter the type and category of uses permitted in affected zoning districts.

4. As used in this Section, "development" means any man-made change to improved or unimproved real property in the County, including but not limited to construction or installation of a building or other structure; major site alterations such as those due to grading; paving; and improvements for use as parking. However, site development review shall not apply to any interior remodeling of any existing building or structure or any modification to an existing building or structure that does not substantially change its exterior appearance.

D. Plans required. A complete application for site development review shall be submitted. The application shall include the following plans and information:

1. A site plan or plans, drawn to scale, containing the following information:
  - a. A vicinity map covering an area 250 feet from the boundary of the development site and showing general information about the location, dimensions and names of all existing and proposed streets, County roadways and state highways, access points on both sides of the road when applicable, sidewalks, bicycle routes, and easements and utility locations. The map also shall indicate distances to neighboring constructed access points, median openings (where applicable), traffic signals (where applicable), intersections, and other transportation features on all sides of the property.
  - b. The site size, dimensions, and zoning, including dimensions and gross area of the lot(s) or parcel(s) and tax map and tax lot number(s) for the development site.
  - c. Contour lines at two foot contour intervals for grades 0 to 10 percent, and five-foot intervals for grades over 10 percent.
  - d. The location of the following hazard areas on and within 100 feet of the boundaries of the site:
    - i. Areas indicated on National Flood Insurance Rate maps as being within the 100-year floodplain;
    - ii. Areas subject to erosion as identified in the Morrow County Comprehensive Plan.
    - iii. Other hazard areas identified in the Morrow County Comprehensive Plan.
  - e. The location of inventoried significant natural resource areas on and within 100 feet of the boundaries of the site, including big game habitat areas, fish and riparian habitat areas, mineral and aggregate resource areas, significant natural areas, wetlands, water

resources, and historic resources. As used in this Section, "significant inventoried" means a resource area identified as significant in Morrow County's acknowledged inventory of Goal 5 resource sites.

f. The location, dimensions, and setback distances of all existing permanent structures, improvements and utilities on or within 25 feet of the site, and the current and proposed uses of the structures.

g. The location, dimensions, square footage and setback distances of proposed structures, improvements, and utilities, and the proposed uses of the structures by square footage.

h. The location, dimension and names, as appropriate, of all existing and proposed streets, other public ways, sidewalks and easements on and within the development site.

i. All motor vehicle parking, circulation, loading and servicing areas.

j. Site access points for automobiles and pedestrians.

k. On-site pedestrian circulation.

l. Outdoor areas proposed as open space.

2. A landscaping plan, drawn to scale, showing the location and types of existing trees (eight inches or greater in caliper measured four feet above ground level) and vegetation proposed to be removed and to be retained on the site, the location and design of landscaped areas, the varieties, sizes and spacing of trees and plant materials to be planted on the site, the proposed types and locations of irrigation systems to maintain plant materials, and other pertinent landscape features.

3. Architectural elevations and floor plans for all proposed structures, drawn to scale, with elevations accurately reflected to grade.

4. A description of materials, referenced to UBC class codes, to be used on proposed structures.

5. An erosion control and grading plan.

6. A drainage plan, developed in accordance with County standards or with Oregon Department of Environmental Quality standards if no County standards have been adopted. The drainage plan shall identify the location of drainage patterns and drainage courses on and within 100 feet of the boundaries of the site.

7. An exterior lighting plan, drawn to scale, showing type, height, and lighting levels on and at the edge of the site.

8. A written statement identifying:

a. The nature of the proposed use(s).

- b. Plans for the treatment and disposal of sewage and industrial wastes and any on-site disposal of wastes.
- c. Plans for handling traffic, noise, glare, air pollution, fire, or safety hazard.

9. The following technical reports:

- a. For developments expected to generate 400 or more vehicle trips on a single day, a traffic report, prepared by a licensed traffic engineer, demonstrating the ability of affected transportation facilities including highways, roads and intersections to accommodate the anticipated amount of traffic that would be generated by the proposed development over 20 years. The report shall identify existing traffic conditions and the safety and capacity improvements that are needed to accommodate the anticipated traffic, including facility reconstructions, modifications or widenings, additional travel or passing lanes, intersection or interchange improvements, realignments, channelization improvements, or other needed facility improvements, including possible new transportation facilities. The analysis shall demonstrate consistency with the applicable performance standards of the affected facilities. The Morrow County Transportation System Plan provides the applicable standards for county transportation facilities. The Oregon Highway Plan provides the applicable standards for state transportation facilities.

When a traffic management plan is required by the Morrow County Transportation System Plan, the application shall not be deemed complete until the applicant has filed with the Planning Director a traffic management plan (TMP) including transportation system management (TSM) and transportation demand management (TDM) measures that have been coordinated with and address the reasonable concerns of affected transportation providers (e.g., Morrow County, affected cities, Oregon Department of Transportation, Federal Highway Administration) and traffic safety and emergency service providers (e.g. County sheriff, State Police, fire district, ambulance). The TMP shall be prepared by a licensed traffic engineer with established experience in the type of event for which the TMP is being developed. Unless otherwise agreed to by affected local governments or agencies, the costs of paying for necessary transportation improvements and implementation of the TMP shall be borne by the developer or its successors.

The TMP shall include, but not be limited to: ingress and egress from parking areas; deployment of personnel at ramps, intersections and highway locations; plans for rerouting of traffic in the event of accident or other cause of traffic delay; coordination with state police, County sheriff and emergency service providers; use of temporary signage, reader boards and similar visual aids; estimates of numbers and types of personnel to be employed; and other appropriate information.

- b. If located within 5000 feet of a runway or approach surface of a public use airport, a technical report explaining how the development is compatible with customary aviation-related activities, including airport takeoffs and landings. The report shall explain how the proposed uses, including measures to minimize conflicts, do not: cause emissions of smoke, dust or steam that would obscure visibility within airport approach surfaces; project light directly onto existing airport runways or taxiways; or interfere with airport radio, radiotelephone, television and electrical transmissions.

10. Within 14 working days following receipt of a site development review application, the Planning Director may waive the submission of information for specific provisions of this Section or may require information in addition to that required by a specific provision of this Section, as follows:

a. The Planning Director may waive the submission of information for a specific requirement upon determination either that specific information is not necessary to evaluate the application properly, or that a specific approval standard is not applicable to the application. If submission of information is waived, the Planning Director shall, in the staff recommendation, identify the waived requirement and briefly explain the reasons for the waiver.

b. The Planning Director may require information in addition to that required by a specific provision of this Section upon determination that the information is needed to evaluate the application properly and that the need can be justified on the basis of a special or unforeseen circumstance. If additional information is required, the Planning Director shall, in the decision, briefly explain the reasons for requiring the additional information.

E. Standards.

1. All development shall comply with the following standards:

a. Retaining walls shall be provided and designed consistent with Uniform Building Code requirements. Grading and contouring shall take place with particular attention to minimizing the possible adverse effects of grading and contouring on the natural vegetation and physical appearance of the site.

b. Development in flood plains shall not increase the flood plain elevation unless the area in which the rise will occur contains no structures and the owner of such property signs a written acceptance of any increase in the flood plain elevation. Development in hazard areas identified in the Morrow County Comprehensive Plan shall safely accommodate and not exacerbate the hazard and shall not create new hazards.

c. Drainage shall be provided in accordance with Oregon Department of Environmental Quality standards. The Planning Commission may impose conditions to ensure that waters are drained from the development so as to limit degradation of water quality.

d. Off-street parking and loading-unloading facilities shall be provided as required in Article IV of the Morrow County Zoning Ordinance. Safe and convenient pedestrian access to off-street parking areas also shall be provided.

e. County transportation facilities shall be located, designed and constructed in accordance with the design and access standards in the Morrow County Transportation System Plan.

f. Circulation provided by public streets and by private streets, accessways and maneuvering areas within the boundary of the site shall facilitate safe and convenient motor vehicle and pedestrian access. Access for emergency services (fire, ambulance and police) shall be provided consistent with the requirements of the Fire Marshal and emergency service providers.

- g. Illumination resulting from outdoor lighting shall not exceed one foot-candle at the property line.
- h. Site planning, including the siting of structures, roadways and utility easements, shall provide, wherever practicable, for the protection of trees eight inch caliper or greater measured four feet from ground level.
- i. Development shall comply with applicable County regulations protecting inventoried significant natural and historic resources.
- j. Development shall maintain continuous compliance with applicable federal, state and County air and water quality standards. Prior to issuance of a building permit, the Building Official may require submission of evidence of compliance with such standards from the applicable federal or state agencies or the receipt of the necessary permits for the development from these agencies.
- k. Development shall be designed to comply with applicable Oregon Department of Environmental Quality noise standards.
- l. Sewer, water and storm drainage facilities shall be adequate to serve the proposed or permitted level of development. For uses like a speedway that engage in activities that on occasion attract unusually large numbers of people to the site, the development may rely on temporary sewer (e.g., portapotties, lagoon storage) and water facilities to accommodate the excess demand. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development. All facilities shall be designed to comply with applicable state and local standards.
- m. Law enforcement, public safety and security measures shall be adequate to serve the proposed or permitted level of development. For land uses involving activities that may attract many thousands of visitors to a site at one time on an occasional or episodic basis, adequate safety, law enforcement and security measures may include, but are not limited to, the use of on-site security service personnel and availability of police, fire and emergency medical services. For such uses, the Planning Commission may require the applicant to develop a public safety and security plan, which shall be coordinated with appropriate local and state public safety providers.
- n. The transportation system shall be adequate to accommodate the proposed or permitted level of development.
  - i. Rights-of-way and roadway and sidewalk improvements shall be provided consistent with applicable County or State design, access management and highway performance standards, including applicable Oregon Highway Plan standards. Access points to County roadways and state highways shall be properly placed in relation to sight distance, driveway spacing and other related considerations including opportunities for joint and cross access. Any application that involves access to or significantly impacts the state highway system shall be reviewed by the Oregon Department of Transportation. Such applications shall demonstrate compliance with the Oregon Highway Plan and shall be conditioned on state issuance of access permits where required.

ii. In determining the adequacy of the transportation system to accommodate the proposed development, consideration shall be given to the need for roadway reconstructions, modifications or widenings, additional travel or passing lanes, intersection or interchange improvements, road realignments, channelization improvements, or other needed roadway improvements, including possible new roads. Consideration also shall be given to the need for right-of-way improvements such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation. For uses necessitating preparation of a transportation management plan, a decision approving a site development review application shall include a condition requiring implementation of the transportation system management measures and transportation demand management measures that are determined to be needed to accommodate the traffic generated by the development and to comply with the Oregon Highway Plan. Unless otherwise agreed to by affected local governments or agencies or limited by constitutional constraints, the costs of paying for necessary transportation improvements and implementation of the traffic management plan shall be borne by the developer or its successors.

iii. Nothing in this or any other provision of this Chapter shall be construed to replace, alter or otherwise affect the applicability of the Transportation Planning Rule, OAR 660, Division 12, to any development or action that would otherwise be subject to that Rule.

o. Access and facilities for physically handicapped people shall be incorporated into the site and building design, consistent with applicable federal and state requirements.

p. Development located within 5000 feet of a runway or approach surface of a public use airport shall not cause emissions of smoke, dust or steam that would obscure visibility within airport approach surfaces; project light directly onto existing airport runways or taxiways; or interfere with airport radio, radiotelephone, television or electrical transmissions.

q. Uses and improvements, including all land uses and improvements, including but not limited to traffic management plans, proposed on exception lands shall be consistent with the acknowledged goal exceptions taken for those lands.

2. The Planning Commission may impose such conditions as deemed necessary to ensure compliance with these standards.

a. When a transportation management plan is required, the Planning Commission may impose conditions providing for monitoring and reporting on the effectiveness of the traffic management measures and providing opportunity for a hearing to consider modifications to the TMP if deemed appropriate by the Planning Commission following its implementation. Any hearing that is held to consider TMP modifications shall be noticed and processed in the manner set out in Section VI.A of this Chapter and shall include notice to the Oregon Department of Transportation and Federal Highway Administration.

b. Required road dedications and other exactions shall comply with constitutional limitations.

c. To ensure compliance with this Section, the Planning Commission may require an applicant to sign or accept a legal and enforceable covenant, contract, dedication, easement, performance guarantee, or other document, which shall be approved in form by the County's legal counsel.

#### F. Review and Enforcement.

1. Applications for site development review shall be reviewed by the Planning Commission in the manner provided by ORS Chapter 197 for land use decisions following review and recommendation by the Planning Director. Public notice and an opportunity for hearing shall be provided in the manner provided by ORS Chapter 197 for land use decisions.

a. In addition to the public notice described above, timely notice of public hearing also shall be mailed to ODOT and the Federal Highway Administration if the Planning Director determines that the use may impact state or federal transportation facilities, and to the Oregon Department of Aviation and Federal Aviation Administration if the use is located within 5000 feet of a runway or approach surface of a public use airport.

b. The decision of the Planning Commission may be appealed to the County Court in the manner provided in Article 9, Section 9.030 of the Morrow County Zoning Ordinance.

2. The County building official may issue a certificate of occupancy only after the Planning Director has determined that the improvements required by site development review approval have been completed, or a schedule for completion and a bond or other financial guarantee have been accepted by the County and by ODOT for required improvements to the state highway system.

a. Implementation of traffic management, public safety and/or security plans, when required, shall be made ongoing conditions of approval of the use, and failure to substantially comply with those plans may be a basis for the Planning Director or Building Official to suspend or revoke the occupancy permit and for the County, DLCD or ODOT (when a state Transportation Facility is affected) to petition a court of competent jurisdiction to issue a temporary restraining order and permanent injunction against further use of the property for the purposes approved in the site development review.

b. Prior to or concurrent with the suspension of any site development review permit, the County shall provide the permittee with notice and an opportunity to be heard in accordance with the process set out in Morrow County Ordinance No. MC-C-7-92.

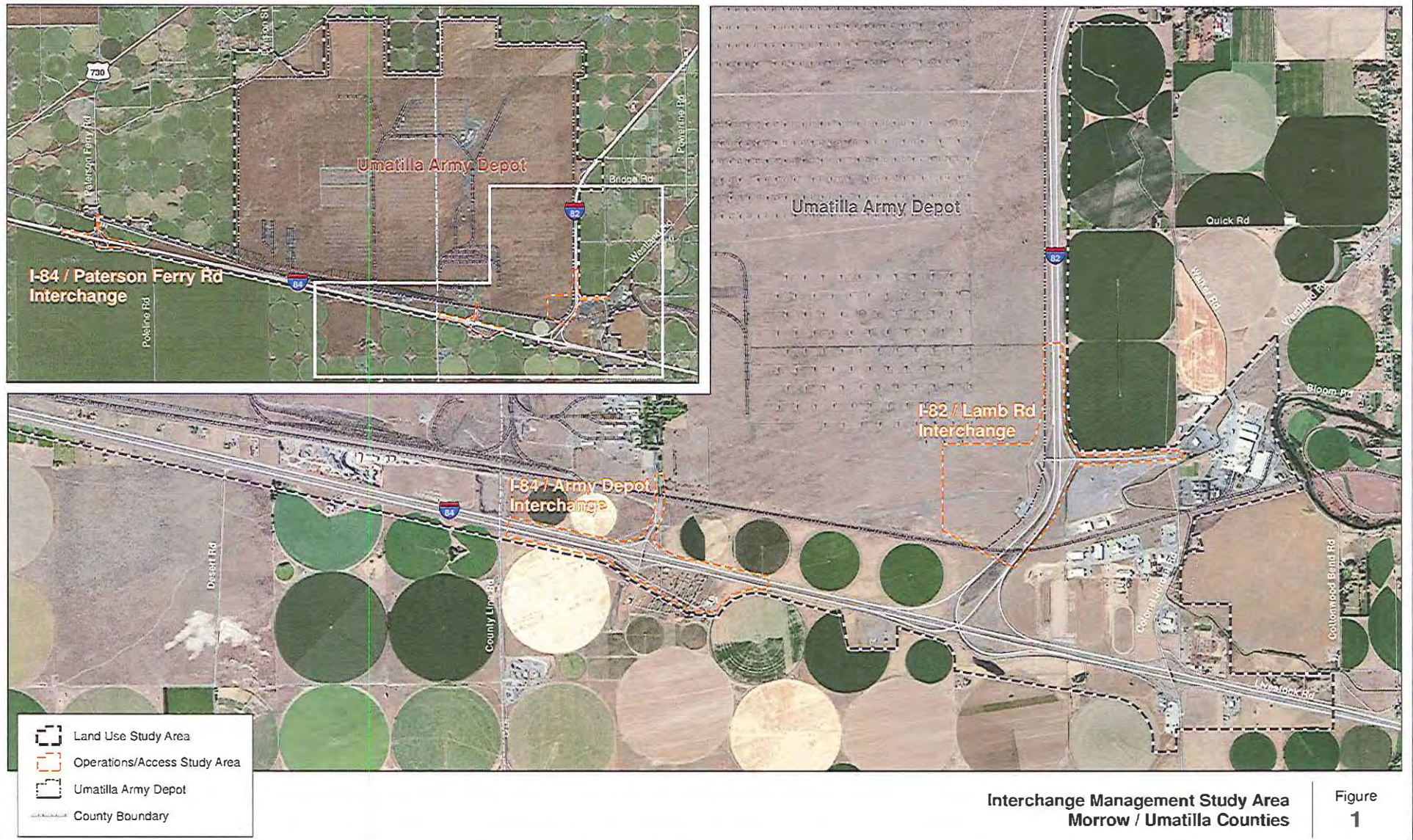
#### G. Expiration and Extension of Permit.

1. A site development review permit shall expire automatically two (2) years from the date of issuance unless one of the following occurs first:

a. The development has commenced; or

- b. An application for an extension is filed as provided in this section; or
  - c. The permit is appealed to a body of competent jurisdiction following final approval by the County, in which case the two-year period shall be tolled until a final, unappealed or unappealable decision is made by a court or other body of competent jurisdiction.
2. As used in subsection 1 of this Section, a development has "commenced" when:
- a. The permit holder has physically altered the land or structure or changed the use thereof through actions such as preliminary grading for roads, driveways or building sites, installation of utilities, construction of required off-site improvements or construction of buildings, and
  - b. The alteration or change is directed toward completion of the development; and
  - c. The permit holder has spent at least \$50,000 in expenditures related to completion of the development. Expenditures that could apply to various other uses of the land or structure shall be excluded including the cost of purchasing land.
  - d. The provisions of subsection 1 of this Section shall apply independently to each discrete phase of a phased development. The commencement requirement for a subsequent phase cannot be satisfied by commencement activities conducted under an approval for an earlier phase of the development.
3. If an extension is desired, the holder of the site development review permit must file an application for an extension prior to the expiration of the permit. The application shall be filed in writing with the Planning Director. A maximum of two extensions are permitted. Unless approved, the extension does not extend the expiration date. The Planning Director shall grant an initial two year extension upon the timely filing of the extension application. Following notice and hearing, the Planning Commission shall grant a second two-year extension only upon demonstration by the permit holder that:
- a. In terms of time, labor or money the permit holder has been making a good faith effort to commence the development or has been precluded from doing so for reasons beyond the permit holder's reasonable control;
  - b. Commencement of the development is likely during the second two year extension; and
  - c. There has been no change in circumstance or the law likely to necessitate significant modification of the development approval or conditions of approval. (MC-C-1-02)





Interchange Management Study Area  
Morrow / Umatilla Counties

Figure  
1

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Interchange Area Management Plan

# I-84/ARMY DEPOT ACCESS ROAD

Umatilla County, Oregon

August 2014



Prepared for:



Prepared by:



**KITTELSON & ASSOCIATES, INC.**  
TRANSPORTATION ENGINEERING/PLANNING

**Angelo**  
planning group

**ap** anderson  
perry  
& associates, inc.

**MB&G**

# **I-84/Army Depot Access Road Interchange Area Management Plan**

Umatilla County, Oregon

## **Final**

August 2014

# I-84/Army Depot Access Road Interchange Area Management Plan

## Umatilla County, Oregon

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Project No. 13848.00

August 2014



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## PREFACE

The development of this plan was guided by the Steering Committee and Technical / Public Advisory Committee (TPAC). The members of these groups are identified below, along with members of the consultant team. The Steering Committee members were also members of the TPAC, who collectively were responsible for reviewing all work products and guiding the planning work. They devoted a substantial amount of time and effort to the development of the I-84/Army Depot Access Road IAMP and their participation was instrumental in the final recommendations that are presented herein.

### Steering Committee

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Stephanie Seamans <i>CTUIR</i>			

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Herb Stahl <i>Stanfield HB Farm</i>	Lisa Mittelsdorf <i>Port of Morrow</i>	Kim Puzey <i>Port of Umatilla</i>
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Kate Parker		

Section 1  
Executive Summary



## EXECUTIVE SUMMARY

The I-84/Army Depot Access Road Interchange Area Management Plan (IAMP) was prepared to identify and address infrastructure, access, and land use regulations associated with the transition of the Umatilla Army Chemical Depot (UMCD) from a facility that has historically stored/shipped military supplies and disposed of chemical weapons to a facility that will accommodate Oregon National Guard operations, environmental preservation, and new economic development.

The executive summary provides an overview of the project elements that were developed through a collaborative effort of the Project Team, Umatilla Army Depot Reuse Authority, Technical/Public Advisory Committee, Umatilla County, Morrow County, Oregon Department of Transportation (ODOT), and local stakeholders. The following table and figures summarize the identified improvement projects. Additional details are provided herein.

With the identification of near- and long-term infrastructure improvements, a number of policies, ordinances, and other provisions have been developed for adoption into the Umatilla and Morrow County Transportation System Plans, Comprehensive Plans, and development review ordinances to support and implement the IAMP. The IAMP will also be adopted by the Oregon Transportation Commission as an amendment to the Oregon Highway Plan.

### I-84/Army Depot Access Interchange (Exit 177)



**Executive Summary - I-84/Army Depot Access Road Interchange Area Improvement Summary**

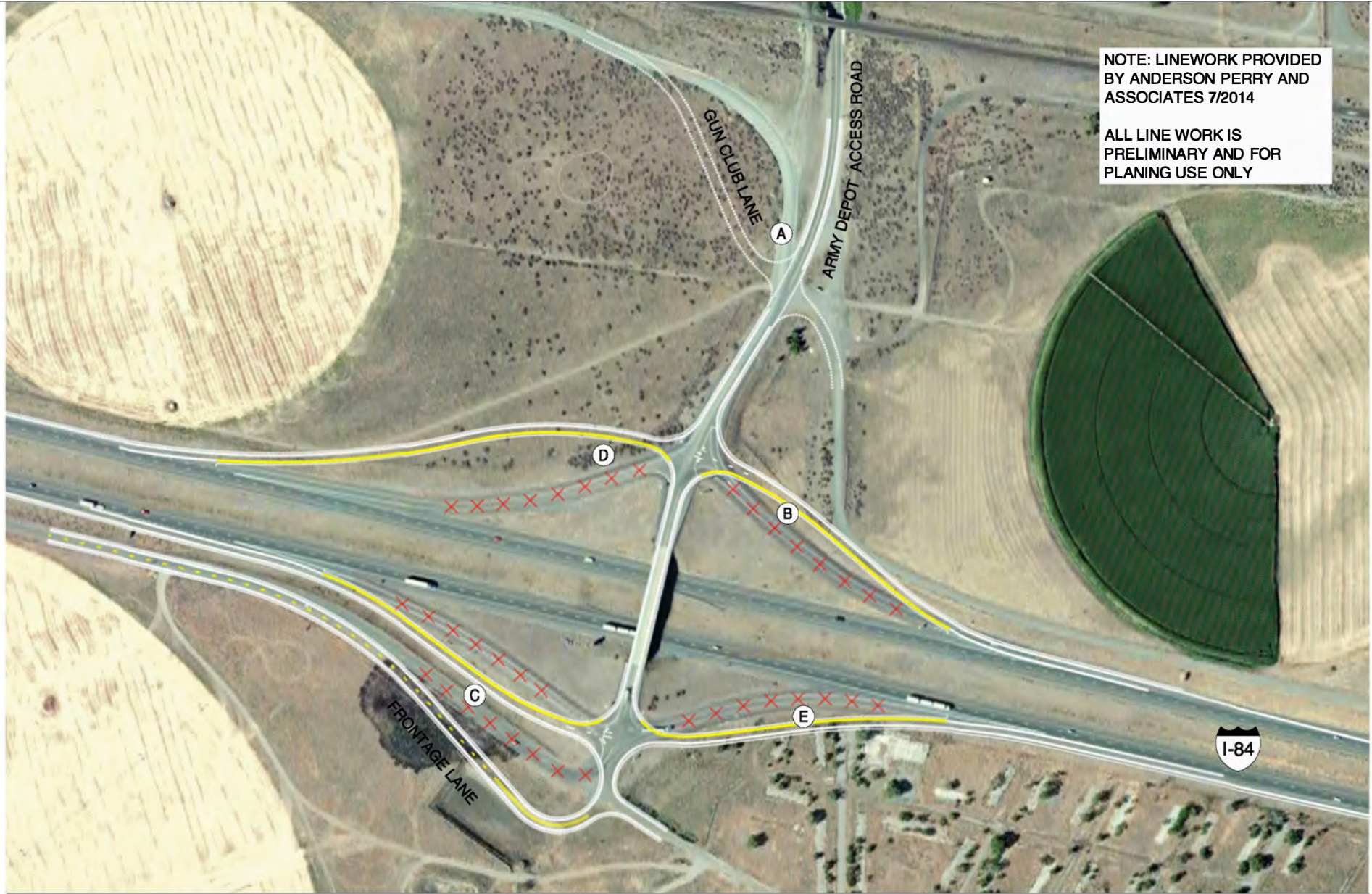
Fig 1. Project Label	Near-Term Improvement Description	Implementation Need/Trigger for Improvement	Estimated Planning-Level Cost <sup>1</sup>	Potential Funding Sources
A	Construct a more formal Gun Club Lane and farm access intersection with the Army Depot Access Road	<ul style="list-style-type: none"> <li><b>Safety:</b> Create a more fully defined intersection that is squared up to the Army Depot Access Road</li> <li><b>Operations:</b> Improve local roadway access efficiency.</li> <li><b>Trigger:</b> When determined by future traffic studies that the existing Gun Club lane intersection can no longer safely support existing and future development-driven traffic volumes.</li> </ul>	\$42K	PDF
Fig. 1 Project Label	Long-Term/Vision Project Description	Implementation Need/Trigger for Improvement	Estimated Planning-Level Cost	Potential Funding Sources
B	Lengthen and realign the I-84 westbound off-ramp.	<ul style="list-style-type: none"> <li><b>Safety:</b> Increase vehicle/truck queuing, upgrade ramp to current design standard.</li> <li><b>Operations:</b> Eliminate ramp skew angle.</li> <li><b>Trigger:</b> When determined by future traffic studies or as part of future capital improvements.</li> </ul>	\$0.54M	STIP, PDF, GF
C	Lengthen and realign the I-84 eastbound off-ramp and reconstruct Frontage/Ordinance Road.	<ul style="list-style-type: none"> <li><b>Safety:</b> Increase vehicle/truck queuing, upgrade ramp to current design standard.</li> <li><b>Operations:</b> Eliminate ramp skew angle.</li> <li><b>Trigger:</b> When determined by future traffic studies or as part of future capital improvements.</li> </ul>	\$1.06M	STIP, PDF, GF
D	Lengthen and realign the I-84 westbound on-ramp.	<ul style="list-style-type: none"> <li><b>Safety:</b> Increase vehicle/truck queuing, upgrade ramp to current design standard.</li> <li><b>Operations:</b> Eliminate ramp skew angle.</li> <li><b>Trigger:</b> When determined by future traffic studies or as part of future capital improvements.</li> </ul>	\$0.79M	STIP, PDF, GF
E	Lengthen and realign the I-84 eastbound on-ramp.	<ul style="list-style-type: none"> <li><b>Safety:</b> Increase vehicle/truck queuing, upgrade ramp to current design standard.</li> <li><b>Operations:</b> Eliminate ramp skew angle.</li> <li><b>Trigger:</b> When determined by future traffic studies or as part of future capital improvements.</li> </ul>	\$0.53M	STIP, PDF, GF




STIP – State Transportation Improvement Project

PDF – Private Development Funds

GF – Other Grant Funds

<sup>1</sup> – Planning level costs are in 2014 dollars. Construction costs only, does not include right-of-way costs.



-  PRELIMINARY ALIGNMENT
-  REMOVE STRUCTURE / ROADWAY
-  IMPROVEMENT (SEE TABLE 1 FOR DESCRIPTION & COST ESTIMATE)

**I-84/ARMY DEPOT ACCESS ROAD IAMP IMPROVEMENT PLAN  
UMATILLA COUNTY, OREGON**

**Figure  
E1**

H:\projfile\13849 - Umatilla Subarea Plan and Combined IAMP\dwgs\fig1\3849\_Fig003\_1.dwg Jul 21, 2014 - 2:49pm - pmameil Layout Tab: Depot Fig 2

## Section 2 Interchange Improvement and Access Management Plan

# INTERCHANGE IMPROVEMENT AND ACCESS MANAGEMENT PLAN

## INTRODUCTION / BACKGROUND

The Umatilla Army Chemical Depot (UMCD) is formally being decommissioned and prepared for reuse/redevelopment. The Umatilla Chemical Depot Reuse Authority (UMADRA - sometimes referred to as the “LRA” and currently undergoing a name change to the “Columbia Development Authority”) is chartered with administering the transition of the UMCD and is leading the planning process. Following the completion of a Redevelopment Plan in 2010, reuse/redevelopment of the UMCD has been targeted to accommodate a new 7,500 acre Oregon National Guard training base, a 5,678 acre habitat refuge, and approximately 3,000 acres of industrial/warehouse development.

With the transition and reconfiguration of land uses on the UMCD site, it is recognized that transportation patterns and traffic demands will change. Some of these changes will impact the existing I-84/Army Depot Access Road interchange. In accordance with Oregon Administrative Rule 734-051, an Interchange Area Management Plan (IAMP) has been prepared to identify and address future transportation infrastructure needs, access, and land use regulations at this interchange. The remainder of this section contains the planning context, specific interchange infrastructure projects, and access management plan for the IAMP.

### Conditions Statement

#### Exhibit 1 - I-84/Army Depot Access Road Interchange



The I-84/Army Depot Access Road interchange is located at Exit 177 in Umatilla County. The interchange is a traditional diamond-style interchange. The eastbound ramp terminal intersects Frontage Road/Ordnance Road while the westbound ramp terminal intersects the Umatilla Army Depot Access Road.

The interchange has served two primary purposes since its construction in 1967. From a regional perspective, the interchange provides access between I-84 and the expansive rural farming/agricultural uses that exist along the south side of I-84. From a local perspective, the interchange has served as the main access to the UMCD site which exists north of I-84 and the adjacent UP Mainline railroad tracks. When originally built, the I-84/Army Depot Access Road

interchange was constructed at a time in which the primary use of the UMCD was to store and ship military supplies. With these UMCD uses no longer in operation and a future vision that includes a change in military uses (Oregon National Guard), environmental preservation, and economic development, the I-84/Army Depot Access Road interchange infrastructure will be utilized over time in a manner that is different from historical patterns.

## Purpose and Intent Statement

The purpose of the I-84/Army Depot Access Road IAMP is to develop a plan that focuses on the interchange and existing Army Depot Access Road that serves the UMCD site. The intent of the plan is to develop land use management strategies for the reuse/redevelopment of the UMCD, create an access management plan for the Army Depot Access Road and Frontage Road, and develop funding mechanisms to construct the necessary infrastructure improvements.

## Goals and Objectives

The IAMP is intended to protect the function of the I-84/Army Depot Access Road interchange for the next 20 years while accounting for changes in land use and traffic patterns brought about by reuse/redevelopment of the UMCD and continued growth in the regional study area. As stated in Policy 3C of the *Oregon Highway Plan*, “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.” To this end, working collaboratively with the Technical/Public Advisory Committee (TPAC) and public, the Goals/Objectives of the IAMP are to:

1. Protect the long-term function, operation, and safety of the I-84/Army Depot Access Road interchange.
2. Identify opportunities for enhanced roadway connectivity within the UMCD site that would provide public roadway connections between the I-84/Army Depot Access Road and I-82/Lamb Road interchanges.
3. Manage the allowed land uses within the vicinity of the interchanges to provide for future economic growth over the next 20 years.
4. Identify current accesses along the interchange crossroads and develop a phased access management plan for the crossroads based on a detailed and collaborative process involving Umatilla County and local property owners. The access management plan will be based on key principles that balance highway mobility and safety against:
  - a. The findings of County TSPs and land use plans; and
  - b. Local economic development objectives for properties that require access to the state highway.
5. Identify opportunities for freight-based multi-modal accessibility to/from future redevelopment of the UMCD site.

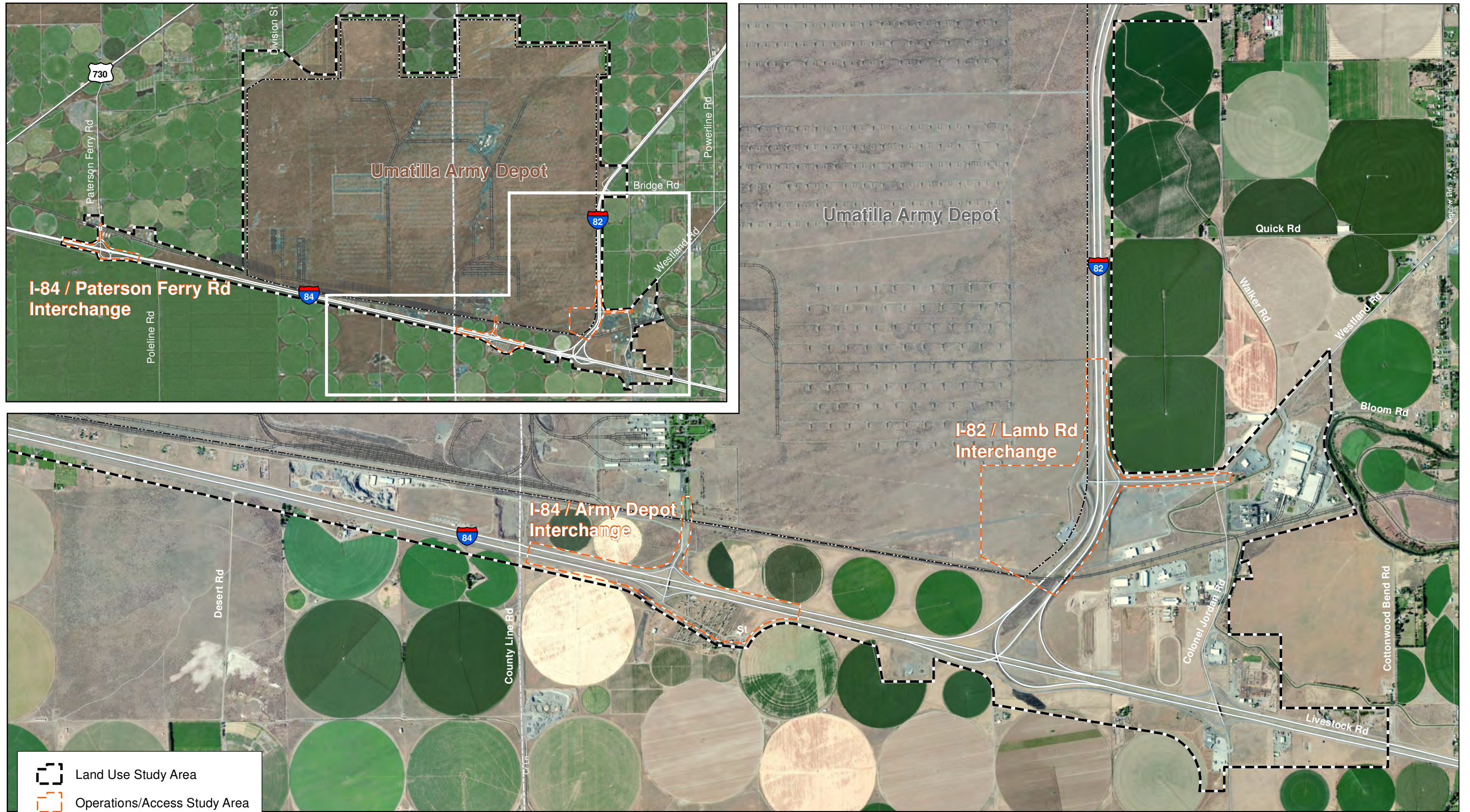
6. Collaborate throughout the planning process with design professionals, jurisdictional representatives, developers, local property owners, and the general public, including protected populations as established by federal and state regulations and policies.
7. Comply with the intent of Statewide Planning Goals, including Goal 1: Public Involvement, Goal 2: Land Use Planning, Goal 5: Natural Resources, Goal 6: Air, Water and Land Resources Quality, Goal 7: Areas Subject to Natural hazards, Goal 8: Recreation Needs, Goal 9: Economic Development, Goal 12: Transportation, and Goal 14: Urban Growth Boundaries.
8. Identify phased implementation strategies for identified near- and long-term interchange infrastructure and interchange crossroad improvements.
9. Identify interchange infrastructure funding mechanisms that could be applied to future reuse/redevelopment of the UMCD and other land uses within the Interchange Management Study Area.
10. Develop implementation policies and regulations to be adopted into the Umatilla County Comprehensive Plan, Transportation System Plan, and zoning ordinances, as appropriate.





### Interchange Management Study Area (IMSA)

The I-84/Army Depot Access Road IAMP was prepared in conjunction with IAMPs for two other interchanges: I-82/Lamb Road and I-84/Paterson Ferry Road. All three interchanges will be affected to some degree by future reuse of the UMCD site. Within the context of the IAMP planning process, the Interchange Management Study Area (IMSA) defines the extent of the detailed land use and infrastructure study area. The IAMPs will focus specifically on the freeway interchanges that serve the UMCD and surrounding land uses. At a minimum, the IMSA includes properties, as well as all access points located within ½ mile from the freeway interchange as defined by the State of Oregon's IAMP Guidelines. In order to capture the overarching land use related impacts of the reuse/redevelopment of the UMCD as well as growth potential of immediately surrounding uses, the IMSA includes the following areas:

- The entire UMCD site
- Westland Road Exception Area – area east of I-82 and north of I-84
- Industrial zoned land located north of the Paterson Ferry Road interchange

The Interchange Management Study Area (IMSA) map is shown in Figure 1.



-  Land Use Study Area
-  Operations/Access Study Area
-  Umatilla Army Depot
-  County Boundary

**Interchange Management Study Area  
Morrow / Umatilla Counties**

**Figure  
1**

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## I-84/ARMY DEPOT ACCESS ROAD INTERCHANGE IMPROVEMENT PLANS

A comprehensive transportation improvement plan for the I-84/Army Depot Access Road interchange was developed based on concept screening and evaluations outlined in the Technical Appendix to the IAMP. Depending upon future development and internal UMCD access scenarios, this plan identifies two sets of improvement scenarios that range from minor access management/local roadway enhancements to a more significant reconstruction of the interchange on- and off ramps. Each transportation improvement project is described in detail below, illustrated in Figure 2, and summarized in Table 1.

### Near/Long- Term Improvements

The I-84/Army Depot Access Road interchange has historically been, and likely will continue to be a low-volume interchange. The rural farming/agricultural land uses that it supports on the south side of I-84 are relatively minor in intensity and are forecast to continue to generate relatively low volumes of traffic through this interchange over the next 20 years. Likewise, future reuse of the UMCD site is also not anticipated to generate a significant amount of daily traffic volumes through this interchange when considering the following conditions and likely future development scenarios:

- Per their current plans, the Oregon National Guard (ORNG) is proposing to house their Regional Training Institute, a readiness center, and an assortment of training facilities on their portion of the UMCD site. Typical daily use and staffing of these facilities are not anticipated to generate a significant amount of trips as outlined in the Technical Appendix to this IAMP.
- The majority of future development associated with the Depot Industrial zone in the eastern portion of the UMCD site is anticipated to be oriented to the closer and more conveniently located I-82/Lamb Road interchange. As such, a minimal amount of associated vehicle and truck traffic is anticipated to use the I-84/Army Depot Access Road interchange.
- Future development of the Morrow County Port Industrial zone in the southwest quadrant of the UMCD site could potentially take access to the I-84 corridor via a new roadway connection to Patterson Ferry Road (see I-84/Paterson Ferry Road IAMP). As such, a minimal amount of associated vehicle and truck traffic is anticipated to use the I-84/Army Depot Access Road interchange.
- The existing Army Depot Access Road underpass at the adjacent UP Mainline has existing vertical and horizontal clearance limitations that would prevent some large trucks and oversized vehicles from accessing the ORNG, and potential future development associated with the Morrow County Port Industrial and Umatilla County Depot Industrial zones.

Based on the above noted conditions and assumed future development scenarios, the existing I-84/Army Depot Access Road interchange can continue to function as a low-volume rural interchange with only a few relatively minor access and safety improvements as noted below.

**Project A. Realignment of Gun Club Lane Access (Near-Term)**

The existing Gun Club Lane access off of the Army Depot Access Road has a large and expansive point of access. This connection is not well defined and intersects the Army Depot Access Road at a severe skew angle. Project A would include the construction of a more formal intersection that squares up the access to the Army Depot Access Road and realigns it opposite of the existing farm access on the east side of Army Depot Access Road. *This improvement would need to be constructed as part of future capital improvement project or when it is determined (through the Umatilla County and/or Morrow County development review process) that the current configuration cannot safely support future development-driven traffic volumes on Gun Club Lane.*

**Table 1 - I-84/Army Depot Access Road Interchange Transportation Improvement Plan**

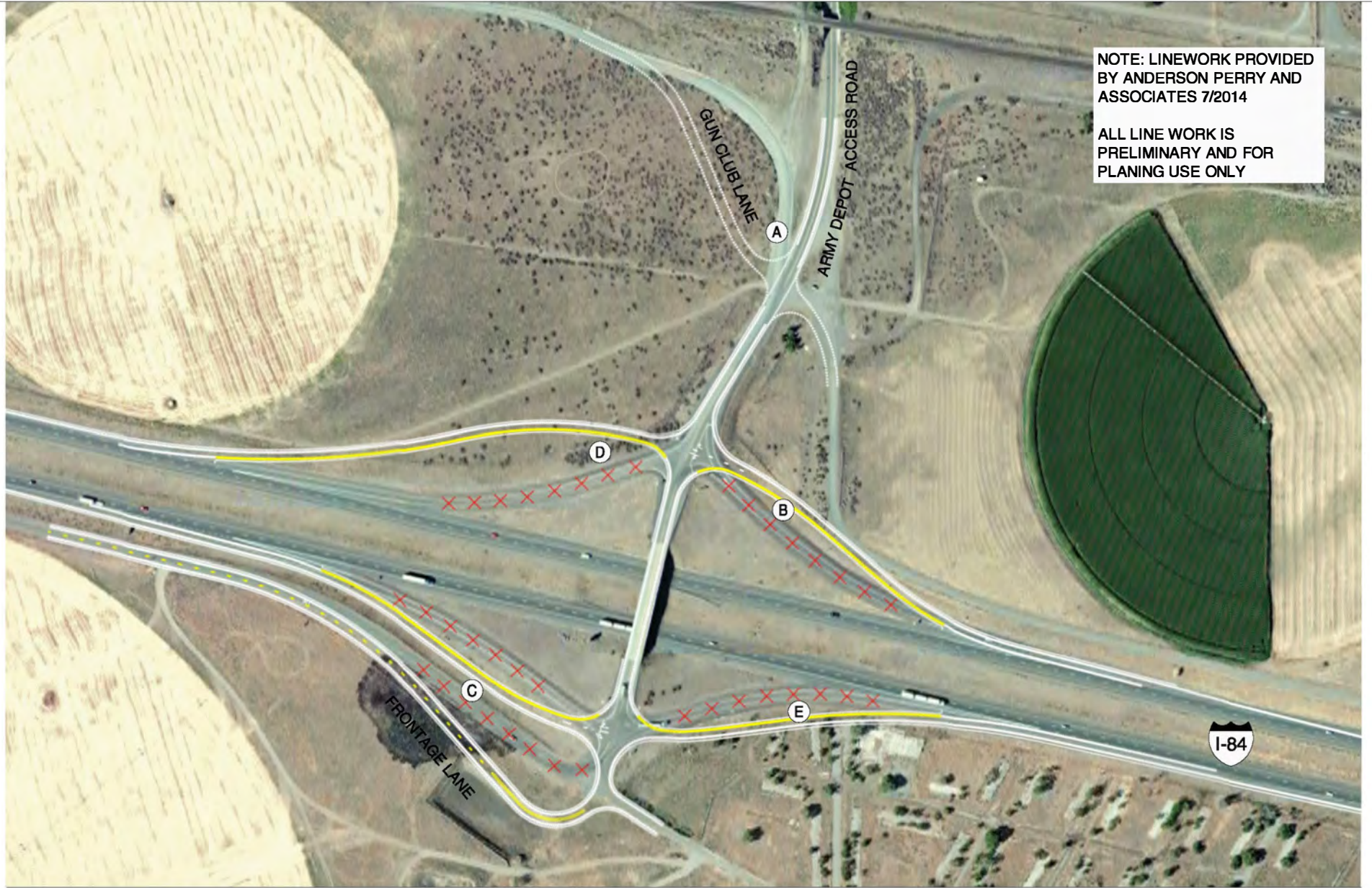
Fig 1. Project Label	Near-Term Improvement Description	Implementation Need/Trigger for Improvement	Estimated Planning-Level Cost <sup>1</sup>	Potential Funding Sources
A	Construct a more formal Gun Club Lane and farm access intersection with the Army Depot Access Road	<ul style="list-style-type: none"> <li><b>Safety:</b> Create a more fully defined intersection that is squared up to the Army Depot Access Road</li> <li><b>Operations:</b> Improve local roadway access efficiency.</li> <li><b>Trigger:</b> When determined by future traffic studies that the existing Gun Club lane intersection can no longer safely support existing and future development-driven traffic volumes.</li> </ul>	\$42K	PDF
Fig. 1 Project Label	Long-Term/Vision Project Description	Implementation Need/Trigger for Improvement	Estimated Planning-Level Cost	Potential Funding Sources
B	Lengthen and realign the I-84 westbound off-ramp.	<ul style="list-style-type: none"> <li><b>Safety:</b> Increase vehicle/truck queuing, upgrade ramp to current design standard.</li> <li><b>Operations:</b> Eliminate ramp skew angle.</li> <li><b>Trigger:</b> When determined by future traffic studies or as part of future capital improvements.</li> </ul>	\$0.54M	STIP, PDF, GF
C	Lengthen and realign the I-84 eastbound off-ramp and reconstruct Frontage/Ordinance Road.	<ul style="list-style-type: none"> <li><b>Safety:</b> Increase vehicle/truck queuing, upgrade ramp to current design standard.</li> <li><b>Operations:</b> Eliminate ramp skew angle.</li> <li><b>Trigger:</b> When determined by future traffic studies or as part of future capital improvements.</li> </ul>	\$1.06M	STIP, PDF, GF
D	Lengthen and realign the I-84 westbound on-ramp.	<ul style="list-style-type: none"> <li><b>Safety:</b> Increase vehicle/truck queuing, upgrade ramp to current design standard.</li> <li><b>Operations:</b> Eliminate ramp skew angle.</li> <li><b>Trigger:</b> When determined by future traffic studies or as part of future capital improvements.</li> </ul>	\$0.79M	STIP, PDF, GF
E	Lengthen and realign the I-84 eastbound on-ramp.	<ul style="list-style-type: none"> <li><b>Safety:</b> Increase vehicle/truck queuing, upgrade ramp to current design standard.</li> <li><b>Operations:</b> Eliminate ramp skew angle.</li> <li><b>Trigger:</b> When determined by future traffic studies or as part of future capital improvements.</li> </ul>	\$0.53M	STIP, PDF, GF




STIP – State Transportation Improvement Project

PDF – Private Development Funds

GF – Other Grant Funds

<sup>1</sup> – Planning level costs are in 2014 dollars. Construction costs only, does not include right-of-way costs.



-  PRELIMINARY ALIGNMENT
-  REMOVE STRUCTURE / ROADWAY
-  IMPROVEMENT (SEE TABLE 1 FOR DESCRIPTION & COST ESTIMATE)

I-84/ARMY DEPOT ACCESS ROAD IAMP IMPROVEMENT PLAN  
UMATILLA COUNTY, OREGON

Figure  
2

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## Long-Term/Vision Project Improvements

Anticipated future reuse of the UMCD site is not likely to generate a significant amount of traffic through the I-84/Army Depot Access Road interchange, and therefore no major infrastructure improvements would be needed at the interchange. However, the IAMP recognizes that the potential exists for intensified levels of traffic growth through the I-84/Army Depot Access Road as it relates to future reuse of the UMCD site. Specifically, future development associated with the Morrow County Port Industrial zone in the southwest quadrant of the UMCD site may need near- or long-term regional access to the I-84/Army Depot Access Road interchange until a primary access connection can be established via Paterson Ferry Road. It is also possible, but unlikely, that the ORNG could expand their operations beyond current plans. If either were the case, it can be expected that the I-84/Army Depot Access Road interchange will experience a significant increase in vehicular and truck traffic. As such, the following Long-Term/Vision Projects have been identified so that their potential need can be monitored and planned for over the 20-year life of the IAMP.

### ***Project B. Improve I-84 Westbound Off-Ramp (Vision Project)***

The existing I-84 westbound off-ramp is substandard in its length to safely and efficiently accommodate intensification in vehicle and truck traffic that could be generated by future development of the Port Industrial zone in the southwest quadrant of the UMCD site or expanded ORNG operations. Project B would lengthen and realign the off-ramp to better accommodate potential long-term vehicle and truck demand. *These improvements would be constructed when future development-driven traffic studies determine that they are needed for safety and/or operations reasons.*

### ***Project C. Improve I-84 Eastbound Off-Ramp/Realign Frontage/Ordnance Road (Vision Project)***

The existing I-84 eastbound off-ramp is substandard in its length to safely and efficiently accommodate intensification in vehicle and truck traffic that could be generated by future development of the Port Industrial zone in the southwest quadrant of the UMCD site or expanded ORNG operations. Project B would lengthen and realign the off-ramp to better accommodate potential long-term vehicle and truck demand and eliminate the existing skew angle at Army Depot Access Road. In addition, this project would reconstruct a portion of the Frontage Road that would be impacted by the realigned off-ramp. *These improvements would be constructed when future development-driven traffic studies determine that they are needed for safety and/or operations reasons.*

### ***Project D. Improve/Realign the I-84 Westbound On-Ramp (Longer-Term)***

The existing I-84 westbound on-ramp is deficient in its length and cannot safely and efficiently accommodate the intensified vehicular/truck volumes that could be generated by future development of the Port Industrial zone in the southwest quadrant of the UMCD site or expanded ORNG operations. *This improvement would be constructed in conjunction with Project B or when determined to be needed for safety or operations reasons.*

**Project E. Improve/Realign the I-84 Eastbound On-Ramp (Longer-Term)**

The existing I-84 eastbound on-ramp is deficient in its length and has a large skew angle that cannot efficiently accommodate the intensified vehicular/truck volumes that could be generated by future development of the Port Industrial zone in the southwest quadrant of the UMCD site or expanded ORNG operations. *This improvement would be constructed in conjunction with Project C or when determined to be needed for safety or operations reasons.*

**INTERCHANGE ACCESS MANAGEMENT PLAN**

Access locations within the I-84/Army Depot Access Road interchange area were evaluated based on ODOT's Division 51 Access Management standards and an assessment of traffic operations and safety as described in Action 3C.3 of the Oregon Highway Plan. Accordingly, the Access Management Plan (AMP) will preserve the operational integrity and safety of the interchange and primary roadways serving it, while maintaining viable access to all parcels in the IMSA.

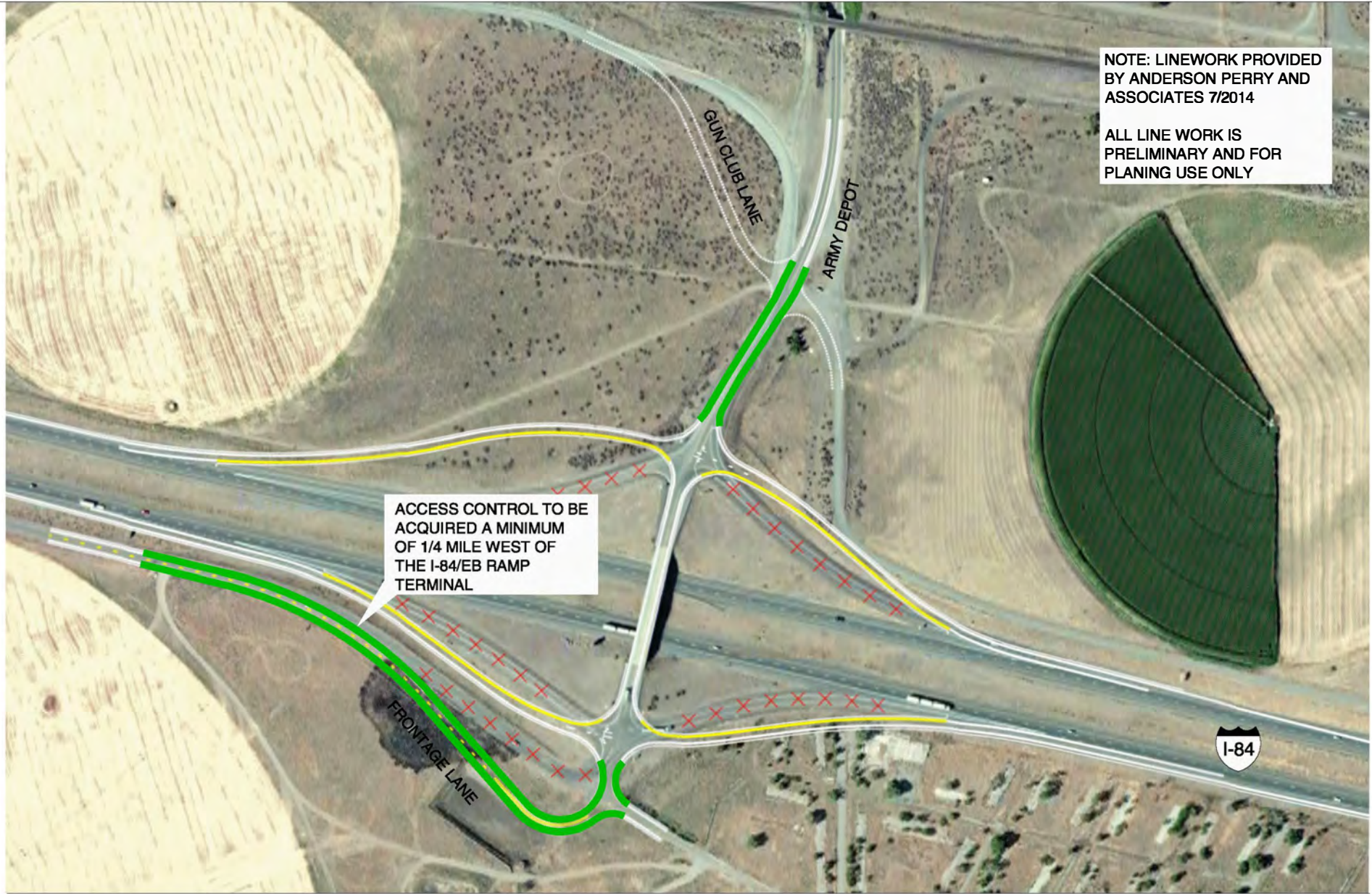
**Access Management**

Figure 3 illustrates the access management plan for the I-84/Army Depot Access Road interchange.

**Army Depot Access Road**

The access management plan for the Army Depot Access Road is primarily focused on not allowing new access to the roadway between the westbound ramp terminals and the UP Mainline railroad underpass to the north. The realignment/establishment of a Gun Club Lane/Existing Farm access (Project A) along the Army Depot Access Road is intended to formalize and optimize the location of this access. Along with this project, formalized access control should be established by ODOT to prevent future access along this limited corridor.




South of the interchange, formalized access control should be established along the realigned/reconstructed Frontage/Ordnance Road if/when the project is needed (See Long-Term/Vision Project C).



NOTE: LINEWORK PROVIDED BY ANDERSON PERRY AND ASSOCIATES 7/2014

ALL LINE WORK IS PRELIMINARY AND FOR PLANING USE ONLY

ACCESS CONTROL TO BE ACQUIRED A MINIMUM OF 1/4 MILE WEST OF THE I-84/EB RAMP TERMINAL

-  PRELIMINARY ROADWAY ALIGNMENT
-  REMOVE STRUCTURE / ROADWAY
-  ACQUIRE ACCESS CONTROL

I-84/ARMY DEPOT ACCESS ROAD IAMP IMPROVEMENT PLAN  
UMATILLA COUNTY, OREGON

Figure  
3

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## Section 3 Implementation Plan

# IMPLEMENTATION PLAN

## INTRODUCTION

ODOT and Umatilla County will need to adopt elements of the I-84/Army Depot Access Road IAMP specific to the individual jurisdiction/agency. Since the IAMP involves both State and local government authority, some policies will guide ODOT actions and others will guide Umatilla County decisions. The Oregon Administrative Rule [(OAR 734-051-0155(2)) states that ODOT will work with local governments on any amendments to local comprehensive plans and transportation system plans and local land use and subdivision codes to ensure the proposed IAMP is consistent with the local plan and codes, prior to adoption by the Oregon Transportation Commission (OTC).

It is expected that the IAMP will be made part of the Umatilla County Comprehensive Plan by including it as an amendment to its Transportation System Plans (TSP). This amendment process will require notification and public hearings pursuant to the local legislative process. Umatilla County can adopt the I-84/Army Depot Access Road IAMP document in its entirety or by reference to the existing TSP, can prepare an ordinance that more specifically identifies what parts of the IAMPs are being adopted locally and how local plans and ordinances are being modified, and/or can issue a statement that local plans and ordinances are consistent with the recommendations of the IAMP.

ODOT Region 5 will prepare findings to support adoption of the I-84/Army Depot Access Road IAMP on the State's behalf, and the Oregon Transportation Commission (OTC) will deliberate and adopt the final documents as a facility plan and amendments to the Oregon Highway Plan (OHP). The following is a summary of the proposed actions to implement the IAMP.

## PLAN ELEMENTS

### Interchange Function and Policy Definition

Umatilla County should adopt a clear definition of the I-84/Army Depot Access Road Interchange function into its comprehensive plan and TSP to provide policy direction for management of the interchange area and achieve the objectives and goals of this IAMP. This will help to ensure consistency between future policy decisions and the interchange's intended function.

The I-84/Army Depot Access Road interchange provides a direct connection between I-84 and the Oregon National Guard (ONG) property. As well, this interchange will provide access to the Port Industrial zoned lane on the southwestern quadrant of the UMCD site. Finally, as the eastern portion of the Depot planning area develops, and internal roads are constructed, the I-84/Army Depot Access Road Interchange will provide secondary access from the east to the industrial and employment uses along I-82.



As ONG activities increase on the Depot property, use of the I-84/Army Depot Access Road Interchange will increase. Historically, the interchange provided secured access to the Umatilla Army Chemical Depot when it was operational. When those operations ceased, use of the interchange diminished. With renewed use of the site by the ONG for training activities, the interchange will see a reestablishment of daily activity.

I-84 is a major east-west interstate highway that connects the state of Oregon to the state of Idaho. I-84 is classified as an Interstate Highway by the Oregon Highway Plan (OHP) and designated as an Expressway and Statewide Freight Route.

Based on this description, the following function and policy definition was developed for the I-84/Army Depot Access Road Interchange:

*“The function of the I-84/Army Depot Access Road interchange is to provide primary access for future training and operational activities performed by the Oregon National Guard on the former Umatilla Army Chemical Depot site. Traffic operations at the interchange will need to accommodate both large and small military vehicles. At the same time, the I-84/Army Depot Access Road Interchange may provide access to future Port Industrial development to the west of the interchange and to future industrial and employment uses to the east between this interchange and the I-82/Lamb Road Interchange.”*

### Interchange Area Management Plan (IAMP) Management Area

Umatilla County is the land use regulatory authority for the Interchange Management Study Area (IMSA). To ensure the continued operation and safety integrity of the interchange, Umatilla County should adopt an I-84/Army Depot Access Road IAMP Management Area. Future development and land use actions within the IAMP Management Area will be monitored to ensure that volume-to-capacity ratios do not exceed the adopted Oregon Highway Plan mobility standards at the ramp terminals. This can be accomplished through Development Review guidelines included within the proposed amendments to the County’s Zoning and Subdivision Ordinances as described in the following sections.

## ADOPTION ELEMENTS

Implementation of the I-84/Army Depot Access Road IAMP will occur at several levels of government. Consistent with OAR 734- 051, Umatilla County will adopt legislative amendments to its transportation system plan and comprehensive plan to incorporate elements of the I-84/Army Depot Access Road IAMP. In addition, new land use ordinances or amendments to existing ordinances or resolutions may be required to ensure that the access management, land use management, and coordination elements of the IAMP are achieved. This adoption process will include Planning Commission/County Commission hearings at the County level.

Following successful adoption at the County level, the IAMP will be presented to the Oregon Transportation Commission (OTC) for its review and adoption. This should occur prior to transportation improvements as described in this IAMP being constructed.

To implement the I-84/Army Depot Access Road IAMP, the following actions shall occur:

#### ODOT:

- The IAMP shall be adopted by the Oregon Transportation Commission as part of the Oregon Highway Plan.

#### Umatilla County:

- Will amend the Transportation System Plan to incorporate the I-84/Army Depot Access Road interchange function and policy definition and recommended transportation improvements. The IAMP shall serve as the long range comprehensive management plan for providing the transportation facilities that are specifically addressed in this plan, as well as the Access Management Plan and the planned local street network for the area.
- Will amend the Comprehensive Plan Map and Zoning Map to include an Interchange Management Area to identify where compliance with the I-84/Army Depot Access Road IAMP will be a condition of future development approval.
- Will amend the Development Code to require that development and redevelopment proposals within the Interchange Management Area show consistency with the IAMP and recommended improvements to allow the County to require improvements as a condition of approval. Amendments will ensure that proposals for new development within the UMCD and IMSA will be reviewed to determine if a need for different interchange improvement phases is triggered. Amendments to the following sections are recommended:
  - Section 152.018 Access Management and Street Connectivity
  - Section 152.019 Traffic Impact Analysis
- Work with Morrow County and ODOT to identify and pursue funding for the I-84/Army Depot Access Road interchange projects identified in this IAMP.

#### Morrow County:

If proposed development in the Port Industrial portion of the UMCD site precedes the construction of the envisioned Paterson Ferry Road-UMCD connector roadway, Morrow County will coordinate development review with Umatilla County. Prior to the construction of the connector roadway, Morrow County will:

- Notify Umatilla County of submitted applications for development proposals within the Port Industrial portion of the UMCD site, under Morrow County’s jurisdiction.
- Require development applicants to obtain an Access Permit through Umatilla County Public Works as part of the development approval process.
- Work with Umatilla County to establish an appropriate funding mechanism to construct the necessary frontage road to connect the I-84/Army Depot Access Road interchange to the Port Industrial zoned lands.

## MONITORING ELEMENTS

The purpose of the IAMP is to ensure that capacity at the interchange is preserved for its intended function. While a long-range plan, the IAMP needs to remain dynamic and responsive to development and changes to the adopted land use and transportation plans and may need to be periodically reviewed and updated. To accomplish this goal, a monitoring program is included that identifies triggers for reviewing the IAMP and assessing how development approval within the IAMP Management Area will be reviewed and coordinated.

### IAMP Review Triggers

Periodically, the implementation program shall be evaluated by ODOT and Umatilla County to ensure it is accomplishing the goals and objectives of the IAMP. Events that may trigger an IAMP review include:

- Plan map and zone changes that have a “significant affect” pursuant to the Transportation Planning Rule (OAR 660-012-0060) and impact the I-84/Army Depot Access Road Interchange, or that are located within the IAMP Management Area.
- Proposed development that generates expected traffic volume at the I-84 ramp terminals that exceed the adopted mobility targets.
- Unanticipated intensification of ORNG uses that significantly exceed forecasts as identified in the Technical Appendix of the IAMP.

In addition to the established triggers for IAMP review, either agency may request a formal review of the IAMP at any time if, in their determination, specific land use or transportation changes warrant a review of the underlying assumptions and/or recommendations within the IAMP. If the participants in the IAMP review agree that, once the impacts of the “trigger” that necessitated the review are examined, an IAMP amendment is not warranted, a recommendation of “no action” may be documented and submitted in the form of a letter to the Umatilla County Commission and the Oregon Transportation Commission.

If the findings and conclusions from the IAMP review demonstrate the need for an update to the plan, review participants will initiate an IAMP update process. Initial steps in updating the IAMP will include scoping the planning process, identifying funding, and outlining a schedule for plan completion. Once completed, IAMP updates will be required to be legislatively adopted as an amendment to the Umatilla

County Transportation System Plan, requiring a Umatilla County public hearing, as an amendment to the Umatilla County Transportation System Plan and adoption by the Oregon Transportation Commission as an update to the Oregon Highway Plan.

## DEVELOPMENT REVIEW

The following outlines the transportation requirements for development and zone change applications within the I-84/Army Depot Access Road Interchange Management Area and describes how Umatilla County will coordinate with Morrow County and ODOT.

### Local Requirements

Umatilla County currently requires that proposed development comply with access management and traffic impact analysis requirements pursuant to the adopted Development Code. Umatilla County will amend the Development Code to require that development and redevelopment proposals within the Interchange Management Area show consistency with the IAMP Access Management Plan (AMP) and allow the County to recommend improvements as a condition of approval. Code amendments will ensure that all proposals for new development within the Umatilla County portion of the Depot site area will be reviewed to determine if a need for different interchange improvement phasing is triggered or additional improvements are needed to support the proposal. Amendments to the following sections are recommended:

- Section 152.018 Access Management and Street Connectivity
- Section 152.019 Traffic Impact Analysis

Section 152.018 will include the following provision:

*Proposed access within an Interchange Area Management Plan (IAMP) will be consistent with this section and the Access Management Plan of the applicable IAMP. Where conflicts between code requirements and the applicable IAMP Access Management Plan exist, the Access Management Plan will govern.*

In recognition that the I-82/Lamb Road interchange may have the ability to accommodate some level of development within the UMCD boundary prior to full implementation of the identified near-term interchange improvement projects (Projects A and B in the IAMP), special Traffic Impact Analysis (TIA) provisions will be amended in the County's TIA requirements (§152.019.B.2). These requirements will be specific to all future development located within the UMCD boundary of the larger IMSA. The entire TIA requirements with these new special provisions are included below with the new language underlined.

§ 152.019 TRAFFIC IMPACT STUDY.

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

(B) Applicability: A Traffic Impact Analysis shall be required to be submitted to the County with a land use application, apply:

(1) A change in plan amendment designation; or

(2) The proposal is projected to cause one or more of the following effects, which can be determined by field counts, site observation, traffic impact analysis or study, field measurements, crash history, Institute of Transportation Engineers Trip Generation manual; and information and studies provided by the local reviewing jurisdiction and/or ODOT:

(a) An increase in site traffic volume generation by 250 Average Daily Trips (ADT) or more (or as required by the County Engineer). The latest edition of the Trip Generation manual, published by the Institute of Transportation Engineers (ITE) shall be used as standards by which to gauge average daily vehicle trips; or

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

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

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

(e) Any development proposed within the UMCD boundary of the I-84/Lamb Road or I-84/Army Depot Access Road Interchange Area Management Plan (IAMP) Management Area prior to the completion of near-term improvements projects (Projects A and B) identified in the I-82/Lamb Road IAMP; or

~~(e)~~ (f) For development within the I-82/US 730 Interchange Area Management Plan (IAMP) Management Area, the location of the access driveway is inconsistent with the Access Management Plan in Section 7 of the IAMP.

(C) Traffic Impact Analysis Requirements

(1) Preparation. A Traffic Impact Analysis shall be prepared by a professional engineer. The Traffic Impact Analysis will be paid for by the applicant.

(2) Transportation Planning Rule Compliance as provided in § 152.751.

(3) Pre-filing Conference. The applicant will meet with the Umatilla County Public Works Director and Planning Director prior to submitting an application that requires a Traffic Impact Analysis. The County has the discretion to determine the required elements of the TIA and the level of analysis expected. The County shall also consult the Oregon Department of Transportation (ODOT) on analysis requirements when the site of the proposal is adjacent to or otherwise affects a State roadway.

(4) For development proposed within the UMCD boundary of the I-84/Lamb Road or I-84/Army Depot Access Road Interchange Area Management Plan (IAMP) Management Area prior to the construction and completion of near-term improvements projects (Projects A and B) identified in the I-82/Lamb Road IAMP, the following additional submittal requirements may be required:

(a) An analysis of typical average daily vehicle trips using the latest edition of the Trip Generation Manual, published by the Institute of Transportation Engineers (ITE) or other data source deemed acceptable by the County Engineer.

(b) A truck and personal passenger vehicle mode split analysis.

(c) An analysis that shows the traffic conditions of the project at full buildout and occupancy, assuming the background traffic conditions at the year of expected project completion.

(d) Findings related to the impacts of the proposed development and the need for Projects A and B to mitigate those impacts.

Once Projects A and B have been completed, section (4) will no longer apply to new development.

(D) Approval Criteria: When a Traffic Impact Analysis is required; approval of the proposal requires satisfaction of the following criteria:

(1) Traffic Impact Analysis was prepared by an Oregon Registered Professional Engineer qualified to perform traffic engineering analysis;

(2) If the proposed action shall cause a significant effect pursuant to the Transportation Planning Rule, or other traffic hazard or negative impact to a transportation facility, the Traffic Impact Analysis shall include mitigation measures that meet the County's Level-of-Service and/or Volume/Capacity standards and are satisfactory to the County Engineer, and ODOT when applicable; and

(3) The proposed site design and traffic and circulation design and facilities, for all transportation modes, including any mitigation measures, are designed to:

- (a) Have the least negative impact on all applicable transportation facilities;
- (b) Accommodate and encourage non-motor vehicular modes of transportation to the extent practicable;
- (c) Make the most efficient use of land and public facilities as practicable;
- (d) Provide the most direct, safe and convenient routes practicable between on-site destinations, and between on-site and off-site destinations; and
- (e) Otherwise comply with applicable requirements of the Umatilla County Code.

(E) Conditions of Approval: The County may deny, approve, or approve a proposal with appropriate conditions.

(1) Where the existing transportation system is shown to be impacted by the proposed action, dedication of land for streets, transit facilities, sidewalks, bikeways, paths, or accessways may be required to ensure that the transportation system is adequate to handle the additional burden caused by the proposed action.

(2) Where the existing transportation system is shown to be impacted by the proposed action, improvements such as paving, curbing, installation or contribution to traffic signals, construction of sidewalks, bikeways, accessways, paths, or streets that serve the proposed action may be required.

## OREGON DEPARTMENT OF TRANSPORTATION / UMATILLA COUNTY COORDINATION

Following adoption of the I-84/Army Depot Access Road IAMP, Umatilla County will need to coordinate future development activities on the UMCD site with ODOT. The following describes steps both ODOT and Umatilla County will take when reviewing development proposals that may impact the I-84/Army Depot Access Road interchange. Umatilla County shall provide notice to the Oregon Department of Transportation (ODOT) on TIA studies when the site of the proposal is adjacent to or otherwise affects a State highway.

- Umatilla County shall consult the Oregon Department of Transportation (ODOT) on TIA requirements when the site of the proposal is adjacent to or otherwise affects a State highway.
- Umatilla County shall provide written notification to ODOT once a quasi-judicial or legislative land use application within the IAMP Management Area is deemed complete.
- ODOT shall have at least 20 days, measured from the date notice to agencies was mailed, to provide written comments to the County. If ODOT does not provide written comments

during this 20-day period, the County staff report will be issued without consideration of ODOT comments.

- The County shall invite ODOT to participate in a pre-filing conference for applications within an Interchange Management Area Plan Management Area or within a ¼ mile of any ODOT facility. Notice of actions requiring a public hearing shall be provided to ODOT at least twenty days prior to the date of the hearing.



## Section 4 OAR & OHP Compliance

## OAR AND OHP COMPLIANCE

The following section discusses the Oregon Administrative Rule (OAR) and Oregon Highway Plan (OHP) policy-based compliance issues that pertain to the development of the I-84/Army Depot Access Road IAMP.

### OAR COMPLIANCE

The I-84/Army Depot Access Road IAMP was developed in collaboration with UMADRA, Umatilla County, and ODOT and was developed in accordance with the guidelines set forth in the State of Oregon’s Administrative Rules for Interchange Access Management Planning and Interchange Area Management Planning. Table 6 identifies the required planning elements from OAR 734-051 and documents how the IAMP satisfies the requirements.

**Table 2 – I-84/Army Depot Access Road IAMP OAR Compliance**

OAR 734-0051-0155 Requirement	How OAR is Addressed	Document Reference
Should be developed no later than the time the interchange is being developed or redeveloped  -7010(7)(a)	This plan was developed to effectively plan for future development and traffic growth that could occur within the interchange area. Future improvements will be needed to safely accommodate forecast increases in vehicular and truck demand.	IAMP Technical Appendix “G”
Should identify opportunities to improve operations and safety in conjunction with roadway projects and property development or redevelopment and adopt strategies and development standards to capture those opportunities  -7010(7)(b)	The access management, transportation improvement plan, and Interchange Management Area elements identified in this plan will result in operational, safety, and capacity improvements.	IAMP Section 2
Should include short, medium, and long-term actions to improve operations and safety in the interchange area  -7010(7)(c)	The IAMP includes a phasing plan for the transportation system improvements presented within the plan. These improvements address the near term needs identified by the existing conditions analysis as well as long-term demand needs that are expected to occur beyond the 20-year horizon period.	IAMP Section 2
Should consider current and future traffic volumes and flows, roadway geometry, traffic control devices, current and planned land uses and zoning, and the location of all current and planned approaches  -7010(7)(d)	A full analysis of existing and forecast operational and geometric conditions was conducted for this planning effort. The future volumes were developed based on approved zoning and comprehensive plan designations.	IAMP Technical Appendices “D”, “E”, & “G”
Should provide adequate assurance of the safe operation of the facility through the design traffic forecast period, typically 20 years  -7010(7)(e)	Specific improvements are included in the plan to address safety concerns through improved geometric alignment and access spacing.	IAMP Section 2
Should consider existing and proposed uses of all property in the interchange area consistent with its comprehensive plan designations and zoning	A thorough analysis of surrounding land uses and land use potential was performed based on the current and approved comprehensive plan designations and zoning.	IAMP Technical Appendices “D”, “E”, & “G”

OAR 734-0051-0155 Requirement	How OAR is Addressed	Document Reference
-7010(7)(f)		
Is consistent with any applicable Access Management Plan, corridor plan or other facility plan adopted by the Oregon Transportation Commission	The access management plan included in the IAMP is consistent with the OHP.	IAMP Section 2
-7010(7)(g)		
Includes polices, provisions and standards from local comprehensive plans, transportation system plans, and land use and subdivision codes that are relied upon for consistency and that are relied upon to implement the Interchange Area Management Plan.	The implementation plan included in this IAMP documents the required amendments to local plans needed to adopt the IAMP. In addition, the implementation section outlines monitoring elements for the purpose of directing future land use action within the IAMP study area.	IAMP Section 3
-7010(7)(h)		

## OREGON HIGHWAY PLAN COMPLIANCE

The I-84/Army Depot Access Road IAMP was developed in accordance with the policies set forth in the OHP. The following identifies the OHP Policies that pertain to the I-84/Army Depot Access Road IAMP and how the IAMP satisfies the requirements.

Policy 1A: State Highway Classification System. The state highway classification system includes five classifications: Interstate, Statewide, Regional, District, and Local Interest Roads. In addition, there are four special purpose categories that overlay the basic classifications: special land use areas, statewide freight route, scenic byways, and lifeline routes.

Within the Interchange Management Study Area (IMSA), there are two ODOT highways. I-84 is an Interstate Highway designated as an Expressway. I-82 is an Interstate Highway also designated as an Expressway.

How Addressed: The I-84/Army Depot Access Road IAMP recognized the respective functions of each highway. Access standards, traffic control, and geometric considerations were informed by the applicable highway designation. The preferred concept includes modification to the interstate ramps to better accommodate future traffic volumes and truck types.

Policy 1B: Land Use and Transportation. This policy recognizes the role of both the State and local governments related to the state highway system and calls for a coordinated approach to land use and transportation planning.

How Addressed: The IAMP was developed through a cooperative planning effort between UMADRA, Umatilla County, and ODOT. The IAMP will be implemented by Umatilla County through the IAMP Management Area that will require coordinated agency review on all future development or land use actions within the Area.

Policy 1C: State Highway Freight System. This policy recognizes the need for the efficient movement of freight through the state. I-84 and I-82 are designated Freight Routes.

How Addressed: The transportation projects included in the plan were developed considering freight mobility needs, particularly at the EB and WB interchange on/off ramps.

Policy 1F: Highway Mobility Standards Access Management Policy. This policy addresses state highway performance expectations, providing guidance for managing access and traffic control systems related to interchanges.

How Addressed: I-84/Army Depot Access Road IAMP demonstrates that the interchange and surrounding transportation system will be able to meet ODOT mobility targets through the 20-year horizon.

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

How Addressed: I-84/Army Depot Access Road IAMP focuses on improving the geometry of the existing interchange to improve efficiency and safety, adding capacity only where needed.

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

How Addressed: The transportation system was considered as a whole with improvements to the state and local system equally considered.

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

How Addressed: The new Gun Club Lane access and interchange ramp improvements will be reconstructed to eliminate existing deficiencies. In addition, the access management plan was developed to ensure the long-term safety of the interchange area.

Policy 3A: Classification and Spacing Standards. This policy addresses the location, spacing, and type of road and street intersections and approach roads on state highways. The adopted standards can be found in Appendix C of the Oregon Highway Plan.

How Addressed: See Policy 3C below.

Policy 3C: Interchange Access Management Areas. This policy addresses management of grade-separated interchange areas to ensure safe and efficient operation between connecting roadways. Action items include developing interchange area management plans to protect the function of the

interchange to provide safe and efficient operations between connecting roadways and to minimize the need for major improvements of existing interchanges. The local jurisdiction's role in access management is stated in Policy 3C as follows: "necessary supporting improvements, such as road networks, channelization, medians and access control in the interchange management area must be identified in the local comprehensive plan and committed with an identified funding source, or must be in place (Action 3C.2)."

Access management standards are detailed in Policy 3C and include the distance required between an interchange and approaches and intersections. The most stringent standards apply in interchange areas.

How Addressed: The I-84/Army Depot Access Road IAMP includes an access management plan that improves access spacing over existing conditions.

Policy 4A: Efficiency of Freight Movement. This policy emphasizes the need to maintain and improve the efficiency of freight movement on the state highway system. All highways within the study area are designated truck routes.

How Addressed: The transportation improvements included in the IAMP plan improves traffic operations and safety for all vehicles, including freight vehicles.

Policy 5B: Scenic Resources. This policy applies to all state highways and commits the State to using best management practices to protect and enhance scenic resources in all phases of highway project planning, development, construction, and maintenance.

How Addressed: This policy was considered as part of the plan development.

Interchange Area Management Plan

# I-84/ PATERSON FERRY ROAD

Morrow County, Oregon

August 2014



Prepared for:



Prepared by:



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# **I-84/Paterson Ferry Road Interchange Area Management Plan**

Morrow County, Oregon

## **Final**

August 2014

# I-84/Paterson Ferry Road Interchange Area Management Plan

## Umatilla County, Oregon

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August 2014





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## PREFACE

The development of this plan was guided by the Steering Committee and Technical / Public Advisory Committee (TPAC). The members of these groups are identified below, along with members of the consultant team. The Steering Committee members were also members of the TPAC, who collectively were responsible for reviewing all work products and guiding the planning work. They devoted a substantial amount of time and effort to the development of the I-84/Paterson Ferry Road IAMP and their participation was instrumental in the development of the recommendations that are presented herein.

