



# Oregon

Theodore R. Kulongoski, Governor

Department of Transportation

Office of the Director

Room 135

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**DATE:** October 27, 2010

**TO:** Oregon Transportation Commission

**FROM:** Matthew L. Garrett  
Director

**SUBJECT:** Consent 5 – U.S. 26: Staley's Junction Interchange Area Management Plan (IAMP)

### Requested Action

Approve a request to adopt the U.S. 26: Staley's Junction IAMP, which implements Policy 3C of the Oregon Highway Plan and is consistent with the IAMP requirements of the department's Access Management Rule (OAR 734-051-0155(b)). Adoption of the IAMP will constitute an amendment to the 1999 Oregon Highway Plan.

### Background

The Oregon Department of Transportation worked with Washington County to develop the IAMP to protect the function of the interchange and to identify needed improvements. The county adopted a Resolution and Order stating that the IAMP shall be incorporated into the county's Technical Appendix of the 2020 Transportation Plan and is consistent with its comprehensive plan. The IAMP must be adopted as an amendment to the Oregon Highway Plan before the construction of improvements can begin.

The short-term improvements identified in the IAMP include the implementation of an Intelligent Transportation System (ITS), which when integrated into a transportation corridor, can save lives, time and money without increasing the physical size of the highway. The implementation of the ITS variable speed system is a safety mitigation project that assists in reducing speeds and increasing traffic gaps during heavy traffic periods. The application of the ITS improves safety for vehicles turning onto eastbound U.S. 26 from Oregon 47.

These short-term improvements also include a "jughandle" interchange that will eliminate the left turns across Sunset Highway (U.S. 26) by providing a grade-separated crossing. Phase 1 addresses the primary safety issue at Staley's Junction.

Long-term improvements include adding a lane to the Sunset Highway to allow for safer entrance and exit to and from the highway.

### Copies (w/attachments) to:

Jerri Bohard

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# US26: Staley's Junction Interchange Area Management Plan

Location Map



## **Exhibit A Staff Report**

### **OTC Briefing**

## **US26: Staley's Junction Interchange Area Management Plan (IAMP) November 2010**

### **Requested Action**

Region 1 requests that the OTC adopt the US26: Staley's Junction Interchange Area Management Plan (IAMP) to implement Policy 3C of the Oregon Highway Plan and ODOT's Access Management Rule (OAR 731-051-0155). The Washington County Board of County Commissioners adopted Resolution and Order 02-15 at their August 3, 2010 meeting the US26: Staley's Junction Interchange Area Management Plan as a part of the Technical Appendix of the 2020 Transportation Plan. With local concurrence, ODOT staff has developed findings documenting the IAMP's consistency with the local plans.

### **Background**

The US26: Staley's Junction is an at-grade intersection that serves a "service" interchange function and provides access to rural Washington County and newly created L.L. "Stub" Stewart State Park. The land uses in the interchange vicinity are rural in character consisting primarily of low density residential and agricultural uses.

### **Problem Statement**

The need for the interchange project was identified during the US 26: Portland to Cannon Beach Junction Corridor Plan process, and was borne out of existing and projected safety and traffic operations concerns, which result from a combination of factors such as high volumes and high volume-to-capacity (v/c) ratios, at the Staley's Junction intersection during Sunday PM peak hour. The Corridor Plan was adopted in 1999 by the Oregon Transportation Commission. In early 2000, State Parks developed the L.L. "Stub" Stewart State Park north of the junction on the Nehalem Highway. The traffic study for the Park indicated the intersection at the junction would not meet Oregon Highway Plan (OHP) standards. As part of the mitigation for the Park, ODOT requested that OPRD and Washington County work together to develop a safe intersection to accommodate the Park. In the 2004-2007 STIP the Northwest Oregon Area Commission on Transportation (NWACT) recommended the project. NWACT has continued to advocate for the project in all STIPs since the 2004-07 STIP.

Specific safety concerns under the existing and future conditions include:

- High traffic volumes on the Sunset Highway make the at-grade left turn movements from Nehalem Highway difficult and potentially unsafe. The average daily traffic (ADT) on the Sunset Highway and Nehalem Highway at Staley's Junction in 2005 (time of the last counts) were 11,600 and 2,800 vehicles, respectively. ADTs are anticipated to increase to approximately 20,900 vehicles on the Sunset Highway and 3,500 vehicles on the Nehalem Highway by the year 2030.
- Traffic studies indicate the left-turn movement (southbound Nehalem Highway to eastbound Sunset Highway) without safety improvements will not meet OHP standards,

as the expected v/c ratio by 2030 in the no-build scenario is forecasted to be 6.14 for the Sunday PM peak hour.

The IAMP strives to address these concerns by providing a safe and efficient crossing of traffic between the Sunset and Nehalem Highways and supporting and protecting the mode, function, and location of improvements at the existing intersection.

## Goals and Objectives

The goals and objectives of this IAMP reflect the intentions and interests of ODOT and Washington County for the interchange and transportation operations in the area. The goals and objectives are guided by, but not re-statements of, OHP and TSP policies and OARs. The objectives need to be concrete statements that relate what the plan is trying to accomplish and should be achievable and measurable. The objectives serve as the basis for data collection and research and as alternative evaluation criteria to guide alternatives analysis and selection of the preferred alternative, and to guide management decisions.

- **Goal 1:** Protect the function and operation of the interchange and the state highway as follows:
  - US 26 is classified as a Statewide Highway. It is part of the National Highway System and is a designated Freight and Truck Route between Portland and the Oregon Coast. The operational objective for Statewide Highways is to provide inter-urban and inter-regional mobility and provide connections to larger urban areas, ports and major recreation areas that are not directly served by Interstate Highways.
  - **Objective 1a:** The preferred interchange project alternative meets FHWA Interchange requirements and will accommodate design-year (2030) traffic demands as a threshold.
  - **Objective 1b:** The project alternatives developed for consideration as part of the IAMP planning process are consistent with the OHP requirement that the maximum volume-to-capacity (V/C) ratio for the ramp terminals of interchange ramps be either 0.85 (as defined in the OHP). For “build” scenarios, the 2003 Highway Design Manual standard of 0.75 is desired or a design exception would be needed.
  - **Objective 1c:** The preferred alternative will meet or move in the direction of ODOT access management spacing standards for access along interchange crossroads.
- **Goal 2:** Provide for an adequate system of local roads and streets for access and circulation within the interchange area that minimizes local traffic through the interchange and on the interchange cross road (Nehalem Highway).
  - **Objective 2a:** The preferred alternative will include necessary supporting improvements to the surface street system in the vicinity of the interchange. Improvements to the local street network will be adopted into the local comprehensive plan, including identified funding sources, as part of the City of Wilsonville’s actions to implement the IAMP.
  - **Objective 2b:** The project alternatives will propose surface street improvements that either meet the ODOT established access management standards or improve on the current conditions.

- **Objective 2c:** The project alternatives will propose surface street improvements that will operate in conformance with applicable standards over the 20-year planning horizon.
- **Goal 3:** Provide safe and efficient multi-modal travel between the connecting roadways (and the surface street network, if applicable).
  - **Objective 3a:** While recognizing existing capacity constraints, the project alternatives will improve safety by adding capacity to reduce congestion and/or correcting geometric conditions that do not meet current applicable standards.
  - **Objective 3b:** The project alternatives will improve bicycle and pedestrian facilities and provide connections to the larger transportation network.
- **Goal 4:** Ensure future changes to the planned land use system are consistent with protecting the long-term function of the interchange and the surface street system and the integration of future transportation projects and land use changes.
  - **Objective 4a:** The project alternatives were be developed in partnership with affected property owners in the interchange area, Washington County, and the Oregon Department of Transportation (ODOT), as well as other stakeholders, including interchange users.
  - **Objective 4b:** The County Comprehensive Plans and/or Transportation System Plans are consistent with the preferred project interchange alternative.
  - **Objective 4c:** The County will adopt land use policies that ensure future land use actions in the IAMP Management Area, including requests for comprehensive plan amendments and/or zoning amendments, and promote land development that is compatible with the planned interchange capacity for the IAMP planning horizon.
- **Goal 5:** Recognize the importance of the interchange function to support local and regional economic development goals and plans.
  - **Objective 5a:** The project preferred alternative will reduce delay for vehicles, including commercial vehicles, accessing the highway and will increase safety by grade separating.
  - **Objective 5b:** The project preferred alternative will facilitate access to, through, and from L.L. “Stub” Stewart State Park, agricultural and forest uses in rural Washington County.
- **Goal 6:** Ensure that the needs of regional through trips and the timeliness of freight movements are considered when developing and implementing the IAMP, in particular when planning for improvements that directly impact freight routes.
  - **Objective 6a:** The project alternatives will facilitate freight access to and from the many freight dependent uses in rural Washington County.

## Preferred Alternative

A Preferred Alternative was developed that consists of targeted improvements to improve capacity, balance lane use, improve geometry and maximize the use of the local street network without significant roadway or interchange realignments. The improvement consists of grade separating the current at-grade intersection of US 26 and OR 47/Nehalem Highway.

## **Management Measures**

The purpose of the IAMP policies discussed in this section is to improve operations and safety and preserve capacity for the IAMP area in order to protect the major investment in the Staley's Junction interchange. This plan balances the traffic generated in the interchange area under adopted and acknowledged Washington County rural plan designations and considers development potential over the planning horizon with the function and capacity of the new interchange.

## **Access Management Plan**

The Access Management Plan indicates the project will acquire access rights on Nehalem Highway (District Highway) from the Sunset Highway north beyond Fisher Road. Fisher Road on the Nehalem Highway will remain as a full intersection. The ramps will be fully access controlled. No at-grade crossing will be allowed on the Sunset Highway within the interchange area. From the stop controlled access point on the Sunset Highway, ODOT will acquire access control west to approximately the West Fork Dairy Creek Bridge and acquire access control to approximately the Mendenhall Creek Bridge. The Staley's Junction gas station and its approaches have been closed.

## **Adoption, Implementation, Monitoring and Updates**

The final section of this IAMP describes the responsibilities of Washington County and ODOT and modifications to state and local plans and policies that are required for implementation of the IAMP. Implementation requirements include adoption of the IAMP as a facility plan in the Oregon Highway Plan; and amendment the County's Technical Appendix of the 2020 Transportation Plan.

## **ODOT Actions**

### **Project Construction and Access Management**

- ODOT is relying on the following policies and development codes to insure that the land uses within the IAMP area will remain rural. The land use policies for the Staley's Junction area are contained in the Rural/Natural Resource element of the Washington County Comprehensive Plan. The Rural/Natural Resource element provides the framework for guiding future land use decisions in the areas outside the established urban growth boundaries (UGB). Appendix C includes a discussion of the County's Policies for the Rural/Natural Resource Plan and Community Development Code (CDC).
- The Access Management Plan indicates the project will acquire access rights on Nehalem Highway (District Highway) from the Sunset Highway north beyond Fisher Road. Fisher Road on the Nehalem Highway will remain as a full intersection. The ramps will be fully access controlled. No at-grade crossing will be allowed on the Sunset Highway within the interchange area. From the stop controlled access point on the Sunset Highway, ODOT will acquire access control west to approximately the West Fork Dairy Creek Bridge and acquire access control to approximately the Mendenhall Creek Bridge. The Staley's Junction gas station and its approaches have been closed.

- This project is not expected to have significant impacts on the existing local transportation system. Right-in/right-out only restrictions to be implemented at the Fisher Road and Sunset Highway intersection, however, will require some motorists who currently use Fisher Road to select alternate routes involving the state and local roadway system. These changes are projected to affect 25 to 45 vehicles during the weekend and weekday peak travel periods of the 2030 evaluation year.
- ODOT will make future property access decisions consistent with this plan and OAR 734-051. ODOT and Washington County will coordinate with each other through their respective access permitting, building permitting, and land use processes for accesses that fall within their respective jurisdictions. Opportunities to move in the direction of access spacing standards will be explored and implemented where practical.

### **Policy Actions**

- Adopt the IAMP.

### **Agency Coordination**

- The Washington County will coordinate with ODOT in evaluating land use actions that could affect the function of the interchange
- The Washington County will coordinate with ODOT prior to amending its comprehensive plan (including the transportation plan), land development ordinances, or urban growth boundary, or proposing transportation improvements that could affect the function of the interchange. The Washington County will ensure that any such amendments are consistent with the function of the interchange as defined in the IAMP.
- If future circumstances in the IAMP management area result in the need for changes to the IAMP, the Washington County and ODOT shall jointly prepare amendments to the IAMP management actions and an accompanying funding plan to implement those actions.