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Section 1  
Executive Summary

## EXECUTIVE SUMMARY

The I-84/Paterson Ferry Road Interchange Area Management Plan (IAMP) was prepared to identify and address infrastructure, access, and land use regulations associated with the transition of the Umatilla Army Chemical Depot (UMCD) from a facility that has historically stored/shipped military supplies and disposed of chemical weapons to a facility that will accommodate Oregon National Guard operations, environmental preservation, and new economic development.

The executive summary provides an overview of the project elements that were developed through a collaborative effort of the Project Team, Umatilla Army Depot Reuse Authority, Technical/Public Advisory Committee, Umatilla County, Morrow County, Oregon Department of Transportation (ODOT), and local stakeholders. The following table and figures summarize the identified improvement projects. Additional details are provided herein.

With the identification of near- and long-term infrastructure improvements, a number of policies, ordinances, and other provisions have been developed for adoption into the Morrow County Transportation System Plan, Comprehensive Plan, and development review ordinances to support and implement the IAMP. The IAMP will also be adopted by the Oregon Transportation Commission as an amendment to the Oregon Highway Plan.

### I-84/Paterson Ferry Road Interchange (Exit 171)



**Executive Summary - I-84/Paterson Ferry Road Interchange Area Improvement Summary**

Fig. 2 Project Label	Near-Term Improvement Description	Implementation Need/Trigger for Improvement	Estimated Planning-Level Cost <sup>1</sup>	Potential Funding Sources
-	Continued routine inspection of the interchange structure and traffic safety monitoring of the interchange ramps and ramp terminals.	-	-	-
Fig. 2 Project Label	Long-Term/Vision Project Description	Implementation Need/Trigger for Improvement	Estimated Planning-Level Cost	Potential Funding Sources
A	Lengthen the I-84 westbound off-ramp.	<ul style="list-style-type: none"> <li>• <b>Safety:</b> Increase vehicle/truck queuing, upgrade ramp to current design standard, increase lane deceleration space.</li> <li>• <b>Operations:</b> More efficient long-term operations</li> <li>• <b>Trigger:</b> When a new access road is constructed from Paterson Ferry Road to the UMCD site and/or the need is determined by future traffic studies.</li> </ul>	\$0.45M	STIP, PDF, GF
B	Lengthen the I-84 eastbound off-ramp <sup>2</sup>	<ul style="list-style-type: none"> <li>• <b>Safety:</b> Increase vehicle/truck queuing, upgrade ramp to current design standard, increase lane deceleration space.</li> <li>• <b>Operations:</b> More efficient long-term operations</li> <li>• <b>Trigger:</b> When a new access road is constructed from Paterson Ferry Road to the UMCD site and/or the need is determined by future traffic studies.</li> </ul>	\$0.50M	STIP, PDF, GF

STIP – State Transportation Improvement Project

PDF – Private Development Funds

GF – Other Grant Funds

<sup>1</sup> – Planning level costs are in 2014 dollars. Construction costs only, does not include right-of-way costs.



<sup>2</sup> – Further detailed study is needed to determine the degree of additional off-ramp space that can be achieved under the Paterson Ferry Road overpass without impacting the overpass structure.

H:\projects\13848 - Umatilla Subarea Plan and Combined IAMP\dwg\figs\fig113848\_fig003\_1.dwg Jul 21, 2014 - 2:28pm - pmarnell Layout Tab: Paterson Fig 2



NOTE: LINEWORK PROVIDED  
BY ANDERSON PERRY AND  
ASSOCIATES 7/2014

ALL LINE WORK IS  
PRELIMINARY AND FOR  
PLANNING USE ONLY

-  PRELIMINARY ALIGNMENT
-  IMPROVEMENT (SEE TABLE 1 FOR DESCRIPTION & COST ESTIMATE)

**I-84/PATERSON FERRY ROAD IAMP IMPROVEMENT PLAN  
UMATILLA COUNTY, OREGON**

**Figure  
E1**

Section 2  
Interchange Improvement and Access Management Plan



# INTERCHANGE IMPROVEMENT AND ACCESS MANAGEMENT PLAN

## INTRODUCTION / BACKGROUND

The Umatilla Army Chemical Depot (UMCD) is formally being decommissioned and prepared for reuse/redevelopment. The Umatilla Chemical Depot Reuse Authority (UMADRA - sometimes referred to as the “LRA” and currently undergoing a name change to the “Columbia Development Authority”) is chartered with administering the transition of the UMCD and is leading the planning process. Following the completion of a Redevelopment Plan in 2010, reuse/redevelopment of the UMCD has been targeted to accommodate a new 7,500 acre Oregon National Guard training base, a 5,678 acre habitat refuge, and approximately 3,000 acres of industrial/warehouse development.

With the transition and reconfiguration of land uses on the UMCD site, it is recognized that transportation patterns and traffic demands will likely change. Some of these changes have the potential to impact area interchanges including the I-84/Paterson Ferry Road interchange. In accordance with Oregon Administrative Rule 734-051, an Interchange Area Management Plan (IAMP) has been prepared to identify and address future transportation infrastructure needs, access, and land use regulations at this interchange. The remainder of this section contains the planning context, specific interchange projects, and access management plan for the IAMP.

### Conditions Statement

The I-84/Paterson Ferry Road interchange is located at Exit 171 in Morrow County and was originally constructed as an overpass in 1967 and converted to an interchange in 1991. The westbound ramp terminal is a diamond interchange with ramps connecting to Paterson Ferry Road. The eastbound ramp configuration was influenced by constrained land use along the south side of I-84 and consist of a modified Parclo-B (with exiting loop ramp and standard entering on-ramp beyond the crossroad) interchange connecting to Frontage Lane. Both east- and westbound ramp terminals are stop-controlled.

**Exhibit 1 - I-84/Paterson Ferry Road Interchange**



The primary purpose of the I-84/Paterson Ferry Road interchange is to provide regional access between I-84 and the rural farming and agricultural uses that exist along the north and south sides of I-84. The

interchange does not directly serve or provide access to the UMCD site. However, future reuse of the UMCD site and a potential new roadway connection from Paterson Ferry Road to the UMCD site could lead to increased traffic volumes and an a higher percentage of trucks utilizing the I-84/Paterson Ferry Road interchange.

## Purpose and Intent Statement

The purpose of the I-84/Paterson Ferry Road IAMP is to develop a plan that focuses on the interchange/supporting roadway infrastructure and its role in accommodating future reuse of the UMCD site. The intent of the plan is to develop infrastructure improvements that may be needed to support continued growth in the region and future reuse of the UMCD site.

## Goals / Objectives

The IAMP process is intended to protect the function of the I-84/Paterson Ferry Road interchange for the next 20 years while accounting for changes in land use and traffic patterns brought about by regional growth and reuse/redevelopment of the UMCD. As stated in Policy 3C of the *Oregon Highway Plan*, “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.” To this end, working collaboratively with the Technical/Public Advisory Committee (TPAC) and public, the Goals/Objectives of the IAMP are to:

1. Protect the long-term function, operation, and safety of the I-84/Paterson Ferry Road interchange.
2. Identify opportunities for enhanced roadway connectivity within the UMCD site that would provide public roadway connections between the I-84/Paterson Ferry Road, I-84/Army Depot Access Road, and I-82/Lamb Road interchanges.
3. Manage the allowed land uses within the vicinity of the interchanges to provide for future economic growth over the next 20 years.
4. Identify current accesses along the interchange crossroads and develop a phased access management plan for the crossroads based on a detailed and collaborative process involving Morrow County and local property owners. The access management plan will be based on key principles that balance highway mobility and safety against:
  - a. The findings of County TSPs and land use plans; and
  - b. Local economic development objectives for properties that require access to the state highway.
5. Identify opportunities for freight-based multi-modal accessibility to/from future redevelopment of the UMCD site.
6. Collaborate throughout the planning process with design professionals, jurisdictional representatives, developers, local property owners, and the general public, including protected populations as established by federal and state regulations and policies.

7. Comply with the intent of Statewide Planning Goals, including Goal 1: Public Involvement, Goal 2: Land Use Planning, Goal 5: Natural Resources, Goal 6: Air, Water and Land Resources Quality, Goal 7: Areas Subject to Natural hazards, Goal 8: Recreation Needs, Goal 9: Economic Development, Goal 12: Transportation, and Goal 14: Urban Growth Boundaries.
8. Identify phased implementation strategies for identified near- and long-term interchange infrastructure and interchange crossroad improvements.
9. Identify interchange infrastructure funding mechanisms that could be applied to future reuse/redevelopment of the UMCD and other land uses within the Interchange Management Study Area.
10. Develop implementation policies and regulations to be adopted into the Morrow County Comprehensive Plan, Transportation System Plan, and zoning ordinances, as appropriate.

### Interchange Management Study Area (IMSA)

The I-84/Paterson Ferry Road IAMP was prepared in conjunction with IAMPs for two other interchanges: I-82/Lamb Road and I-84/Army Depot Access Road. All three interchanges will be affected to some degree by future reuse of the UMCD site. Within the context of the IAMP planning process, the Interchange Management Study Area (IMSA) defines the extent of the detailed land use and infrastructure study area. The IAMPs will focus specifically on the freeway interchanges that serve the UMCD and surrounding land uses. At a minimum, the IMSA includes properties, as well as all access points located within ½ mile from the freeway interchange as defined by the State of Oregon's IAMP Guidelines. In order to capture the overarching land use related impacts of the reuse/redevelopment of the UMCD as well as growth potential of immediately surrounding uses, the IMSA includes the following areas:

- The entire UMCD site
- Westland Road Exception Area – area east of I-82 and north of I-84
- Industrial zoned land located north of the Paterson Ferry Road interchange

The Interchange Management Study Area (IMSA) map is shown in Figure 1.



**Interchange Management Study Area  
Morrow / Umatilla Counties**

**Figure  
1**

H:\profile\13848 - Umatilla Subarea Plan and Combined IAMP\figs\13848\_Fig01.mxd - pmarnell - 10:51 AM 7/14/2014

## I-84/PATERSON FERRY ROAD INTERCHANGE IMPROVEMENT PLANS

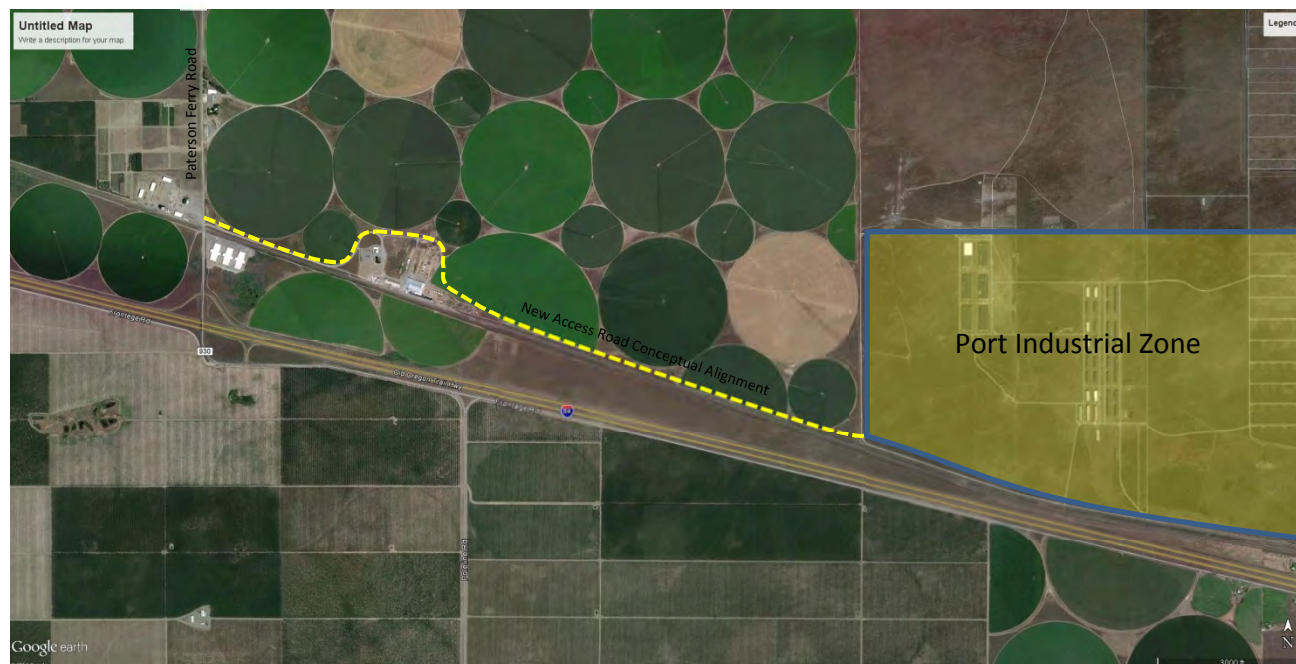
A comprehensive transportation improvement plan was developed for the I-84/Paterson Ferry Road interchange. As previously stated, the interchange does not directly serve or provide access to the UMCD site. Assuming this condition remains constant, the interchange is of sufficient capacity and adequate overall design to continue to serve as a regional farming/agricultural connection for the next 20 years and does not need significant improvements. However, future transportation analysis has concluded that reuse of the UMCD site could benefit from a new roadway connection between Paterson Ferry Road and the UMCD site. With such a connection, transportation patterns would change at the I-84/Paterson Ferry Road interchange to the point where long-term interchange enhancements would be needed. These improvements are described in detail below, illustrated in Figure 2, and summarized in Table 1.

### Near-Term Improvements

The existing I-84/Paterson Ferry Road interchange is of adequate form and has sufficient long-term capacity to accommodate existing and long-term traffic growth assuming its role as a regional farming/agricultural connection to/from I-84 does not change. As such, no major near-term improvements have been identified for the interchange outside of continued routine inspection of the structure and traffic safety monitoring of the interchange ramps and ramp terminals.

### Long-Term/Vision Project Improvements

Under existing infrastructure conditions, the anticipated future reuse of the UMCD site is not anticipated to significantly impact the I-84/Paterson Ferry Road interchange. However, industrial and warehouse-related reuse in the Port Industrial zoned portion of the UMCD site could benefit from a new roadway connection between Paterson Ferry Road and the UMCD site. This connection would provide future industrial/warehouse-related development with a more efficient regional connection to the I-84 corridor when compared to the connections provided by the I-84/Army Depot Access Road and I-82/Lamb Road interchanges. While the details of such a connection (alignment, right-of-way needs, property impacts, land use policy, etc.) would need to be more fully worked out, the overall vision includes a new two-lane roadway that would parallel the north side of the UP Mainline tracks and connect to Paterson Ferry Road in the vicinity of the existing Wilbur Ellis site access roadway. This conceptual alignment is shown in Exhibit 1.

**Exhibit 2 - Conceptual Paterson Ferry Road - UMCD Site Access Road**

With such a connection, transportation patterns would change at the I-84/Paterson Ferry Road interchange to the point where some overall long-term interchange improvements would be needed. The following Long-Term/Vision Projects have been identified so that their potential need can be monitored and planned for over the 20-year life of the IAMP.

***Project A. Improve I-84 Westbound Off-Ramp (Long-Term/Vision Project)***

The existing I-84 westbound off-ramp is substandard in its length to safely and efficiently accommodate anticipated levels of vehicle and truck traffic that would be generated by future development of the Port Industrial zoned land and its potential connection to Paterson Ferry Road. Project A would lengthen the off-ramp to more safely accommodate the deceleration and queuing needs of future vehicle/truck demand. *This improvement would be constructed when future development-driven traffic studies determine that they are needed for safety and/or operations reasons. The improvement is unlikely to be needed until a future Paterson Ferry Road – UMCD access road is established.*

***Project B. Improve I-84 Eastbound Off-Ramp (Long-Term/Vision Project)***

The existing I-84 eastbound off-ramp is substandard in its length to safely and efficiently accommodate anticipated levels of vehicle and truck traffic that would be generated by future development of the Port Industrial zone and its potential connection Paterson Ferry Road. Project B would lengthen the off-ramp to more safely accommodate the deceleration and queuing needs of future vehicle/truck demand. *This improvement would be constructed when future development-driven traffic studies determine that they are needed for safety and/or operations reasons. The improvement is unlikely to be needed until a future Paterson Ferry Road – UMCD access road is established.*

**Table 1 - I-84/Paterson Ferry Road Interchange Transportation Improvement Plan**

Fig 2. Project Label	Near-Term Improvement Description	Implementation Need/Trigger for Improvement	Estimated Planning-Level Cost <sup>1</sup>	Potential Funding Sources
-	Continued routine inspection of the interchange structure and traffic safety monitoring of the interchange ramps and ramp terminals.	-	-	-
Fig. 2 Project Label	Long-Term/Vision Project Description	Implementation Need/Trigger for Improvement	Estimated Planning-Level Cost	Potential Funding Sources
A	Lengthen the I-84 westbound off-ramp.	<ul style="list-style-type: none"> <li><b>Safety:</b> Increase vehicle/truck queuing, upgrade ramp to current design standard, increase lane deceleration space.</li> <li><b>Operations:</b> More efficient long-term operations</li> <li><b>Trigger:</b> When a new access road is constructed from Paterson Ferry Road to the UMCD site and/or the need is determined by future traffic studies.</li> </ul>	\$0.45M	STIP, PDF, GF
B	Lengthen the I-84 eastbound off-ramp <sup>2</sup>	<ul style="list-style-type: none"> <li><b>Safety:</b> Increase vehicle/truck queuing, upgrade ramp to current design standard, increase lane deceleration space.</li> <li><b>Operations:</b> More efficient long-term operations</li> <li><b>Trigger:</b> When a new access road is constructed from Paterson Ferry Road to the UMCD site and/or the need is determined by future traffic studies.</li> </ul>	\$0.50M	STIP, PDF, GF

STIP – State Transportation Improvement Project

PDF – Private Development Funds

GF – Other Grant Funds

<sup>1</sup> – Planning level costs are in 2014 dollars. Construction costs only, does not include right-of-way costs.



<sup>2</sup> – Further detailed study is needed to determine the degree of additional off-ramp space that can be achieved under the Paterson Ferry Road overpass without impacting the overpass structure.

H:\projects\13848 - Umatilla Subarea Plan and Combined IAMP\dwg\figs\13848\_Fig003.1.dwg Jul 21, 2014 - 2:25pm - pmarnell Layout Tab: Paterson Fig 2



NOTE: LINEWORK PROVIDED  
BY ANDERSON PERRY AND  
ASSOCIATES 7/2014

ALL LINE WORK IS  
PRELIMINARY AND FOR  
PLANING USE ONLY

-  PRELIMINARY ALIGNMENT
-  IMPROVEMENT (SEE TABLE 1 FOR DESCRIPTION & COST ESTIMATE)

## I-84/PATERSON FERRY ROAD IAMP IMPROVEMENT PLAN UMATILLA COUNTY, OREGON

Figure  
**2**



## INTERCHANGE ACCESS MANAGEMENT PLAN

Access locations within the I-84/Paterson Ferry Road interchange area were evaluated based on ODOT's Division 51 Access Management standards and an assessment of traffic operations and safety as described in Action 3C.3 of the Oregon Highway Plan. Accordingly, the Access Management Plan (AMP) will preserve the operational integrity and safety of the interchange and primary roadways serving it, while maintaining viable access to all parcels in the IMSA.

### Access Management

Under ODOT's current access management policy, the latest edition of the Oregon Highway Plan stipulates that the desired distance between an interchange ramp terminal and the first full approach (public or private) on the crossroad should be a minimum of 1,320 feet (1/4-mile). The first right-in/right-out access should be a minimum of 750 feet from the ramp terminal. Currently there are two private approaches within the 1/4-mile of the I-84/ Paterson Ferry Road westbound ramp terminal and one public approach within ¼-mile of the I-84/ Frontage Lane eastbound ramp terminal.

#### *Paterson Ferry Road*

The access management plan for Paterson Ferry Road is focused on not allowing new private access to the roadway within ¼-mile of the westbound ramp terminal. This will be accomplished through the acquisition of additional access control beyond the existing access control limits. As shown in Figure 3, additional access control will be acquired up to the existing private farm and industrial access driveways located just south of the UP mainline railroad tracks. While these two driveways are located within ¼-mile of the westbound ramp terminal, they are located as far north along the Paterson Ferry Road property frontage as possible<sup>1</sup> (approximately 1,155 feet and 1,230 feet) and are relatively low volume driveways. The acquisition of formal access control will ensure that no new access points will be developed above and beyond what is already developed.

#### *Frontage Lane*

The access management plan for Frontage lane is also focused on ensuring the development of no new private access to the roadway within ¼-mile of the eastbound ramp terminal. As shown in Figure 3, this will include the acquisition of additional access control beyond the existing access control limits. There is one public access located approximately 665 feet from the eastbound ramp terminal. Given the surrounding land use limitations, there is no flexibility for moving or relocating this access without significantly impacting the adjacent tree farm. As such, this access will remain until potential future land use modifications of the tree farm allow for it to be relocated.

---

<sup>1</sup> The existing UP mainline railroad forms the north border of the properties that front Paterson Ferry Road. As such, the subject driveways cannot be closed (would land lock the properties) or moved.



- ||| MINIMUM 1320 FOOT ACCESS SPACING STANDARD
- EXISTING ACCESS CONTROL (TO REMAIN)
- ACQUIRE ADDITIONAL ACCESS CONTROL
- EXISTING PUBLIC/PRIVATE ACCESS

ACCESS MANAGEMENT PLAN  
 UMATILLA COUNTY, OREGON

Figure 3

## Section 3 Implementation Plan

# IMPLEMENTATION PLAN

## INTRODUCTION

ODOT and Morrow County will need to adopt elements of the I-84/Paterson Ferry IAMP specific to the individual jurisdiction/agency. Since the IAMP involves both State and local government authority, some policies will guide ODOT actions and others will guide Morrow County decisions. The Oregon Administrative Rule [(OAR 660-051-0155(2))] states that ODOT will work with local governments on any amendments to local comprehensive plans and transportation system plans and local land use and subdivision codes to ensure the proposed IAMP is consistent with the local plan and codes, prior to adoption by the Oregon Transportation Commission (OTC).

It is expected that the IAMP will be made part of the Morrow County Comprehensive Plan by including it as an amendment to its Transportation System Plan (TSP). This amendment process will require notification and public hearings pursuant to the local legislative process. Morrow County can adopt the I-84/Paterson Ferry IAMP document in its entirety or by reference to the existing TSP, can prepare an ordinance that more specifically identifies what parts of the IAMPs are being adopted locally and how local plans and ordinances are being modified, and/or can issue a statement that local plans and ordinances are consistent with the recommendations of the IAMP.

ODOT Region 5 will prepare findings to support adoption of the I-84/Paterson Ferry IAMP on the State's behalf, and the Oregon Transportation Commission (OTC) will deliberate and adopt the final documents as a facility plan and amendments to the Oregon Highway Plan (OHP). The following is a summary of the proposed actions to implement the IAMP.

## PLAN ELEMENTS

### Interchange Function and Policy Definition

Morrow County should adopt a clear definition of the I-84/Paterson Ferry Interchange function into its comprehensive plan and TSP to provide policy direction for management of the interchange area and achieve the objectives and goals of this IAMP. This will help to ensure consistency between future policy decisions and the interchange's intended function.

The following function and policy definition was developed for the I-84/Paterson Ferry Interchange:

"The function of the I-84/Paterson Ferry interchange is to provide the surrounding farming/agricultural areas with regional access to the I-84 corridor. The interchange will need to safely and efficiently accommodate regional traffic growth and the potential for increased vehicle/truck traffic associated with future industrial/warehouse-related uses on the Port Industrial zoned land on the UMCD site."

## Interchange Area Management Plan (IAMP) Management Area

Morrow County is the land use regulatory authority for the Interchange Management Study Area (IMSA). To ensure the continued operation and safety of the interchange, Morrow County should adopt an I-84/Paterson Ferry IAMP Management Area. Future development and land use actions within the IAMP Management Area will be monitored to ensure that volume-to-capacity ratios do not exceed the adopted Oregon Highway Plan mobility targets at the ramp terminals. This can be accomplished through Development Review guidelines included within the proposed amendments to the County's Zoning and Subdivision Ordinances as described in the following sections.

## ADOPTION ELEMENTS

Implementation of the I-84/Paterson Ferry IAMP will occur at several levels of government. Consistent with OAR 734-051, Morrow County will adopt legislative amendments to its transportation system plan and comprehensive plan to incorporate elements of the I-84/Paterson Ferry IAMP. In addition, new land use ordinances or amendments to existing ordinances or resolutions may be required to ensure that the access management, land use management, and coordination elements of the IAMP are achieved. This adoption process will include both Planning Commission and County Court hearings.

Following successful adoption at the County level, the IAMP will be presented to the Oregon Transportation Commission (OTC) for its review and adoption. This should occur prior to transportation improvements as described in this IAMP being constructed.

To implement the I-84/Paterson Ferry IAMP, the following actions shall occur:

### ODOT:

- The IAMP shall be adopted by the Oregon Transportation Commission as part of the Oregon Highway Plan.

### Morrow County:

- Will amend the Transportation System Plan to incorporate the I-84/Paterson Ferry interchange policy statement(s) and recommended transportation improvements. The IAMP shall serve as the long range comprehensive management plan for providing the transportation facilities that are specifically addressed in this plan.
- Will amend the Comprehensive Plan Map and Zoning Map to include an Interchange Management Area to identify where compliance with the I-84/Paterson Ferry IAMP will be a condition of future development approval.
- Will require that development and redevelopment proposals within the Interchange Management Area show consistency with the IAMP Access Management Plan (AMP) and recommended improvements through a Transportation Impact Analysis (TIA) requirement..

- Amendments will ensure that proposals for new development within Morrow County will be reviewed to determine if a need for different interchange improvement phases is triggered.
- Work with ODOT to identify and pursue funding for the I-84/Paterson Ferry interchange projects identified in this IAMP.

## MONITORING ELEMENTS

The purpose of the I-84/Paterson Ferry IAMP is to ensure that capacity at the interchange is preserved for its intended function. While a long-range plan, the IAMP needs to remain dynamic and responsive to development and changes to the adopted land use and transportation plans and may need to be periodically reviewed and updated. To accomplish this goal, a monitoring program is included that identifies triggers for reviewing the IAMP and assessing how development approval within the IAMP Management Area will be reviewed and coordinated.

### IAMP Review Triggers

Periodically, the implementation program shall be evaluated by ODOT and Morrow County to ensure it is accomplishing the goals and objectives of the IAMP. Events that may trigger an IAMP review include:

- Plan map and zone changes that have a “significant affect” pursuant to the Transportation Planning Rule (OAR 660-0120060) and impact the I-84/Paterson Ferry Road Interchange, or that are located within the IAMP Management Area.
- Proposed development that generates expected traffic volume at the I-84 ramp terminals that exceed the adopted mobility targets.

In addition to the established triggers for IAMP review, either agency may request a formal review of the IAMP at any time if, in their determination, specific land use or transportation changes warrant a review of the underlying assumptions and/or recommendations within the IAMP. If the participants in the IAMP review agree that, once the impacts of the “trigger” that necessitated the review are examined, an IAMP amendment is not warranted, a recommendation of “no action” may be documented and submitted in the form of a letter to the Morrow County Court and the Oregon Transportation Commission.

If the findings and conclusions from the IAMP review demonstrate the need for an update to the plan, review participants will initiate an IAMP update process. Initial steps in updating the IAMP will include scoping the planning process, identifying funding, and outlining a schedule for plan completion. Once completed, IAMP updates will be required to be legislatively adopted as an amendment to the Morrow County Comprehensive Plan and Transportation System Plan, with the required public hearings, and adoption by the Oregon Transportation Commission as an update to the Oregon Highway Plan.

## DEVELOPMENT REVIEW

The following outlines the transportation requirements for development and zone change applications within the I-84/Paterson Ferry Road Interchange Management Area and describes how Morrow County will coordinate with ODOT.

### Traffic Impact Analysis

All development applications located within the I-84/Paterson Ferry Interchange that meet the following conditions are required to prepare and submit a Transportation Impact Analysis (TIA) to demonstrate the level of impact of the proposed development on the surrounding street system:

- a) A change in zoning or plan amendment designation; and
- b) The proposal is projected to cause one or more of the following effects, which can be determined by field counts, site observation, traffic impact analysis or study, field measurements, crash history, Institute of Transportation Engineers Trip Generation manual; and information and studies provided by the local reviewing jurisdiction and/or ODOT:
  - a. An increase in site traffic volume generation by 500 Average Daily Trips (ADT) or more (or as required by the County Engineer). The latest edition of the Trip Generation manual, published by the Institute of Transportation Engineers (ITE) shall be used as standards by which to gauge average daily vehicle trips; or
  - b. An increase in ADT volume of a particular movement to and from the State highway by 20% or more; or
  - c. An increase in use of adjacent streets by vehicles exceeding the 20,000 pound gross vehicle weights by 20 vehicles or more per day; or
  - d. The location of the access driveway does not meet minimum intersection sight distance requirements, or is located where vehicles entering or leaving the property are restricted, or vehicles queue or hesitate, creating a safety hazard; or
  - e. A change in internal traffic patterns that may cause safety problems, such as back up onto the highway or traffic crashes in the approach area; or
  - f. For development in the I-84/Paterson Ferry Management Area, the location of the access driveway is inconsistent with the Access Management Plan in the IAMP.

The determination of impact or effect, and the scope of the TIA, shall be coordinated with Morrow County and ODOT. The developer shall be required to mitigate impacts attributable to the project.

## OREGON DEPARTMENT OF TRANSPORTATION / MORROW COUNTY COORDINATION

Following adoption of the I-84/Paterson Ferry Road IAMP, Morrow County will need to coordinate future development activities with ODOT. The following describes steps both ODOT and Morrow County will take when reviewing development proposals that may impact the I-84/Paterson Ferry Road interchange.

- Morrow County shall consult the Oregon Department of Transportation (ODOT) on TIA requirements when the site of the proposal is adjacent to or otherwise affects a State highway.
- Morrow County shall provide written notification to ODOT once a land use application within the IAMP Management Area is deemed complete.
- ODOT shall have at least 20 days, measured from the date notice to agencies was mailed, to provide written comments to the County. If ODOT does not provide written comments during this 20-day period, the County staff report will be issued without consideration of ODOT comments.
- The County shall invite ODOT to participate in a pre-filing conference for applications within an Interchange Management Area Plan Management Area or within a ¼ mile of any ODOT facility. Notice of actions requiring a public hearing shall be provided to ODOT at least twenty days prior to the date of the hearing.



## Section 4 OAR & OHP Compliance

## OAR AND OHP COMPLIANCE

The following section discusses the Oregon Administrative Rule (OAR) and Oregon Highway Plan (OHP) policy-based compliance issues that pertain to the development of the I-84/Paterson Ferry Road IAMP.

### OAR COMPLIANCE

The I-84/Paterson Ferry Road IAMP was developed in collaboration with UMADRA, Umatilla County, and ODOT and was developed in accordance with the guidelines set forth in the State of Oregon’s Administrative Rules for Interchange Access Management Planning and Interchange Area Management Planning. Table 6 identifies the required planning elements from OAR 734-051 and documents how the IAMP satisfies the requirements.

**Table 2 – I-84/Paterson Ferry Road IAMP OAR Compliance**

OAR 734-0051-0155 Requirement	How OAR is Addressed	Document Reference
Should be developed no later than the time the interchange is being developed or redeveloped  -7010(7)(a)	This plan was developed to effectively plan for future development and traffic growth that could occur within the interchange area. Future improvements will be needed to safely accommodate forecast increases in vehicular and truck demand.	IAMP Technical Appendix “G”
Should identify opportunities to improve operations and safety in conjunction with roadway projects and property development or redevelopment and adopt strategies and development standards to capture those opportunities  -7010(7)(b)	The access management, transportation improvement plan, and Interchange Management Area elements identified in this plan will result in operational, safety, and capacity improvements.	IAMP Section 2
Should include short, medium, and long-term actions to improve operations and safety in the interchange area  -7010(7)(c)	The IAMP includes a phasing plan for the transportation system improvements presented within the plan. These improvements address the near term needs identified by the existing conditions analysis as well as long-term demand needs that are expected to occur beyond the 20-year horizon period.	IAMP Section 2
Should consider current and future traffic volumes and flows, roadway geometry, traffic control devices, current and planned land uses and zoning, and the location of all current and planned approaches  -7010(7)(d)	A full analysis of existing and forecast operational and geometric conditions was conducted for this planning effort. The future volumes were developed based on approved zoning and comprehensive plan designations.	IAMP Technical Appendices “D”, “E”, & “G”
Should provide adequate assurance of the safe operation of the facility through the design traffic forecast period, typically 20 years  -7010(7)(e)	Specific improvements are included in the plan to address long-term safety concerns through improved geometric alignment of interchange ramps.	IAMP Section 2
Should consider existing and proposed uses of all property in the interchange area consistent with its comprehensive plan designations and zoning  -7010(7)(f)	A thorough analysis of surrounding land uses and land use potential was performed based on the current and approved comprehensive plan designations and zoning.	IAMP Technical Appendices “D”, “E”, & “G”

OAR 734-0051-0155 Requirement	How OAR is Addressed	Document Reference
Is consistent with any applicable Access Management Plan, corridor plan or other facility plan adopted by the Oregon Transportation Commission  -7010(7)(g)	The access management plan included in the IAMP is consistent with the OHP.	IAMP Section 2
Includes polices, provisions and standards from local comprehensive plans, transportation system plans, and land use and subdivision codes that are relied upon for consistency and that are relied upon to implement the Interchange Area Management Plan.  -7010(7)(h)	The implementation plan included in this IAMP documents the required amendments to local plans needed to adopt the IAMP. In addition, the implementation section outlines monitoring elements for the purpose of directing future land use action within the IAMP study area.	IAMP Section 3

## OREGON HIGHWAY PLAN COMPLIANCE

The I-84/Paterson Ferry Road IAMP was developed in accordance with the policies set forth in the OHP. The following identifies the OHP Policies that pertain to the I-84/Paterson Ferry Road IAMP and how the IAMP satisfies the requirements.

Policy 1A: State Highway Classification System. The state highway classification system includes five classifications: Interstate, Statewide, Regional, District, and Local Interest Roads. In addition, there are four special purpose categories that overlay the basic classifications: special land use areas, statewide freight route, scenic byways, and lifeline routes.

Within the Interchange Management Study Area (IMSA), there are two ODOT highways. I-84 is an Interstate Highway designated as an Expressway. I-82 is an Interstate Highway also designated as an Expressway.

How Addressed: The I-84/Paterson Ferry Road IAMP recognized the respective functions of each highway. Access standards, traffic control, and geometric considerations were informed by the applicable highway designation. The preferred concept includes modification to the interstate ramps to better accommodate future traffic volumes and truck types.

Policy 1B: Land Use and Transportation. This policy recognizes the role of both the State and local governments related to the state highway system and calls for a coordinated approach to land use and transportation planning.

How Addressed: The IAMP was developed through a cooperative planning effort between UMADRA, Umatilla County, and ODOT. The IAMP will be implemented by Umatilla County through the IAMP Management Area that will require coordinated agency review on all future development or land use actions within the Area.

Policy 1C: State Highway Freight System. This policy recognizes the need for the efficient movement of freight through the state. I-84 and I-82 are designated Freight Routes.

How Addressed: The transportation projects included in the plan were developed considering freight mobility needs, particularly at the EB and WB interchange on/off ramps.

Policy 1F: Highway Mobility Standards Access Management Policy. This policy addresses state highway performance expectations, providing guidance for managing access and traffic control systems related to interchanges.

How Addressed: I-84/Paterson Ferry Road IAMP demonstrates that the interchange and surrounding transportation system will be able to meet ODOT mobility targets through the 20-year horizon.

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

How Addressed: I-84/Paterson Ferry Road IAMP focuses on improving the geometry of the existing interchange to improve efficiency and safety, adding capacity only where needed.

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

How Addressed: The transportation system was considered as a whole with improvements to the state and local system equally considered.

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

How Addressed: The identification of long-term improvements to the I-84 eastbound and westbound off-ramps at the I-84/Paterson Ferry Road interchange will help to ensure that these ramps have sufficient long-term deceleration and queuing room for the anticipated increase in vehicle and truck traffic that could potential affect the interchange.

Policy 3A: Classification and Spacing Standards. This policy addresses the location, spacing, and type of road and street intersections and approach roads on state highways. The adopted standards can be found in Appendix C of the Oregon Highway Plan.

How Addressed: See Policy 3C below.

Policy 3C: Interchange Access Management Areas. This policy addresses management of grade-separated interchange areas to ensure safe and efficient operation between connecting roadways.

Action items include developing interchange area management plans to protect the function of the interchange to provide safe and efficient operations between connecting roadways and to minimize the need for major improvements of existing interchanges. The local jurisdiction's role in access management is stated in Policy 3C as follows: "necessary supporting improvements, such as road networks, channelization, medians and access control in the interchange management area must be identified in the local comprehensive plan and committed with an identified funding source, or must be in place (Action 3C.2)."

Access management standards are detailed in Policy 3C and include the distance required between an interchange and approaches and intersections. The most stringent standards apply in interchange areas.

How Addressed: The I-84/Paterson Ferry Road IAMP includes an access management plan that improves access spacing over existing conditions.

Policy 4A: Efficiency of Freight Movement. This policy emphasizes the need to maintain and improve the efficiency of freight movement on the state highway system. All highways within the study area are designated truck routes.

How Addressed: The transportation improvements included in the IAMP plan improves traffic operations and safety for all vehicles, including freight vehicles.

Policy 5B: Scenic Resources. This policy applies to all state highways and commits the State to using best management practices to protect and enhance scenic resources in all phases of highway project planning, development, construction, and maintenance.

How Addressed: This policy was considered as part of the plan development.

Interchange Area Management Plan

# I-84/ARMY DEPOT ACCESS ROAD

# I-82/LAMB ROAD

# I-84/PATERSON FERRY ROAD

Umatilla and Morrow Counties, Oregon

August 2014

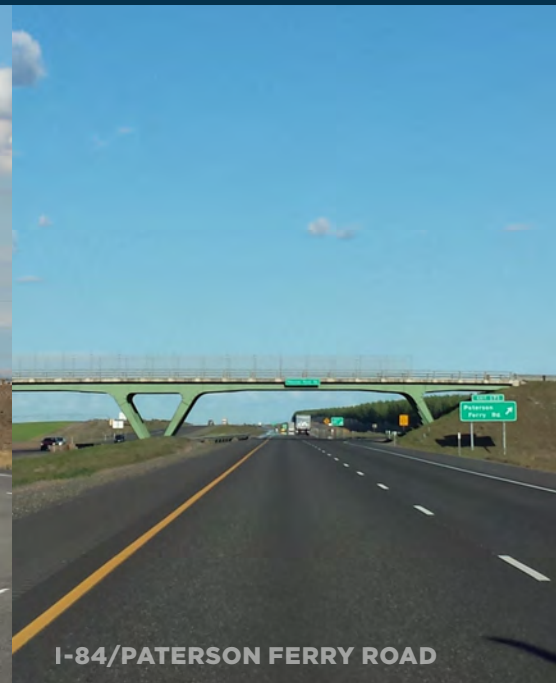
## Technical Appendix



I-84/ARMY DEPOT ACCESS ROAD



I-82/LAMB ROAD



I-84/PATERSON FERRY ROAD

Prepared for:



Prepared by:



**Technical Appendices for:  
I-82/Lamb Road  
I-84/Army Depot Access Road  
I-84/Paterson Ferry Road  
Interchange Area Management Plans**

Umatilla and Morrow Counties, Oregon

**Final**

August 2014

# Technical Appendices for: I-82/Lamb Road I-84/Army Depot Access Road I-84/Paterson Ferry Road Interchange Area Management Plans

Umatilla and Morrow Counties, Oregon

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Project No. 13848.00

August 2014





## APPENDICES

- Appendix A Meeting Summaries
- Appendix B Technical Memorandum #1: Project Background, Definition, Goals, and Objectives
- Appendix C Technical Memorandum #2: Review of Adopted Plans and Regulations
- Appendix D Technical Memorandum #3: Existing Land Use Analysis
- Appendix E Technical Memorandum #4: Existing Transportation Facilities and Traffic Operations
- Appendix F Technical Memorandum #5: Environmental Research
- Appendix G Technical Memorandum #6: Future Land Use and Forecast Travel Demand
- Appendix H Technical Memorandum #7: Interchange Area Concept Development and Alternatives Analysis
- Appendix I Interchange Area Management Plan Implementation

## Appendix A Meeting Summaries

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# Kick-Off Meeting Agenda

Umatilla Army Depot

Combined Interchange Area Management Plan and Transportation System Subarea Plan

October 28, 2013

10:00 AM to 12:00 PM

Port of Morrow Conference Room

2 Marine Drive, Boardman, Oregon 97818

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## Conference Call Information:

1-866-771-1350

Conference #: 1425#

Security Pin: 1425#

1. Meeting Purpose and Introductions
2. Project Objectives and Key Deliverables
  - a. Combined Interchange Area Management Plan and Transportation System Subarea Plan
  - b. Operations and Infrastructure Analysis/Business and Operation Plan
3. Schedule
  - a. Key Milestones
  - b. Coordination between projects/consultant teams
4. Project Organization and Communication
  - a. Roles and responsibilities
    - i. UMADRA
    - ii. Technical/Public Advisory Committee (TPAC) Roster Finalization
    - iii. Steering Committee
  - b. Information/Technical Report Distribution and Sharing
  - c. Public Involvement
    - i. Project workshops
    - ii. Meeting/event announcements
    - iii. Project updates
5. Determine Project Study Area

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6. Technical Analysis and Data Needs

- a. Transportation
- b. Land Use
- c. Environmental
- d. Infrastructure

7. Next Steps/Upcoming Meetings

- a. Next Steering Committee meeting
- b. First TPAC Meeting Date
- c. Public Workshop Date

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# Kick-Off Meeting – Summary Notes

## Umatilla Army Depot

### Combined IAMP and Transportation System Subarea Plan

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Date and time: October 28, 2013, 10:00 AM to 12:00 PM

Location: Port of Morrow Conference Room, 2 Marine Drive, Boardman, Oregon 97818

*Attendees:*

- Bruce Bearchum II, CTUIR*
- Stormy Botefuhr, LRA*
- Don Chance, LRA*
- Tamra Mabbott, Umatilla County*
- Carla McLane, Morrow County*
- Lisa Mittelsdorf, Port of Morrow*
- Teresa Penninger, ODOT Region 5*
- Setphanie Seamaus, CTUIR*

*Consultant Team:*

- Frank Angelo, Angelo Planning Group*
- Alexis Casey, Mason Bruce Girard*
- Matt Hughart, Kittelson and Associates, Inc.*
- Andy Lindsey, Anderson Perry & Associates, Inc.*
- Jack Lynch, Matrix Design Group*
- Patrick Marnell, Kittelson and Associates, Inc.*
- Kate Parker, Mason Bruce & Girard, Inc.*
- Darci Rudzinski, Angelo Planning Group*

#### 1. Meeting Purpose and Introductions

After introductions were made around the table Don Chance provided attendees with some background regarding the history of the Army Depot site and the 2009-10 Redevelopment Plan. The three primary planning objectives are accommodation of the National Guard, preserving the shrub-steppe habitat, and providing industrial development and employment opportunities. Information from URS, the firm once responsible for the incinerator operations and now for its dismantling, confirm that the Depot was once a significant employer during its peak in the late 1960s, with many workers coming from the Tri-cities area. While it is unrealistic to assume that that a return to those employment numbers will happen overnight, there is a local expectation that this area replace these jobs in the future and there is a desire to get developable land on the tax roles as soon as possible. The project schedule is specifically driven by the source of funding and the fact that it will be difficult to get an extension from the Department of Defense. The LRA is also in negotiations with the US Army National Guard and it is important to have a signed deal within the September 30, 2014 end date for this project.

Carla McLane, referencing her participation in two previous IAMP projects, brought up the funding sources for this IAMP. The Department of Defense BRAC and office of Economic Adjustment is providing the funding, with ODOT providing the local match. Don mentioned

that what is being pursued is a “no consideration transfer” where the Army transfers the property on a no cost basis, traditionally through profit sharing or sale, where the liability offsets the value. Don mentioned the specific Depot circumstances that may make this outcome a reality, including the future accommodation of the State component of the National Guard, but emphasized that there needs to be a team effort to ensure that the land is transferred to the local jurisdictions. Also important to note is that federal rules state that revenues off the site have to be reinvested for a 7-year period, during which time the LRA becomes an implementing local redevelopment authority, or ILRA.

## 2. Project Objectives and Key Deliverables

- a. Combined Interchange Area Management Plan and Transportation System Subarea Plan
- b. Operations and Infrastructure Analysis/Business and Operation Plan

Matt Hughart outlined the typical procedure for the development and adoption of an IAMP, emphasizing that the result will be a document that is consistent with locally and statewide adopted plans and one that addresses infrastructure needs to accommodate expected future growth. Future growth includes both regional growth as well as what is projected to happen on the Depot itself. The land use and transportation analysis would need to determine if large-scale reconstruction of the three interchanges serving the site is needed based on anticipated growth. As an alternative to large-scale improvements, there is a good chance that there will need to be “tweaks” to the existing facilities and how local roadways connect into the state highway system. Matt clarified that the IAMP and Transportation System Subarea Plan will focus on needed improvements to the interchanges and optimal local roadway connections to the interchanges. The parallel Matrix-led project will propose the internal circulation and roadway system that will serve future users internal to the Depot. Both Matt and Jack Lynch emphasized the need to coordinate the transportation planning efforts.

Jack Lynch described the work that Matrix will be undertaking during the same time period. He said that his team’s work will rely on the preferred land use plan that was just developed and a refined market analysis from this earlier planning effort. The first phase of work will entail developing the infrastructure plan for the base and is expected to conclude in January 2014. The second phase is estimating the infrastructure costs and updating the market analysis. The objective of the Business and Operation Plan is to develop a funding strategy or package that demonstrates that costs for infrastructure are balanced with growth and revenues for a 15-20 year time horizon. This type of economic development conveyance process typically is internal, without a public process, and the information is to inform the LRA in their negotiations with the US Army.

## 3. Schedule

- a. Key Milestones
- b. Coordination between projects/consultant teams

Key considerations in the schedule discussion include the need to conclude the project within the deadline set by the grant (September 30, 2014) and coordination with the LRA Board meeting dates and agendas. Don noted that this planning project is not likely to generate a great deal of public interest and that attendance at public meetings will be higher

if they are held during business hours, when LRA members can attend. Local County decision-makers, on the other hand, would more likely attend evening events.

Meeting attendees confirmed the date of the first TPAC meeting - Tuesday, November 19<sup>th</sup>, which will include an "IAMP 101" overview and project-specific background and objectives. Dates were also set for the next two TPAC/Public Workshops - Tuesday, January 21<sup>st</sup> and Tuesday, March 11<sup>th</sup> 2014. (See below for meeting details).

Teresa Penninger reminded attendees of the OTC adoption process and noted that ODOT staff will need to provide their commission information one month in advance of the hearing date to amend the Oregon Highway Plan. Don did not anticipate that there would be an issue with the timing of the state decision as it related to the grand deadline. Carla and Tamra Mabbott discussed the counties' adoption processes, anticipating local hearings in the July/August timeframe.

Matt emphasized that the project schedule is currently set up so that there is some flexibility. For instance, if there is a need to delay or push any project-related meeting and the overall project schedule slips, the implementation/adoption portion of the schedule can absorb this and not impact the contract end date.

4. Project Organization and Communication
  - a. Roles and responsibilities
    - i. UMADRA
    - ii. Technical/Public Advisory Committee (TPAC)
    - iii. Steering Committee
  - b. Information/Technical Report Distribution and Sharing
  - c. Public Involvement
    - i. Project workshops
    - ii. Meeting/event announcements
    - iii. Project updates

Matt committed to providing all draft products at least one week in advance of all scheduled TPAC meetings. Don will review draft products associated with the planning project and will distribute materials in advance of meetings. He will also be responsible for posting relevant information and meeting announcements on the UMADRA website. He does not anticipate much interest from the press, but will provide press releases and meeting dates/times as necessary. Darci Rudzinski provided a brief overview of the public involvement plan, noting that there are reporting requirements for projects that include federal funding (Title VI and Environmental Justice), as well as Statewide Planning Goal 1 (Public Involvement) considerations. The public involvement plan ensures that efforts will be made to include protected populations and, generally, encourage public participation. She noted that the consultant team will largely be providing the information that the LRA and Counties can then make available and distribute.

## 5. Determine Project Study Area

Attendees discussed the likely boundaries of a study area for the IAMP, as well as some of the important existing and future roadway connections in the area. Carla explained the current connection for Patterson Ferry and the refined conceptual alignment heading north to serve Irrigon. She also noted that Morrow County is in the process of amending their transportation improvement project list to include improvements on the south side of the Patterson Ferry interchange. South of I-84, Poleline Road will be reconfigured from its current "Y" formation to a "T" intersection. Carla noted the importance of a future frontage road from the Army Depot Interchange to Patterson Ferry but also noted that the potential alignment passes through EFU land and would impact at least one large private land owner. Tamra also noted that the land owners in the exception area to the east of the Lamb Road/Westland Road interchange will need to be contacted directly about the project and how it relates to the existing easements and that ideally their interests should be represented on the TPAC.

Matt noted that the TPAC will provide their input regarding the study area at their first meeting in November. Final comments pertaining to the study area focused on the access to property that will be zoned Depot Industrial on the southeast corner of the Army Depot (avoid breaking up parcel) and the National Guard's front entrance (future responsibility for construction).

## 6. Technical Analysis and Data Needs

- a. Transportation
- b. Land Use
- c. Environmental
- d. Infrastructure

Matt confirmed that the team members had what they needed to conduct field work after the meeting. An afternoon meeting with representatives from the counties and two ports was expected to yield future land use assumptions for specific areas on the Army Depot site.

## 7. Next Steps/Upcoming Meetings

- a. Next Steering Committee meeting
- b. First TPAC Meeting Date
- c. Public Workshop Date

Steering Committee meetings will be held on an "as needed basis" and may be conducted by phone. The next Steering Committee date was not set.

- TPAC Meeting #1
  - Tuesday, November 19, 2013 at the Port of Morrow
  - 10 AM – 12PM
- TPAC Meeting #2 and Public Workshop #1
  - Tuesday, January 21, 2014 at the Port of Morrow
  - 9 AM – 12PM for TPAC #2
  - 1 – 3 PM for Public Workshop #1



- 
- 3 – 4:30 PM: LRA Board Meeting
  
  - TPAC Meeting #3 and Public Workshop #2
    - Tuesday, March 11, 2014 - **TENTATIVE DATE (Location TBD)**
    - 10 AM – Noon for TPAC Meeting #3
    - 1 – 3 PM for LRA Meeting
    - 4 – 6 PM for Public Workshop #2
  
  - TPAC Meeting #4 and Public Workshop #3
    - Tuesday, May 6, 2014 - **TENTATIVE DATE (Location TBD)**
    - 10 AM – Noon for TPAC Meeting #4
    - 1 – 3 PM for LRA Board Meeting
    - 4 – 6 PM for Public Workshop #3

# UMADRA

UMATILLA ARMY DEPOT LOCAL REUSE AUTHORITY

## SIGN IN SHEET

KICK-OFF MEETING  
- VAMP + SUB-AREA PLAN

MEETING DATE 10/28/13 LOCATION Port of Morrow-Sand Hallow Conference Room

PLEASE PRINT

NAME/TITLE

EMAIL ADDRESS

MATT HUGHART	KITTELSON + ASSOCIATES ASSOCIATE PLANNER	MHUGHART@KITTELSON.COM
Patrick Marnell	Kittelson & Associates Transportation Analyst	pmarnell@kittleson.com
BRUCE BEARCHUM II	CTUIR Asst. Transportation Manager	brucebearchum@ctuir.org
Carla McHane	Planning Director	cmclane@co.morrow.or.us
Stephanie Seamus	Economic Development CTUIR	stephanie.seamus@ctuir.org
Stormy Botefuhr	LRA Admin. Assist.	sbotefuhr@umadra.com
Kate Parker	Mason Bruce & Girard Environmental Planner	kparker@masonbruce.com
Alexis Casey	Mason Bruce & Girard, Inc Biologist	acasey@masonbruce.com
ANDY LINDSEY	CIVIL ENGINEER ANDERSON PERRY & ASSOC.	ALINDSEY@ANDERSONPERRY.COM
DON CHANCE	EXECUTIVE DIRECTOR LRA	DOCHANCE@UMADRA.COM

# UMATILLA

UMATILLA ARMY DEPOT LOCAL REUSE AUTHORITY

## SIGN IN SHEET

MEETING DATE 10/28/13 LOCATION Port of Morrow-Sand Hallow Conference Room

PLEASE PRINT

NAME/TITLE

EMAIL ADDRESS

NAME/TITLE	EMAIL ADDRESS
Jack Lynch Metrix Design Group Proj Mgr	Jack.Lynch@Metrixdesigngroup.com
Darci Rudzinski APG	drudzinski@angelo.planning.um
Tamra Mabbett Umatilla Co. Plan. Dir.	tamra@co.umatilla.or.us
Frank Angelo Angelo Planning Group	frank@angelo.planning.com
Lisa Mittelstaedt, Dir of Econ Dev	lisam@portofmorrow.com
Teresa Penninger, ODOT R5 Planning Mgr	teresa.b.penninger@odot.state.or.us

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# Technical / Public Advisory Committee Meeting Agenda

## Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan

November 19, 2013

10:00 AM to 12:00 PM

Port of Morrow Well Springs Conference Room

2 Marine Drive, Boardman, Oregon 97818

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### Conference Call Information (if needed):

1-866-771-1350

Conference #: 1425#

Security Pin: 1425#

1. Meeting Purpose and Introductions
  - a. Introduce TPAC members
  - b. TPAC Roles and Responsibilities
  - c. Review Project Objectives/Approach/Schedule
  - d. Coordination with Operations and Infrastructure Analysis/Business and Operation Plan
2. IAMP 101
  - a. Presentation
  - b. Q & A
3. Study Area Map Review
  - a. Discuss analysis/management area(s)
  - b. Review/adjust boundaries
4. Technical Memo #1: Definition and Background
  - a. Problem statement
  - b. Goals & objectives
5. Technical Memo #2: Review of Adopted Plans and Regulations
  - a. Regulatory framework
  - b. Depot redevelopment documents
6. Concluding Comments/Next Steps
  - a. TPAC comments on Memos #1 and #2 to LRA by December 3<sup>rd</sup>

- 
- b. Finalize Draft of Memos #1 and #2 by December 17<sup>th</sup>
  - c. Upcoming meetings:
    - TPAC #2 Meeting: January 21, 2014, 9:30-12:00 AM
    - Public Workshop #1: January 21, 2014, 1:30-3:00 PM

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# TPAC Meeting #1– Summary Notes

## Umatilla Army Depot

### Combined IAMP and Transportation System Subarea Plan

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Date and time: 11/19/13, 10:00 AM to 12:00 PM

Location: Port of Morrow Conference Room, 2 Marine Drive, Boardman, Oregon 97818

*Attendees:*

*Stormy Botefuhr, LRA*  
*Matt Hughart, Kittelson & Associates, Inc.*  
*Stephany Seamaus, CTUIR*  
*Patty Perry, CTUIR*  
*Clint Spencer, City of Hermiston*  
*Aaron Palmquist, City of Irrigon*  
*Tamra Mabbott, Umatilla County*  
*Debbie Pedro, Hermiston Chamber of Commerce*  
*Tom Fellows, Umatilla County Public Works*  
*Ace Clark, ODOT District 12*  
*Jeff Wise, ODOT Region 5 Traffic*  
*Andy Lindsey, Anderson Perry & Associates*  
*Bob Nairns, Morrow County Public Works*  
*Carla McLane, Morrow County*  
*Bruce Bearchum II, CTUIR*  
*Patrick Marnell, Kittelson & Associates, Inc.*  
*Kate Parker, MBG*  
*Don Chance, LRA*  
*Frank Angelo, Angelo Planning Group*  
*Darci Rudzinski, Angelo Planning Group*

#### **1. Introduction – Frank Angelo**

- a. This is the 1<sup>st</sup> of four TPAC meetings
- b. The IAMP will focus on 3 different interchanges:
  - i. I-84/Patterson Ferry
  - ii. I-82/Lamb Road
  - iii. I-84/Army Depot
- c. Several of the private sector could not attend (Tamera noted this)
  - i. Meeting notes will be sent out and these members will be briefed after meeting if needed.

## 2. Schedule

- a. This is an aggressive Plan
- b. Please see handout for schedule in detail
- c. The second TPAC meeting will be held in conjunction with public workshop #1 and an LRA meeting
  - i. Date: Jan. 21<sup>st</sup> meeting will be at Port of Morrow
- d. Matt Hughart noted that the sunset date is for this project is September 2014
- e. Don Chance then added an outline of the overall schedule for a 2015 land transfer from the Army
  - i. Two counties need to zone and plan for the base before development can take place.
  - ii. Tamera Mabbott noted that Umatilla will move forward with the comprehensive plan and refer to the pending IAMP

## 3. IAMP 101 – Matt Hughart

- a. **Trip Generation for this site was discussed briefly**
  - i. A wildlife preserve is relatively low generator of traffic.
  - ii. Kittelson/Angelo are working with the Oregon National Guard to determine transportation needs.
    1. The IAMP will coordinate with on base development, but the interchanges and roads surrounding the base are the focus of the study.
  - iii. Industrial land/employment uses have the potential to generate more trips
- b. **Interchange Background**
  - i. Most Interchanges were built ~30 years ago.
  - ii. Initial planning and construction did not consider the long term capacity and safety.
  - iii. Circa 1990 ODOT recognizes need to plan for the need to preserve long term function of interchange infrastructure such as:
    1. Ramps and Terminals
    2. Cross Roads
    3. Surrounding Land and accesses
- c. **Objectives of an IAMP**
  - i. Accommodate long term traffic demand (local and regional).
  - ii. Coordinate land use planning with any interchange retrofits.
    1. This is critical in a limited funding environment.
    2. It is necessary to identify developments, how to fund these developments, and how to phase in these developments.
  - iii. Ensure cooperation between state and local agencies
- d. **Typical IAMP Components**

- i. Evaluation of interchange forms with public involvement
  - 1. This will balance interests from a wide variety of sources early in the process
- ii. Access management
  - 1. This allows for the ability to plan and limit number of driveways in the close proximity to the interchange.
    - a. Driveways close to an interchange are not ideal from an operational stand point.
      - i. Safety – can contribute to crashes
      - ii. Flow – can contribute to delay
    - b. ODOT prefers ¼ mile from ramp terminal to first full access driveway
      - i. ODOT views 750 feet as preferable for Right-In-Right-Out driveway
      - ii. These ODOT preference are goals to work in the direction of (not hard limits) in the case of existing accesses

**e. Land Use**

- i. It is necessary to identify what the future use might look like.
  - 1. It is unlikely for this IAMP, but if forecast trips were large enough then there could be limits put on the site such as:
    - a. Overlay Districts
    - b. Trip Caps
  - 2. Jeff Wise noted Senate Bill 408
    - a. Senate bill 408 addresses transportation needs and economic development, and gives more weight to economic growth.
- ii. Morrow and Umatilla Counties intend to adopt IAMP as part of local plans
  - 1. Then ODOT would adopt IAMP as part of state plans

**4. Study Area**

- a. The study area shown in Tech Memo #1.
  - i. The study area was determined after considering the depot, surrounding cities, and existing and changing land uses.
  - ii. The Patterson Ferry interchange was included because it might be needed to handle long term growth in the area.
  - iii. Tamera Mabbott and Jeff Wise suggested the need to consider the I-84/Westland Road interchange.
    - 1. Matt Hughart responded that the Westland interchange will be considered, and noted that:



- a. An study for this interchange occurred in 2004 for this interchange.
  - b. This design effort will focus on the Lamb Road interchange (to account for Base redevelopment).
2. Aaron Palmquist raised concerned about traffic on Power Line Road
3. Carla McLane brought up the consideration of Bridge Road (Overpass) north of the Lamb Road interchange.
  - a. A frontage road on base could potentially connect to Bridge Road (but not to I-82)
    - i. This could connect the new industrial area to the Port.
    - ii. This could also connect to Hermiston.
4. The existing boundary (as shown in Tech Memo #1) was discussed
  - a. It was noted that land use in Irrigon are considered in the project, although Irrigon is not in the study boundary.
    - i. The existence (or non-existence) of new backdoor road into Irrigon would not change land uses, so the boundary does not include Irrigon.
5. Kittelson and Angelo Planning will take a new look at map and revise the boundary line work shown in Tech Memo #1
  - a. A new boundary will be presented for adoption at next TPAC meeting.
6. Tamera Mabbott also noted that eventually a new IAMP will be needed for the I-84/Westland interchange.

## 5. Tech Memo #1 – Matt Hughart

### a. Goals and Objectives

1. *Protect the long-term function, operation, and safety of the I-84/Army Depot Access Road, I-82/Lamb Road, and I-84/Patterson Ferry Road interchanges.*
2. *Identify opportunities for enhanced roadway connectivity within the UCMD site that would provide public roadway connections between the I-84/Army Depot Access Road and I-82/Lamb Road interchanges.*
3. *Manage the allowed/envisioned land uses within the vicinity of the interchanges to provide for future economic growth over the next 20 years.*
4. *Identify current accesses along the interchange crossroads and develop a phased access management plan for the crossroads based*

*on a detailed and collaborative process involving the Morrow/Umatilla Counties and local property owners. The access management plan will be based on key principles that balance highway mobility and safety.*

5. *Identify opportunities for multi-modal accessibility to/from certain envisioned components of the UMCD site.*
  - a. Matt Hughart noted that it is a peripheral concern to allow access to site by non-cars
  - b. Don Chance noted that the site so isolated that multi-modal accessibility may be an unrealistic goal, and that we don't build sidewalks and bike lane just because of rules.
  - c. Rail access is seen by the group seems to be a more pressing concern than pedestrian or bike facilities
  - d. Aaron Palmquist and Carla McLane suggested that multi modal should focus on freight and rail.
  - e. Ace Clark noted that we should still look at this, but just have the frank discussion that the bikes were considered, but ultimately there is no need for specific infrastructure.
  - f. Darci Rudzinski notes that we should consider future land uses when thinking about multi-modal consideration.
    - i. Don Chance noted that a wildlife refuge could become a recreational site for bike/hike, but public access to this wildlife area will likely be restricted
  - g. Frank Angelo suggested that we should look at all aspects and state why we reject ped/bike type facilities.
  - h. Patty Perry reminded the group to not forget the public transit
6. *Collaborate throughout the planning process with design professionals, jurisdictional representatives, developers, local property owners, and the general public, including protected*

*populations as established by federal and state regulations and policies.*

7. *Comply with the intent of Statewide Planning Goals, including Goal 1: Public Involvement, Goal 2: Land Use Planning, Goal 5: Natural Resources, Goal 6: Air, Water and Land Resources Quality, Goal 7: Areas Subject to Natural hazards, Goal 8: Recreation Needs, Goal 9: Economic Development, Goal 12: Transportation, and Goal 14: Urban Growth Boundaries.*
8. *Identify funding and phased implementation strategies for identified near- and long-term improvements.*
  - i. Don Chance noted this project must have the other non-depot land uses paying their fair part of the upgrade costs. The full cost of infrastructure improvements can't be placed entirely on the Depot Site developments
9. *Develop implementation policies and regulations to be adopted into the Morrow and Umatilla County Comprehensive Plans, Transportation System Plans, and zoning ordinances, as appropriate.*

## **6. Tech Memo 2 – Darci Rudzinski**

- a. This site is unique (not having been ever zoned before)
- b. Need to be consistent with state and local planning documents including:
  - i. State documents
  - ii. Local documents
  - iii. Access management rules (51)
  - iv. Senate Bill 408
  - v. IAMP Criteria
  - vi. Umatilla/Westland Road IAMP
    1. Even with extensive increase in traffic area this showed well-functioning infrastructure in the area
      - i. The Lamb/Westland Road intersection was the exception, and this intersection has been recently redone built.
  - vii. Recent Planning Documents
    1. There is a gap in guard documents

- a. Kittelson/Angelo Planning is working with guard to get these documents
- b. Tamara Mabbott has a (draft outdated plan) for uses as a starting point.
  - i. Guard has changed their plans for base from minor activates to more major ones.
  - ii. A 2010 plan included an interview with guard (but this information is likely out of date)
  - iii. A new presentation by the Guard has more updated numbers.
    1. Don will try to these get new numbers from Guard
    2. These will impact the IAMP interchanges and the Westland interchange too.
  - iv. Guard is considering moving tank training from Idaho, and has hired a consultant to investigate.

## 7. Final Considerations

### 8. Will Three Documents be required?

- a. Will one document with chapters be acceptable or will three documents be needed as a final product of these efforts?
  - i. Ace Clark and Jeff Wise will look into this on ODOT's end
- b. Separated documents for approval in different counties will be needed
  - i. This could be accomplished with chapters of a larger document, with one supporting appendix.

### 9. Please get comments to Don/Stormy on the tech memos by the 29<sup>th</sup> of November.

- a. Kittelson/Angelo Group will revise these memos by mid-December

### 10. Next TPAC meeting will be at 9:30 on Jan 21<sup>st</sup>

- a. Drafts of Tech Memos 3-6 will be discussed at this meeting.

### 11. Public Workshop from 1-3pm on Jan 21<sup>st</sup> will follow the TPAC meeting

### 12. LRA Board Meeting from 3-4:30 will follow the Public Workshop

### 13. A small discussion and review of the land transfer process followed

- a. Value of Land is set against the cost of improvements to determine how much the land will cost. If the cost of improvements exceeds the value, then the Army can give the land away for free. This is the expectation of all parties.
- b. The land will be transferred to ports/counties.
- c. For 7 years profits from the Site must be reinvested into the Site.

# UMATILLA ARMY DEPOT COMBINED IAMP AND TRANSPORTATION SYSTEM SUBAREA PLAN SIGN IN SHEET - TPAC MEETING #1

MEETING DATE: 11/19/13

LOCATION: PORT OF MORROW

NAME/TITLE

EMAIL ADDRESS

Stormy Botefuhr	sbotefuhr@umadra.com
Stephane Seamaus	stephane.seamaus@ctuir.org
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ANDY LINDSEY - ANDERSON PERRY & ASSOC.	ALINDSEY@ANDERSONPERRY.COM
Bob Nairns - Morrow County Public Works	bnairns@co.morrow.or.us
BRUCE DEARCHUM II - <sup>CTUIR P.W.</sup> Asst Transportation Manager	<brucebearchum@ctuir.org>
Patrick Marnell - Kittelson	pmarnell@kittelson.com



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# Technical / Public Advisory Committee Meeting Agenda

## Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan

January 21, 2014

9:30 AM to 11:30 PM

Port of Morrow Well Springs Conference Room

2 Marine Drive, Boardman, Oregon 97818

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### Conference Call Information (if needed):

1-866-771-1350

Conference #: 1425#

Security Pin: 1425#

1. Meeting Purpose and Introductions
  - a. Introductions
  - b. Review project objectives, milestones and schedule
  - c. Review meeting objectives
2. Final Review of Previous Memos/Work
  - a. Meeting Minutes From TPAC #1
  - b. Tech Memo #1: Project Background, Definition, Goals, and Objectives
  - c. Tech Memo #2: Review of Adopted Plans and Regulations
  - d. Interchange Management Study Area
3. Review New Memos
  - a. Technical Memo #3: Existing Land Use Analysis
  - b. Technical Memo #4: Existing Transportation Facilities and Traffic Operations
  - c. Technical Memo #5: Environmental Research
  - d. Technical Memo #6: Future Land Use and Forecast Travel Demand
4. Interchange Design 101 and Local Circulation 101
  - a. Introduction
  - b. Design Workshop & Sketching Alternatives
5. Concluding Comments/Next Steps
  - a. TPAC comments on Memos #3, #4, #5 and #6 to LRA by February 4<sup>th</sup>
  - b. Finalize Draft of Memos #3, #4, #5 and #6 by February 18<sup>th</sup>

- 
- c. Public Open House #1 – 1 PM at the Port of Morrow; presentation at 3 PM
  - d. Update on the Operations and Infrastructure Analysis/Business and Operation Plan
  - e. Upcoming meetings:
    - TPAC #3 Meeting: March 10, 2014, 9:30 AM-noon
    - Public Workshop #2: March 10, 2014, 4:30-6:00 PM



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## Technical / Public Advisory Committee Meeting #2 - Summary Notes

### Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan

January 21, 2014

9:30 AM to 11:30 PM

Port of Morrow Well Springs Conference Room

2 Marine Drive, Boardman, Oregon 97818

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#### Attendees:

*Stormy Botefuhr, LRA*  
*Stephany Seamaus, CTUIR*  
*Patty Perry, CTUIR*  
*Aaron Palmquist, City of Irrigon*  
*Paul Howland, ODOT Hermiston Manager*  
*Matt Hughart, Kittelson & Associates, Inc.*  
*Stan Hutchison, Oregon Military Department*  
*Joanna Manson, Oregon Military Department*  
*Bob Nairns, Morrow County Public Works*  
*Tom Fellows, Umatilla County Public Works*  
*Andy Lindsey, Anderson Perry & Associates*  
*Don Chance, LRA*  
*Tamra Mabbott, Umatilla County*  
*Debbie Pedro, Hermiston Chamber of Commerce*  
*Patrick Marnell, Kittelson & Associates, Inc.*  
*Dave Warrick, ODOT Interchange Engineering*  
*Kate Parker, MBG*  
*Terry Tallman, Morrow County*  
*Teresa Penninger, ODOT Region 5*  
*Frank Angelo, Angelo Planning Group*  
*Darci Rudzinski, Angelo Planning Group*  
*Carla McLane, Morrow County*  
*Roy Swafford, Oregon Military Department*  
*Lisa Mittelsdorf, Port of Morrow*  
*Jeff Wise, ODOT Region 5 Traffic*

### **1. Meeting Purpose and Introductions – Frank Angelo**

- a. Introductions
- b. Review project objectives, milestones and schedule
- c. Review meeting objectives

## **2. Final Review of Previous Memos/Work**

### **d. Meeting Minutes From TPAC #1 – Matt Hughart**

- i. TPAC roles and responsibilities
  1. Attend Meeting
  2. Review Technical documents and provide input
  3. Act as the voice of the various stakeholders
- ii. Study Area
  1. Army Depot Site
  2. Three interchanges (Paterson Ferry, Army Depot, and Lamb Road)
    - a. Paterson Ferry is currently not a major impact on the site, but could be important in the future.
  3. Westland Exception Area (surrounding the Westland Interchange)
  4. Hermiston, Irrigon, Morrow County, and Umatilla County will be regional growth drivers.
  5. The north-eastern corner of Maps of the Depot needs updating in the Technical Memo Figures.
    - a. All IMSA maps need to include the 30 Acres in the NE corner.
- iii. Goals and Objectives
  1. The 11 Goals were adopted by the TPAC.
- iv. Schedule Reviewed
  1. The project is currently on schedule.
    - a. The adoption time line provides a little wiggle room, but the schedule is still tight.
    - b. The Counties should be able to adopt documents in the outlined timeline.

### **e. Tech Memo #1: Project Background, Definition, Goals, and Objectives – Frank Angelo**

### **f. Tech Memo #2: Review of Adopted Plans and Regulations – Frank Angelo**

- i. Technical memo 1 & 2 updates will be sent out to TPAC.
- ii. Final action on these will occur at next TPAC meeting.

### **g. Interchange Management Study Area**

- i. This was addresses above.

### **3. Review New Memos**

**i. Memos 1-4 can still be updated. Please provide comments by Feb 4<sup>th</sup>.**

**h. Technical Memo #3: Existing Land Use Analysis - Darci Rudzinski**

i. This memo describes what is occurring currently in the study area and what developments could happen with existing land uses and zoning.

ii. Port Industrial and Depot Industrial Zones will be applied to former parts of the Depot.

1. The Port Industrial Zone is currently in existence in Morrow County.

2. Umatilla County will adopt a Depot Industrial Zone in the near future.

3. The Depot has some trips associated with it and the existing infrastructure has been built to support these trips.

iii. Anderson Perry has inventoried the existing infrastructure

1. The Infrastructure is acceptable and has passed the latest inspections.

a. The existing Lamb Road access to Depot will provide some limitations.

b. The RxR underpass at Army Depot main entrance may provide some limitations.

**i. Technical Memo #4: Existing Transportation Facilities and Traffic Operations - Matt Hughart**

i. Traffic counts were taken in October of 2013.

1. As depot continues to decommission these trips will change.

2. Trips from the local Cities and Counties uses will continue to grow and evolve.

ii. Currently the ramp terminals and intersection in the Study Area function well.

iii. The Oregon Nation Guard (ORNG) has used the Depot Base since the 80s.

iv. The existing conditions memo goes into depth on the topic of Ordnance Road ownership.

**j. Technical Memo #5: Environmental Research – Kate Parker**

i. The environmental study area is smaller and focused on the Interchanges.

1. Potential for sensitive species was examined.

2. No wetlands exist in study area.

a. Some exist just south of Army Depot Interchange study area.

- b. Some exist north of the study area north of Paterson Ferry Interchange area.
- 3. Federally Protected Species in the area
  - a. Bull Trout and Steelhead
    - i. There are no water ways on site, but storm runoff is a concern.
- 4. State Protected Species in the area
  - a. Washington Ground Squirrel (WGS)
    - i. No signs of WGS were seen in study area.
    - ii. This will need to be readdressed if study area changes.
- 5. Burrowing Owls
  - a. Some work and studies have looked at these in the area.
    - i. Reintroduction has occurred in places.
  - b. Burrowing Owls are located on the Northern Depot Area away from the Interchange Study area.
  - c. Burrowing Owls are not a listed threatened or endangered species.
  - d. Matrix study will look at environmental issues on larger depot site.
- 6. Antelope have been removed from the site.
- 7. Morrow County Noxious Weed List will be used to supplement ODA information.
- k. Technical Memo #6: Future Land Use and Forecast Travel Demand – Frank Angelo/  
Matt Hughart**
  - i. Future Land Uses
    - 1. ORNG Projected Land Uses
      - i. Regional Training Institute
      - ii. Readiness Center
      - iii. Training Facilities
    - b. Average weekday trips were estimated from these land uses.
      - i. Trips need to be reasonable and conservative

- c. New ORNG trips will be assumed to use the Army Depot Interchange.
- a. Comments from Stan Hutchison and Joanna Manson of the Oregon Military *Department (ORNG)*
  - a. The ORNG solidier typically serves one weekend a month, and two weeks a year. This means that typical trip peak on weekends and during the summer.
  - b. The Regional Training Institute full build displayed in the draft of Technical Memo 6 is for a 25 year build out (2034).
- d. ORNG Large Vehicle Transportation
  - i. Trucks carrying tanks and other large vehicles are coming in from the SE gate.
    - 1. Currently the ORNG assumes that this will probably not continue at this location with the developments.
    - 2. The main gate is problematic due to the RxR under pass clearance.
    - 3. Large Equipment may need to use the North Gate in the future to access.
      - a. This may impact the local roads.
      - b. ORNG will work in coordination with Counties as plans developed.
    - 4. TPAC is still open the SE gate (via the Lamb Road interchange) as a viable option for heavy and large equipment. This may require special considerations moving forward.
- e. Tamera Mabbott requested that the ORNG plan be included as an appendix.
  - i. Joanna Manson noted that the ORNG plan is based on the 2009 LRA Plan and this may conflict with the current plan and assumptions. Although the daily trips

estimated from this plan remain valid, it might be best to not include the document as an Appendix and cause confusion.

- ii. A decision to not include the document was made and Table 6-2 *ORNG June 2012 Site Development Plan Staffing Projections* will be removed from Technical Memo #2. References to the ORNG plan will still be made.
  - f. Tamera Mabbott requested that maps of existing roads on the Depot be included in Technical Memos as many of these roads will be preserved.
  - g. Matt Hughart requested a list of what can or cannot move through different accesses to the existing Depot Site. Stan Hutchison will follow up with ORNG transportation staff.
  - h. Frank Angelo suggests that a range of alternatives for growth at ORNG base be used for future scenario planning.
2. Wildlife Habitat
- a. Counties are working on a Zoning for the Wildlife area
3. Economic Development
- a. Port Industrial Zone – Morrow County
    - i. Development in this area will be generally low intensity.
      - 1. Carla McLane suggested that the area in the existing structures (i.e. the igloos) can be estimated.
      - 2. Carla noted that a zoning overlay (and not a dead restriction) will be used to limit the developable areas.
  - b. Depot Industrial Zone - Umatilla County
    - i. Three Subareas
      - 1. This zone will be applied to three subareas.

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- ii. The 2 Operational Scenarios in Technical Memo #6 have been expanded to 4 scenarios as shown in a handout (this will be updated in the final memo).
  - iii. Don Chance notes that commercial development is vital to make the cost of infrastructure developments pencil out.
  - iv. Commercial development was at one point limited to supporting the industrial uses, but now is open to general commercial. Land uses that would draw interstate traffic would be desirable.
  - v. There are concerns that this type of development could be problematic with industrial and ORNG heavy vehicle uses.
  - vi. An ODOT Maintenance Facility may be located on the Depot site
    - 1. Currently this is not the most likely scenario (an alternate site is under consideration).
- c. Operation under the 4 Scenarios
- i. The 75K and 50K scenarios are viewed as the best and most realistic scenarios to focus on going forward.
  - ii. At the Lamb Road Interchange the west leg of the interchange is insufficient to support future growth and development at the Depot site.
    - 1. Large Semi-Truck turning radius would require use of both existing lanes.
    - 2. A new leg, at minimum ¼ mile in length, would be needed to accommodate expected land uses and meet ODOT standards.
  - iii. Under all scenarios at least one of the ramp terminals at Lamb Road are over capacity (design standards).
    - 1. Some other traffic control feature would be needed to accommodate build out.

2. This interchange serves surrounding area in addition to the Depot uses.

3. Mark Warrick added concerns about the grade of the road and noted that potential improvements that could require widening the existing bridge.

iv. Army Depot Interchange

1. The ramp terminals may require additional traffic control in the future.

2. The RxR underpass will be further examined for clearance issues.

3. Gun Club Road Access will need to be cleaned up.

d. Westland Exception Area

i. The lodging estimates in the existing draft of Technical Memo #6 will be revised.

#### **4. Interchange Design 101 and Local Circulation 101 –SKIPPED**

l. Introduction

m. Design Workshop & Sketching Alternatives

#### **5. Concluding Comments/Next Steps - Matt Hughart**

i. Alternatives Analysis

ii. Implementation

iii. Cost Estimations

n. **TPAC comments on Memos #3, #4, and #5 to LRA by February 4<sup>th</sup>**

i. **Technical Memo #6 to be updated and sent out, and comments can follow.**

o. **Finalize Draft of Memos #3, #4, and #5 by February 18<sup>th</sup>**

p. Public Open House #1 – 1 PM at the Port of Morrow; presentation at 3 PM

q. Update on the Operations and Infrastructure Analysis/Business and Operation Plan

r. Upcoming meetings:

• **TPAC #3 Meeting: March 10, 2014, 9:30 AM-noon**

• **Public Workshop #2: March 10, 2014, 4:30-6:00 PM**



# UMATILLA ARMY DEPOT COMBINED IAMP AND TRANSPORTATION SYSTEM SUBAREA PLAN SIGN IN SHEET - TPAC MEETING #2

MEETING DATE: 1/21/14

LOCATION: PORT OF MORROW

NAME/TITLE

EMAIL ADDRESS

Stephanie Seamans Economic Dev. CTUIR	stephanieseamans@ctuir.org
Patricia Perry, Senior Planner	patry.perry@ctuir.org
Aaron Palmquist, city of Irigoin	manager@ci.irrigoin.or.us
Paul Howland, ODOT Hermiston Manager	Paul.L.howland@odot.STATE.OR.US
Stan Hutchison, OMD, Chief, Planning & Programming	Stanley.a.hutchison.mil@mail.mil
Joanne Monson, OMD, Planner	joanne.monson@state.or.us
Bob Nairns Morrow County Assistant PW Director	bnairns@co.morrow.or.us
Tom Fellows Umatilla County Public works Director	tfellows@umatillacounty.net
ANDY LINDSEY - ANDERSON PERRY & ASSOC.	ALINDSEY@ANDERSONPERRY.COM
DOXUS CHANCE - LRA	DOCHANCE@UMADRA.COM
Tamra Mabbott, Umatilla County Planning Dir.	tamra@co.umatilla.or.us
Debbie Pedro Hermiston Chamber	debbie@hermistonchamber.com
Patrick Marnell, Kittelson	p.marnell@Kittelson.com
Dave Warrick ODOT Intch. Engr.	david.d.warrick@odot.state.or.us



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## Technical / Public Advisory Committee Meeting #3 - Summary Notes

### Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan

March 31, 2014

1:30 PM to 4:00 PM

Stafford Hansel Conference Room

Hermiston, Oregon

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#### Attendees:

*Carla McLane, Morrow County*  
*Stephany Seamaus, CTUIR*  
*Matt Hughart, Kittelson & Associates, Inc.*  
*Jeff Wise, ODOT Region 5 Traffic*  
*Debbie Pedro, Hermiston Chamber of Commerce*  
*Teresa Penninger, ODOT Region 5*  
*Tamra Mabbott, Umatilla County*  
*Bob Nairns, Morrow County Public Works*  
*Tom Fellows, Umatilla County Public Works*  
*Dave Warrick, ODOT Interchange Engineer*  
*Patrick Marnell, Kittelson & Associates, Inc.*  
*Don Chance, LRA*  
*Andy Lindsey, Anderson Perry & Associates*  
*Michele Martin, BRAC*  
*Jeff Atwood, Army Corps of Engineers*  
*Stan Hutchison, Oregon Military Department*  
*Joe Duncan, Army Corps of Engineers*  
*Paul Howland, ODOT Hermiston Manager*  
*Herb Stahl, Stahl Farms*  
*Patty Perry, CTUIR*  
*Martin Nelson, 249<sup>th</sup> RTI OANG*  
*Tim Beinent, Oregon Military Department*  
*Lisa Mittelsdorf, Port of Morrow*  
*Aaron Palmquist, City of Irrigon*  
*Frank Angelo, Angelo Planning Group*  
*Larry Givens, Commissioner Umatilla Co.*

### **1. Introduction – Frank/Matt**

- a. Meeting Outline
- b. Sign-in sheet

## 2. Background Conditions - Matt

- a. LOS and V/C ratios for 2035 forecast conditions are within acceptable mobility targets.
  - i. There is discussion about how different cities (Portland, Salem, etc.) have established alternate mobility targets.
- b. History of Lamb Road Interchange – **Dave Warrick**
  - i. Lamb Road Interchange was built on easement from the Army Depot
  - ii. The interchange was originally designed to include SB ramps only.
  - iii. Ultimately a NB/SB design was implemented (1982).
  - iv. The existing freeway curves create some difficulties for the interchange on and off ramps.

## 3. Interchange Design 101 – Matt

- a. Interchange Types and Forms
- b. Design Considerations
- c. Study Area Considerations

## 4. Lamb Road Interchange – Matt

- a. Growth Scenarios
  - i. Strong Growth Scenario Operations.
    1. Does not meet standard without mitigation.
  - ii. Moderate Growth Scenario Operations.
    1. Does not meet standard without mitigation.
  - iii. Phased Growth Scenario Operations.
    1. Does meet standard with some minor improvements.
- b. Lamb Road Interchange Improvement Concepts
  - i. **L1 - No Interchange Improvements**
    1. ~\$1.2M
    2. Realigns the cross road approach.
    3. Does not address capacity issues under Strong or Moderate Growth Scenarios.
  - ii. **L2 – Minimally Improved Diamond**
    1. ~3.2 M
    2. Realigns the cross road approach.
    3. Lengthens the NB/SB off-ramps.
    4. Widens NB/SB off-ramps.
    5. Maintains existing stop control.

6. Does not fully address capacity issues under Strong or Moderate Growth Scenarios, but would address Phased growth scenario.

**iii. L3 – Minimally Improved Diamond with Partial Signalization**

1. ~3.5 M
2. Realigns the cross road approach.
3. Lengthens the NB/SB off-ramps.
4. Widens NB/SB off-ramps.
5. Signalize the SB ramp terminal.
6. Fully address Strong, Moderate, and Phase growth scenarios.

**iv. L4 - Improved Diamond with Widened Lamb Road**

1. ~9.85 M
2. Realigns the cross road approach.
3. Lengthens the NB/SB off-ramps.
4. Widens NB/SB off-ramps.
5. Widens Lamb Road to 3-Lanes (includes widened bridge).
6. Maintains existing stop control.
7. Does not fully address capacity issues under Strong or Moderate Growth Scenarios.

**v. L5 - Improved Diamond with Widened Lamb Road and Partial Signalization**

1. ~10.2 M
2. Realigns the cross road approach.
3. Lengthens the NB/SB off-ramps.
4. Widens NB/SB off-ramps.
5. Widens Lamb Road to 3-Lanes (includes widened bridge).
6. Signalize the SB ramp terminal.
7. Fully address Strong, Moderate, and Phase growth scenarios.

**vi. L6 - Improved Diamond with Roundabout at SB Ramp Terminal**

1. ~3.7 M
2. Realigns the cross road approach.
3. Lengthens the NB/SB off-ramps.

4. Installs a roundabout at the SB ramp terminal.
5. Fully address Strong, Moderate, and Phase growth scenarios.

**vii. L7 - Improved Diamond with Roundabout at SB and NB Ramp Terminals**

1. ~4.7 M
2. Realigns the cross road approach.
3. Lengthens the NB/SB off-ramps.
4. Installs roundabouts at the SB and NB ramp terminal.
5. Fully address Strong, Moderate, and Phase growth scenarios.

**viii. L8 – Single Quadrant Parclo A**

1. ~\$15-20 M (a more refined estimate will be made)
2. Realigns the cross road approach.
3. Lengthens the NB/SB off-ramps.
4. Installs a looping SB on-ramp.
5. Realigns and Improves the SB off-ramp
6. Fully address Strong, Moderate, and Phase growth scenarios.

**5. Army Depot Interchange -- Matt**

- a. A legal-load semi can clear the bridge and does today. -- **OMD**
- b. Oversized large loads could not clear the bridge today. -- **OMD**
- c. Parts of Gun Club Lane may be on RxR right-of-way – **Carla**
- d. Lamb Road Interchange Improvement Concepts
  - i. **A1 – No interchange Improvements**
    1. Minimal Costs
    2. Realigns Gun Club Lane.
  - ii. **A2 – Minimally Improved Interchange**
    1. \$4-\$5 M
    2. Realigns Gun Club Lane.
    3. Lengthens the EB and WB on/off ramps.
- e. Little support is given for improving the Army Depot interchange - **Carla, Don, and others.**
- f. Patterson Ferry interchange might need the same level of improvements as seen with the Army Depot interchange if similar levels of trips were assigned in the area. – **Carla**

## 6. Evaluation Criteria and Matrix

- a. Criteria
  - i. Transportation Operations
  - ii. Multimodal Accessibility
  - iii. Land Use
  - iv. Economic Development
  - v. Environmental, Social, and Equity Factors
  - vi. Accessibility and Connectivity
  - vii. Cost
  - viii. Implementation
- b. Evaluation
  - i. L2, L3, L6, L8 warrant further consideration
  - ii. A1, and A2 warrant further consideration

## 7. Discussion and Reaction to Concepts

- a. **Aaron** – Could we build a L2/L3/L6 scenario to allow for an eventual L8-style loop ramp? This could be a valuable addition to a long term view of the project. Answer...you could, but it would impact the SB on-ramp design in a manner that would likely require additional widening over the railroad overpass.
- b. **Dave** – A roundabout would need to include freight industry partners in the design process.
- c. **Carla** - Does ODOT have a preference?
  - a. Roundabout have less delay
    - i. May require more earthwork
- d. **Carla** – What does ODOT feel about the weaving zone at the 82/84 interchange?
  - a. Probably ok under current conditions - **Dave**
  - b. Mainline analysis would need to be done under future conditions. - **Dave**
- e. **Teresa** - ODOT has financial realities
  - a. All things equal ODOT would pick a cheaper Diamond interchange.
  - b. 1-3 Million probably feasible, but beyond that finances become be more difficult.
- f. **Dave** – distance between interchange is difficult to address with an auxiliary lane without significant cost due to the RxR bridge.

- g. **Stephanie** - What is the Zoning Requirement like for the Westland Exception area?
  - a. The zoning has been in place since the 80s.
  - b. Over 200 trips per day requires a Traffic Impact Analysis.
- h. **Don** – Reality is that L3 is the best option.
  - a. For not much more than L2 you get full build out potential.
  - b. L6 (roundabout) is not looked highly on by the group, but should be considered for further analysis.
  - c. L8 is too expensive unless ODOT wants to put in a lot of money (which they likely don't).
- i. **Don**- Fixing the S-curve on the Depot site and adding a signal could be a locally funded improvement.
  - a. This would be about 1.5 M of the 3.2 M cost of the L3 scenario.
  - b. The reminder could be requested from legislature.
- j. **Frank** – It may be too soon to drop L8. It shows the full build out process. Don agrees.
- k. **Carla** – Support given for L2, L3, L8 for further consideration.
- l. **Matt** – The real question is a L3/L6 vs L8
  - a. L3/6 are quite similar other than Roundabout vs Signal
  - b. **Bob** Adds that L6 (roundabout) gets you a little farther towards the capacity of L8.
- m. **Aaron** – Requests to see a more fine-tuned cost estimate for L8
- n. **Don** - Would like to have the Board adopt an option at Lamb.
  - a. Next meeting date will be set and sent to group
- o. **Frank** confirms that options move forward are:
  - a. A1 and A2
  - b. L3,L6, and L8



**UMATILLA ARMY DEPOT COMBINED IAMP AND TRANSPORTATION SYSTEM SUBAREA PLAN  
SIGN IN SHEET - TPAC MEETING #3**

MEETING DATE: 3/31/14

LOCATION: Stafford Hansell Building, Hermiston, OR

NAME/TITLE

EMAIL ADDRESS

Carla McLane, Planning Director	cmclane@co.morrow.or.us
Stephanie Seaman, Economic Development CTMIR	stephanieseaman@ctmir.org
JEFF WISE, Traffic Eng, RS, ODOT	JEFF.WISE @ ODOT. <sup>OR, US</sup> STATE.
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ANDY LINDSEY, ANDERSON PERRY & ASSOC.	ALINDSEY@ANDERSONPERRY.COM
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**UMATILLA ARMY DEPOT COMBINED IAMP AND TRANSPORTATION SYSTEM SUBAREA PLAN  
SIGN IN SHEET - TPAC MEETING #3**

MEETING DATE: 3/31/14

LOCATION: Stafford Hansell Building, Hermiston, OR

NAME/TITLE

EMAIL ADDRESS

Stan Hutchison - Oregon Military Department	stanley.a.hutchison.mil@mail.mil
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Lisa Mittelsdorf Port of Morrow	lisa@m@portofmorrow.com
Larry Givens Commissioner Umatilla Co.	Larry.Givens@umatilla.net
Aaron Palquist City of Irrigon	manager@ci.irrigon.or.us

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## Technical / Public Advisory Committee Meeting #4 - Summary Notes

### Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan

May 5, 2014

2:00 PM to 4:00 PM

Port of Morrow

Boardman, Oregon

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#### Attendees:

*Carla McLane, Morrow County*  
*Shane Finck, Umatilla County*  
*Stephanie Seamaus, CTUIR*  
*Matt Hughart, Kittelson & Associates, Inc.*  
*Joanne Manson, Oregon Military Department*  
*Garry Neal, Port of Morrow*  
*Rod McKee, Anderson Perry & Associates*  
*Teresa Penninger, ODOT Region 5*  
*Tom Fellows, Umatilla County Public Works*  
*Dave Warrick, ODOT Interchange Engineer*  
*Patrick Marnell, Kittelson & Associates, Inc.*  
*Don Chance, LRA*  
*Terry Tallman, Morrow County Judge, Morrow County Court*  
*Herb Stahl, Stahl Farms*  
*Patty Perry, CTUIR*  
*Lisa Mittelsdorf, Port of Morrow*  
*Frank Angelo, Angelo Planning Group*

#### **1. Introduction – Matt/Frank**

- a. Recap of last TPAC meeting and Open House
- b. Sign-in sheet

#### **2. I-84 and Army Depot Access Road interchange Review -- Matt**

- a. Current conditions:
  - i. Currently has substandard on/off ramps.
  - ii. Can accommodate anticipated ORNG normal daily traffic.
  - iii. Union Pacific (UP) Railroad underpass has 15 foot clearance.
  - iv. Minor access management improvements at Gun Club Lane and farm access.
- b. To accommodate freeway oriented industrial growth in the Port Industrial zoning, interchange improvements are projected to cost 3.4 million dollars.

- i. This does not include any modifications to Union Pacific (UP) railroad underpass. This would run \$1-2 million dollars or more.
- c. Carla adds that some buildings have been built on the Gun Club Lane that might affect the realignment of the road.
- d. Joanna asks if Gun Club provides access to the Depot Site.
  - i. The road does not.
  - ii. Joanna adds that access to the Port of Morrow Industrial Areas is needed for a one-to-one comparison.

### **3. Paterson Ferry Road Options -- Matt**

- a. The Port Industrial Area may be more efficiently accessed via Paterson Ferry Road.
- b. This would require building a road through Exclusive Farm Use (EFU) zoned land.
  - i. This is procedurally difficult, but possible.
- c. Paterson Ferry Interchange could handle the increase in trips associated with the Port of Morrow Industrial Areas with only minor improvements.
- d. New access road would need to intersect Paterson Ferry Road as far north as possible to avoid impacting the at-grade rail crossing.
- e. Gary adds that the Port of Morrow would probably want a grade separated crossing for trucking efficiency and safety before developing the site as an industrial park.
  - i. 35-40 rail crossings a day would make an at-grade crossing problematic.
  - ii. Matt adds that grade separation of the rail crossing at Paterson Ferry would make this alternative more expensive than using the Army Depot alternative.

### **4. Morrow County Planning Board has pushed back some on the restricted zone on portions of the Port Industrial area -- Carla**

- a. What would happen if zoning restriction is removed?
- b. As long as the impacts of the 900 and 1800 acres were identified in the IAMP then removing the restriction would not require separate plan amendments.
- c. An IAMP that is structured to allow for flexibility and a choice between Army Depot/Paterson Ferry Interchanges and Restricted/Unrestricted land uses is desirable.
  - i. Matt adds that this may result in spending money at one interchange that may not be ultimately needed.
  - ii. The existing Army Depot interchange is not built to handle industrial truck type trips.
- d. ODOT Rail may need to be involved in the process because of the issues with the railroad underpass and the potential for a grade separated crossing at Paterson Ferry.
- e. LRA would like all the options:
  - i. All the alternatives will be documented.
  - ii. No final recommendation would be made leaving options open.
  - iii. Local amendments could be used to move down one path or the other.

### **5. I-82/Lamb Road Interchange Review - Matt**

- a. Long Term Needs (With Development)
    - i. New Eastbound Leg;
    - ii. Redesign of NB and SB off ramps;
    - iii. Turn lanes on ramps; and
    - iv. Traffic Control.
  - b. Alternatives:
    - i. L3 – Signalization
    - ii. L6 – Roundabout
      - 1. L3 and L6 are similar, other than the type of traffic control used on the SB ramp terminal.
      - 2. L3 & L6 are both adequate for projected Strong Growth conditions.
    - iii. L8 – Parclo A Loop Ramp
      - 1. Would provide additional capacity beyond the L3 and L6 options.
      - 2. Would better accommodate SB on-ramp traffic.
      - 3. There is concern from the group about what are the safety issues of the Loop Ramp (particularly in wintery conditions)?
        - a. Dave Warrick noted that some loop ramps were constructed 30/40 years ago and use smaller radius loops.
          - i. This accounts for some of the perceived safety issues.
          - b. Today a 150'-200' radius would be used.
    - iv. L3 could be designed to allow for a future conversion to a Loop Ramp.
      - 1. This would not cost much more than an L3 that does not allow for the additional flexibility.
      - 2. L3 modified cost 4.7 million.
    - v. L6 could also be designed to allow for a future conversion to a Loop Ramp.
      - 1. L3 modified cost 5.9 million.
      - 2. Truckers have concerns about traveling through roundabouts.
      - 3. ODOT will need to work with trucking partners on implementing a roundabout, but this is possible.
      - 4. Freight is not incompatible with a roundabout.
    - vi. Don noted that L3 seems to be the most viable option.
      - 1. This is especially true when L8 can be accommodated in the future.
      - 2. The group generally agrees, but there is support to keep the roundabout as an option.
      - 3. The potential TSDC might be harder to swallow if the added cost of the roundabout were included.
    - vii. Final choice to keep both options in the IAMP is made.
- 6. Phasing of Improvements - Matt**
- a. Some trips can happen before improvements are needed.

- i. For example, the hairpin turn on the eastbound leg of Lamb Road will not accommodate industrial trips. However, it probably can accommodate employment type trips (as it did with the incineration operations).
    - ii. The IAMP can identify phases of improvements and what types of trips can be accommodated by each.
    - iii. Language could require that all developments in the area conduct a traffic impact study including and analysis of trip types.
  - b. The traffic impact study process is viewed by the group as a good way to facilitate a phased improvement strategy.
  - c. Cost breakdown by improvement would help stakeholders make informed decisions.

#### **7. Phases of Lamb Road Improvements - Matt**

- a. *Short (0-5 years)* – Improve eastbound leg and remove hairpin.
- b. *Medium/Long* – Ramp Improvements and Traffic Control.
  - i. Use transportation impact study to determine when improvements are needed.

#### **8. Potential Implementation Steps - Funding Options - Matt**

- a. TSDC charges have not been used in the area for industrial uses (Pendleton has a city wide one).
  - i. TSDC adoption will require official action.
    - 1. The IAMP can be the vehicle for adoption if desired.
- b. IAMP will list a menu of funding options.
- c. Don feels that the burden of the hairpin turn replacement should be the burden of future development.
- d. Additionally, Don adds that the interchange improvements are a mix of existing problems, additional trips from the site, and other additional trips in the area.
  - i. Westland Exception Area trips are adding to the interchange and potentially they should pay into the TSDC.
    - 1. This process might be more difficult on land that has already gone through an exception process.
- e. Leaving a TSDC on the menu for Umatilla might be a good idea
  - i. A TSDC that fund 5-10% might provide match funding for future grants.
  - ii. The county could adopt this policy in the future when this match is needed.
- f. Showing the TSDC for the Depot Redevelopment alone and the Depot Redevelopment and Westland Area would allow Umatilla to make the choice from the set of options.

#### **9. ODOT Sand Shed – Teresa**

- a. ODOT had planned to locate a Sand Shed to the southeast of the interchange.
  - i. The Shed needs more room, which is flat and level, and that is close to the interchange.
    - 1. ODOT is interested in a temporary area near the hairpin turn and a permanent location somewhere near the interchange.

2. The land closest to the interstate is the most valuable the LRA would likely want to have ODOT on land a little farther away from the interchange.
  - ii. Once the land is in the LRA ownership it should be easy to transfer land to ODOT.

#### 10. Next Steps

- a. Earlier Tech Memos will be updated
  - i. Once Tech Memos are final Carla will present them to the Morrow County Planning Commission.
- b. Public workshop 12:30-2:30 pm 5/6/14 at Port of Morrow Riverfront Room.
- c. LRA meeting at 3:00pm 5/6/14 at Port of Morrow Riverfront Room.
- d. Local Adoption Procedures to Follow in August/September.

# UMATILLA ARMY DEPOT COMBINED IAMP AND TRANSPORTATION SYSTEM SUBAREA PLAN

## SIGN IN SHEET - TPAC MEETING #4

MEETING DATE: 05/05/14

LOCATION: Stafford Hansell Building, Hermiston, OR

NAME/TITLE

EMAIL ADDRESS

NAME/TITLE	EMAIL ADDRESS
MATT HUGHART / KITTELSON + ASSOCIATES	MHUGHART@KITTELSON.COM
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UMCD  
INTERCHANGE AREA MANAGEMENT PLAN &  
TRANSPORTATION SUBAREA PLAN

Public Workshop #1  
January 21, 2014

Sign-in Sheet

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UMCD  
INTERCHANGE AREA MANAGEMENT PLAN &  
TRANSPORTATION SUBAREA PLAN

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January 21, 2014

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UMCD  
INTERCHANGE AREA MANAGEMENT PLAN &  
TRANSPORTATION SUBAREA PLAN

Public Workshop #2  
March 31, 2014

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UMCD  
INTERCHANGE AREA MANAGEMENT PLAN &  
TRANSPORTATION SUBAREA PLAN

Public Workshop #3

May 6, 2014

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UMCD  
INTERCHANGE AREA MANAGEMENT PLAN &  
TRANSPORTATION SUBAREA PLAN

Public Workshop #3

May 6, 2014

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Appendix B  
Technical Memorandum #1:  
Project Background, Definition,  
Goals, and Objectives



## TECHNICAL MEMORANDUM #1 - Final

### Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan

Project Background, Definition, Goals, and Objectives

---

Date: December 13, 2013 Project #:13848  
To: Don Chance, Technical/Public Advisory Committee (TPAC)  
From: Matt Hughart, AICP  
cc: Frank Angelo and Darci Rudzinski, Angelo Planning Group

---

The purpose of this memorandum is to provide an overview of the Umatilla Army Depot Combined Interchange Area Management Plan and Transportation System Subarea Plan, including the project background, purpose and intent, goals, objectives, evaluation criteria, and proposed study area.

#### Project Background

The Umatilla Army Chemical Depot (UMCD) is currently in the process of formally being decommissioned and prepared for reuse/redevelopment. The Umatilla Chemical Depot Reuse Authority (UMADRA or often referred to as the "LRA"<sup>1</sup>) is chartered with administering the transition of the UMCD and is leading the planning process. Following the completion of a Redevelopment Plan in 2010, reuse/redevelopment of the UMCD has been envisioned to accommodate a new 7,500 acre Oregon National Guard training base, a 5,678 acre habitat refuge, and approximately 3,000 acres of industrial/warehouse development.

With the long range reconfiguration of envisioned land uses on the UMCD site, it is recognized that transportation patterns and traffic demands will likely change. Some of these changes may impact the existing freeway interchanges that serve the UMCD and surrounding area. In accordance with Oregon Administrative Rule 734-051, a specialized transportation plan known as an Interchange Area Management Plan (IAMP) is being prepared to identify and address potential access, infrastructure, land use regulations. In consultations between UMADRA and the Oregon Department of Transportation (ODOT), it has been determined that a combined three interchange IAMP should be prepared for the UMCD site. This planning effort is hereby referred to as the UMCD Combined IAMP and Subarea Plan.

---

<sup>1</sup> UMADRA is currently comprised of Morrow County, Umatilla County, the Ports of Morrow and Umatilla, and the Confederate Tribes of the Umatilla Indian Reservation.



### ***I-84/Army Depot, I-82/Lamb Road, and I-84/Paterson Ferry Road Interchanges***

The UMCD is bordered to the south by Interstate 84 (I-84) and to the east by Interstate 82 (I-82). From these two interstate freeways, two existing interchanges actively serve the UMCD: I-84/Army Depot Access Road interchange and I-82/Lamb Road interchange. A third interchange, I-84/Paterson Ferry Road, has the potential to serve the UMCD in the future. A general description and function statement for each interchange are outlined below.

The I-84/Army Depot Access Road interchange was constructed in 1967 and functions as the UMCD's main point to access to the I-84 corridor. In addition to serving the UMCD, this interchange also serves the agricultural lands located south of I-84. The I-82/Lamb Road interchange was constructed in 1986. The primary function of this interchange is to provide access to the Westland Road Exception Area and the City of Hermiston via the Lamb Road/Westland Road corridor. In addition, the I-82/Lamb Road interchange functions as a secondary point of access to the UMCD. A third interchange, I-84/Paterson Ferry Road, does not currently serve the UMCD, but has been included in the IAMP planning project given its potential to provide access at some point in the future. This interchange is located approximately 2.5 miles west of the UMCD and functions as a regional point of access to the agricultural lands located north and south of the I-84 corridor.

Together, these three interchanges and the local/regional roadways that serve them will be the focal point for the *UMCD Combined IAMP and Subarea Plan*.

### **Conditions Statement**

The I-84/Umatilla Army Depot and I-82/Lamb Road interchanges were both designed and constructed at a time in which the primary use of the UMCD was to store and ship chemical weapons, ordnance, and other military supplies. The I-82/Lamb Road interchange, which was constructed after the I-84/Umatilla Army Depot interchange, was partially planned in anticipation of the industrial chemical weapons incineration facility with its associated large construction workforce and sizable operations workforce. With a future vision for the UMCD that includes a change in military uses (Oregon National Guard), environmental preservation, and economic development, the existing freeway interchange infrastructure serving the site has the potential to be utilized in a manner and capacity that is different from historical patterns. In addition, the access roads and supporting localized roadway infrastructure that connect the UMCD to the freeway interchanges were specific in purpose, and may require modification for the new land uses under consideration. As such, a detailed land use, traffic forecasting, and engineering process is required to fully understand the existing capacities of the freeway interchange infrastructure and what improvements, if any, are necessary to fully support the full range of envisioned reuse/redevelopment activities on the UMCD.

## Purpose and Intent Statement

The purpose of the *UMCD Combined IAMP and Transportation Subarea Plan* is to develop a strategic land use, infrastructure, and access management plan that focuses on those I-84 and I-82 interchanges that currently serve the UMCD and surrounding land uses or that could serve it in the future.

The intent of the planning effort will identify and develop land use management strategies for the envisioned reuse/redevelopment components of the UMCD, identify any interchange infrastructure improvements needed to support future reuse/redevelopment components, create an access management plan for each interchange crossroad, identify basic internal circulation needs within the UMCD site, and develop mechanisms that can be used to fund identified infrastructure improvements.

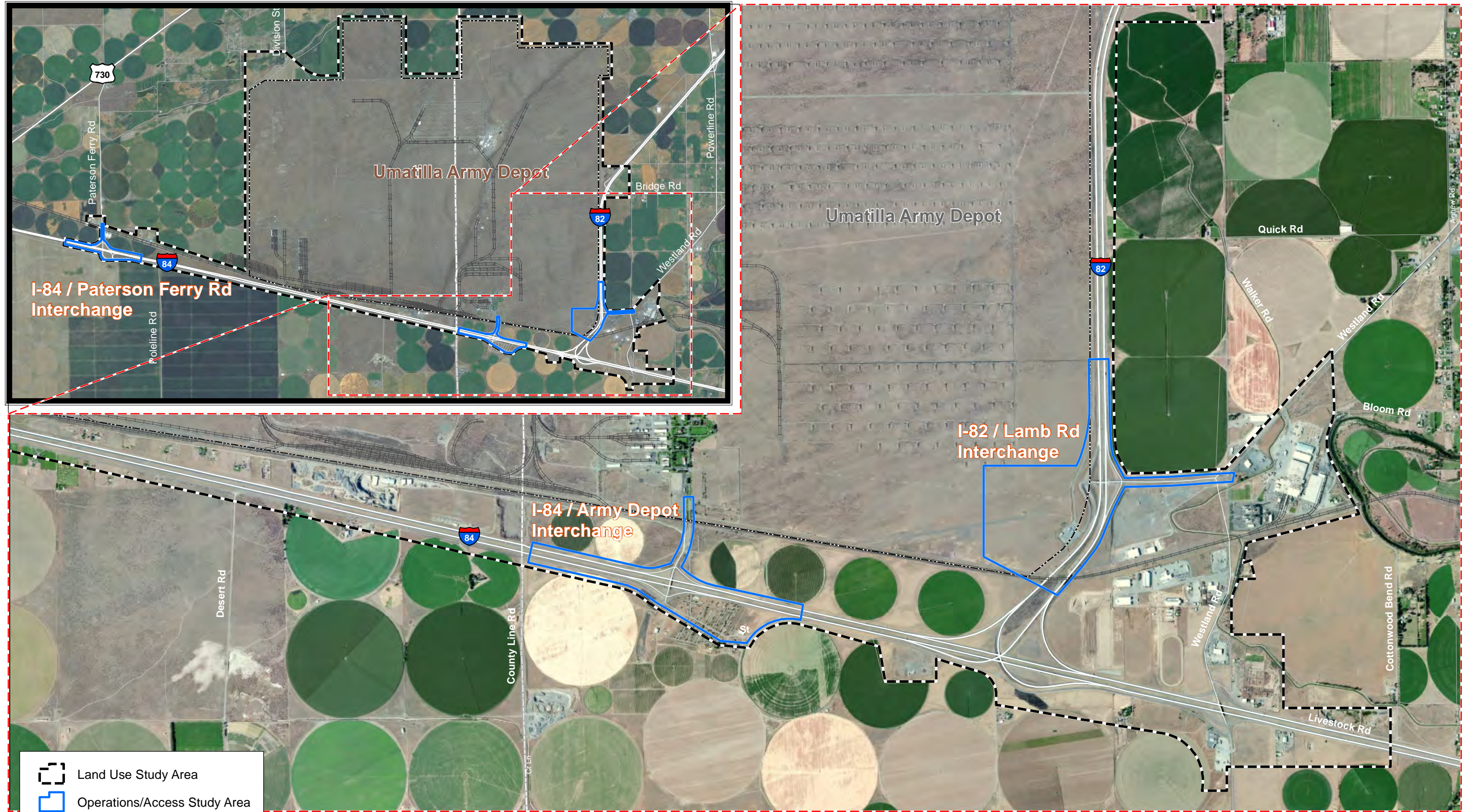
The IAMP and subarea planning effort will result in policies, ordinances, and other provisions that will be adopted into the respective Morrow County and Umatilla County Transportation System Plan (TSP) and Comprehensive Plans. The IAMP will ultimately be adopted by the Oregon Transportation Commission (OTC) as an amendment to the *Oregon Highway Plan*.





## Interchange Management Study Area (IMSA)

Within the context of the IAMP planning process, the Interchange Management Study Area (IMSA) defines the extents of the detailed land use and infrastructure study area. As previously described, the IAMPs will focus specifically on the freeway interchanges that serve the UMCD and surrounding land uses. At a minimum, the IMSA includes properties, as well as all access points within ½ mile from the noted freeway interchanges as defined by the State of Oregon's IAMP Guidelines. In order to capture the overarching land use related impacts of the reuse/redevelopment of the UMCD as well as growth potential of immediately surrounding uses, the IMSA is proposed to include the following areas:

- The entire UMCD site
- Westland Road Exception Area – area east of I-82 and north of I-84
- Industrial zoned land located north of the Paterson Ferry Road interchange
- Access points on the north side of the UMCD that would potentially connect to the City of Irrigon

A draft Interchange Management Study Area (IMSA) map is shown in Figure 1-1.



-  Land Use Study Area
-  Operations/Access Study Area
-  Umatilla Army Depot
-  County Boundary

**Interchange Management Study Area  
Morrow / Umatilla Counties**

**Figure  
1-1**

H:\proj\113848 - Umatilla Subarea Plan and Combined IAMP\figs\13848\_Fig02.mxd - jsomerville - 3:56 PM 6/25/2014

### **Operations and Access Study Area**

The Operations and Access Study Area includes all access points and intersections within the IMSA and encompasses those key intersections that have the potential to affect traffic operations in the respective interchange areas over a 20-year planning period. This study boundary identifies the area for which operational analysis will be completed and the area that will be considered for the Access Management Plan (although access spacing requirements from the interchange are only ¼ mile). The study intersections include:

1. I-84 Westbound (WB) Ramp Terminal/Army Depot Access Road
2. I-84 Eastbound (EB) Ramp Terminal/Army Depot Access Road
3. I-82 Northbound (NB) Ramp Terminal/Lamb Road
4. I-82 Southbound (SB) Ramp Terminal/Lamb Road
5. Lamb Road/Westland Road
6. I-84 Westbound (WB) Ramp Terminal/Paterson Ferry Road
7. I-84 Eastbound (EB) Ramp Terminal/Paterson Ferry Road

### **Draft Goals and Objectives**

The IAMP process is intended to protect the function of the study interchanges for the next 20 years while accounting for changes in land use and traffic patterns brought about by reuse/redevelopment of the UMCD. As stated in Policy 3C of the *Oregon Highway Plan*, "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." To this end, working collaboratively with the Technical/Public Advisory Committee (TPAC) and public, the Goals, Objectives, and Priorities of the Combined IAMP and Subarea Plan are to:

1. Protect the long-term function, operation, and safety of the I-84/Army Depot Access Road, I-82/Lamb Road, and I-84/Paterson Ferry Road interchanges.
2. Identify opportunities for enhanced roadway connectivity within the UCMD site that would provide public roadway connections between the I-84/Army Depot Access Road and I-82/Lamb Road interchanges.
3. Manage the allowed/envisioned land uses within the vicinity of the interchanges to provide for future economic growth over the next 20 years.
4. Identify current accesses along the interchange crossroads and develop a phased access management plan for the crossroads based on a detailed and collaborative process involving

the Morrow/Umatilla Counties and local property owners. The access management plan will be based on key principles that balance highway mobility and safety against:

- a. The findings of County TSPs and land use plans; and
  - b. Local economic development objectives for properties that require access to the state highway.
5. Identify opportunities for freight-based multi-modal accessibility to/from certain envisioned components of the UMCD site.
  6. Identify opportunities for public transit service to future reuse/redevelopment of the UMCD site.
  7. Collaborate throughout the planning process with design professionals, jurisdictional representatives, developers, local property owners, and the general public, including protected populations as established by federal and state regulations and policies.
  8. Comply with the intent of Statewide Planning Goals, including Goal 1: Public Involvement, Goal 2: Land Use Planning, Goal 5: Natural Resources, Goal 6: Air, Water and Land Resources Quality, Goal 7: Areas Subject to Natural hazards, Goal 8: Recreation Needs, Goal 9: Economic Development, Goal 12: Transportation, and Goal 14: Urban Growth Boundaries.
  9. Identify phased implementation strategies for identified near- and long-term interchange infrastructure and interchange crossroad improvements.
  10. Identify interchange infrastructure funding strategies that could be applied to future reuse/redevelopment of the UMCD and other land uses within the IMSA.
  11. Develop implementation policies and regulations to be adopted into the Morrow and Umatilla County Comprehensive Plans, Transportation System Plans, and zoning ordinances, as appropriate.

## Draft Evaluation Criteria

Based on the goals and objectives, the following draft evaluation criteria were assembled to ensure that potential interchange improvement concepts would be evaluated for consistency with the overall intent of the community and the project. The eight evaluation criteria are as outlined in Table 1-1.

**Table 1-1 – Draft Combined IAMP Evaluation Criteria**

Evaluation Criteria	Description	Relationship to Goals and Objectives
Transportation Operations	<ul style="list-style-type: none"> <li>Safety</li> <li>Mobility</li> <li>Freight mobility</li> </ul>	1,2,4,5
Multimodal Accessibility	<ul style="list-style-type: none"> <li>Transit mobility</li> </ul>	2,5,6
Land Use	<ul style="list-style-type: none"> <li>Right-of-way impacts</li> <li>Compatibility with land use</li> </ul>	3,7,8
Economic Development	<ul style="list-style-type: none"> <li>Near-term growth accommodation</li> <li>Long-term growth accommodation</li> </ul>	3,7,8
Environmental, Social, and Equity Factors	<ul style="list-style-type: none"> <li>Environmental impacts</li> <li>Socio-economic impacts</li> </ul>	7,8
Accessibility and Connectivity	<ul style="list-style-type: none"> <li>Local roadway connectivity</li> <li>Future access to undeveloped properties</li> <li>Access spacing requirements</li> </ul>	1,2,4,5,6,8
Cost	<ul style="list-style-type: none"> <li>Cost relative to other improvement concepts</li> </ul>	9,10,11
Implementation	<ul style="list-style-type: none"> <li>Impacts to existing and proposed developments</li> <li>Ability to construct in phases</li> </ul>	9,10,11

Appendix C  
Technical Memorandum #2:  
Review of Adopted Plans and  
Regulations

# Memorandum

**TO:** Technical and Public Advisory Committee

**FROM:** Frank Angelo, Principal  
Darci Rudzinski, AICP

**DATE:** December 11, 2013

**CC:** Matt Hughart, AICP, Kittelson & Associates, Inc.

**RE:** Interchange Area Management Plans  
Technical Memo #2: Review of Adopted Plans and Regulations

---

## INTRODUCTION

This memorandum provides an overview of the regulatory framework pertaining to the land use and transportation systems in the vicinity of the Interstate 82 (I-82)/Lamb Road (Exit 10) interchange that serves the Umatilla Army Chemical Depot (UMCD) and the City of Hermiston and the I-84/Army Depot (Exit 177) and I-84/Paterson Ferry Road (171) interchanges.

This memorandum summarizes relevant state and local regulatory documents, long-range plans, and adopted policies and identifies how they influence transportation planning in the vicinity of the interchanges and possible future transportation improvements. These documents create a planning framework for the UMCD Combined IAMP and Transportation System Subarea Plan (“UMCD Combined IAMP and Subarea Plan”). Also reviewed are relatively recent documents developed to support redevelopment on the UMCD, a site that spans two counties (Morrow and Umatilla) and that has never been zoned or subject to Oregon’s statewide land use program. Technical Memorandum #2 defines the planning objectives for this project and includes a proposed Interchange Management Study Area (IMSA).

## Planning Framework

The Statewide Planning Goals relevant to planning for the state highway system express the state’s policies on land use and related topics such as economic development, public facilities, transportation, and urbanization. Oregon’s statewide goals are achieved through local comprehensive planning. State law requires each city and county to adopt a comprehensive plan and the zoning and land-division ordinances needed to put the plan into effect. The local comprehensive plans must be consistent with the Statewide Planning Goals. Plans are reviewed for such consistency by the state’s Land Conservation and Development Commission (LCDC). When LCDC officially approves a local government’s plan, it becomes the controlling document for land use in the area covered by that plan.



The Transportation Planning Rule (TPR) requires that land use plans and the transportation system plan are consistent with one another. It requires cities, counties, and the state to adopt transportation system plans that integrate land use and transportation planning.<sup>1</sup>

The Oregon Transportation Plan (OTP) is a policy document developed by ODOT in response to the federal and state mandates for systematic planning for the future of Oregon's transportation system. The OTP is intended to meet statutory requirements (ORS 184.618(1)) to develop a state transportation policy and comprehensive long-range plan for a multi-modal transportation system. The OTP, with all of the associated modal plans, constitutes the state transportation system plan (TSP).

The 1999 Oregon Highway Plan (OHP) implements the OTP by establishing long-range policies and investment strategies for the State Highway System. As an element and modal plan of the OTP, the OHP guides the planning, operations, and financing of ODOT's Highway Division. Related transportation administrative rules establish procedures and criteria used by ODOT to coordinate with other jurisdictions and to govern aspects of highway design in compliance with statewide planning goals and in a manner compatible with acknowledged comprehensive plans and consistent with Oregon Revised Statutes (ORS), Oregon Administrative Rules (OAR), and the OHP.

The local comprehensive plan documents for both Morrow County and Umatilla County respectively contain objectives and policies that are intended to guide growth and development over a long-range (20-year) planning horizon. These policies are based on the specific qualities and characteristics of the counties and reflect local plans and needs for future improvements. The comprehensive plans are intended to be consistent with the Statewide Planning Goals. The County TSPs, the transportation elements of the local comprehensive plans, are also reviewed here. TSPs contain policies relating to the transportation system, including street function and design and bicycle/pedestrian facilities. TSPs also outline planned transportation improvements.

Land use and zoning ordinances are used to implement the policies identified in comprehensive plans. They specify the different zoning districts and provide standards, regulations, and review procedures for all development within those zones.

The following transportation and land use plans were reviewed for policies and regulations applicable to the UMCD Combined IAMP and Subarea Plan. The page numbers have been included so that the documents reviewed can be easily accessed in this memorandum.

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<sup>1</sup> Elements of IAMPs, such as policies addressing interchange planning and access management requirements, are typically adopted into local plans and ordinances and the IAMP document itself is adopted by the Oregon Transportation Commission as a Facility Plan of the Oregon Highway Plan. The IAMP planning process considers how existing and planned land uses are likely to impact the future function of the subject interchange. In addition to transportation improvements, recommendations in IAMPs can include land use restrictions. Restrictions on what uses are allowed in the vicinity of the interchange, for example, could be adopted as part of an IAMP to ensure that future development will not generate traffic that will exceed the capacity of the facility.

## Documents Reviewed

INTRODUCTION .....	1
Planning Framework .....	1
Documents Reviewed .....	3
STATE OF OREGON .....	4
Statewide Planning Goals .....	4
Oregon Transportation Plan (2006).....	9
Oregon Highway Plan (1999, last amended 2013).....	10
Transportation Planning Rule (OAR 660-12) .....	13
Access Management Rule (OAR 734-051) .....	14
Highway Design Manual.....	16
LOCAL PLANNING DOCUMENTS.....	17
US Army Umatilla Chemical Depot Redevelopment Plan (2010).....	17
Recent Documents Associated with Depot Redevelopment.....	19
Preferred Development Plan (May 2013).....	19
Regional Economic Analysis (July 2013) .....	19
Land Use Analysis (September 2013).....	20
Site Development Plan ORNG Umatilla Training Center (June 2012) .....	21
Umatilla County Westland Road/I-84/I-82 Interchange Area Transportation Plan (2004).....	22
Morrow County Comprehensive Plan (1986).....	23
Morrow County Transportation System Plan (2012) .....	24
Morrow County Zoning Ordinance (Revised, 2001) .....	29
Morrow County Subdivision Ordinance (Revised, 2005).....	30
Umatilla County Comprehensive Plan (1983, Amended).....	31
Umatilla County Transportation System Plan (2002).....	34
Umatilla County Development Code (Revised, 2013) .....	37

## **STATE OF OREGON**

### **Statewide Planning Goals**

#### ***Statewide Planning Goal 1: Citizen Involvement***

Goal 1, Citizen Involvement, requires those jurisdictions that prepare, adopt, and maintain comprehensive plans to provide the “opportunity for citizens to be involved in all phases of the planning process.” Pursuant to the goal, the planning process includes preparation of plans and implementation measures, adoption of plans and implementation measures, and minor and major amendments to adopted plans. Technical information associated with the planning process must be available to citizens in an understandable form; accessible means for providing feedback must also be available.

Development of the UMCD Combined IAMP and Subarea Plan for the interchanges will involve meetings of a Technical and Public Advisory Committee (TPAC) and will be guided by a Steering Committee that is a subset of the TPAC. The TPAC membership will include UMADRA members, ODOT staff, staff from the two counties, and key property and business owners who may have a vested interest in the planning project. The TPAC members will provide local input into the process, using their knowledge of the area and issues related to the interchanges to guide the project. The Steering Committee will be involved in more of the logistical decision-making and is made up of UMADRA and County staff, as guided by the respective boards and commissions. In addition, three public workshops will be held during various stages of the plan’s development to provide information and updates on the planning process. The required public hearings for adoption of the UMCD Combined IAMP and Subarea Plan at both the local (two counties) and state level will also provide opportunity for public comment. All of these public involvement activities will be guided by and assessed according to Goal 1.

#### ***Statewide Planning Goal 2: Land Use Planning***

Goal 2, Land Use Planning, requires that a land use planning process and policy framework be established as a basis for all decisions and actions relating to the use of land. Goal 2 is important for four reasons. First, Goal 2 requires planning coordination between those local governments and state agencies "which have programs, land ownerships, or responsibilities within the area included in the plan." In developing the UMCD Combined IAMP and Subarea Plan, Goal 2 will require coordination between UMADRA, ODOT, and Morrow County, which has planning authority over the area surrounding the I-84/Paterson Ferry Road interchange, and Umatilla, which has land use authority in areas adjacent to the I-84/Army Depot and the I-82/Lamb Road interchanges. The Oregon National Guard will also continue to be a major land owner and user that will rely on the future transportation system and interchanges. Coordination between this planning effort and the future plans on land that will be used for National Guard activities is a project priority. Coordination is particularly important because land use decisions in the vicinity of the interchanges have an effect on future use and operations.

A second important element of Goal 2 is that land use decisions and actions must be supported by an "adequate factual base." This requirement applies to both legislative and quasi-judicial land use actions and requires that such actions be supported by "substantial evidence." In essence, it requires that there be evidence that a reasonable person would find to be adequate to support findings of fact that a land use action complies with the applicable review standards.

Third, Goal 2 requires that city, county, state, and federal plans and actions related to land use be "consistent with the comprehensive plans of cities and counties and regional plans adopted under ORS Chapter 268." This provision is important because elements of the UMCD Combined IAMP and Subarea Plan will need to be consistent with the locally adopted TSPs. To meet this state requirement, the outcome of this planning project will include recommendations for amendments to the counties TSPs.

In the case of the exclusive farm land (EFU) in the vicinity of the the interchanges, Goal 2 also provides a framework for allowed uses, including transportation improvements, on EFU. Note that EFU is the predominant land use designation south of the I-84 within the IMSA, as well as surrounds the I-84/Paterson Ferry Road interchange. Goal 2 includes standards for taking an "exception" to one or more statewide planning goals. The Goal 2 exception standards apply when a local government or property owner proposes to use property in a manner otherwise prohibited by one or more statewide planning goals. Exception standards would need to be met before a more intensive land use designation could be adopted on parcels currently designated as EFU by the county; exception standards also need to be met to justify a transportation improvement on EFU.

The Goal 2 exceptions standards are interpreted in significant detail in **OAR 660, Division 4**. Rule sections particularly relevant to developing a UMCD Combined IAMP and Subarea Plan for the subject interchanges are:

- OAR 660-004-0022, which establishes standards under which uses such as residential or industrial development may be justified on rural lands; and
- OAR 660-004-0020(2)(b), which requires demonstration why a proposed use cannot reasonably be accommodated on nonresource land or inside a UGB.

The Goal 2 exceptions criteria provide resource lands with a very high level of protection from higher intensity rural non-farm uses. See page 29 of this memorandum for Morrow County's ordinance regulating land zoned Exclusive Farm Use and p. 37 for Umatilla County's development requirements for same.

### ***Statewide Planning Goal 3: Agricultural Lands***

Statewide Planning Goal 3, Agricultural Lands, requires that agricultural lands be preserved and maintained for farm use. The goal is implemented through zoning that limits uses on agricultural lands to "farm uses and those nonfarm uses defined by commission rule that will not have significant adverse effects on accepted farm or forest practices." Such zoning is commonly referred to as "exclusive farm use" zoning.

### ***Statewide Planning Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces***

The purpose of Goal 5, Natural Resources, Scenic and Historic Areas, and Open Spaces, is to “protect natural resources and conserve scenic and historic areas and open spaces.” This goal requires local governments to inventory natural and cultural resources in their jurisdictions and to develop and adopt programs to conserve and protect them. Among the resources to be inventoried are: riparian corridors, wetlands, federal Wild and Scenic Rivers, state Scenic Waterways, groundwater resources, wildlife habitat, natural areas, wilderness areas, open spaces, scenic views and sites, mineral and aggregate resource areas, energy sources, and historic and cultural areas.

Goal 5 resources will be identified within the IMSA as part of documenting existing conditions for this planning exercise. Improvements proposed in the UMCD Combined IAMP and Subarea Plan must comply with this goal and the counties’ Goal 5 policies and programs accordingly.

### ***Statewide Planning Goal 6: Air, Water and Land Use Resources Quality***

Jurisdictions must comply with state and federal environmental agency regulations. Goal 6 calls for jurisdictions to “maintain and improve the quality of the air, water and land resources of the state.” Waste and process discharges within a jurisdiction may not exceed the carrying capacity of the local air shed and water shed in the long-term, nor degrade the quality or otherwise threaten the availability of the air shed and water shed services.

This goal and corresponding policies in the counties’ comprehensive plans must be taken into account in developing and selecting alternatives for improvements to the interchanges.

### ***Statewide Planning Goal 7: Areas Subject to Natural Hazards***

Goal 7 was adopted by the State to “protect people and property from natural hazards.” The goal requires local jurisdictions to adopt comprehensive plans, including inventories, policies, and implementation measures, for identifying natural hazard areas and prohibiting or limiting development in these areas. Although local jurisdictions may define others, the goal defines natural hazard areas as those subject to floods (both coastal and riparian), landslides, earthquakes and related events, and wildfires.

Similar to Goal 5 resources, natural hazards will be identified in the IMSA. Improvements proposed in the IAMPs must comply with this goal and the local jurisdictions’ Goal 7 policies and programs accordingly.

### ***Statewide Planning Goal 8: Recreational Needs***

Goal 8 was adopted to “satisfy the recreational needs of the citizens of the state and visitors, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.” The goal requires that local governments conduct comprehensive recreational planning by identifying recreational needs, planning for facilities in sufficient quantities and locations to meet these needs, and working with private companies and other partners in meeting these needs. While

there are no existing recreational facilities open to the public within the IMSA, the Paterson Ferry interchange provides access to the Umatilla National Wildlife Refuge and the Columbia River Heritage Trail north of the IMSA, along the Columbia River. Areas that are designated Wildlife Habitat in the future may also be accessible to the public for low-impact recreation, such as hiking and nature observing, in the future.

### ***Statewide Planning Goal 9: Economic Development***

The intent of the State's economic development Goal is to "provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens." Local comprehensive plans and policies must support this goal and should include an assessment of existing economic conditions and comparative advantages along with policies addressing economic development and development opportunities. Plans must also identify an adequate supply of sites with characteristics suitable for a variety of employment and economic development, and limit development around identified industrial sites to that which is compatible with uses allowed on the sites. The goal suggests implementation measures such as tax incentives and disincentives, preferential assessments, land use regulations, capital improvement planning and programming, and fee or partial fee acquisition.

The UMCD Combined IAMP and Subarea Plan must demonstrate the ways in which the preferred alternative selected for future improvements to each interchange supports this goal and the economic development policies adopted in the counties' comprehensive plans.<sup>2</sup> The I-82/Lamb Road interchange is a vital connection for freight and commuters between the Tri-Cities area in Washington, the City of Hermiston and other I-84 destinations. It also serves the UMCD via a perimeter road and provides direct connection to I-82 and I-84 for established businesses east of the interchange. I-84/Paterson Ferry Road interchange provides access to agricultural lands located north and south of I-84 and provides a connection to US 730. Transportation analysis performed for the UMCD Combined IAMP and Subarea Plan will rely on existing land use designations (i.e. planned land uses).<sup>3</sup>

### ***Statewide Planning Goal 11: Public Facilities and Services***

Statewide Planning Goal 11 requires that jurisdictions plan and develop timely, orderly and efficient public facilities systems and services that serve as a framework for urban and rural development. Public facilities and services for rural areas are supposed to be provided at levels appropriate for

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<sup>2</sup> Both counties are preparing to adopt local comprehensive plan and zoning designations for land within the study area that is expected to transfer from Federal to county ownership. Proposed amendments are based on recently completed Land Use Analysis documents (September 2013) that implement future employment goals through modifications to the Morrow County Port Industrial zone and a new Umatilla County Depot Industrial Zone that applies to specific Depot properties. See the summary of the Land Use Analysis documents on p. 20 of this memorandum.

<sup>3</sup> The recommendations of the September 2013 Land Use Analysis documents will be the basis for the transportation analysis. The counties adoption hearings for comprehensive plan and code amendments consistent with the Land Use Analysis recommendations are expected to be concluded in 2014. Any future modifications of land uses in the area that require re-zoning or development code modifications that allow for more intensive development will need to comply with Goal 12 and the Transportation Planning Rule (TPR) so that development in the area can occur in a way that protects the capacity and safe function of the interchanges and any future state transportation investments.

rural use only and should not support urban uses. Both Morrow County and Umatilla County are currently seeking a Goal 11 exception in conjunction with applying county zoning to specific areas in the UMCD. A Goal 11 exception is sought in the event extension of urban scale water to rural lands is needed to these areas.<sup>4</sup>

### **Statewide Planning Goal 12: Transportation**

Statewide Planning Goal 12, Transportation, requires cities, counties, metropolitan planning organizations, and ODOT to provide and encourage a safe, convenient, and economic transportation system. This is accomplished through development of transportation system plans (TSPs) based on inventories of local, regional, and state transportation needs.

Goal 12 is implemented through **OAR 660, Division 12**, the Transportation Planning Rule (TPR), which is reviewed later in this document. The TPR contains numerous requirements governing transportation planning and project development. The TPR requires local governments to adopt land use regulations consistent with state and federal requirements "to protect transportation facilities, corridors and sites for their identified functions (OAR 660-012-0045(2))." This policy is achieved through a variety of measures, including:

- Access control measures which are consistent with the functional classification of roads and consistent with limiting development on rural lands to rural uses and densities;
- Standards to protect future operations of roads;
- A process for coordinated review of future land use decisions affecting transportation facilities, corridors or sites;
- A process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities, corridors or sites;
- Regulations to provide notice to ODOT of land use applications that require public hearings, involve land divisions, or affect private access to roads; and
- Regulations assuring that amendments to land use designations, densities and design standards are consistent with the functions, capacities and performance standards of facilities identified in the TSP. (See also OAR 660-012-0060.)

LCDC's rules implementing Goal 12 do not regulate access management. ODOT adopted OAR 734, Chapter 51, to address access management and it is expected that ODOT, as part of this project, will engage in access management consistent with its Access Management Rule. This will involve a review of existing access points within at least one-quarter mile of the interchange ramps. See OAR 734, Division 51 on page 14 of this memorandum for a review of these access management rules.

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<sup>4</sup> In *Foland v. Jackson County*, 239 Or App 60 (2011), the Oregon Court of Appeals clarified that where a Goal 14 exception is taken to allow urban-scale non-residential uses on rural lands, a corresponding Goal 11 exception is required to allow the extension of public facilities to serve the use.

### **Statewide Planning Goal 14: Urbanization**

Goal 14 regulates urban growth boundaries. The goal requires that the following factors be considered with proposing a UGB modification:

- Efficient accommodation of identified land needs;
- Orderly and economic provision of public facilities and services;
- Comparative environmental, energy, economic, and social consequences;
- Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.

Additionally, ORS 197.298 establishes priorities for including land inside urban growth boundaries. The first (highest) priority for inclusion is land that is designated "urban reserve" land. The second priority is land adjacent to a UGB that is identified as "an exception area or nonresource land." The third priority is land that is designated as "marginal land" and the final (lowest) priority is land that is designated for agriculture, forestry, or both. Land in the vicinity of the I-84/Paterson Ferry interchange zoned EFU, as well as land south of the railroad tracks, is the lowest priority land to consider for future urbanization. Morrow and Umatilla County is in the process of taking "exceptions" to Goals 11 and 14 and apply industrial zoning to allow urban-scale industrial uses and public facilities and services on rural lands.

### **Oregon Transportation Plan (2006)**

The Oregon Transportation Plan (OTP) is a comprehensive plan that addresses the future transportation needs of the State of Oregon through the year 2030. The primary function of the OTP is to establish goals, policies, strategies and initiatives that guide the development of the State's transportation modal plans, such as the Oregon Highway Plan and Oregon Bike and Pedestrian Plan.

The OTP emphasizes:

- Maintaining and maximizing the assets in place
- Optimizing the performance of the existing system through technology
- Integrating transportation, land use, economic development and the environment
- Integrating the transportation system across jurisdictions, ownerships and modes
- Creating sustainable funding
- Investing in strategic capacity enhancements

The UMCD Combined IAMP and Subarea Plan will seek to maximize performance of the existing transportation system by, for example, the use of technology and system management before considering larger and costlier additions to the system.



## **Oregon Highway Plan (1999, last amended 2013)**

The Oregon Highway Plan (OHP) is a modal plan of the OTP that guides ODOT's Highway Division in planning, operations, and financing. The UMCD Combined IAMP and Subarea Plan is being developed in coordination with ODOT so that projects, policies, and regulations proposed as part of the plan document will comply with or move in the direction of meeting the standards and targets related to safety, access, and mobility that are established in the OHP. Ultimately the UMCD Combined IAMP and Subarea Plan will need to be found consistent with the OHP and will be reviewed by the Oregon Transportation Commission (OTC) for adoption. If adopted, it will be one of the many special facility plans that have amended the OHP over the years.

Policies in the OHP emphasize the need to efficiently manage the highway system to increase safety and to extend highway capacity, partner with other agencies and local governments, and use new techniques to improve road safety and capacity. These policies also link land use and transportation, set standards for highway performance and access management, and emphasize the relationship between state highways and local road, bicycle, pedestrian, transit, rail, and air systems. The following policies, in particular, are relevant to the Combined IAMP/Sub-Area Plan.

### ***Policy 1A: State Highway Classification System***

The OHP classifies the state highway system into four levels of importance: Interstate, Statewide, Regional, and District. ODOT uses this classification system to guide management and investment decisions regarding state highway facilities. The system guides the development of facility plans, such as the Combined IAMP/Sub-Area Plan, as well as ODOT's review of local plan and zoning amendments, highway project selection, design and development, and facility management decisions including road approach permits. Interstate 84 (I-84) and I-82 are interstate freeways that are part of the National Highway System (NHS). The purpose and management objectives of these highways are provided in Policy 1A, as summarized below.

- **Interstate highways** provide connections between major cities in a state, regions of the state, and other states. A secondary function in urban areas is to serve regional trips within the urban area. Their primary objective is to provide mobility and, therefore, the management objective is to provide for safe and efficient high-speed continuous-flow operation in urban and rural areas.

In addition to the state highway classification system, I-84 and I-82 are freight routes as discussed under Policy 1C.

### ***Policy 1B: Land Use and Transportation***

Policy 1B applies to all state highways. It is designed to clarify how ODOT will work with local governments and others to link land use and transportation in transportation plans, facility and corridor plans, plan amendments, access permitting and project development. Policy 1B recognizes the need to find balance between serving local communities (accessibility) and the through traveler (mobility) on state facilities. This policy recognizes the role of both the state and local governments

related to the state highway system and calls for a coordinated approach to land use and transportation planning.

### ***Policy 1C: State Highway Freight System***

The primary purpose of the State Highway Freight System is to facilitate efficient and reliable interstate, intrastate, and regional truck movement through a designated freight system. This freight system, made up of the Interstate Highways and select Statewide, Regional, and District Highways, includes routes that carry significant tonnage of freight by truck and serve as the primary interstate and intrastate highway freight connection to ports, intermodal terminals, and urban areas. I-84 and I-82 carry this designation and consequently higher highway mobility standards than other statewide highways. In addition, both highways have recently been designated “Reduction Review Routes,” where proposed activities (including those proposed in planning documents approved by a public agency) that will alter, relocate, change or realign these facilities must be reviewed for possible “Reduction of Vehicle-Carrying Capacity.” New Oregon Administrative Rule 731-012-0010 explains the review process and requirements.<sup>5</sup>

### ***Policy 1F: Highway Mobility Policy***

Policy 1F sets mobility targets for ensuring a reliable and acceptable level of mobility on the state highway system. The targets are used to assess system needs as part of long range, comprehensive planning transportation planning projects (such as this Combined IAMP/Sub-Area Plan), during development review, and to demonstrate compliance with the Transportation Planning Rule (TPR).

Significant amendments to Policy 1F were adopted at the end of 2011. The revisions were made to address concerns that state transportation policy and requirements have led to unintended consequences and inhibited economic development. Policy 1F now provides a clearer policy framework for considering measures other than volume-to-capacity (v/c) ratios for evaluating mobility performance.<sup>6</sup> Also as part of these amendments, v/c ratios established in Policy 1F were changed from being standards to “targets.” These targets are to be used to determine significant effect pursuant to TPR Section -0060. Table 1 includes the mobility targets include for the state facilities in the IMSA.

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<sup>5</sup> September 2013 OHP text amendments provide the following explanation: “The 2003 legislature adopted changes to Oregon Revised Statutes (ORS) 366.215. This statute identifies the Oregon Transportation Commission’s authority to build and modify state highways. The statute states that that the Commission may not permanently reduce the ‘vehicle-carrying capacity’ of an identified freight route unless safety or access considerations require the reduction or a local government requests the reduction. In the context of this statute, ‘vehicle-carrying capacity’ references the vertical and horizontal clearance for larger vehicles. Depending on the size and weight of a truck, oversized vehicles are issued permits on an annual or trip specific basis.

The need to protect existing vertical and horizontal clearance is different from the mobility function of the State Highway Freight System. The designated Reduction Review Routes identify where the Department will apply the OAR 731-012-0010 review of vertical and horizontal clearance.”

<sup>6</sup> The v/c may be the actual or projected rate of flow on a designated lane group during a specific time period (e.g., p.m. peak hour). A v/c ratio over 1.0 indicates the road or intersection is over-capacity; a v/c ratio under 1.0 indicates there is still room to accommodate additional vehicles. Definition from ODOT’s *Analysis Procedures Manual*, June 2007.

**Table 1. State Facility Mobility Targets in IMSA**

I-84	0.70 v/c
I-82	0.70 v/c

***Policy 1G: Major Improvements.***

This policy requires maintaining performance and improving safety on the highway system by improving efficiency and management on the existing roadway network before adding capacity. The state’s highest priority is to preserve the functionality of the existing highway system. Tools that could be employed to improve the function of the existing interchanges include access management, transportation demand management, traffic operations modifications, and changes to local land use designations or development regulations.

After existing system preservation, the second priority is to make minor improvements to existing highway facilities, such as adding ramp signals, or making improvements to the local street network to minimize local trips on the state facility.

The third priority is to make major roadway improvements which could, in the case of interchange improvements, include adding lanes or reconfiguring on- or off- ramps. As part of this planning process, Umatilla County and Morrow County will work with ODOT to determine how future improvements at the interchanges can implement this policy.

***Policy 2B: Off-System Improvements***

This policy recognizes that the state may provide financial assistance to local jurisdictions to make improvements to local transportation systems if the improvements would provide a cost-effective means of improving the operations of the state highway system. As part of this planning process, Umatilla County and Morrow County will identify improvements to the local road system that support the planned land use designations in the vicinity of the interchanges and that will help preserve capacity and ensure the long-term efficient and effective operation of the interchanges.

***Policy 3A: Classification and Spacing Standards***

It is the policy of the State of Oregon to manage the location, spacing, and type of road intersections on state highways to ensure the safe and efficient operation of state highways consistent with the classification of the highways.

Action 3A.2 calls for spacing standards to be established for state highways based on highway classification, type of area, and posted speed. Tables in OHP Appendix C present access spacing standards which consider urban and rural highway classification, traffic volumes, speed, safety, and operational needs. As shown on Table 17 in the OHP, the spacing standard from the I-84 and I-82 interchanges to the first major intersection of a crossroad is 1,320 feet.

The access management spacing standards established in the OHP are implemented by access management rules in OAR 734, Division 51, addressed later in this report.

### ***Policy 3C: Interchange Access Management Areas***

This policy addresses management of grade-separated interchange areas to ensure safe and efficient operation between connecting roadways. Action items include developing interchange area management plans to protect the function of existing interchanges, provide safe and efficient operations between connecting roadways, and minimize the need for major improvements. Consistent with this policy, the UMCD Combined IAMP and Subarea Plan planning process will include developing and analyzing alternatives for optimizing the function and capacity of the existing interchanges prior to selecting a package of improvements that will comprise a preferred alternative.

The counties' role in access management includes the following: "necessary supporting improvements, such as road networks, channelization, medians and access control in the interchange management area must be identified in the local comprehensive plan and committed with an identified funding source, or must be in place (Action 3C.2)." An outcome of this planning process will be local TSP and regulatory amendments consistent with the recommendations in the Combined IAMP/Sub-Area Plan, which will include an access management plan, identified funding, and local street network improvements necessary to implement the preferred package of improvements for the three interchanges.

### ***Policy 4A: Efficiency of Freight Movement***

This policy emphasizes the need to maintain and improve the efficiency of freight movement on the state highway system. I-84 and I-82 are designated Freight Routes. A principal function of the interchanges is to accommodate safe and efficient freight movements by providing free-flow movements for through-traffic on the Interstate system and for traffic accessing existing (and future planned) industrial areas.

## **Transportation Planning Rule (OAR 660-12)**

The Transportation Planning Rule (TPR) implements Goal 12 (Transportation) of the statewide planning goals. The TPR contains numerous requirements governing transportation planning and project development. The TPR provides the connection between local development codes and access management, coordinated land use review procedures, and other standards, allowances, and requirements to protect road operations and safety. Recommended implementation measures for the UMCD Combined IAMP and Subarea Plan may entail county code amendments to ensure TPR provisions as well as IAMP recommendations are captured in the code.

### **Section -0045**

OAR 660-012-0045 requires each local government to amend its land use regulations to implement its TSP. It also requires local government to adopt land use or subdivision ordinance regulations

consistent with applicable federal and state requirements “to protect transportation facilities, corridors and sites for their identified functions.”

Local compliance with -0045 provisions is achieved through a variety of measures, including access control measures, standards to protect future operations of roads, and expanded notice requirements and coordinated review procedures for land use applications. Local development codes should also include a process to apply conditions of approval to development proposals, and regulations ensuring that amendments to land use designations, densities, and design standards are consistent with the functions, capacities, and performance standards of facilities identified in the TSP.

The TPR does not regulate access management. ODOT adopted OAR 734-051 to address access management and this planning project and outcomes will need to be consistent with the Access Management Rule. Requirements include reviewing existing access points within at least one-quarter mile of interchange ramps. See the review of OAR 734-051 in the next section for a review of these access management rules.

### **Section -0060**

The most recent amendments to TPR, effective January 1, 2012, include new language in Section -0060 that allows a local government to exempt a zone change from the “significant effect” determination if the proposed zoning is consistent with the comprehensive plan map designation and the TSP.

## **Access Management Rule (OAR 734-051)**

Oregon Administrative Rule (OAR) 734-051 defines the State’s role in managing access to highway facilities in order to maintain functional use and safety and to preserve public investment. The rule includes spacing standards for varying types of state roadways and criteria for granting right of access and approach locations onto state highway facilities.

Amendments to OAR 734-051 were adopted in early 2012 based on passage of Senate Bill 1024 and Senate Bill 264 in the 2010 and 2011 Oregon Legislature respectively. The amendments were intended to allow more consideration for economic development when developing and implementing access management rules, and involved changes to how ODOT deals with approach road spacing, highway improvements requirements with development, and traffic impact analyses requirements for approach road permits. Senate Bill 408, which passed in the 2013 legislative session and becomes effective January 1, 2014, is expected to result in further rulemaking. This bill provides new requirements for development of facility plans and directs ODOT to develop an access management strategy<sup>7</sup> for each highway modernization or improvement project. ODOT must develop key principles for each facility plan, which will be used to evaluate how abutting properties may retain or obtain access to the state highway during and after plan implementation. In

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<sup>7</sup> The development of this IAMP, a planning-level document, will not result in an “access management strategy,” which is more specifically tied to project development and construction of improvements.

developing the key principles, the department must also develop a methodology to weigh the benefits of a highway improvement to public safety and mobility against the locally adopted TSP and land uses permitted in the local comprehensive plan, as well as the economic development objectives of affected real property owners who require access to the state highway. If a facility plan identifies the need to modify, relocate or close existing private approaches, the plan must include key principles for managing access to the state highway and a timeline for plan implementation. Each facility plan also must document that there was collaborative discussion and agreement between the department and the affected cities and counties regarding the location of county roads and city streets that intersect a state highway within the study area.

### **OAR 734-051-4020 (Standards and Criteria for Approval of Private Approaches)**

New spacing standards were established in 2012 for new or modified approaches to statewide highways<sup>8</sup> but spacing standards related to interchanges (spacing of tapers between interchanges, spacing between ramp tapers and approaches or intersections with left-turns) were not amended.<sup>9</sup> The amendments also allow access management plans (AMPs) and IAMPs to establish spacing standards that may take precedence over the highway/approach spacing standards in the rule.<sup>10</sup>

Interchange improvements that are proposed in the IAMP will need to meet or improve, “by moving in the direction of,” the access management spacing standards by means of an access management strategy, plan, or mitigation proposal.<sup>11</sup>

### **OAR 734-051-7010 (Access Management Plans and Interchange Area Management Plans)**

Section -7010 of OAR 734-051 identifies when, how and why ODOT will develop access management plans and interchange area management plans for particular sections of a highway. An IAMP must comply with the following criteria, unless it can be demonstrated that a criterion is not applicable.

- Be developed no later than the time an interchange is designed or is being redesigned.
- Identify opportunities to improve operations and safety in conjunction with roadway projects and property development or redevelopment and adopt policies provisions, and development standards to capture those opportunities.
- Include short, medium, and long-range actions to improve operations and safety within the designated study area.

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<sup>8</sup> Tables 3-6 in OAR 734-051

<sup>9</sup> Tables 7-10 and Figures 1-4 in OAR 734-051

<sup>10</sup> Pursuant to OAR 734-051-4020(8)(b)(C), spacing standards in AMPs and IAMPs may take precedence only over spacing standards in Tables 3-5 of OAR 734-051.

<sup>11</sup> OAR 734-051-1070(2), (3), and (4)

- Consider current and future traffic volumes and flows, roadway geometry, traffic control devices, current and planned land uses and zoning, and the location of all current and planned approaches.
- Provide adequate assurance of the safe operation of the facility through the design traffic forecast period, typically twenty (20) years.
- Consider existing and proposed uses of all the property within the designated study area consistent with its comprehensive plan designations and zoning.
- Be consistent with any applicable access management plan, corridor plan or other facility plan adopted by the commission.
- Include polices, provisions and standards from local comprehensive plans, transportation system plans, and land use and subdivision codes that are relied upon for consistency and that are relied upon to implement the interchange area management plan.

The UMCD Combined IAMP and Subarea Plan will include an access management plan that will meet or move in the direction of compliance with spacing standards in OAR 734-051 and its development will be consistent with the applicable criteria established for IAMPs in the rule. To be consistent with the direction provided in Senate Bill 408, the development and evaluation of alternatives to address identified transportation system deficiencies should acknowledge the impacts and benefits to the local economy, as measured by adopted local land use designations (allowed uses) and economic development objectives of the property owners. The IAMP access management plan should “include level of detail sufficient to inform affected real property owners of the potential for the modification, relocation or closure of existing private approaches within the area (§4(3)(c)).” The location of local streets that intersect with the state highway system in the vicinity of the subject interchanges will be discussed with the counties during the existing conditions phase of the project.

## **Highway Design Manual**

The Highway Design Manual includes ODOT standards and procedures for the location and design of new construction, major reconstruction, and resurfacing, restoration or rehabilitation (3R) projects. The Highway Design Manual is used for all projects that are located on state highways. Section 9.6, Interchange Design, includes the design standards, guidelines, and processes for designing interchanges for State Highways. ODOT, through the Engineering Services Unit, and FHWA must approve the reconstruction of an interchange on the Interstate system. The proposed interchange design must be prepared on the Standard Interchange Layout Sheet by the Engineering Services Unit or authorized representative. The approved design is then used for contract plans. Proposed modifications as a result of this planning process to the I-82/Lamb Road and two I-84 interchanges are subject to the standards in 9.6.1, Freeway Interchange Design.

## LOCAL PLANNING DOCUMENTS

### US Army Umatilla Chemical Depot Redevelopment Plan (2010)

In July 2010, the Local Reuse Authority (LRA), made up of representatives from the Port of Morrow, Umatilla County, Morrow County, the Port of Umatilla, and the Confederated Tribes of the Umatilla Indian Reservation, unanimously approved the the Umatilla Chemical Depot Redevelopment Plan (“Redevelopment Plan”).<sup>12</sup> The Redevelopment Plan articulates the overarching goal of the project, which was to develop a plan to support economic development and job creation; environmental preservation, with an emphasis on the shrub-steppe habitat; and reuse to accommodate the needs of the Oregon National Guard.

The Redevelopment Plan designates land for agriculture, highway commercial uses, industrial uses, military training, and wildlife refuge. In particular, the plan includes:

- More than 5,000 acres for wildlife refuge and habitat protection;
- More than 7,000 acres for use by the Oregon National Guard for training grounds and facilities;
- About 1,075 acres for highway commercial/industrial uses;
- More than 2,000 acres for industrial grounds with approximately 942 acres of that property restricted to help preserve wildlife habitat; and
- More than 600 acres for agricultural use.

Land close to the existing UGB for the City of Irrigon currently designated for agricultural uses may be considered for urban uses and inclusion into the UGB in the future. However, the redevelopment plan only provides specific building sizes and employee numbers for the section of the site proposed to be reused for the Oregon National Guard Intermediate Training Complex (ITC). ITC facilities include the following:

- Company Supply and Administration (8,940 sq. ft.)
- Open bay barracks (570 beds including classrooms and laundry)
- Dining facilities (200 people per company) (13,500 sq. ft. Consolidated Dining Facility)
- ID Processing Center (1,044 sq. ft.)
- Field Maintenance Shop (6,144 sq. ft.. building plus vehicle parking area)
- M1 Abrams Tank Simulation Conduct of Fire Trainer (SIMCOFT) Facility
- Range Operations building (2,508 sq. ft.)
- Ammunition Holding Area

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<sup>12</sup> [http://umadra.com/f\\_redevelopment1.html](http://umadra.com/f_redevelopment1.html)



- Small Arms Live-Fire Range Complex
- Tank Crew Proficiency Course (TCPC) (two miles by 1 mile)
- Mobile Conduct of Fire Trainer Pad (M-COFT)
- Helipad
- Fuel Storage and issue point
- Supporting Infrastructure including utilities and roadways.

The estimated support staff for the ITC would be 63 employees and Table 2 below summarizes the facilities, soldiers trained, and land use requirements for Oregon National Guard reuse of the UMCD site.

**Table 2. Oregon National Guard Staffing, Facilities, and Land Requirements**

Facility	Annual Throughput Requirement	Firing Points/Lanes	Land Use Requirements
Intermediate Training Center	9,780 Soldiers	NA	100 acres
Ammunition Supply Point	NA	NA	35 acres
Field Maintenance Shop/Unit Training Equipment Site	NA	NA	10 acres
Range Operations and Maintenance Facilities	NA	NA	15 acres
Combat Pistol Qualification Course	196 Soldiers	15	553 acres
25m Zero Range	644 Soldiers	16	811 acres
Modified Record Fire Range	644 Soldiers	16	1,446 acres
Grenade Launcher Range	51 Soldiers	4	60 acres
Maneuver Training Area	3,685 Soldiers	NA	5,200 acres

The redevelopment report describes conditions of existing infrastructure including air transportation, rail transportation, electrical power, water, sewer, storm water, and roadways. The redevelopment plan recommends the following roadway policies.

*Allows access, restricted where appropriate, to the redevelopment zones (Military Training, Wildlife Refuge, Industrial, Highway Commercial/Industrial);*

*Allows traffic to pass to and through UMCD for improved access associated with the City of Irrigon area;*

*Recognizes the security considerations of the Oregon National Guard;*

*Designates certain portions of the road system as County Right-of-Way (necessary, for example, through the wildlife refuge); and*

*Allows for the development and maintenance of the road system in a sustainable fashion, largely developed by the Oregon National Guard.*

The redevelopment plan and implementation strategy do not identify needed infrastructure improvements. The plan specifically recommends that additional infrastructure analysis be

conducted in order to develop a separate Infrastructure Redevelopment Plan consistent with the proposed uses and implementation strategy.

The plan also addresses the process by which Depot land will be made available for redevelopment and notes that the land use designations suggested in the LRA Master Plan can be incorporated into the respective Morrow and Umatilla county comprehensive plans through a local plan amendment and adoption process. This local adoption process is currently taking place, after refinement of the land uses in the 2010 Redevelopment Plan was completed through the 2013 Land Use Analysis planning process (see review on p. 20 of this memorandum).

## **Recent Documents Associated with Depot Redevelopment**

### *Preferred Development Plan (May 2013)*

The Preferred Development Plan<sup>13</sup> is based upon the negotiated Reuse Plan for the UMCD site that was completed on April 2, 2013. It identifies six major land use parcels and includes assumptions for the future type and intensity of development for these areas. It also anticipates the transportation investments, both upgrades to existing roadways and new facilities, that will be required to support the new development and outlines a phased approach for these improvements (p. 5). The analysis describes revenue opportunities that can support the costs of maintenance, marketing, management and operations (p. 6) and goes into detail regarding operating and capital costs associated with redeveloping the site.

The analysis also projects potential job creation at the UMCD site, based on industrial land absorption and occupied square footage over time. The financial model assumes the absorption and development of eight acres of industrial land annually, resulting in 50,000 square feet of new facilities developed annually. This, plus the absorption of 10,000 square feet of existing facilities beginning in Year 4 (when the facilities in the Demil Area are expected to be available), could result in more than 500,000 square feet of space being occupied By Year 10. Assuming, an industrial employment density, at the end of the fifteen year forecast period, the project could include between 600 and 900 on-site employees.

The future land use assumptions and employment projections from the feasibility analysis will be refined through the UMCD Combined IAMP and Subarea Plan planning process, in consultation with the Business and Operations Plan work.

### *Regional Economic Analysis (July 2013)*

The Regional Economic Opportunities Analysis (REOA) report<sup>14</sup> evaluates economic opportunities for the regional economy, defined as Morrow and Umatilla Counties, which are part of a larger

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<sup>13</sup> *Preliminary Development Feasibility Analysis* memorandum, Jeffrey Donohoe Associates, May 2013.

<sup>14</sup> *Regional Economic Analysis Morrow and Umatilla Counties* report, Johnson Reid, LLC and Angelo Planning Group, July 2013.

economic region that includes the Tri-Cities area in Washington. The objective of the report is to identify suitable types of future development for the UMCD site. The analysis summarizes national, state and local trends, including an in-depth look at growth projections for Oregon's basic industries, state and regional employment projections, and commute patterns. The key economic development assets of the study area (p. 24) include the natural amenities of the Columbia Basin, availability of quality power, transportation linkages, proximity to a large educated work force, diversity of available land and economic development support from the port districts and Confederated Tribes of the Umatilla Indian Reservation.

The REOA concludes that future development on the site should focus on uses that can benefit from its unique attributes, as opposed to uses that can be readily accommodated on the region's existing employment land inventory. Ideal types of businesses include warehouse/distribution uses and the site, due to its size and location, could possibly host an agglomeration of such uses, as well as support retail necessary to support the potentially large-scale of industrial development. Additional commercial could capitalize on the regional accessibility of the site as well. The report notes that office tenants are likely only as part of industrial development and that a future power plant location should be on a portion of the site with less accessibility and lower visibility. An evaluation of specific potential industries is also included in the REOA, starting on p. 25.

The market analysis and site marketability and feasibility of the proposed uses from the REOA will inform the Business and Operations Plan currently under development.