### **Monitoring and Updates**

This section discusses the need to update the IAMP, and those changes that may trigger an update over time. Conditions that would trigger such an update:

1. When the County's Transportation Plan is updated, the IAMP should be reviewed and updated if necessary.
2. If the proposed land use is inconsistent with the current Comprehensive Plan Map or Zoning Map land use designation the applicant will be required to undertake a legislative process to amend and update the US 26: Staley's Junction Interchange Area Management Plan in order to demonstrate that the proposed amendment will be consistent with the planned improvements in the Overlay Zone.
3. Access Management Plan Modifications  
Recommended actions in the Interchange Access Management Plan (IAMP) are based on property configurations and ownership existing at the time of the US 26:

Staley's Junction Interchange Area Management Plan's adoption. Lot consolidation and other land use actions may necessitate an amendment to the IAMP.

### **Public Involvement**

Public meetings were held at in the communities of Buxton and Banks. The open houses included graphic presentations and discussion to solicit public input. The public meetings were advertised on the ODOT Region 1 website, project mailing lists, and through the local newspaper.

### **Summary of Draft Findings**

ODOT's State Agency Coordination Agreement requires that the OTC adopt findings of fact when adopting facility plans (OAR 731-015-0065). Pursuant to these requirements, ODOT has developed findings to support the OTC adoption of the US26: Staley's Junction IAMP. For all applicable policies, the IAMP has been found to be compatible with adopted state and local policies.

- Exhibit B Findings of Compliance for the IAMP is attached and address compliance with state and local plans, policies, and ordinances/statutes/rules.

### **Suggested Motion Language**

I move to adopt the US26: Staley's Junction Area Management Plan as an element of the Oregon Highway Plan and adopt the findings in support of this action.

## Findings of Compliance

### **STATE PLANS AND POLICIES**

#### **Oregon Statewide Planning Goals and Guidelines**

##### **Goal 1: Citizen Involvement**

###### Requirement

Goal 1 requires the development of a citizen involvement program that is widespread, allows two-way communication, provides for citizen involvement through all planning phases, and is understandable, responsive, and funded.

###### Findings

*Appendix B of the Staley's Junction IAMP contains a summary of the public involvement efforts that were undertaken as part of the IAMP project. These efforts included the following:*

- *A series of four public open houses were held from June 2006 to July 2008 to discuss the new Staley's Junction interchange and the IAMP;*
- *Four Citizen Advisory Community meetings held from June 2006 to July 2008 to obtain feedback on a variety of project deliverables, including the purpose and need, evaluation criteria, interchange design concepts and draft IAMP.;*
- *A newsletter sent out to individuals near the proposed project to provide information and notification of the public open house; and*
- *A project web site was available to provide project information and upcoming open houses.*

*The draft IAMP Executive Summary was made available for public review and comment for a 30-day period in July to August 2008 on the Staley's Junction Web site. Notice of the public review draft was sent via postcard to individuals near the proposed project and those who had expressed interest at previous public events 30-days in advance of the final open house July 23, 2008. Public comment was accepted via email, mail and telephone.*

More detailed information about the public involvement program can be found in Appendix B. This information demonstrates consistency with Goal 1.

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

###### Requirement

This goal 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. All local governments and state agencies involved in the land use action must coordinate with each other. With regard to the Staley's Junction IAMP, ODOT is required to coordinate with Washington County, which has planning authority over the project area.

###### Findings

*Preliminary tasks for the Staley's Junction IAMP included a thorough review and analysis of all relevant state, regional and local planning documents in order to establish a planning process and policy framework. The following documents were reviewed:*

- *Applicable Oregon Statewide Planning Goals;*
- *Oregon Administrative Rule 731, Division 15, Department of Transportation Coordination Rules;*

- *Oregon Transportation Plan (2006);*
- *Oregon Highway Plan (1999);*
- *Oregon Administrative Rule 734-051, Highway Approaches, Access Control, Spacing Standards and Medians;*
- *Washington County Comprehensive Plan;*
- *Washington County Community Development Code; and*
- *Washington County Transportation System Plan*

*This review identified how the documents influence planning for the proposed Staley's Junction interchange project. Detailed review of plans and policies can be found in Appendix D: Background and Policy Reviews.*

*The Staley's Junction IAMP was prepared jointly by Washington County and ODOT and coordination between the two agencies took place routinely throughout the process. An ATF was established to guide the IAMP process. The ATF consisted of representatives from Washington County, Columbia County, city of Vernonia, Oregon Parks and Recreation Department and ODOT. ODOT staff facilitated and supported the adoption of the IAMP both by Washington County and by the Oregon Transportation Commission (OTC). ODOT and Washington County will continue to coordinate on development activity and land use actions within the interchange area.*

#### Requirement

Land use decisions and actions must be supported by an "adequate factual base." Evidence must be provided that a reasonable person would find sufficient to support findings of fact that a land use action complies with the applicable review standards.

#### Findings

*This requirement is met through the technical analysis associated with the IAMP and discussed in Appendix C of the IAMP contains an analysis of the existing conditions within the IAMP study area. This section describes the land use and zoning conditions and historic growth patterns in the vicinity of the proposed interchange, and provides an inventory of existing transportation facilities and their relative functionality.*

*A summary of deficiencies and issues is also provided based on this analysis of current conditions. Appendix F describes expected future (2030) land use conditions within the IAMP study area and provides the future traffic analysis for 2008 and 2030 no-build conditions. This section provides a detailed description of the land use scenario that was used, including future household and employment growth and development patterns. The scenario was used for modeling the transportation network and determining where deficiencies may occur over time.*

*The analysis from Appendix F determined that improvements to the Staley' Junction interchange area were necessary in order to accommodate future traffic. Section 4 of the IAMP summarizes the alternatives that were considered for the interchange and describes the evaluation criteria that were used to select the preferred alternative.*

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

#### Requirement

Cities and counties shall plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development. The goal requires that urban and rural development be "guided and supported by types and levels of urban and rural

public facilities and services appropriate for, but limited to, the needs and requirements of the urban, urbanizable and rural areas to be served."

#### Findings

*Transportation facilities are considered a primary type of public facility. The Staley's Junction IAMP documents the current and future transportation needs of the urban and rural areas in the vicinity of the Staley' Junction intersection. The analysis of possible alternatives concluded that the grade-separated interchange is the appropriate facility to serve future transportation demand. The IAMP contains policies that will guide growth within the vicinity of the interchange to ensure that development takes place at a rate and density that is compatible with the capacity of the interchange. In terms of other, non-transportation public facilities, the IAMP does not result in any land use changes. No impact on public facilities is expected because no intensification of land use is created as a result of improvements recommended in the IAMP.*

### **Goal 12: Transportation**

#### Requirement

This goal 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 based on inventories of local, regional and state transportation needs. Goal 12 is implemented through OAR 660, Division 12, also known as the Transportation Planning Rule (TPR). The TPR contains numerous requirements governing transportation planning and project development. (See the "OAR 660, Division 12" section of this document for findings of compliance with the TPR.)

#### Findings

*The purpose of the Staley' Junction interchange project is to improve the safety and efficiency of traffic flow through the area. The objective of the Staley' Junction IAMP is to protect the functionality of the interchange and its ability to serve future transportation demands.*

*Section 3 of the IAMP contains a discussion of the transportation analysis that was conducted in order to determine future demand, available capacity, deficiencies, and necessary improvements for this interchange area. The analysis demonstrates that the planned transportation facility will be adequate to safely and efficiently serve trips generated by future land uses for a period of at least 20 years. ODOT has collaborated with Washington County during the development of the IAMP, and Washington County will incorporate references to the Staley's Junction IAMP into the non-regulatory portion of the 2020 Transportation Plan. Specifically, the county would add references to the Technical Appendix of its adopted 2020 Transportation Plan. Washington County staff will present a proposal to this effect to the Board of County Commissioners once the IAMP is completed (likely in 2009).*

*According to Washington County, the right-in/right-out restriction at the intersection of Fisher Road and the Sunset Highway is an operational decision that is permitted outright and is not a land use decision or action. Washington County did not find that its implementation would require any land use decisions. Washington County and ODOT will coordinate on any potential plan amendments to the properties surrounding the interchange and any potential reclassification of Fisher Road, consistent with existing, adopted 2020 Transportation Plan policies and Statewide Planning Goals.*

*No modifications to the Washington County land use planning program, including land use overlays, are proposed as part of this project. Appendix C includes a list of uses currently allowed in the zones within the Staley's Junction study area. Pursuant to Washington County's*

*adopted and acknowledged Community Development Code, these uses will continue to be allowed on parcels near the intersection. See additional findings under OAR 660, Division 12 Transportation Planning Rule.*

## **Goal 14: Urbanization, and OAR 660, DIVISIONS 14 AND 22**

Requirement:

Goal 14, Urbanization, requires an orderly and efficient transition from rural to urban land use. This is accomplished through the establishment of Urban Growth Boundaries (UGBs). UGBs and unincorporated community boundaries separate urbanizable land from rural land. Land uses permitted within the urban areas are more urban in nature and higher intensity than in rural areas, which primarily include farm and forest uses. Goal 14 is important because it focuses development within relatively compact boundaries of the UGB and, to a lesser degree, in unincorporated communities. This compact development helps contain the costs of public facilities by reducing the need to expand facilities further out from existing services and population centers. The location, type, and intensity of future development within the management area will impact the function and operational life of the interchange.

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 non-resource land." The third priority is land that is designated as "marginal land" pursuant to ORS 197.247. The final (lowest) priority is land that is designated for agriculture, forestry, or both.

Findings

*The Staley' Junction interchange planning area does not intersect with any city's Urban Growth Boundary. Land in the vicinity of the interchange is primarily agriculture and forest land, and therefore is the lowest priority for inclusion within a UGB. The IAMP contains Washington County policies that are adopted to protect the function of the interchange from any unplanned future development.*

## **Oregon Transportation Plan (2006)**

The Oregon Transportation Plan (OTP) is the state's long-range multimodal transportation plan. The OTP is the overarching policy document among a series of plans that together form the state transportation system plan (TSP). This Plan supersedes the 1992 Oregon Transportation Plan.

An IAMP must be consistent with applicable OTP goals and policies. Findings of compatibility will be part of the basis for IAMP approval. The most pertinent OTP goals and policies for interchange planning are as follows:

### **Policy 1.3 – Relationship of Interurban and Urban Mobility**

It is the policy of the State of Oregon to provide intercity mobility through and near urban areas in a manner which minimizes adverse effects on urban land use and travel patterns and provides for efficient long distance travel.

Findings

*The Staley' Junction IAMP provides for improved safety and intercity mobility on the US 26: Sunset Highway. The IAMP regulates access and land uses in the vicinity of the interchange to ensure the facility will operate at levels consistent with the mobility standard for the 20-year planning horizon and beyond.*

### **Policy 2.1 - Capacity and Operational Efficiency**

It is the policy of the State of Oregon to manage the transportation system to improve its capacity and operational efficiency for the long term benefit of people and goods movement.

### **Policy 2.2 – Management of Assets**

It is the policy of the State of Oregon to manage transportation assets to extend their life and reduce maintenance costs.

#### Findings

*The Staley' Junction Interchange project was developed in response to safety, capacity and operational efficiency issues affecting this section of US 26 and OR 47. Short term actions in the IAMP accomplish these management objectives by minimizing access locations through this section of US 26 and OR 47. The medium-term and long-term actions in the IAMP protect long-term system capacity by ensuring that the interchange continues to function at a level that meets the mobility expectations of the state. The IAMP contains policies that regulate land use in the vicinity of the interchange by requiring that proposed land use actions must include a review of potential impacts to interchange operations.*

*The stated purpose of the IAMP is to maximize the operational life of the Staley's Junction interchange, and, consequently, protect the State's investment in the facility. Specifically, the goal of the IAMP is to protect the function and operation of the interchange within the IAMP area. This includes providing safe and efficient connections between local streets and state highways. The IAMP requires proposed changes to the planned land use system to demonstrate consistency with IAMP policies protecting the long-term function of the interchange facility.*

### **Policy 3.1 – An Integrated and Efficient Freight System**

It is the policy of the State of Oregon to promote an integrated, efficient and reliable freight system involving air, barges, pipelines, rail, ships and trucks to provide Oregon a competitive advantage by moving goods faster and more reliably to regional, national and international markets.