#### *Land Use Analysis (September 2013)*

The Umatilla Army Depot Reuse Authority recently completed a Land Use Analysis as key step in the transformation of the UMCD property from its prior military service to a new, major employment center for Umatilla and Morrow Counties. This work was informed by the REOA and a transportation review, and included needed statewide planning goal exceptions that will enable new zoning and future land use entitlements. The Land Use Analysis is actually two documents, with similar background information supporting redevelopment of the UMCD but specific direction for each of the two counties regarding necessary land use actions.<sup>15</sup>

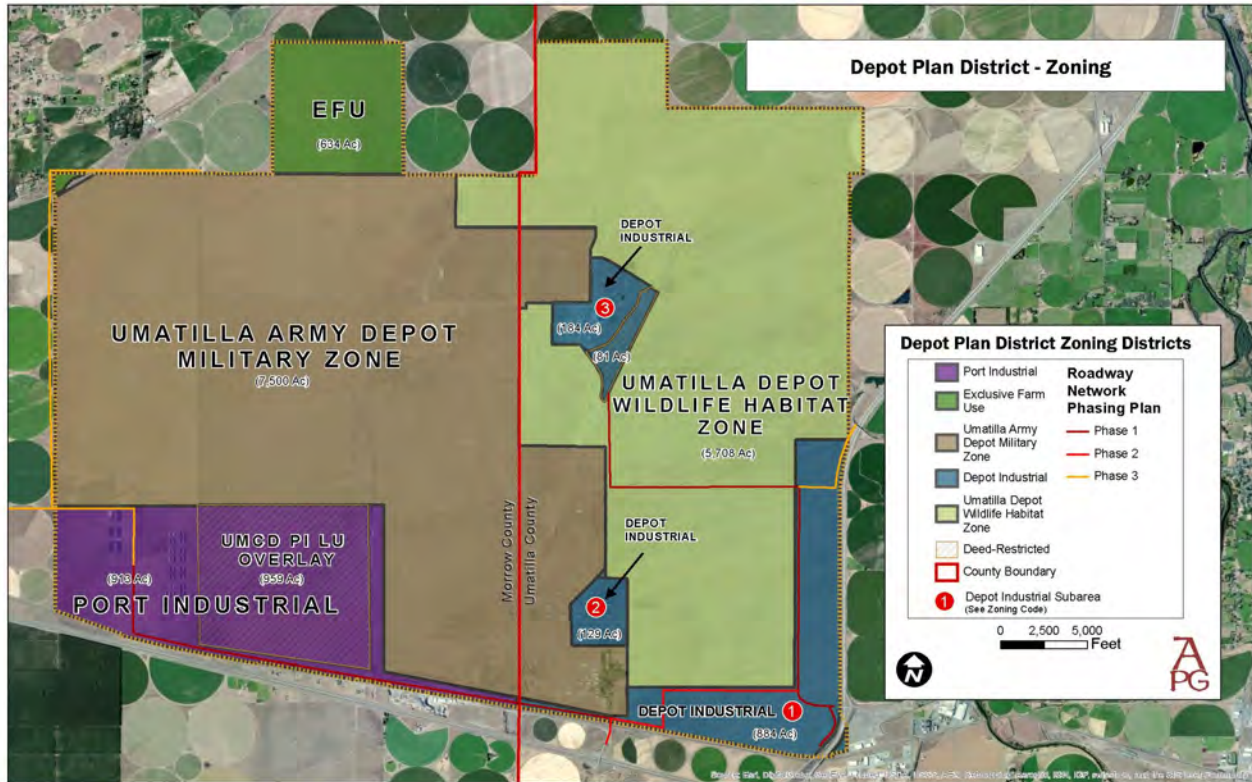
The Land Use Analysis work was coordinated with a Development Feasibility Analysis that evaluated development options for the UMCD site. The Land Use Analysis recommended a planning and zoning implementation approach for approximately 3,000 acres of industrial property. This approach included developing a new zoning district (Depot Industrial Zone) for the industrial properties in Umatilla County and modifying Port Industrial zoning requirements for future application on a UMCD site in Morrow County (see Figure 1). The REOA, the statewide land use planning goal exceptions (Goals 11 and 14) and the transportation strategy framework was accepted

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<sup>15</sup> Statewide Land Use Goal Exceptions for the Umatilla Army Depot, Umatilla County, Angelo Planning Group, September 2013 and Statewide Land Use Goal Exceptions for the Umatilla Army Depot, Morrow County, Angelo Planning Group, September 2013.

by the Local Reuse Authority (LRA) Board as the direction for future development on the UMCD property.

Figure 1: Proposed Depot Plan District



*Site Development Plan ORNG Umatilla Training Center (June 2012)*

The Site Development Plan for the Oregon National Guard (ORNG) Umatilla Training Center anticipates developing the former UMCD into the ORNG Umatilla Training Center cantonment, a transition that would require facility growth and expansion, including transient training (TT) barracks and officers quarters, along with TT unit operational facilities to support a brigade combat team-light (BCT-L) of approximately 3,300 troops. The ORNG Umatilla Training Center will be the new home of the ORNG Regional Training Institute (RTI) as it relocates from its present location in Monmouth, Oregon. Table 1 in the plan lists the assigned units and their required strengths; the 3,888 population figure shown includes the BCT-L troops, RTI student population, and full time staff needed to support the Training Center.

As summarized in the introduction section, the Site Development Plan provides narrative descriptions of existing conditions at the ORNG Umatilla Training Center cantonment and training area. The plan includes tables that reflect existing facilities and facility requirements based on the future stationing plan, and a future development plan that graphically illustrates potential solutions

to correct facility deficiencies and develop the site into a Maneuver Training Center-Light (MTC-L). Plan recommendations reflect the ORNG's needs for near term occupation and use of existing facilities to support training requirements, as well as the future development of transient training troop housing, dining facilities, and unit operational facilities, along with maintenance, storage, administrative, educational, maneuver/training areas, and small arms weapons ranges.

The plan's land use summary describes existing uses on the site (Section 3 Site Analysis). The Training Center currently provides training site administrative facilities, training facilities, TT unit operational facilities, maintenance facilities, community support facilities, and troop housing and dining facilities in support of the ORNG and units conducting Inactive Duty Training (IDT) and Annual Training (AT) at the MTC-L.

Section 4, Future Development Plan, includes development actions necessary for developing a MTC-L capable of supporting the billeting, logistics, live-fire, and maneuver training requirements of a BCT-L. Table 3 summarizes the square footage of existing facilities as compared the amount of square footage needed for the required assets; the Appendix includes a more detailed comparison of the existing and required assets. The future land uses are depicted in two graphics in the Appendix, one focused on the main cantonment area (177 acres) and the expansion area to the west (107 acres) and the other expanded to show plans for the training area. The preferred future land use associated with the Future Development Plan depicted in these graphics may be modified once federal jurisdiction is transferred and ORNG boundaries are clarified.

The Future Development Plan is a conceptual plan to direct inner agency funding requests and provide future development guidance. It is a 25-30 year plan; securing funding for implementation is variable year-to-year but, because the site/facility needs have been prioritized in the long-range plan, funding may be secured at any time.

## **Umatilla County Westland Road/I-84/I-82 Interchange Area Transportation Plan (2004)**

The Umatilla County Westland Road/I-84/I-82 Interchange Area Transportation Plan ("Transportation Plan") was adopted by Umatilla County as a refinement to the County's TSP.<sup>16</sup> It is a sub-area study that addresses specific land uses and transportation issues in the Westland Road/I-84/I-82 interchange area and includes a list of transportation improvements needed to support the 20-year employment growth expected in the study area, as well as land use policy recommendations. The study area, shown in Figure 1-1 of the Transportation Plan, extends to the Westland Road/Agnew Road intersection in the north, includes the I-82/Lamb Road/Westland

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<sup>16</sup> [http://www.co.umatilla.or.us/planning/Planning\\_Documentss.html](http://www.co.umatilla.or.us/planning/Planning_Documentss.html)

Road interchange, and extends south of the Westland Road/I-84 interchange to Noble Road. The major focus within the 640-acre study area is land that is zoned commercial and industrial.<sup>17</sup>

The Existing Conditions chapter includes a summary of roadway characteristics within the study area (Table 31 Street Inventory), a driveway inventory (Figures 3-2 to 3-7, Table 3-2), and intersection lane geometry and traffic controls at the subject interchanges (Figure 3-7). A summary of existing zoning, a land inventory, and employment forecasts (2020) are included in this chapter and were used to arrive at a “low traffic forecast scenario.” The amount of future industrial and commercial land assumed to be developed in 2023 under this scenario was based on applying a 0.62 percent annual employment growth rate for Umatilla County, consistent with the data from the State Office of Economic Analysis (p. 4-6). The Transportation Plan also developed a “high forecast scenario” (Section 4.7) for the planning horizon, assuming build out of approximately 23% of the available industrial land (in warehouse development) and 30,000 square feet of commercial (double the amount of the “low traffic” scenario). Finally, a “full build out” methodology is explained, assuming every potentially developable parcel within the study area develops. Future trip generation was calculated for all three scenarios and the Transportation Plan concludes that all the roadways within the study area should be adequate to serve all future development with the exception of the needed alignment improvement of the Westland Road/Lamb Road/Walker Road intersection (p. 4-15). All of the study intersections are also projected to operate at acceptable levels of service and v/c ratios, with the exception of the Lamb Road/Walker Road/Westland Road intersection.

Section 5.0, Development of Improvements, includes recommendations to address existing and future deficiencies. The proposed realignment improvements at the Westland Road/Lamb Road/Walker Road intersection were recently completed in 2013. Other recommended improvements include improvements to Westland Road (p. 5-1) and the realignment of Stafford Hansel and access management south of I-84 (p. 5-5 - 5-7).

## **Morrow County Comprehensive Plan (1986)**

The Morrow County Comprehensive Plan describes existing conditions and establishes goals, policies, and implementation measures for topics including citizen involvement, land use, transportation and urbanization. Transportation policies have since been updated by adoption of the Morrow County Transportation System Plan (TSP), which now serves as the Transportation Element of the County Comprehensive Plan. Policies that are relevant to land use and transportation planning in the IMSA are discussed below.

The County’s Goal 1 policies (p. 31) are consistent with the State’s, which requires that the County has a citizen involvement process that allows for the opportunity for citizens to be involved in all phases of the planning process. The UMCD Combined IAMP and Subarea Plan planning process will be aided by TPAC. Local planning and public works representation on this committee will

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<sup>17</sup> Note that this plan’s study area excludes the two parcels zoned Limited Rural Light Industrial and Light Industrial Limited Use Overlay that lay east of the I-84/Army Depot, but includes areas zoned Light Industrial and Rural Tourist Commercial further east, along Westland Road.

ensure that Morrow County interests are included in the planning process. Membership on TPAC will also include Confederated Tribes of the Umatilla Indian Reservation representation, as well as other key property owners, business owners, and interested citizens who may have a vested interest in the planning project. Membership on the TPAC will also reflect county interests as they relate to the function and design of the interchanges and how the local roadway system is designed to access these facilities. Finally, a probable outcome of the project are specific recommended policy, and possibly regulatory, changes to county plans and transportation documents. Amendments to local plans and code provisions will require a legislative adoption process, consistent with adopted Morrow County policies, as well as land use procedures, and Statewide Planning Goal 1.

As stated earlier, there is designated EFU land in the vicinity of all the interchanges south of I-84 and it is the predominant land use at the I-84/Paterson Ferry Road interchange. Land designated EFU is restricted by a minimum lot size, as well as the types of uses allowed, specified in the County's Zoning Ordinance. Policies in the Agricultural Lands Element in the Comprehensive Plan obligate the County to preserve agricultural lands, to protect agriculture as the County's main economic enterprise, and to balance environmental and other economic considerations. EFU policies that limit development have implications for the expected demand placed on the interchanges in this area, in particular the Paterson Ferry interchange. See the section on Statewide Planning Goal 3 in this memorandum for further discussion of protecting agricultural land and its relationship to this planning process.

The General Land Use Element in the Comprehensive Plan explains general land use categories but also establishes a one-map system for comprehensive plan designations and zoning, showing how land use categories and zones correspond. Implementation measures identified in the General Land Use Element require that all proposed plan and zone changes demonstrate that they are consistent with Statewide Planning Goals and County plan policies and procedures.

The Urbanization Element of the County Comprehensive Plan provides a summary of the Urban Area Comprehensive Plans for the five incorporated cities in the county: Boardman, Irrigon, Ione, Heppner, and Lexington. The Urbanization Element does not establish additional goals and policies then what is established in each of these cities' individual plans.

## **Morrow County Transportation System Plan (2012)**

The County has jurisdiction over design, construction, and maintenance of county roadways within its boundaries, as well as for non-state facilities located outside of city limits but inside the urban growth boundary area. The Morrow County TSP<sup>18</sup> guides the management of existing transportation facilities and the design and implementation of future facilities in the County for the next 20 years. This TSP constitutes the transportation element of the county's Comprehensive Plan and satisfies the requirements of the Oregon Transportation Planning Rule (TPR) (OAR 660-12-045). It identifies transportation projects for implementation under a Morrow County Capital

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<sup>18</sup> <http://morrowcountyoregon.com/planning/tsp/2012%20TSP%20Table%20of%20Contents.htm>

Improvement Program (CIP) and inclusion in the Oregon Department of Transportation (ODOT) Statewide Transportation Improvement Program (STIP).

Chapter 2 of the TSP contains the goals and policies that guide transportation system planning and development in the County. Policies under Goal 1 address how the County will coordinate with other transportation providers, including ODOT and the Port of Morrow, to meet the need of transportation system users within the County. Goals and policies in the adopted TSP that are most relevant to the UMCD Combined IAMP and Subarea Plan are those that address the relationship between transportation and planned land uses, access, transportation mobility, and safety. Adopted County Goals and objectives related to these topics, as well as others that may have bearing on interchange planning, are included below.

### ***Goal 2 Land Use***

*Support land use planning with appropriate transportation improvements.*

*Policy 2.1. Design all new roadways to meet county and state adopted road design standards, as a minimum.*

*Policy 2.2. Identify and reserve future road corridors.*

*Policy 2.3. Require new development proposals, plan amendments, and zone changes to conform to the TSP as required by the TPR.*

*Policy 2.9. Utilize adopted ODOT access management standards for State facilities and proposed access management standards in this TSP for County facilities.*

*Policy 2.10. Request an exception to any statewide goal before the construction of roads, highways, and other transportation facilities and improvements not otherwise allowed outright in resource lands (EFU and FU zones).*

### ***Goal 3 Economic Development***

*Enhance economic development through transportation improvements.*

*Policy 3.1. Support transportation system improvements that contribute to economic development opportunities.*

*Policy 3.2. Pursue opportunities to improve access to business and employment centers for all modes of travel.*

*Policy 3.3. Pursue opportunities to improve access to tourist and recreation sites, such as the Columbia River Heritage Trail and the County Off-Highway Vehicle (OHV) Park, for all modes of travel.*



**Goal 4 Quality of Life**

*Promote a high quality of life in Morrow County by providing a well-developed transportation system that is appropriate to its surroundings.*

*Policy 4.2. Maintain the rural character of the county in the areas outside the designated urban areas.*

**Goal 5 Roadway System**

*Provide and maintain a safe, efficient roadway system to provide mobility throughout the County.*

*Policy 5.1. Design and construct all new roadways to the county's adopted road design standards, as a minimum.*

*Policy 5.7. Improve connectivity within the County by identifying and working to improve additional road corridors.*

**Goal 6 Bicycle, Pedestrian, Equestrian, and Transit Modes**

*Support the use of other modes of transportation (bicycles, pedestrians, equestrians, and transit) through effective transportation improvements.*

*Policy 6.1. Include design features, such as widened shoulder areas to accommodate bicycles, pedestrians, and equestrians in the county roadway design standards.*

*Policy 6.3. Continue the development of the Columbia River Heritage Trail, and other similar facilities, for recreational uses.*

**Goal 8 Freight and Goods Movement**

*Promote efficient movement of freight and goods throughout the County.*

*Policy 8.3. Encourage improvements to rail freight facilities by encouraging improvement to intermodal connections.*

**Goal 9 Finance**

*Use a fiscally sound approach to financing transportation system improvements.*

*Policy 9.1. Develop a financial strategy for funding transportation system improvements.*

*Policy 9.2. Explore innovative funding methods, such as system development charges, to finance transportation system improvements.*

*Policy 9.3. Coordinate with other transportation users and providers to seek joint funding opportunities for transportation system improvements.*

*Policy 9.4. Actively seek available funding sources for transportation system improvements.*

In addition to these policies, the County also adopted policy language pertaining to the Port of Morrow and the I-84/US 730 interchanges, when the IAMPs for these interchanges were adopted by reference as elements of the County’s Transportation System Plan. A likely outcome of this planning process will be recommendations for new or updated county policies that support UMCD Combined IAMP and Subarea Plan findings and recommendations for improvements at the interchanges. Interchange-related policies will be recommended for adoption by the counties, anticipating a legislative action that would amend each county’s transportation policies.

An inventory of the existing transportation system is provided in Chapter 3. The UMCD is noted as occupying a large portion of northern Morrow County and having an effect on land use, road placement, and traffic patterns. The Union Pacific line paralleling I-84, a spur of which serves the UMCD, is mentioned under rail freight services. Chapter 3 also includes an overview of buildable lands. Future development on buildable lands located south of Irrigon in the Division Street-4th Road area and west of Irrigon, north of U.S. 730, as identified in the TSP, will hasten the need for north south connectivity through the IMSA and will likely have traffic implications at the I-84/Paterson Ferry Road interchange.<sup>19</sup>

Also acknowledged is the critical role access management will play in accommodating the trips generated from future growth; Chapter 6 of the TSP includes recommend minimum distance between connections for roads and highways elsewhere in the County (p. 3-10). It is expected that the UMCD Combined IAMP and Subarea Plan will include an access management plan for each interchange studied. Chapter 3 also includes an overview of the “Port of Morrow System,” describing the three industrial sites (Boardman Industrial Park and East Beach Industrial Park, Airport Industrial Park and South Morrow Industrial Park). The areas zoned Morrow County General Industrial within the study are are not specifically mentioned

State highways are described as “the backbone of Morrow County’s roadway system in” used for “virtually all of the through traffic in the County,” as they connects each of the County’s cities and other population centers. State highway facilities that are the subject of this planning study, as summarized in the TSP, are included in Table 3.

**Table 3. State Highways Serving Morrow County within the IMSA**

State Highway Designation	Location Served	Highway Category
I-84 (Old Oregon Trail State Highway No. 6)	East of US 730 to Umatilla County, to I-80 and I-15, Boise and Salt Lake City.	Interstate Highway
US 730 (Columbia River Highway State Highway No. 2)	From I-84, east through Irrigon to Umatilla County.	Regional Highway

<sup>19</sup> Existing and future land uses will be explored in Technical Memoranda #3 and #4.

The TSP confirms that the County relies on ODOT's adopted access management policies to control access on state highways.

The 2003 ADTs for the state highways and selected local roadways within the County are included in Chapter 3 Existing Conditions and Inventory but new traffic counts have been recorded for this project and will be presented in Technical Memorandum #4. The TSP concludes that, with such low V/C ratios on the County roads known to carry the highest traffic volumes, existing capacity deficiencies on any County roadways are unlikely, despite the fact that limited traffic counts are available for county roads (3-24). Table 3-9 in the TSP reflects the OHP V/C standards for I-84; Table 3-10 summarizes existing (2005) v/c ratios on state highways in the County and shows that traffic movement on I-84 is well within standards.<sup>20</sup>

Chapter 4 contains the expected future conditions that will impact the transportation system, based the expected growth in population and travel demand, and proposed improvements. County population in 2030 is expected to show an increase of 922 residents, for a total of 12,455 residents (p. 4-2).<sup>21</sup> For purposes of future transportation demand forecasting, adjustments to the population-based rates of growth were made to reflect the greater proportion of employment, medical and commercial services available in north County. Three different annual growth rates were developed to estimate 2030 daily traffic volumes: a 3.0%/year rate was assigned to the north county; 2.0% in mid-county from approximately Baker Lane to Willow Creek Road, and 1.0% per year in south county. As stated in the TSP, these growth rates are consistent State of Oregon's efforts to promote employment growth in rural counties and are generally consistent with the adopted TSPs in the cities. ODOT prepares 20-year forecasts of average daily traffic (ADT) on all state highways, which are also used for projecting future travel demand. On I-84, projected average annual growth rates ranged from 1.9% near Boardman to 2.5% near the Port of Morrow interchange, rates which the TSP concluded were generally consistent with the annual rate of 3.0% the County's methodology applied in the north County.

The TSP anticipates that the Port of Morrow will bring "many hundreds of jobs" to the County within the 20-year time planning horizon of the TPS (p. 4-1). The plan also notes that the Port of Morrow is interested in other sites in Morrow County outside of the four established industrial parks (the Boardman and East Beach Industrial Parks, the Airport Industrial Park, and the south Morrow Industrial Park) and is actively seeking opportunities to increase industrial development. The TSP documents that the UMCD is a "sizable opportunity" for future redevelopment and reuse and notes that substantial planning and engineering work will be necessary to remove unexploded munitions and provide an adequate roadway system to accommodate heavy vehicle and personnel movement. In addition, future planning and TSP amendments will need to identify needed improvements and an implementation strategy (p. 4-2).

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<sup>20</sup> I-84 east of Paterson Ferry Road is at 0.38 V/C.

<sup>21</sup> Year 2030 population projections were estimated by applying the 2.5% annual growth rate to the 2004 State's Office of Economic Analysis (OEA) certified population estimates for the County and its cities.

Roadway performance was evaluated using volume to capacity (V/C) criteria; future V/C ratios were calculated for existing and projected 2024 traffic volumes (Table 4-2). The only segment of I-84 that approaches its v/c threshold is I-84 east of the Paterson Ferry interchange, where the estimated existing v/c ratio of 0.48 is projected to increase to 0.66. Estimated 2024 v/c ratios in the vicinity of the study intersections that are at or above 0.10 include Paterson Ferry Road (2024 V/C of 0.16 north of I-84).

To facilitate efficient traffic movement and establish future local street networks, the TSP includes a series of figures that present a conceptual street network plan for buildable lands in north County. Figure 4-9 is a placeholder for the Umatilla Depot Area Transportation Plan.

Chapter 5, Future Transportation System Options Analysis, includes the major Port of Morrow projects that the Port identified as necessary to increase capacity, allow for economic development, increase safety, and improve intermodal access (Table 5-2). These projects are also included in Chapter 6 (Table 6-8) and include: Extended ramps and taper lanes on I-84 westbound between I-82 and a point west of the I-84/Army Depot Interchange; Merge/diverge lanes eastbound on I-84 between a point west of the I-84/Army Depot Interchange and the I-84/I-82 Interchange; Modifications to the connector ramps at the I-84/I-82 Interchange to provide two-lane on or off ramps, and; Improvements to the I-84/Army Depot Interchange to facilitate I-82/I-84 merge/diverge lanes. At the time that the last TSP update was adopted these projects were neither funded nor scheduled.

Chapter 6, Transportation System Plan, includes land use development requirements, including the transportation improvements required under the TSP, for most types of development permits (Table 6-5). The transportation requirements fall into the basic categories of access and system improvements. A transportation impact analysis (TIA) must be submitted as part of the development approval process for proposed developments that generate more than 400 daily passenger car equivalent trips. The TSP lists the information necessary to include in a TIA (p. 6-9) and contains guidelines to complete a TIA (Appendix C).

## **Morrow County Zoning Ordinance (Revised, 2001)**

There are two Morrow County zoning designations within the IMSA in the vicinity of I-84/Paterson Ferry Road: General Industrial (M-G) and Exclusive Farm Use (EFU). Uses permitted in the EFU zone are primarily restricted to uses that are associated with farming zone; consistent with state law, the county has identified certain uses that are permitted outright, while others require a conditional use permit. The parcels zoned General Industrial are developed with uses consistent with that zone. The county is in the process of modifying the Port Industrial (P-I) zoning chapter and applying that zone to an area in the vicinity of the I-84/Army Depot interchanged that is accessed from Gun Club Lane that Permitted uses and development requirements of these zones will be explored in Technical Memorandum #3. The existing and future development potential of land zoned for farm uses and industrial uses will be explored in Technical Memorandum #4.

Article 4 includes the County's access management standards. Section 4.010.F identifies that access within the influence area of existing or proposed state highway interchanges is regulated by standards in OAR 734-051 and that, at the time of redevelopment, change of use, or highway construction, reconstruction or modernization at the existing interchanges, the goal is to meet or move in the direction of meeting the appropriate spacing standards. Pertinent to the local roadway system that will serve future users at the UMCD site, Table 4.010-2 includes the standards for public or private access, based on the classification of the roadway. Section 4.035 includes the submittal requirements for land use development applications (Table 4.035-1). A TIA is required for all types of development that is expected to generate 400 daily trips or more; the County Planning Commission, County Planning Director or County Public Works Director or designee may require a TIA for any level of development.

Pursuant to Article 8, Amendments, any amendments to the code text or zoning map must be consistent with the County Comprehensive Plan (Section 8.050.C). Article 8 also requires that applicants demonstrate that public services and facilities are sufficient to support a change in designation, consistent with the Transportation Planning Rule, 660-012-0060 (Section 8.050.B). Where the recommendations of the UMCD Combined IAMP and Subarea Plan are not consistent with locally adopted plans and ordinances the plan will include recommended amendments to ensure consistency.

## **Morrow County Subdivision Ordinance (Revised, 2005)**

The County Subdivision Ordinance contains the minimum standards governing land development approval, including subdivision and partitioning, necessary to implement the land use and transportation policies contained within the County Comprehensive Plan and TSP.

Partitions within the EFU Zone are required to provide for the continuation of the existing commercial agricultural enterprises within the area as well as meet the minimum lot requirements, with few exceptions, as detailed in Section 5.120 of the Subdivision Ordinance.

County roadway standards are included in Section 8.020; any proposed local roadway improvements included in the UMCD Combined IAMP and Subarea Plan must comply with the Roadway Standards table or seek an amendment to these standards as part of plan adoption. Requirements for developments with access onto state highways are included in Subsection 8.020.T; the County Subdivision Ordinance reinforces that applications for development with access onto state highways must be provided to ODOT for review to ensure consistency with these state standards and that access within the influence area of existing state highway interchanges is regulated by standards in OAR 734-051. Under this Subsection is also the County access permit requirement for land use development proposing access onto a County road and a table with the access spacing standards. Access permit requirements for land use development are outlined in Section 4.010 of the Morrow County Zoning Code.

A Master Development Plan is required for all developments more than 100 parcels and for all phase or planned unit developments. One of the requirements of a Master Development Plan is a transportation impact analysis (TIA); if the subject property includes frontage on a state highway, the TIA must meet ODOT traffic impact study requirements (Section 3.070.C).

## **Umatilla County Comprehensive Plan (1983, Amended)**

The policies developed as part of the comprehensive planning process for the county are found in Chapters 4-17 of the plan document. Those policies that are relevant to land use and transportation planning in the IMSA are provided below.

### ***Chapter 4: The Planning Process***

*8. Conversion of resource lands to non-resource uses shall follow procedures for plan amendments and Section 19a, Chapter 827 of Oregon Laws.*

*9. Conversion of resource lands (agricultural) to a non-resource designation shall follow procedures described in the Plan Map Section for Non-Resource lands. Umatilla County will not permit lands designated as Non-Resource to be converted to another designation that would allow a more intense level of use.*

A portion of the IMSA under Umatilla County jurisdiction falls within a West County Irrigation District (the Westland Irrigation District) and is considered resource/agricultural land by the county. The policies above establish a planning process that ultimately serves to protect designated resource lands from more intensive types of development.

### ***Chapter 5: Citizen Involvement***

*1. Provide information to the public on planning issues and programs, and encourage continuing citizen input to planning efforts.*

*3. The County will, when revising and updating the Plan, appoint area citizen committee with members representing the broadest possible interest and concerns to take advantage of their valuable information and knowledge.*

The UMCD Combined IAMP and Subarea Plan planning process will be aided by an advisory committee (TPAC). County planning and public works representation on this committee will ensure that Umatilla County interests are included in the planning process. The makeup of TPAC will also include key property owners, business owners, and tribal representative who have a vested interest in the planning project. Membership on the TPAC will reflect county as well as land-owner interests, as they relate to the function and design of the interchanges. Finally, a probable outcome of the project are recommendations for specific policy, and possibly regulatory, changes to county plans and transportation documents. Amendments to county plans and code provisions will require a

legislative adoption process, consistent with adopted county policies, as well as land use procedures, and Statewide Planning Goal 1.<sup>22</sup>

### ***Chapter 6: Agriculture***

*2. Establish four agricultural designations with several types of management regulations to protect and maintain the existing agricultural economy character of the county. The following Comprehensive Plan Designations are identified and corresponding preservation measures listed (see Plan and Zoning Map for locations of agricultural designations and EFU zone types):*

*(b) West County Irrigation District - 40 acre minimum lot parcel size;*

As stated earlier, part of the IMSA has a county exclusive farm use (EFU) land use designation. This land is designated as part of the West County Irrigation District and is restricted by a minimum lot size, as well as the types of uses allowed (see discussion under the Statewide Planning Goal 3 section in this memorandum).

### ***Chapter 9: Air, Water and Land Quality***

*1. Discharges from existing and future developments shall not exceed applicable environmental standards.*

This policy is consistent with Statewide Planning Goal 6, Air, Water and Land Resources Quality, which directs that waste and process discharges within a jurisdiction cannot exceed the carrying capacity, or degrade the quality, of the local air shed and water shed in the long-term. The environmental impacts of any proposed changes to the interchange or the local transportation system related to the function of the interchange will be taken into account in developing and selecting alternatives for the interchange area.

### ***Chapter 12: Economy of the County***

*5. In close proximity to cities, yet outside of urbanizable areas, limit commercial development to those areas that meet the requirements of Goal 2 and ORS 197.732 for an exception in resource areas. Commercial development shall also be limited to land demanding activities that require few public services.*

This policy recognizes the pressure to urbanize land in close proximity to cities. It is consistent with the county's policies protecting resource lands, stating only those lands that meet the requirements of a goal exception will be considered for commercial development. In addition, commercial development must be limited to those uses that put the least demand on public services. The county is currently in the process of taking "exceptions" to Goals 11 (Public Facilities and Services) and 14 (Urbanization) and applying industrial zoning on select UMCD parcels to allow urban-scale industrial uses and public facilities and services on rural lands. Through the recent Land Use

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<sup>22</sup> Note, Policy 3 under Citizen Involvement is likely addressing more comprehensive updates to the Plan and not more focused policy change recommendations that may result from the UMCD Combined IAMP and Subarea Plan planning process.

Analysis planning process (reviewed earlier in this memorandum), the County has determined that limited commercial uses can be supported in this area.

### ***Chapter 15: Transportation***

- 1. The Transportation System Plan (TSP) is an element of this Comprehensive Plan and identifies the general location of transportation improvements, changes in specific alignment of proposed County Road and highway projects that will be permitted without plan amendment.*
- 4. Operation, maintenance, repair, and preservation of existing transportation facilities shall be allowed without land use review, except where specifically regulated.*
- 5A. New development proposals will be reviewed for consistency with the County and Cities' Transportation System Plans.*
- 5B. County shall protect the function of existing or planned roadways or roadway corridors through the application of appropriate land use regulations.*
- 7. Access onto state highways shall be limited, consolidated, and otherwise be controlled as much as feasible. Access control shall emphasize coordination of traffic and land use patterns through the use of frontage roads and access collection points (see OAR 734.051). ODOT will be provided notice of land use applications and development permits that have access or frontage onto State Highways.*
- 15. Encourage preservation and expansion of existing lines and rail company service.*
- 25A. Examine interchanges and other potential commercial and industrial locations for appropriateness of development taking into consideration access, sewer and water availability and environmental conditions.*
- 25B. Identify and evaluate factors limiting development in this area.*
- 26. Umatilla County shall encourage the development of bikeways and pedestrian accessways to existing and potential activity centers.*

These transportation policies largely direct county actions as they relate to county facilities and are important to consider where the recommendations of the UMCD Combined IAMP and Subarea Plan include changes to the local transportation system or access management measures on local roadways. Policies 7 and 25A relate closely to this current planning process, highlighting the county's commitment to access management on state facilities and the need to balance land uses with the transportation system, as well as taking into account other factors.

Chapter 18 of the Comprehensive Plan describes the different land use designations established by the county and where the designations apply. A portion of county land within the IMSA is designated West County Irrigation District, which applies to small and medium farms (40-acre lot size) located on the outer edges of the Hermiston and Westland Irrigation Districts. The intent of this designation is to recognize a particular pattern of parcelization that has occurred in these areas



and to protect those agricultural enterprises that have developed there. These designated areas serve as a transition between smaller Special Agriculture uses (20-39 acres in size), and the larger, more extensive agricultural operations found in the North/South County Agricultural Regions (160-acre minimum lot size).

For the West County Irrigation District, the Comprehensive Plan states that:

*A combination of parcel size regulations and non-farm review measures shall be implemented to maintain the existing mixture of part-time and full-time farming operations. However, a 40 acre minimum parcel size will be used as the specific measure to adhere to ORS 215.780.*

As discussed elsewhere in this memorandum, EFU policies limit development of a certain areas within the IMSA, which in turn has implications on the expected future demand placed on the interchanges.

## **Umatilla County Transportation System Plan (2002)**

The Umatilla County TSP guides the management of existing transportation facilities and the design and implementation of future facilities in Umatilla County for the next 20 years. This TSP constitutes the transportation element of the county's Comprehensive Plan and satisfies the requirements of the Oregon Transportation Planning Rule (TPR) (OAR 660-12-045). It identifies transportation projects for implementation under a Umatilla County Capital Improvement Program (CIP) and inclusion in the Oregon Department of Transportation (ODOT) Statewide Transportation Improvement Program (STIP).

Among the goals and objectives in the adopted TSP that are most relevant to the UMCD Combined IAMP and Subarea Plan are those that address transportation mobility, access, and the relationship between transportation and planned land uses. Those goals and objectives are found in Chapter 2 of the TSP and are included below.

### ***Goal 1***

*Preserve the function, capacity, level of service, and safety of the local streets, county roads, and state highways.*

#### *Objectives*

*Develop access management standards.*

*Develop alternative, parallel routes.*

*Promote alternative modes of transportation.*

*Promote transportation demand management programs.*

*Promote transportation system management.*

*Develop procedures to minimize impacts to and protect transportation facilities, corridors, or sites during the development review process.*

## **Goal 2**

*Ensure that the road system within the county is adequate to meet public needs, including those of the transportation disadvantaged.*

### *Objectives*

*Develop a countywide transportation plan.*

*Meet identified maintenance level of service standards on the county and state highway systems.*

*Evaluate the transportation needs and land use characteristics of the unincorporated communities within the county to ensure adequate mobility for these areas.*

*Develop and adhere to a 20-year road program for maintenance and improvement of the existing county road system (including bridges).*

*Review and revise, if necessary, road cross-section standards for local, collector, and arterial roads to enhance safety and mobility.*

*Work with ODOT to develop access management strategies for Highways US 395, US 730, OR 11, OR 37, OR 74, OR 204, OR 207, OR 244, and Highways 332, 334, 335, and 339.*

*Evaluate the need for traffic control devices, particularly along the highways. Umatilla County Transportation Plan April 2002*

*Evaluate areas where safety is a concern.*

*Use the development review process to protect future right of way and to ensure roadway improvements are provided in a timely manner and are constructed to county standards.*

## **Goal 3**

*Improve coordination among the cities of Umatilla County, the Oregon Department of Transportation (ODOT), the US Forest Service (USFS), the Federal Highway Administration (FHWA), and the county.*

### *Objectives*

*B. Cooperate with ODOT in the implementation of the Statewide Transportation Improvement Program (STIP).*

*D. Take advantage of federal and state highway funding programs.*

*H. Work with Umatilla Army Depot on any emergency evacuation plans for possible chemical weapons accidents.*

**Goal 4**

*Increase the use of alternative modes of transportation (walking, bicycling, and public transportation) through improved access, safety, and service.*

*Objectives*

*B. Provide sidewalks or shoulders and safe crossings on collectors and arterials.*

*D. Seek Transportation and Growth Management (TGM) and other funding for projects evaluating and improving the environment for alternative modes of transportation.*

**Goal 6**

*Encourage the continued and improved rail transportation of goods and reinstatement of rail passenger service.*

*Objectives*

*A. Encourage the preservation and reactivation of existing lines and rail company service.*

In addition to these policies, the County also adopted policy language pertaining to the I-82/US 730 interchange as when the I-82/US 730 Interchange Area Management Plan was adopted by reference as an element of the County's TSP in 2012. A likely outcome of this planning process will be recommendations for new or updated county policies that support UMCD Combined IAMP and Subarea Plan findings and recommendations for improvements at the interchanges.

An inventory of the existing transportation system, including level of service criteria and a summary of operations by road type is provided in Chapter 4. Westland/Highland Road, from I-84 to Bridge Road, is listed as an "important county road" (Table 4-1). This road provides connections to I-82 and I-84 and access to large industrial businesses. Table 4-5 summarizes the operations of freeways in Umatilla County for 1996 average conditions and peak summer conditions. Interstate 82, in the IMSA ("0.30 miles north of I-84"), is identified as having a level of service (LOS) of A under both conditions. Interstate 84 west of I-82 also operates at LOS A under average and peak conditions.

Chapter 5 contains traffic volume forecasts for Umatilla County based on historic growth on the state highway system and historic and projected population growth. Forecasts were only prepared for the state highway system in the county, since the volumes on these roadways are much higher than on any of the county roads. Traffic volumes on I-82 in the IMSA are expected to increase by approximately 92 percent by the year 2018 (Table 5-4) from 1996 levels. Volumes on I-84 in the vicinity of the IMSA are expected to increase by 148 percent.

Chapter 7 contains detail operational plans for the transportation systems in Umatilla County, including roadway classifications, design standards, and access management standards. This chapter does not contain any standards for I-82 or US 730 because they are under ODOT jurisdiction and state standards in the OHP and Design Manual apply.

Chapter 9 contains recommended policy and ordinance language for adoption into the Umatilla County Comprehensive Plan and Development Code. Recommended policy and code language pertains to the approval process for transportation facilities, protection of transportation facilities, access management, and a process for coordinated review of land use decisions.

### **Umatilla County Development Code (Revised, 2013)**

The County Development Code implements the land use and transportation policies contained within the County Comprehensive Plan and TSP. The county zoning designations within the IMSA, east of the I-82/I-84 merge, are Light Industrial Limited Use Overlay, Limited Rural Light Industrial, Light Industrial, Rural Tourist Commercial and, extending north to the I-82/Westland interchange, Exclusive Farm Use (EFU). Uses are permitted in the EFU zone consistent with state law; the county has identified certain uses that are permitted outright, while others require a zoning permit or land use decision. Per section 152.751 of the code, any amendments to the code text or zoning map must be consistent with the County Comprehensive Plan and Land Use Map.

The County is in the process of amending the land use designations and zoning on specific parcels within the UMCD to a new “Depot Industrial” designation and adopting amendments to the Development Code for this zone. Permitted uses and development requirements of these zones will be explored in Technical Memorandum #3.

Section 152.018 in the Development Code includes access management and street connectivity standards; Section 152.019 details when a traffic impact analysis is required and the requirements for such an analysis.<sup>23</sup>

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<sup>23</sup> Note that these sections were revised for consistency with the adopted I-82/US 730 Interchange Area Management Plan.

Appendix D  
Technical Memorandum #3:  
Existing Land Use Analysis

# Memorandum

## TECHNICAL MEMORANDUM #3 - FINAL

### Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan

Existing Land Use Analysis

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Date: February 21, 2014

To: Don Chance (UMADRA); Technical/Public Advisory Committee (TPAC)

From: Frank Angelo, Darci Rudzinski and Andrew Parish, Angelo Planning Group

cc: Matt Hughart, AICP; Patrick Marnell, Marc Butorac, P.E., Kittelson & Associates

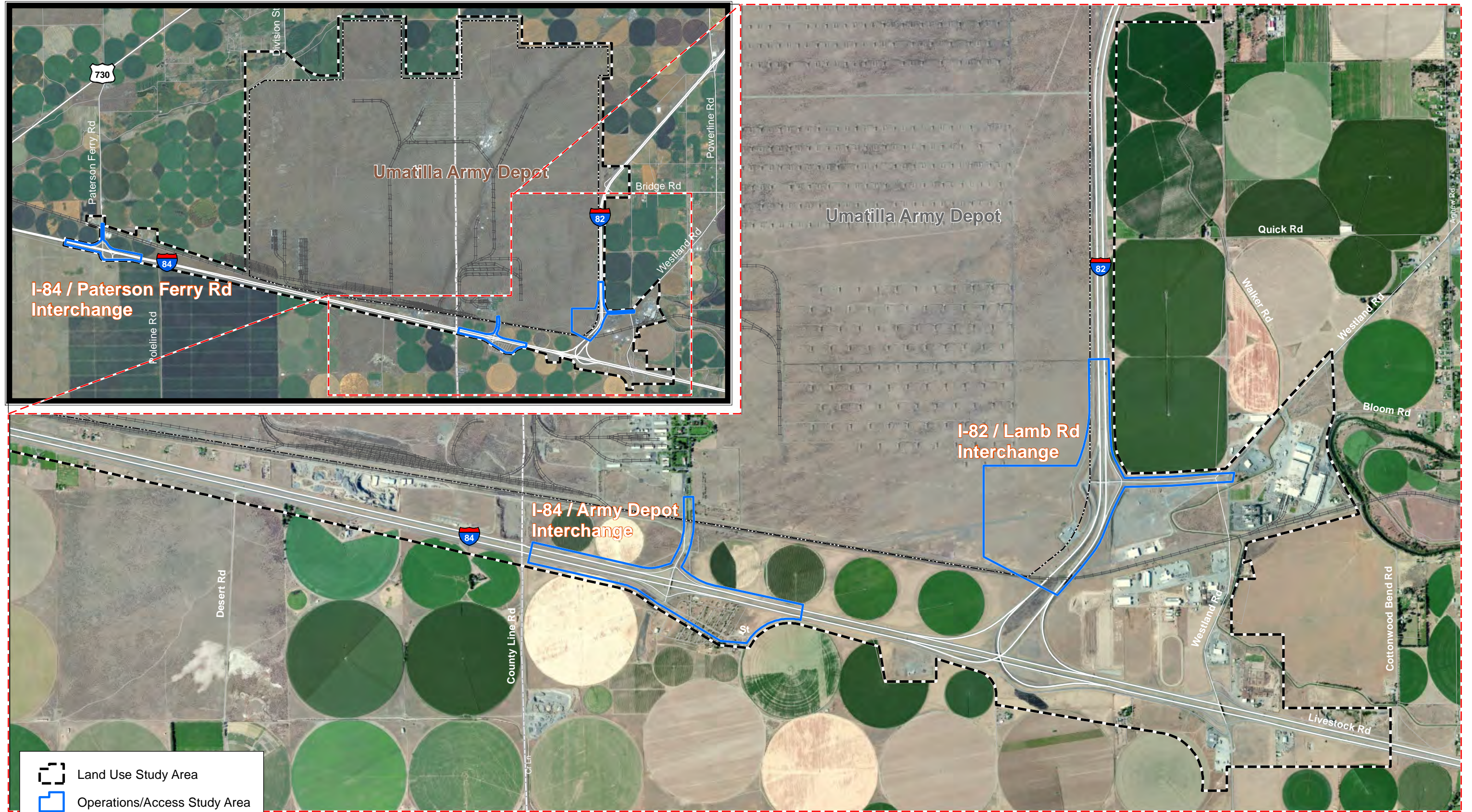
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### Overview

This memorandum presents background data for the land use study area for the Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan (UMCD Combined IAMP and Subarea Plan). The study area is hereafter referred to as the Interchange Management Study Area (IMSA) and is shown on Figure 3-1. The IMSA was initially proposed in Technical Memorandum #1 (Project Background, Definition, Goals, and Objectives). The original IMSA boundary encompassed the three study interchanges and all of the UMCD; after discussion with the TPAC, it was expanded to include land in the vicinity of the I-84/ Westland Road Interchange. The IMSA defines the area of analysis in the maps and figures included in this memorandum.

The review of land use data presented in this memorandum includes discussion of existing land use designations and uses in the IMSA. This discussion is intended to provide an idea of the types and intensity of existing or potential demands on the interchanges and surrounding transportation system, as well as identify specific transportation needs of existing and potential future land uses.

In addition, information presented in this memorandum will identify natural features, as well as man-made fixtures of the landscape, such as the ordnance storage bunkers or igloos. The land use review, combined with the review of transportation facilities and traffic operations in Technical Memorandum #4, will create a comprehensive look at existing conditions within the study area.



**Interchange Management Study Area  
Morrow / Umatilla Counties**

**Figure  
3-1**

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## Location & Geography

The IMSA is located in north-central Oregon in the southern part of the Columbia Basin. The Columbia Basin, generally characterized by mixed shrub-steppe and grassland habitats with a semiarid and cool climate, extends from central Washington down into northeast and north-central Oregon. The topography in the vicinity of the IMSA is level to gently rolling and slopes northwest to the Columbia River.

The westerly portion of the IMSA is located in Morrow County (2012 pop. 11,300), with the easterly portion located in Umatilla County (pop. 77,120). The Columbia River lies about 2.5 miles north. The closest cities to the IMSA are:

- Hermiston (2012 pop. 16,995) – approximately 2 miles to the east
- Boardman (pop. 3,235) – approximately 7 miles to the west
- Irrigon (pop. 1,830) – approximately .25 miles to the north
- Umatilla (pop. 7,015) – approximately 2 miles to the northeast

Other nearby cities include Pendleton, Oregon (pop. 16,715) and the Tri-Cities in Washington (pop. 262,500).

## Land Use

### Generalized Land Use

The majority of the IMSA is comprised of the Umatilla Chemical Depot (UMCD), an area that has never been zoned or subject to Oregon's statewide land use program. The UMCD currently occupies about 17,000 acres acquired either through purchase or Federal land transfer. In addition, the Army has acquired approximately 2,600 acres of land on the north and east sides of the Depot on which there is a restrictive easement. Construction of a structure or dwelling is prohibited within the restricted easement areas.

There are a number of existing land uses on the Depot site, including but not limited to:

- Ammunition Storage Areas – 5,933 acres
- Ammunition Demolition Areas – 1,716 acres
- Warehouse and Storage Areas – 786 acres
- Administrative Offices and Housing – 151 acres
- Open Space Buffer Areas – 4,851 acres

The storage and demolition of ordnance and buffer zone land use areas account for more than three-quarters of the UMCD acreage.



Irrigated agriculture is the predominant land use surrounding the IMSA. Agricultural lands are zoned Exclusive Farm Use (EFU) based on soil capability classes, availability of water for irrigation and ability to support commercial farm uses.

The southeast corner of the IMSA includes an area of industrial development directly east of I-82 (Fed Ex distribution facility), as well as existing industrial and tourist commercial areas north of I-84 surrounding the I-84/ Westland Road Interchange. There are also existing industrial uses near the I-84/Paterson Ferry Road interchange in Morrow County, but the interchange itself is surrounded primarily by agricultural land uses.

Urban development (including housing, commercial, industrial and public uses) is concentrated in the nearby cities of Hermiston, Boardman, Irrigon and Umatilla. The IMSA is not contiguous with the Urban Growth Boundaries (UGB) of any of the nearby cities.

### **Zoning and Comprehensive Plan Designations**

Figure 3-2 illustrates the zoning for both Morrow and Umatilla Counties. In general, the land within the IMSA around Interstate 82 (I-82)/Lamb Road (Exit 10) interchange is designated for industrial uses southeast of the interchange, with some rural tourist commercial, and for agricultural uses north of County Club Road. Land to the west of the interchange will be designated for future industrial and limited commercial uses. The I-84/Army Depot interchange is surrounded by agricultural land uses, but serves as the primary access for existing and future military uses to the north on the Depot site. This interchange will also serve future industrial/commercial uses within the Depot Industrial zone. The I-84/Paterson Ferry Road interchange is surrounded by agricultural land uses, but provides access to existing general industrial uses within the IMSA in Morrow County. For purposes of predicting future transportation generation and patterns, existing and allowed land uses in the vicinity of the I-84/Westland Road Interchange, which can be characterized as a mix of vacant land and land developed for freight distribution and agri-business uses, will also be considered.

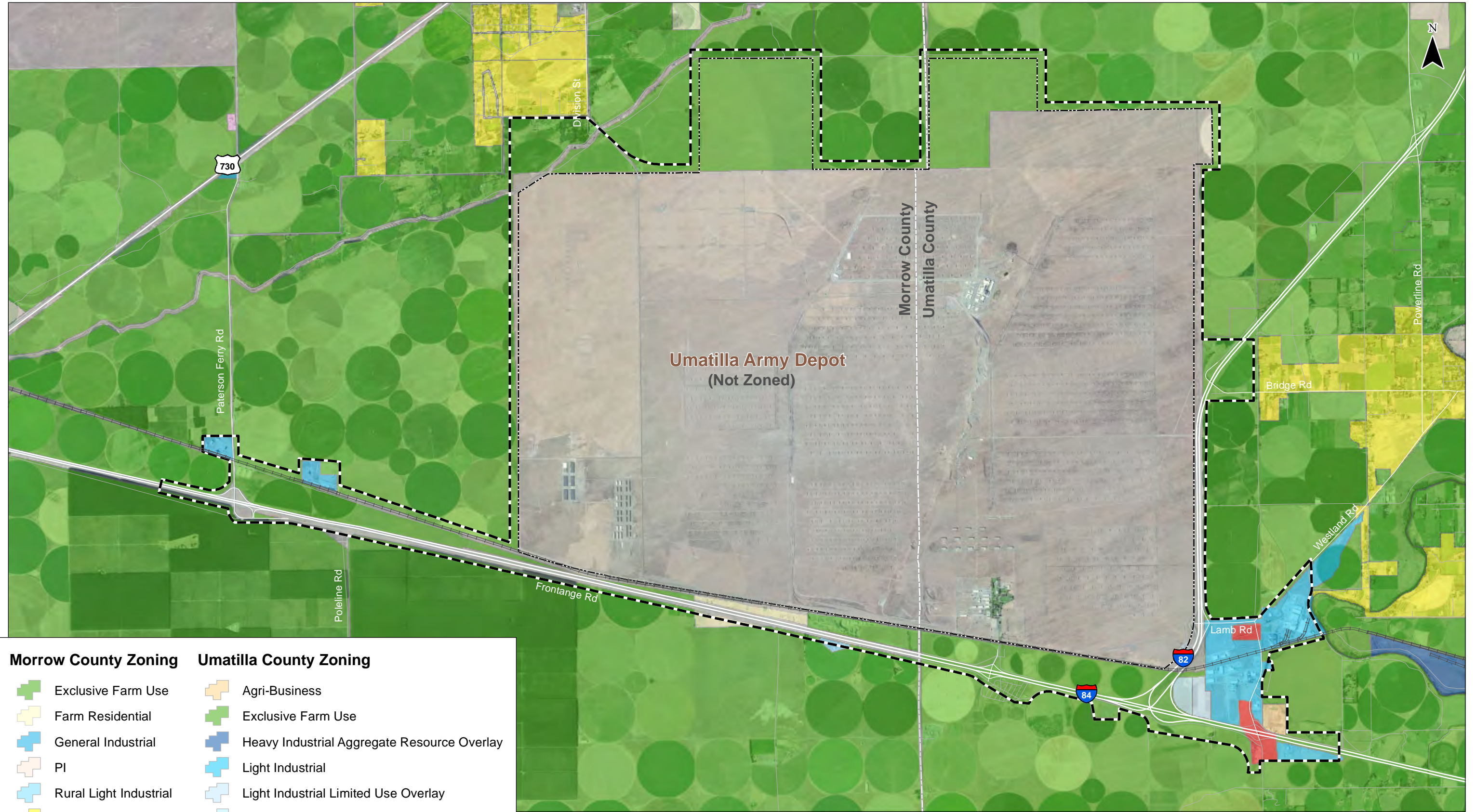
On May 14, 2013 the Umatilla Army Depot Local Reuse Authority (LRA) endorsed an economic development and land use strategy for future industrial and employment uses at the Umatilla Army Depot. This action authorized further planning necessary to implement county zoning on the portions of the site identified for industrial development. The recently completed a Land Use Analysis<sup>1</sup> provided the planning and zoning implementation approach for approximately 3,000 acres of industrial property. The Land Use Analysis was subject to a rigorous review by both Umatilla and Morrow Counties and both counties are expected to adopt comprehensive plan and zoning map amendments in early 2014.

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<sup>1</sup> *Statewide Land Use Goal Exceptions for the Umatilla Army Depot, Umatilla County*, Angelo Planning Group, September 2013 and *Statewide Land Use Goal Exceptions for the Umatilla Army Depot, Morrow County*, Angelo Planning Group, September 2013.

Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan  
Existing Land Use Analysis  
February 21, 2014

Once the counties complete their land use adoption process, specific areas of the UMCD will be designated for county uses subject to the land use regulations of either Umatilla or Morrow County. A discussion of future industrial and commercial land uses on the Depot site is discussed in Technical Memorandum #6.



**Morrow County Zoning**

- Exclusive Farm Use
- Farm Residential
- General Industrial
- PI
- Rural Light Industrial
- RR1
- RSC
- SR1

**Umatilla County Zoning**

- Agri-Business
- Exclusive Farm Use
- Heavy Industrial Aggregate Resource Overlay
- Light Industrial
- Light Industrial Limited Use Overlay
- Limited Rural Light Industrial
- Rural Residential 4
- Rural Tourist Commercial

- Land Use Study Area
- Umatilla Army Depot

**Zoning Designations  
Morrow / Umatilla Counties**

**Figure  
3-2**

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Because future development and redevelopment in the IMSA will be subject to the regulations associated with either Morrow County or Umatilla County land use designations, knowing the designations and permitted uses provides an idea of the type and intensity of traffic to be expected in the area. Table 3-1 presents a summary of zoning in the IMSA. Note that while the Depot Industrial zone has not yet been adopted or applied to areas expected to be under Umatilla County jurisdiction, County action is expected in early 2014. Likewise, Morrow County is in the process of modifying the requirements of the current Port Industrial zone designation and will be applying that zone to an area identified in Figures 3-2 in 2014. Attachment A provides a detailed summary of the purposes, permitted uses, and lot standards in each zoning district and the corresponding Comprehensive Plan designations.

**Table 3-1 - Overview IMSA Zoning**

Zone	Overview of Allowed Uses
<b>Morrow County</b>	
General Industrial	<ul style="list-style-type: none"> <li>• Zone allows retail and wholesale businesses, construction-related businesses, freight hubs, warehouses and distributions centers, machine shops, and food processing.</li> </ul>
Farm Residential	<ul style="list-style-type: none"> <li>• This zone designation is applied to pre-existing residential areas, outside the urban growth boundary, and allows single-family housing, farming (with some restriction), utilities, parks, community centers, and other public uses.</li> </ul>
Exclusive Farm Use	<ul style="list-style-type: none"> <li>• Uses are restricted to those that are compatible with agricultural uses.</li> </ul>
<b>Umatilla County</b>	
Light Industrial	<ul style="list-style-type: none"> <li>• Freight-related uses, equipment storage yard, machine shops, wholesale businesses, and manufacturing, compounding, assembling or treatment of a wide variety of products (excluding rendering plants) are permitted outright.</li> <li>• Information center, mini warehouse, veterinary clinic (excluding kennels), and professional office building are also permitted outright.</li> </ul>
Light Industrial Limited Use Overlay	<ul style="list-style-type: none"> <li>• Uses are limited to those consistent with those uses and general activities that were justified when the goal exception was taken (as cited in code, Ord. 94-19, passed 8/18/94).</li> </ul>
Limited Rural Light Industrial	<ul style="list-style-type: none"> <li>• Applied to lands zoned industrial after to January 1, 2004, allowed uses include those related to farm, forest or aggregate use such as wholesale business and storage buildings or warehouses.</li> <li>• Allowed uses include custom meat cutting and cold storage locker; food products processing (except meat processing and rendering plants), ice or cold storage plant and</li> </ul>

Zone	Overview of Allowed Uses
	<p>product manufacturing, compounding, assembling or treatment.</p> <ul style="list-style-type: none"> <li>Information center, mini-storage, greenhouse or nursery, veterinary clinic (kennels prohibited), truck sales, service, storage and maintenance (building size limited) are also permitted outright.</li> </ul>
Rural Tourist Commercial	<ul style="list-style-type: none"> <li>Applied to land where a Goal 14 exception has not been approved to permit the continuation and expansion of existing uses.</li> <li>Allowed uses include service stations, restaurants, hotels/motels, sporting goods shops, Laundromats, information centers and similar uses oriented toward the traveling public.</li> </ul>
Agri- Business	<ul style="list-style-type: none"> <li>Most farm uses are permitted outright in this zone; conditional uses include the collection, sorting and packaging or processing agricultural commodities, livestock feed yards, commercial nurseries and cold storage.</li> </ul>
Exclusive Farm Use	<ul style="list-style-type: none"> <li>Uses are restricted to those that are compatible with agricultural uses. Some of the EFU in the IMSA is within an Aggregate Resource Overlay, which is intended to provide for the flexibility in the extraction and processing of aggregate resources without requiring a public hearing for each use.</li> </ul>

## Existing Land Use

Existing land uses in the IMSA have been explored through a combination of aerial maps, Morrow and Umatilla Tax Assessor records, site visits and discussion with staff for both counties. Figure 3-3 provides a map of existing land uses in the IMSA.

Existing uses in Morrow County within the IMSA are largely agricultural or Depot-related, with the exception of some limited industrial uses north of the I-84 Paterson Ferry Road interchange. As shown on Figure 3-3, there are a several warehouse buildings to the west of the I-84/Army Depot interchange in Morrow County. To the east in Umatilla County, there are a number of Depot buildings that were designed and constructed according to military base structural standards in the early 1940's. These "magazine" buildings were designed to blow outward in the event of munitions explosion; some of the warehouses have been refurbished and are used for storage. Access to this area is gained by an entry road that connects with I-84 via the Army Depot interchange. Also in this area, the American Red Cross currently uses at least five concrete igloos on the Depot site for storage of emergency supplies and has been coordinating with the LRA to consolidate and expand this use into storage warehouse(s) located. The Depot is one of only three Red Cross

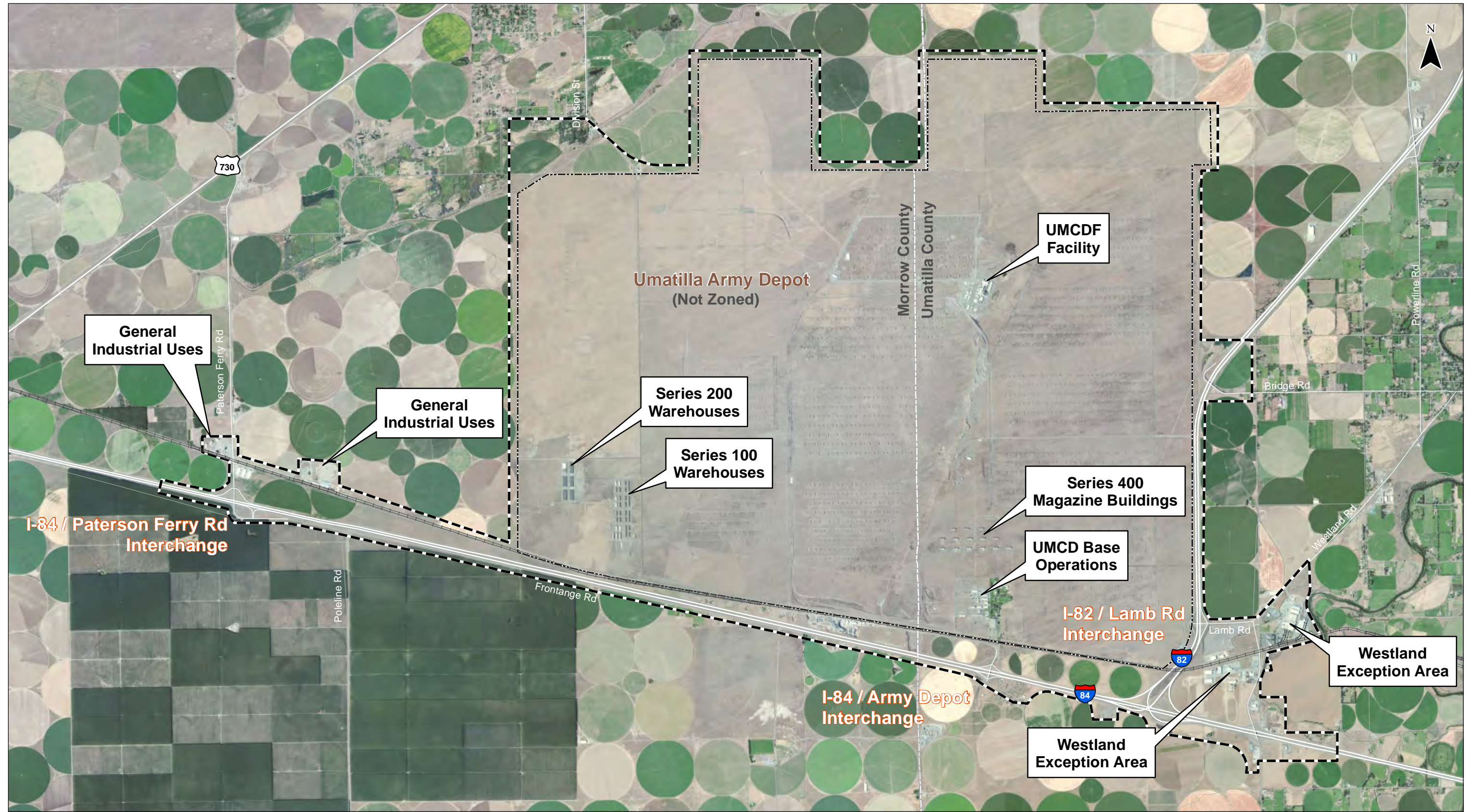
disaster field supply centers on the West Coast and the agency is refining its focus and hoping to boost its stores at the depot to be ready for a major disaster.<sup>2</sup>



The Umatilla Chemical Disposal Facility (UMCDF) site is the most recently and intensively developed areas within the Depot site. The structures were all constructed within the last ten years and there has been a recent and significant investment in infrastructure, including but not limited to electric power facilities, natural gas and communication facilities. Details regarding the UMCDF and other features of the Depot site are included in Technical Memorandum #6.

Developed land within the IMSA can also be found in the vicinity of the I-84/Westland Road Interchange. Existing urban scale uses, include freight warehouse and distribution facilities, food processing, cold storage and a power plant and substation.

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<sup>2</sup> See *Statewide Land Use Goal Exceptions for the Umatilla Army Depot, Umatilla County*, prepared by Angelo Planning Group, September 2013.



-  Land Use Study Area
-  Umatilla Army Depot

Existing Land Use Features

Figure 3-3

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The areas that are within the IMSA, but outside of the UMCD, have some industrial development that complies with the zoning described in the previous section. The most significant development opportunities are around the I-84/Westland Road Interchange, in particular where there are vacant or underutilized parcels.

Because it is expected that land uses will change in a manner that is consistent with the future county zoning, it is instructive to note potential future uses that may have a significant impact on the subject interchanges and transportation facilities approaching the interchanges. Future uses may also have particular service needs related to the freeway and other transportation facilities. These uses are discussed by zone district within the IMSA in Table 3-2.

**Table 3-2 - Notable Existing Land Uses by Zone District**

Zone	Existing and Potential Future Land Uses
<b>Morrow County</b>	
General Industrial	<ul style="list-style-type: none"> <li>Five parcels in the vicinity of I-84/Paterson Ferry Road are developed with industrial uses and are not expected to further develop/redevelop with more intensive uses within the IAMP planning horizon.</li> </ul>
Farm Residential	<ul style="list-style-type: none"> <li>Roughly 10-15 parcels to either side of I-84 south of the Depot are zoned Farm Residential. Several existing residences are present with access on Gun Club Ln. to the north of I-84 and Frontage Rd. to the south.</li> </ul>
Exclusive Farm Use	<ul style="list-style-type: none"> <li>No land use changes are expected in areas zoned EFU.</li> </ul>
<b>Umatilla County</b>	
Light Industrial	<ul style="list-style-type: none"> <li>Development in the exception area north and southeast of I-84/Westland Road Interchange is predominantly truck-freight related, with both a 100,000 square foot FedEx facility and a 25,000 square foot UPS distribution center operating within the zone.</li> <li>A 350,000 square foot Lamb Weston Food Processing plant, 160,000- square foot Americold building, and approximately 180,000 square foot Hermiston Generating Company Power Plant and Substation are also located within this zone.</li> <li>A portion of this exception area is zoned Light Industrial with a Limited Use overlay (see below).</li> </ul>
Light Industrial Limited Use Overlay	<ul style="list-style-type: none"> <li>Roughly 35 acres of the Light Industrial land north of I-84/Westland Road Interchange is covered by a Limited Use overlay, which limits uses to those justified by the Goal Exception Statement.</li> <li>An approximately 100,000 square foot Fed-Ex warehouse and distribution facility is located within the overlay.</li> </ul>



Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan  
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Zone	Existing and Potential Future Land Uses
Limited Rural Light Industrial	<ul style="list-style-type: none"> <li>• 30 acres to the west of the Light Industrial Limited Use area is zoned Limited Rural Light Industrial. The land appears vacant. Consistent with the zoning, future uses in this area could include light manufacturing, storage and freight-related businesses.</li> </ul>
Rural Tourist Commercial	<ul style="list-style-type: none"> <li>• Land in two separate areas near the I-84/Westland Road Interchange is zoned Rural Tourist Commercial.</li> <li>• The northern, 20-acre segment appears to be vacant.</li> <li>• The 89-acre area in the south contains land both north and south of the interchange. The northern area appears vacant, while the area south of the interchange contains a Shell gas station.</li> </ul>
Agri-Business	<ul style="list-style-type: none"> <li>• About 30 acres of land near the I-84/Westland Road Interchange is designated Agribusiness. The land is currently being used as a livestock storage or processing facility. [Northwestern Livestock Commission]</li> </ul>
Exclusive Farm Use	<ul style="list-style-type: none"> <li>• No land use changes are expected in areas zoned EFU. Three discrete portions of EFU land along I-84 to the south and southeast of the Depot lie within an Aggregate Resource Overlay. At least two aggregate extraction/processing uses are present south of I-84.</li> </ul>



### Attachment A: County Zoning District Regulations

As discussed the memorandum, land in the IMSA is subject to the land use regulations in the Morrow County Zoning Ordinance and the Umatilla County Development Code. Because future development and redevelopment in the IMSA will be subject to county requirements, knowing the zoning designations, permitted uses, and lot standards in the IMSA provides information about the type and intensity of transportation demand to be expected in the area. Table A-1 provides a detailed summary of the purposes, permitted uses, and lot standards in each zoning district in the IMSA and the corresponding Comprehensive Plan designation. While not yet applied to land within the IMSA, both the Port Industrial (Morrow County) and the Depot Industrial (Umatilla County) zones are also included in Table A-1 for reference. Note that the list of uses under each zoning district is not exhaustive, but is meant to provide an indication of the type and intensity of land uses permitted, or permitted conditionally.

Table A-1 - IMSA Zoning Districts and Comprehensive Plan Designations

Zoning District	Purpose, Permitted Uses and Lot Standards	Corresponding Comprehensive Plan Designation
<b>Morrow County</b>		
Port Industrial	Purpose <ul style="list-style-type: none"> <li>• To provide for port-related industrial uses and aerospace-related uses which are not devoted to research and development</li> <li>• Intended to be applied to primarily port-owned lands</li> </ul> Uses <ul style="list-style-type: none"> <li>• Aerospace-related industrial uses, power generating and utility facilities and manufacturing, refining, processing or assembling of any agricultural, mining or industrial product are permitted outright</li> <li>• Commercial uses that serve the needs of employees within the zone are permitted conditionally</li> <li>• Mineral extraction/mining uses, asphalt plants and solid waste transfer stations are permitted conditionally.</li> </ul>	Industrial



Zoning District	Purpose, Permitted Uses and Lot Standards	Corresponding Comprehensive Plan Designation
	Lot and Building Standards <ul style="list-style-type: none"> <li>No minimum lot size</li> </ul>	
General Industrial	Purpose <i>None indicated.</i>  Uses <ul style="list-style-type: none"> <li>Retail and wholesale businesses, construction-related businesses, freight hubs, warehouses and distributions centers, machine shops, and food processing.</li> <li>More intensive manufacturing and processing uses, industrial uses entailing outdoor storage, and public and semi-public uses are permitted conditionally.</li> </ul> Lot and Building Standards <ul style="list-style-type: none"> <li>No minimum lot size.</li> </ul>	Industrial
Farm Residential (FR2)	Purpose To provide a rural residential zone that acknowledges pre-existing homes on small lots outside the Urban Growth Boundary (UGB).  Uses <ul style="list-style-type: none"> <li>Single-family housing, farming (with some restriction), utilities, parks, community centers, and other public uses that serve rural residential uses are allowed outright.</li> <li>Duplexes, water and sewer facilities, golf courses, stables, and vet clinics are permitted conditionally.</li> </ul> Lot and Building Standards <ul style="list-style-type: none"> <li>Lots in this zone must be at least two acres.</li> </ul>	
Exclusive Farm Use	Purpose	



Zoning District	Purpose, Permitted Uses and Lot Standards	Corresponding Comprehensive Plan Designation
	<ul style="list-style-type: none"> <li>• Preservation of agricultural land and uses</li> <li>• Only allow uses that are compatible with agricultural uses.</li> </ul> <p>Uses</p> <ul style="list-style-type: none"> <li>• Agricultural production and harvesting, buildings associated with agricultural uses, accessory dwellings, farm worker dwellings, restoration of established dwellings and other lawful buildings, improvements to roads, schools not within three miles of the UGB, churches, wineries, and solid waste disposal facilities (with restrictions) are permitted outright in the EFU zone.</li> <li>• Certain single-family homes, mining operations, golf courses, private recreation facilities, public- or non-profit-owned parks and community centers, utilities, road expansions, and other solid waste and composting facilities are uses that are permitted conditionally.</li> </ul> <p>Lot and Building Standards</p> <ul style="list-style-type: none"> <li>• The lot standard for agricultural units in the zone is 160 acres.</li> </ul>	
<b>Umatilla County</b>		
Depot Industrial	<p>Purpose</p> <ul style="list-style-type: none"> <li>• To apply appropriate zoning to planned land uses as lands are transferred out of federal ownership.</li> </ul> <p>Uses</p> <ul style="list-style-type: none"> <li>• Freight-related uses, contractor’s equipment storage yard, machine shop, welding shop, wholesale businesses, and manufacturing, compounding, assembling or treatment of a wide variety of products (excluding rendering plants) are permitted outright in all three Subareas.</li> <li>• Ice or cold storage plant and greenhouse or nursery are allowed in Subareas 1 and 2.</li> <li>• Bottling work, concrete block or pipe manufacture, custom meet cutting and cold storage locker and food products manufacturing (with exclusions) are allowed in Subareas 1 and 3.</li> </ul>	Industrial



Zoning District	Purpose, Permitted Uses and Lot Standards	Corresponding Comprehensive Plan Designation
	<ul style="list-style-type: none"> <li>• Grain elevator or flower mill is allowed in Subarea 1; data centers are allowed in Subareas 2 and 3.</li> <li>• Additional conditional uses are allowed in Subarea 3 and include automobile wrecking yard, commercial gravel pit, concrete or asphalt manufacturing plant, and utility facility and power generation plant (also allowed conditionally in Subarea 1).</li> <li>• Retail and service uses may be located in Subarea 1, but are limited to a maximum of 5% of the total acreage within the DI Zone (excluding the restricted area). A master plan is required prior to the issuance of a zoning permit for development. Allowed uses include vehicle sales and leasing, leasing or renting consumer, home, and business goods (including groceries, garden supplies and furniture), and entertainment uses (including restaurants, bars, bowling alleys, theaters, health clubs and recreational vehicle parks).</li> </ul> <p>Lot and Building Standards</p> <ul style="list-style-type: none"> <li>• Minimum lot size is one acre, unless subsurface disposal system can be located on less.</li> </ul>	
Light Industrial	<p>Purpose</p> <ul style="list-style-type: none"> <li>• Provide areas for industrial use that are less intensive than heavy industrial uses, less offensive to adjacent land uses, and are compatible with certain commercial uses.</li> <li>• Areas near major transportation facilities (including highways, railroads, and waterways) that are generally suited for industry are appropriately zoned LI.</li> </ul> <p>Uses</p> <ul style="list-style-type: none"> <li>• Freight-related uses, contractor’s equipment storage yard, machine shop, welding shop, wholesale businesses, and manufacturing, compounding, assembling or treatment of a wide variety of products (excluding rendering plants) are permitted outright.</li> <li>• Information center, mini warehouse, veterinary clinic (excluding kennels), and professional office building are also permitted outright.</li> <li>• Conditional uses include automobile service station, automobile wrecking yard, commercial amusement</li> </ul>	Industrial



Zoning District	Purpose, Permitted Uses and Lot Standards	Corresponding Comprehensive Plan Designation
	<p>establishment, commercial gravel pit, daycare and junkyards.</p> <ul style="list-style-type: none"> <li>Major manufacturing, repairing, compounding, fabricating, assembling, processing, or storage is also permitted as a conditional use, with minimum employment (200 employees or more) and size (20 acres or more) restrictions.</li> </ul> <p>Lot and Building Standards</p> <ul style="list-style-type: none"> <li>Minimum lot size is one acre, unless subsurface disposal system can be located on less.</li> </ul>	
<p>Limited Use Overlay (Light Industrial)</p>	<p>Purpose</p> <ul style="list-style-type: none"> <li>Limit the list of permitted uses and general activities allowed in the underlying zone when a plan amendment and zone change rezones a parcel to that underlying zone through the taking of an exception to a statewide land use planning goal.</li> </ul> <p>Uses</p> <ul style="list-style-type: none"> <li>A commercial service center, approved as part of the FedEx Freight facility.</li> </ul>	<p>Light Industrial</p>
<p>Limited Rural Light Industrial</p>	<p>Purpose</p> <ul style="list-style-type: none"> <li>Provide areas for industrial uses that are appropriate for rural locations, less intensive than heavy industrial uses, less offensive to adjacent land uses, and are compatible with certain commercial uses.</li> <li>Areas near major transportation facilities (including highways, railroads, and waterways) that are generally suited for industry are appropriately zoned LRLI.</li> <li>Applied to lands zoned industrial after to January 1, 2004 that are outside unincorporated communities and urban growth boundaries.</li> </ul> <p>Uses</p> <ul style="list-style-type: none"> <li>Industrial uses in conjunction with farm, forest or aggregate use.</li> <li>Wholesale business, storage building or warehouse, in conjunction with farm or forest use.</li> </ul>	<p>Industrial</p>



Zoning District	Purpose, Permitted Uses and Lot Standards	Corresponding Comprehensive Plan Designation
	<ul style="list-style-type: none"> <li>• Custom meat cutting and cold storage locker; food products processing (except meat processing and rendering plants), ice or cold storage plant.</li> <li>• Blacksmith or machine shop; contractor's equipment storage yard; product manufacturing, compounding, assembling or treatment.</li> <li>• Information center, mini-storage, greenhouse or nursery, veterinary clinic (kennels prohibited), truck sales, service, storage and maintenance (building not to exceed 35,000 square feet of floor space).</li> <li>• Conditional uses include automobile wrecking yard, commercial gravel extraction and processing, concrete manufacturing, utility and public power generating facilities, wood processing facilities and junkyards.</li> </ul> <p>Lot and Building Standards</p> <ul style="list-style-type: none"> <li>• Minimum lot size is one acre, unless subsurface disposal system can be located on less.</li> <li>• Some size restrictions may apply for building expansions where the structure existed on or before November 12, 2005.</li> </ul>	
<p>Rural Tourist Commercial</p>	<p>Purpose</p> <ul style="list-style-type: none"> <li>• To serve the traveling public along major traffic corridors or at appropriate recreational locations outside unincorporated communities and urban growth boundaries, including major interstate interchanges.</li> <li>• Applied to commercial lands outside unincorporated communities and urban growth boundaries for which an exception to Goal 14 has not been approved.</li> <li>• Permit the continuation and expansion of existing uses and to provide rural scale tourism-related employment uses.</li> </ul> <p>Uses</p> <ul style="list-style-type: none"> <li>• Service stations, eating establishments, over-night accommodations, sporting goods or bait shop, laundromat</li> <li>• Information center</li> </ul>	<p>Commercial</p>



Zoning District	Purpose, Permitted Uses and Lot Standards	Corresponding Comprehensive Plan Designation
	<p>Lot and Building Standards</p> <ul style="list-style-type: none"> <li>• Minimum lot size is one acre, unless subsurface disposal system can be located on less.</li> <li>• Buildings may not exceed 3,500 square feet of floor space, unless the pre-date July 1, 2005.</li> <li>• Motels and hotels that existed on July 1, 2005 may expand up to 35 units or up to 50% of the number of existing units, whichever is larger, with no limitation on square footage.</li> <li>• Structures that existed on July 1, 2005 may expand to a building size of 4,500 square feet or to a size that is 50% larger than the building size that existed on July 1, 2005, whichever is larger.</li> </ul>	
Agri-Business Zone	<p>Purpose</p> <ul style="list-style-type: none"> <li>• To provide areas for certain types of agriculturally oriented businesses and services, such as storage, handling or processing of agricultural products, which may not otherwise need to be located in more intensive commercial or industrial areas.</li> </ul> <p>Uses</p> <ul style="list-style-type: none"> <li>• Farm use are permitted outright, with the exception of livestock feed yards and sale yards and hog farms, which are conditional uses, and the raising of fur-bearing animals and poultry farms, which are prohibited.</li> <li>• Collection, sorting and packaging or processing agricultural commodities, slaughter house, commercial greenhouse or nursery and cold storage are all conditionally permitted uses.</li> </ul>	
Exclusive Farm Use	<p>Purpose</p> <ul style="list-style-type: none"> <li>• Preserve and maintain agricultural lands for farm use, including range and grazing uses</li> <li>• Conserve and protect scenic resources; to maintain and improve the quality of air, water and land resources of the county</li> <li>• Establish criteria and standards for farm and non-farm uses and related and supportive uses which are deemed appropriate.</li> </ul>	Exclusive Farm Use





Zoning District	Purpose, Permitted Uses and Lot Standards	Corresponding Comprehensive Plan Designation
	<p>Uses</p> <ul style="list-style-type: none"><li>• Farm use, as defined in ORS 215.203, farm dwelling/accessory dwellings, accessory buildings</li><li>• Farm stand, winery, and agri-tourism (single event).</li><li>• Conditional uses include mining, private and public parks, community center and solid waste disposal</li></ul> <p>Lot Standards</p> <ul style="list-style-type: none"><li>• Farm parcels, minimum of 80 acres</li><li>• Non-farm dwelling parcels, minimum 4 acres unless site suitability approval from the Department of Environmental Quality can be obtained</li></ul>	

Appendix E  
Technical Memorandum #4:  
Existing Transportation  
Facilities and Traffic Operations



## TECHNICAL MEMORANDUM #4 - FINAL

### Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan

Existing Transportation Facilities and Traffic Operations

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Date: February 21, 2014 Project #:13848  
To: Don Chance (UMADRA); Technical/Public Advisory Committee (TPAC)  
From: Matt Hughart, AICP; Pat Marnell; Marc Butorac, P.E.; Andy Lindsey, P.E.  
cc: Frank Angelo & Darci Rudzinski, Angelo Planning Group

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This memorandum provides a review of existing transportation facilities, traffic operations, safety, and access within the vicinity of the following three interchanges:

- Interstate 84 (I-84) / Paterson Ferry Road (Exit 171),
- Interstate 84 (I-84) / Umatilla Army Depot Access Road (Exit 177), and
- Interstate 82 (I-82) / Lamb Road (Exit 10)

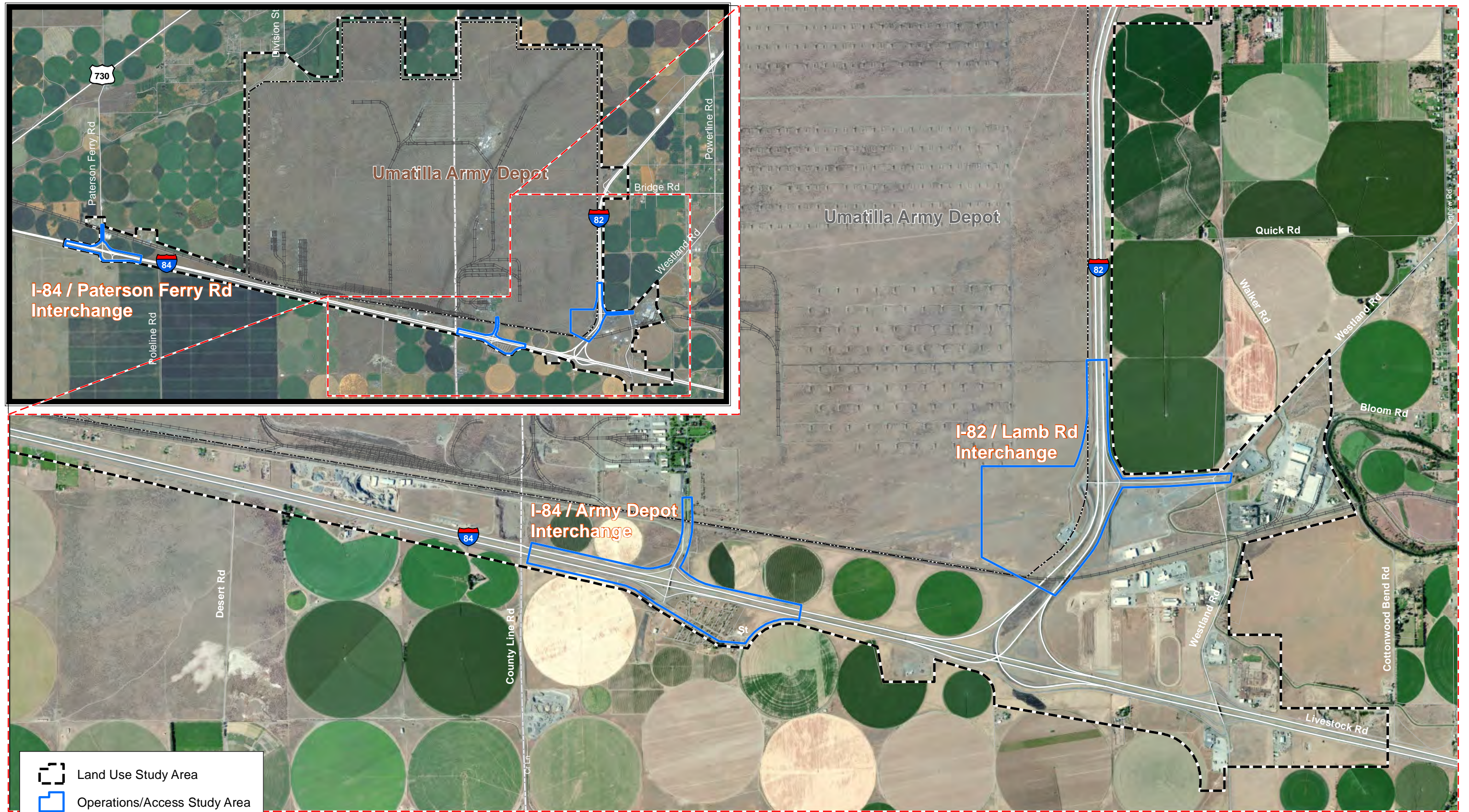
The information summarized in this memorandum is intended to provide a basis for informing and identifying potential long-term opportunities and constraints for meeting the goals and objectives of the Umatilla Army Depot Combined IAMP and Transportation Subarea Plan.

## STUDY AREA

To help define the extent of the land use and transportation review for this study effort, an Interchange Management Study Area (IMSA) has been defined and depicted in Figure 4-1. As the figure shows, the IMSA has been drawn to include those areas within the vicinity of the three interchanges that have, or are expected to have a direct impact on the daily function of the three study interchanges. Note that for purposes of predicting future transportation demand and circulation patterns, existing and allowed land uses in the vicinity of the I-84/Westland Road Interchange will also be considered (see Technical Memorandum #6), but traffic operations and safety analysis has been the subject of previous studies and will not be addressed in detail as part of this IAMP process.<sup>1</sup>

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<sup>1</sup> Umatilla County Westland Road/I-84/I-82 Interchange Area Transportation Plan, 2004, H. Lee & Associates in Association.



**Interchange Management Study Area  
Morrow / Umatilla Counties**

**Figure  
4-1**

H:\proj\113848 - Umatilla Subarea Plan and Combined IAMP\figs\13848\_Fig02.mxd - jscmerville - 2:54 PM 2/24/2014

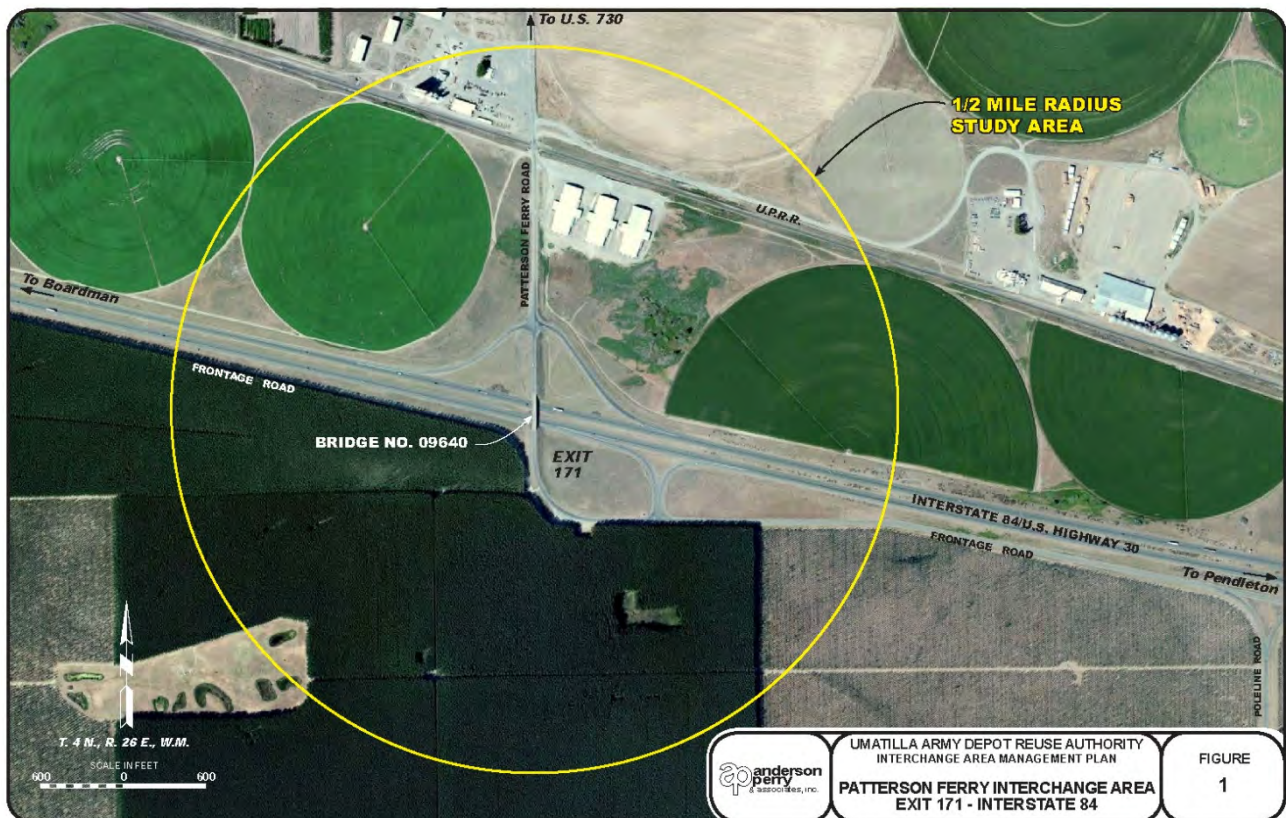
## EXISTING TRANSPORTATION INVENTORY

The existing transportation inventory provides a detailed description of all transportation facilities and travel modes within the study area. In addition, the inventory identifies the current operational, traffic control, and geometric characteristics of roadways and other transportation facilities within the IMSA. A detailed description of these facilities is provided in the following sections.

### I-84 / Paterson Ferry Road (Exit 171) Interchange

The I-84/Paterson Ferry Road interchange is located at Exit 171 in Morrow County. The westbound ramp terminal is a diamond interchange with ramps connecting to Paterson Ferry Road. The eastbound ramp terminal is a Parclo-B (with exiting loop ramp and standard entering on-ramp beyond the crossroad) interchange connecting to Frontage Road. Both east- and westbound ramp terminals are stop-controlled. The interchange area is shown on Exhibit 4-1.

#### Exhibit 4-1 - I-84/Paterson Ferry Road Interchange



### Interchange Structure

The Paterson Ferry Road overpass is a steel girder structure with a reinforced concrete deck with two travel lanes over I-84. The structure was last inspected in March 2012. Some noteworthy remarks from the inspection include small transverse cracking in the reinforced concrete deck, at approximately 4- to 6-foot spacing, as well as some spots of rust on the girders and splice plate. The bridge rail is noted as

substandard, which is typical for bridges of this age. Structurally, the overpass is sound and received a sufficiency rating of 94.7. Table 4-1 provides a summary of the overpass structure.

**Table 4-1 - I-84/Paterson Ferry Road Interchange Structure**

	Structure Details
Bridge Identification Number	09640
Year Built	Overpass constructed in 1967, Interchange added in 1991
Last Inspected	March 5, 2012
Lanes	2 On : 4 Under
Average Daily Traffic (ADT)	270
Year of ADT	2010
Number of Main Spans	5
Structure Length	265 feet
Deck Width	32.2 feet
Vertical Clearance Below Deck	17.2 feet
Design Load/Restrictions	HS 20/No Restrictions
Sufficiency Rating	94.7

**Ramp Evaluation**

All four interchange ramps were evaluated to determine the existing design parameters. This includes the speed change area and the main curve of each ramp. The required speed change lane lengths for both the entrance and exit ramps are based on the existing design speed of the main curve of the ramps. Required exit ramp speed change lane lengths are based on truck traffic exiting the interstate. All design features evaluated are approximate and further investigation must be done to determine actual values.

*Existing Eastbound Interchange*

The existing conditions of the eastbound entrance and exit ramps are shown on Table 4-2. The entrance ramp has adequate speed change area for traffic accelerating onto I-84. However, the exit ramp speed change area does not meet current design standards.

**Table 4-2 - I-84/Paterson Ferry Road Interchange, Eastbound Ramps**

	Approximate Design Speed (mph)	Needed Acceleration Length (feet)	Existing Acceleration Length (feet)	Needed Deceleration Length (feet)	Existing Deceleration Length (feet)
Entrance Ramp	35*	1,000**	1,300		
Exit Ramp	35*			750**	500

\*Approximate

\*\*Values from ODOT Highway Design Manual Chapter 9 Grade Separation & Interchanges  
mph = miles per hour

### Existing Westbound Interchange

The existing conditions of the westbound entrance and exit ramps are shown in Table 4-3. The entrance ramp has adequate speed change area for traffic accelerating onto I-84. However, the exit ramp speed change area does not meet current design standards.

**Table 4-3 - I-84/Paterson Ferry Road Interchange, Westbound Ramps**

	Approximate Design Speed (mph)	Needed Acceleration Length (feet)	Existing Acceleration Length (feet)	Needed Deceleration Length (feet)	Existing Deceleration Length (feet)
Entrance Ramp	50*	750**	850		
Exit Ramp	55*			440**	250

\*Approximate

\*\*Values from ODOT Highway Design Manual Chapter 9 Grade Separation & Interchanges

mph = miles per hour

### Roadways Served

#### Paterson Ferry Road

Paterson Ferry Road is a Rural Major Collector located entirely in Morrow County. It runs north-south from the Columbia River Highway (US 730) to I-84. It serves primarily rural farm land and a small number of rural industrial properties located near the Union Pacific railroad tracks, north of the I-84/Paterson Ferry Road interchange. There is currently no access between Paterson Ferry Road and the Umatilla Army Depot.

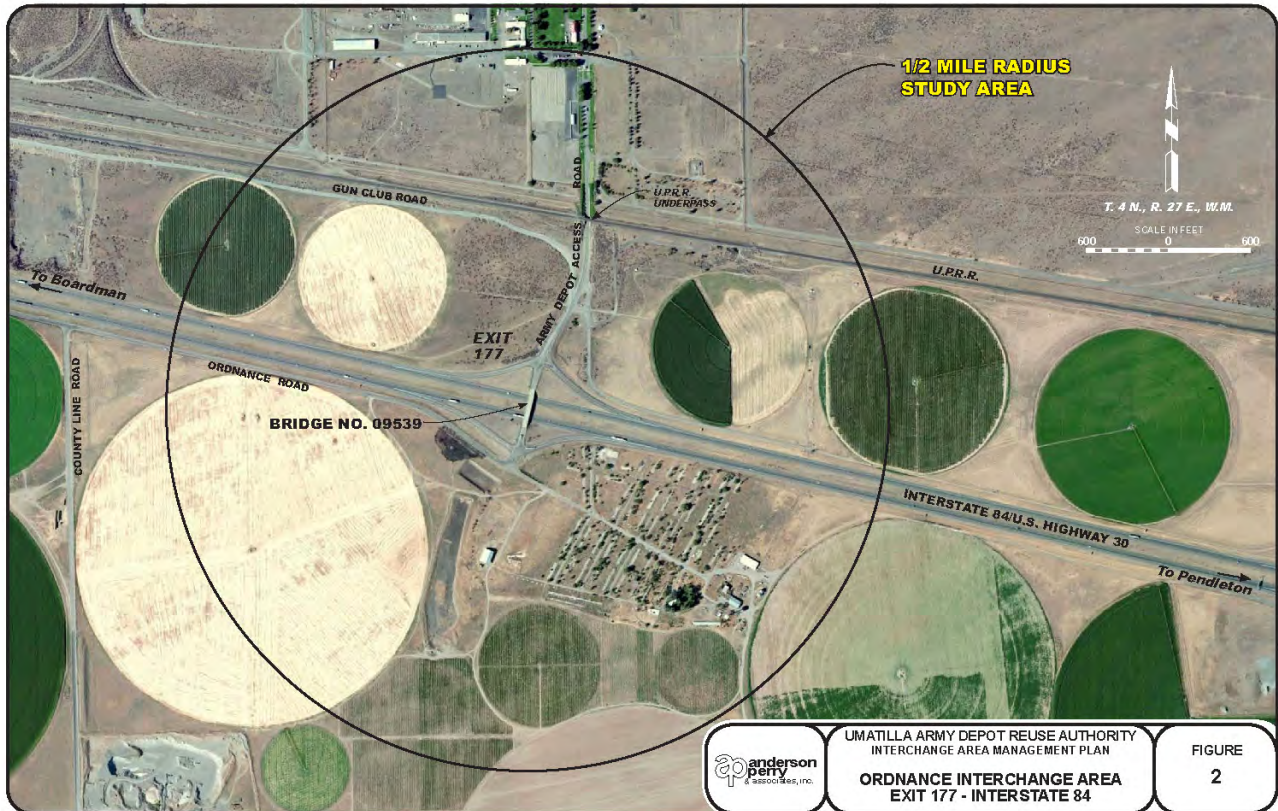
#### Frontage Road

Frontage Road is a Morrow County roadway that is gravel west of the I-84/Paterson Ferry Road interchange and a two-lane paved road to the east. The road provides a connection from Paterson Ferry Road to Bombing Range Road to the west and Poleline Road to the east. The road runs east-west and parallel to I-84. This road provides access to poplar plantations located south of I-84 and is classified as a Rural Major Collector.

## I-84/Umatilla Army Depot Access Road (Exit 177) Interchange

The I-84/Umatilla Army Depot Access Road interchange is located at Exit 177 in Umatilla County. The interchange is a traditional diamond-style interchange. The eastbound ramp terminal intersects Frontage Road/Ordnance Road while the westbound ramp terminal intersects the Umatilla Army Depot Access Road. Both east- and westbound ramp terminals are stop-controlled. The interchange area is shown on Exhibit 4-2.

**Exhibit 4-2 - I-84/Umatilla Army Depot Access Road Interchange**



### **Interchange Structure**

The I-84/Umatilla Army Depot Access Road overpass is a steel girder structure with a reinforced concrete deck. The structure was last inspected in March 2012. The inspection found large transverse cracks through the deck, spaced at approximately 4 to 6 feet. Rust was also noted on the girders, steel columns, and splice plates. The bridge rail is noted as substandard, which is typical for bridges of this age. Structurally, the bridge is sound and has a sufficiency rating of 96.6. Table 4-4 provides a summary of the structure.



**Table 4-4 - I-84/Umatilla Army Depot Access Road Interchange Structure**

	Structure Details
Bridge Identification Number	09539
Year Built	1967
Last Inspected	March 7, 2012
Lanes	2 On : 4 Under
ADT	330
Year of ADT	2010
Number of Main Spans	5
Structure Length	284 feet
Deck Width	38.1 feet
Vertical Clearance Below Deck	16.6 feet
Design Load/Restrictions	HS 20/No Restrictions
Sufficiency Rating	96.6

**Ramp Evaluation**

All four interchange ramps were evaluated to determine the existing design parameters. This includes the speed change area and the main curve of each ramp. The required speed change lane lengths for both the entrance and exit ramps are based on the existing design speed of the main curve of the ramps. Required exit ramp speed change lane lengths are based on truck traffic exiting the interstate. All design features evaluated are approximate and further investigation must be done to determine actual values.

*Existing Eastbound Interchange*

The existing conditions of the eastbound entrance and exit ramps are shown on Table 4-5. The eastbound entrance ramp has adequate speed change area for traffic accelerating onto I-84. However, the eastbound exit ramp speed change area does not meet current design standards.

**Table 4-5 - I-84/Umatilla Army Depot Access Road Interchange, Eastbound Ramps**

	Approximate Design Speed (mph)	Needed Acceleration Length (feet)	Existing Acceleration Length (feet)	Needed Deceleration Length (feet)	Existing Deceleration Length (feet)
Entrance Ramp	50*	750	750		
Exit Ramp	60*			450	400

\*Approximate

\*\*Values from ODOT Highway Design Manual Chapter 9 Grade Separation & Interchanges

mph = miles per hour

*Existing Westbound Interchange*

The existing conditions of the westbound entrance and exit ramps are shown in Table 4-6. The westbound entrance ramp has adequate speed change area for traffic accelerating onto I-84. However, the westbound exit ramp speed change area does not meet current design standards.

**Table 4-6 - I-84/Paterson Ferry Road Interchange, Westbound Ramps**

	Approximate Design Speed (mph)	Needed Acceleration Length (feet)	Existing Acceleration Length (feet)	Needed Deceleration Length (feet)	Existing Deceleration Length (feet)
Entrance Ramp	55*	750	800		
Exit Ramp	55*			450	350

\*Approximate

\*\*Values from ODOT Highway Design Manual Chapter 9 Grade Separation & Interchanges  
 mph = miles per hour

**Roadways Served**

*Umatilla Army Depot Access Road*

Army Depot Access Road connects the main entrance of the Umatilla Army Depot to I-84 at exit 177. It is a paved two-lane roadway that has an underpass located approximately one-quarter mile from the interchange. The underpass carries two lanes of traffic and 4-foot sidewalks on each side of the road underneath the Union Pacific Railroad and has a 15-foot vertical clearance and a 30-foot horizontal clearance. Additionally, this road provides access to Gun Club Lane and several parcels of exclusive farm land located directly south of the Umatilla Army Depot.

ODOT owns the access road within the immediate vicinity of the interchange ramp terminals while Umatilla County owns the road up to the Union Pacific Railroad underpass. From there, the road is considered to be part of the Umatilla Army Depot.

*Gun Club Lane*

Gun Club Lane is a gravel road that connects to the Umatilla Army Depot Access Road. The road provides access to the local gun club as well as rock quarries and agricultural fields. The road is a local Umatilla County roadway that parallels both I-84 to the south and Union Pacific Railroad to the north.

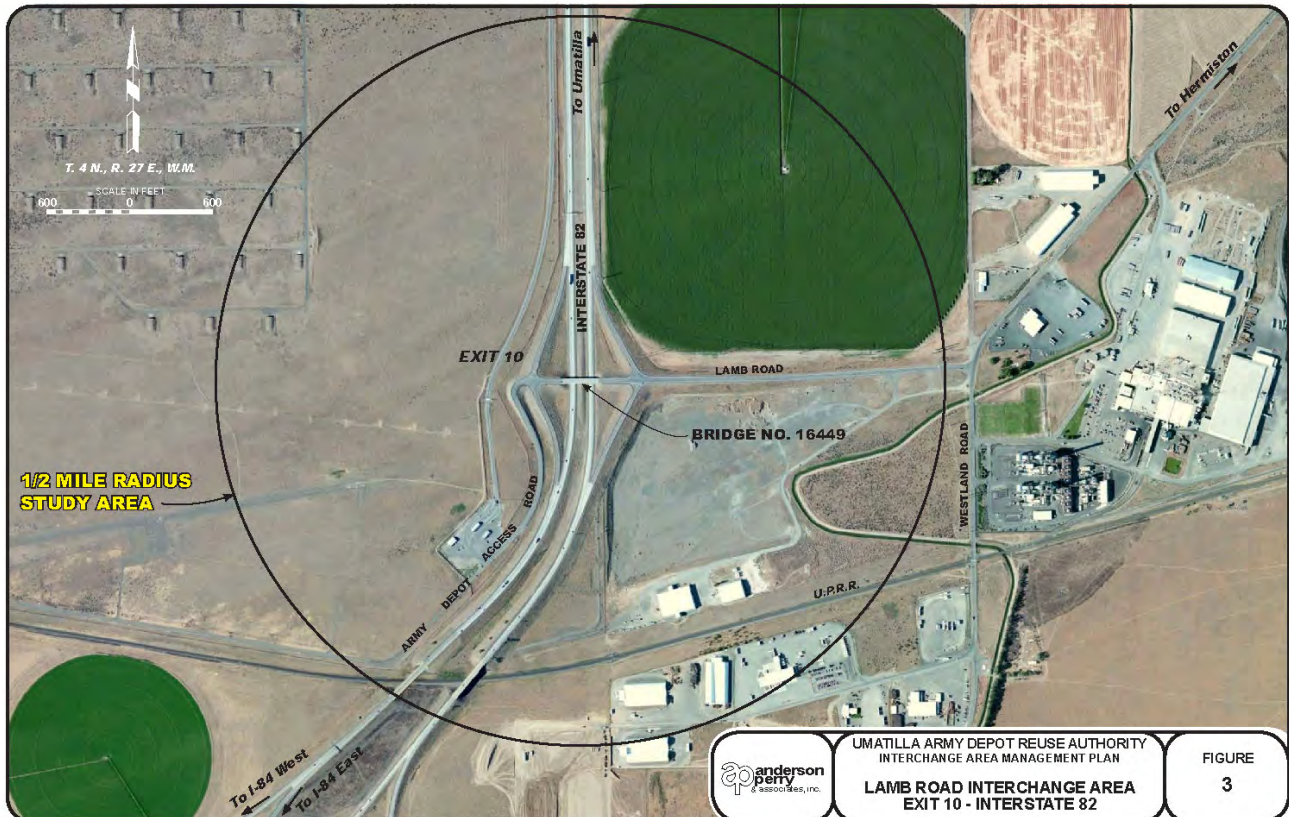
*Ordnance Road/Frontage Road*

Ordnance Road is a two-lane paved road that offers a connection from Exit 177 to County Line Road, Poleline Road, and Paterson Ferry Road to the west. The Umatilla County roadway runs east-west, parallel to I-84, and is classified as a Rural Major Collector. Ordnance Road has several small accesses to agricultural fields.

## I-82 / Lamb Road (Exit 10) Interchange

The I-82/Lamb Road interchange is located at Exit 10 in Umatilla County and provides accessibility to industrial areas as well as the City of Hermiston. The interchange is a diamond-style interchange, with access from both east- and westbound lanes. The east- and westbound off-ramps enter onto Lamb Road. Both east- and westbound off-ramps are stop-controlled. The interchange area is shown on Exhibit 4-3.

### Exhibit 4-3 - I-82/Lamb Road Interchange



### Interchange Structure.

The I-82/Lamb Road interchange is a prestressed concrete girder structure with reinforced concrete columns, abutments, and deck. The overpass carries two lanes of Lamb Road over I-82. The structure was last inspected in September 2013. The inspection noted that, though there was slight cracking in the deck, it was minimal overall and there was also minor cracking in the abutment and pier caps. Structurally, the overpass is sound with a sufficiency rating of 95.6. Table 4-7 provides a summary of the structure.

**Table 4-7 - I-82/Lamb Road Interchange Structure**

	Structure Details
Bridge Identification Number	16449
Year Built	1985
Last Inspected	September 25, 2013
Lanes	2 On : 4 Under
ADT	1,800
Year of ADT	2010
Number of Main Spans	2
Structure Length	262 feet
Deck Width	39.2 feet
Vertical Clearance Below Deck	16.9 feet
Design Load/Restrictions	HS 25/No Restrictions
Sufficiency Rating	95.6

### ***Roadways Served***

#### *Lamb Road*

Lamb Road is a two-lane paved road that provides access from Exit 10 to the Umatilla Army Depot to the west and Westland Road to the east. Lamb Road is a Umatilla County roadway and is classified as a Rural Major Collector.

#### *Umatilla Army Depot East Gate Access Road*

The Umatilla Army Depot East Gate Access Road is a two-lane paved road that provides access from Lamb Road/ Exit 10 at I-82 to the southeast entrance of the Depot.

#### *I-82*

I-82 is a four-lane Interstate Highway that runs north-south through Umatilla County between I-84 and the Washington State line. I-82 is part of the National Highway System and is designated in the Oregon Highway Plan as an Interstate Highway, Freight Route, and Truck Route. I-82 connects I-84 and I-90 and provides the primary freight and passenger car route between the Seattle-Tacoma metropolitan area and the Boise, Idaho and Salt Lake City, Utah metropolitan areas.

#### *I-84*

I-84 is a four-lane Interstate Highway that runs east-west through Morrow and Umatilla Counties. Like I-82, I-84 is part of the National Highway System and is designated in the Oregon Highway Plan as an Interstate Highway, Freight Route, and Truck Route. I-84 is the primary east-west highway in the State of Oregon and connects the Portland metropolitan area to the Boise, Idaho metropolitan areas.

A summation of all study area roadways and their characteristics is provided in Table 4-8.

**Table 4-8 - Existing Transportation Facilities and Roadway Designations**

Interchange	Roadway	Roadway Ownership/ Functional Classification	Cross-Section	Posted Speed (MPH)	Side-walks, Bike Lanes, On Street Parking
I-84/Paterson Ferry Road Interchange	I-84	ODOT - <i>Interstate Highway</i>	4-Lanes	65	-
	Paterson Ferry Road	Morrow County - <i>Rural Major Collector</i>	2-Lanes	Not Posted	None
	Frontage Road	Morrow County - <i>Rural Major Collector</i>	2-Lanes	Not Posted	None
I-84/ Army Depot Access Road	I-84	ODOT - <i>Interstate Highway</i>	4-Lanes	65	-
	Umatilla Army Depot Access Road	Umatilla County - <i>Local Road</i>	2-Lanes	Not Posted	None
	Gun Club Lane	Umatilla County - <i>Local Road</i>	2-Lanes (gravel)	Not Posted	None
	Frontage Road/ Ordnance Road	Umatilla County - <i>Rural Major Collector</i>	2-Lanes	Not Posted	None
I-82/ Lamb Road	I-82	ODOT - <i>Interstate Highway</i>	4-Lanes	65	None
	Lamb Road	Umatilla County - <i>Rural Major Collector</i>	2-Lanes	55	None
	Umatilla Army Depot Access Road	Private	2-Lanes	Not Posted	None

<sup>1</sup>ODOT highway classifications are from the 1999 Oregon Highway Plan (Reference 1) and County roadway classifications are from the Umatilla and Morrow County Transportation System Plans (Reference 2 and 3)

## Rail Facilities

The Union Pacific rail line extends through the IMSA along the southernmost boundary of the Umatilla Army Depot. This Class I line-haul freight line connects to the City of Portland to the west and the City of Boise to the east. The rail line is grade separated over the Umatilla Army Depot Access Road, but has at-grade crossings at Paterson Ferry Road and Westland Road.

## EXISTING TRAFFIC VOLUMES AND PEAK HOUR OPERATIONS

Eight study intersections in and around the IMSA we identified in coordination with ODOT, Umatilla County, and Morrow County. The study intersections are:

- I-84 EB Ramp Terminal / Paterson Ferry Road / Frontage Road
- I-84 WB Ramp Terminal / Paterson Ferry Road
- I-84 EB Ramp Terminal / Umatilla Army Depot Access Road
- I-84 WB Ramp Terminal / Umatilla Army Depot Access Road
- Umatilla Army Depot Access Road / Gun Club Lane
- I-82 SB Ramp Terminal / Lamb Road
- I-82 NB Ramp Terminal / Lamb Road
- Westland Road / Lamb Road

Traffic counts were collected at the study intersections in October 2013 from 6-9 a.m. and from 3-6 p.m. All counts are shown in 5-minute intervals and include vehicular turning movements, pedestrian movements, and bicycles (although no pedestrians or bicyclist were observed). Table 4-9 summarizes the traffic count time periods.

**Table 4-9 - Traffic Count Summary**

Intersection	Count Date	Intersection	Count Date
<b>ODOT Intersections</b>		<b>County Intersections</b>	
I-84 EB Ramp Terminal/ Army Depot Access Road	AM: 10/30/2013 PM: 10/29/2013	Army Depot Access Road / Gun Club Lane	AM: 10/30/2013 PM: 10/29/2013
I-84 WB Ramp Terminal/ Army Depot Access Road	AM: 10/30/2013 PM: 10/29/2013	Westland Road/ Lamb Road	10/16/2013
I-82 SB Ramp Terminal/ Lamb Road	10/16/2013		
I-82 NB Ramp Terminal/ Lamb Road	10/16/2013		
I-84 EB Ramp Terminal/ Paterson Ferry Road	10/16/2013		
I-84 WB Ramp Terminal/ Paterson Ferry Road	10/16/2013		

<sup>1</sup>NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound

### Peak Hour Development

Traffic volumes were reviewed for the three interchange areas to determine the one-hour system peak periods for the operation analysis. A system peak period was identified for both the weekday a.m. and p.m. peak periods. The weekday a.m. peak hour was found to be 6:05 – 7:05 a.m. The weekday p.m. peak hour was found to be 4:30 – 5:30 p.m.

## Intersection Operational Standards

ODOT uses volume-to-capacity (V/C) ratio standards to assess intersection operations. Table 6 of the *Oregon Highway Plan* (OHP, Reference 1) and Table 10-2 of the *Oregon Highway Design Manual* (HDM, Reference 4) provide maximum volume-to-capacity ratios for all signalized and unsignalized intersections outside the Metro area. The OHP ratios are used to assist in the planning phase identifying future system deficiencies, while the HDM ratios are used to establish a 20-year design life solution that correct previously identified deficiencies. The ODOT controlled intersections within the study area include the interchange ramp terminals on I-82 and I-84, which are designated as Interstate Highways outside of a Metropolitan Planning Organization (MPO).

The applicable performance standard for Umatilla County intersections, as defined in Umatilla County's *2002 Transportation System Plan* (TSP) (Reference 2), is LOS E or better. The state highway mobility target as set forth by ODOT in the *Oregon Highway Plan* (Reference 1) for the study intersections at the freeway ramp terminals is a maximum volume-to-capacity ratio of 0.70.

No study intersections, other than the I-84/Paterson Ferry ramp terminals which are subject to ODOT's operational standards, are located in Morrow County. Table 4-10 summarizes the intersection performance standards for the study intersections.

**Table 4-10 - Intersection Performance Standards**

Intersection	Traffic Control <sup>1</sup>	OHP Standard	HDM Standard	Umatilla County Standard
I-84 EB Ramp Terminal/ Paterson Ferry Road/Frontage Road	TWSC	v/c < 0.70	v/c < 0.60	-
I-84 WB Ramp Terminal/ Paterson Ferry Road	TWSC	v/c < 0.70	v/c < 0.60	-
I-84 EB Ramp Terminal/ Army Depot Access Road	TWSC	v/c < 0.70	v/c < 0.60	-
I-84 WB Ramp Terminal/ Army Depot Access Road	TWSC	v/c < 0.70	v/c < 0.60	-
Army Depot Access Road / Gun Club Lane	TWSC	-	-	LOS E
I-82 SB Ramp Terminal/ Lamb Road	TWSC	v/c < 0.70	v/c < 0.60	-
I-82 NB Ramp Terminal/ Lamb Road	TWSC	v/c < 0.70	v/c < 0.60	-
Westland Road/ Lamb Road	TWSC	-	-	LOS E

<sup>1</sup>TWSC: Two-way stop-controlled (unsignalized)

## Seasonal Adjustment Factor

30<sup>th</sup> Highest Hour Volumes (30 HV) for the study intersections were calculated based on the traffic counts collected in October of 2013 and the application of a seasonal adjustment factor. The Oregon Department of Transportation Analysis Procedures Manual (Reference 5) identifies three methods for identifying seasonal adjustment factors. All three methods are informed by information provided by Automatic Traffic Recorders (ATR) located in select locations throughout the State Highway System that

collect traffic data 24-hours a day/365 days a year. Each method was evaluated to determine the most appropriate for the study area.

The I-84 and I-82 ramps serve rural roads and are more heavily impacted by local traffic patterns than interstate traffic patterns. For this reasons the Seasonal Trend Table Method was determined to be the most appropriate method to develop 30 HVs for the ramp terminals and other study intersections. The results of the evaluations are summarized below.

**Seasonal Trend Method**

The Seasonal Trend Method uses average values from the ODOT ATR Characteristic Table for each seasonal traffic trend. For the Umatilla Subarea, the agriculture seasonal traffic trend values were used to derive 30 HV volumes. Table 4-11 summarizes the average values for seasonal traffic trends during the count times and the peak period as provided in the ODOT Seasonal Trend Table.

**Table 4-11: Seasonal Trend Table**

Trend	15-Oct	1-Nov	Peak Period Seasonal Factor
Agricultural	0.9263	0.9984	0.7981

Based on the data in Table 3, the traffic counts at all other study intersections were adjusted by the following factors, depending on count date:

- Counts taken 10/16/2013
  - $\frac{\text{Traffic Counts (15-October)}}{\text{Peak Period Seasonal Factor}} = \frac{0.9263}{0.7981} = 1.16$
  
- Counts taken 10/29/2013 & 10/30/2013
  - $\frac{\text{Traffic Counts (1-November)}}{\text{Peak Period Seasonal Factor}} = \frac{0.9984}{0.7981} = 1.25$



## Study Intersection Operations Analysis

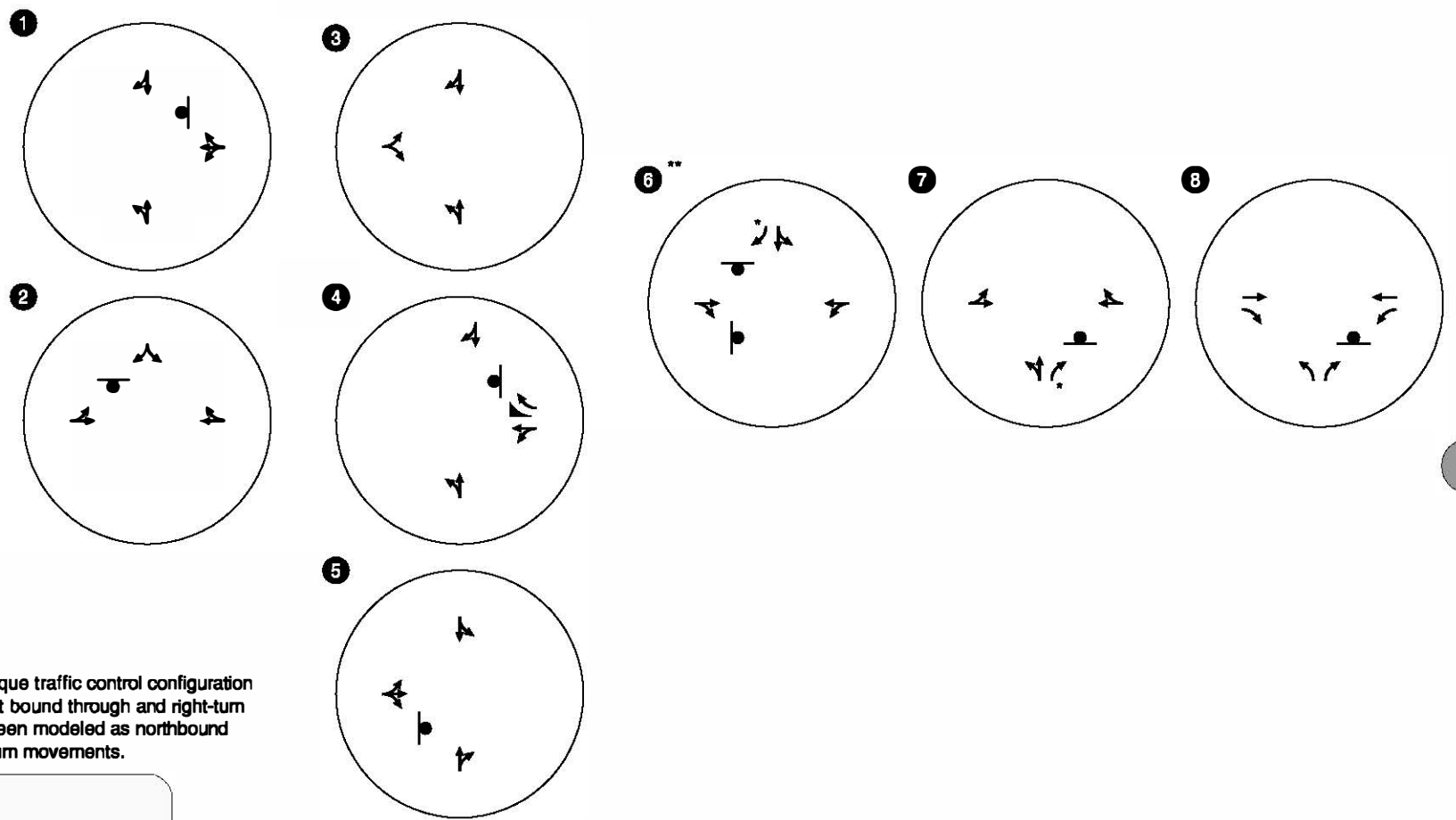
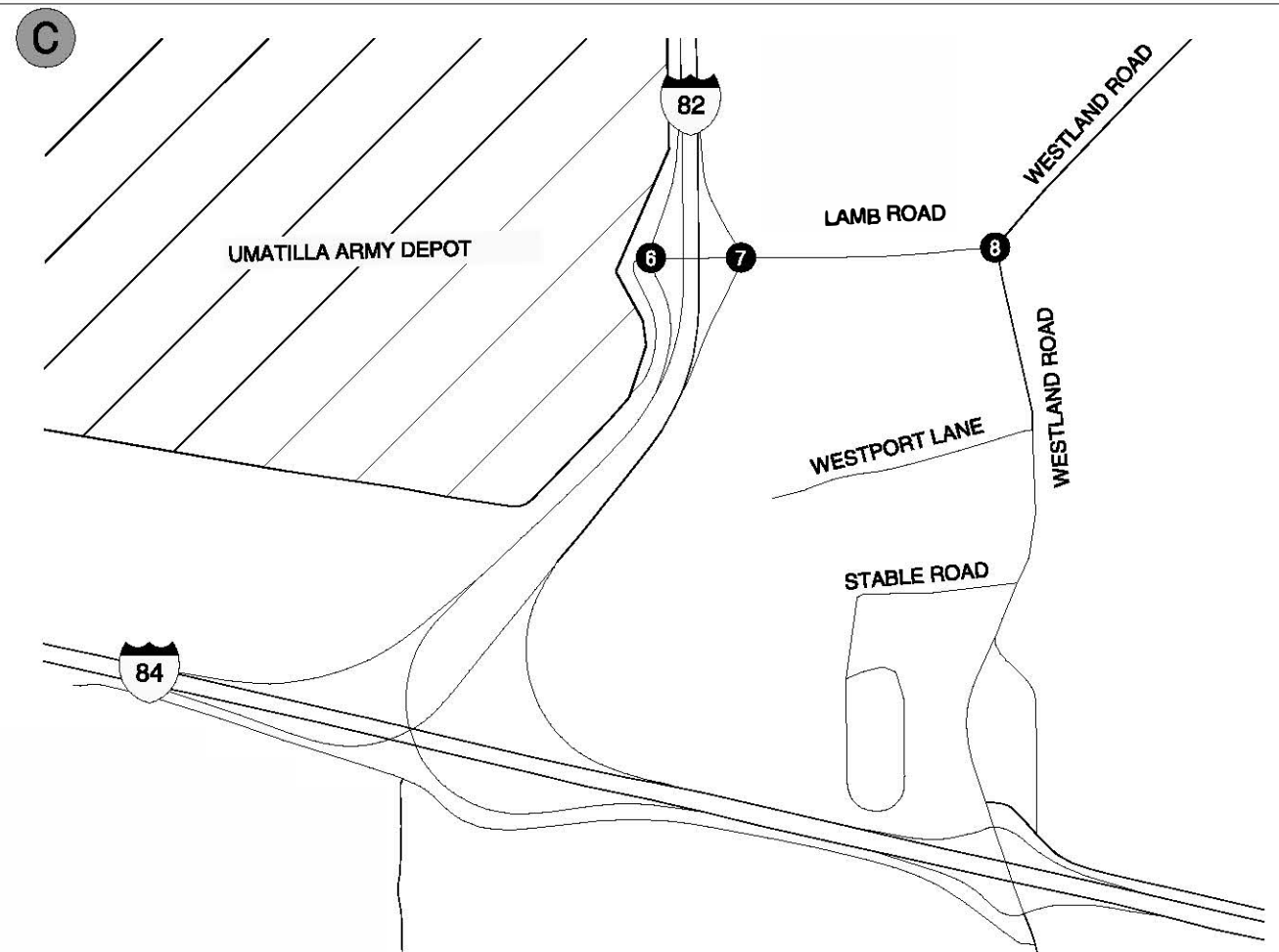
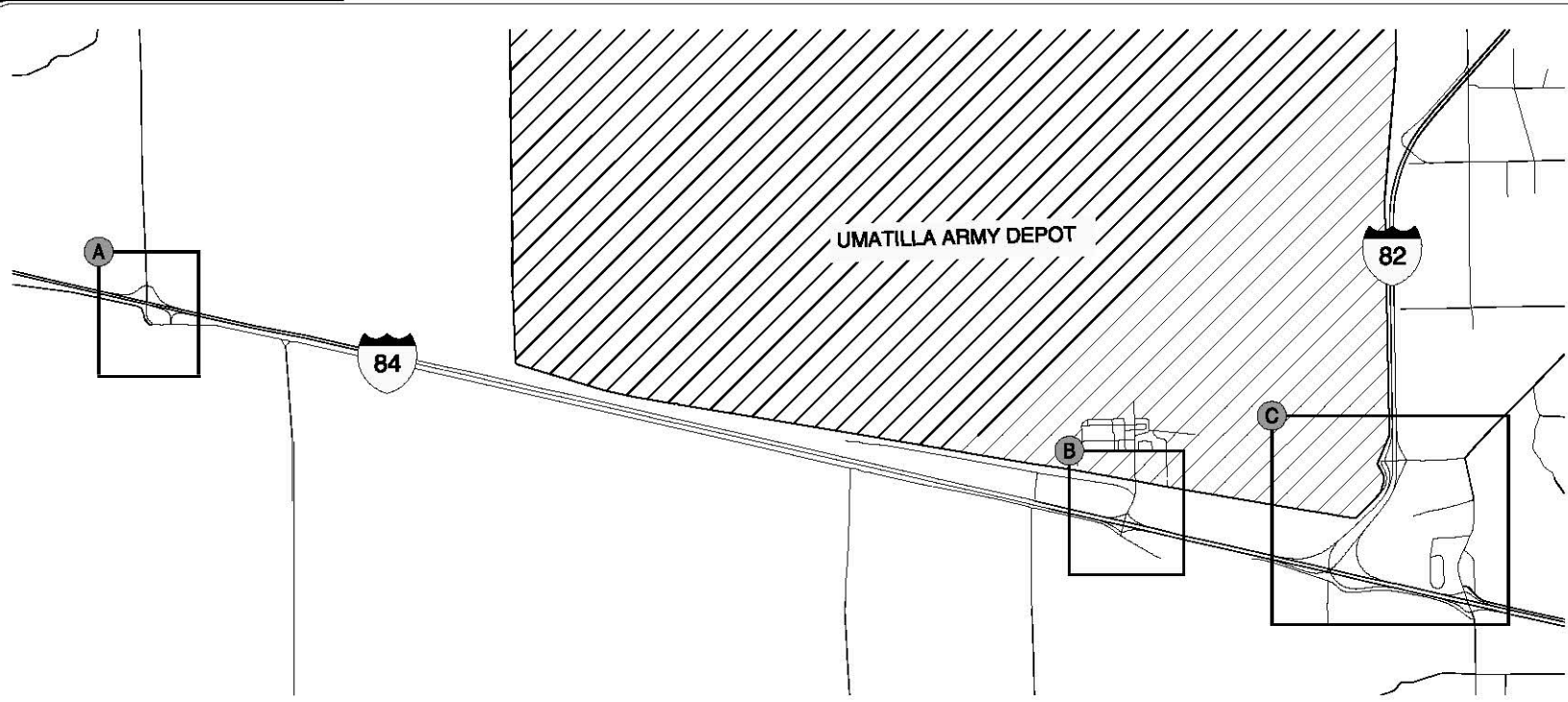
Intersection level-of-service (LOS) and volume-to-capacity (v/c) ratios were calculated for each of the study intersections based on the appropriate ODOT traffic operations procedures.

Figures 4-2 through 4-4 show the existing lane configurations, traffic control, and operational analysis results of the study intersections during the weekday a.m. and p.m. peak hours. As summarized in Table 4-12, all study intersections were observed to operate acceptably during the weekday a.m. and p.m. peak hours.

**Table 4-12 - Existing Traffic Operations Summary**

Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour		Standard	Meets Standard?
	LOS	V/C	LOS	V/C		
I-84 EB Ramp Terminal/ Paterson Ferry Road/Frontage Road	A	0.03	A	0.02	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Paterson Ferry Road	A	0.09	A	0.04	v/c < 0.70	Yes
I-84 EB Ramp Terminal/ Army Depot Access Road	A	0.02	A	0.02	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Army Depot Access Road	A	0.03	A	0.02	v/c < 0.70	Yes
Army Depot Access Road / Gun Club Lane	A	0.01	A	0.01	LOS E	Yes
I-82 SB Ramp Terminal/ Lamb Road	C	0.27	B	0.03	v/c < 0.70	Yes
I-82 NB Ramp Terminal/ Lamb Road	A	0.06	B	0.38	v/c < 0.70	Yes
Westland Road/ Lamb Road	B	0.04	B	0.13	LOS E	Yes

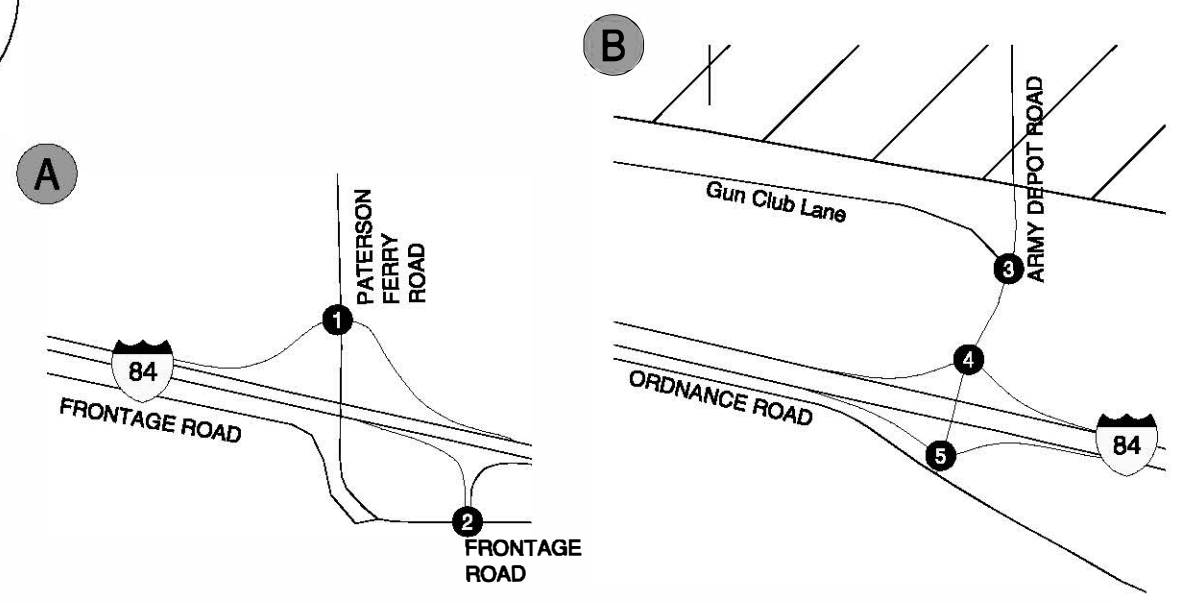
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\* Flared Right Turn  
 \*\* To model the unique traffic control configuration in Synchro, the east bound through and right-turn movements have been modeled as northbound through and right-turn movements.

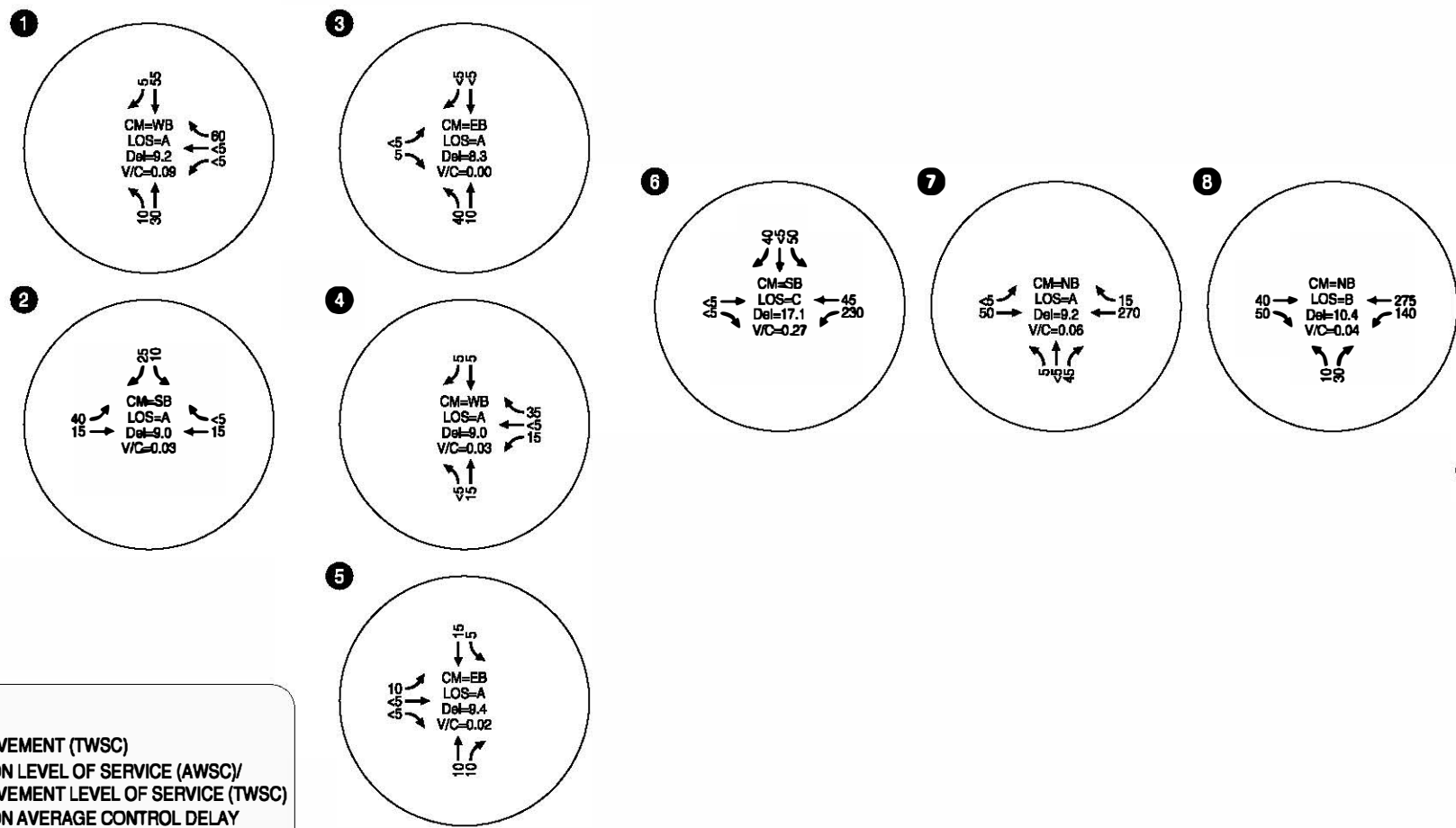
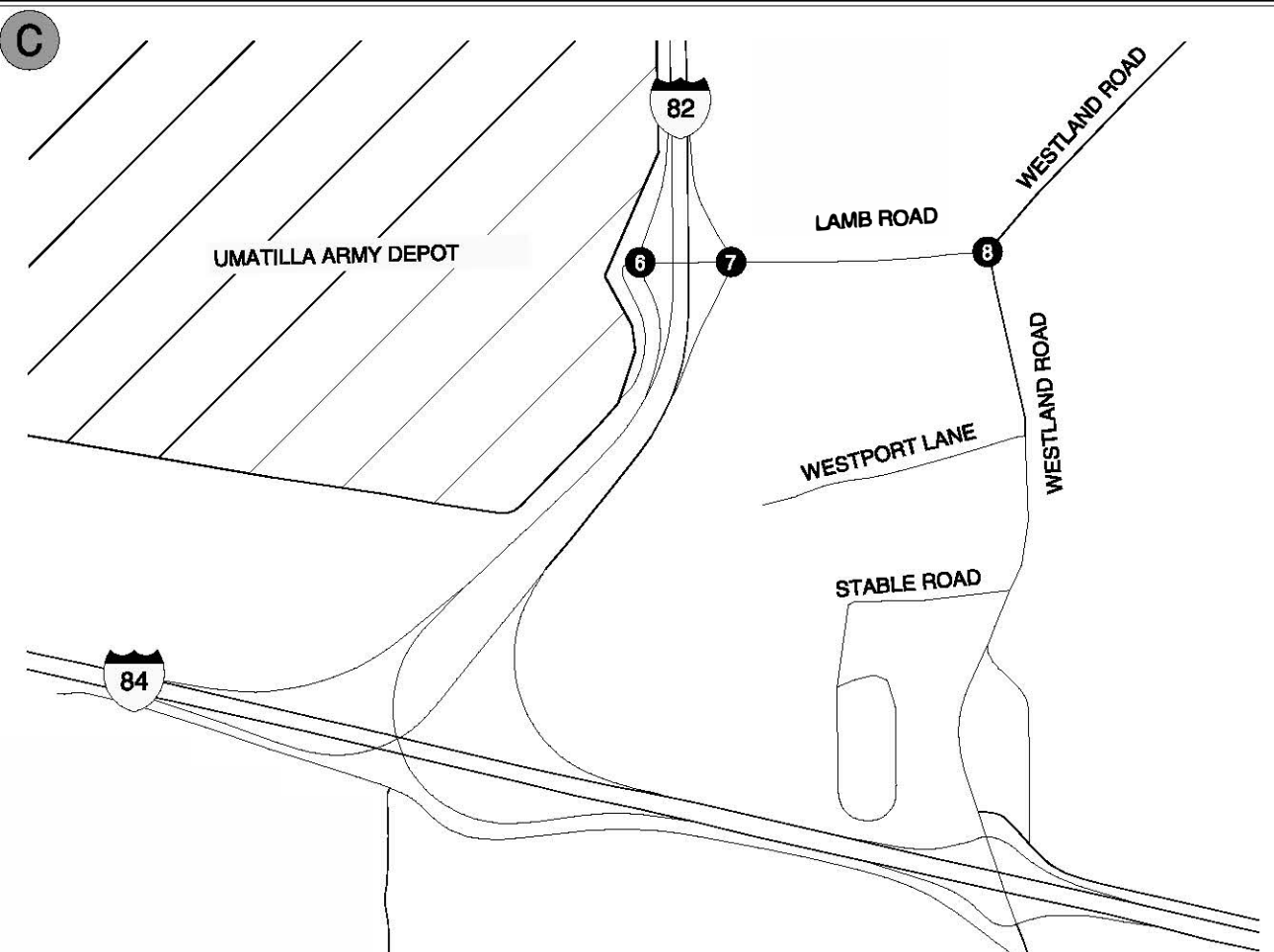
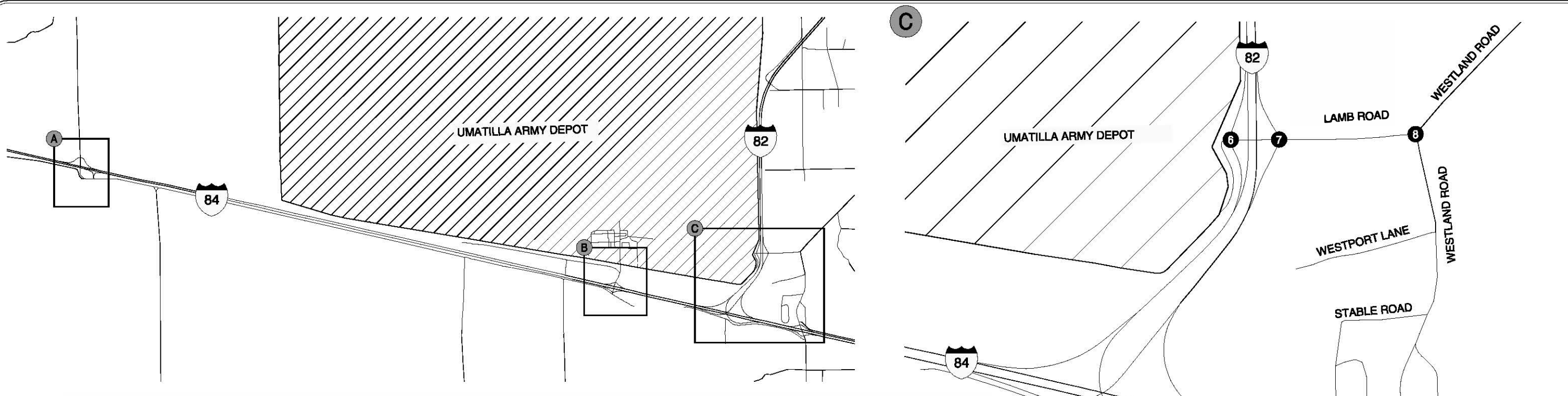
**LEGEND**

- STOP SIGN
- YIELD SIGN



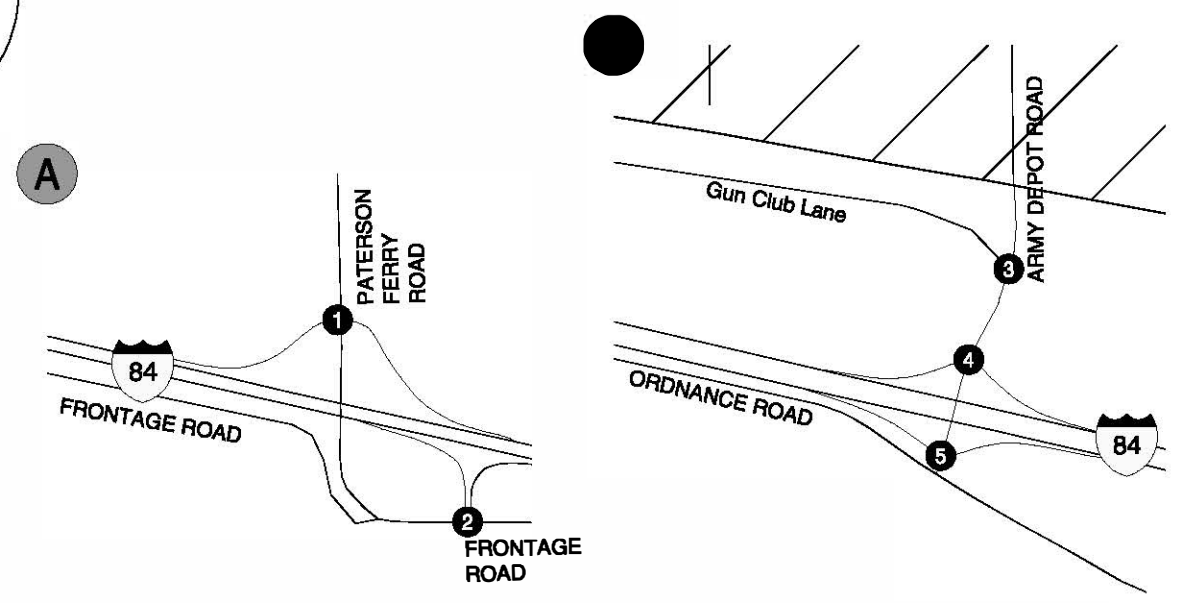
EXISTING TRAFFIC CONTROL DEVICES  
 UMATILLA COUNTY, OREGON **FIGURE 4-2**

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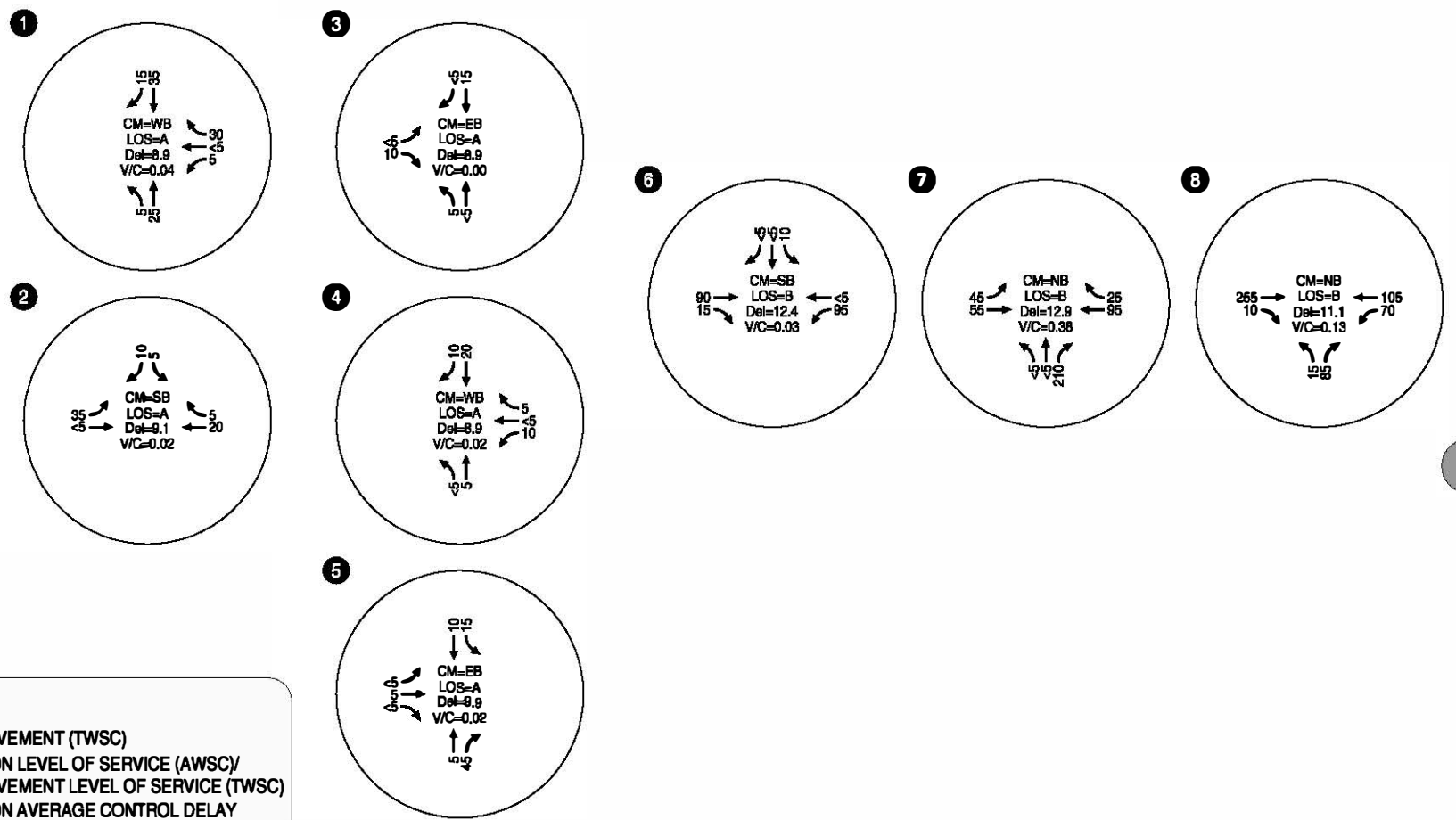
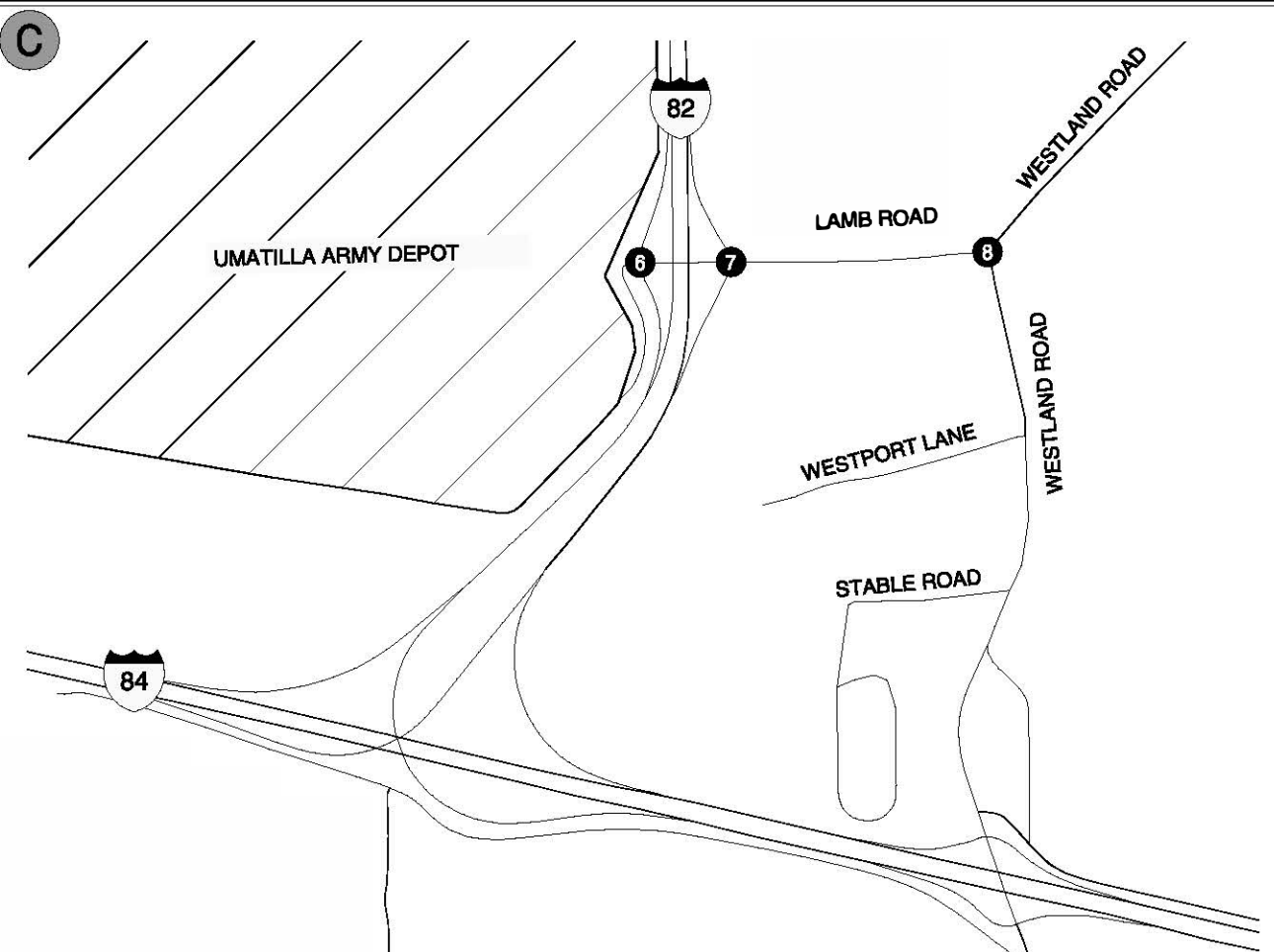
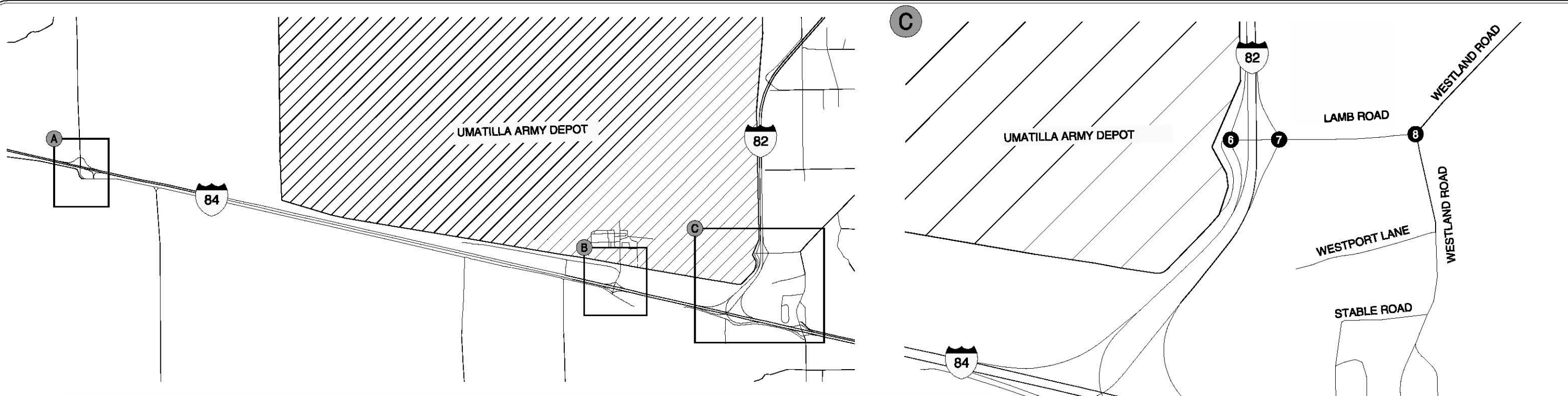
**LEGEND**

- CM = CRITICAL MOVEMENT (TWSC)
- LOS = INTERSECTION LEVEL OF SERVICE (AWSC)/ CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
- Del = INTERSECTION AVERAGE CONTROL DELAY (AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL



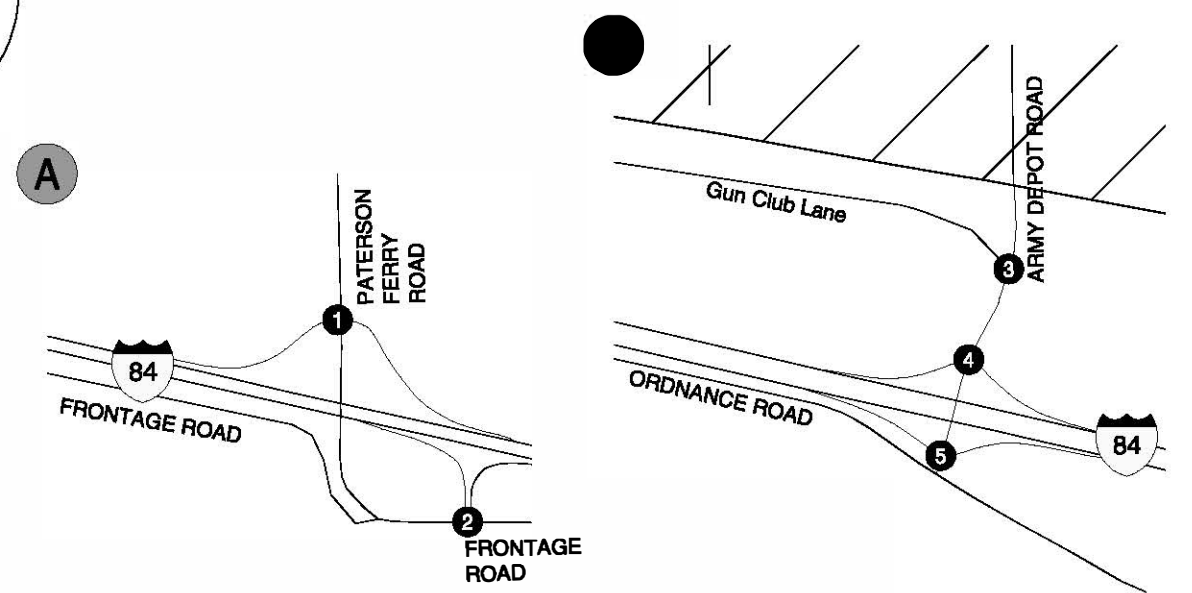
AM PEAK HOUR EXISTING CONDITIONS  
UMATILLA COUNTY, OREGON **FIGURE 4-3**

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**LEGEND**

- CM = CRITICAL MOVEMENT (TWSC)
- LOS = INTERSECTION LEVEL OF SERVICE (AWSC) / CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
- Del = INTERSECTION AVERAGE CONTROL DELAY (AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL



PM PEAK HOUR EXISTING CONDITIONS  
UMATILLA COUNTY, OREGON **FIGURE 4-4**

## TRAFFIC SAFETY

The crash histories at the study area intersections and along the Lamb Road were reviewed in an effort to identify potential safety issues. Crash records were obtained from ODOT for the five-year period from January 1, 2008 through December 31, 2012. Table 4-13 contains the summary of the reported non-interstate mainline crashes.

**Table 4-13 - Summary of Reported Crashes, Study Intersections and Interchange Ramp Terminals**

Intersection	Collision Type				Severity			Total
	Rear-End	Turning	Angle	Other	PDO <sup>1</sup>	Injury	Fatal	
I-84 EB Ramp Terminal/ Paterson Ferry Road	-	-	-	1	1	-	-	1
I-84 WB Ramp Terminal/ Paterson Ferry Road	-	-	-	-	-	-	-	-
I-84 EB Ramp Terminal/ Army Depot Access Road	-	-	-	1	-	1	-	-
I-84 WB Ramp Terminal/ Army Depot Access Road	-	-	-	-	-	-	-	-
Army Depot Access Road / Gun Club Lane	-	-	-	-	-	-	-	-
I-82 SB Ramp Terminal/ Lamb Road	1	-	-	-	-	1	-	1
I-82 NB Ramp Terminal/ Lamb Road	-	-	-	-	-	-	-	-
Westland Road/ Lamb Road	1	1	-	-	2	-	-	2
Lamb Road Segment from Westland Road to NB I-82 Ramps	1	-	-	-	1	-	-	1

<sup>1</sup>Property Damage Only

As shown in Table 4-13, there have been no more than two crashes at any study intersection or on segments between study intersections over the most recent 5-year analysis period. As such, there are no distinguishable patterns of intersection-related crashes to suggest further investigation is needed.

Crashes on I-84 and I-82 within the IMSA were also reviewed in an effort to identify potential safety issues on the freeway segments near the study interchange ramp terminals. Again, crash records were obtained from ODOT for the five-year period from January 1, 2008 through December 31, 2012. Table 4-14 contains the summary of reported interstate crashes.

**Table 4-14 - Summary of Reported Crashes, Interstate Mainline (In the Vicinity of Ramps)**

Segment	Collision Type				Severity			Snow or Ice Related	Total
	Rear-End	Side Swipe	Overturn	Fixed Object	PDO <sup>1</sup>	Injury	Fatal		
I-84 EB near Paterson Ferry Road Ramps	1	1	1	1	2	2	-	2	4
I-84 WB near Paterson Ferry Road Ramps	1	1	2	-	3	1	-	2	4
I-84 EB near Army Depot Access Road Ramps	-	-	3	-	1	2	-	2	3
I-84 WB near Army Depot Access Road Ramps	-	1	4	3	4	4	-	4	8
I-82 NB near Lamb Road Ramps	-	-	1	2	2	1	-	1	3
I-82 SB near Lamb Road Ramps	1	-	5	3	6	4	-	6	9

<sup>1</sup>Property Damage Only

As shown in Table 4-14, on average over the most recent 5-year analysis period, less than two crashes occurred per year on any of the freeway segments located near the study area. These crashes were primarily single vehicle incidents, with only 5 of 31 reported crashes involving multiple vehicles. Over half of the total crashes, and 12 of the 16 overturn crashes, occurred during snowy or icy conditions. 20 of the 31 crashes list speed or driving too fast as a contributing cause of the crash; 5 crashes list fatigue as a contributing cause of the crash.

## EXISTING ROADWAY ACCESS CONDITIONS

Oregon Administrative Rule 734, Division 51 and the Oregon Highway Plan (OHP) identify ODOT’s access management standards within the vicinity of interchanges. Based on an outright application of the standards, no full public or private access is allowed within 1,320 feet (¼ mile) from the ramp terminals.

Existing roadway access conditions have been inventoried for all interchange crossroads within ¼ mile of the respective interchange ramp terminal. This inventory was conducted by the project team and is summarized in Table 4-15.

**Table 4-15 - Interchange Cross Road Public/Private Access Inventory**

Roadway	Approach Type	Side of Roadway	Type of Use Served
I-84/Paterson Ferry Road Interchange			
Paterson Ferry Road	Private (1,155' north of I-84/Westbound Paterson Ferry Road ramp terminal)	East	Rural Industrial Business
Paterson Ferry Road	Private (1,230' north of I-84/Westbound Paterson Ferry Road ramp terminal)	West	Farm/Field Access
Paterson Ferry Road	Public (665' west of I-84/EB Paterson Ferry Road ramp terminal)	South	Frontage Lane
I-84/Umatilla Army Depot Access Road Interchange			
Umatilla Army Depot Access Road	Private (450' north of the I-84/Westbound Umatilla Army Depot Access Road ramp terminal)	East	Farm/Field Access
Umatilla Army Depot Access Road	Public (450' north of the I-84/Westbound Umatilla Army Depot Access Road ramp terminal)	West	Gun Club Lane
Ordnance Road/Frontage Road	Private (130' south of the I-84/Eastbound Umatilla Army Depot Access Road ramp terminal)	South	Farm/Field Access
Ordnance Road/Frontage Road	Private (1,240' south of the I-84/Eastbound Umatilla Army Depot Access Road ramp terminal)	South	Farm/Field Access

## REFERENCES

1. Oregon Department of Transportation. *1999 Oregon Highway Plan*. 1999.
2. David Evans and Associates. *Umatilla County Transportation System Plan*. 2002.
3. CTS Engineers. *Morrow County 2005 Transportation System Plan*. 2005.
4. Oregon Department of Transportation *Oregon Highway Design Manual*. 2006.
5. Oregon Department of Transportation. *Analysis Procedures Manual*. 2006.

Appendix F  
Technical Memorandum #5:  
Environmental Research



## MEMORANDUM

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**DATE:** February 5, 2014

**TO:** Matt Hughart, Kittelson & Associates, Inc.

**FROM:** Alexis Casey and Kate Parker, MB&G

**SUBJECT:** Technical Memorandum #5: Environmental Research  
Umatilla Army Depot Combined IAMP: I-82/Lamb Road Interchange, I-84/Umatilla Army Depot Access Road Interchange and I-84/Paterson Ferry Road Interchange  
Morrow and Umatilla Counties

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### 1.0 INTRODUCTION

This Technical Memorandum (TM) summarizes available baseline biological, wetland, and water quality information for lands within the vicinity of the I-82/Lamb Road interchange (I-82 Exit 10), I-84/Umatilla Army Depot Access Road interchange (I-84 Exit 177) and I-84/Paterson Ferry Road interchange (I-84 Exit 171) in Morrow and Umatilla Counties, Oregon. It has been prepared in support of the Umatilla Chemical Depot Reuse Authority's (UMADRA) Umatilla Army Chemical Depot (UMCD) Combined Interchange Area Management Plan (IAMP) and Transportation System Subarea Plan Project (Project). This TM also describes natural resource permits and clearances that may be necessary for implementation of the Project. Existing baseline data has been reviewed and compiled in this TM to summarize the environmental character of the Project area, and to help the design team develop alternatives that avoid and/or minimize environmental impacts associated with the Project.

#### 1.1 Purpose

The purpose of this Project is to plan for long-term traffic needs for the redevelopment of the UMCD by identifying and addressing potential access, infrastructure, and land use regulations affecting the three interchanges that currently serve, or have the potential to serve, the UMCD (I-82/Lamb Road interchange, I-84/Umatilla Army Depot Access Road interchange and I-84/Paterson Ferry Road interchange). This TM will support the IAMP being prepared in accordance with Oregon Administrative Rule 734-051.

#### 1.2 Area of Potential Impact (API)

For the purposes of this TM, the API for the Project encompasses the I-82/Lamb Road interchange, I-84/Umatilla Army Depot Access Road interchange and I-84/Paterson Ferry Road interchange. The I-82 Lamb Road interchange and I-84/Umatilla Army Depot Access Road

interchange are located within unincorporated Umatilla County. The I-84/Paterson Ferry Road interchange is located within unincorporated Morrow County (Figure 1).