### **Policy 3.2 – Moving People o Support Economic Vitality**

It is the policy of the State of Oregon to develop an integrated system of transportation facilities, services and information so that intrastate, interstate and international travelers can travel easily for business and recreation.

#### Findings

*The Sunset Highway (US 26) serves as a primary connection between the Portland metro area and the Oregon Coast. The highway is a Statewide Freight Route Highway in the Oregon Highway Plan. The Staley' Junction IAMP provides management tools to ensure the continued safety and efficiency of travel along Sunset Highway, particularly in the vicinity of the new interchange.*

### **Policy 4.1 - Environmentally Responsible Transportation System**

It is the policy of the State of Oregon to provide a transportation system that is environmentally responsible and encourages conservation and protection of natural resources. Findings IAMP policy language protects resource land within the IAMP study area by restricting the location and operation of approach roads in the vicinity of the interchange consistent with the existing agricultural and forest designations in the comprehensive plan.

### **Policy 5.1 – Safety**

It is the policy of the State of Oregon to continually improve the safety and security of all modes and transportation facilities for system users including operators, passengers, pedestrians, recipients of goods and services, and property owners.

#### Findings

*The Staley' Junction IAMP responds to high crash rates along this section of US 26 and OR 47. The highway improvements minimize access to the highway and the grade-separated interchange eliminates left-turns onto and from the highway - a primary reason for vehicle crashes in the area. The alternative mobility standards, the interchange design, and the specified location and authorized use of approach roads provide for long-term highway safety.*

### **Policy 7.1 – A Coordinated Transportation System**

It is the policy of the State of Oregon to work collaboratively with other jurisdictions and agencies with the objective of removing barriers so the transportation system can function as one system.

#### Findings

*ODOT worked in collaboration with Washington County to develop and adopt the IAMP. The IAMP policy language adopted by Washington County requires continued coordination between ODOT and Washington County to protect the long-term function of the interchange.*

### **Policy 7.3 – Public Involvement and Consultation**

It is the policy of the State of Oregon to involve Oregonians to the fullest practical extent in transportation planning and implementation in order to deliver a transportation system that meets the diverse needs of the state.

### **Policy 7.4 - Environmental Justice**

It is the policy of the State of Oregon to provide all Oregonians, regardless of race, culture or income, equal access to transportation decision-making so all Oregonians may fairly share in benefits and burdens and enjoy the same degree of protection from disproportionate adverse impacts.

#### Findings

*Appendix B provides a summary of the public involvement efforts that took place during development of the IAMP. Various methods were used to gather public input about the interchange project and the management plan, including four public open houses, a series of Citizens Advisory Committee meetings, web site, and a public review and comment period for the draft IAMP. Press releases to announce the open house were sent to all local newspapers. Input from citizens was used to evaluate alternatives. These opportunities were provided equally to all, regardless of race, culture or income.*

## **Oregon Highway Plan**

The 1999 Oregon Highway Plan establishes policies and investment strategies for Oregon's state highway system over a 20-year period and refines the goals and policies found in the OTP. Policies in the OHP emphasize the efficient management of the highway system to increase safety and to extend highway capacity, partnerships with other agencies and local governments, and the use of new techniques to improve road safety and capacity. These policies also link land use and transportation, set standards for highway performance and access management, and emphasize

the relationship between state highways and local road, bicycle, pedestrian, transit, rail, and air systems. The policies applicable to planning for the Staley' Junction interchange improvements are described below.

The overall context driving the needs for the project as well as the complicating factors are critically important to understand. The primary purpose and need for the Staley's Junction IAMP improvements stem from a single critical turning movement – the Nehalem southbound to Sunset Highway eastbound. While the IAMP's Phase 1 improvements address this purpose, the remaining operational and associated safety issues in the IAMP's study area overwhelmingly stem from the peak-hour traffic volume issues along the Sunset Highway segments both east and west of the interchange. These issues amplify the contrasts between the relatively low traffic volumes during peak hours along the Nehalem Highway and local roadways and the Sunset Highway conditions, and the otherwise relatively manageable volumes along both highways during non-peak hours.

**Goal 1: System Definition, the following policies are applicable:**

**Policy 1A (Highway Classification)** defines the function of state highways to serve different types of traffic that should be incorporated into and specified through IAMPs.

**Policy 1C (State Highway Freight System)** states the need to balance the movement of goods and services with other uses.

**Findings**

*Section 2 of the Staley's Junction IAMP summarizes the functional classification of roadways within the IAMP study area. The Sunset Highway (US26) is classified as a Statewide Freight Route Highway. The Nehalem Highway (OR 47) is designated a District Highway. Construction of an interchange to replace at-grade intersections and minimizing approach roads are consistent with the highway's classification.*

*The Staley's Junction IAMP has throughout the development process recognized the classifications and objectives of the Sunset and Nehalem highways. The IAMP will not require modifying the either highway's classification. The proposed improvements will, in the long-run within the IAMP study area, provide for the safe and efficient movement of goods, people and services experiencing continuous flow operations in rural areas. Increased use of the L.L. Stub Stewart State Park has substantially driven the need to improve the intersection. While mobility deviations will be required primarily due to funding constraints, the key safety concerns of these policies will be significantly improved in Phase 1 and further improved through Phases 2 and 3.*

*The project improves freight mobility through area by addressing safety and efficiency issues that have been identified at the intersection. By reducing safety issues at Staley's Junction, IAMP Phase 1 substantially improves the ability to efficiently move freight along this affected Sunset Highway section.*

**Policy 1B (Land Use and Transportation)** recognizes the need for coordination between state and local jurisdictions.

**Findings**

*Coordination between state and local jurisdictions occurred throughout the preparation of the IAMP. An ATF was formed to inform the IAMP process and included members representing*

*Washington and Columbia Counties, OPRD, city of Vernonia and ODOT. The ATF met four times and reviewed draft documents in order to provide consensual revisions.*

**Policy 1F (Highway Mobility Standards)** sets mobility standards for ensuring a reliable and acceptable level of mobility on the highway system by identifying necessary improvements that would allow the interchange to function in a manner consistent with OHP mobility standards.

#### Findings

*The analysis of existing and future traffic conditions in the vicinity of the Staley's Junction interchange shows that the existing highway cannot perform at the level expected in the OHP without modernization. Mobility standards were used as a criterion for selecting a preferred design for the new interchange.*

*During most times, both affected highways operate at acceptable and reliable levels of mobility in the short-term and long-term. However, largely because of the nature of weekend travel, which is largely driven by Portland metropolitan area populations wishing to access coastal destinations, Staley's Junction experiences congestion during weekend peak traffic volume hours during Phase 1. In order to achieve acceptable and reliable levels of mobility during Phase 1 would require increased capacity along the Sunset Highway for which funds are not available.*

**Policy 1G (Major Improvements)** requires maintaining performance and improving safety by improving efficiency and management before adding capacity. ODOT works with regional and local governments to address highway performance and safety.

#### Findings

*Chapters 3, 4, and 5 of the IAMP summarizes the alternatives that were evaluated for their potential to accommodate existing and future traffic demand at the Staley's Junction intersection. The Staley's Junction IAMP provides minor improvements such as a new overpass, auxiliary lanes, and wider shoulders, to improve the safety and thereby the efficiency of the highways. Phase 1 does not involve adding capacity to the existing system, although traffic volumes will exceed mobility standards along the Sunset Highway during peak hours. Later phases will include adding capacity (travel lanes) to the highway as funding becomes available and traffic volumes warrant. No new facilities, such as a new highway or bypass, are proposed in the IAMP.*

**Policy 1H (Bypasses)** establishes criteria for determining the need and impact considerations for a new bypass; directs the preparation of plans, management of access, and provision of local facilities for existing bypasses; and provides a checklist of considerations.

#### Findings

*A bypass is not part of the Staley's Junction.*

### **Goal 2: System Management, the following policies are applicable:**

**Policy 2B (Off-System Improvements)** helps local jurisdictions adopt land use and access management policies.

#### Findings

*Adoption of the land use and access management policies and actions in the IAMP protect the function of the interchange and other related improvements. The IAMP actions minimize the use of US26 and OR 47 for property access. For most properties, local roads are used to provide access.*

**Policy 2F (Traffic Safety)** improves the safety of the highway system.

Findings

*A principal reason for construction of the interchange project is to address documented safety issues in this section of the highway. The IAMP protects the safe and efficient operation of the interchange by regulating access and land use in the vicinity. The IAMP Phase 1 improvements specifically address a critical existing, and especially long-term safety issue at Staley's Junction.*

**Goal 3: Access Management, the following policies are applicable:**

**Policy 3A: (Classification and Spacing Standards)** sets access spacing standards for driveways and approaches to the state highway system.

Findings

*The IAMP adheres to the approach road spacing standards established by OAR 734-051 where feasible, but the standards cannot be met at certain locations. The reasons for deviating from these standards are provided in detail in the Access Management Strategy component of the IAMP. Generally, these deviations are necessary to provide accesses for existing properties because no reasonable alternate accesses are available. The IAMP contains short, medium, and long-term access strategies that will be applied within the IAMP planning area in order to regulate existing and future driveway and other approaches in the vicinity of the interchange.*

**Policy 3C (Interchange Access Management Areas)** sets policy for managing interchange areas by developing an IAMP that identifies and addresses current interchange deficiencies and establishes short, medium and long term solutions.

Findings

*The purpose of the Staley's Junction IAMP is to effectively manage US 26 and OR 47 interchange area. The IAMP provides recommendations for short, medium, and long term implementation and access management actions, as well as land use policies that are intended to protect the interchange into the 20year planning horizon and beyond.*

**Policy 3D (Deviations)** establishes general policies and procedures for deviations from adopted access management standards and policies.

Findings

*The Access Management Strategy component of the IAMP provides a list of access points that will require an access spacing deviation request and the rationale for the request. Deviations will be requested in accordance with the applicable state procedure.*

**Goal 4: Travel Alternatives, the following policies are applicable:**

**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. The Sunset Highway is a designated Freight Route.

Findings

*See the "Discussion" under Policy 1C above.*

**Goal 5: Environmental and Scenic Resources, the following policies are applicable:**

**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.

#### Findings

*This policy was considered as part of the IAMP project, and will be implemented largely by complying with other state and local policies and regulations.*

### **OAR 660 Division 12 Transportation Planning Rule (TPR)**

The purpose of the TPR is “to implement Statewide Planning Goal 12 (Transportation) and promote the development of safe, convenient and economic transportation systems that are designed to reduce reliance on the automobile so that the air pollution, traffic and other livability problems faced by urban areas in other parts of the country might be avoided.” A major purpose of the Transportation Planning Rule (TPR) is to promote more careful coordination of land use and transportation planning, to assure that planned land uses are supported by and consistent with planned transportation facilities and improvements. The TPR references OAR 731, Division 15 for ODOT coordination procedures for adopting facility plans and plans for Class 1 and 3 projects.

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

These include replacement of an intersection with an interchange, channelization, and medians. The local government must identify reasonable build design alternatives, assess their impacts, and select the alternative with the least impact. In addition TPR Section – 0065states, (5) For transportation uses or improvements listed in subsection (3)(d) to (g) and (o) of this rule within an exclusive farm use (EFU) or forest zone, a jurisdiction shall, in addition to demonstrating compliance with the requirements of ORS 215.296:

- (a) Identify reasonable build design alternatives, such as alternative alignments, that are safe and can be constructed at a reasonable cost, not considering raw land costs, with available technology. The jurisdiction need not consider alternatives that are inconsistent with applicable standards or not approved by a registered professional engineer,
- (b) Assess the effects of the identified alternatives on farm and forest practices, considering impacts to farm and forest lands, structures and facilities, considering the effects on traffic on the movement of farm and forest vehicles and equipment and considering the effects of access to parcels created on farm and forest lands; and
- (c) Select from the identified alternatives, the one, or combination of identified alternatives that has the least impact on the lands in the immediate vicinity devoted to farm or forest use.

#### Findings

*The Staley’s Junction was jointly developed by ODOT and Washington County. Policy language contained in the IAMP mandates continued coordination between the two agencies for management of the interchange area. Current and future planned land uses were considered in the design of the interchange in order to ensure its ability to support future traffic demands. Policies within the IAMP are intended to manage land uses around the interchange to avoid unplanned growth and development that may impact the function of the facility. The policies also require that plan amendments and zone changes within the IAMP study area must not result in a*

*significant impact on the interchange facility. If a significant impact is expected, then the IAMP must be amended and mitigation strategies, including a funding plan, must be adopted.*

*The IAMP calls for replacement of an intersection with an interchange. This transportation use is authorized on rural lands without a goal exception, but must be consistent with the requirements of ORS 215.283 and 215.296. The IAMP documents the various design alternatives that were considered, the criteria that were used to evaluate the alternatives, and the rationale for selecting the preferred alternative.*

*Sections 4 and 5 of the IAMP describe the alternative development and analysis and the selection of the preferred alternative interchange concept that address ORS 215.296. The initial concepts included no build, installation of a flashing yellow signal, roundabout, all-way stop, all movements signalization, and grade-separation. Table 4.1 describes process for selecting and advancing the grade-separation option as the most reasonable build design for Staley's Junction. The grade-separation option was developed into five interchange concepts. Table 4.2 describes the process for evaluation of the interchange concepts. Evaluation factors included transportation, land use, natural environment, cultural and built environment and project development factors. From this evaluation process a 2030 Build Concept was selected.*

*Section 5 refines the 2030 Build Concept based on impacts to wetlands and farm lands. The preferred alternative was selected based on least impacts to wetlands and avoids dividing farmland adjacent to the highway.*

## **OAR 731-015-0065 Coordination Procedures for Adopting Final Facility Plans**

OAR 731-015-0065 regulates the ODOT procedure for adopting facility plans. An IAMP is a facility plan. The procedure outlined in OAR 731-015-0065 requires that ODOT coordinate with DLCDC and local government agencies during development of the plan, and provide a draft of the facility plan to affected cities, counties, and other agencies for comment. The facility plan must be consistent with statewide planning goals and local comprehensive plan policies, and findings of compatibility must be presented to the Oregon Transportation Commission for facility plan adoption.

### **Findings**

*The Staley's Junction IAMP was developed jointly by ODOT and Washington County, and included coordination with DLCDC primarily through project team meetings. A final draft of the IAMP will be provided to all affected government and other agencies, and any potential conflicts with state or local plans will be jointly resolved. Findings of compliance with statewide planning goals and local comprehensive plans will be developed for presentation to the Oregon Transportation Commission. Adoption of the IAMP will take place in conformance with this provision.*

## **OAR 734, Division 51. Highway Approaches, Access Control, Spacing Standards and Medians**

OAR 734-051 governs the permitting, management, and standards of approaches to state highways to ensure safe and efficient operation of the state highways. OAR 734-051 policies address the following:

- How to bring existing and future approaches into compliance with access spacing standards, and ensure the safe and efficient operation of the highway;
- The purpose and components of an access management plan; and

- Requirements regarding mitigation, modification and closure of existing approaches as part of project development.

Section 734-051-0125, Access Management Spacing Standards for Approaches in an Interchange Area, establishes interchange management area access spacing standards. It also specifies elements that are to be included in IAMPs, such as short-, medium-, and long-range actions to improve and maintain safe and efficient roadway operations within the interchange area.

#### Findings

*The Staley's Junction IAMP identifies where approach roads along US26 and OR 47, and Fisher Road will not meet the standards after interchange construction. Short-term, mid-term and long-term access strategies are provided to abandon the access point, restrict turning movements, or bring it into compliance over time. In some cases, a new frontage road will provide alternative access. The IAMP also lists several access spacing deviations that will be needed and provides rationale for each. The IAMP contains approach road spacing standards for new development near the interchange. These standards, shown in Table 2, are the spacing standards in OAR 734-051, Table 7 for Non-freeway Interchanges with Two-lane Crossroads.*

## **LOCAL PLANS and POLICIES**

### **Washington County Comprehensive Plan**

The Washington County Comprehensive Plan is a collection of community plans, a transportation plan, and a rural/natural resource plan. The plans and ordinances describe the future development of rural and urban areas in the county. Washington County applies land use designations (zoning) throughout its jurisdiction to locate land uses where they are most appropriate for rural areas such as the Staley's Junction IAMP study area, farm and forests zones are the dominant designation to preserve the character of the land. The county's land use designations are enforced through the application of its Community Development Code.

The land use policies for the Staley's Junction area are contained in the Rural/Natural Resource element of the Washington County Comprehensive Plan. The Rural/Natural Resource element provides the framework for guiding future use decisions in the areas outside the established urban growth boundaries (UGB). Appendix C includes a discussion of the County's Policies for the Rural/Natural Resource Plan.

#### Rural/Natural Resource Plan

The Rural/Natural Resource Plan is a set of policies that protect natural resource land, provide rural residential land for housing, and provide rural commercial lands to support rural agricultural and forest activities. The plan designates land in the project area as Agriculture and Forest 5 acres minimum (AF-5), Agriculture and Forest 10 acres minimum (AF-10), Agriculture and Forest 20 acres minimum (AF-20), Exclusive Forest and Conservation (EFC), and Rural Commercial (RCOM). These designations are defined in the Washington County Community Development Code.

The Rural/Natural Resource Plan has several policy statements for the plan designations in the study area. The policies describe the county's mission of protecting forest and agricultural lands, while recognizing the future needs for small-scale agricultural production and rural commercial development. The policies are as follows:

Policy 16, Exclusive Forest Lands: It is the policy of Washington County to conserve and maintain forest lands for forest uses consistent with existing and future needs for agricultural products, forest management and open space. Exceptions to this policy may be allowed pursuant to the provisions of LCDC Goal 2, OAR Chapter 660 Division 04, and the applicable plan amendment criteria in Policy 1. (Exclusive Forest Lands include the EFC zone.)

Policy 17, Agriculture and Forest-20 Lands: It is the policy of Washington County to designate those lands as Agriculture and Forest-20 that were zoned AF-5 and AF-10 by the 1973 Comprehensive Framework Plan and for which a Goal 2 Exception has not been provided, and in doing so strive to retain small scale and part-time agriculture and forest production. Exceptions to this policy may be allowed pursuant to the provisions of LCDC Goal 2, OAR Chapter 660 Division 04, and the applicable plan amendment criteria in Policy 1. (Agriculture and Forest-20 Land includes the AF-20 zone.)

Policy 18, Rural Lands: It is the policy of Washington County to recognize existing development and provide lands which allow rural development in areas which are developed and/or committed to development of a rural character. (Rural lands include the AF-5, AF-10, and RCOM zones.)

#### Findings

*The stated purpose of the Staley's Junction IAMP is to protect the function of the new interchange facility. Adoption of the IAMP by Washington County adopts policies that regulate land use and development within the vicinity of the interchange in order to ensure continued safety and efficiency at the US 26/OR 47 junction. This project and the Washington County land use planning regulations are anticipated to be compatible. The policies clearly support and strive to retain small scale rural character to conserve and maintain agricultural activities and forest lands consistent with the existing and future needs for agricultural development, forest management and open space.*

*It is the County's policy to encourage retention of the rural character of the surrounding area. The Rural/Natural Resource Plan Element specifically requires the County to recognize the need for rural development to support the rural character of the area. The County will ensure that development will not adversely affect the surrounding agricultural and forest activities.*

*Adopted land use designations in the immediate vicinity of Staley's Junction include resource districts (AF-20 and EFC) and several exception areas (AF-10, AF-5, and R-COM). Appendix C of the draft Staley's Junction IAMP identifies permitted land uses in the land use districts surrounding the interchange.*

*While the surrounding land use districts permit a wide variety of potential land uses, some of which could have higher trip generation rates, the districts of the IAMP are within a rural area and urban uses are not allowed. Therefore, all potential land uses must support the rural character and will not adversely affect the surrounding agricultural and forest activities.*

*The uses allowed in the AF-20 and EFC resource districts are based on statutorily allowed uses on farmland (ORS 215.213 (1) and (2)) and uses permitted under Oregon Administrative Rules for farm lands ( OAR 660, Division 33) and forest lands (OAR 660 Division 6). The statutory and administrative rule provisions are designed to protect rural resource lands from development that would interfere with farm and/or forest uses. The provisions provide certainty and, because they limit potential development, help ensure that future development is consistent with the planned function and capacity of the proposed interchange.*

*The County supports land uses in the vicinity of the Staley's Junction interchange consistent with the land use assumptions in the IAMP, and consistent with the stated function of the interchange as described in the IAMP.*

*Consistent with Policy 16, 17, and 18 the county supports continued land use designations in the immediate vicinity of Staley's Junction to include resource districts (AF-20 and EFC) and exception areas (AF-10, AF-5, and R-COM) resource uses of the land. A proposal to change the land use designations of resource land would require an exception to the Statewide Land Use Planning Goal 3 (Agricultural Lands) and Goal 4 (Forest Lands).*

*The County will provide notice to ODOT for any land use action proposed within the IAMP management area in compliance with existing provisions that would occur within 1000 feet of an ODOT facility.*

### **Washington County 2020 Transportation Plan**

The Washington County 2020 Transportation Plan establishes transportation policies, capital improvement projects, and transportation-related programs necessary to support growth. Attention is focused on urban commuting transportation issues as well as traffic, maintenance, and safety issues. The Transportation Plan links land use to transportation and reflects a commitment to efficient use of land and to a safe, cost-effective transportation system that serves all forms of travel. The Plan represents a balance between the need to maintain existing infrastructure and the need to keep pace with expected growth in the county. The Transportation Plan contains the accumulation of recommended system and service improvements and programs that will be needed to serve long-term growth to 2020.

The Washington County TSP includes five general policies and multiple, mode-specific policies to address county transportation needs. The plan outlines the classification of roadways in the county and identifies funding and implementation policies to define a plan for system improvements.

The TSP does not identify specific improvements for the Staley's Junction area; however, several general principles of the policies are applicable. The Sunset and Nehalem highways are Principal Arterials under the Washington County Functional Classification System and are also identified as existing through truck routes. Additionally, both highways are indicated as bicycle routes in the TSP. Hence, both facilities serve important roles in rural Washington County, and planning for improvements must accommodate balanced service for the various users.

### **Freight Element**

It is recognized that the transportation of freight is served primarily by truck traffic and that a network of through routes must be supported to accommodate truck traffic. The TSP emphasizes safety and cost-effectiveness of freight transportation. Specific strategies include coordinated planning, development, and maintenance with the private sector and other public agencies, and identification and correction of roadway design deficiencies that affect the safe and efficient movement of freight on the through-truck route system.

The Washington County TSP emphasizes transportation planning that includes coordination with other agencies and public involvement to achieve balanced goals, and periodic plan reviews to ensure that the TSP is updated to reflect changes in the transportation system and priorities.

### **Findings**

*The Staley's Junction IAMP was developed in response to safety and operational efficiency issues in the section of US 26 and OR 47. The existing at-grade crossing is not operationally safe. The new interchange will rectify the problem by eliminating the left-turns and providing safe traffic flow for the vehicles entering and exiting the highway. The interchange project will result in better mobility at the junction, thereby improving freight movement.*

*The Staley's Junction IAMP was prepared jointly by Washington County and ODOT, and coordination between the two agencies took place routinely throughout the process. The IAMP and the interchange concepts were reviewed by both to ensure that they meet the objectives of all of the jurisdictions.*

## **Washington County Community Development Code**

The Washington County Community Development Code (CDC) is a compilation of standards that regulate specific aspects of development and the development process. The code regulates land development activities in the unincorporated areas of Washington County.

As described above, Washington County's Rural/Natural Resource Plan and Community Development Code designate the areas in the Staley's Junction IAMP study area as AF-5, AF-10, AF-20, EFC, and RCOM. The county's descriptions of the intent and purpose of these zones are provided below, followed by the Code's administrative review procedures for public facility and transportation projects. The allowed uses in each zone are listed in Appendix 1.

### **Agriculture and Forest:**

The AF-5 and AF-10 Districts are intended to retain an area's rural character and conserve the natural resources while providing for rural residential use in areas so designated by the Comprehensive Plan. The AF-10 District is appropriate in rural lands with steep topographic characteristics where there are limited public facilities and services. The intent of the Exclusive Agriculture and Forest AF-20 District is to provide an exclusive farm use zone within the County which recognizes that certain lands therein may be marginal. This AF-20 District is provided to meet Oregon statutory and administrative rule requirements.