Topography within the API is relatively flat and slopes gently to the north, toward the Columbia River. The elevation of the API ranges from approximately 590 to 605 feet above mean sea level (msl) within the I-82/Lamb Road interchange area, 575 to 605 feet above msl within the I-84/Umatilla Army Depot Access Road interchange area, and 480 to 500 feet above msl within the I-84/Paterson Ferry Road Interchange area (Google Earth 2013).

The API has experienced alterations to the natural landscape resulting from the construction of I-84 and I-82, from the operation and maintenance of the UMCD, and ongoing adjacent agricultural practices. Extensive irrigation practices have been in use for decades on agricultural lands within the API. The majority of the native vegetation has been removed within the API.

No waterbodies are located within the API; however, the Westland F Canal, a concrete-lined irrigation channel operated by the Westland Irrigation District is located 0.3 mile east of the I-82/Lamb Road interchange and flows north (Figure 1). The Umatilla River is located approximately 1 mile east of the I-82/Lamb Road interchange. The West Extension Irrigation Canal (Boardman Canal) also flows approximately 2 miles north of the I-84/Paterson Ferry Road interchange. The Columbia River is located approximately 6.6 mile north of the I-84/Paterson Ferry Road interchange, approximately 7.7 miles north of the I-84/Umatilla Army Depot Access Road interchange, and approximately 6.9 miles north of the I-82/Lamb Road interchange.

Land use within the API consists of highway and secondary roadways, as well as the UMCD. Adjacent land use is primarily agricultural, with some industrial development.




## **2.0 METHODS**

The following sections of this report summarize baseline biological, wetland, and water quality data collected for the API and describe potential natural resource permits and clearances required to complete the Project based upon a review of existing database information and a cursory site investigation conducted by Mason, Bruce & Girard, Inc. (MB&G) on October 28 and 29, 2013. This site investigation was conducted mainly from the roadways, although portions of the northwest quadrant of the I-84/Paterson Ferry Road interchange API were surveyed on foot.

MB&G categorized vegetation communities within the API following Johnson and O'Neil's Wildlife-Habitat Relationships in Oregon and Washington classification system (O'Neil *et al.* 2001). These communities were digitized using aerial photos.



**Figure 1.**  
**Umatilla Army Chemical Depot Combined IAMP and Transportation System Subarea Plan**  
**Environmental Research API and Vicinity Map**

-  Area of Potential Impact (API)
-  Streams
-  Counties



1 inch = 1.5 miles

0    0.5    1    2    3 Miles

**MB&G**

Mason, Bruce & Girard, Inc.  
 Natural Resource Consultants since 1921

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Potential presence of sensitive species within the API was researched prior to the site investigation using a query of the Oregon Biodiversity Information Center database (ORBIC) (ORBIC 2013), the U.S. Fish and Wildlife Service (USFWS) list of Federally Listed, Proposed, Candidate Species and Species of Concern under the Jurisdiction of the Fish and Wildlife Service Which May Occur within Morrow and Umatilla Counties, Oregon (USFWS 2013a), and a query of the StreamNet database (StreamNet 2013). Oregon Department of Fish and Wildlife (ODFW) biologists were also consulted regarding potential presence of state-listed species within the API (Kirsch 2013). Potential habitat for sensitive species within the API was documented during the October 28 and 29, 2013 site investigation.

Noxious weeds that occur on the Oregon Department of Agriculture's (ODA) Noxious Weed Policy and Classification System (ODA 2013) were also reviewed prior to the site investigation. Any noxious weeds observed during the site investigation were recorded.

Potential jurisdictional wetlands and waters were identified prior to the site investigation using aerial photographs (Google Earth 2013), Oregon Wetland Assessment Protocol (ORWAP) and National Wetland Inventory (NWI) mapping (OSU 2013, USFWS 2013b), the Soil Survey of Morrow County, Oregon (Holser 1983), and the Soil Survey of Umatilla County, Oregon (Johnson and Makinson 1988). An Oregon Department of State Lands (DSL) database search for previous wetland delineations within the API was also conducted (Heather Howard, pers. comm., Wetlands Support Assistant, Department of State Lands, November 14, 2013). General Land Office (GLO) survey mapping was utilized to determine if any historic streams were present within the API (University of Oregon Libraries 2013).

Receiving waterbodies for the API were reviewed using the Oregon Department of Environmental Quality's (DEQ) Water Quality Assessment Database (DEQ 2013a). The Lower Umatilla Basin Groundwater Management Area Action Plan and 2013 Evaluation of Action Plan Success were reviewed (DEQ 1997, DEQ 2013b) as was the Oregon Water Resource Department report on Ground Water Supplies in the Umatilla Basin (OWRD 2003).

### **3.0 EXISTING ENVIRONMENTAL RESOURCES**

#### **3.1 Biological Resources**

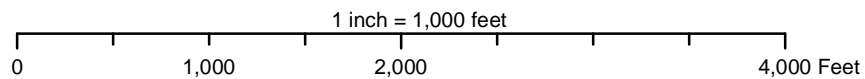
##### **3.1.1 Wildlife-Habitat Communities**

The API addressed in this TM contains one general wildlife-habitat community: urban & mixed environs (Figures 2a, 2b and 2c). Two other wildlife-habitat communities, shrub steppe and agriculture, pastures and mixed environs, are located adjacent to the API. The following paragraphs describe each wildlife-habitat community in further detail.



**Figure 2a.**  
**Wildlife-Habitat Communities**  
**I-82/Lamb Road Interchange**  
**Umatilla County, Oregon**

-  Area of Potential Impact (API)
-  Urban and Mixed Environments
-  National Wetland Inventory Wetlands



**MB&G**

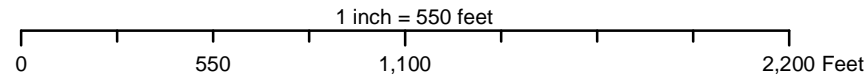
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**Figure 2b.**  
**Wildlife-Habitat Communities**  
**I-84/Umatilla Army Depot Access Road Interchange**  
**Umatilla County, Oregon**

- Area of Potential Impact (API)
- Urban and Mixed Environments
- National Wetland Inventory Wetlands






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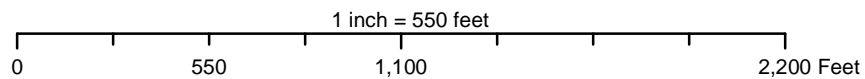
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Figure2\_Final\_JM.mxd 2/6/2014



**Figure 2c.**  
**Wildlife-Habitat Communities**  
**I-84/Paterson Ferry Road Interchange**  
**Morrow County, Oregon**

-  Area of Potential Impact (API)
-  Urban and Mixed Environments
-  Potential Field Assessed Wetland



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The I-82/Lamb Road interchange, I-84/Umatilla Army Depot Access Road interchange, and I-84/Paterson Ferry Road interchanges are comprised entirely of the urban & mixed environs wildlife-habitat community that is associated with I-84 and I-82. Vegetation within this community is a mix of non-native and native species associated with roadside development. The urban & mixed environs community with the API contains approximately 60% impervious surface cover.

The shrub-steppe wildlife-habitat community is located in the immediate vicinity of the project API, including portions of the UMCD. It is dominated by non-native cheat grass (*Bromus tectorum*). Because the shrub-steppe community was the least disturbed wildlife-habitat community within the vicinity of the API, individual plant species observed in the adjacent shrub-steppe community were recorded during the site investigation and are listed in Table 1. This table does not constitute a complete inventory of plant species within this community, but is presented to convey the general species composition observed during the site investigation. Black-billed magpies (*Pica pica*), American kestrel (*Falco sparverius*), and western meadowlarks (*Sternella neglecta*) were also observed in this area during the site investigation.

The agriculture, pastures and mixed environs wildlife-habitat community is also located outside the project API but in the immediate vicinity. Areas utilized for agriculture outside the API are irrigated for cultivated crops and are also used for tree plantations.

**Table 1. Typical Shrub-Steppe Community Vegetation within the Project API**

Scientific Name	Common Name	Native Status <sup>1</sup>
<i>Achillea millefolium</i>	Common yarrow	Native
<i>Bromus tectorum</i>	Cheat grass	Introduced
<i>Cichorium intybus</i>	Chicory	Introduced
<i>Chrysothamnus nauseosus</i>	Gray rabbitbrush	Native
<i>Chrysothamnus viscidiflorus</i>	Green rabbitbrush	Native
<i>Lactuca serriola</i>	Prickly lettuce	Introduced
<i>Opuntia polyacantha</i>	Plains pricklypear	Native
<i>Poa bulbosa</i>	Bulbous bluegrass	Introduced
<i>Purshia tridentata</i>	Bitterbrush	Native
<i>Salsola kali</i>	Russian thistle	Introduced
<i>Taeniatherum caput-medusae</i>	Medusahead	Introduced
<i>Wyethia mollis</i>	Woolly mule-ears	Native

<sup>1</sup> Source Natural Resource Conservation Service Plants National Database (<http://plants.usda.gov/index.html>)



### 3.1.2 Threatened and Endangered Species

Data from the USFWS, StreamNet, ODA, and ORBIC focused on a 2-mile radius of the Project API indicated that three wildlife and fisheries species that are listed as threatened or endangered under the federal and state Endangered Species Acts (ESA) have the potential to occur within the vicinity of the API (USFWS 2013a, StreamNet 2013, ODA 2013, ORBIC 2013). A listing of these species, including their federal and state status and whether critical habitat is designated, is shown in Table 2. No listed plant species were identified during the records review or site investigation.

**Table 2. Threatened and Endangered Species with the Potential to Occur Within the Vicinity of the API\***

Scientific Name	Common Name	Federal Status	State Status	Critical Habitat?	Habitat
<i>Oncorhynchus mykiss</i>	Steelhead (Middle Columbia River DPS, spring run)	T	SV	Yes, within the Umatilla River (east of project API)	Umatilla River
<i>Salvelinus confluentus</i>	Bull trout (Umatilla SMU)	T	SC	Yes, within the Umatilla River (east of project API)	Umatilla River
<i>Urocyon washingtoni</i>	Washington ground squirrel	C	E	No	Sagebrush grassland in silty loam soils, particularly soils in the Warden series

*E= Endangered; T=Threatened; C=Candidate; SV=Sensitive Vulnerable; SC=Species Critical DPS=Distinct Population Segment; SMU=Species Management Unit*

\* The Columbia River is located outside the vicinity of the API.

Although habitat for steelhead and bull trout does not exist within the Project API, these species inhabit the Umatilla River located east of the API. Steelhead and bull trout are included in this TM due to the potential for indirect impacts to these species from contaminants contained in stormwater runoff flowing from proposed interchange improvements. It should also be noted that additional listed fish species utilize the Columbia River located north of the API for migration.

The Project API does not include shrub-steppe habitat, which is the preferred habitat for Washington ground squirrels, but this wildlife-habitat community is prevalent in the immediate vicinity. Surveys for Washington ground squirrels have been conducted on the UMCD and no Washington ground squirrels have been detected (M. Kirsch, pers. comm. 2013; Canestorp 2008). However, ODFW indicated that because this species has been found elsewhere in Umatilla County and there is shrub-steppe habitat present in the vicinity of the API (including portions of the UMCD), further investigations may be needed within the API to positively rule out the presence of Washington ground squirrels (Kirsch 1996).

ODFW indicated that the UMCD supports other shrub-steppe obligate species including long-billed curlews (*Numenius americanus*), loggerhead shrikes (*Lanius ludovicianus*), and western burrowing owls (*Athene cunicularia hypogea*) (Mark Kirsch, pers. comm. 2013). These three species and a number of other reptiles, amphibians, birds, mammals, and plants were included on a list of faunal and floral species of special concern potentially found on the UMCD as part of the Integrated Natural Resources Management Plan (October 2007 through September 2012) for

the UMCD (Canestorp 2008). However, these species are not listed as threatened or endangered under the Federal or State Endangered Species Act.

### 3.1.3 Noxious Weeds

Thirty ODA-listed weed species occur within Umatilla County (Umatilla County 2013) (Appendix B) and 21 ODA-listed weed species occur in Morrow County (Weedmapper 2011) (Appendix B). During the October 28 and 29, 2013 site investigation, MB&G biologists observed rush skeletonweed (*Chondrilla juncea*) and an unidentified knapweed species (*Centaurea* sp.) in close proximity to the API. These species are listed on the ODA noxious weed list (ODA 2013). Due to the timing of the site investigation outside the optimal blooming period for noxious weeds, not all weed species or populations may have been identified. In addition, only small portions of the API were traversed on foot, which likely further limited identification of weed species or populations. A complete noxious weed survey within the project footprint would be required during later design phases of the project to comply with Oregon Department of Transportation (ODOT) requirements.

## 3.2 Wetlands and Waters Resources

No wetlands or waters were mapped within the project API (USFWS 2013b, OSU 2013) and no wetlands or waters were identified within the API during the October 2013 site investigation. MB&G identified one potential palustrine emergent (PEM)/palustrine scrub-shrub (PSS) wetland northwest of and outside the I-84/Paterson Ferry Road interchange API (Figure 2c). This wetland is not identified on NWI or ORWAP mapping. In the vicinity of the I-84/Umatilla Army Depot Access Road interchange API, three palustrine unconsolidated bottom, artificially excavated (PUBx) wetlands were identified on NWI mapping south of and outside of the project API (OSU 2013, USFWS 2013b) (Figure 2b). MB&G confirmed the presence of these features outside the API during the field investigation.

No previous wetland delineations that had received concurrence from the DSL have been conducted within the API (H. Howard, pers. comm. 2013). The Boardman Canal, which is north and outside the I-84/Paterson Ferry Road interchange API, does not appear on the 1870 GLO survey, but is shown as an irrigation canal on the 1940 GLO survey (University of Oregon Libraries 2013). The Westland F Canal, which is east and outside the I-82/Lamb Road interchange API, does not appear on the 1875 GLO survey, but is shown as an irrigation canal on the 1941 GLO survey (University of Oregon Libraries 2013). No historic streams are mapped on the GLO surveys within the API.

### 3.3 Water Quality Resources

Water quality parameters and standards have been established by the DEQ to protect the beneficial uses of Oregon’s waterways. The API is bisected by the Umatilla and Mid Columbia Lake Wallula 4<sup>th</sup> level Hydrologic Unit Code (HUC) watersheds (HUCs 17070103 and 17070101, respectively). The Umatilla River is the receiving waterbody for the eastern portion of the API and waters from both watersheds ultimately flow to the Columbia River.

Development, agricultural activities, and industrial and commercial uses have affected the water quality within the Umatilla and Columbia Rivers. As such, the DEQ has listed the segment of the Umatilla River located east of the API as a 303(d) water quality-limited water body because it does not meet water quality standards for iron or manganese; it has an approved total maximum daily load (TMDL) for ammonia, fecal coliform, temperature, and turbidity (Table 3) (DEQ 2013b). The DEQ has also listed the segment of the Columbia River located north of the API as a 303(d) water quality-limited waterbody because it does not meet water quality standards for pH and temperature. In addition, the segment of the Columbia River located north of the API has an approved TMDL for dioxin and total dissolved gas (Table 4) (DEQ 2013b).

**Table 3. Water Quality Parameters for the Umatilla River (RM 0 to 32.1)**

Parameter	Listing Status	Season	Listing Date
Ammonia	TMDL approved	Year round	2004
Fecal coliform	TMDL approved	Summer	2002
Iron	303(d) listed	Year round	2004
Manganese	303(d) listed	Year round	2004
Temperature	TMDL approved	Summer	2002
Turbidity	TMDL approved	Spring/Summer	2002

**Table 4. Water Quality Parameters for the Columbia River (RM 213.7 to 287.1)**

Parameter	Listing Status	Season	Listing Date
Dioxin	TMDL approved	N/A	1998
pH	303(d) listed	Fall/Winter/Spring	2004
Temperature	303(d) listed	Year round	2004
Total dissolved gas	TMDL approved	Year round	2002

The API is part of the Lower Umatilla Basin Groundwater Management Area (GMA), established by DEQ in 1990 due to elevated nitrate levels detected in groundwater samples. DEQ published an action plan in 1997 that identifies point-source pollutants and plans to reduce groundwater contamination. The major point-source nitrate-nitrogen pollutants in the GMA include irrigated agriculture, food processing water, confined animal feeding operations, domestic sewage where septic systems occur in high densities, and the UMCD’s washout lagoons (DEQ 1997). A report evaluating whether groundwater quality was improving in the GMA found that nitrate levels continue to increase, though the rate of increase is lower than in past years (DEQ 2013a).

The API is within Oregon Water Resources Department designated Ordinance Critical Ground Water Areas. The Ordinance Areas include 175 square miles of basalt aquifers near the UMCD (Ordinance Basalt Critical Ground Water Area) and 82 square miles of alluvial aquifers within the UMCD (Ordinance Gravel Critical Ground Water Area). Though new small “exempt uses” of water are allowed, new groundwater rights are not issued for the Ordinance Critical Ground Water Area due to significant ground water overdraft and declines (OWRD 2003, Cornish 2010).

## **4.0 REGULATORY PERMITTING AND APPROVAL REQUIREMENTS**

### **4.1 Biological Resources**

#### **4.1.1 Threatened and Endangered Species**

The API does not contain suitable habitat for any federally-listed plant species. A No Effect Memorandum should be prepared to document these findings. However, construction of interchange improvements has the potential to impact state-listed Washington ground squirrel and federally-listed steelhead and bull trout.

Due to the presence of shrub-steppe habitat within the vicinity of the API, additional efforts to document the presence/absence of Washington ground squirrels may be necessary. This additional work may include providing project limits mapping to ODFW biologists to determine if Washington ground squirrel presence is likely.

Although unlikely, if Washington ground squirrels are found to inhabit portions of the API, the project design team should utilize this information to avoid direct impacts to this species, if at all possible. For state-listed ESA species, before a state agency takes, authorizes, or provides financial assistance for actions on state-owned or leased land, or on land where the state holds a recorded easement, the agency must consult with ODFW. This consultation includes determining if a project is consistent with established programs, or if no programs exist, whether the project has the potential to appreciably reduce the likelihood of the survival or recovery of the species. Notification must be provided to ODFW if it is determined that a project has the potential to appreciably reduce the likelihood of the survival or recovery of the species. ODFW typically responds to this notification within 90 days.

Although direct impacts to listed fish species (including steelhead and bull trout) are not expected to result from transportation improvements within the API, increases in impervious surface may cause indirect stormwater impacts to steelhead, bull trout, and other listed migratory fish species downstream of the API in the Columbia River or Umatilla River. Due to these anticipated indirect effects to listed species, a Biological Assessment (BA) or ODOT Programmatic Federal Aid Highway Program (FAHP) ESA compliance Notification may need to be prepared if stormwater from new impervious surfaces and the contributing impervious area is not infiltrated on-site. Upon submittal of the BA to the regulatory agencies, the National Marine Fisheries Service (NMFS) for steelhead and the USFWS for bull trout, a review timeline of 135 business days for a BA with a Likely to Adverse Affect (LAA) effect determination or 45 days to review a BA with a Not Likely to Adversely Affect (NLAA) determination would be required. If the FAHP is used for ESA compliance, Federal Highway Administration (FHWA) or NMFS (depending on the approval requirements) requires between 60 and 120 days for a consistency review.

#### **4.1.2 Oregon Fish Passage Law**

It is unlikely that native migratory fish as defined by Oregon's Fish Passage Law currently or historically utilized the API as there are no waterbodies within the API. As such, transportation improvements within the API are likely exempt from providing fish passage in accordance with the Oregon Fish Passage Law. Confirmation with ODFW Fisheries Biologists should be sought to verify this exemption.

#### 4.1.3 Migratory Bird Treaty Act

Nesting migratory birds have the potential to occupy the API due to the suitable habitat provided by the trees and shrubs that were observed during the October 28 and 29, 2013 site investigation. The federal Migratory Bird Treaty Act (MBTA) prevents the take of adult migratory birds, their young, eggs, and all body parts. Take permits are not widely available so preventative measures are recommended to avoid violations of the law. Under this law, adult migratory birds can be deterred from nesting and empty nests can be removed or disturbed, but active nests and attending adults are not to be harassed. Incidental take of migratory birds is typically avoided by activity timing restrictions as well as preventive measures. The only anticipated activity that has the potential to conflict with the MBTA is the clearing of trees or shrubs that may provide nesting habitat for migratory birds. Any vegetation removal (clearing and grubbing) should occur between September 1 and March 1, outside the nesting period for migratory birds.

#### 4.1.4 Noxious Weeds

Based on the October 28 and 29, 2013 site investigation and the review of available information, noxious weed populations are located within the API. As a result, prior to construction of any transportation improvements, a botanical clearance, which will include a detailed noxious weed survey, will need to be conducted during the appropriate blooming period (May-July) for the species listed in Appendix B in order to satisfy ODOT requirements.

The results of the noxious weed surveys should be documented in a Botanical Clearance Report. Noxious weed populations located within the API should be included on project plans and removed prior to construction of proposed improvements. In addition, inspection and cleaning of construction equipment prior to entry into the construction site should be required. Weed seeds can easily become trapped in the tread of tires or within the crevices of heavy machinery, and spread across the API during construction. Weed control should also be required during the one-year post-construction maintenance period to prevent the spread of noxious weeds.

### **4.2 Wetlands and Waters Resources**

Impacts to jurisdictional wetlands and waters are not likely because there are no wetlands or waters located within the API. However, if the API is expanded (especially the I-84/Paterson Ferry Road interchange API to the north or the I-84/Umatilla Army Depot Access Road interchange API to the south), impacts to jurisdictional features could occur. If impacts to jurisdictional wetland and/or waters feature result from the Project, compliance with Section 404 of the Clean Water Act, administered by the U.S. Army Corps of Engineers (ACOE) and the Removal/Fill Law, administered by the DSL would be required. If proposed impacts are less than 50 cubic yards, the DSL will not require a Removal/Fill permit. If proposed impacts are less than 0.5 acre, then the improvements may qualify for the ACOE Nationwide Permit #14, Linear Transportation Projects. If (1) proposed wetland impacts are less than 0.5 acre, (2) the proposed volume impacts to waters of the state are 5,000 cubic yards or less, (3) existing transportation structures are being modified, and (4) mitigation can be provided through payment-in-lieu, then the DSL General Permit (GP) for Certain Transportation-Related Structures may apply to the proposed improvements. If more than 0.5 acre of wetland and/or waters impacts is required, an individual permit will be required from the ACOE and DSL. A wetland/waters delineation and report will be required for proposed improvements to determine accurate wetland/waters locations and dimensions.

The ACOE and DSL will require compensatory mitigation for permanent impacts to wetlands/waters of the U.S. and State. The API is not located within a wetland mitigation bank service area or an in-lieu fee bank service area, therefore, alternative forms of mitigation, including payment-in-lieu (for DSL-jurisdictional impacts only) or on- or off-site wetland creation, enhancement, or restoration, will need to be considered if such impacts occur. Minimal on-site locations for wetland creation are available within the API or adjacent to the API, as the hydrology sources are limited and the majority of the API is located within ODOT right-of-way, which is regularly maintained (i.e., mowed). If on- or off-site mitigation is proposed, the DSL and ACOE will require a compensatory wetland mitigation plan.

### **4.3 Water Quality Resources**

There are no 303(d) listed or TMDL-approved waters located within the API. However, stormwater runoff from the Project may eventually flow into the Umatilla and Columbia Rivers, which are 303(d) listed and have approved TMDLs. Consequently, plans should be developed to prevent untreated stormwater generated from within the API from eventually being discharged into the Umatilla and Columbia Rivers.

The DEQ's 401 Water Quality Certification (WQC) process will be triggered if an ACOE permit is required. If the 401 WQC process is triggered, a Stormwater Management Plan (SWMP) will need to be prepared and will need to be approved by the DEQ.

If construction activities disturb more than one acre of land, a National Pollutant Discharge Elimination System (NPDES) 1200-C permit from DEQ will be required per Section 402 of the CWA. This permit requires that the applicant prepare an Erosion and Sediment Control Plan which utilizes approved Best Management Practices to prevent erosion and control sediment runoff from the construction site. In addition, the permit requires the applicant to inspect and maintain erosion controls to ensure they are working properly.

The Lower Umatilla Groundwater Management Area Action Plan has not identified transportation development infrastructure as a contributing factor to elevated nitrate levels in the groundwater (DEQ 1997). However, if any dewatering would be required for transportation improvements due to elevated groundwater levels, the disposed water will need to be infiltrated onsite and not introduced to a wetland or other surface water. Disposal authorization would be required from DEQ through a special letter permit or letter from DEQ, depending on the volume of water removed and the duration of the dewatering activity (P. Richerson, pers. comm. 2011).

If water is needed for short-term construction purposes or for long-term water use (i.e., landscape irrigation), a limited license or water right, respectively, will be required from the OWRD. Groundwater withdrawals will not be allowed for transportation improvements within the Ordinance Critical Groundwater Areas. If municipal water sources are utilized, no additional permitting will be required (T. Justus, pers. comm. 2011).

#### 4.4 Regulatory Summary

Table 5 provides details regarding the applicable natural resource permits, approvals, and clearances likely needed for transportation improvements proposed in the IAMP.

**Table 5. Summary of Applicable Permits, Approvals, and Clearances for implementation of the UMCD Combined IAMP and Transportation System Subarea Plan**

Type of Permit / Approval/ Clearance	Issuing Agency	Permit / Approval / Clearance	Estimated Approval Timeline (after submittal)
ESA Consultation for federally- listed fish species	NMFS USFWS	FAHP Notification or Biological Opinion	60-120 days (FAHP) 45 days (NLAA) 135 days (LAA)
ESA Consultation for state-listed wildlife species	ODFW	ODFW Project Approval	90 days
Migratory Bird Treaty Act Compliance for tree clearing	ODOT	None (if trees and shrubs are removed outside MBTA nesting period of March 1 – September 1)	N/A
Noxious Weed Clearance	ODOT	Botanical Clearance Report	N/A
Wetland Delineation Report Letter of Concurrence	DSL	Wetland/Waters Delineation Report approval	120 days
Wetland Delineation Jurisdictional Determination (only if API is expanded)	ACOE	Wetland/Waters Delineation Report approval	60 days
Wetland/Waters Removal/Fill Permit (only if API is expanded)	DSL	Joint Permit Application approval	GP: 40 days after Wetland/Waters Delineation Report concurrence Individual Permit: 120 days
Wetland/Waters Section 404 Clean Water Act Permit (only if API is expanded)	ACOE	Joint Permit Application approval	Nationwide permit: 75 days, Individual permit: 120 days
Section 401 Clean Water Act Certification (only if API is expanded)	DEQ	401 Water Quality Certification	Up to 1 year
Section 402 Clean Water Act Certification	DEQ	1200-C	30 days
Dewatering disposal approval	DEQ	Special letter permit or letter from DEQ	Several weeks to several months
Water rights	WRD	Limited license or water right	30 days to 1 year

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# **Appendix A**

## **Representative Photographs of Area of Potential Impact**

1



2



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October 28, 2013

1. View to the southeast of the I-84/Paterson Ferry Road Area of Potential Impact (API) showing the urban & mixed environs wildlife-habitat community.
2. View to the southwest of the I-84/Paterson Ferry Road Interchange showing the urban & mixed environs wildlife-habitat community.

3



4



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October 28, 2013

3. View to the southwest of the I-84/Umatilla Army Depot Access Road API showing the urban & mixed environs wildlife-habitat community.
4. View to the northeast of the westbound off ramp of the I-84/Umatilla Army Depot Access Road API, which is comprised of the urban & mixed environs wildlife-habitat community. Irrigated agriculture can be seen in the background of the photograph outside the API.

5



6



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5. View to the southwest of the I-82/Lamb Road API showing the urban & mixed environs wildlife-habitat community. The Umatilla Chemical Depot (UMCD) can be seen at the right of the photograph behind the fence.
6. View to the southeast of the I-82/Lamb Road API showing the urban & mixed environs wildlife-habitat community.

# **Appendix B**

## **Noxious Weed Lists for Umatilla and Morrow Counties**

**ODA-listed Noxious Weeds Occurring in Umatilla County.**

<b>Scientific Name</b>	<b>Common Name</b>	<b>ODA Classification</b>
<i>Acroptilon repens</i>	Russian knapweed	B
<i>Aegilops cylindrical</i>	Jointed goatgrass	B
<i>Agropyron repens</i>	Quackgrass	B
<i>Alhagi pseudalhagi</i>	Camelthorn	A
<i>Ambrosia artemisiifolia</i>	Ragweed	B
<i>Cannabis sativa</i>	Marijuana	A
<i>Cardaria draba</i>	Hoary cress	B
<i>Carduus nutans</i>	Musk thistle	B
<i>Centaurea calcitrapa</i>	Purple starthistle	A
<i>Centaurea diffusa</i>	Diffuse knapweed	B
<i>Centaurea jacea</i> xc. <i>Nigra</i>	Meadow knapweed	A
<i>Centaurea maculosa</i>	Spotted knapweed	A
<i>Centaurea solstitialis</i>	Yellow starthistle	B
<i>Chondrilla juncea</i>	Rush skeletonweed	A
<i>Cirsium arvense</i>	Canada thistle	B
<i>Cuscuta pentagona</i>	Dodder	B
<i>Echium vulgare</i>	Viper's bugloss	B
<i>Euphorbia esula</i>	Leafy spurge	A
<i>Hypericum perforatum</i>	St. Johnswort	B
<i>Kochia scoparia</i>	Kochia	B
<i>Lepidium latifolium</i>	Perennial pepperweed	B
<i>Linaria dalmatica</i>	Dalmation toadflax	B
<i>Lythrum salicaria</i>	Purple loosestrife	A
<i>Onopordum acantium</i>	Scotch thistle	B
<i>Roripa sylvestris</i>	Creeping yellow cress	A
<i>Secale cereal</i>	Cereal rye	B
<i>Senecio jacobaea</i>	Tansy ragwort	A
<i>Sorghum halepense</i>	Johnsongrass	B
<i>Sphaerophysa salsula</i>	Austrian peaweed	B
<i>Tribulus terrestris</i>	Puncturevine	B

Source: 2013 Umatilla County Noxious Weed list. Available at URL:

<http://www.co.umatilla.or.us/road/weedlist.html>

Note: Per ORS.570.505-570.600, the list of noxious weeds in Umatilla County above was adopted from the 2003 Umatilla County Noxious Weed Control List. The weeds listed are those on the 2003 Oregon State Department of Agriculture list currently found growing or known to have grown previously in Umatilla County.

A= a weed of known economic importance which occurs in the state/county in small enough infestations to make eradication/containment possible; or is not known to occur, but its presence in neighboring states/county make future occurrence in Oregon seem imminent. B=a weed of economic importance which is regionally abundant, but which may have limited distribution in some counties.

**ODA-listed Noxious Weeds Occurring in Morrow County, Oregon**

<b>Scientific Name</b>	<b>Common Name</b>	<b>ODA Classification</b>
<i>Acroptilon repens</i>	Russian knapweed	B
<i>Aegilops cylindrica</i>	Jointed goatgrass	B
<i>Avena fatua</i>	Wild oats	B
<i>Cardaria draba</i>	White top (Hoary cress)	A
<i>Cardus nutans</i>	Musk thistle	A
<i>Centaurea diffusa</i>	Diffuse knapweed	B
<i>Centaurea maculosa</i>	Spotted knapweed	B
<i>Centaurea solstitialis</i>	Yellow starthistle	A
<i>Chondrilla juncea</i>	Rush skeletonweed	A
<i>Cirsium arvense</i>	Canada thistle	B
<i>Conium maculatum</i>	Poison hemlock	B
<i>Convolvulus arvensis</i>	Field bindweed	B
<i>Crupina vulgaris</i>	Common crupina	A
<i>Cuscuta</i> spp.	Field dodder	B
<i>Cynoglossum officinale</i>	Houndstongue	A
<i>Elymus caput-meduseae</i>	Medusahead rye	B
<i>Euphorbia esula</i>	Leafy spurge	A
<i>Hemizonia pungens</i>	Spikeweed	A
<i>Hypericum perforatum</i>	St.Johnswort (Klamath weed)	B
<i>Kochia scoparia</i>	Kochia	B
<i>Linaria dalmatica</i>	Dalmatian toadflax	A
<i>Linaria vulgaris</i>	Yellow toadflax	A
<i>Lythrum salicaria</i>	Purple loosestrife	A
<i>Onopordum acanthium</i>	Scotch thistle	A
<i>Salvia aethiopsis</i>	Mediterranean sage	A
<i>Secale cereal</i>	Cereal rye	B
<i>Senecio jacobaea</i>	Tansy ragwort	A
<i>Sonchus arvensis</i>	Perennial sowthistle	B
<i>Sorghum halepense</i>	Johnsongrass	B
<i>Tribulus terrestris</i>	Puncturevine	B

Source: Morrow County Weed Board 1999.

A= a weed of known economic importance which occurs in the state/county in small enough infestations to make eradication/containment possible; or is not known to occur, but its presence in neighboring states/county make future occurrence in Oregon seem imminent; control of 'A' listed weeds is mandated by Morrow County Ordinance. B=a weed of economic importance which is regionally abundant, but which may have limited distribution in some counties. Morrow County Ordinance recommends control of these species.



Appendix G  
Technical Memorandum #6:  
Future Land Use and Forecast  
Travel Demand



## TECHNICAL MEMORANDUM #6 – FINAL

### Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan

Future Land Use and Forecast Travel Demand

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Date: February 21, 2014 Project #:13848  
To: Don Chance, Technical/Public Advisory Committee (TPAC)  
From: Matt Hughart, AICP; Pat Marnell; Marc Butorac, P.E., P.T.O.E – Kittelson & Associates, Inc.  
Frank Angelo and Darci Rudzinski, AICP - Angelo Planning Group

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The purpose of this memorandum is to document the 20-year forecast land use conditions and traffic operations associated with the Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan.

## OVERVIEW

The analysis of future land uses within the Interchange Management Study Area (IMSA) was focused on areas that are expected to have new activity, new development, or redevelopment potential that would generate traffic at the three study interchanges. These areas of new traffic generating potential are likely to include the following:

- An on-going Oregon National Guard (ORNG) training base located on 7,500-acres of the existing Umatilla Army Depot site.
- Growth associated with the planned 3,150-acre Port Industrial/Depot Industrial development zones. This section includes the approximately 3,150 acres within the Umatilla Army Depot site that is expected to be zoned for industrial/employment uses (by both Morrow and Umatilla Counties) to implement the Umatilla Army Depot Land Use Study prepared in 2013.
- Continued growth associated with the Westland Road Exception Area. The Exception Area in the southeast corner of the IMSA already has significant existing development – FedEx distribution center, Lamb Weston food processing plant, Americold Building, and the Hermiston Generating Company Power Plant and Substation. There are additional undeveloped parcels, approximately 138 acres, including those designated for highway tourist uses that can be realistically assumed to be developed over the next 20 years.
- Continued regional growth within both Morrow and Umatilla Counties outside the IMSA, including growth in the incorporated cities of Irrigon and Hermiston.

## FUTURE LAND USE

The Umatilla Army Depot (Depot) is a unique facility and land use in the State of Oregon. Established more than seventy years ago by the U.S. Army, the Depot site encompasses approximately 17,000 acres spanning Morrow and Umatilla Counties. In 1940 the Army selected the site in northeastern Oregon that became the Depot. Ten months (January to October 1941), 7,000 workers, and thirty-five million dollars later the prairie site was transformed into a complex of warehouses, munitions storage bunkers, shops and office buildings connected by a web of roads and railroad tracks. The Depot opened in 1941 with the mission to store, maintain and transfer a variety of military items, from blankets to ammunition. The Depot has supported multiple war efforts, including the Korean Conflict, Vietnam, Grenada, Panama, Operation Desert Shield, and Operation Desert Storm. Besides its conventional ammunition and general supply missions, the Depot was assigned a new mission in 1962 – receiving and storing chemical ammunition. Between 1962 and 1969, the Depot received various types of chemical ammunitions as one of six Army installations in the U.S. that stored chemical weapons.

In the mid-1980's, Congress directed the Army to dispose of the nation's aging chemical weapons stockpile. In 1988, the Umatilla Army Depot was placed on the Department of Defense Base Realignment and Closure (BRAC) list to review the future of the facility. It was decided that the base would remain open until the chemical stockpile at the Depot was destroyed. To accommodate this mission, the Umatilla Chemical Disposal Facility (UMCDF) was constructed in the northeastern portion of the site and destruction of the chemical ammunitions stored at the Depot took place from 2004 to 2012. The 2005 BRAC round of announcements has the Umatilla Army Depot scheduled for closure after the incineration facility has completed its mission (including decontamination, decommissioning, and closure) in about 2014.

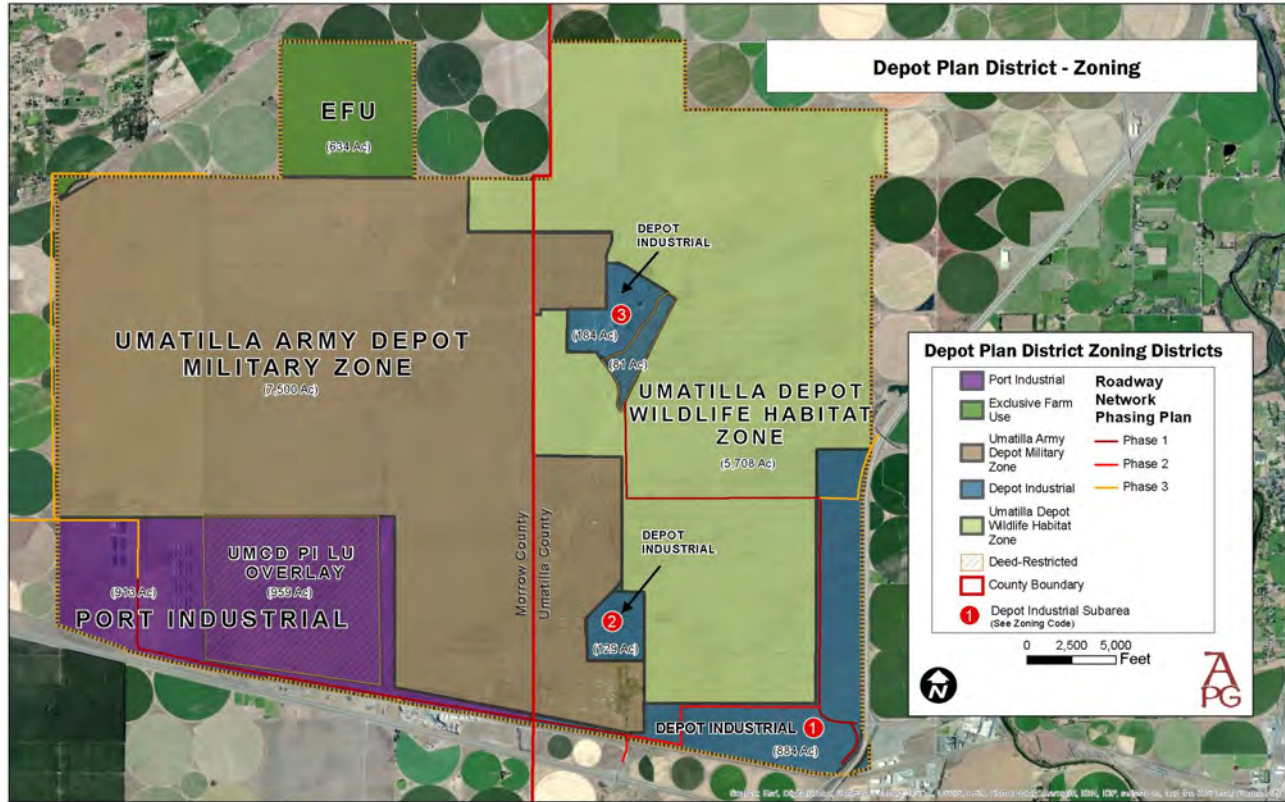
Representatives of Morrow and Umatilla Counties, Morrow and Umatilla Port Districts, the Confederated Tribes of the Umatilla Indian Reservation, and numerous state and local agencies have been involved with planning for future uses of the Depot for more than twenty years. On May 14, 2013 the Umatilla Army Depot Local Reuse Authority (LRA) endorsed an economic development and land use strategy to transition the Depot away from military operations towards a more comprehensive use of the property. This strategy has consistently emphasized three overarching goals for future use of the site:

- Military Reuse (accommodating the needs and plans of the ORNG)
- Wildlife Habitat/Environmental Preservation (with a special emphasis on the shrub-steppe habitat)
- Economic Development (job creation)

The recently completed Land Use Analysis provided the Draft planning and zoning implementation approach for the Depot known as the Depot Plan District zoning. The Land Use Analysis was subject to a rigorous review by both Morrow and Umatilla Counties. While Morrow and Umatilla Counties have not formally adopted the Depot Plan District zoning, adoption is expected to occur in early 2014. Therefore,

for future planning purposes it is appropriate to use the zoning endorsed by the LRA. Figure 6-1 provides a graphical breakdown of the draft Depot Plan District showing the military reuse (ORNG), wildlife habitat/environment preservation, and industrial zones endorsed by the LRA. Table 6-1 shows the total gross acreage by zoning district.

**Figure 6-1 - Depot Plan District Draft Zoning Map**



**Table 6-1 - Depot Plan District Breakdown**

Plan District Designation	Acres (% of District)	Proposed Zoning
Umatilla Army Depot Military	7,500 (44%)	None, pending decisions by each County on whether to zone the Military/Oregon National Guard portion of the Depot.
Wildlife Habitat	5,678 (33%)	None, pending decisions on ownership of the Habitat area.
Industrial (Morrow County)	1,872 (11%)	Port Industrial (existing zoning district)
Industrial (Umatilla County)	1,278 (8%)	Depot Industrial (new zoning district)
Agriculture (Morrow County)	634 (4%)	Exclusive Farm Use (existing zoning district)

The following sections of this memorandum outline the assumptions and future land use/traffic conditions that are anticipated to result from this future vision of the Umatilla Army Depot and the key areas surrounding the Depot.

## Assumed Planned Uses on the Umatilla Army Depot Site

### ***Oregon National Guard (ORNG)***

As shown in Figure 6-1, the ORNG is planning to utilize over 7,500 acres<sup>1</sup> of the Umatilla Army Depot for a variety of uses. For the purposes of the IAMP study, it has been assumed in consultation with ORNG officials that the future uses will require staffing needs comparable to what has been outlined in the June 2012 *Site Development Plan for the ORNG Umatilla Training Center* document. Although the exact details of the future operation are still being worked out, it is understood that the ORNG will move its Regional Training Institute that is currently located on the Western Oregon University campus in Monmouth, Oregon to the Umatilla Army Depot site. In addition to the Regional Training Institute, the site will also include a future readiness center, tenant units, and training facilities to support other military units from throughout the state.

With these identified future ORNG uses on the Umatilla Army Depot site, it is recognized that associated daily traffic volumes will likely change compared to current conditions on the Umatilla Army Depot site. The Future Traffic Conditions section of this memorandum outlines the anticipated traffic conditions associated with these uses.

### ***Port Industrial/Depot Industrial Development***

Four future land use/employment scenarios for growth were prepared for each subarea within the Depot Plan District based on the zoning pattern that was endorsed by the LRA in May 2013. They were developed to provide a range of possible outcomes and to enable an evaluation of potential future needs within the IAMP work. Initially, two scenarios were explored that represented a reasonable “build-out” of the Depot area and a percentage (65%) of full build out, which assumed a more modest pace of growth. These two scenarios were developed in consultation with staff from both counties and input from the Port of Morrow and Port of Umatilla. These scenarios, while consistent with local economic development aspirations, reflected a total number of square feet that appeared high given the historical pattern and rate of growth in the area. As well, the assumptions underlying Scenarios #1 and #2 were not consistent with the findings of the consultant team developing the Operations and Infrastructure Analysis and Business Operation Plan for the Depot. Based on further input, growth scenarios #3 and #4 were developed using less aggressive assumptions that better reflected the rural character of the area, the distance from population centers, and historical growth trends. Scenario #3 still assumes approximately 75,000 square feet of employment is developed each year within the Depot Plan District, over the twenty-year planning horizon. Scenario #4 reflects a “slower growth” outcome, assuming approximately 50,000 square feet is developed every year over the planning horizon.

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<sup>1</sup> Federal regulations allow for an approximately 7,500 acres site to be used in on-going military training.

The four future growth scenarios were shared and discussed at the January TPAC meeting and Public Workshop. Based on careful consultation with the team developing the Operations and Infrastructure Analysis and Business Operation Plan and review by county and Port representatives, it was determined that only Scenarios #3 and #4 are reasonable approximations of possible growth scenarios within the 20-year time horizon. Therefore, Scenarios #3 (“Strong Growth”) and #4 (“Moderate Growth”) are included in this assessment of future growth and will be used to forecast the impacts of future development on the transportation system.

The following sections present a summary of the two employment forecasts to 2035 (the end of the IAMP planning horizon) in Morrow County and Umatilla County respectively. *Appendix A presents the detailed development assumptions that are associated with each of the employment forecasts that are summarized in tables below.*

#### *Morrow County – Port Industrial Zone*

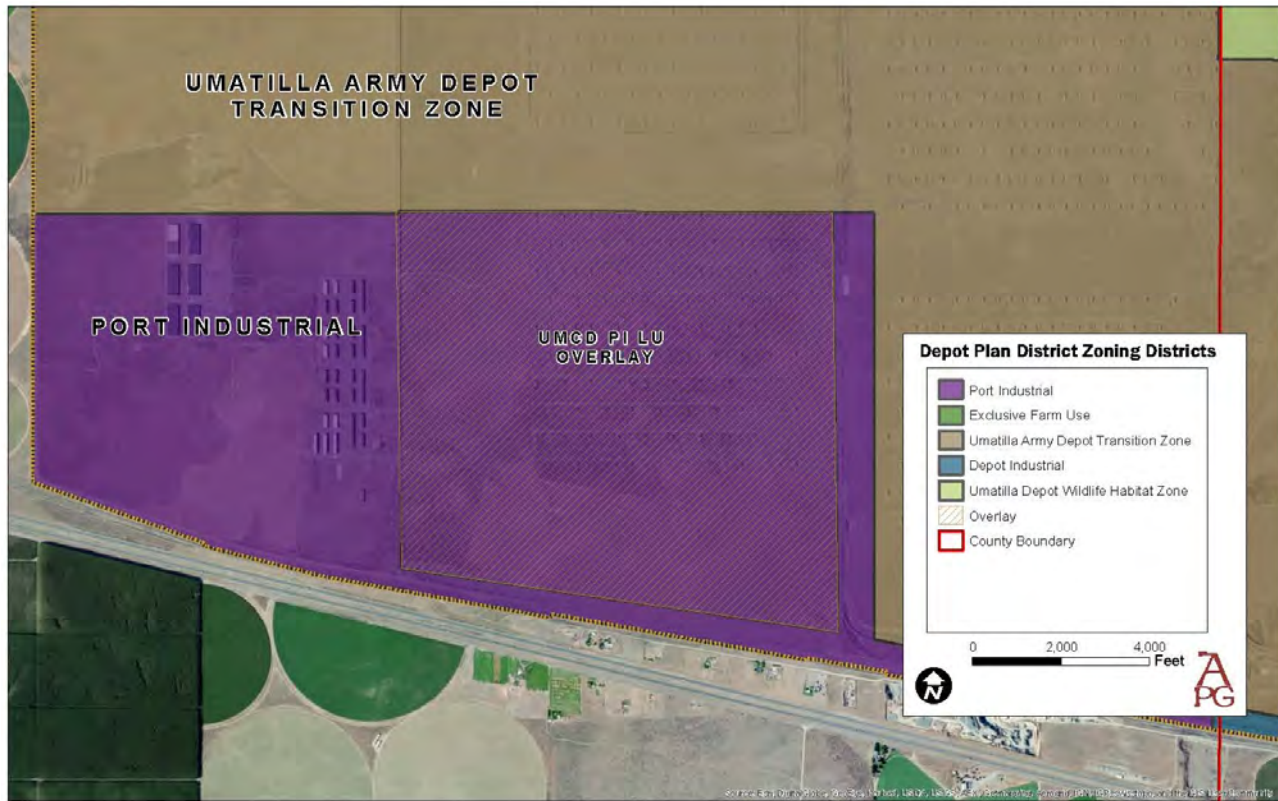
As shown in Figure 6-1, the LRA has recommended designating and zoning the 1,872 acres in the Morrow County exception area for Port Industrial use. “Port-related industrial uses” are those uses permitted outright or conditionally under Section 3.073, Port Industrial (PI) Zone of the Morrow County Zoning Ordinance. Uses authorized in the PI zone include, but are not limited to, port-related chemical and metal industrial uses; manufacturing, refining, processing or assembly of any agricultural, mining or industrial product; power generating and utility facilities; ship building and repair; rail loop and spur dependent uses; and effluent disposal of industrial wastes and agricultural activities in conjunction therewith. Authorized uses also include manufacturing, warehousing, packaging, processing, compounding, constructing, treatment, assembly, storage, testing, finishing, refinishing, repair, and wholesale sale and distribution of products, and any other industrial use authorized by ORS 777.250.

Figure 6-2 shows an expanded view of the PI area in Morrow County. Of the total 1,872 acres, 959 acres will be subject to a limited use overlay, which will only allow the use of the existing structures (igloos). The reuse of existing structures, allowed under the limited use overlay, may encourage a minor amount of future job growth in the area. The remaining 913 acres (730 net developable acres) are available for immediate future development.

Because there is the potential for the limited use overlay to be removed over the next 20 years, the Strong Growth scenario will account for development of the total 1,872 acres and the Moderate Growth scenario will account for only the 913 acres not subject to the limited use overlay.

Discussions with Morrow County and Port of Morrow representatives indicate that the developable PI area is best suited for rail-related warehouse and storage uses. These uses are typically not labor intensive and, therefore, will not generate large numbers of jobs. However, the site’s locational advantages and very large, flat developable area, makes an attractive location for these uses. The 2035 employment forecasts for the PI area are summarized in Table 6-2.

**Figure 6-2 - Morrow County Port Industrial Zone**



**Table 6-2 - Morrow County Port Industrial Zone: Future (2035) Development Summary**

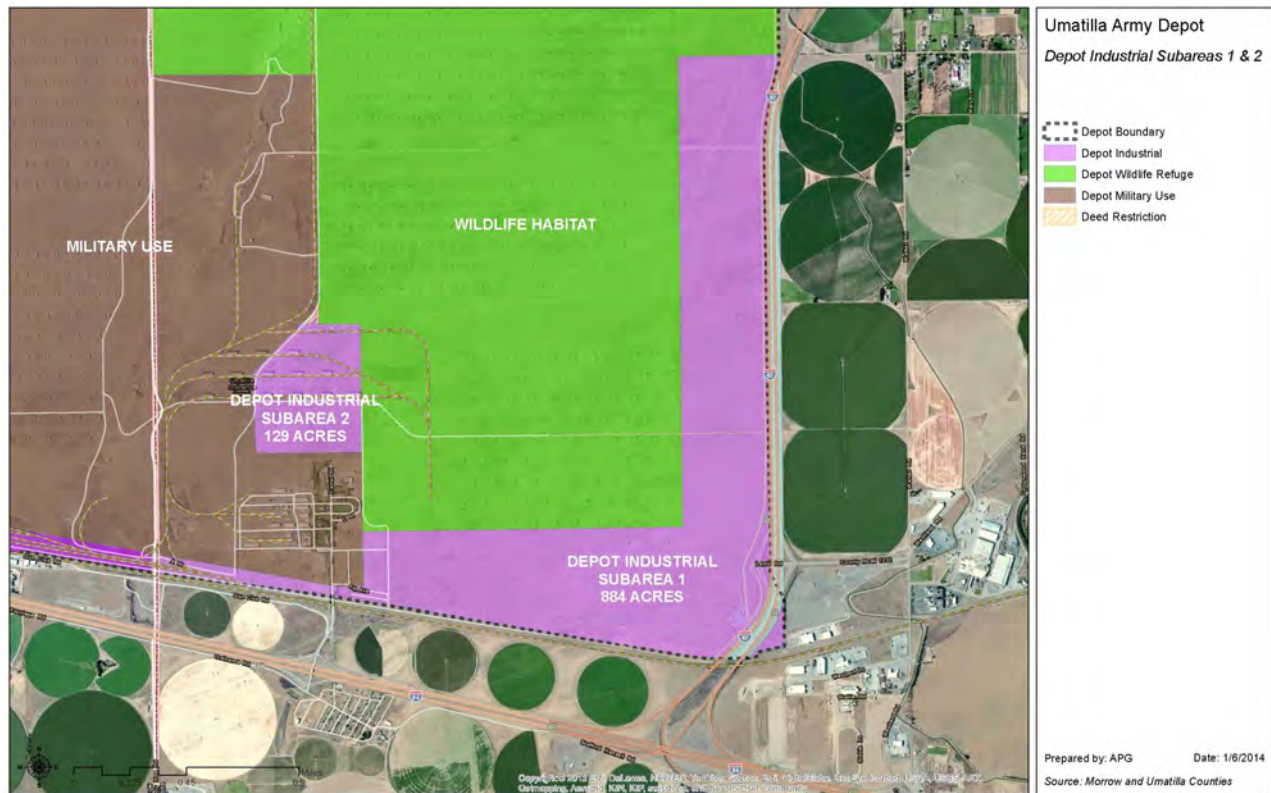
	Gross / Net Acres	Total Square Feet	Total Employees
<b>2035 Strong Growth Scenario</b>			
Port Industrial	913 / 730 acres	477,243 SF	159
Port Industrial (With Out Limited Use Overlay)	959 / 767 acres	501,288	167
Total		978,531 SF	326
<b>2035 Moderate Growth Scenario</b>			
Port Industrial	913 / 730 acres	318,162 SF	106
Port Industrial (With Limited Use Overlay)	959 acres	n/a	n/a
Total		318,162 SF	106

### Umatilla County – Depot Industrial Zone

As shown on Figure 6-1, there are three discrete subareas identified for industrial development in the Umatilla County portion of the Depot Plan District. Descriptions of these subareas are provided below.

**Subarea 1** encompasses approximately 884 undeveloped acres located in the southeast corner of the Umatilla Army Depot at the junction of I-82 and I-84. As shown on Figure 6-3, the proposed L-shaped configuration of this exception area will provide immediate access to the interstate system via existing interchanges to I-82 on the east and I-84 on the south.

**Figure 6-3 - Umatilla County Depot Industrial Zone: Subarea 1 & 2**



Subarea 1 is recognized as the key opportunity site for industrial development and is considered one of the best sites for distribution/warehouse/logistics uses in the region and the state for the following reasons:

- Unique location at the confluence of two interstate freeways. There are only seven locations in Oregon where interstate freeways/connecting loop freeways intersect – and six of them are in the Willamette Valley with surrounding lands largely developed.
- Immediate accessibility to existing interchanges to each freeway.
- The two interstate highways adjoining this area serve a large, multi-regional and multi state area and provide direct freighting opportunities for intensive levels of industrial development. As such, the interstate facilities can support industrial activities far beyond



what would commonly be found in a rural area. The highways serving this area serve an area extending from Seattle, Vancouver BC and Spokane to the north to Portland to the west, Boise and Salt Lake City to the east, and northern California to the south via US 395.

- Large, level site with more than 800 acres under a single ownership – the largest undeveloped site at the junction of two interstate freeways in Oregon.
- Proximity and accessibility to other transportation modes to support industrial uses and freight movement, including UP rail facilities and the nearby Hinkle yard, and Port shipping facilities on the Columbia River.
- Proximity to nearby communities (Hermiston, Umatilla, Boardman, and Irrigon) with available residential land, housing and other services to support industrial jobs at this location.

Subarea 1 is intended to accommodate a range of distribution/commerce uses that can maximize the economic development potential of a large, unique site located at the junction of two interstate freeways. With immediate accessibility to interchanges to I-84 on the south and I-82 on the east, Subarea 1 is intended primarily for land-intensive freight related uses that can take advantage of easy truck access on and off the interstate system and avoid traffic congestion and other community impacts within urban areas.

Because of its accessibility and visibility, a maximum of 5 percent of the net developable acreage within the Depot Industrial Zone (excluding the restricted area of Subarea 3) may be allocated to retail and service uses. The retail uses must be located in Subarea 1. A draft development concept for the industrial / commercial land use pattern in Subarea 1 of the Depot Industrial zone is shown in Figure 6-4. Future commercial uses in this subarea may include sales and personal service oriented uses, in addition to highway tourist oriented uses which are also allowed in this zone. Because of the locational advantages and size of this site, there is the potential that these commercial activities may be more intense than what could be accommodated east of I-82. However, in contrast to the exception area, growth may be slowed somewhat by the lack of infrastructure and allied or support business in the immediate area. Future planning associated with the Business Operation Plan that is being developed for the Depot site will provide a more refined development concept for this area.

**Figure 6-4 - Umatilla County Depot Industrial Zone: Subarea 1 Conceptual Land Use**



**Subarea 2** encompasses 129 acres (see Figure 6-3). There are currently eight brick warehouses (Series 400 Magazine Buildings) within the boundary of Subarea 2. Each warehouse building is 11,227 square feet. The buildings were designed and constructed according to military base structural standards in the early 1940's. Some of these warehouses have been refurbished and are used for storage.

Subarea 2 is intended to accommodate general storage, warehouse and distribution uses that can largely utilize existing buildings and facilities in this subarea. Access to Subarea 2 is only available through the secured main gate and entry to the Administration Area that will be transferred to the Oregon National Guard. Therefore, the range of permitted and conditional industrial uses for Subarea 2 is more limited and future development opportunities are constrained. This entry road connects with I-84 via the existing Army Depot interchange.

The American Red Cross currently uses at least five concrete igloos on the Depot site for storage of emergency supplies. The Red Cross has been coordinating with the LRA and intends to consolidate and expand this use into storage warehouse(s) located in Subarea 2. The Red Cross is working with Oregon Emergency Management and the Federal Emergency Management Agency to make sure enough emergency supplies and trained volunteers are in place. By utilizing existing warehouse(s) in Subarea 2 for storage of emergency supplies, the Red Cross also has opportunities to partner with the Oregon National Guard to load and transport supplies in the event of an emergency or natural disaster.

**Subarea 3** includes a total of 265 acres. As shown on Figure 6-5, approximately 81 acres of Subarea 3 (Coyote Coulee) will be subject to deed restrictions that limit land disturbance. The soils and topography in the coulee are not suitable for agriculture, but the area is valuable for wildlife habitat. It has been included in the proposed exception and Depot Industrial zone boundary because it falls within the area subject to on-going monitoring as a condition of the DEQ permit for the UMCDF. Therefore, the LRA – in consultation with the Confederated Tribes – has determined that the 81 acre “restricted area” should be consolidated with the Depot Industrial parcel rather than the designated Wildlife Habitat area, even though it will not be available for industrial development under the deed restriction.

**Figure 6-5 - Umatilla County Depot Industrial Zone: Subarea 3**



Subarea 3 is intended to accommodate a range of general industrial uses that can leverage the substantial and recent investment in buildings, infrastructure and other site improvements constructed to support the UMCDF mission. The UMCDF site and Subarea 3 are the most recently and intensively developed areas on the entire Umatilla Army Depot site. The structures were all constructed within the last ten years and there has been a recent and significant investment in infrastructure, including but not limited to electric power facilities, natural gas and communication facilities. More than 1,000 employees worked at the UMCDF as the stockpiled chemical weapons were incinerated. The incinerator building has since been demolished as a condition of the DEQ permit. Even with this large building removed, the remaining infrastructure and other improvements constructed to support the UMCDF make Subarea 3 very attractive for future industrial uses.

Once the Army has completed all the required decommissioning and closure activities at the UMCDF, Subarea 3 is anticipated to be available as a part of the overall “economic development” transfer of Depot property to the LRA and transition to new urban industrial uses. Because of the infrastructure and its relative isolation, the UMCDF site has been identified as an area that is uniquely attractive for specific industrial uses, including but not limited to data centers. The local region has already exhibited success in the recruitment of data center development, such as the Amazon facilities on Port of Morrow and Port of Umatilla properties.

General site requirements for data centers are as follows:

- Access to current and future power sources: Data centers require significant amounts of power, as well as high quality transmission. Any power failures are highly costly. Access to more than one power grid improves marketability. Stability and affordability of future power pricing is also essential.
- Natural risk: Data centers will not locate in areas susceptible to natural disaster. This limits the marketability of some areas in the country, most notably hurricane risk in the Gulf States and Southeastern Seaboard, and tornado risk in the Great Plain States. The primary natural risks in the Morrow/Umatilla County region are drought, range fires and volcanic ash fallout.
- Cooling and climate: Data centers generate heat, and cooling is an essential function of the facility. Data centers are increasingly being attracted to moderate desert climates, where systems are being designed to capture cool nighttime air.
- Security: Data centers typically want to be inconspicuous. Further, regulations sometimes require that data is physically stored in the region from which it is collected. Data centers require low levels of visibility, and prefer a buffered site with some isolation.

Umatilla County finds that Subarea 3 is an appropriate and suitable area for future development of data center(s) in addition to other industrial uses that would find the above physical development characteristics attractive.

Based on the above subarea characteristics, 2035 employment forecasts have been prepared and are summarized in Table 6-3.

**Table 6-3 - Umatilla County Depot Industrial Zone: Future (2035) Development Summary**

	Gross / Net Acres	Total Square Feet	Total Employees
<b>2035 Strong Growth Scenario</b>			
Depot Industrial Subarea 1	824 / 659 acres	574,295 SF	287
Depot Commercial Subarea 1	60 / 48 acres	313,632 SF	627
Depot Industrial Subarea 2	129 / 103 acres	n/a	n/a
Depot Industrial Subarea 3	184 / 147 acres	160,301 SF	160
Depot Industrial Subarea 3 (Restricted)	81 acres	n/a	n/a
Total		1,048,228	1,075
<b>2035 Moderate Growth Scenario</b>			
Depot Industrial Subarea 1	824 / 659 acres	430,721 SF	215
Depot Commercial Subarea 1	60 / 48 acres	209,088 SF	418
Depot Industrial Subarea 2	129 / 103 acres	n/a	n/a
Depot Industrial Subarea 3	184 / 147 acres	128,241 SF	128
Depot Industrial Subarea 3 (Restricted)	81 acres	n/a	n/a
Total		768,050	762

**Wildlife Portion of Depot Plan District**

An approximately 5,700-acre area within the Depot Plan District (see Figure 6-1) will be set aside as a Wildlife Refuge and will be protected in the future through zoning restrictions. At this point, the property has not been zoned and remains in federal ownership. Application of zoning to the Wildlife Refuge is pending and will be based on a determination of ultimate ownership. For purposes of the IAMP planning process, no employment growth or traffic-generating activity is forecast for this area.

**Westland Road Exception Area**

Outside of the areas of the Depot identified for future industrial and commercial, the most significant development opportunities are around the Westland Road/I-84 Interchange. Located in close proximity to the I-84 and I-82 freeways, this area already has developed with a number of urban scale uses, including an approximately 100,000 square-foot FedEx warehouse and distribution facility; a 25,000 square-foot UPS distribution facility; 350,000 square-foot Lamb Weston Food Processing plant; 160,000 square-foot Americold building; and approximately 180,000 square-foot Hermiston Generating Company Power Plant and Substation. In addition to these existing uses, a number of other planned facilities are likely to be built in the near-term including a new truck/travel center located in the northwest quadrant of the I-84/Westland Road interchange and a potential future power generating facility.

Employment forecasts were prepared for the Westland Road Exception area based on a pattern of existing uses already sited in the vicinity of the I-84 interchange and the amount of vacant land available for future development. Unlike the Depot Plan District Area, which is largely a “blank slate” for future development, the area in the vicinity of the Westland Road/I-84 interchange has an



South of the interchange, parcels zoned for Rural Tourist Commercial are vacant, with the exception of the Shell gas station located on a 2.5 acre parcel. Based on the location of these parcels and their good visibility from I-84 and access via the Westland Road Interchange, assumptions for future growth in this area include additional service commercial, a hotel/motel and a restaurant.

**Table 6-4 Westland Road Exception Area: Build-Out (2035) Summary**

Umatilla County	Gross / Net Acres	Total Square Feet	Total Employees
Limited Rural Light Industrial	30 / 24	104,544	35
Light Industrial	64.2 / 51	223,724	112
Rural Tourist Commercial:			
Lodging and Restaurant (S. of I-84)	14.1 / 11	73,704	74
Service (S. of I-84)	7.4 / 6	38,681	39
Retail and Service (N. of I-84, at Lamb Road)	22 / 18	114,998	115
Total	137.7 / 110	555,651	374

## FUTURE TRAFFIC CONDITIONS

Based on the noted potential levels of development and redevelopment in the IMSA, and factoring in regional growth from outside the IMSA, future year 2035 traffic conditions were estimated along the study area interchanges, roadways, and intersections. In order to more accurately assess the impacts of potential long-term redevelopment on the Umatilla Army Depot site, the future traffic conditions analysis was prepared for the following iterations:

- Year 2035 Background Traffic Conditions – includes estimates for local and regional traffic growth but does not include anticipated growth due to reuse/redevelopment of the Umatilla Army Depot site.
- Year 2035 Total Traffic Conditions - includes estimates for local, regional, and Umatilla Army Depot reuse/redevelopment traffic growth.

### Year 2035 Background Traffic

Year 2035 “Background” traffic volume forecasts do not include traffic growth from reuse/redevelopment of the Umatilla Army Depot as outlined in the earlier sections of this memorandum. Instead, this scenario isolates the impacts of continued local and regional growth in and around the IMSA at the study area interchanges and intersections. The year 2035 “Background” scenario was developed based on the currently adopted Morrow and Umatilla County comprehensive plans and assumptions regarding continued local and regional through traffic growth. The remainder of this section describes the methodology and assumptions used to develop year 2035 background traffic forecasts.

### ***2035 Background Traffic Growth***

As described in the Existing Land Use and Existing Traffic Conditions memorandum, the characteristics and service area of each study interchange are unique. For this reason, different methodologies were used to estimate 2035 background traffic growth at each interchange as outlined in the sections below.

#### *I-84/Paterson Ferry Road Interchange*

The I-84/Paterson Ferry Road Interchange primarily serves agricultural land consisting of field crops, poplar tree farms, and dairy farms. It also serves a saw mill, quarrying operations, and a small amount of isolated industrial use. Due to the predominately rural character of the interchange service area, the I-84/Paterson Ferry Road interchange is not anticipated to experience significant regional traffic growth. Instead, Morrow County staff anticipates some continued growth with the poplar tree farms and associated saw mill, a potential new veneer plant, and expansion of existing dairy farms. To conservatively account for this growth potential, the existing traffic volumes at key interchange ramp terminal movements were doubled during the weekday a.m. and p.m. peak hours.



### *I-84/Umatilla Army Depot Interchange*

The I-84/Umatilla Army Depot Interchange primarily serves as the main access to the Umatilla Army Depot and secondarily serves as an access to the agricultural land on the south side of I-84. As the “Background” traffic conditions is assuming no growth or change to the Umatilla Army Depot and the agricultural lands south of I-84 are not anticipated to change, no traffic growth modifications are assumed under 2035 background conditions.

### *I-82/Lamb Road Interchange*

Of the three study interchanges, the I-82/Lamb Road interchange has the greatest potential to experience significant regional and local growth. Regional growth is likely to come in the form of anticipated traffic volume increases along the I-82 corridor and growth within the City of Hermiston. To capture regional growth at the I-82/Lamb Road interchange terminals and adjacent Lamb Road intersections, an annual growth rate of 1.0 percent was applied. This growth rate is consistent with other recent traffic studies conducted in the vicinity of the Westland Road interchange.

In addition to regional growth, the I-82/Lamb Road interchange will likely experience a more significant amount of growth associated with continued buildout of the Westland Road Exception Area. In the Westland Road Expectation Area, there are currently two planned developments; a truck stop/travel center and a power generating station<sup>2</sup> located along segments of Westland Road. Following a review of the traffic impact studies for these two near-term projects, the estimated net new trips were added to the growth-adjusted (regional) I-82/Lamb Road traffic volumes.

Lastly, it is recognized that that the Westland Road Exception Area has the potential for further infill over the next 20 years as outlined in Table 6-4. To account for this long-term infill growth, commercial trips were estimated using the ITE manual Trip Generation while industrial trips were estimated using an industrial-related trip rate calculation based on existing Exception area uses. *Detailed calculations of these trip rates are summarized in Appendix B.* The resulting net new weekday a.m. and p.m. peak hour trips were then distributed to the study area intersections based on existing and anticipated travel patterns.

### ***Year 2035 Background Traffic Operations***

Future year 2035 Background weekday a.m. and p.m. peak hour traffic volumes were determined by applying the noted growth rates, in-process traffic volumes, and infill trip generation estimates to the

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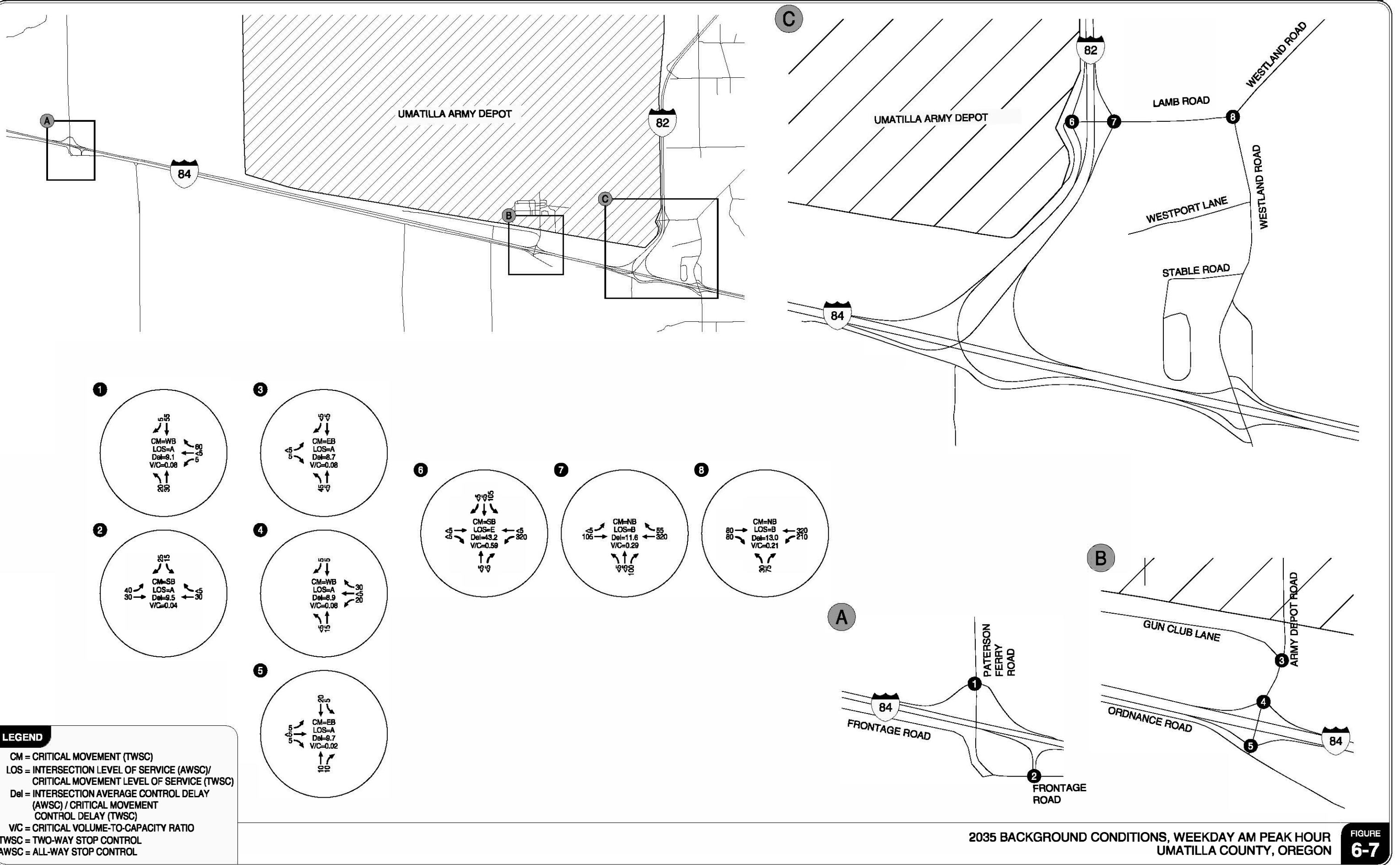
<sup>2</sup> Umatilla County has approved the truck stop development project located on Westland Road and it has been assumed that it will be constructed within the 20-year planning horizon. The power generating plant is still in the early planning and approval phases and has not yet been formally approved by Umatilla County. However, for conservative purposes, the anticipated traffic associated with the power generating plant has been included given its likely impact on long-term traffic volumes at the I-82/Lamb Road interchange.

existing study network. The resulting year 2035 weekday a.m. and p.m. peak hour traffic volumes are shown in Figures 6-7 and 6-8, respectively. As summarized in Table 6-5, all of the interchange ramp terminals and study intersections are forecast to continue to operate at acceptable standards.

**Table 6-5 - 2035 Background Traffic Operations Summary**

Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour		Standard	Meets Standard?
	LOS	V/C	LOS	V/C		
I-84 EB Ramp Terminal/ Paterson Ferry Road/Frontage Road	A	0.04	A	0.04	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Paterson Ferry Road	A	0.08	A	0.04	v/c < 0.70	Yes
I-84 EB Ramp Terminal/ Army Depot Access Road	A	0.02	A	0.04	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Army Depot Access Road	A	0.07	A	0.02	v/c < 0.70	Yes
Army Depot Access Road / Gun Club Lane	A	0.08	A	0.02	LOS E	Yes
I-82 SB Ramp Terminal/ Lamb Road	E	0.59	B	0.11	v/c < 0.70	Yes
I-82 NB Ramp Terminal/ Lamb Road	B	0.29	C	0.54	v/c < 0.70	Yes
Westland Road/ Lamb Road	B	0.21	B	0.24	LOS E	Yes

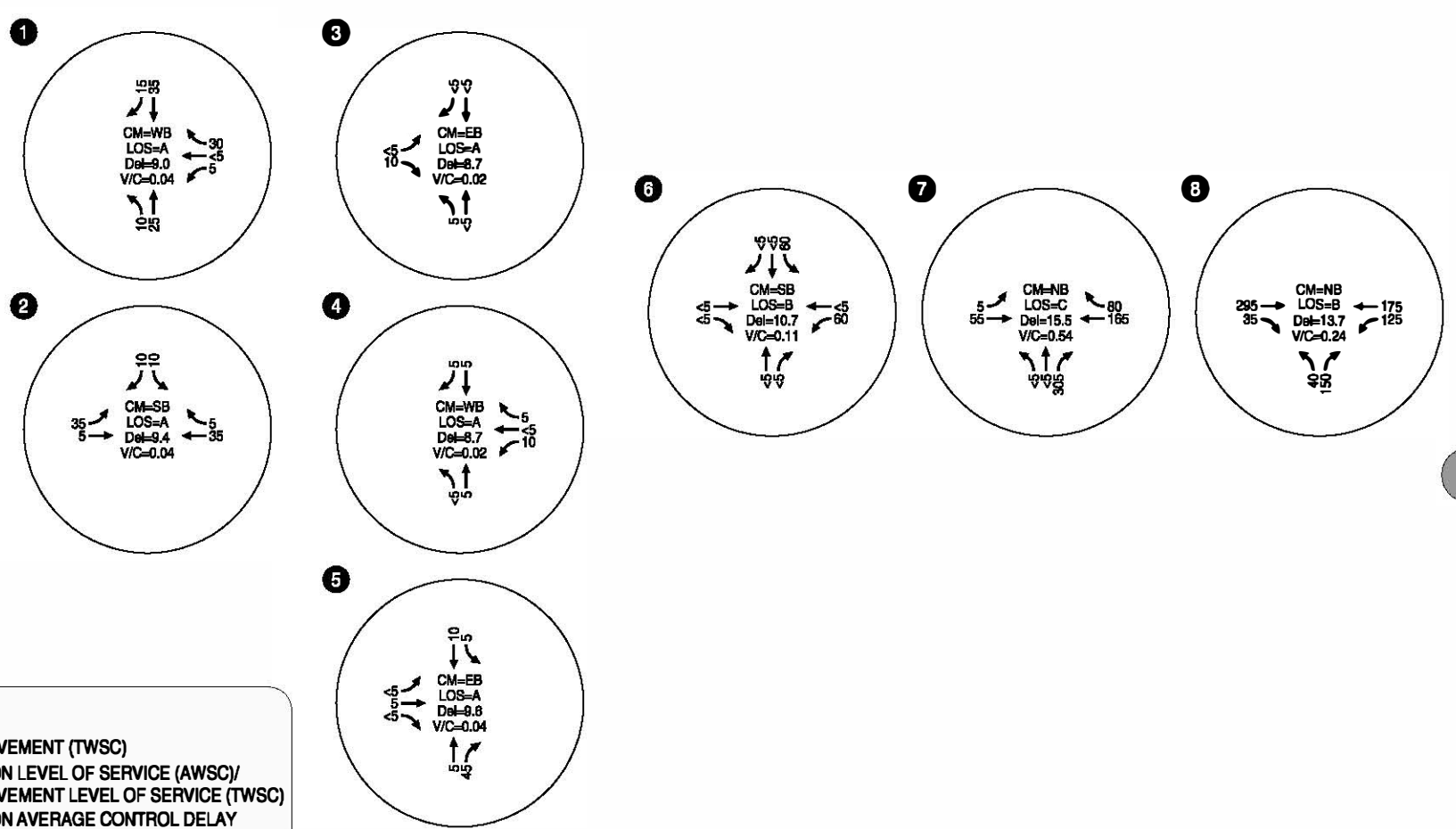
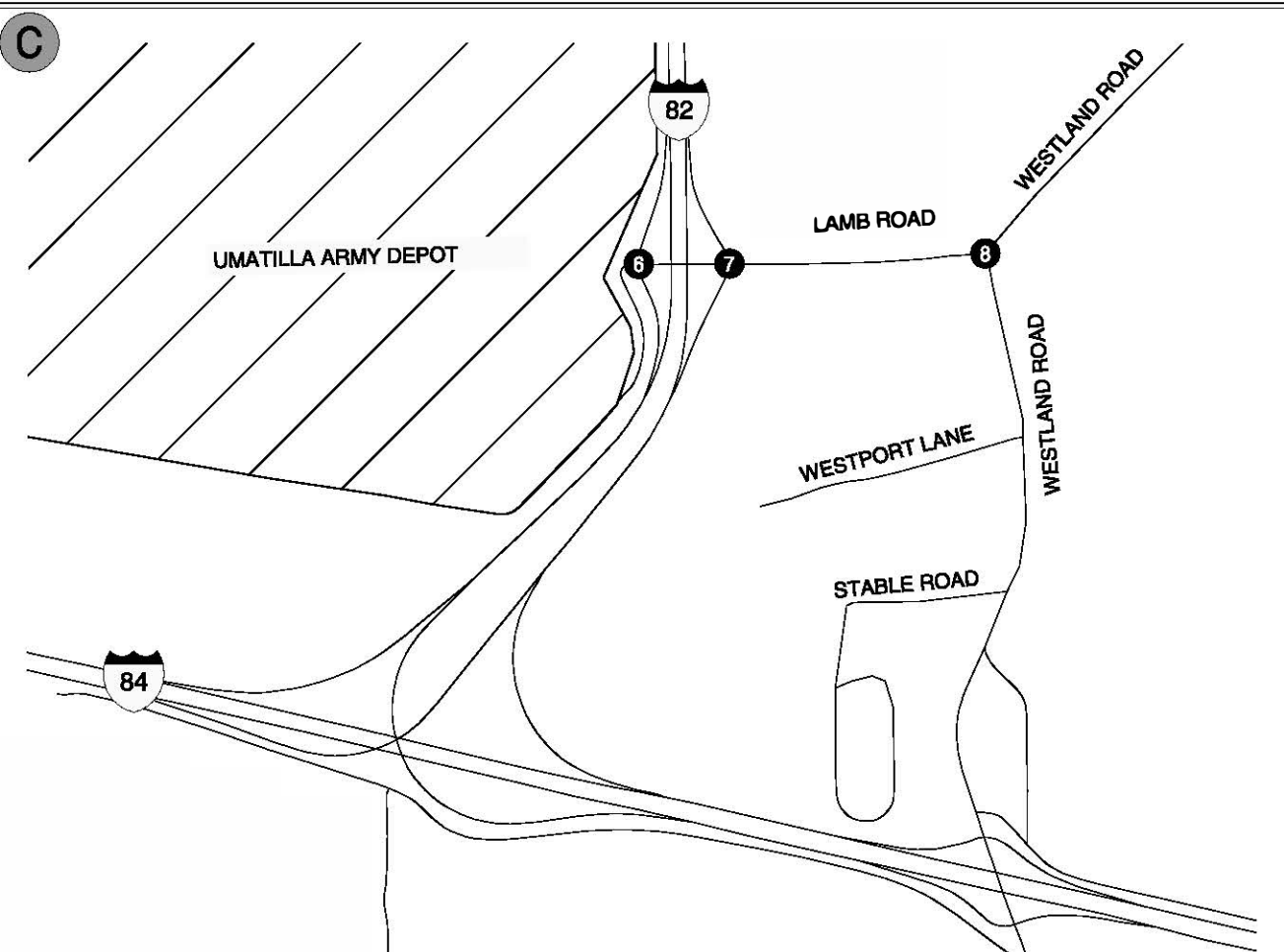
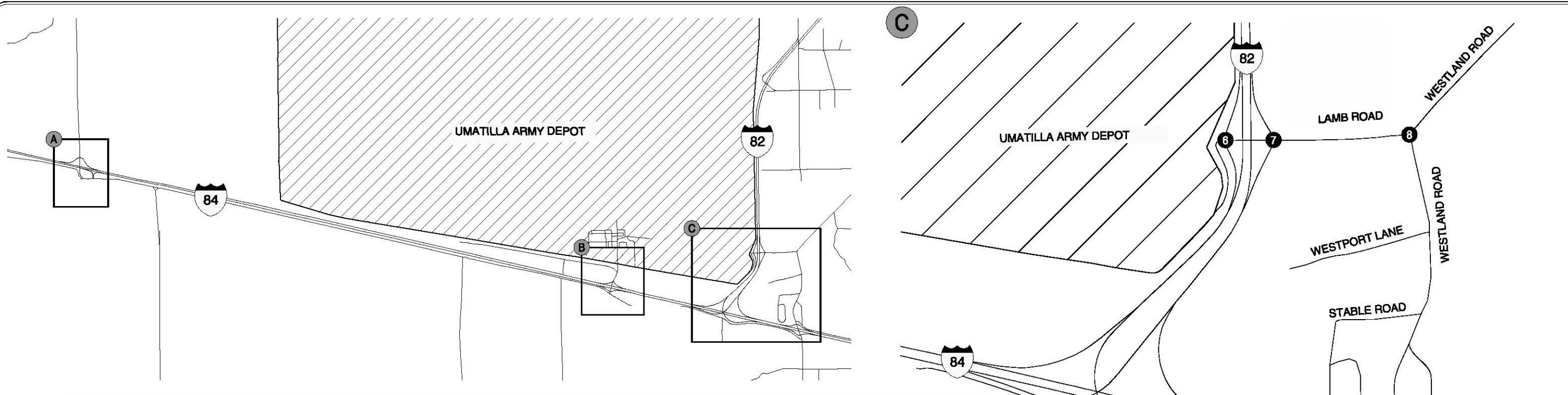
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2035 BACKGROUND CONDITIONS, WEEKDAY AM PEAK HOUR  
UMATILLA COUNTY, OREGON

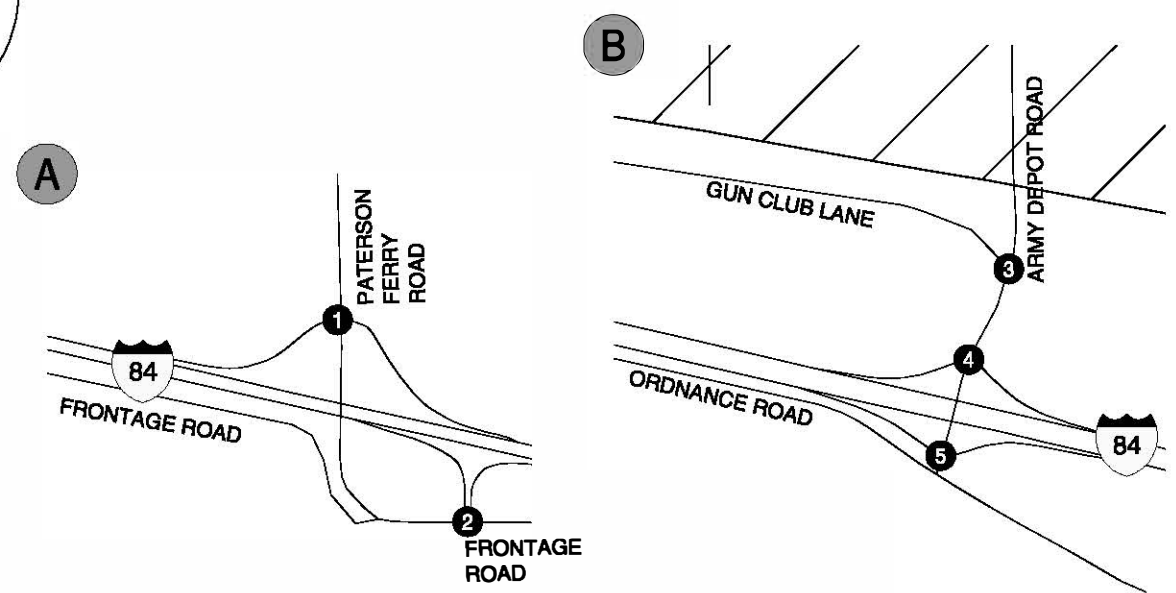
FIGURE  
6-7

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**LEGEND**

- CM = CRITICAL MOVEMENT (TWSC)
- LOS = INTERSECTION LEVEL OF SERVICE (AWSC)/ CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
- Del = INTERSECTION AVERAGE CONTROL DELAY (AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL



2035 BACKGROUND CONDITIONS, WEEKDAY PM PEAK HOUR  
UMATILLA COUNTY, OREGON

## Year 2035 Total Traffic Scenario

Year 2035 “Total” traffic volume forecasts include all of the traffic growth estimates from the “Background” scenario and the traffic growth estimates from the anticipated reuse/redevelopment of the Umatilla Army Depot. This includes anticipated traffic growth from the ORNG and Port Industrial/Depot Industrial zones. The remainder of this section describes the methodology and assumptions used to develop year 2035 total traffic forecasts.