The purpose of the agricultural and forestry districts are to promote agricultural and forest uses on small parcels in the rural area, while recognizing the need to retain the character and economic viability of agricultural and forest lands, as well as recognizing that existing parcelization and diverse ownerships and uses exist within the farm and forest area. Residents of rural residential tracts shall recognize that they will be subject to normal and accepted farming and forestry practices.

**Exclusive Forest and Conservation District:** The Exclusive Forest and Conservation District is intended to provide for forest uses and to provide for the continued use of lands for renewable forest resource production, retention of water resources, recreation, agriculture and other related or compatible uses, as set forth in Statewide Planning Goal 4, OAR 660-06 and ORS 215.

The purpose of this District is to encourage forestry as the dominant use of such lands, to conserve and manage efficiently the forest resources of the County and to prohibit uses of land which are not compatible with the management and development of forest resources, in order to minimize the potential for damage from fire, pollution, soil erosion and conflict caused by development. This District is suited for application to forest land as well as associated scenic lands, recreation land, wildlife habitat or other sensitive land forms or watershed areas.

The EFC District is provided to meet Oregon statutory requirements for forest lands. Uses permitted by the Forest Practices Act are not subject to the requirements of this Section.

### **Rural Commercial:**

The intent and purpose of the Rural Commercial District is to implement the rural commercial policies of the Comprehensive Plan and to meet convenience goods and service needs of rural residents while protecting the historic character of rural centers and the agricultural or forestry character of the area. Rural Commercial centers shall be designed to be compatible with the surrounding environment and generally not to exceed five (5) acres.

### **Article V: Public Facilities and Services:**

Article V of the CDC addresses public facilities and services, and access management requirements. The access management section of the article is not applicable to the construction of the interchange itself, but is applicable to land use development, subdivisions, and partitions. The article states that all developments have legal access to a County or public road. However, an access permit must be obtained before access onto a County or public road is granted.

Article V lists access spacing standards for local streets, neighborhood routes, collectors, and arterials. The article provides specific access spacing standards for each functional roadway classification. The TSP classifies the Sunset and Nehalem highways as principal arterials. According to Article V, principal arterials must be designed and developed as limited access facilities. Access to a Principal Arterial is subject to approval by ODOT through the State's Access Management Policy and its implementing measures.

### **Article VII Public Transportation Facilities**

Article VII of the CDC addresses the County's transportation facilities. The intent of this Article is to identify public transportation improvements that are subject to development review and establish the standards and procedures for such review. This Article applies to project development for the design, construction, operation, maintenance, repair and preservation of public transportation facilities including roadways and bridges, and transit, bicycle and pedestrian facilities authorized by the Washington County TSP. Article VII has four categories of public transportation improvement projects, Exempt Project and Categories A-C. Article VII identifies the replacement of an intersection with an interchange as a Category B project in the AF-5, AF-10, and R-COM Districts outside of a UGB and a Category C project in the AF20 and EFC Districts outside of a UGB. The replacement of an intersection with an interchange is an allowed use in all of the zones. Washington County defines Category B and Category C projects as follows:

### **Category B Projects:**

Projects that involve land use criteria that are reasonably objective and generally require only limited discretion or judgment. Category B projects are assumed to be appropriate in the District. Decisions authorizing Category B projects are land use decisions.

**Category C Projects:** Projects that involve land use criteria that require the exercise of a more significant level of discretion and judgment. Category C projects generally have more significant impacts or involve more complex land use issues. Decisions authorizing Category C projects are land use decisions.

Article VII specifies additional standards for the replacement of an intersection with an interchange in the AF-20, EFU, and EFC Districts (a Category C project). The project must identify reasonable design build alternatives that are safe and can be constructed at a reasonable cost, must assess the effects of the identified alternatives on farm and forest practices, and must select the identified alternative that has the least impact on farm and forest lands in the immediate

vicinity. Additionally, the project must not force a significant change in accepted farm or forest practices or significantly increase the cost of accepted farm or forest practices on surrounding lands. The Staley's Junction IAMP project is anticipated to comply with these standards.

Washington County reviews and processes Category B projects in the same manner as Type II actions. Washington County requires a pre-application conference and public notice and comment period for a Type II review. The Planning Director will issue a decision on the application.

The replacement of an intersection with an interchange may be elevated by the Director of Community Development to a Category C project. Washington County reviews and processes Category C projects in the same manner as Type III actions. A public notice and comment period is also required for a Type III action. The Hearings Officer or Planning Commission will make a final decision on a Type III action. However, if the application requires a quasi-judicial plan amendment, the Board of Commissioners will make a decision on the application. The Board of Commissioner's decision may be appealed. A Project Review Committee will act in a technical advisory capacity and review all public transportation improvement applications subject to Article VII.

#### Findings

*The Article VI review process will be required for the construction of the interchange. The IAMP is a policy/planning document that does not require the submittal for an Article VII review. At the time the development of a final design of the interchange ODOT will be required to submit for the review.*

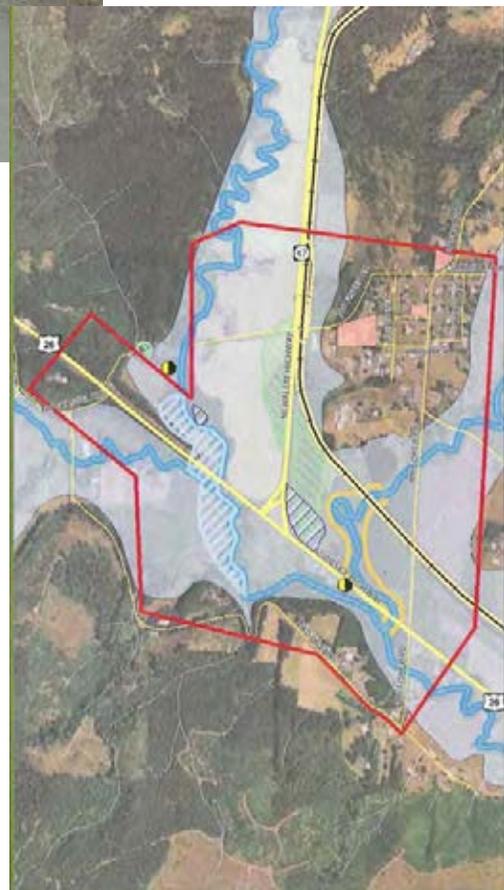
*In Washington County, proposals for the construction of transportation improvements are reviewed as a distinct type of development proposal separate from uses in the underlying land use district. Proposed public road improvement, such as the Staley's Junction interchange are reviewed under Article VII of the CDC.*

- *Section 701.1 states that transportation improvements are permitted in each district and subject only to the standards in Article VII.*
- *Section 705-2 of the CDC lists different types of projects that are permitted as Category C projects when they are outside of the UGB. The proposed improvements are permitted by three project-type descriptors:*
- *Section 705-2.1.A identifies "Replacement of a public road or highway" as a permitted use.*

# US 26: Staley's Junction

## Interchange Area Management Plan

### Volume I of II



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## TABLE OF CONTENTS

<b>1. IAMP PURPOSE AND BACKGROUND.....</b>	<b>1</b>
1.1 AGENCY AND PUBLIC INVOLVEMENT .....	1
1.2 PURPOSE .....	2
1.3 OBJECTIVES AND EVALUATION CRITERIA.....	2
1.4 STUDY AREA .....	3
<b>2. EXISTING LAND USE, ENVIRONMENTAL, AND TRANSPORTATION CONDITIONS.....</b>	<b>5</b>
2.1 STUDY AREA LAND USES AND POPULATION FORECASTS.....	5
2.2 STUDY AREA ENVIRONMENTAL CONDITIONS.....	9
2.2.1 Wetlands.....	9
2.2.2 Fish and Wildlife Habitat .....	9
2.2.3 Historic and Cultural Resources .....	9
2.2.4 Scenic Routes.....	9
2.2.5 Floodplains.....	11
2.3 STUDY AREA ROAD NETWORK .....	11
2.4 EXISTING ACCESS CONDITIONS .....	11
2.4.1 Access to Sunset and Nehalem Highways .....	11
2.5 CRASH ANALYSIS .....	12
2.6 OPERATIONAL ANALYSIS .....	13
2.6.1 Traffic Volumes.....	13
2.6.2 Study Area Roadway Performance .....	16
<b>3. FUTURE NO BUILD TRAVEL FORECASTS AND NEEDS ANALYSIS .....</b>	<b>17</b>
3.1 MODEL ASSUMPTIONS .....	17
3.2 FUTURE YEAR FORECASTS .....	17
3.3 FUTURE 2030 NO BUILD OPERATIONS.....	18
3.3.1 Performance Standards .....	18
3.4 FUTURE 2030 DEFICIENCIES.....	18
3.4.1 Traffic Operations .....	18
<b>4. ALTERNATIVE DEVELOPMENT AND ANALYSIS.....</b>	<b>21</b>
4.1 EVALUATION OF ALTERNATIVE OPTIONS .....	21
4.2 EVALUATION OF INTERCHANGE CONCEPTS .....	21
4.2.1 Supplemental Traffic Operations Analysis .....	26
<b>5. INTERCHANGE AREA MANAGEMENT PLAN .....</b>	<b>33</b>
5.1 INTERCHANGE FUNCTION AND CLASSIFICATION .....	33

5.2 MANAGEMENT INFLUENCE AREA.....	33
5.3 PREFERRED ALTERNATIVE.....	33
5.3.1 Operational Improvements .....	34
5.3.2 Concept A Phase 1 .....	35
5.3.3 Concept A Phase 2 .....	37
5.3.4 Concept A Phase 3 .....	40
5.4 INTERCHANGE AREA MANAGEMENT POLICIES.....	42
5.4.1 Washington County Land Use Policy .....	42
5.5 ACCESS MANAGEMENT .....	43
5.5.1 Role of Access Management.....	43
5.5.2 Access Control in the Study Area .....	44
5.6 LOCAL CIRCULATION .....	45
5.7 IMPLEMENTATION .....	45

**LIST OF FIGURES**

Figure 1-1. Decision-Making Process .....	1
Figure 1-2. Study Area .....	4
Figure 2-1. Existing Land Use .....	6
Figure 2-2. Zoning and Comprehensive Plan Areas.....	7
Figure 2-3. Environmental Constraints .....	10
Figure 2-4. Collision Diagram 5-Year (2001-2005).....	14
Figure 2-5. 2005 AM Peak Hours Volumes – Seasonally Adjusted .....	14
Figure 2-6. 2005 PM Peak Hour Volumes - Seasonally Adjusted.....	15
Figure 2-7. 2005 Sunday Peak Hour Volumes - Seasonally Adjusted .....	15
Figure 3-1. 2030 No Build .....	19
Figure 4-1. Concept 1 Schematic Operations.....	23
Figure 4-2. Concept 2 Schematic Operations.....	23
Figure 4-3. Concept 3 Schematic Operations.....	24
Figure 4-4. Concept 4 Schematic Operations.....	24
Figure 4-5. Concept 5 Schematic Operations.....	25
Figure 4-6. 2030 Build, Concept 1 .....	30
Figure 5-1. Management Influence Area .....	34
Figure 5-2. 2015 Concept A Build Phase 1 .....	36
Figure 5-3. 2015 Concept A Build Volumes Phase 1 .....	37
Figure 5-4. 2030 Concept A Build Phase 2 .....	38
Figure 5-5. 2030 Concept A Build Volumes Phase 2 .....	39

Figure 5-6. 2030 Concept A Build Phase 3 .....41  
 Figure 5-7. 2030 Concept A Build Volumes Phase 3 .....42  
 Figure 5-8. Interchange Concept with Access Management .....44

**LIST OF TABLES**

Table 2-1. Staley's Junction and Washington County Population Forecast.....8  
 Table 2-2. Vernonia and Columbia County Population Forecast.....8  
 Table 2-3. Staley's Junction Approaches .....12  
 Table 2-4. Rural Area Spacing Standards .....12  
 Table 2-5. Sunset Highway Five-Year (2001-2005) Crash Summary (Milepost 44.98 to 45.84) .....13  
 Table 2-6. Nehalem Highway Five-Year (2001-2005) Crash Summary (Milepost 76.50 to 77.00) .....13  
 Table 3-1. Staley's Junction Background Growth Rates.....17  
 Table 3-2. Stewart State Park Trip Generation .....18  
 Table 3-3. State of Oregon Maximum V/C Ratios Outside Metro .....18  
 Table 3-4. 2030 No-Build Operations.....19  
 Table 4-1. Project Needs Screening of Conceptual Alternatives .....22  
 Table 4-2. Evaluation of Interchange Concepts.....27  
 Table 4-3. Staley's Junction Revised Sunday PM Trip Generation .....26  
 Table 4-4. Comparison of Original and Revised Phase 1 Operations, Sunday PM Peak .....31  
 Table 5-1. 2015 Build Concept A Phase 1 Operations.....36  
 Table 5-2. 2030 Build Concept A Phase 2 Operations.....40  
 Table 5-3. 2030 Build Concept A Phase 3 Operations .....40

## **VOLUME II: APPENDICES**

- A Compliance with Applicable Requirements of State and Local Plans and Policies
- B Public Involvement Plan
- C Background and Policy Review
- D Existing Transportation Conditions
- E Land Use and Environmental Existing Conditions
- F Transportation Future Conditions Memorandum
- G Access Management Strategy
- H Operational Improvements Study
- I Washington County Order and Resolution

## ACRONYMS

ATF	Agency Task Force
ATR	Automatic Traffic Recorder
CAC	Citizens Advisory Committee
CDC	Community Development Code
HCM	Highway Capacity Manual
IAMP	Interchange Area Management Plan
NHS	National Highway System
NWI	National Wetlands Inventory
OAR	Oregon Administrative Rule
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
OPRD	Oregon State Parks and Recreation Department
OR 47	Nehalem Highway
OTP	Oregon Transportation Plan
PDT	Project Development Team
PMT	Project Management Team
SPIS	Safety Priority Index System
SRSAM	Salmon Resource Sensitive Area Mapping project
TPAU	Transportation Planning Analysis Unit
TSP	Transportation System Plan
US 26	Sunset Highway
v/c	volume-to-capacity
vpd	vehicles per day

# 1. IAMP PURPOSE AND BACKGROUND

In January 2006, Oregon Department of Transportation (ODOT), Oregon Parks and Recreation (OPRD), and Washington County began planning for an interchange at Staley's Junction, which is at the intersection of the Sunset (US 26) and Nehalem Highways (OR 47) in Washington County. ODOT initiated the Staley's Junction Interchange Area Management Plan (IAMP) project in an effort to address existing and future safety issues at the Sunset and Nehalem Highways intersection. With early input from community stakeholders and the Citizens Advisory Committee (CAC), the project team developed the project purpose and need, objectives, and evaluation criteria and measures.

This chapter chronicles the public and agency involvement process, the development of the purpose and need for the interchange, and the project objectives and evaluation criteria.

## 1.1 AGENCY AND PUBLIC INVOLVEMENT

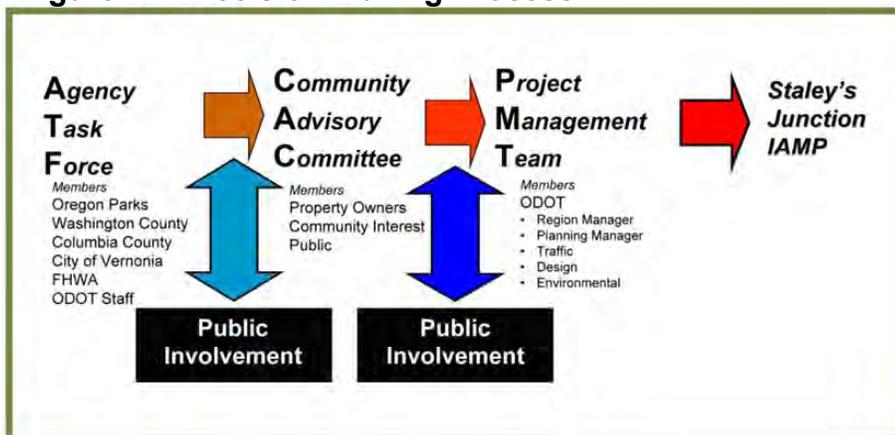
As part of the Staley's Junction IAMP, interagency coordination and public involvement occurred throughout the life of the project. Three committees, the Agency Task Force (ATF), Citizen Advisory Committee (CAC), and Project Management Team (PMT), worked to inform the public and to develop the project purpose and need, objective, interchange concepts, preferred alternative, and IAMP. Below is a brief description of each committee.

- The role of the ATF was to provide the PMT and the CAC with background information, insight on project issues, and review and comment on project products. Members of the ATF included representatives of ODOT, OPRD, Washington County, Columbia County and the City of Vernonia. The ATF provided an opportunity for agencies to collaborate on key decisions.
- The purpose of the CAC was to give feedback to the PMT on a variety of project deliverables, including the purpose and need, evaluation criteria, interchange layout concepts, and draft IAMP. Members of the CAC included elected officials and residents.
- The PMT included ODOT management and Parametrix consultants. Based on feedback and recommendations from the ATF, CAC, and the public, the PMT refined the layout concepts and preferred alternative and prepared the IAMP.

In addition to the three committees, ODOT held four public open houses to present project ideas and solicit feedback.

The decision-making process is shown in Figure 1-1.

**Figure 1-1: Decision-Making Process**



## 1.2 PURPOSE

The purpose of the Staley's Junction IAMP is to address existing and future transportation safety issues at the Sunset and Nehalem Highways intersection in Washington County. The purpose was developed as a result of existing traffic backups on the Nehalem Highway and delays at the existing at-grade intersection with the Sunset Highway. As required by OAR 734-051-0155(5), the purpose is also to protect the long-term function of the interchange.

The need for the interchange project was identified during the US 26: Portland to Cannon Beach Junction Corridor Plan process, and was borne out of existing and projected safety and traffic operations concerns, which result from a combination of factors such as high volumes and high volume-to-capacity (v/c) ratios, at the Staley's Junction intersection. The Corridor Plan was adopted in 1999 by the Oregon Transportation Commission. In early 2000, State Parks developed the L.L. "Stub" Stewart State Park north of the junction on the Nehalem Highway. The traffic study for the Park indicated the intersection at the junction would not meet Oregon Highway Plan (OHP) standards. As part of the mitigation for the Park, ODOT requested that OPRD and Washington County work together to develop a safe intersection to accommodate the Park. In the 2004-2007 STIP the Northwest Oregon Area Commission on Transportation (NWACT) first recommended the project. It has been recommended in all the other STIPs as a priority for construction by the NWACT.

Specific safety concerns under the existing and future conditions include:

- High weekend traffic volumes on the Sunset Highway make the at-grade left turn movements across traffic from Nehalem Highway to the Sunset Highway difficult and potentially unsafe. The average daily traffic (ADT) on the Sunset Highway and Nehalem Highway at Staley's Junction in 2005 (time of the last counts) were 11,600 and 2,800 vehicles. ADTs are anticipated to increase to approximately 20,900 vehicles on the Sunset Highway and 3,500 vehicles on the Nehalem Highway by the year 2030.
- Traffic studies indicate the left-turn movement (southbound Nehalem Highway to eastbound Sunset Highway) will fall below OHP standards with no improvements at the intersection, as the expected v/c ratio by 2030 in the no-build scenario is forecasted to be 6.14 for the Sunday PM peak hour.

The IAMP strives to address these concerns by providing a safe and efficient crossing of traffic between the Sunset and Nehalem Highways and supporting and protecting the mode, function, and location of improvements at the existing intersection location.

## 1.3 OBJECTIVES AND EVALUATION CRITERIA

The PMT developed project objectives and evaluation criteria using the purpose statement. These were reviewed and approved by the ATF and CAC and favorably reviewed by the public. The team used the objectives and evaluation criteria to screen five interchange concepts, which are described in Chapter 4. The goal of the screening exercise was to choose one preferred interchange concept that balanced community concerns, transportation needs, environmental impacts, and regulatory impacts for further analysis.

The project objectives are listed below. In instances where the objective could be evaluated through measurable criteria, evaluation criteria follow those objectives.

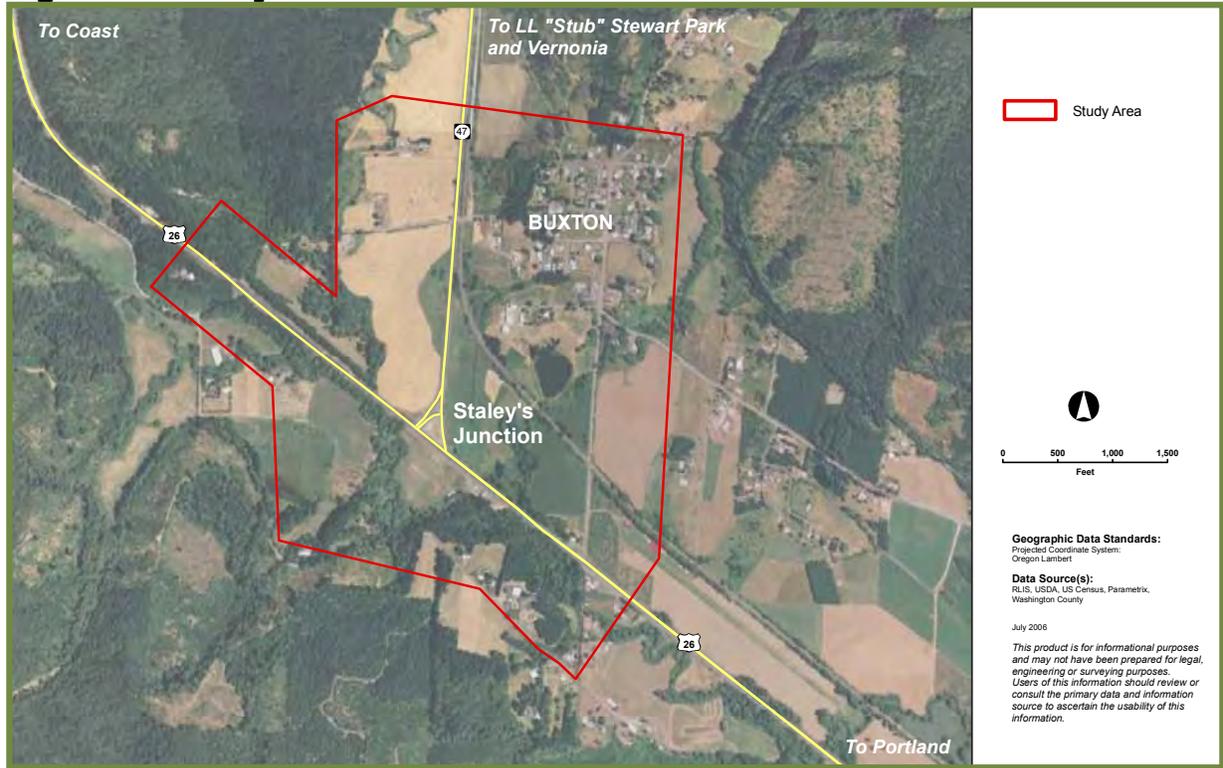
1. Maintain the existing Statewide Highway (National Highway System) and District Highway classifications for the Sunset Highway and Nehalem Highway, respectively.
2. Provide for uncongested and safe operation of the interchange area, and improve traffic operations and safety at the intersection/interchange area.
  - Improvement provides smooth flow of vehicles through interchange, especially for left turn movements from the southbound Nehalem Highway to the eastbound Sunset Highway.
  - Improvement reduces accident potential within the study area.

3. Improve traffic movement and safety at the interchange for all modes.
4. Provide for an adequate system of local roads and streets to provide access and circulation with the interchange area.
5. Move in the direction of achieving access management spacing standards.
6. Do not preclude future options for widening the Sunset Highway.
7. Meet sound engineering practices and safety requirements.
8. Meet the transportation needs of the current and planned land uses as contained in the Washington County Rural/Natural Resource Plan.
  - Improvement minimizes need for Goal 12 exceptions.
  - Improvement minimizes use of agricultural land.
9. Avoid or minimize adverse impacts to wildlife habitat, surface water.
  - Improvement minimizes adverse effects to identified wildlife habitat area(s).
  - Improvement minimizes adverse effects to identified wetlands.
  - Improvement minimizes adverse effects to Federal Emergency Management Agency 100-year floodplain or floodway.
  - Improvement minimizes adverse effects to streams.
10. Avoid or minimize displacement of homes and businesses.
  - Interchange footprint minimizes potential for residential displacement(s).
  - Interchange footprint minimizes potential for business displacement(s).
11. Minimize the need to purchase property for right-of-way or easement purposes.
  - Improvement minimizes new right(s)-of-way.
12. Avoid or minimize impacts to known archaeological and historic resources.
  - Improvement minimizes impact(s) to National Register-listed or eligible archaeological/historic properties and/or potential historic resource(s).
13. Strive for consensus of ideas and solutions.
14. Strive for effective public participation.
15. Utilize the talents and creativeness of the stakeholders.
16. Provide an affordable and cost-effective range of solutions.
  - Improvement minimizes construction costs.