### ***Oregon National Guard Use***

As previously stated, the ORNG is planning to move its Regional Training Institute that is currently located on the Western Oregon University campus in Monmouth, Oregon to the Umatilla Army Depot site. In addition to the Regional Training Institute, the site will also include a future readiness center, tenant units, and training facilities to support other military units from throughout the state. The specific details associated with this vision are still being refined, however for the purposes of the IAMP study, it has been assumed in consultation with ORNG officials that the future uses will be comparable to what has been outlined in the *June 2012 Site Development Plan for the ORNG Umatilla Training Center* document. Anticipated staffing plans were derived from this document and a resulting trip generation profile was developed. *Appendix B contains the detailed trip generation calculations.* The resulting net new weekday a.m. and p.m. peak hour trips were then distributed to the I-84/Umatilla Army Depot interchange based on existing and anticipated travel patterns.

### ***Morrow County – Port Industrial Zone***

Table 6-2 assumes that the Morrow County Port Industrial Zone will have up to 1,495 net developable acres to accommodate a variety of industrial related uses. Table 6-2 shows the anticipated 2035 development square footage under the strong and moderate growth scenarios. For the purposes of this study, it has been assumed that this potential development will include large warehouse/storage facilities. Using the High Cube/Warehouse land use from the ITE publication, *Trip Generation*, weekday a.m. and p.m. peak hour trips were generated and distributed to the I-84/Umatilla Army Depot interchange. *Appendix B contains the detailed trip generation calculations.*

### ***Umatilla County – Depot Industrial Zone***

**Subarea 1** encompasses approximately 884 undeveloped acres located in the southeast corner of the Umatilla Army Depot at the junction of I-82 and I-84. As shown in Table 6-3, it is assumed that this area will have approximately 659 acres of distribution/warehouse/logistics uses and approximately 48-acres of service commercial and highway oriented retail uses. Table 6-3 shows the anticipated 2035 development square footages under the strong and moderate growth scenarios. To account for this development potential, industrial related trips were estimated using an industrial-related trip rate calculation based on existing Westland Road Exception area uses.

As previously noted, the commercial-related uses are likely to include sales and personal service oriented uses, in addition to highway tourist oriented uses. For the purposes of this study, it has been assumed that this will include a factory outlet mall, a truck stop, gas station, several fast-food restaurants, and a motel. The ITE manual, Trip Generation, was then used to develop a trip generation profile for these commercial-related uses. *Detailed calculations of these trip rates are summarized in Appendix B.* The resulting net new weekday a.m. and p.m. peak hour trips were then distributed to both the I-84/Umatilla Army Depot and I-82/Lamb Road interchanges.

**Subarea 3** includes a total of 265 acres and is intended to accommodate a range of general industrial uses that can leverage the substantial and recent investment in buildings, infrastructure and other site improvements constructed to support the UMCDF mission. For the purposes of this IAMP study, Subarea 3 has been assumed to accommodate a large data center. Based on studies at other data centers in Oregon and California, a trip generation rate for this use was estimated and the resulting weekday a.m. and p.m. peak hour trips were distributed primarily to the I-84/Lamb Road interchange. *Detailed trip generation calculations are included in Appendix B.*

**Year 2035 Total Traffic Operations**

Future year 2035 Total weekday a.m. and p.m. peak hour traffic volumes were determined by adding the noted ORNG, Port Industrial, and Depot Industrial related volumes to the background traffic volumes with trips routed through the study intersections and interchanges based on their anticipated origins and destination. The resulting year 2035 weekday a.m. and p.m. peak hour traffic conditions are shown in Figures 6-9 and 6-10 for the strong growth build out scenario. Table 6-6 summarizes the operations at the interchange ramp terminals and study intersections.

**Table 6-6 - 2035 Total Traffic Operations Summary (Strong Growth Scenario)**

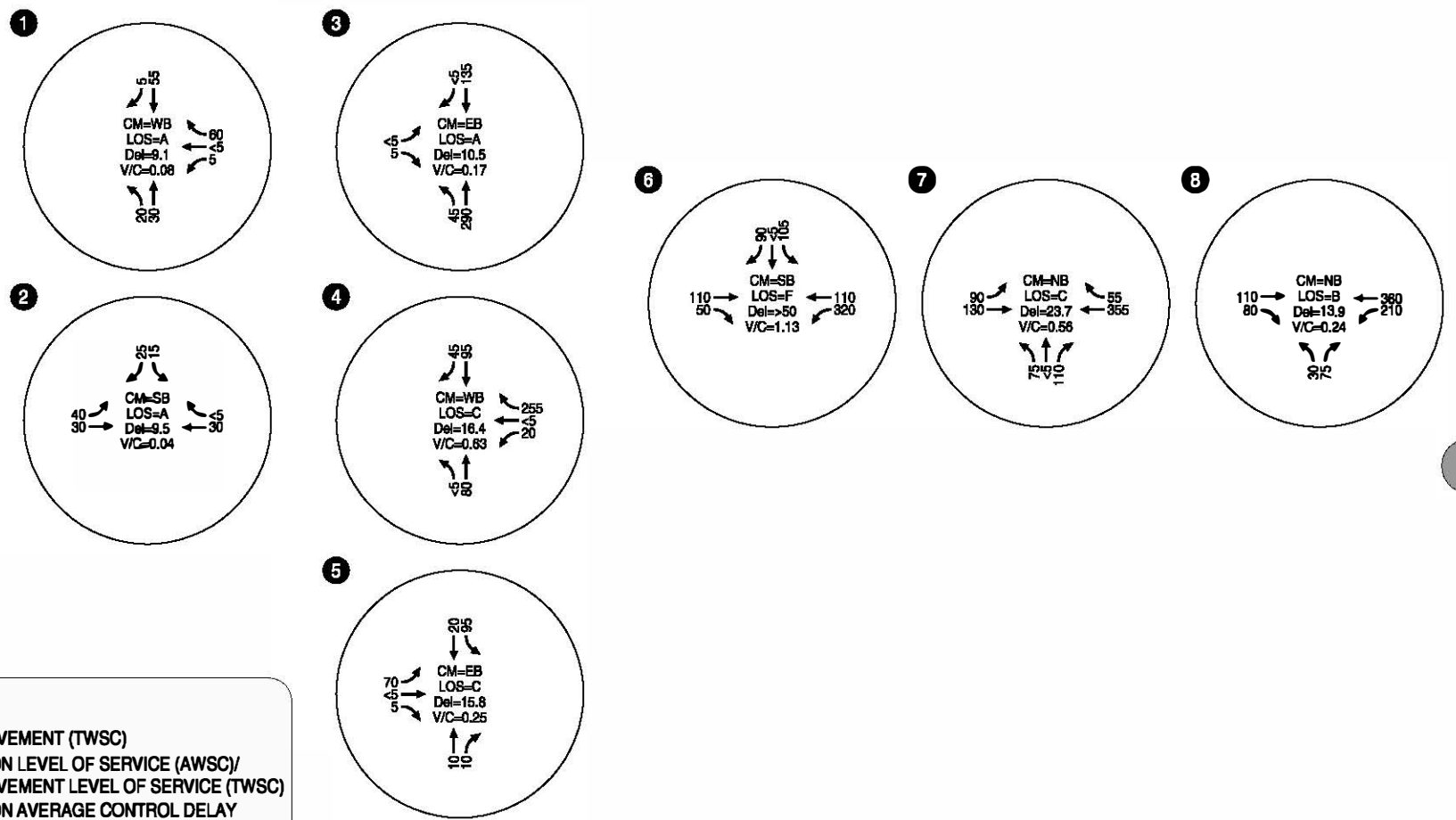
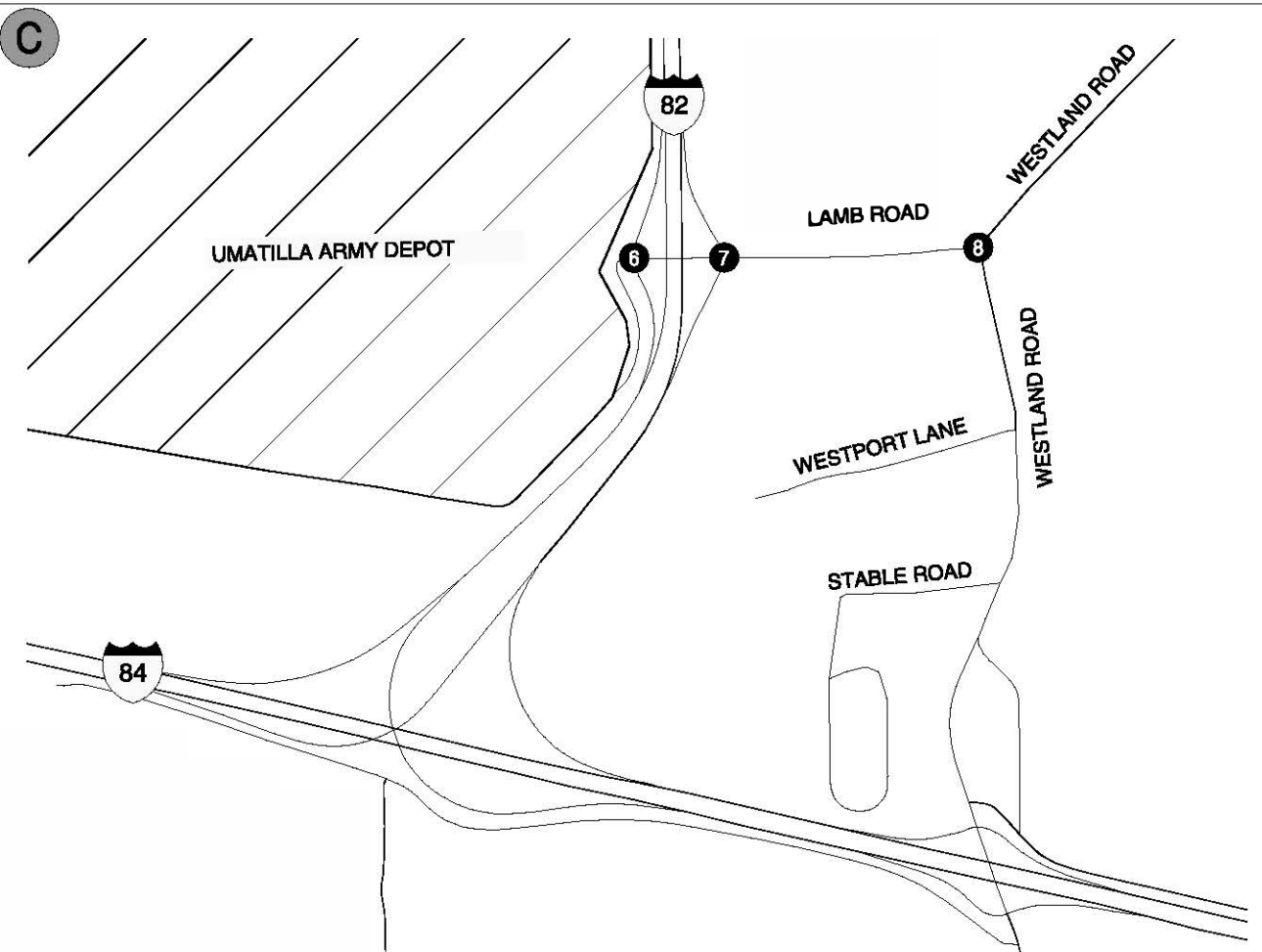
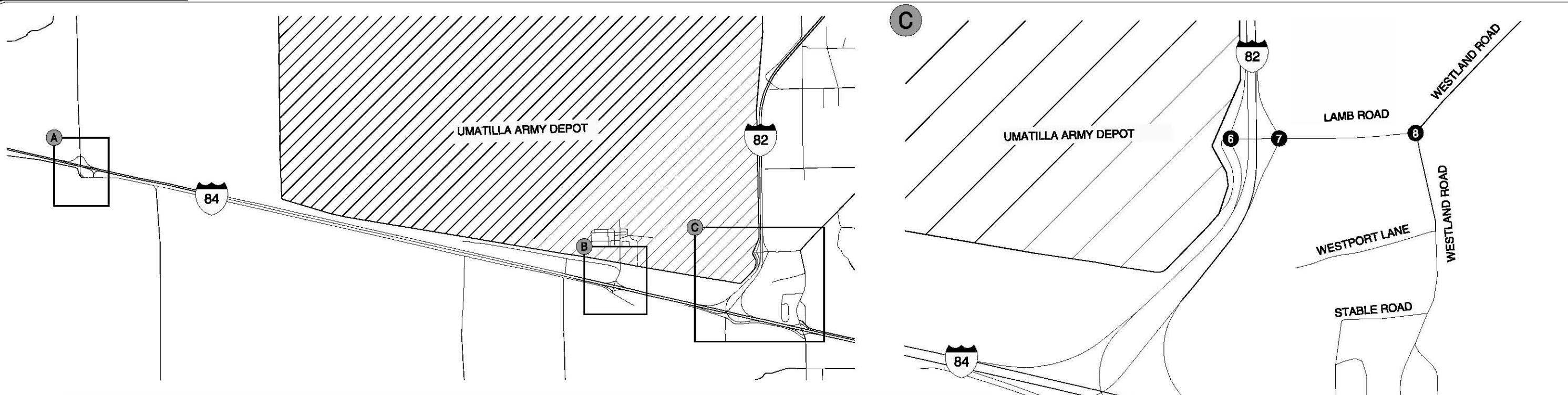
Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour		Standard	Meets Standard?
	LOS	V/C	LOS	V/C		
I-84 EB Ramp Terminal/ Paterson Ferry Road/Frontage Road	A	0.04	A	0.04	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Paterson Ferry Road	A	0.08	A	0.04	v/c < 0.70	Yes
I-84 EB Ramp Terminal/ Army Depot Access Road	C	0.25	C	0.23	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Army Depot Access Road	C	0.63	B	0.20	v/c < 0.70	Yes
Army Depot Access Road / Gun Club Lane	A	0.17	A	0.19	LOS E	Yes
I-82 SB Ramp Terminal/ Lamb Road	F	1.13	C	0.52	v/c < 0.70	No
I-82 NB Ramp Terminal/ Lamb Road	C	0.56	F	0.94	v/c < 0.70	No
Westland Road/ Lamb Road	B	0.24	C	0.28	LOS E	Yes

As shown in Table 6-6, the following intersections are forecast to operate with high levels of delay or operate above capacity:

- I-82 SB Ramp Terminal/Lamb Road
- I-82 NB Ramp Terminal/Lamb Road

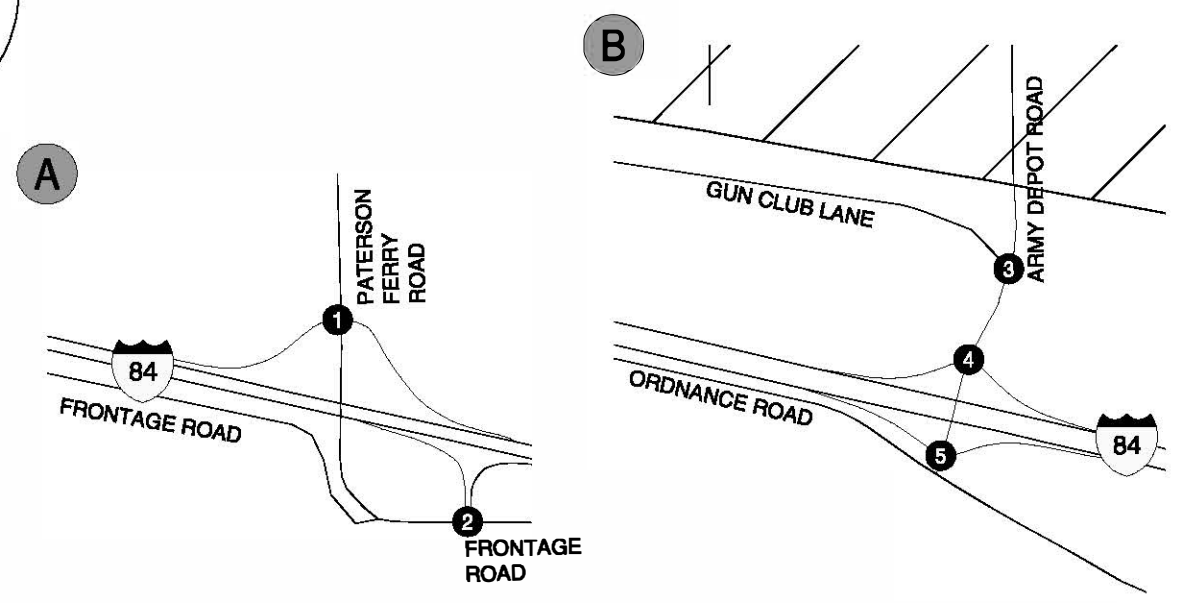
These findings demonstrate that the assumed level of Umatilla Army Depot reuse/redevelopment at the strong growth level will require capacity and infrastructure improvements at the I-84/Umatilla Army Depot and I-82/Lamb Road intersections.

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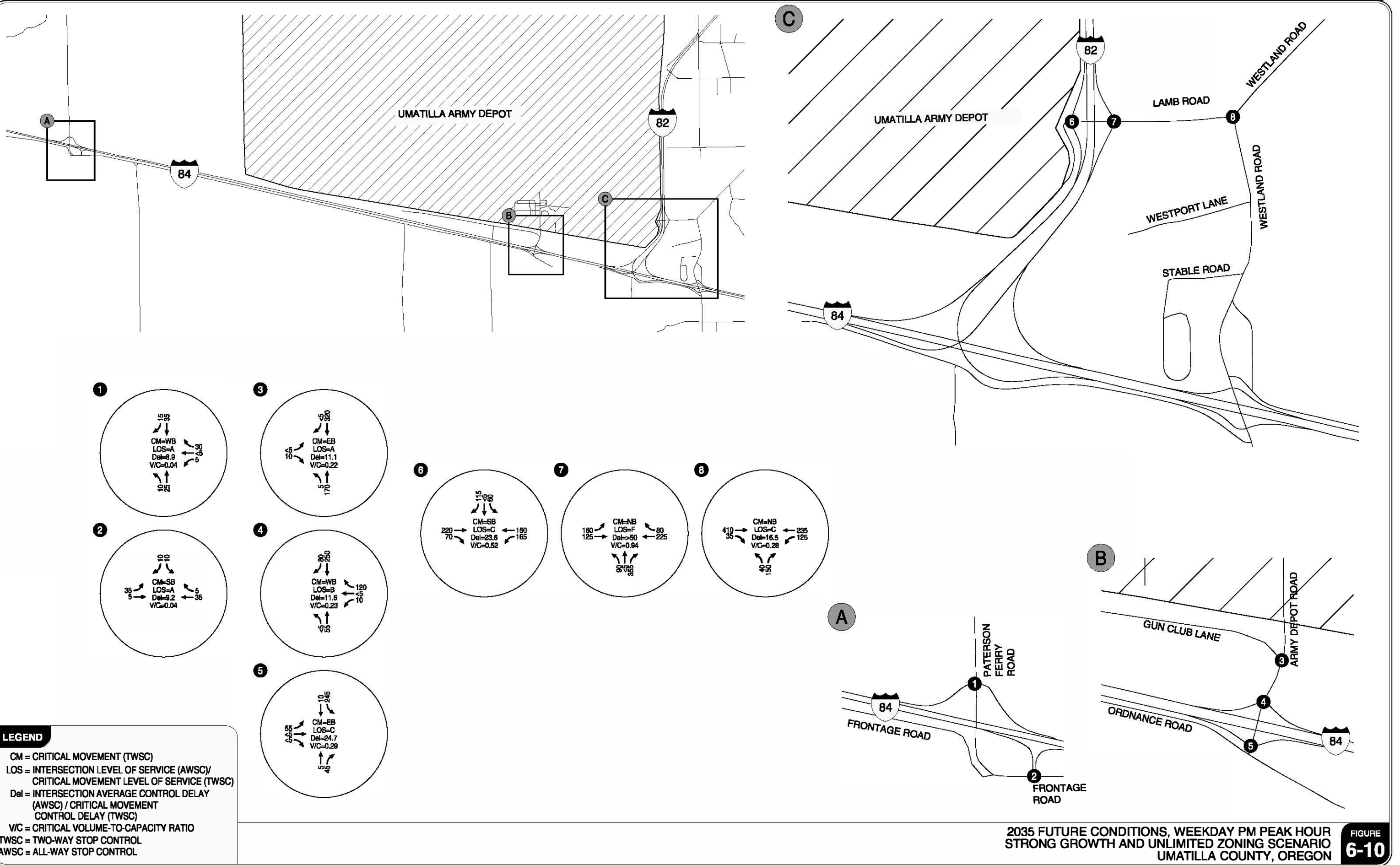
- CM = CRITICAL MOVEMENT (TWSC)
- LOS = INTERSECTION LEVEL OF SERVICE (AWSC)/ CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
- Del = INTERSECTION AVERAGE CONTROL DELAY (AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL



2035 FUTURE CONDITIONS, WEEKDAY AM PEAK HOUR  
STRONG GROWTH SCENARIO  
UMATILLA COUNTY, OREGON



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**LEGEND**

- CM = CRITICAL MOVEMENT (TWSC)
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CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
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(AWSC) / CRITICAL MOVEMENT  
CONTROL DELAY (TWSC)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL

2035 FUTURE CONDITIONS, WEEKDAY PM PEAK HOUR  
STRONG GROWTH AND UNLIMITED ZONING SCENARIO  
UMATILLA COUNTY, OREGON

Figures 6-11 and 6-12 show the weekday a.m. and p.m. peak hour traffic conditions for the moderate growth build out scenario. Table 6-7 summarizes the operations at the interchange ramp terminals and study intersections.

**Table 6-7 - 2035 Total Traffic Operations Summary (Moderate Growth Scenario)**

Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour		Standard	Meets Standard?
	LOS	V/C	LOS	V/C		
I-84 EB Ramp Terminal/ Paterson Ferry Road/Frontage Road	A	0.03	A	0.03	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Paterson Ferry Road	A	0.07	A	0.04	v/c < 0.70	Yes
I-84 EB Ramp Terminal/ Army Depot Access Road	B	0.10	C	0.15	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Army Depot Access Road	B	0.26	B	0.16	v/c < 0.70	Yes
Army Depot Access Road / Gun Club Lane	A	0.06	A	0.16	LOS E	Yes
I-82 SB Ramp Terminal/ Lamb Road	F	0.90	C	0.40	v/c < 0.70	No
I-82 NB Ramp Terminal/ Lamb Road	C	0.37	C	0.71	v/c < 0.70	No
Westland Road/ Lamb Road	B	0.23	C	0.28	LOS E	Yes

As shown in Table 6-7, the following intersections are forecast to operate with high levels of delay or operate above capacity:

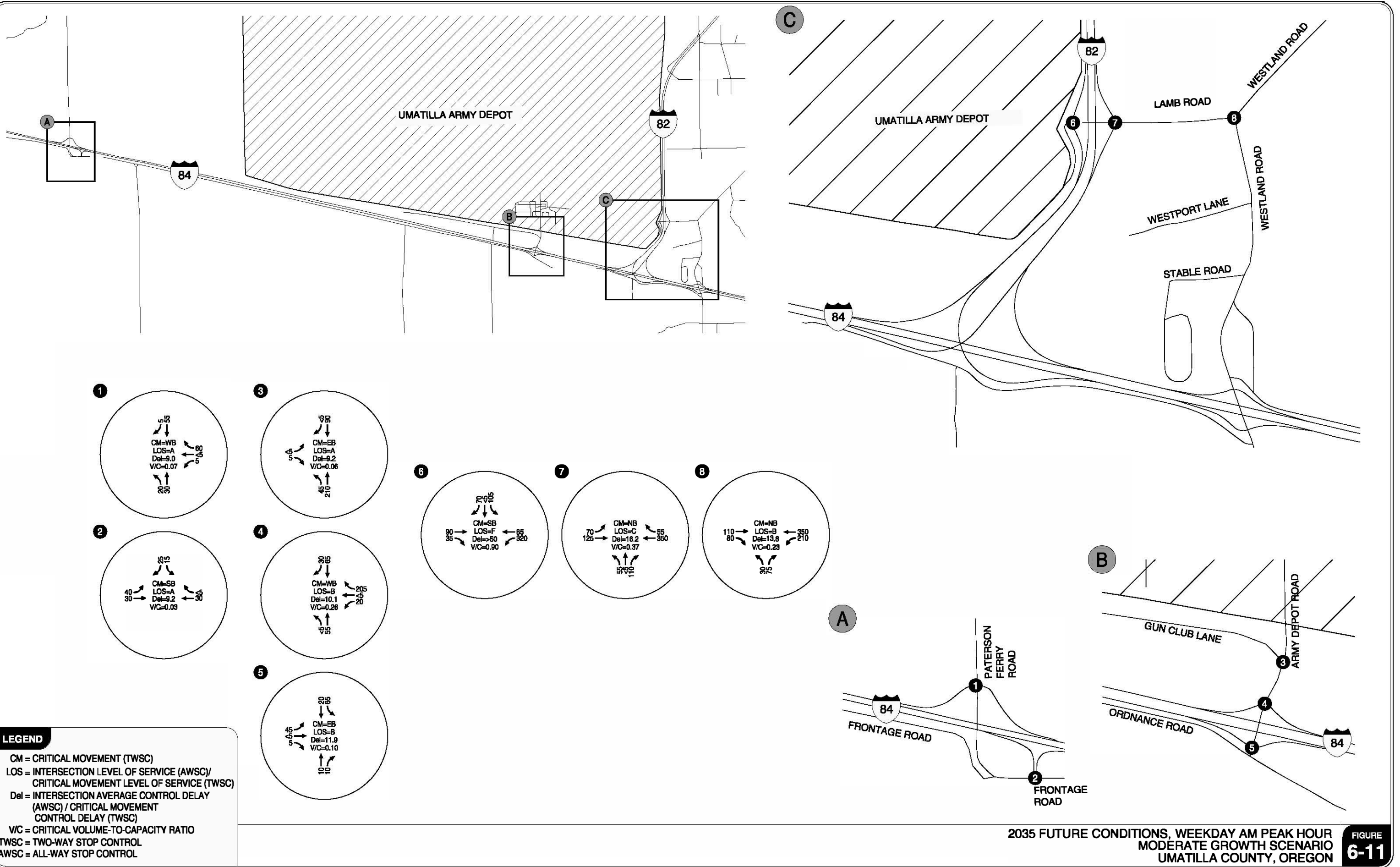
- I-82 SB Ramp Terminal/Lamb Road
- I-82 NB Ramp Terminal/Lamb Road

These findings demonstrate that even with under a moderate growth scenario the Umatilla Army Depot, SB I-82/Lamb Road interchange ramp terminal is forecast to operate near or over capacity.

### Year 2035 Interstate Operations

In addition to the operations at the ramp terminals, the operations on the interstate highways were analyzed. The section of I-82 between the Lamb Road interchange and I-84 interchange (Figure 6-13) is relatively short and any capacity issues would appear first in this area. A merging and diverging capacity analysis was performed for movements in this area. Table 6-8 displays the results of this analysis for the 2035 total traffic condition with strong growth assumptions; a 2012 analysis is included for comparison.

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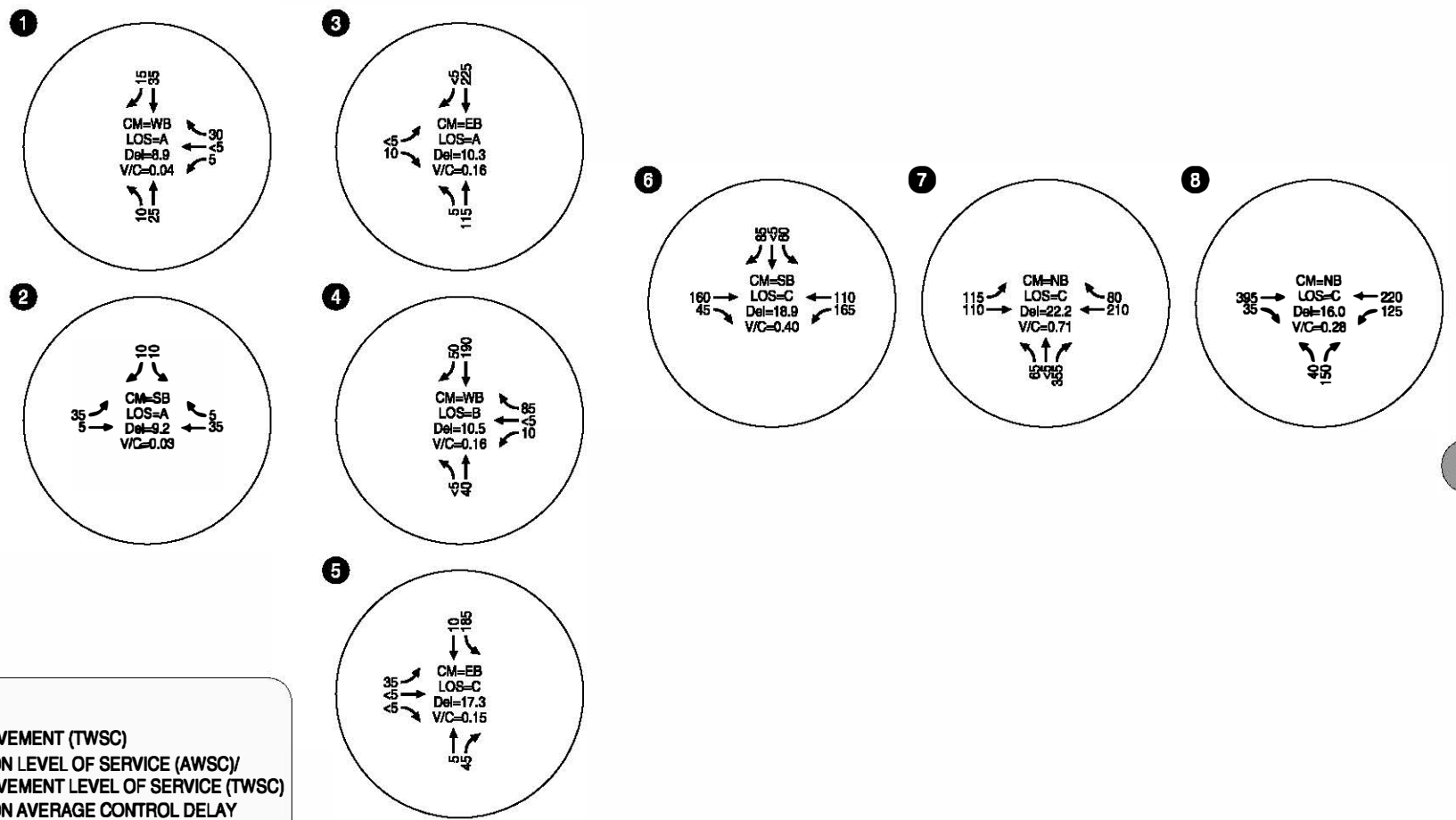
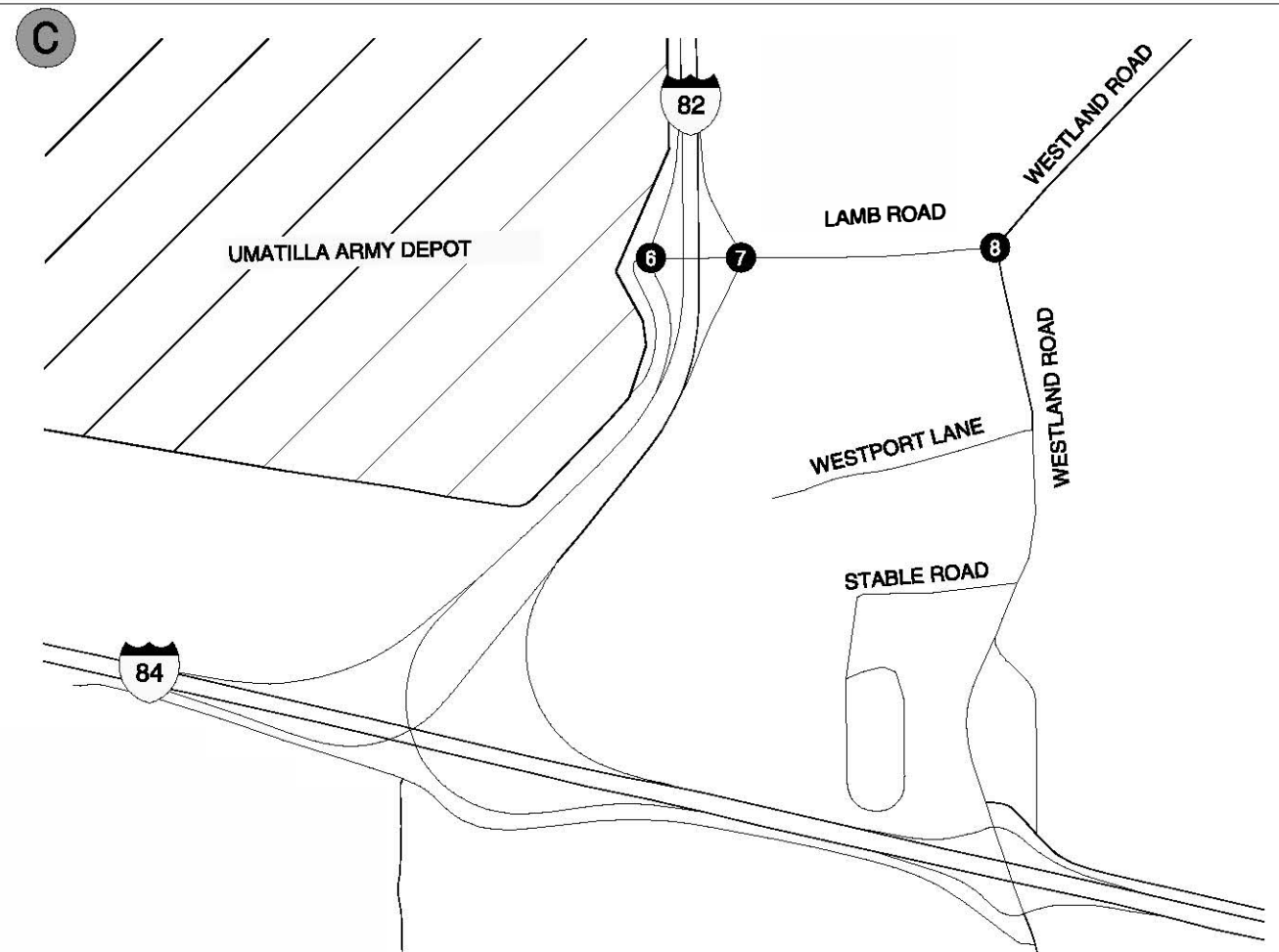
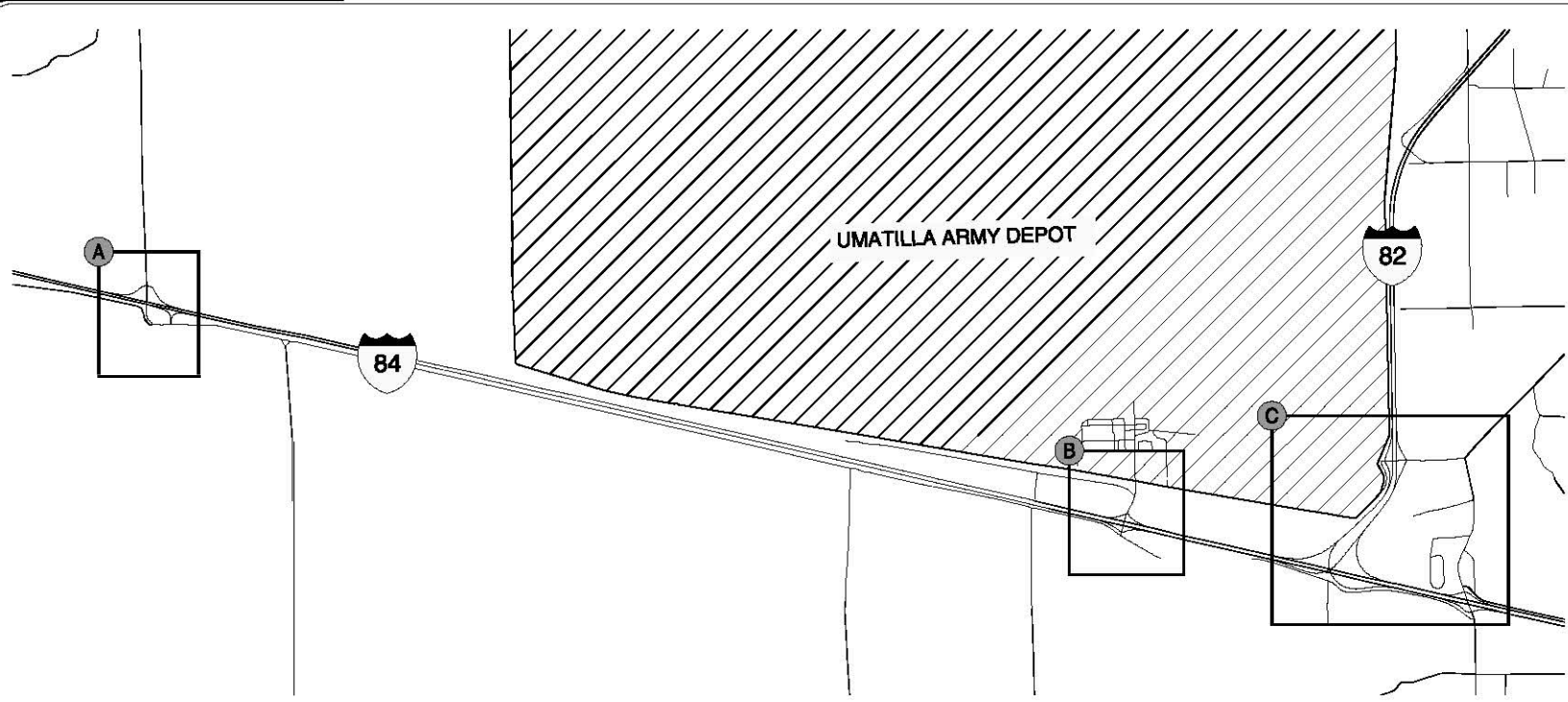


**LEGEND**

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- LOS = INTERSECTION LEVEL OF SERVICE (AWSC)/  
CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
- Del = INTERSECTION AVERAGE CONTROL DELAY  
(AWSC) / CRITICAL MOVEMENT  
CONTROL DELAY (TWSC)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL

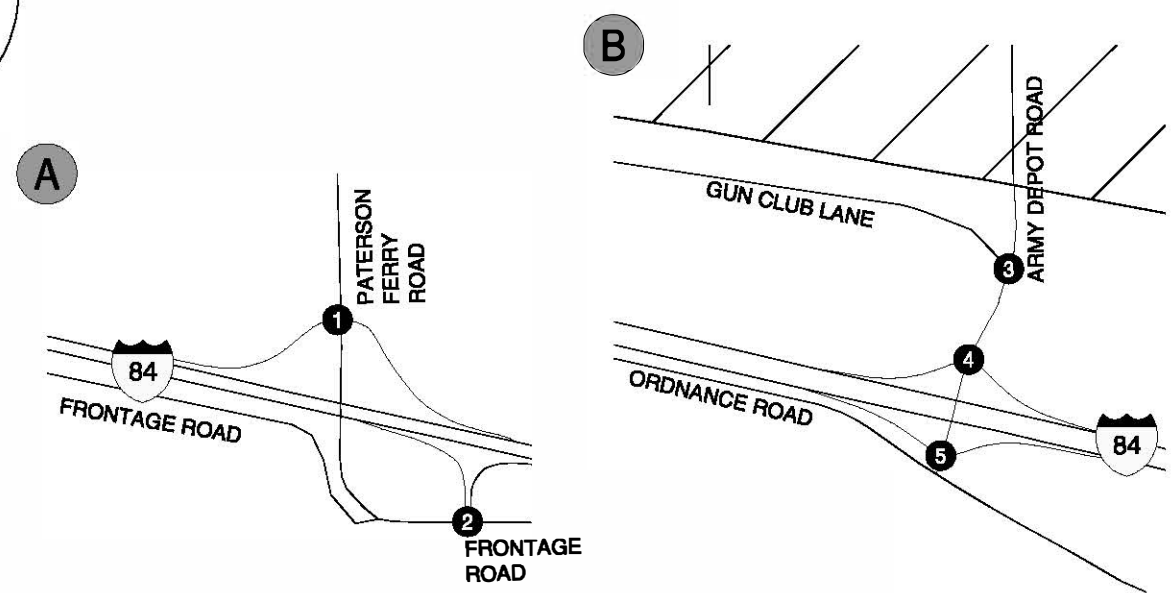
2035 FUTURE CONDITIONS, WEEKDAY AM PEAK HOUR  
MODERATE GROWTH SCENARIO  
UMATILLA COUNTY, OREGON

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**LEGEND**

- CM = CRITICAL MOVEMENT (TWSC)
- LOS = INTERSECTION LEVEL OF SERVICE (AWSC) / CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
- Del = INTERSECTION AVERAGE CONTROL DELAY (AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL



2035 FUTURE CONDITIONS, WEEKDAY PM PEAK HOUR  
MODERATE GROWTH SCENARIO  
UMATILLA COUNTY, OREGON

**Figure 6-13: Merge/Diverge Analysis Area**



**Table 6-8 Merge/Diverge Analysis, 2035 Strong Growth Scenario**

Area	2012 v/c	2035 v/c
<i>NB I-82</i>		
I-82 & Lamb Road Diverge	0.28	0.43
I-82 & I-84 Merge	0.27	0.49
<i>SB I-82</i>		
I-82 & Lamb Road Merge	0.28	0.47
I-82 & I-84 Diverge	0.28	0.49

As shown in Table 6-8 the segment of I-82 analyzed has adequate capacity under 2035 total traffic conditions with strong growth assumptions. The segment would also have has adequate capacity for less intensive growth scenarios.

### Alternative Routing Scenario

The existing Army Depot interchange was not designed to accommodate large numbers of industrial trips. Specifically, the limited deceleration and acceleration distances on the westbound and eastbound ramps do not meet current design standards. This would inhibit the safe and efficient accommodation of many of today’s larger trucks and trailers that would likely access some of the envisioned industrial/warehouse/storage-oriented land uses in the Morrow County Port Industrial Zone. In addition, the Army Depot Access Road passes under an existing railroad bridge with a 15 foot vertical clearance. This low clearance would restrict most oversized vehicles from accessing future reuse areas including some special Oregon National Guard vehicles.

Based on these limitations, an alternative routing scenario was developed that assumes a secondary access to the Morrow County Port Industrial zone via a new roadway that would connect to Paterson Ferry Road. The development of such a roadway would require the acquisition of new right-of-way over the Exclusive Farm Use (EFU) land between Paterson Ferry Road and the western boundary of the UMCD site.

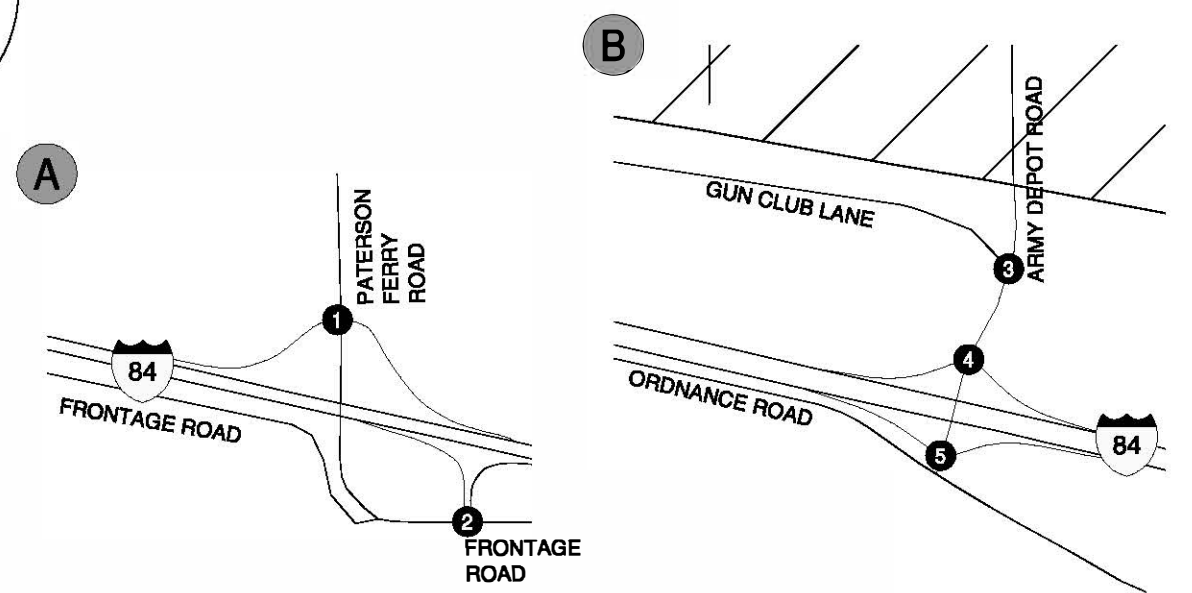
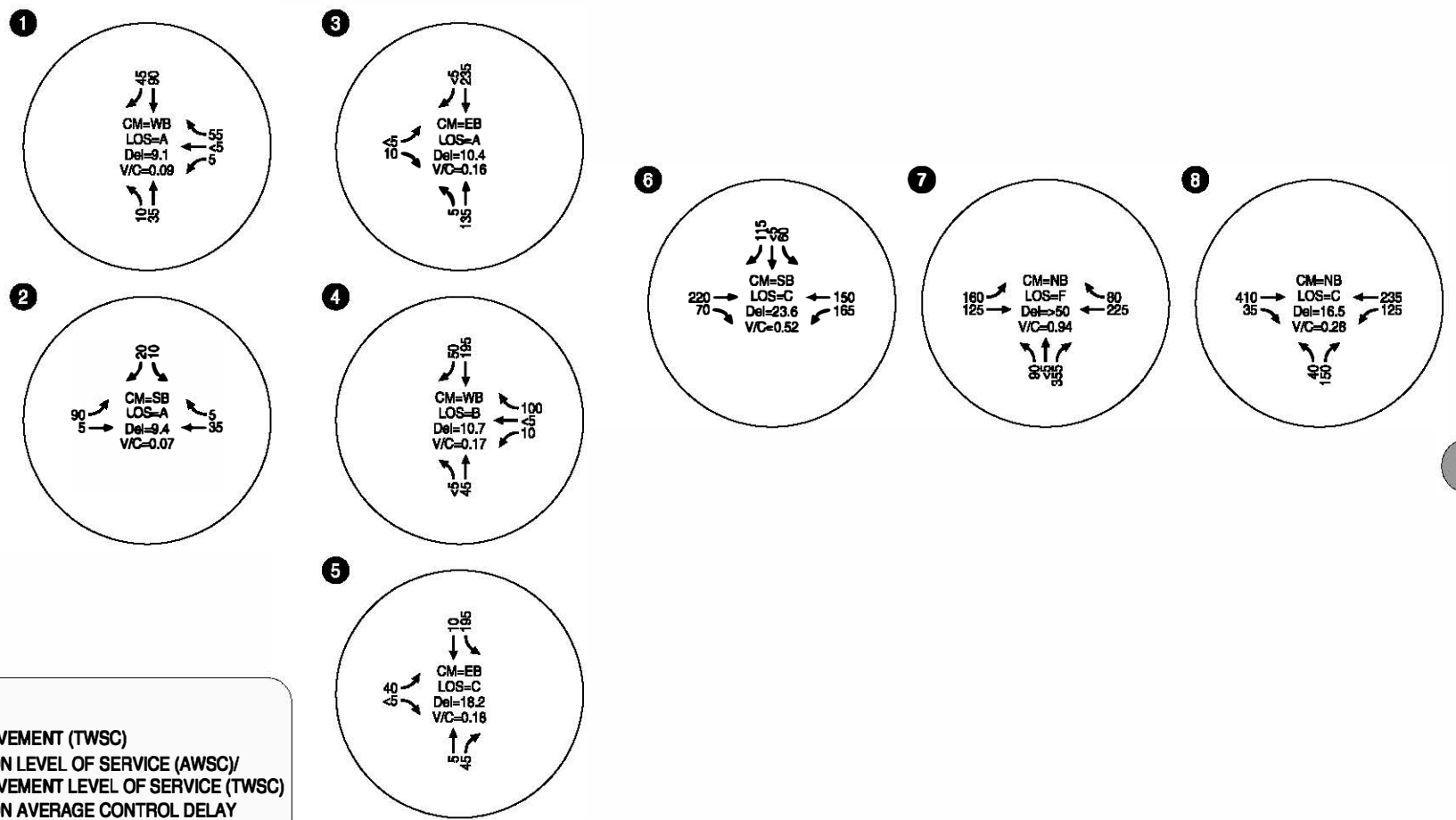
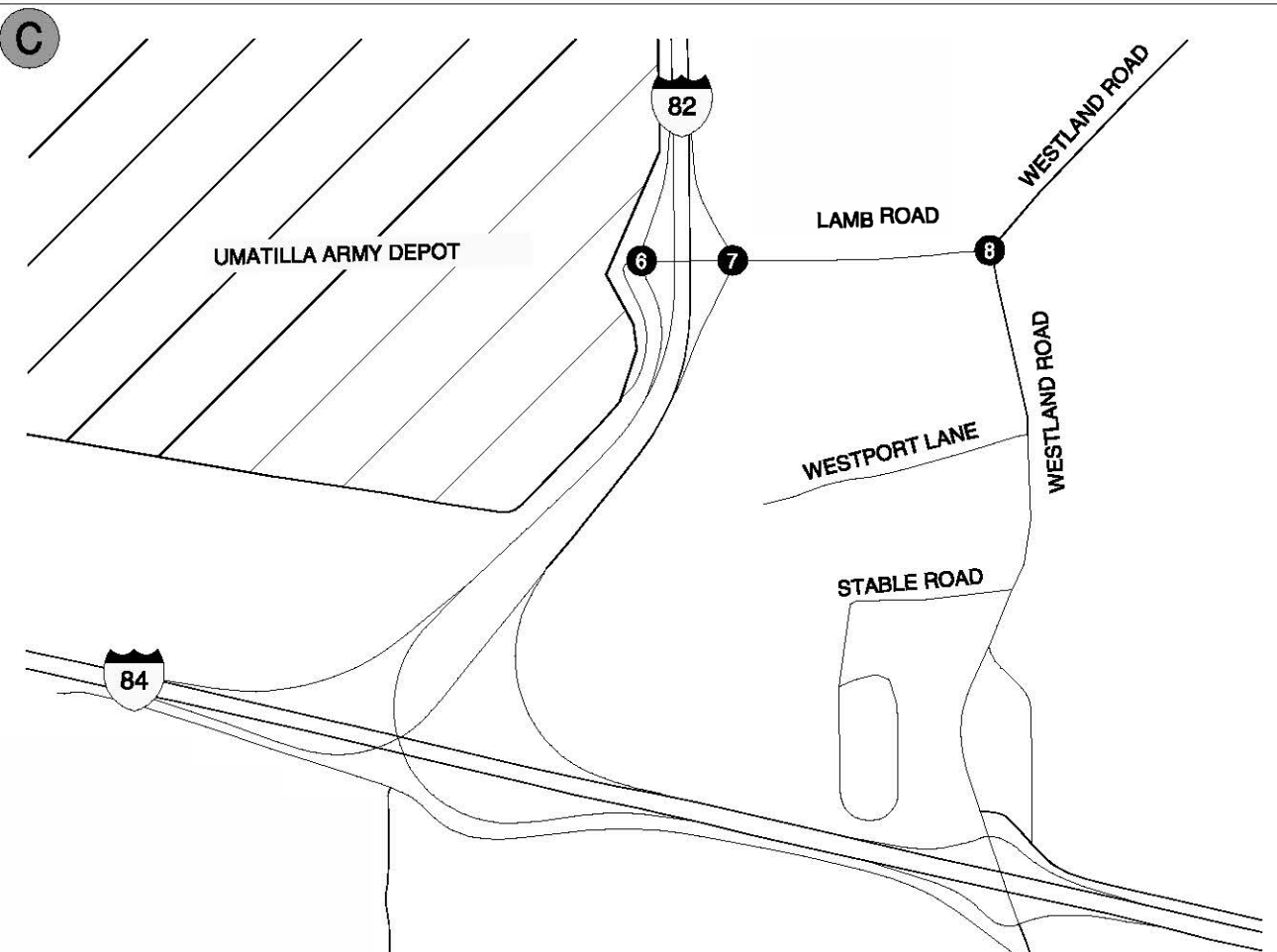
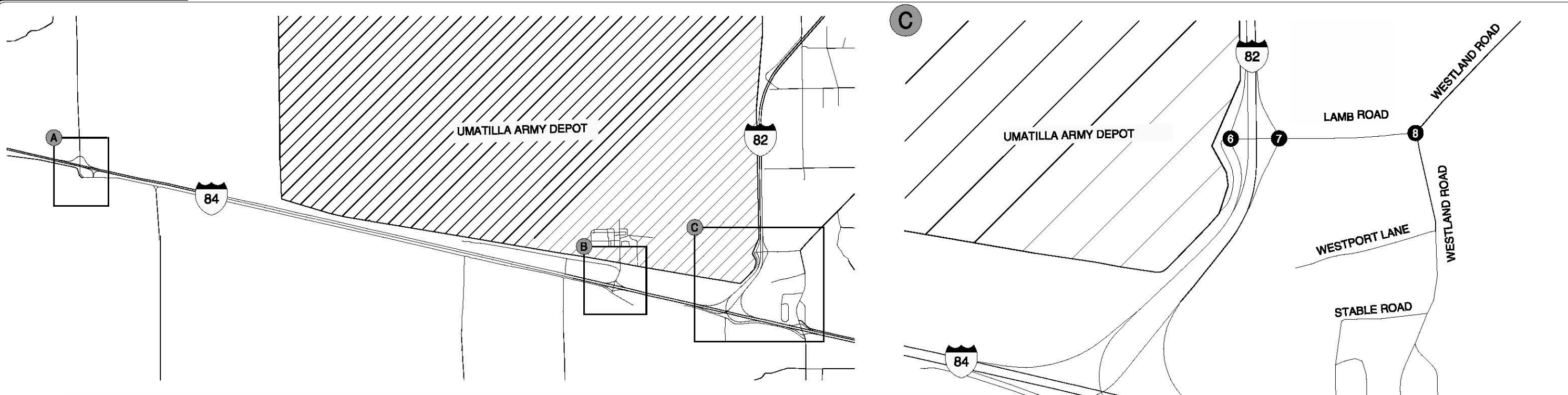
To test the operational impacts of such a scenario, the trips generated by the assumed Port Industrial zone under the strong growth scenario were rerouted to the I-84/Paterson Ferry Road interchange. The resulting 2035 weekday a.m. and p.m. peak hour traffic conditions are shown in Figures 6-14 and 6-15 for the strong growth build out scenario. Table 6-9 summarizes the operations at the interchange ramp terminals and study intersections.

**Table 6-9 - 2035 Total Traffic Operations Summary (Alternative Routing - Strong Growth Scenario)**

Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour		Standard	Meets Standard?
	LOS	V/C	LOS	V/C		
I-84 EB Ramp Terminal/ Paterson Ferry Road/Frontage Road	A	0.08	A	0.07	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Paterson Ferry Road	A	0.16	A	0.09	v/c < 0.70	Yes
I-84 EB Ramp Terminal/ Army Depot Road	B	0.13	C	0.16	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Army Depot Road	B	0.47	B	0.17	v/c < 0.70	Yes
Army Depot Road / Gun Club Lane	A	0.15	A	0.18	LOS E	Yes
I-82 SB Ramp Terminal/ Lamb Road	F	1.13	C	0.52	v/c < 0.70	No
I-82 NB Ramp Terminal/ Lamb Road	C	0.56	F	0.94	v/c < 0.70	No
Westland Road/ Lamb Road	B	0.24	C	0.28	LOS E	Yes

As shown in Table 6-9, the Paterson Ferry Road and Army Depot Access Road intersections are forecast to operate acceptably under the alternative routing scenario. No trips were rerouted to or from the

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**LEGEND**

- CM = CRITICAL MOVEMENT (TWSC)
- LOS = INTERSECTION LEVEL OF SERVICE (AWSC)/ CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
- Del = INTERSECTION AVERAGE CONTROL DELAY (AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- TWSC = TWO-WAY STOP CONTROL
- AWSC = ALL-WAY STOP CONTROL

2035 FUTURE CONDITIONS, WEEKDAY PM PEAK HOUR  
ALTERNATE ROUTING STRONG GROWTH SCENARIO  
UMATILLA COUNTY, OREGON

Lamb Road interchange and the I-82 SB Ramp Terminal/Lamb Road and I-82 SB Ramp Terminal/Lamb Road intersections are forecast to operate with high levels of delay or operate above capacity.

If the alternate routing assumptions were applied to the moderate growth scenario the Paterson Ferry Road and Army Depot Access Road intersections would continue to operate acceptably and the I-82 SB Ramp Terminal/Lamb Road and I-82 SB Ramp Terminal/Lamb Road intersections would operate with high levels of delay or operate above capacity.

In addition to the operations at the ramp terminals and intersections a merging and diverging capacity analysis was performed for the I-84/Paterson Ferry Road Interchange under the alternative routing scenario. Table 6-10 displays the results of this analysis for the 2035 alternative routing scenario with strong growth assumptions.

**Table 6-10 Paterson Ferry Interchange Merge/Diverge Analysis,  
Alternate Routing Scenario, 2035 Strong Growth Scenario**

Area	v/c
EB I-84 & Paterson Ferry Diverge	0.32
EB I-84 & Paterson Ferry Merge	0.27
WB I-84 & Paterson Ferry Diverge	0.26
WB I-84 & Paterson Ferry Merge	0.25

These findings demonstrate that the re-routing of the trips generated by the Morrow County Port Industrial Zone via an assumed new connection to Paterson Ferry Road would not require capacity improvements at the I-84/Paterson Ferry Road interchange.



## Appendix A Detailed Land Use Calculations

**Table A-1: Morrow County Depot Industrial Zone Future (2035) Development Summary**

	Total Acres	Net Acres @ 0.8	FAR	Total SF	65% of Build Out	Employees / SF	Total Employees
<b>2035 Build-Out Scenario</b>							
Port Industrial	913	730.0	0.025	795,406	n/a	3000	265
Port Industrial - Restricted (No Employment Forecast)	959	n/a	n/a	n/a	n/a	n/a	n/a
<b>Total:</b>				795,406			265
<b>65% of Build-Out Scenario</b>							
Port Industrial	913	730.0	0.025	795,406	516,750	3000	172
Port Industrial - Restricted (No Employment Forecast)	959	n/a	n/a	n/a	n/a	n/a	n/a
<b>Total:</b>				795,406	516,750		172

**Table A-2: Umatilla County Depot Industrial Zone Future (2035) Development Summary**

	Total Acres	Net Acres @ 0.8	FAR	Total SF	65% of Build Out	Employees / SF	Total Employees
<b>2035 Build-Out Scenario</b>							
Depot Industrial 1 Employment	824	659	0.05	1,435,738	n/a	2000	718
Depot Industrial 1 Commercial	60	48	0.25	522,720	n/a	500	1045
Depot Industrial 2 Employment - (Red Cross Site - No Employment Forecast)	129	n/a	n/a	n/a		n/a	n/a
Depot Industrial 3 Employment -(Demil Site)	184	147	0.025	160,301	n/a	1000	160
Depot Industrial 3 - Restricted (No Employment Forecast)	81	n/a	n/a	n/a	n/a	n/a	n/a
<b>Total:</b>				2,223,303			1,923
<b>65% of Build-Out Scenario</b>							
<b>Umatilla Co. – Depot Industrial Zone</b>	Total Acres	Net Acres @ 0.8	FAR	Total SF	65% of Build Out	Employees / SF	Total Employees
Depot Industrial 1 Employment	824	659	0.05	1,435,738	933,229	2000	467
Depot Industrial 1 Commercial	60	48	0.25	522,720	339,768	500	680

**Table A-2 continued...**

Depot Industrial 2 Employment - (Red Cross Site - No Employment Forecast)	129	n/a	n/a	n/a	n/a	n/a	n/a
Depot Industrial 3 Employment -(Demil Site)	184	147	0.025	160,301	104,196	1000	104
Depot Industrial 3 - Restricted (No Employment Forecast)	81	n/a	n/a	n/a	n/a	n/a	n/a
<b>Total:</b>				2,223,303	1,377,193		1,251

**Table A-3: Umatilla County Westland Exception Area Build-Out (2035) Summary**

	Total Acres	Net Acres @ 0.8	FAR	Total SF	Employees / SF	Total Employees
Limited Rural Light Industrial	30.0	24.0	0.1	104,544	3000	35
Light Industrial	64.2	51.0	0.1	223,724	2000	112
Rural Tourist Commercial Lodging/Restaurant (South of I-84)	14.1	11.0	0.25	122,839	1000	123
Rural Tourist Commercial Service (South of I-84)	7.4	6.0	0.25	64,469	1000	64
Retail and Service (North of I-84 @ Lamb Rd)	22.0	18.0	0.25	191,664	1000	192
<b>Total:</b>	137.7	110.0		707,240		526

Appendix B Detail Trip Generation  
Calculations

**Table B-1: Westland Exception Area Trip Generation**

Land Use	ITE Code	Size	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
			Total	In	Out	Total	In	Out
Westland Exception Area - Industrial								
Industrial and Warehouse Uses	Rate Base on Existing Developments <sup>1</sup>	137,000 Sq. Ft.	20	10	10	45	25	20
Westland Exception Area - Commercial								
Motel	320	134 Rooms	85	50	35	80	40	40
Gas Station with Convince Market	945	12 Pumps	120	60	60	160	80	80
<b>Net New Trips</b>			<b>225</b>	<b>120</b>	<b>105</b>	<b>285</b>	<b>145</b>	<b>140</b>

<sup>1</sup> A local industrial and warehouse trip generation rate was calculated based on the developed portion of the Westland Exception Area located north of I-84, south of the rail road tracks, east I-82, and west of Westland Road. Aerial photography was used to calculate the square footage of the buildings occupying this area. Using traffic counts obtained in October 2013, an a.m. peak hour trip generation rate of 0.14 trips per 1000 sq. ft. of buildings was calculated; a p.m. peak hour trip generation of 0.33 trips per 1000 sq. ft. of buildings was calculated.

**Table B-2: Oregon National Guard Trip Generation<sup>1</sup>**

ORNG Use	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
	Total	In	Out	Total	In	Out
Training Site Detachment ORNG Joint Force Headquarter Training Site	55	50	5	55	5	50
Regional Training Institute	22	20	2	22	2	20
Tactical Unmanned System Platoon	16	15	1	16	1	15
Unit Equipment Training Site	27	25	2	27	2	25
Site Security Personal	10	5	5	10	5	5
Exchange Retail/Fuel Service	-	Internal	Internal	-	Internal	Internal
<b>Net New Trips</b>	<b>130</b>	<b>115</b>	<b>15</b>	<b>130</b>	<b>15</b>	<b>115</b>

**Table B-3: Port Industrial Zone Trip Generation**

Land Use	ITE Code	Size	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
			Total	In	Out	Total	In	Out
High Cube Warehouse / Distribution Center (Unrestricted Port Industrial Zone)	152	477,243 Sq. Ft.	70	40	25	160	15	40
High Cube Warehouse / Distribution Center (Restricted Port Industrial Zone)	152	501,288 Sq. Ft.	70	45	30	60	20	40
<b>Net New Trips</b>			<b>140</b>	<b>85</b>	<b>55</b>	<b>115</b>	<b>35</b>	<b>80</b>

**Table B-4: Depot Industrial Zone Trip Generation**

Land Use	ITE Code	Size	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
			Total	In	Out	Total	In	Out
Depot Industrial - Sub Area 1								
Depot Industrial - Sub Area 1	Rate Base on Existing Developments <sup>1</sup>	516,866 Sq. Ft.	80	50	30	190	100	90
Depot Commercial - Sub Area 1								
Motel	320	80 Rooms	50	30	20	50	25	25
Gas Station with Convince Market	945	8 Pumps	80	40	40	120	60	60
Truck Stop	950	11,400 Sq. Ft.	155	80	75	155	75	80
Factory Outlet Center	823	60,000 Sq. Ft.	40	30	10	135	60	75
1 Fast Food Restaurant W/ Drive Thru	934	3500 Sq. Ft.	115	60	55	185	90	95
Depot Industrial - Sub Area 2								
Restricted Use	--	--	--	--	--	--	--	--
Depot Industrial - Sub Area 3								
Data Center	Rate based on other data centers in Oregon and California <sup>2</sup>	160,000 Sq. Ft.	40	20	20	40	10	30
<b>Net New Trips</b>			<b>560</b>	<b>310</b>	<b>250</b>	<b>875</b>	<b>420</b>	<b>455</b>

<sup>1</sup> A local industrial and warehouse trip generation rate was calculated based on the developed portion of the Westland Exception Area located north of I-84, south of the rail road tracks, east I-82, and west of Westland Road. Aerial photography was used to calculate the square footage of the buildings occupying this area. Using traffic counts obtained in October 2013, an a.m. peak hour trip generation rate of 0.14 trips per 1000 sq. ft. of buildings was calculated; a p.m. peak hour trip generation of 0.33 trips per 1000 sq. ft. of buildings was calculated.

<sup>2</sup>A trip generation rate and facility size for a data center was estimated based on prior work performed by Kittelson and Associates examining the trip generation of data centers in Oregon and California.

Appendix H  
Technical Memorandum #7:  
Interchange Area Concept  
Development and Alternatives  
Analysis





## TECHNICAL MEMORANDUM #7

### Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan

Interchange Area Concept Development and Alternatives Analysis

Date: August 1, 2014

Project #:13848

To: TPAC

From: Matt Hughart, AICP, Pat Marnell, Marc Butorac, P.E., P.T.O.E.

This memorandum documents the development and evaluation of interchange form concepts for the Umatilla Army Depot IAMP study area interchanges. This memorandum includes:

- Review of 2035 Background and Total Traffic Operations
- Overview of the process used to develop initial concepts
- Qualitative assessment of initial concepts and preliminary recommendation for refinement

## REVIEW OF 2035 BACKGROUND TRAFFIC CONDITIONS

As documented in Technical Memorandum #6, a future year 2035 “Background” traffic operations analysis was prepared for the three study interchanges. This forecast scenario assumes continued local and regional traffic growth (based on the currently adopted Morrow and Umatilla County comprehensive plans and traffic growth to/from the Westland Road Exception Area and surrounding population centers), but does not include traffic growth from assumed reuse/redevelopment of the Umatilla Army Depot. The results of this analysis are summarized in Table 7-1 and indicate that all of the study interchanges are forecast to continue to operate within acceptable mobility targets.

**Table 7-1 - 2035 Background Traffic Operations Summary**

Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour		Mobility Target	Meets Standard?
	LOS	V/C	LOS	V/C		
I-84 EB Ramp Terminal/ Paterson Ferry Road/Frontage Road	A	0.04	A	0.04	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Paterson Ferry Road	A	0.08	A	0.04	v/c < 0.70	Yes
I-84 EB Ramp Terminal/ Army Depot Road	A	0.02	A	0.04	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Army Depot Road	A	0.07	A	0.02	v/c < 0.70	Yes
I-82 SB Ramp Terminal/ Lamb Road	E	0.59	B	0.11	v/c < 0.70	Yes
I-82 NB Ramp Terminal/ Lamb Road	B	0.29	C	0.54	v/c < 0.70	Yes

Based on the results of this analysis, all of the interchange ramp terminals are forecast to have sufficient long-term capacity (in their existing form) to accommodate local and regional traffic growth assuming the Umatilla Army Depot property experiences no reuse or intensification of current uses. Given that Morrow County, Umatilla County, and ODOT have no identified improvement projects at these interchanges, these findings suggest that all three interchanges can continue to provide adequate capacity for future “Background” traffic growth without any major operational improvements.

## REVIEW OF 2035 TOTAL TRAFFIC CONDITIONS

Technical Memorandum #6 also summarizes Year 2035 “Total” traffic operations analyses for the study interchanges. This forecast scenario includes all of the traffic growth from the “Background” scenario and the estimated traffic growth from the anticipated reuse/redevelopment of the Umatilla Army Depot (Oregon National Guard, Morrow County Port Industrial zone, and Umatilla County Depot Industrial zones). Recognizing the potential for variability in long-term growth on the Umatilla Army Depot site, “Strong”, “Moderate”, and “Strong (w/alternative Morrow County Port Industrial routing to Paterson Ferry Road)” growth scenarios were analyzed as defined and documented in Technical Memorandum #6. The results of this analysis are summarized in Table 7-2.

**Table 7-2 - 2035 Total Traffic Operations Summary**

Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour		Standard	Meets Standard?
	LOS	V/C	LOS	V/C		
<b>Strong Growth Scenario</b>						
I-84 EB Ramp Terminal/ Paterson Ferry Road/Frontage Road	A	0.04	A	0.04	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Paterson Ferry Road	A	0.08	A	0.04	v/c < 0.70	Yes
I-84 EB Ramp Terminal/ Army Depot Road	B	0.25	C	0.23	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Army Depot Road	B	0.63	B	0.20	v/c < 0.70	Yes
I-82 SB Ramp Terminal/ Lamb Road	F	1.13	C	0.52	v/c < 0.70	No
I-82 NB Ramp Terminal/ Lamb Road	C	0.56	F	0.94	v/c < 0.70	No
<b>Moderate Growth Scenario</b>						
I-84 EB Ramp Terminal/ Paterson Ferry Road/Frontage Road	A	0.03	A	0.03	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Paterson Ferry Road	A	0.07	A	0.04	v/c < 0.70	Yes
I-84 EB Ramp Terminal/ Army Depot Road	B	0.10	C	0.15	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Army Depot Road	B	0.26	B	0.16	v/c < 0.70	Yes
I-82 SB Ramp Terminal/ Lamb Road	F	.90	C	0.40	v/c < 0.70	No
I-82 NB Ramp Terminal/ Lamb Road	C	0.37	C	0.71	v/c < 0.70	No

Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour		Standard	Meets Standard?
	LOS	V/C	LOS	V/C		
<b>Strong Growth Scenario (with alternative Morrow County Port Industrial routing to Paterson Ferry Road)</b>						
I-84 EB Ramp Terminal/ Paterson Ferry Road/Frontage Road	A	0.08	A	0.07	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Paterson Ferry Road	A	0.16	A	0.09	v/c < 0.70	Yes
I-84 EB Ramp Terminal/ Army Depot Road	B	0.13	C	0.16	v/c < 0.70	Yes
I-84 WB Ramp Terminal/ Army Depot Road	B	0.47	B	0.17	v/c < 0.70	Yes
I-82 SB Ramp Terminal/ Lamb Road	F	1.13	C	0.52	v/c < 0.70	No
I-82 NB Ramp Terminal/ Lamb Road	C	0.56	F	0.94	v/c < 0.70	No

### Review of I-84/Patterson Ferry Road Interchange Operations

As shown in Table 7-2, the I-84/Patterson Ferry Road interchange is forecast to operate with sufficient capacity under 2035 total traffic conditions, even when considering the potential increase in vehicle and truck trips from the alternative Port Industrial routing scenario. This is due to relatively minimal traffic volumes and the predominately rural character of the interchange service area. As such, no capacity-related improvements are likely to be needed at this interchange within the 2035 horizon year of the Umatilla Army Depot IAMP. Instead, any long-term improvement plans will need to focus primarily on geometric enhancements to the freeway ramps to potentially accommodate increased Port Industrial Zone generated truck trips. This includes lengthening the ramps to provide a longer deceleration zone on the westbound and eastbound off-ramps.

### Review of I-82/Lamb Road Interchange Operations

As summarized in Table 7-2, both the northbound and southbound I-82/Lamb Road ramp terminals are forecast to operate either over capacity or exceed the 0.70 mobility target with inclusion of assumed traffic growth from either the “Strong” or “Moderate” growth scenarios. In addition, a 95th percentile queuing analysis found that estimated vehicle queues on the I-82/NB Lamb Road off-ramp are forecast to exceed the storage capacity under the “Strong” growth scenario.

Coupled with these long-term “Total” traffic operations findings, a review of the overall interchange form indicates that it has several substandard features that would need to be addressed before it could safely and efficiently accommodate any level of reuse/redevelopment on the Army Depot site. These features include:

- The access road that serves the Army Depot site from the interchange is a two-lane roadway with a tight geometry/layout that cannot adequately accommodate large trucks and significant increases in freeway-oriented traffic volumes. At any level of

reuse/redevelopment of the Army Depot site, this access road would need to be completely rebuilt and aligned to the interchange in a manner that would better meet the needs of freeway oriented industrial and commercial traffic.

- The NB and SB ramps all intersect the Lamb Road crossroad at large skew angles. These skew angles are not problematic under existing and “Background” traffic conditions given the orientation of traffic patterns and lack of conflicting traffic volumes to/from the Army Depot site. However, these large skew angles would need to be adjusted to accommodate the increased presence of freeway oriented truck and oversized vehicle traffic to/from the Army Depot site.
- Both the NB and SB ramp terminals have single-lane off-ramp approaches. These single-lane off-ramps are sufficient to accommodate existing and 2035 “Background” traffic conditions given the orientation of traffic patterns. However, the off-ramps would need to be widened to include separate left- and through/right-turn lanes at the ramp terminals to accommodate anticipated vehicle queues and turning movements.