## 1.4 STUDY AREA

As shown in Figure 1-2 the IAMP study area includes areas to the north, east, south, and west of the Nehalem/Sunset intersection. The area to the north stretches approximately 3,000 feet along the Nehalem Highway, encompassing the community of Buxton to the east and large parcels to the west. The study area boundary to the east is the westernmost portion of the Apple Valley airstrip, which is approximately 2,000 feet east of the intersection. The southern study area boundary is of varying distances from the Sunset Highway, but is generally bounded by Staley and Strassel Roads. The western study area boundary is approximately 3,000 feet to the west of the intersection.

**Figure 1-2: Study Area**



## **2. EXISTING LAND USE, ENVIRONMENTAL, AND TRANSPORTATION CONDITIONS**

This chapter describes the existing land use, environmental, and transportation conditions in the Staley's Junction study area. The project team used the information presented in this chapter, in addition to the evaluation screening criteria, to evaluate the feasibility of the interchange design concepts. The information and evaluation was presented to the ATF, CAC, and to the public at open houses during the process.

### **2.1 STUDY AREA LAND USES AND POPULATION FORECASTS**

Agriculture is the predominant land use in the study area, which also contains small amounts of forested areas. Located approximately 0.5 mile north of the Sunset Highway and along NW Fisher Road, the Buxton community contains a concentration of residences. According to a 2006 Claritas population estimate, approximately 158 persons live within a 0.75 mile radius of the intersection (not all of whom are located in the Buxton community). Two commercial properties (Staley's Junction and NW Fisher Road gas stations) are also located within the study area, along the Sunset Highway. The Existing Land Uses are shown in Figure 2-1. The Zoning and Comprehensive Plan Areas are shown in Figure 2-2.

The existing land uses in Buxton are primarily rural residential, with residential uses clustered in the northern portion of the community. The residences along NW Fisher Road within Buxton include small yards; however, residences on the edges of the community are on larger lots, typically associated with agricultural land uses. The current and projected weekend traffic volumes on the Sunset Highway create an unsafe situation for vehicles trying to access the highway at those times.

In addition to residential uses, commercial and public uses and a place of worship are located in the northern portion of the community. A business specializing in floral, garden, and home items is located on NW Fisher Road; this business is currently for sale. A church is located at the intersection of NW Fisher Road and Schmidlin Lane. The Buxton Community Fire Department (part of the Banks Fire District) is located at 22870 NW Fisher Road.

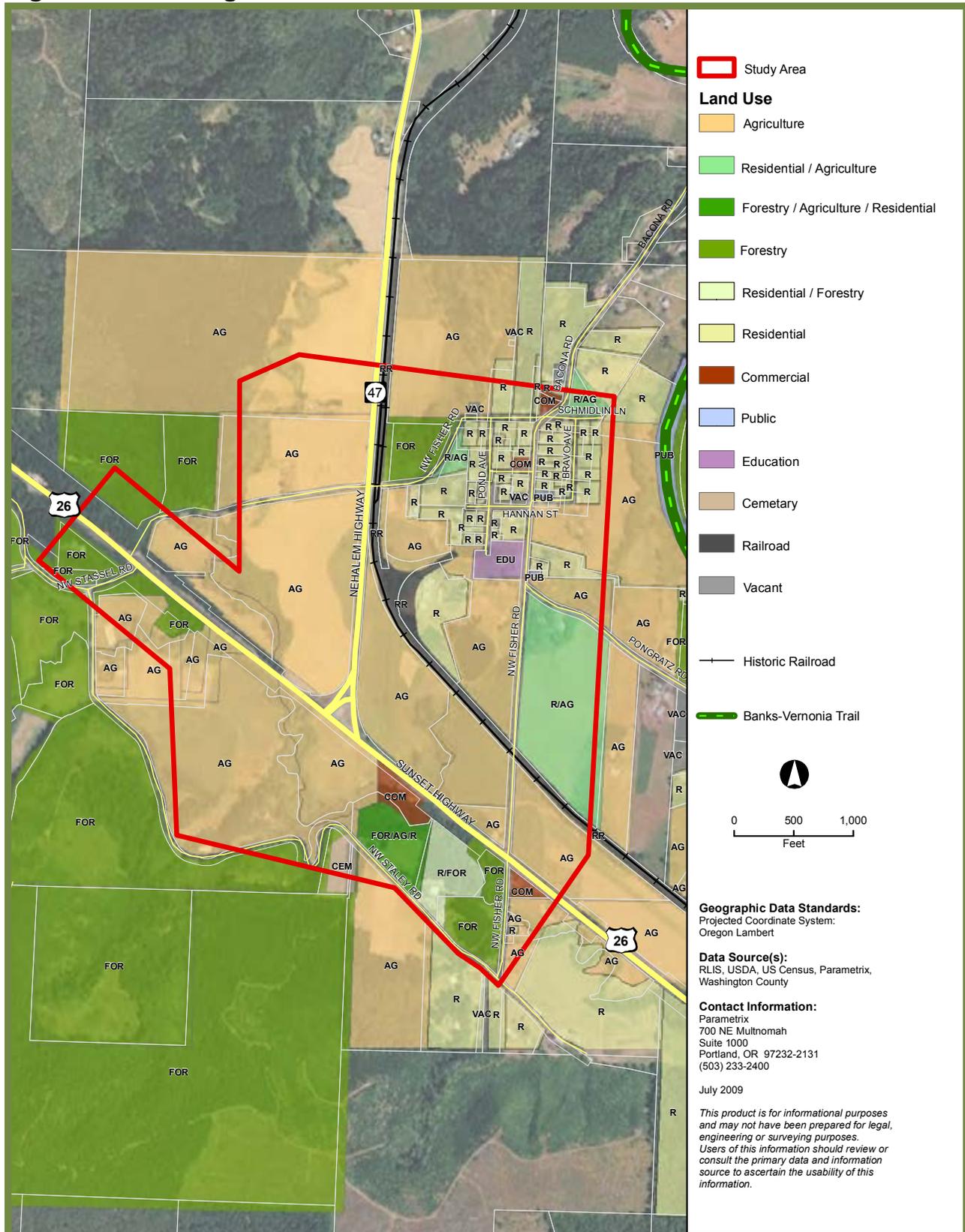
Educational, public, and commercial uses are found in the southern portion of Buxton. A private school, located at 22785 NW Fisher Road, serves pre-kindergarten through the eighth grade. An equipment and construction business is located along Pongratz Road, just west of Mendenhall Creek. The Buxton Community Hall is located on NW Fisher Road near the NW Pongratz Road intersection.

Large agricultural parcels are located along NW Fisher Road to the south of Buxton and to the north of Sunset Highway. Farmers and residents access these parcels from NW Fisher Road. The Apple Valley Farm is located at the northeast quadrant of the NW Fisher Road and the Sunset Highway intersection. A produce stand and a mobile home are located at the northwest quadrant of the intersection. A railroad right-of-way intersects NW Fisher Road approximately 800 feet north of the Sunset Highway, and then again just prior to the road's intersection with the Nehalem Highway, west of the community of Buxton. The railroad travels parallel to and partially abuts the Nehalem Highway from a point approximately 500 feet south of this intersection, north to the study area boundary.

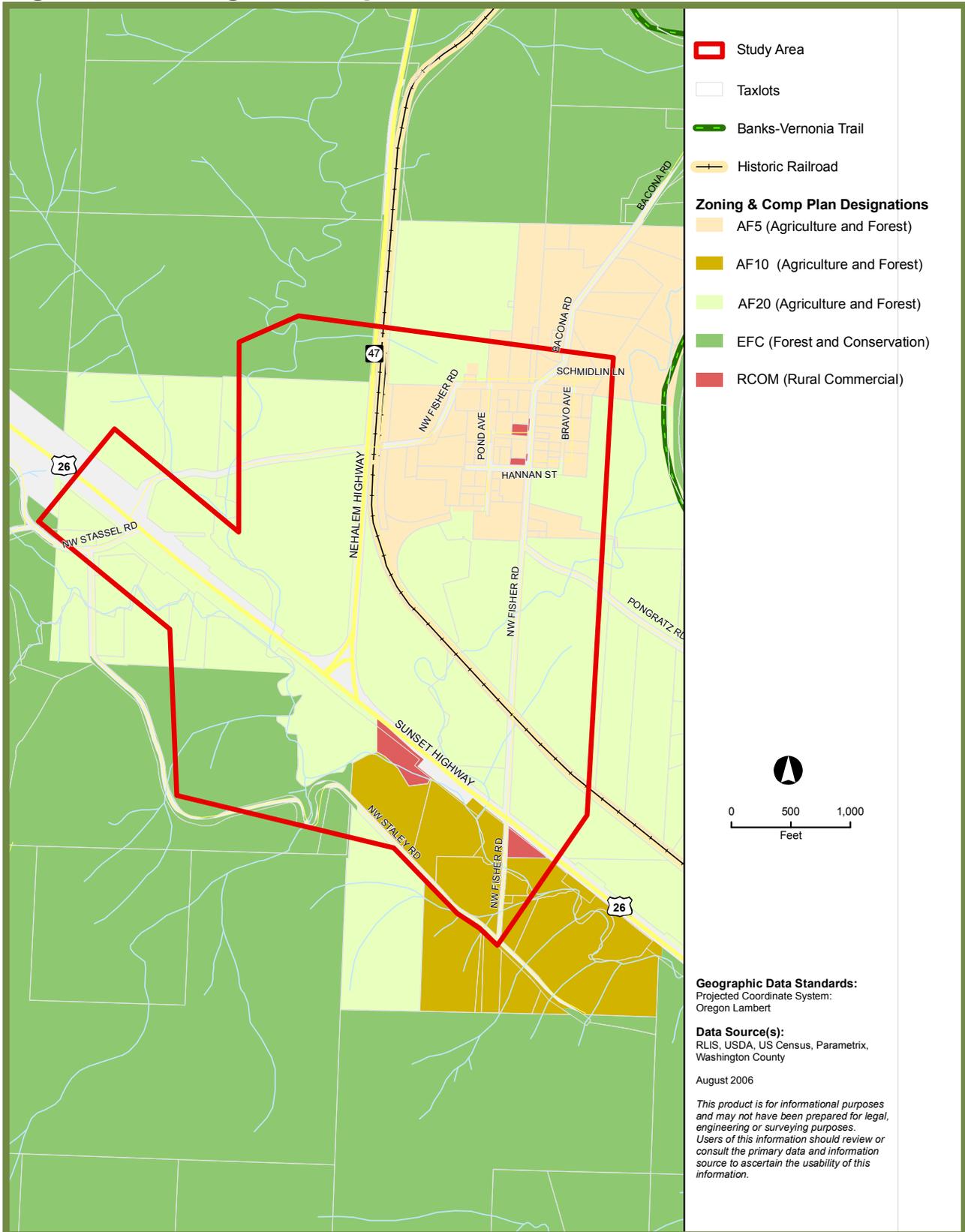
A gas station is located to the southeast of the Sunset Highway/NW Fisher Road intersection. A residence is located to the east of the gas station at 49870 Sunset Highway. The residence has a private access off of the Sunset Highway.

The land uses surrounding the Staley's Junction intersection are agricultural and commercial. The parcel south of the intersection and Sunset Highway is agricultural, and is part of the West Fork Dairy Creek Soil Bioengineering Project. The Staley's gas station is located immediately southeast of the intersection.

**Figure 2-1: Existing Land Use**



**Figure 2-2: Zoning and Comprehensive Plan Areas**



The gas station sells grocery items in addition to gas, and is the nearest source of convenience items for the local residents.

Three large parcels are located north of the Sunset Highway and west of the Nehalem Highway, with a residence on each parcel. The use is agricultural. The two southerly parcels are accessible from NW Fisher Road; the northerly parcel is accessible for farm vehicles by a private access.