### ***Potential for Development /Land Use Phasing***

Based on the I-82/Lamb Road interchange form review, it can be concluded that some basic interchange improvements (Army Depot access road reconstruction/realignment, interchange ramp skew angles, and off-ramp widening) would be needed to ensure that the I-82/Lamb Road interchange could safely and efficiently accommodate the various levels of traffic generated from the assumed reuse/redevelopment of the Army Depot site. In addition, the 2035 “Total” traffic operations findings indicate that the interchange ramp terminals will not have sufficient long-term capacity to handle the estimated increases in site-generated traffic under both the “Strong” and “Moderate” growth scenarios. As such, additional capacity-based enhancements will likely be needed at the ramp terminals.

Although physical improvements such as signalization, ramp terminal widening, and roundabouts are a few ways to mitigate the noted ramp terminal capacity deficiencies, development and land use phasing on the Army Depot site can also be used to keep traffic growth at levels that wouldn’t require some of these added forms of physical capacity-enhancing mitigation. In recognition that the I-82/Lamb Road interchange still has some additional capacity under the 2035 “Background” traffic scenario, an operations analysis was performed to roughly determine when either the mobility targets or vehicle queuing parameters would be exceeded at the I-82/Lamb Road interchange terminals when “phasing” reuse/redevelopment of the Army Depot site. As shown in Table 7-3, it was found that the I-82/Lamb Road interchange could roughly accommodate approximately 422,000 square feet of industrial/commercial development (or approximately 55% of the “Moderate” growth scenario) before

additional capacity-based mitigation at the ramp terminals would be needed<sup>1</sup>. The traffic operations results are summarized in Figure 7-1.

**Table 7-3 - Comparison of "Strong", "Moderate", and "Phased Land Use" Growth Scenarios**

	Gross / Net Acres	Total Square Feet	Total Employees
<b>2035 Strong Growth Scenario</b>	3150/1687	1,525,471 SF	1,233
<b>2035 Moderate Growth Scenario</b>	3150/1687	768,050 SF	867
<b>2035 Phased Land Use Growth Scenario</b>	3150/1687	422,428 SF	476

As demonstrated by this analysis, there is additional capacity beyond the 2035 "Background" traffic conditions to allow some level of reuse/redevelopment on the Army Depot site without requiring the additional levels of capacity enhancing mitigation at the interchange ramp terminals<sup>1</sup>. However, as documented in Table 7-3, this amount of development is significantly less than what the envisioned land use plans would allow.

### Review of I-84/Army Depot Access Road Operations

As summarized in Table 7-2, the I-84/Army Depot Access Road interchange is forecast to operate with sufficient capacity under 2035 total traffic conditions. As such, no capacity-related improvements are likely to be needed at this interchange within the 2035 horizon year of the Umatilla Army Depot IAMP.

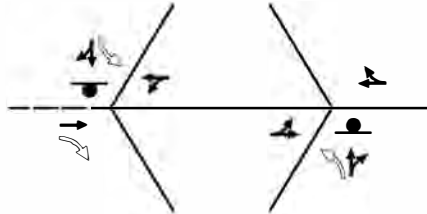
A review of the overall interchange form indicates that it has several substandard features that may need to be addressed based on how the Army Depot site is reused and redeveloped. In particular, both the eastbound and westbound on/off ramps have substandard deceleration and acceleration lanes. These acceleration and deceleration lanes are not sufficient to safely and efficiently accommodate increased quantities of large industrial and freeway-oriented truck traffic. However, if the interchange was primarily limited to typical/daily Oregon National Guard (ORNG) use (primarily passenger cars but not including large trucks and oversized vehicles), the interchange ramps would likely not need to be modified. With the vertical clearance limitation of the adjacent Union Pacific Railroad underpass, most oversized vehicle and truck access will naturally have to utilize alternative access points such as the I-82/Lamb Road interchange or arrive via rail access. As such, any long-term improvement plans will need to focus primarily on local roadway connectivity and access management planning as it relates to the adjacent interchange property access points and county roadways such as Gun Club Lane.

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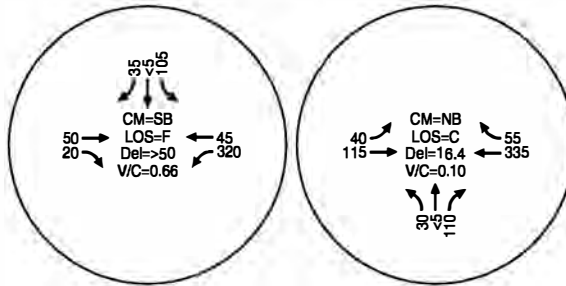
<sup>1</sup> Assuming reconstruction/realignment of the Army Depot access road, realignment of the interchange ramps to eliminate the skew angles, and a widening of the NB and SB off-ramps to include separate left- and through/right-turn lanes.

PHASED GROWTH VOLUMES WITH MINIMAL INTERCHANGE IMPROVEMENTS

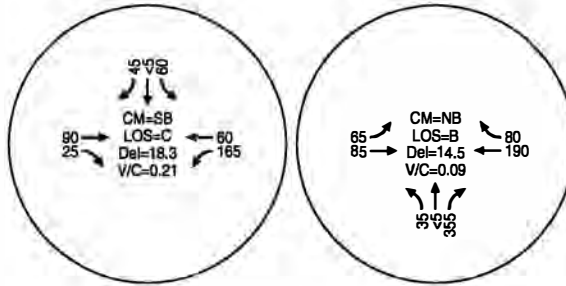
CONFIGURATION



AM PEAK HOUR



PM PEAK HOUR



LEGEND

CM = CRITICAL MOVEMENT (TWSC)  
 LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED/AWSC)/CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)  
 Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO  
 TWSC = TWO-WAY STOP CONTROL  
 AWSC = ALL-WAY STOP CONTROL

EXISTING ROADWAY  
 NEW/IMPROVED ROADWAY  
 EXISTING MOVEMENT  
 NEW/IMPROVED MOVEMENT

STOP SIGN  
 SIGNAL  
 ROUNDABOUT

LAMB ROAD OPERATIONS WITH PHASED GROWTH UMATILLA, OREGON

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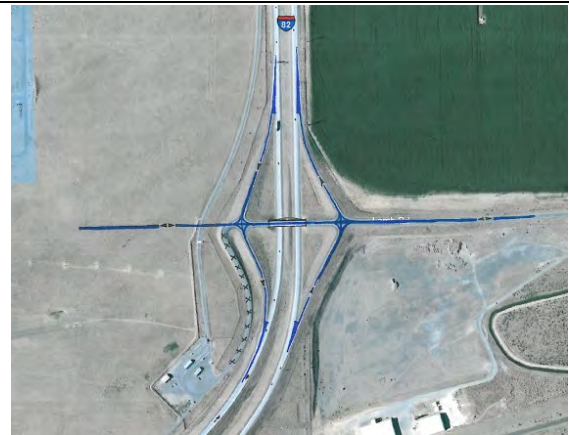

## CONCEPT DEVELOPMENT PROCESS AND INITIAL CONCEPTS




Based on the results of the 2035 “Total” traffic operations, the project team developed a number of interchange reconfiguration concepts that would potentially mitigate the noted interchange form, capacity, or queuing deficiencies at the interchanges. The following summarizes the respective concepts.

### I-82/Lamb Road Interchange


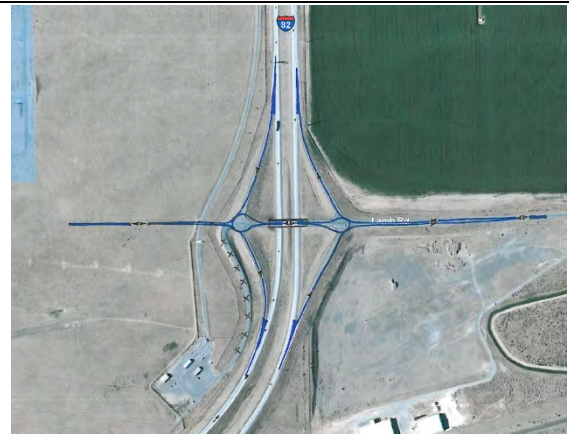

To address these geometric concerns and the noted operational deficiencies, eight separate interchange improvement concepts were developed for the I-82/Lamb Road interchange. Simple single-line sketches of each concept are summarized in Table 7-4 along with a narrative that describes the various improvement components.

**Table 7-4 - I-84/Lamb Road Interchange Improvement Concepts**

Concept	Description of Improvements Included in Each Concept
<p><b>Concept L1 – No Interchange Improvements</b></p> 	<ul style="list-style-type: none"> <li>• Realigns the cross road approach to/from the Army Depot site to better accommodate anticipated industrial and freeway oriented traffic growth.</li> <li>• Maintains existing on- and off-ramp length and traffic control.</li> </ul> <p>→With noted improvements, this concept can only reasonably accommodate 2035 Background traffic conditions.</p>
<p><b>Concept L2 – Minimally Improved Diamond</b></p> 	<ul style="list-style-type: none"> <li>• Realigns the cross road approach to/from the Army Depot site to better accommodate anticipated industrial and freeway oriented traffic growth.</li> <li>• Lengthens and improves the geometry of the northbound and southbound off-ramps to better accommodate a wider range of vehicle types and anticipated vehicle queues.</li> <li>• Widens the northbound and southbound off-ramps to include separate left- and shared through/right-turn lanes.</li> <li>• Maintains the existing stop control at the ramp terminals.</li> </ul> <p>→With noted improvements, this concept can accommodate 2035 Background traffic conditions and the Phased growth scenario.</p>

Concept	Description of Improvements Included in Each Concept
<p><b>Concept L3 – Minimally Improved Diamond with Partial Signalization</b></p> 	<ul style="list-style-type: none"> <li>• Realigns the cross road approach to/from the Army Depot site to better accommodate anticipated industrial and freeway oriented traffic growth.</li> <li>• Lengthens and improves the geometry of the northbound and southbound off-ramps to better accommodate a wider range of vehicle types and anticipated vehicle queues.</li> <li>• Widens the northbound and southbound off-ramps to include separate left- and shared through/right-turn lanes.</li> <li>• Signalizes the southbound ramp terminal.</li> </ul> <p>→With noted improvements, this concept can accommodate 2035 Background traffic conditions, the Phased, Strong, and Moderate growth scenarios.</p>
<p><b>Concept L4 – Improved Diamond with a Widened Lamb Road Cross Road</b></p> 	<ul style="list-style-type: none"> <li>• Realigns the cross road approach to/from the Army Depot site to better accommodate anticipated industrial and freeway oriented traffic growth.</li> <li>• Lengthens and improves the geometry of the northbound and southbound off-ramps to better accommodate a wider range of vehicle types and anticipated vehicle queues.</li> <li>• Widens the northbound and southbound off-ramps to include separate left- and shared through/right-turn lanes.</li> <li>• Widens the Lamb Road cross road to three-lanes (includes a widened Lamb Road overpass).</li> </ul> <p>→With noted improvements, this concept can accommodate 2035 Background traffic conditions and the Phased growth scenario.</p>
<p><b>Concept L5 - Improved Diamond with a Widened Lamb Road Cross Road and Partial Signalization</b></p> 	<ul style="list-style-type: none"> <li>• Realigns the cross road approach to/from the Army Depot site to better accommodate anticipated industrial and freeway oriented traffic growth.</li> <li>• Lengthens and improves the geometry of the northbound and southbound off-ramps to better accommodate a wider range of vehicle types and anticipated vehicle queues.</li> <li>• Widens the northbound and southbound off-ramps to include separate left- and shared through/right-turn lanes.</li> <li>• Widens the Lamb Road cross road to three-lanes (includes a widened Lamb Road overpass).</li> <li>• Signalizes the southbound ramp terminal.</li> </ul> <p>→With noted improvements, this concept can accommodate 2035 Background traffic conditions, the Phased, Strong, and Moderate growth scenarios.</p>



Concept	Description of Improvements Included in Each Concept
<p><b>Concept L6 - Improved Diamond with Roundabout at the SB Ramp Terminal</b></p> 	<ul style="list-style-type: none"> <li>• Realigns the cross road approach to/from the Army Depot site to better accommodate anticipated industrial and freeway oriented traffic growth.</li> <li>• Lengthens and improves the geometry of the northbound and southbound off-ramps to better accommodate a wider range of vehicle types and anticipated vehicle queues.</li> <li>• Widens the northbound off-ramp to include separate left- and shared through/right-turn lanes.</li> <li>• Installs a roundabout at the southbound ramp terminal.</li> </ul> <p>→With noted improvements, this concept can accommodate 2035 Background traffic conditions, the Phased, Strong, and Moderate growth scenarios.</p>
<p><b>Concept L7 – Improved Diamond with Roundabouts at both the SB and NB Ramp Terminals</b></p> 	<ul style="list-style-type: none"> <li>• Realigns the cross road approach to/from the Army Depot site to better accommodate anticipated industrial and freeway oriented traffic growth.</li> <li>• Lengthens and improves the geometry of the northbound and southbound off-ramps to better accommodate a wider range of vehicle types and anticipated vehicle queues.</li> <li>• Installs a roundabout at the northbound and southbound ramp terminals.</li> </ul> <p>→With noted improvements, this concept can accommodate 2035 Background traffic conditions, the Phased, Strong, and Moderate growth scenarios.</p>
<p><b>Concept L8 – Single Quadrant PARCLO A</b></p> 	<ul style="list-style-type: none"> <li>• Realigns the cross road approach to/from the Army Depot site to better accommodate anticipated industrial and freeway oriented traffic growth.</li> <li>• Lengthens and improves the geometry of the northbound off-ramp to better accommodate a wider range of vehicle types and anticipated vehicle queues.</li> <li>• Installs a looping southbound on-ramp.</li> <li>• Realigns the southbound off-ramp with widening to include a separate left- and right-turn lane.</li> </ul> <p>→With noted improvements, this concept can accommodate 2035 Background traffic conditions, the Phased, Strong, and Moderate growth scenarios.</p>

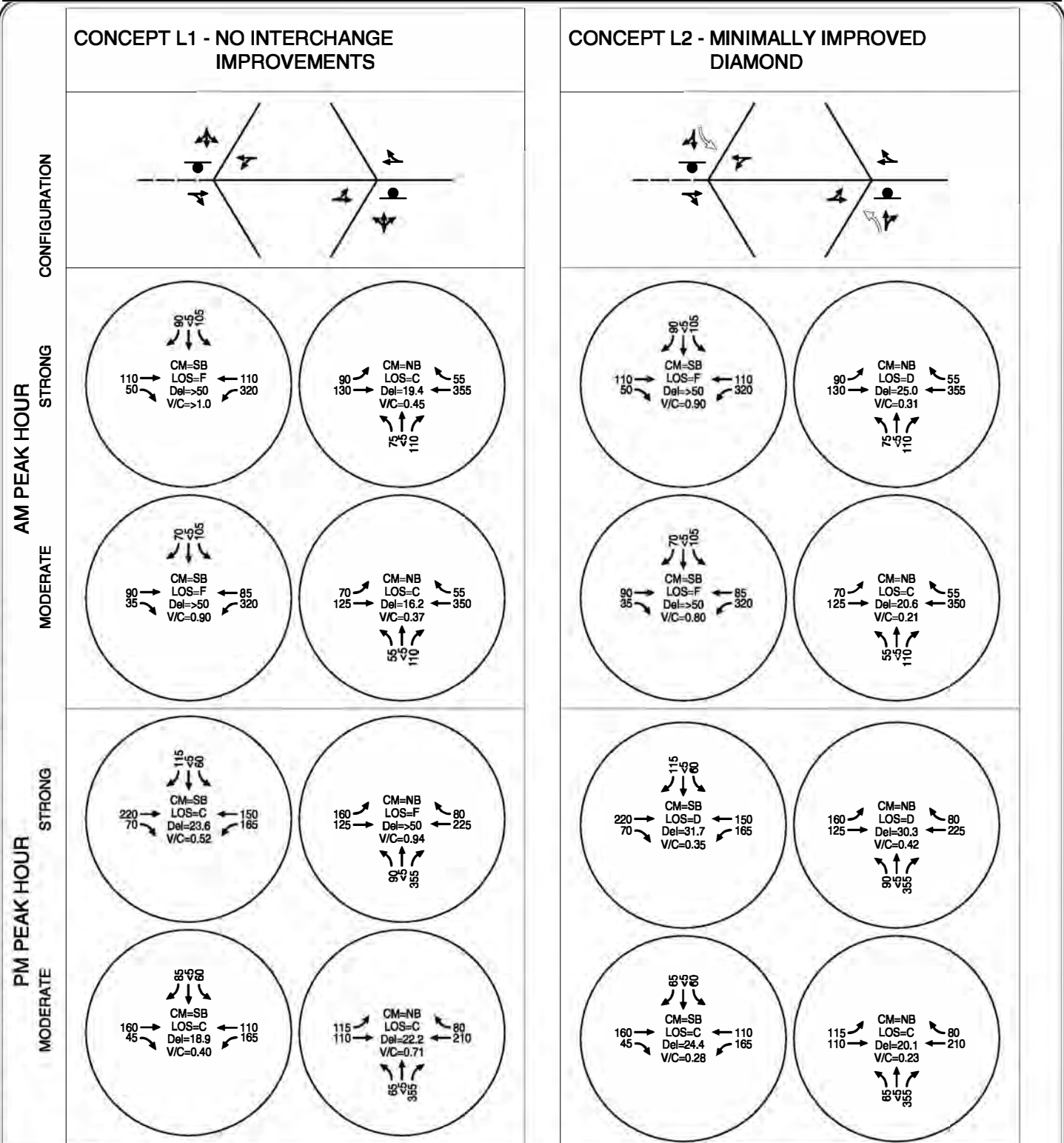
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### ***Traffic Operations Evaluation of Initial Concepts***

As documented in Table 7-4, multiple interchange variations have been developed to accommodate the geometric deficiencies and better serve long-term forecast traffic volumes under the “Strong” and “Moderate” growth scenarios. Figures 7-2 through 7-5 illustrate the forecast traffic volumes and operational results associated with each concept. As shown in the figures, the following conclusions can be drawn:

- Both the NB and SB off-ramps will need to be squared up and widened to provide a separate left and through/right-turn lane at the Lamb Road interchange terminal under any assumed future reuse/redevelopment scenario.
- The NB ramp terminal can operate adequately (when widened as described in the above bullet) as an unsignalized intersection under any assumed future reuse/redevelopment scenario.
- The SB ramp terminal will require long-term traffic control (signalization) or a roundabout under the “Strong” and “Moderate” growth scenarios.
- A single-lane roundabout will provide sufficient long-term capacity at the SB ramp terminal.
- Lamb Road does not need to be widened to three lanes.

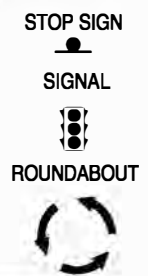
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**LEGEND**

CM = CRITICAL MOVEMENT (TWSC)  
 LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED/AWSC)/CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)  
 Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO  
 TWSC = TWO-WAY STOP CONTROL  
 AWSC = ALL-WAY STOP CONTROL

EXISTING ROADWAY  
 NEW/IMPROVED ROADWAY  
 EXISTING MOVEMENT  
 NEW/IMPROVED MOVEMENT



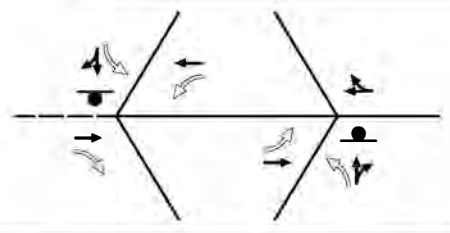
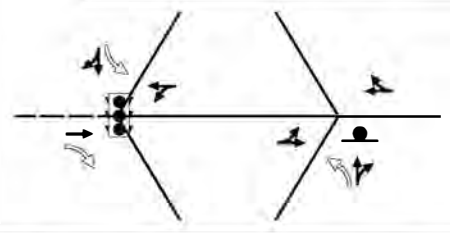
**LAMB ROAD CONCEPTS L1 & L2 UMATILLA, OREGON**

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**CONCEPT L3 - MINIMALLY IMPROVED DIAMOND WITH PARTIAL SIGNALIZATION**

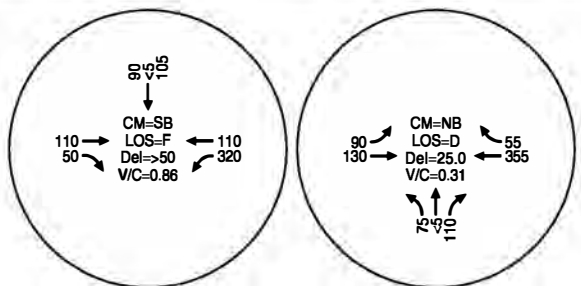
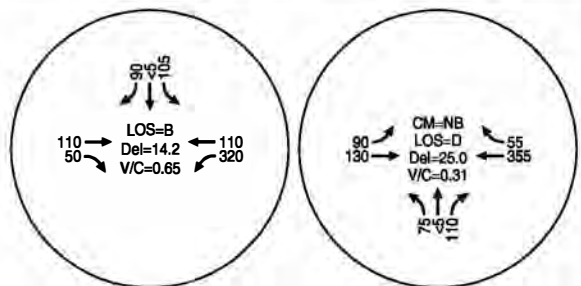
**CONCEPT L4 - IMPROVED DIAMOND WITH A WIDENED LAMB ROAD CROSS ROAD**

**CONFIGURATION**

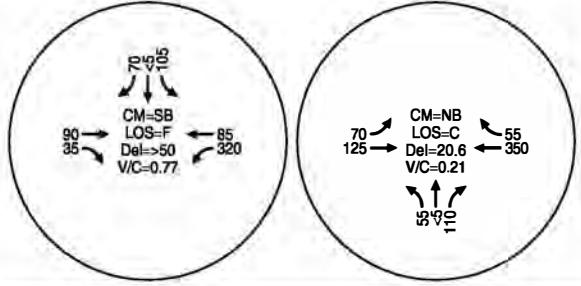
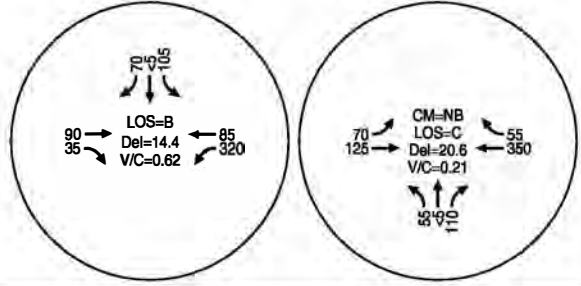


**AM PEAK HOUR**

**STRONG**

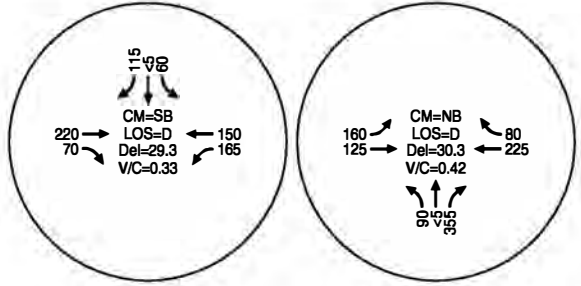
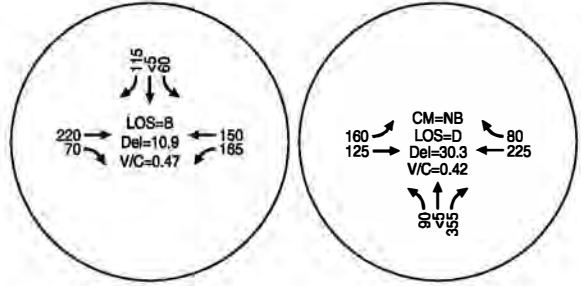


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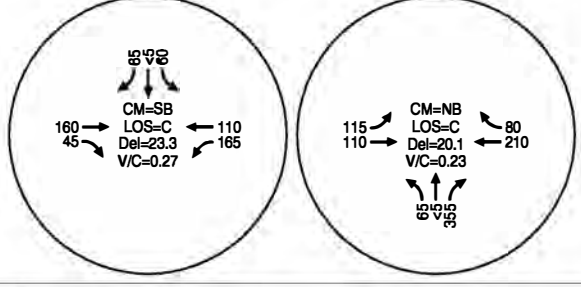
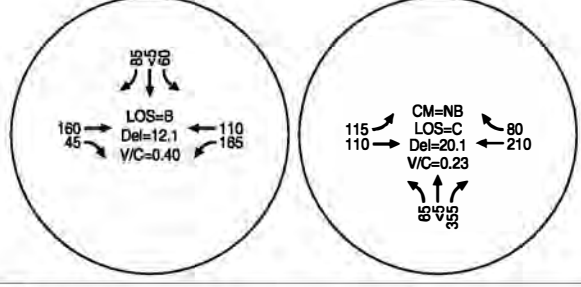


**PM PEAK HOUR**

**STRONG**

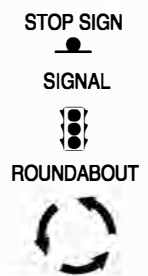
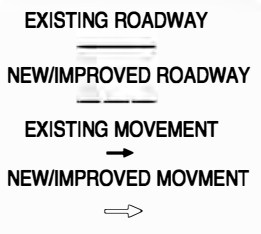


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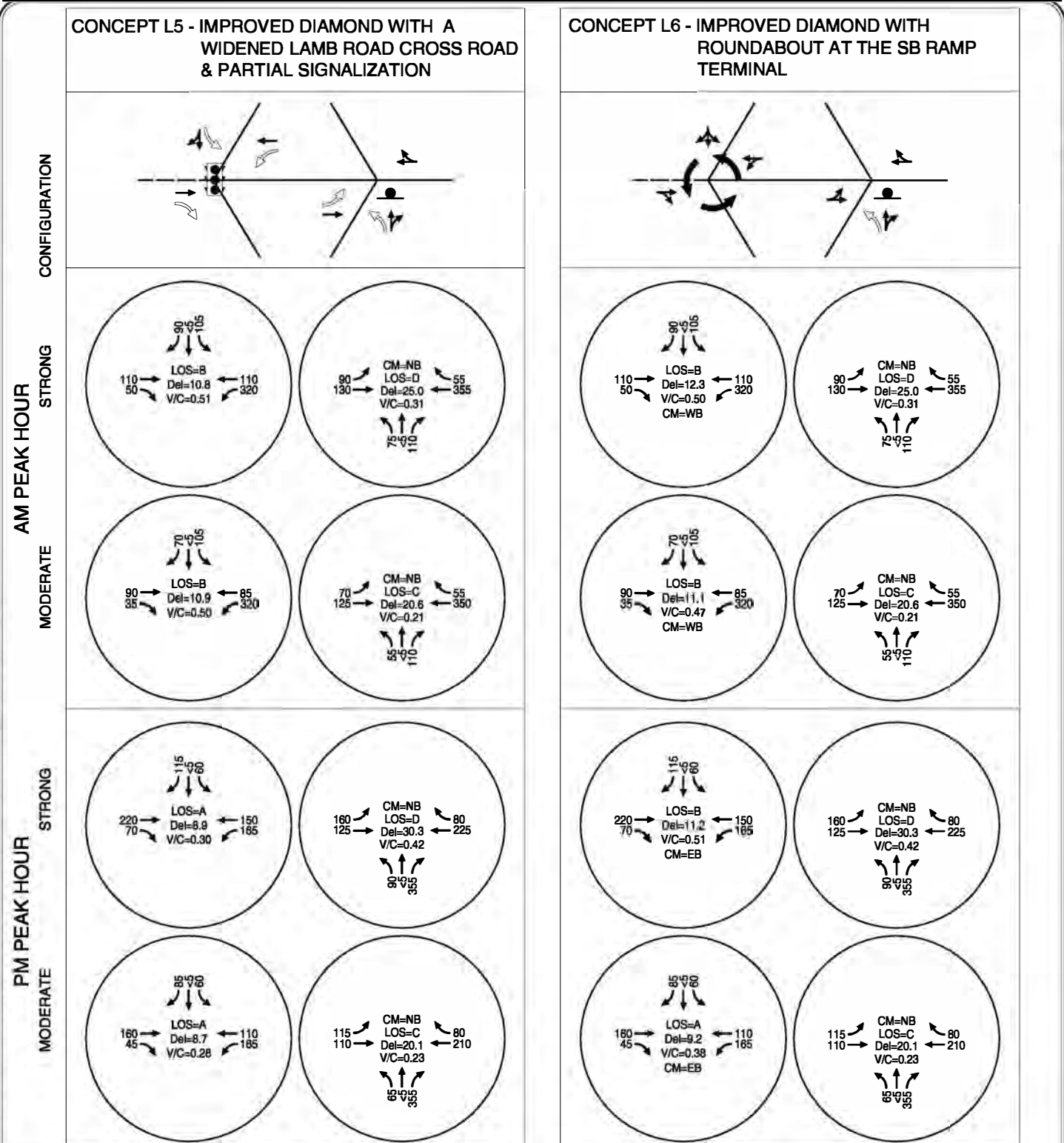
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**LAMB ROAD CONCEPTS L3 & L4 UMATILLA, OREGON**

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**LEGEND**

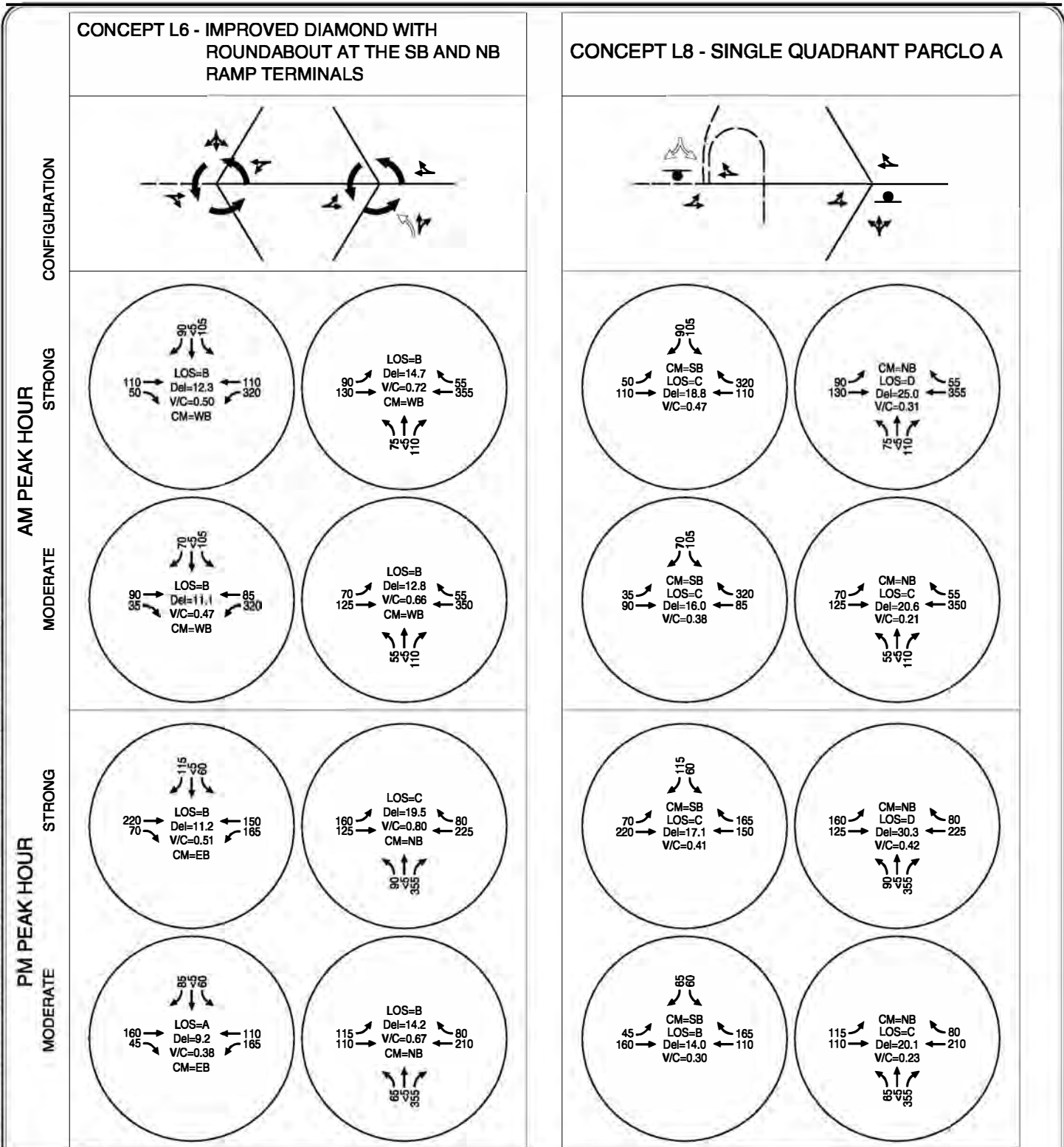
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 Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO  
 TWSC = TWO-WAY STOP CONTROL  
 AWSC = ALL-WAY STOP CONTROL

EXISTING ROADWAY  
 NEW/IMPROVED ROADWAY  
 EXISTING MOVEMENT  
 NEW/IMPROVED MOVEMENT

STOP SIGN  
 SIGNAL  
 ROUNDABOUT

**LAMB ROAD CONCEPTS L5 & L6 UMATILLA, OREGON**

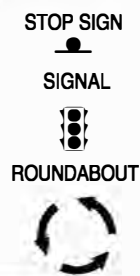
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**LEGEND**

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EXISTING ROADWAY  
 NEW/IMPROVED ROADWAY  
 EXISTING MOVEMENT  
 NEW/IMPROVED MOVEMENT





LAMB ROAD CONCEPTS  
 L7 & L8  
 UMATILLA, OREGON

## I-84/ARMY DEPOT ACCESS INTERCHANGE

The I-84/Umatilla Army Depot Access Road interchange was constructed in 1967 to serve as the formal access to the Umatilla Army Depot. The interchange also provides access to Gun Club Lane and Ordnance/Frontage Road. Historically, the interchange has been a low-volume interchange. This is primarily due to fact that the Umatilla Army Depot has multiple points of access, the nearby Union Pacific Railroad underpass has a 15-foot vertical clearance limitation, and the surrounding land uses south of I-84 are rural in character. As such, some of the substandard interchange form characteristics (substandard on- and off-ramp lengths and close spacing of local roadways to the ramp terminals) have not been seen as a significant concern. However, reuse/redevelopment of the Army Depot site will result in changing traffic patterns at this interchange. To address these changing traffic patterns, several improvement concepts have been investigated as outlined in Table 7-5.



**Table 7-5 – I-84/Umatilla Army Depot Access Road Interchange Improvement Concepts**

Concept	Description
<p><b>Concept A1 – No Interchange Improvements</b></p> 	<ul style="list-style-type: none"> <li>• Maintains the existing on- and off-ramps.</li> <li>• Realigns Gun Club Lane and the opposing farm access road to maximize the distance from the interchange ramp terminal and the railroad underpass.</li> </ul> <p>→With noted improvements, this concept can accommodate continued use of the interchange by the ORNG and limited employment-related traffic to/from the reuse/redevelopment of the Army Depot site.</p>
<p><b>Concept A2 – Minimally Improved Diamond</b></p> 	<ul style="list-style-type: none"> <li>• Lengthens and improves the geometry of the eastbound and westbound on- and off-ramps to address substandard layout and better accommodate a wider range of uses.</li> <li>• Realigns Gun Club Lane and the opposing farm access road to maximize the distance from the interchange ramp terminal and the railroad underpass.</li> </ul> <p>→With noted improvements, this concept can accommodate continued use of the interchange by the ORNG and larger amounts of employment-related traffic to/from the reuse/redevelopment of the Army Depot site.</p>

### I-84/Paterson Ferry Road Interchange

The I-84/Paterson Ferry Road interchange was developed into a full interchange in 2001. Since then, the interchange has been a low-volume interchange focusing on providing access to the area agriculture and farming uses. As such, the substandard off-ramp deceleration lengths have not been seen as a significant concern. However, the potential for Port Industrial zone access to Paterson Ferry Road could result in changing traffic patterns at this interchange. To address these changing traffic patterns, several improvement concepts have been investigated as outlined in Table 7-6.

**Table 7-6 - I-84/Paterson Ferry Road Interchange Improvement Concepts**

Concept	Description
<p><b>Concept P1 – No Interchange Improvements</b></p> 	<ul style="list-style-type: none"> <li>Maintains the existing interchange as is.</li> </ul> <p>→ Can continue to accommodate projected traffic demand from existing land uses.</p>
<p><b>Concept P2 – Minimally Improved Diamond</b></p> 	<ul style="list-style-type: none"> <li>Lengthens and improves the geometry of the eastbound and westbound off-ramps to address substandard layout and better accommodate a wider range of uses.</li> </ul> <p>→ With noted improvements, this concept can accommodate potential truck and vehicular traffic from the re-routed Port Industrial zone trips via a new connection to Paterson Ferry Road.</p>



## PRELIMINARY QUALITATIVE EVALUATION OF INITIAL CONCEPTS

The consultant team conducted an evaluation and comparison of the initial concepts based on qualitative and quantitative measures. The comparison is intended to identify those concepts that do not have any “fatal flaws” and warrant a more detailed evaluation.

To help determine how to rank each of the concepts according to the evaluation criteria, a scoring system was developed. In essence, each evaluation criterion was assigned a range of numerical values (+2, +1, 0, -1, -2). The concept that achieve each metric better than others receive a “+2”, those that do not impact the metric receive a “0”, those that underperform compared to other concepts receive a “-2” score, and those that fall in between receive a “+1+ or “-1” score. The following list outlines the elements considered in the initial evaluation and aspects of each element that characterized the variations between concepts.

These evaluation criteria were originally documented in Technical Memorandum #1.

- Transportation Operations
  - Geometric Safety
  - Mobility
  - Freight mobility
- Multimodal Accessibility
  - Transit mobility
- Land Use
  - Right-of-way impacts
  - Compatibility with land use
- Economic Development
  - Near-term growth accommodation
  - Long-term growth accommodation
- Environmental, Social, and Equity Factors
  - Environmental impacts
  - Socio-economic impacts
- Accessibility and Connectivity
  - Local roadway connectivity
  - Future access to undeveloped properties
  - Access spacing requirements

- Cost
  - Cost relative to other improvement concepts
- Implementation
  - Impacts to existing and proposed developments
  - Ability to construct in phases

Table 7-7 provides a summary of the preliminary evaluation of initial concepts. Detailed notes regarding the associated scores are provided in Appendix "A".

**Table 7-7 - Initial Concept Evaluation and Screening Matrix**

Concept	Transportation Operations	Multimodal Accessibility	Land Use	Economic Development	Enviro., Social, and Equity Factors	Accessibility & Connectivity	Cost	Implementation	Average Score	Recommended for Additional Evaluation?
<b>I-84/Army Depot Road Interchange</b>										
A1	-1	0	0	-1	0	2	0	0	0.00	Yes
A2	1	0	0	1	0	2	-1	-1	0.25	Yes
<b>I-82/Lamb Road Interchange</b>										
L1	-2	0	0	-2	0	2	0	0	-0.25	No
L2	0	0	-1	1	0	2	-1	0	0.125	Yes
L3	2	0	-1	2	0	2	-1	0	0.50	Yes
L4	0	0	-2	1	0	2	-2	-1	-0.25	No
L5	2	0	-2	2	0	2	-2	-1	0.125	No
L6	2	0	-1	2	0	2	-1	-1	0.375	Yes
L7	2	0	-2	2	0	2	-2	-2	0.00	No
L8	2	0	-2	2	0	2	-2	-1	0.125	Yes
<b>I-84/Paterson Ferry Road</b>										
P1	-1	0	0	-1	0	2	0	0	0.00	Yes
P2	1	0	0	1	0	2	-1	0	0.375	Yes

Table 7-8 provides information on the primary reason a concept was recommended for elimination and not considered for further evaluation. More detailed notes regarding the associated scores and supplemental to the information provided in Table 7-8 are provided in Appendix "A".

**Table 7-8 - Concept Elimination Discussion**

Concept	Primary Reason for Concept Elimination
L1	Does not address the capacity and vehicle queuing limitations of the NB and SB ramp terminals.
L4	Does not address the capacity limitations at the SB ramp terminal. Widening of Lamb Road and the existing overpass structure to three travel lanes is expensive, impactful, and not necessary to address the capacity and geometric deficiencies of the interchange.
L5	Widening of Lamb Road and the existing overpass structure to three travel lanes is expensive, impactful, and not necessary to address the capacity and geometric deficiencies of the interchange.
L7	A roundabout is not necessary to mitigate forecast traffic conditions at the NB ramp terminal.

The findings and preliminary conclusions contained within this memorandum will be discussed in greater detail at the March 31, 2014 TPAC meeting.

## DETAILED DEVELOPMENT OF SELECTED CONCEPTS

Based on the results of the screening process, more detailed drawings of each concept were prepared as documented in the figures below. Detailed drawings were not prepared for Concepts A-1 and P-1 as they represent No-Build scenarios.

### I-84/Army Depot Access Road

As documented in the previous sections, the I-84/Army Depot Access Road interchange can accommodate anticipated growth from the Oregon National Guard and some limited reuse growth without major improvements. However, when considering the potential for accommodating traffic generated by the Port Industrial zone, the improvements shown in Exhibit 1 would be needed.

#### Exhibit 1 – Refined I-84/Army Depot Access Road Interchange Improvement Alternative



## I-82/Lamb Road Interchange

### Exhibit 2 - I-82/Lamb Road Interchange Improvements (Signalized SB Ramp Terminal)



**Exhibit 3 - I-82/Lamb Road Interchange Improvements (Roundabout SB Ramp Terminal)**



**Exhibit 4 - I-82/Lamb Road Interchange Improvements (Single Quadrant PARCLO A)**





**Exhibit 5 - I-84/Paterson Ferry Road Interchange Improvements (Lengthened EB and WB Off-Ramps)**



## Appendix A Detailed Concept Review

## DETAILED CONCEPT REVIEW

This section details the quantitative analysis conducted to evaluate the concepts presented within this memorandum.

### I-84/Army Depot Access Interchange

#### **Concept A1 – No Interchange Improvements**

##### **Transportation Operations (-1)**

- Does not address the substandard on- and off-ramp lengths (-). May not be an issue if truck and oversized vehicle traffic is restricted to other points of access such as the I-82/Lamb Road interchange.

##### **Multimodal Accessibility (0)**

- The interchange configuration does not have an impact or preclude potential future transit accessibility to/from or within the Umatilla Army Depot site.

##### **Land Use (0)**

- No right-of-way or property impacts to adjacent properties would occur with this concept.

##### **Economic Development (-1)**

- The overall interchange geometrics would not be improved, thereby minimizing the interchange's ability to safely and efficiently accommodate significant levels of long-term industrial and highway-oriented development.

##### **Environmental, Social, and Equity Factors (0)**

- The overall interchange geometrics would not be improved, so there would be no environmental/social/equity impacts to adjacent properties or land uses.

##### **Accessibility and Connectivity (+2)**

- A more formal access to Gun Club Lane would be created.

##### **Cost (0)**

- Least costly concept due to minimal geometric improvements and no property impacts.

##### **Implementation (0)**

- No implementation issues.

---

## **Concept A2 – Minimally Improved Diamond Interchange**

### **Transportation Operations (+1)**

- Lengthens the on- and off-ramps and brings them up to current design standards.

### **Multimodal Accessibility (0)**

- The interchange configuration does not have an impact or preclude potential future transit accessibility to/from or within the Umatilla Army Depot site.

### **Land Use (0)**

- No right-of-way or property impacts to adjacent properties would occur with this concept.

### **Economic Development (+1)**

- The overall interchange geometrics would be improved, thereby enhancing the interchange's ability to safely and efficiently accommodate significant levels of long-term industrial and highway-oriented development.

### **Environmental, Social, and Equity Factors (0)**

- The overall interchange geometrics would not be improved, so there would be no environmental/social/equity impacts to adjacent properties or land uses.

### **Accessibility and Connectivity (+2)**

- A more formal access to Gun Club Lane would be created.

### **Cost (-1)**

- More costly concept due to lengthening of the on- and off-ramps.

### **Implementation (-1)**

- No implementation issues.

## I-84/Paterson Ferry Road Access Interchange

### **Concept P1 – No Interchange Improvements**

#### **Transportation Operations (-1)**

- Does not address the substandard off-ramp lengths (-). May not be an issue if there is no Port Industrial access via Paterson Ferry Road.

#### **Multimodal Accessibility (0)**

- The interchange configuration does not have an impact or preclude potential future transit accessibility to/from or within the Umatilla Army Depot site.

#### **Land Use (0)**

- No right-of-way or property impacts to adjacent properties would occur with this concept.

#### **Economic Development (-1)**

- The overall interchange geometrics would not be improved, thereby minimizing the interchange's ability to safely and efficiently accommodate Port Industrial traffic via the potential Paterson Ferry Road access.

#### **Environmental, Social, and Equity Factors (0)**

- The overall interchange geometrics would not be improved, so there would be no environmental/social/equity impacts to adjacent properties or land uses.

#### **Accessibility and Connectivity (+2)**

- Would have no accessibility/connectivity issues.

#### **Cost (0)**

- Least costly concept due to no geometric improvements and no property impacts.

#### **Implementation (0)**

- No implementation issues.

---

## **Concept P2 – Minimally Improved Diamond Interchange**

### **Transportation Operations (+1)**

- Lengthens the off-ramps and brings them up to current design standards.

### **Multimodal Accessibility (0)**

- The interchange configuration does not have an impact or preclude potential future transit accessibility to/from or within the Umatilla Army Depot site.

### **Land Use (0)**

- No right-of-way or property impacts to adjacent properties would occur with this concept.

### **Economic Development (+1)**

- The overall interchange geometrics would be improved, thereby enhancing the interchange's ability to more safely and efficiently accommodate potential levels of vehicular and truck traffic generated by a Port Industrial connection to Paterson Ferry Road.

### **Environmental, Social, and Equity Factors (0)**

- The overall interchange geometrics would not be improved, so there would be no environmental/social/equity impacts to adjacent properties or land uses.

### **Accessibility and Connectivity (+2)**

- Would have no accessibility/connectivity issues.

### **Cost (-1)**

- More costly concept due to lengthening of the off-ramps.

### **Implementation (0)**

- No implementation issues.

## I-82/Lamb Road Interchange

### **Concept L1 – No Interchange Improvements**

#### **Transportation Operations (-2)**

- This concept can only reasonably accommodate 2035 Background traffic conditions.
- Interchange ramp terminals are forecast to operate over capacity with any significant level of Army Depot reuse/redevelopment. This will create long-term safety and capacity concerns, thereby inhibiting the ability to accommodate long-term traffic and freight growth.
- New crossroad approach to/from Army Depot would better and more safely accommodate anticipated industrial and freeway oriented traffic growth.
- Does not address of the large skew angles where the NB and SB off-ramps intersection Lamb Road. The skew angles make it difficult to accommodate large trucks without tracking into adjacent travel lanes.
- Does not address the tangential exit of the NB off-ramp from I-82.

#### **Multimodal Accessibility (0)**

- The interchange configuration does not have an impact or preclude potential future transit accessibility to/from or within the Umatilla Army Depot future industrial area.

#### **Land Use (0)**

- No right-of-way or property impacts to adjacent properties outside of the right-of-way needed to accommodate the new crossroad approach to/from Army Depot.

#### **Economic Development (-2)**

- The overall interchange geometrics would not be improved, thereby minimizing the interchange's ability to safely and efficiently accommodate significant levels of long-term industrial and highway-oriented development.
- The overall interchange geometrics would not be improved, thereby minimizing the ability to accommodate the largest range of design vehicles.

#### **Environmental, Social, and Equity Factors (0)**

- The overall interchange geometrics would not be improved, so there would be no environmental/social/equity impacts to adjacent properties or land uses.

---

### **Accessibility and Connectivity (+2)**

- New crossroad approach to/from Army Depot would significantly enhance access for future industrial/highway oriented uses. This new crossroad approach would meet access spacing requirements.

### **Cost (0)**

- Least costly concept due to minimal geometric improvements and no property impacts.

### **Implementation (0)**

- No implementation issues.

### **Concept L2 – Minimally Improved Diamond Interchange**

#### **Transportation Operations (0)**

- The SB Interchange ramp terminal is forecast to operate with high levels of delay under the “Strong” and “Moderate” growth scenarios. This will inhibit the ability to accommodate long-term traffic growth and freight related traffic.
- New crossroad approach to/from Army Depot would better and more safely accommodate anticipated industrial and freeway oriented traffic growth.
- Addresses the skew angles where the NB and SB off-ramps intersection Lamb Road. This will improve the interchange’s ability to safely and efficiently accommodate large trucks.
- Addresses the tangential exit of the NB off-ramp from I-82 and brings it up to existing ODOT guidelines.

#### **Multimodal Accessibility (0)**

- The interchange configuration does not have an impact or preclude potential future transit accessibility to/from or within the Umatilla Army Depot future industrial area.

#### **Land Use (-1)**

- A realignment of the northbound off-ramp may require a small amount of right-of-way acquisition to the adjacent undeveloped property in the southeast quadrant of the interchange.

#### **Economic Development (+1)**

- The overall interchange geometrics would be improved, thereby furthering the interchange’s ability to accommodate increased levels of long-term industrial and highway-oriented development.



- The overall interchange geometrics would be improved, thereby enhancing the interchange's ability to accommodate the largest range of design vehicles (+).

#### **Environmental, Social, and Equity Factors (0)**

- Minor interchange improvements are not anticipated to have environmental/social/equity impacts to adjacent properties or land uses.

#### **Accessibility and Connectivity (+2)**

- New crossroad approach to/from Army Depot would significantly enhance access for future industrial/highway oriented uses. This new crossroad approach would meet access spacing requirements.

#### **Cost (-1)**

- Some costs associated with the geometric improvements to the ramps and crossroad.

#### **Implementation (0)**

- No significant implementation issues.

### ***Concept L3 – Minimally Improved Diamond Interchange with Signalization***

#### **Transportation Operations (+2)**

- This concept can accommodate 2035 Background traffic conditions, the Phased, Strong, and Moderate growth scenarios.
- Signalization of the SB ramp terminal will improve the safety and efficiency of the interchange and ensure long-term accommodation of traffic growth and freight.
- New crossroad approach to/from Army Depot would better and more safely accommodate anticipated industrial and freeway oriented traffic growth.
- Addresses the skew angles where the NB and SB off-ramps intersection Lamb Road. This will improve the interchange's ability to safely and efficiently accommodate large trucks.
- Addresses the tangential exit of the NB off-ramp from I-82 and brings it up to existing ODOT guidelines.

#### **Multimodal Accessibility (0)**

- The interchange configuration does not have an impact or preclude potential future transit accessibility to/from or within the Umatilla Army Depot future industrial area.

### **Land Use (-1)**

- A realignment of the northbound off-ramp may require a small amount of right-of-way acquisition to the adjacent undeveloped property in the southeast quadrant of the interchange.

### **Economic Development (+2)**

- The overall interchange geometrics and traffic control would be improved, thereby ensuring the interchange can adequately accommodate increased levels of long-term industrial and highway-oriented development.
- The overall interchange geometrics would be improved, thereby enhancing the interchange's ability to accommodate the largest range of design vehicles.

### **Environmental, Social, and Equity Factors (0)**

- Minor interchange improvements are not anticipated to have environmental/social/equity impacts to adjacent properties or land uses.

### **Accessibility and Connectivity (+2)**

- New crossroad approach to/from Army Depot would significantly enhance access for future industrial/highway oriented uses. This new crossroad approach would meet access spacing requirements.

### **Cost (-1)**

- Some costs associated with the geometric improvements to the ramps and crossroad.

### **Implementation (0)**

- No significant implementation issues.

## ***Concept L4 –Improved Diamond Interchange with a Widened Lamb Road Cross Road***

### **Transportation Operations (0)**

- The SB Interchange ramp terminal is forecast to operate with high levels of delay. This will inhibit the ability to accommodate long-term traffic growth and freight related traffic.
- New crossroad approach to/from Army Depot would better and more safely accommodate anticipated industrial and freeway oriented traffic growth.
- Addresses the skew angles where the NB and SB off-ramps intersection Lamb Road. This will improve the interchange's ability to safely and efficiently accommodate large trucks.
- Addresses the tangential exit of the NB off-ramp from I-82 and brings it up to existing ODOT guidelines.

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### **Multimodal Accessibility (0)**

- The interchange configuration does not have an impact or preclude potential future transit accessibility to/from or within the Umatilla Army Depot future industrial area.

### **Land Use (-2)**

- A widened Lamb Road cross road to three lanes would may require some right-of-way acquisition to the adjacent undeveloped property to the south.
- A realignment of the northbound off-ramp may require a small amount of right-of-way acquisition to the adjacent undeveloped property in the southeast quadrant of the interchange.

### **Economic Development (+1)**

- The overall interchange geometrics would be improved, thereby furthering the interchange's ability to accommodate increased levels of long-term industrial and highway-oriented development.
- The overall interchange geometrics would be improved, thereby enhancing the interchange's ability to accommodate the largest range of design vehicles.

### **Environmental, Social, and Equity Factors (0)**

- Minor interchange improvements are not anticipated to have environmental/social/equity impacts to adjacent properties or land uses.

### **Accessibility and Connectivity (+2)**

- New crossroad approach to/from Army Depot would significantly enhance access for future industrial/highway oriented uses. This new crossroad approach would meet access spacing requirements.

### **Cost (-2)**

- Off-ramp realignments, widening of Lamb Road, and a wider overpass bridge would increase the cost of this concept compared to other concepts.

### **Implementation (-1)**

- Minor implementation issues associated with the Lamb Road and overpass widening.

## **L5 - Improved Diamond Interchange with a Widened Lamb Road Cross Road and Partial Signalization**

### **Transportation Operations (+2)**

- This concept can accommodate 2035 Background traffic conditions, the Phased, Strong, and Moderate growth scenarios.
- Signalization of the SB ramp terminal will improve the safety and efficiency of the interchange and ensure long-term accommodation of traffic growth and freight.
- New crossroad approach to/from Army Depot would better and more safely accommodate anticipated industrial and freeway oriented traffic growth.
- Addresses the skew angles where the NB and SB off-ramps intersection Lamb Road. This will improve the interchange's ability to safely and efficiently accommodate large trucks.
- Addresses the tangential exit of the NB off-ramp from I-82 and brings it up to existing ODOT guidelines.

### **Multimodal Accessibility (0)**

- The interchange configuration does not have an impact or preclude potential future transit accessibility to/from or within the Umatilla Army Depot future industrial area.

### **Land Use (-2)**

- A widened Lamb Road cross road to three lanes would may require some right-of-way acquisition to the adjacent undeveloped property to the south.
- A realignment of the northbound off-ramp may require a small amount of right-of-way acquisition to the adjacent undeveloped property in the southeast quadrant of the interchange.

### **Economic Development (+2)**

- The overall interchange geometrics and traffic control would be improved, thereby ensuring the interchange can adequately accommodate increased levels of long-term industrial and highway-oriented development.
- The overall interchange geometrics would be improved, thereby enhancing the interchange's ability to accommodate the largest range of design vehicles.

### **Accessibility and Connectivity (+2)**

- New crossroad approach to/from Army Depot would significantly enhance access for future industrial/highway oriented uses. This new crossroad approach would meet access spacing requirements.

### **Cost (-2)**

- Off-ramp realignments, widening of Lamb Road, and a wider overpass bridge would increase the cost of this concept compared to other concepts.

### **Implementation (-1)**

- Minor implementation issues associated with the Lamb Road and overpass widening.

## ***L6 - Improved Diamond Interchange with a Roundabout at the SB Ramp Terminal***

### **Transportation Operations (+2)**

- This concept can accommodate 2035 Background traffic conditions, the Phased, Strong, and Moderate growth scenarios.
- A roundabout at the SB ramp terminal will improve the safety and efficiency of the interchange and ensure long-term accommodation of traffic growth and freight.
- New crossroad approach to/from Army Depot would better and more safely accommodate anticipated industrial and freeway oriented traffic growth.
- Addresses the skew angles where the NB and SB off-ramps intersection Lamb Road. This will improve the interchange's ability to safely and efficiently accommodate large trucks.
- Addresses the tangential exit of the NB off-ramp from I-82 and brings it up to existing ODOT guidelines.

### **Multimodal Accessibility (0)**

- The interchange configuration does not have an impact or preclude potential future transit accessibility to/from or within the Umatilla Army Depot future industrial area.

### **Land Use (-1)**

- A realignment of the northbound off-ramp may require a small amount of right-of-way acquisition to the adjacent undeveloped property in the southeast quadrant of the interchange.

### **Economic Development (+2)**

- The overall interchange geometrics and traffic control would be improved, thereby ensuring the interchange can adequately accommodate increased levels of long-term industrial and highway-oriented development.
- The overall interchange geometrics would be improved, thereby enhancing the interchange's ability to accommodate the largest range of design vehicles.

### **Environmental, Social, and Equity Factors (0)**

- Interchange improvements are not anticipated to have environmental/social/equity impacts to adjacent properties or land uses.

### **Accessibility and Connectivity (+2)**

- New crossroad approach to/from Army Depot would significantly enhance access for future industrial/highway oriented uses. This new crossroad approach would meet access spacing requirements.

### **Cost (-1)**

- Roundabout cost would be higher than a comparable signalized ramp terminal.

### **Implementation (-1)**

- A roundabout would be harder to construct while maintaining traffic flow through the interchange.

## ***L7 - Improved Diamond Interchange with Roundabouts at both the SB and NB Ramp Terminals***

### **Transportation Operations (+2)**

- This concept can accommodate 2035 Background traffic conditions, the Phased, Strong, and Moderate growth scenarios.
- A roundabout at the SB and NB ramp terminal will improve the safety and efficiency of the interchange and ensure long-term accommodation of traffic growth and freight.
- New crossroad approach to/from Army Depot would better and more safely accommodate anticipated industrial and freeway oriented traffic growth.
- Addresses the skew angles where the NB and SB off-ramps intersection Lamb Road. This will improve the interchange's ability to safely and efficiently accommodate large trucks.
- Addresses the tangential exit of the NB off-ramp from I-82 and brings it up to existing ODOT guidelines.

### **Multimodal Accessibility (0)**

- The interchange configuration does not have an impact or preclude potential future transit accessibility to/from or within the Umatilla Army Depot future industrial area.

### **Land Use (-2)**

- A realignment of the northbound off-ramp may require a small amount of right-of-way acquisition to the adjacent undeveloped property in the southeast quadrant of the interchange.

- A roundabout at the NB ramp terminal would likely require some right-of-way acquisition south of Lamb Road and to the undeveloped property in the southeast quadrant of the interchange.

#### **Economic Development (+2)**

- The overall interchange geometrics and traffic control would be improved, thereby ensuring the interchange can adequately accommodate increased levels of long-term industrial and highway-oriented development.
- The overall interchange geometrics would be improved, thereby enhancing the interchange's ability to accommodate the largest range of design vehicles.

#### **Environmental, Social, and Equity Factors (0)**

- Interchange improvements are not anticipated to have environmental/social/equity impacts to adjacent properties or land uses.

#### **Accessibility and Connectivity (+2)**

- New crossroad approach to/from Army Depot would significantly enhance access for future industrial/highway oriented uses. This new crossroad approach would meet access spacing requirements.

#### **Cost (-2)**

- Roundabout cost would be higher than a comparable signalized ramp terminal.

#### **Implementation (-2)**

- Both roundabouts would be harder to construct while maintaining traffic flow through the interchange.

### ***L8 – Single Quadrant PARCLO A***

#### **Transportation Operations (+2)**

- The interchange configuration would have sufficient long-term capacity to fully meet the long-term mobility targets of the Highway Design Manual under all growth scenarios.
- New crossroad approach to/from Army Depot would better and more safely accommodate anticipated industrial and freeway oriented traffic growth.
- Addresses the skew angles where the NB and SB off-ramps intersection Lamb Road. This will improve the interchange's ability to safely and efficiently accommodate large trucks.
- Addresses the tangential exit of the NB off-ramp from I-82 and brings it up to existing ODOT guidelines.

- Would increase the length of the SB on-ramp merge.

#### **Multimodal Accessibility (0)**

- The interchange configuration does not have an impact on potential future transit accessibility.

#### **Land Use (-2)**

- The larger southbound off-ramp and looping on-ramp footprint in the northwest quadrant of the interchange would have a relatively minor impact on future development in the depot site.

#### **Economic Development (+2)**

- The economic viability of the future Umatilla Army Depot property and the surrounding Westland Exception Area would be significantly improved by providing reserve long-term capacity at the interchange terminals.
- The overall interchange geometrics would be improved, thereby enhancing the interchange's ability to accommodate the largest range of design vehicles.

#### **Environmental, Social, and Equity Factors (0)**

- A realignment of the southbound on/off ramps and northbound off-ramps would impact adjacent properties, but these properties have no known environmental, social, or equity issues associated with them.

#### **Accessibility and Connectivity (+2)**

- This concept would not inhibit local street connectivity or prohibit access to nearby properties.
- New crossroad approach to/from Army Depot would significantly enhance access for future industrial/highway oriented uses. This new crossroad approach would meet access spacing requirements.

#### **Cost (-2)**

- New SB on- and off-ramps would have a sizable cost compared to other alternatives.

#### **Implementation (-1)**

- The construction of this interchange would be a major project with many logistical difficulties.



Appendix I  
Interchange Area Management  
Plan Implementation

## TECHNICAL MEMORANDUM # 7.c - DRAFT

### Umatilla Army Depot Combined IAMP and Transportation System Subarea Plan

Interchange Area Management Plan Implementation

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Date: May 1, 2014 **Last Revised 7/17/14**

Project #:13848

To: TPAC

From: Frank Angelo, Angelo Planning Group  
Darci Rudzinski, Angelo Planning Group

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This memorandum documents implementation steps to ensure that the recommendations of the Umatilla Army Depot Combined IAMP ("IAMP") are consistent with the locally adopted policies and land use development requirements for both Umatilla County and Morrow County. This memorandum includes:

- Overview of the State of Oregon regulatory framework governing IAMPs
- Overview of the elements that will need to be adopted as part of Umatilla County and Morrow County's long range planning documents and modifications necessary to the respective development ordinances to implement the IAMP
- Potential financing methods for constructing identified improvements at the I-82/Lamb Road Interchange

***The original Technical Memorandum #7.c was developed for TPAC Meeting #4 held in May 2014. This memorandum reflects subsequent updates to possible system development charge (SDC) methodologies. The implementing policy elements of this memo have been updated further and are found in the respective IAMPs developed for the three interchanges.***

## OVERVIEW OF STATE REGULATORY FRAMEWORK

Development and implementation of IAMPs are guided by Oregon Administrative Rule (OAR) 734-051 and OAR 660-012. OAR 734-051-0155(7) requires that an IAMP be developed no later than the time that an interchange is designed or redesigned. The IAMP must be completed before project construction. OAR 734-051-0155(2) states "prior to adoption by the Oregon Transportation Commission, the Department will work with local governments on any amendments to local comprehensive plans and transportation system plans and local land use and subdivision codes to ensure the proposed... Interchange Area Management Plan is consistent with the local plan and codes."

The Transportation Planning Rule requires that local governments adopt land use regulations consistent with state and federal requirements "to protect transportation facilities, corridors, and sites for their identified functions (OAR 660-012-0045(2))."

To comply with OAR 734-051 and OAR 660-012 and ensure that local land use actions are consistent with the transportation facility planning, the Umatilla Army Depot Combined IAMP and Transportation Subarea Plan contains policy language and development assumptions that are intended to govern planning and future development within the IAMP Management Area. Morrow County and Umatilla County will need to acknowledge policies specific to IAMP Management Area through a formal adoption process. In addition to policy language that supports the objectives of the IAMPs, Morrow County and Umatilla County will need to adopt regulatory language that ensures that future permitted development is compatible with the improvements planned for the interchange. Following the local actions by Morrow County and Umatilla County the Oregon Transportation Commission (OTC) will adopt IAMP as a part of the Oregon Highway Plan (OHP).

## PROPOSED IMPLEMENTATION ACTIONS

ODOT, Morrow County and Umatilla County will need to jointly adopt elements of the IAMP. Since the IAMP involves both State and local government authority, some policies will guide ODOT actions and others will guide local government decisions. The OAR governing IAMPs states that ODOT will work with local governments on any amendments to local comprehensive plans and transportation system plans and local land use and subdivision codes to ensure the proposed IAMP is consistent with the local plan and codes, prior to adoption by the Oregon Transportation Commission (OTC) (OAR 734-051-0155(2)).

It is expected that the IAMPs will be made part of the Morrow County and Umatilla County Comprehensive Plans by including them as an amendment to the local Transportation System Plans (TSP). This amendment process will require notification and public hearings pursuant to the local legislative process. Local jurisdictions can adopt the IAMP documents in their entirety by reference into acknowledged TSPs, can prepare an ordinance that more specifically identifies what parts of the IAMPs are being adopted locally and how local plans and ordinances are being modified, or can issue a statement that local plans and ordinances are consistent with the recommendations of the IAMP.

ODOT Region 5 will prepare findings to support adoption of the IAMP on the State's behalf, and the Oregon Transportation Commission (OTC) will deliberate and adopt the final documents as a facility plan and amendments to the Oregon Highway Plan (OHP). The following is a summary of the proposed actions to implement the IAMP.

### ODOT:

- The IAMP shall be adopted by the Oregon Transportation Commission as part of the Oregon Highway Plan.

### Morrow County:

- Will amend the Transportation System Plan to incorporate the interchange policy statement(s) and recommended transportation improvements.
- Will amend the Comprehensive Plan Map and Zoning Map to include an Interchange Management Area to identify where compliance with the IAMP will be a condition of future development approval.

### Umatilla County:

- Will amend the Transportation System Plan to incorporate the interchange policy statement(s) and recommended transportation improvements.
- Will amend the Comprehensive Plan Map and Zoning Map to include an Interchange Management Area to identify where compliance with the IAMP will be a condition of future development approval.
- Will amend the Development Code to require that development and redevelopment proposals within the Interchange Management Area show consistency with the IAMP Access Management Plan (AMP) and recommended improvements as a condition of approval. Amendments will ensure that all proposals for new development within the Umatilla County Industrial Zone-portion of the Depot site area will be reviewed to determine if a need for different interchange improvement phases is triggered. May require amendments to the following:
  - Section 152.018 Access Management and Street Connectivity
  - Section 152.019 Traffic Impact Analysis

## FINANCING

As shown in Technical Memorandum #7a, Interchange Area Concept Development and Alternatives Analysis, some basic interchange improvements (Army Depot access road reconstruction/realignment, interchange ramp skew angles, and off-ramp widening) would be needed to ensure that the I-82/Lamb Road interchange could safely and efficiently accommodate the various levels of traffic generated from the assumed reuse/redevelopment of the Army Depot site. In addition, the 2035 “Total” traffic operations findings indicate that the interchange ramp terminals will not have sufficient long-term capacity to handle the estimated increases in assumed site-generated traffic under both the “Strong” and “Moderate” growth scenarios. As such, additional capacity-based enhancements will be needed at the ramp terminals.

While the analysis demonstrates that there is additional capacity beyond the 2035 “Background” traffic conditions to allow some level of reuse/redevelopment on the Army Depot site without requiring the additional levels of capacity, this amount of development is significantly less than what the envisioned

land use plans would allow. Improvements to accommodate “Moderate” and “Strong” growth scenarios include lengthening, changing the geometry, and widening the northbound and southbound off-ramps. The TPAC has carried forward three separate improvement alternatives for the I-82/Lamb Road interchange. These alternatives are:

Concept L2: Minimally Improved Diamond Interchange

- Realigns the cross road approach.
- Lengthens the NB and SB off-ramps.
- Widens the NB and SB off- ramps.
- Maintains the existing stop control.
- Sufficient capacity for Phased Growth Scenario only
- Cost \$3,200,000

Concept L3: Minimally Improved Diamond Interchange with Signalization of the Southbound Ramp Terminal

- Realigns the cross road approach
- Lengthens the NB and SB off-ramps
- Widens the NB and SB off- ramps
- Signalizes the SB ramp terminal
- Sufficient capacity for Moderate and Strong Growth Scenarios
- Cost \$3,500,000

Concept L6: Improved Diamond with Roundabout at the Southbound Ramp Terminal

- Realigns the cross road approach
- Lengthens the NB and SB off-ramps
- Widens the NB off-ramp
- Installs a roundabout at the SB ramp terminal
- Sufficient capacity for Moderate and Strong Growth Scenarios
- Cost \$3,700,000

Based on the needed improvements at the I-82/Lamb Road interchange, local financing mechanisms could be developed that would allow future development to help pay for these needed improvements. Some mechanisms are dependent on securing funding from other public sources such as Federal or State programs. A system development charge (SDC) could also be considered and assigned to future industrial and commercial growth within the Army Depot planning area. The following provides a brief summary of these types of programs.

## Grants and Loans

There are a variety of Federal and State grant and loan programs available for transportation financing in Umatilla County. Grants and loans are competitive statewide and many programs require a match from the local jurisdiction as a condition of approval. Most grant and loan programs available for transportation projects are funded and administered through ODOT; programs that have been identified as potentially relevant for Umatilla County are described under Revenue Source in the adopted 2002 Umatilla Transportation System Plan.<sup>1</sup> An update to the Transportation Enhancement Program is described below.

### ***Transportation Enhancement Program***

In July 2012, the US Congress passed a new transportation funding bill called Moving Ahead for Progress in the 21st Century or “MAP-21”. The new bill took effect on October 1, 2012. MAP-21 did not reauthorize the Transportation Enhancement (TE) Program. Instead, it established a new program called Transportation Alternatives Program (TAP) that includes elements of the former TE program in combination with elements of other programs, and some new activities.

The TE Discretionary Account remains in place through 2015, with \$2 million per year for urgent needs that arise outside the statewide competitive selection process. It remains available for TE-eligible projects until those funds are exhausted, and will then continue for TAP-eligible projects using TAP funds instead of TE.

For 2016-2018, the Discretionary Account has \$1.5 million per year, shared with the Bicycle & Pedestrian “Quick Fix” program that provides funds for immediate needs along the State Highway system.<sup>2</sup>

## System Development Charges

System Development Charges (SDCs) are impact fees charged to new development to help pay for the additional infrastructure capacity needed to serve the development. SDCs are regulated in Oregon by statute. Two types of fees are allowed under state law:

- Reimbursement fees, used to repay existing residents for extra capacity built in advance of growth that benefits future residents; and
- Improvement fees, designed the pay for planned capital improvements needed to serve future development.

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<sup>1</sup> [www.co.umatilla.or.us/planning/pdf/Umatilla\\_County\\_TSP\\_June\\_02.pdf](http://www.co.umatilla.or.us/planning/pdf/Umatilla_County_TSP_June_02.pdf)

<sup>2</sup> This description of the changes occurring with the transition to the STIP-Enhance process was adapted from the State of Oregon website <http://www.oregon.gov/ODOT/HWY/LGS/pages/enhancement.aspx>.

SDCs are collected when new building permits are issued. The fees may be collected for transportation systems, as well as for water, sanitary sewer, storm water, and parks. Fees must be established using a rate-setting methodology adopted by the service provider (i.e. the city, county or special district responsible for the service). Fees may be increased periodically based on increases in project costs using procedures outlined in the local ordinance (see ORS 223.304). Transportation SDCs are based on the trip generation of the proposed development. Nonresidential use calculations are based on employee ratios for the type of business or industrial uses; in the case of the I-82/Lamb Road Interchange the trip generation has been determined for both “Moderate” and “Strong” growth scenarios.

A location-based fee, assessed by Umatilla County, is one option for the I-82/Lamb Road Interchange. This approach is particularly appropriate when proposed capital improvements are triggered by and benefit a limited area only and because this type of SDC provides a built-in mechanism for allocating revenues to specific interchange projects (i.e. revenue may only be spent on projects in the area where they are collected). A geographically differentiated sub-area fee is also appropriate where infrastructure costs are higher in newly developing areas, as is the case to the west of the interchange, as opposed to largely developed areas where infrastructure is already in place. This ensures that infill development in other parts of Umatilla County are not unfairly burdened with the cost of helping fund infrastructure on the Depot site.

### ***SDC Methodology***

Two examples of applying a SDC to future development on the Depot site were prepared. Both examples are based on trips generated from future development on the Depot site and do not include trips generated from development on surrounding properties such as the Westland Exception Area. Applying the SDC to future development in the Westland Exception Area would spread the costs of future improvements over more trips, thereby reducing the cost per trip. The following examples are provided for illustrative purposes and have relied on information developed at different points in the IAMP planning process. If Umatilla County wished to pursue a SDC as a funding option, additional research and evaluation should occur to fully define the area where the SDC would apply, the resulting number of trips and the level of interchange improvements used to determine the SDC rate.

### ***SDC Based on Full I-82 / Lamb Road Interchange Improvements***

The number of daily trips expected to be generated from new commercial and industrial growth from the Depot site at the I-82/Lamb Road Interchange has been determined for both “Moderate” and “Strong” growth scenarios. It is this growth that will trigger the need for additional improvements to the interchange, estimated at up to \$3.7 million, depending on the alternative. A SDC could be adopted that is based on a cost-per-trip basis. Table 7c-1 shows what the fee would be per trip to meet the total

estimated cost of proposed improvements to support the “Strong” growth scenario.<sup>3</sup> As well the table shows the result if only a portion of the cost (50% or 25%) was met by the SCD. This “partial SDC” option would assume that other funding sources would pay a portion of the cost of needed improvements at the interchange.

**Table 7c-1 – System Development Charge Estimates: Full Improvements**

Growth Scenario	Number of Total Daily Trips	SDC Cost per Trip		
		100% of improvement costs (\$3.7 mil)	50% of improvement costs (\$1.85 mil)	25% of improvement costs (\$925,000)
Strong Growth	5,350	\$692	\$346	\$173

Table 7c-1 shows estimated total SDC fees for three different sample development types. This table is for illustration purposes only and is intended to give rough estimates of potential, per-user costs, for sample development types. The total SDC cost for each development is based on the total number of daily trips that each use would generate to/from the I-82/Lamb Road intersection from development on the Depot site. These trips are multiplied by the three different cost-per-trip estimates in Table 7c-2, depending on what percentage of the total improvement costs new growth (collectively) would be expected to pay.

**Table 7c-2 – System Development Charge Estimates: Development Type Examples: Full Improvements**

Proposed Use	Number of Total Daily Trips through I-82/Lamb Road Interchange	Total SDC Cost		
		100% of improvement costs (\$3.7 mil)	50% of improvement costs (\$1.85 mil)	25% of improvement costs (\$925,000)
Fast Food Restaurant (3,500 sf)	1,040	\$719,680	\$359,840	\$179,920
Data Center (160,000 sf)	230	\$159,160	\$79,580	\$39,790
Industrial (100,000 sf)	196	\$135,632	\$67,816	\$33,908

<sup>3</sup> Since Concept L3: Minimally Improved Diamond Interchange with Signalization, will provide sufficient capacity for both the Moderate and Strong Growth Scenarios, the cost associated with Concept L3 has been used to illustrate a potential SDC.



### **Targeted SDC Based I-82 / Lamb Road Interchange Improvements**

As noted in the Adoption Elements listed above, Umatilla County could consider adoption of a supplemental Transportation System Development Charge (SDC) to finance specific improvements to the I-82 / Lamb Road interchange. The SDC would apply to development on property within the Depot Industrial SDC Area as shown on Exhibit 1. The following provides an approach and methodology to a targeted or location-based SDC the County could consider as it moves forward on implementation of the I-82/Lamb Road IAMP.

As presented in the I-82/Lamb Road IAMP there are near-term improvements at the interchange that should be in place before any large scale development on the property zoned Depot Industrial can move forward on the Depot site. The near-term improvements related to vehicle access to the Depot employment area that will need to be in place to serve new uses are shown on Project A.

Once the reconstruction of the interchange access road is in place, the removal of the existing UMCD access road can take place. This is a critical improvement because the existing road configuration is not desirable or efficient to provide access to an industrial area that trucks and other large vehicles will frequent.

Because the need for the Lamb Road extension improvement projects noted above are the catalyst projects that will permit large scale industrial and employment development to occur on the Depot site, funding these projects is of primary importance. One method of financing the improvements is through a “targeted” or “location-based” System Development Charge (SDC). The SDC would apply to new development on property within the Depot Industrial SDC Area only. SDCs are collected when new building permits are issued. For funding transportation projects, SDCs are based on the trip generation of the proposed development. Fees must be established using a rate-setting methodology adopted by the service provider (i.e. the city, county or special district responsible for the service) and may be increased periodically based on increases in project costs using procedures outlined in the local ordinance (see ORS 223.304).

A location-based fee, assessed by Umatilla County, for the I-82/Lamb Road Interchange is one option. This approach is particularly appropriate because the proposed capital improvements (Lamb Road extension) are triggered by and benefit a limited area only (Depot Industrial property) and because this type of SDC provides a built-in mechanism for allocating revenues to specific interchange projects (i.e. revenue may only be spent on projects in the area where they are collected).

### **Methodology for Targeted SDC**

The number of daily trips expected to be generated from new commercial and industrial growth in the Depot Industrial zone at the I-82/Lamb Road Interchange has been determined for both “Strong” and “Moderate” growth scenarios. It is this growth that will trigger the near-term need for the Lamb Road extension improvements at the interchange noted above. These improvements are estimated to cost \$500,000. A SDC could be adopted by Umatilla County that is based on a cost-per-trip basis from trips

generated from development in the Depot Industrial zone. Tables 2 and 3 below present what the SDC fee would be on a per trip basis to meet the total estimated cost of proposed improvements (\$500,000) to support the “Strong” and “Moderate” growth scenario respectively. The tables also show the result if only half of the cost (50%) was met through SDCs. This “partial SDC” option would assume that other funding sources would pay a portion of the cost of identified critical improvements at the interchange. The SDC methodology to establish the basis for the per trip rate is:

$$\text{Total Improvement Cost} / \text{Total Daily Trips} = \text{Cost Per Trip}$$

Table 2 provides estimates of total SDC fees for four different sample development types that could potentially locate on the Depot Industrial sites, assuming a “Strong” growth forecast. Similarly, Table 5 provides estimates of the application of the Moderate growth SDC on certain types of uses that could potentially locate on the Depot Industrial site. These tables are for illustration purposes only and are intended to give rough estimates of potential, per-user costs, for sample development types under the two different growth scenarios.

**Table 2 - System Development Charge Estimates (Strong Growth Forecast): Targeted Improvements**

	Gross / Net Acres	Total Square Feet	Total Daily Trips	Cost per trip 100% of improvement costs (\$500,000)	Cost per trip 50% of improvement costs (\$250,000)
Strong Growth – Umatilla County Depot Industrial Area	824 / 659 acres	574,295 sf / 718 jobs	8,340	\$60	\$30

**Table 3 - System Development Charge Estimates (Strong Growth Forecast): Development Type Examples: Targeted Improvements**

Proposed Use	Number of Total Daily Trips	Total SDC Cost	
		100% of improvement costs (\$500,000)	50% of improvement costs (\$250,000)
Depot Industrial (100,000 sf)	235	\$14,100	\$7,050
Fast Food Restaurant w/Drive-Thru (2,000 sf)	990	\$59,400	\$29,700
Gas Station w/Convenience Market (8 pumps)	1,300	\$78,000	\$39,000
Motel (80 rooms)	730	\$43,800	\$21,900

**Table 4 - System Development Charge Estimates (Moderate Growth Forecast): Targeted Improvements**

	Gross / Net Acres	Total Square Feet	Total Daily Trips	Cost per trip 100% of improvement costs (\$500,000)	Cost per trip 50% of improvement costs (\$250,000)
Strong Growth – Umatilla County Depot Industrial Area	824 / 659 acres	574,295 sf / 467 jobs <sup>4</sup>	6,280	\$80	\$40

**Table 5 - System Development Charge Estimates (Moderate Growth Forecast): Development Type Examples: Targeted Improvements**

Proposed Use	Number of Total Daily Trips	Total SDC Cost	
		100% of improvement costs (\$500,000)	50% of improvement costs (\$250,000)
Depot Industrial (100,000 sf)	153	\$12,240	\$6,120
Fast Food Restaurant w/Drive-Thru (2,000 sf)	990	\$79,400	\$39,600
Gas Station w/Convenience Market (5 pumps)	810	\$64,800	\$32,400
Motel (54 rooms)	490	\$39,400	\$19,600

<sup>4</sup> Moderate Growth Forecasts assumes employment at 65% of Strong Growth Forecast for Depot Industrial Use