The Banks-Vernonia State Trail, owned and operated by OPRD, is located just to the east of the study area. This 21 mile long “rails-to-trails” state park is built on abandoned railroad bed and stretches from Banks to Vernonia. Pedestrians, bicyclists, and equestrian riders use the trail. The trail is accessible from the Buxton Trailhead, which includes a park office, the Buxton Trestle, parking, rest rooms, and picnicking.

The West Fork Dairy Creek 100-year floodplain is located throughout the project study area. The floodplain is protected by Washington County, and development in the floodplain may require a floodplain permit or review.

Population information gathered for a 0.75 mile radius around the Staley’s Junction intersection shows that the population of the study area has decreased since 2000 and will continue to decrease from 2006 to 2011 (Table 2-1). This radius is the length of the longest measurement from the intersection to the study area boundary. Although this radius captures the entire study area, it includes some land not in the study Washington County as a whole has the opposite population trend, and the Washington County Transportation Plan projects that this rapid increase in population will continue until 2020.

**Table 2-1. Staley’s Junction and Washington County Population Forecast**

	2000 Census	2006 Estimate	Percent Change 2000-2006	2011 Projection	Percent Change 2006-2011	2020 Projection
<b>Staley’s Junction Study Area</b>	169	158	-6.51%	144	-8.86%	Not Available
<b>Washington County</b>	445,342	497,421	11.69%	538,578	8.27%	643,000

Source: All information from Claritas except Washington County 2020 population projection. That data is from the Washington County Transportation System Plan.

Census information for the study area was obtained by gathering census data for a 0.75 mile radius around the Sunset Highway and Nehalem Highway intersection.

The Washington County Transportation Plan indicates that from 1985 to 1996, Washington County employment increased from 115,970 to 235,654, an increase of 103 percent, or 119,684 employees. The Transportation Plan also indicates that employment in the county is projected to increase from 258,000 in 2000 to 438,000 by 2020.

Population projections show that the population of Vernonia was not estimated to change from 2000 to 2006, and not to change significantly by 2011; unlike Vernonia, however, the population of Columbia County is growing (Table 2-2). Census 2000 data indicate that the county population was 43,560. The 2006 estimate is 47,327, an 8.65% increase in population. From 2006-2011, the population is estimated to grow by 5.63%.

**Table 2-2. Vernonia and Columbia County Population Forecast**

	Census 2000	2006 Estimate	Percent Change 2000-2006	2011 Projection	Percent Change 2006-2011	2020 Projection
<b>Vernonia</b>	2,228	2,228	0%	2,226	-0.09%	Not Available
<b>Columbia County</b>	43,560	47,327	8.65%	49,991	5.63%	Not Available

Source: Claritas.

## 2.2 STUDY AREA ENVIRONMENTAL CONDITIONS

Although several environmental conditions were evaluated for this assessment, the following discussion provides a brief summary of those environmental factors most substantially influencing project decisions. Figure 2-3 provides a general overview of the location of important environmental constraints.

### 2.2.1 Wetlands

ODOT staff conducted a preliminary environmental field survey in December 2005, and identified two potential wetlands in the study area. One potential wetland is located adjacent to the intersection of the Sunset and Nehalem Highways, and is bounded by the Sunset Highway to the south, the Nehalem Highway to the west, and the railroad to the north, and extends approximately 500 feet to the east of the Nehalem Highway. This area is also mapped by ODOT's Salmon Resource Sensitive Area Mapping project (SRSAM). Field crews identified a second potential wetland approximately 1,000 feet northwest of the intersection. This area corresponds to the National Wetlands Inventory (NWI)-mapped PFO1J wetland located along West Fork Dairy Creek, northwest of the intersection. Both potential wetlands were only field-verified and not fully delineated.

SRSAM and NWI each mapped one more wetland in addition to the wetlands mentioned above. NWI mapped a second wetland in the study area near the intersection of NW Fisher Road and NW Strassel Road, near West Fork Dairy Creek. The second SRSAM-identified wetland in the study area is located on the west side of and adjacent to the Nehalem Highway, between the Sunset Highway and NW Fisher Road. This wetland is substantially narrower than the wetland on the east side of the Nehalem Highway.

### 2.2.2 Fish and Wildlife Habitat

The Washington County's Rural/Natural Resource Plan identifies the entire study area as having significant water areas, wetlands, and fish and wildlife habitat. This means that the water areas and wetlands contain and foster fish and wildlife habitat.

The field crew identified Mendenhall Creek as a fish passage corridor. Sunset Highway acts as a fish passage barrier.

### 2.2.3 Historic and Cultural Resources

The Rural/Natural Resource Plan identifies three historic resources in the Buxton community:

- Buxton Assembly of God Church at 23505 NW Bacona Rd (c. 1910),
- Buxton Food and Feed building at 50045 NW McPherson Rd (c. 1905), and
- Hannan residence on North First Street, Buxton (c. 1906).

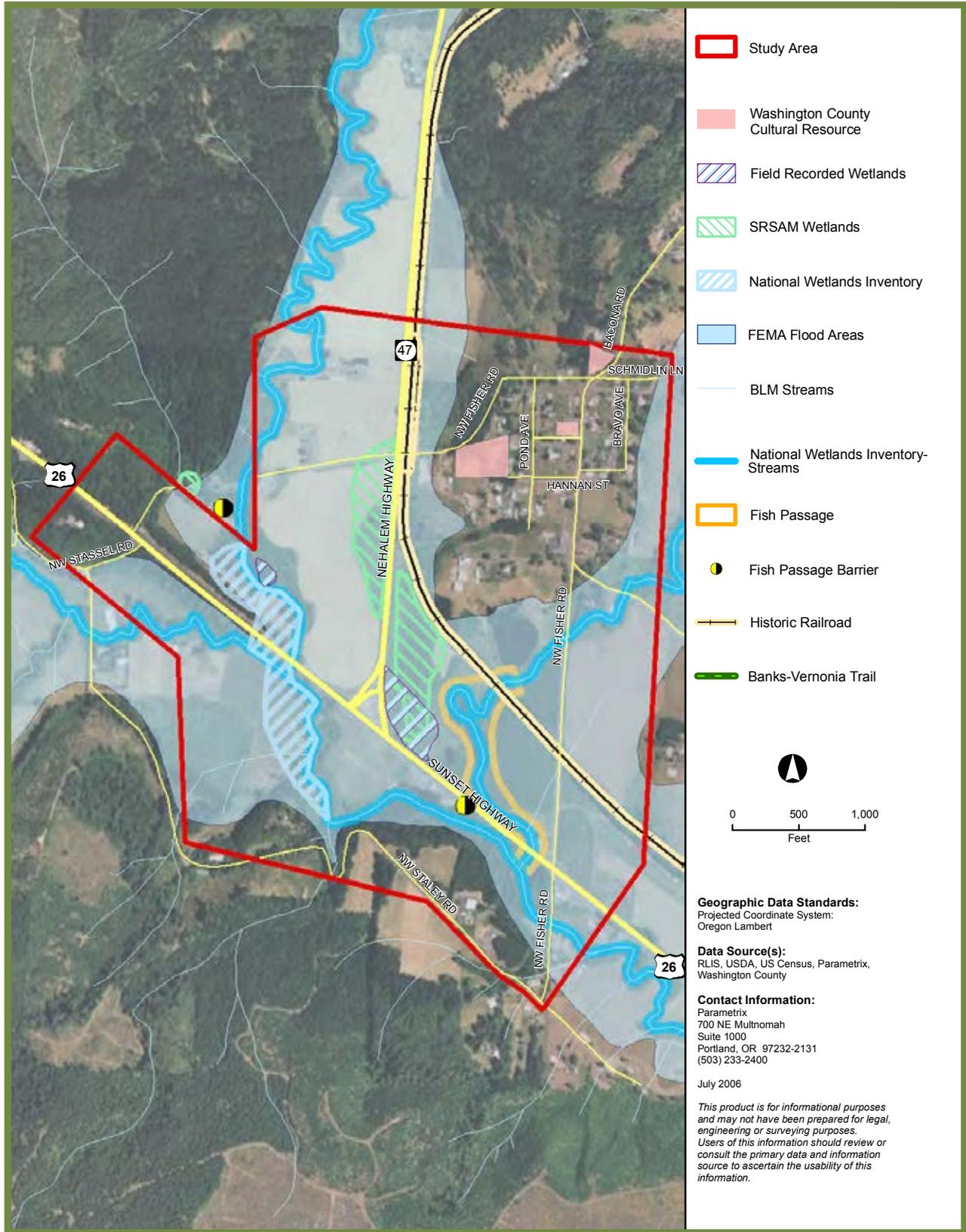
These resources are also identified in the Washington County Cultural Resources Inventory, pursuant to Statewide Planning Goal 5. Regulations in the County's Historic and Cultural Resource Overlay District protect these resources. The National Register of Historic Places does not identify these or any other resources in the study area as potentially eligible, eligible, or listed historic resources.

ODOT field crew identified the Port of Tillamook Bay's shortline railroad in the study area as a historic resource. The railroad runs north of Sunset Highway, then heads north along Nehalem Highway towards Vernonia.

### 2.2.4 Scenic Routes

The Rural/Natural Resource Plan identifies Sunset and Nehalem Highways as scenic routes. These highway stretches are identified as scenic routes because they offer a vista of the Cascade Mountains.

**Figure 2-3: Environmental Constraints**



Pursuant to Oregon Revised Statutes (ORS) 527.755, the Oregon Forest Practices Act designates the Sunset Highway as a scenic highway. The purpose of the designation is to maintain trees along the highway for the enjoyment of motorists traveling through forestland. ORS 527.755 will be applicable to this project if ODOT harvests trees along the Sunset Highway.

### **2.2.5 Floodplains**

The West Fork Dairy Creek floodplain is located in portions of the study area. The floodplain areas are generally located adjacent to the West Fork Dairy Creek, Mendenhall Creek, and Burgholzer Creek. Given Washington County floodplain ordinance requirements, proponents of any future developments involving structures or fill within the floodplain would need to construct compensatory flood storage areas, which would discourage the more intensive types of developments allowed by Washington County either outright or conditionally, such as landscaping nurseries or churches.

## **2.3 STUDY AREA ROAD NETWORK**

Within the study area, the two primary roadways, the Sunset and Nehalem Highways, are within the jurisdiction of ODOT; the secondary roadways are within the jurisdiction of Washington County. The Sunset Highway is a two-lane roadway that serves as a key corridor between the City of Portland and coastal destinations in northwestern Oregon. The posted speed is 55 miles per hour, except in the vicinity of Staley's Junction where the speed drops to 50 miles per hour. This roadway is classified in the National Highway System as a Statewide Highway, and in the OHP as a Freight Route. The Sunset Highway is functionally classified as a rural principal arterial. Seasonally adjusted 48-hour tube counts taken in May 2005 indicate an ADT of 10,700 vehicles per day on the Sunset Highway east of Staley's Junction.

The Nehalem Highway is a two-lane roadway with a posted speed of 55 miles per hour in the vicinity of NW Fisher Road and the Sunset Highway. This highway connects the Sunset Highway with the town of Vernonia and the L.L. "Stub" Stewart State Park. The OHP classifies the highway as a District Highway north of the Sunset Highway at Staley's Junction. The Nehalem Highway is functionally classified as a rural major collector. Seasonally adjusted 48-hour tube counts taken in May 2005 indicate an ADT of 3,300 vehicles per day on the Nehalem Highway.

Several minor roads serve local residential, agricultural, and recreational traffic in the study area. The most significant of these is NW Fisher Road, which is a collector road that intersects the Sunset Highway near the east end of the study area and provides the primary access to the town of Buxton. NW Fisher Road also intersects the Nehalem Highway west of the town of Buxton near the northern end of the study area. NW Fisher Road is a paved, two-lane roadway with no shoulders and a posted speed of 25 miles per hour. Forty-eight-hour tube counts taken in May 2005 on NW Fisher Road north of the Sunset Highway indicate an ADT of 700 vehicles per day; counts taken on Fisher Road east of the Nehalem Highway indicate an ADT of 120 vehicles per day.

## **2.4 EXISTING ACCESS CONDITIONS**

### **2.4.1 Access to Sunset and Nehalem Highways**

There are four public approaches and three private approaches, or accesses, to the Sunset Highway and two public approaches to the Nehalem Highway within the study area, as listed in Table 2-3.

**Table 2-3. Staley's Junction Approaches**

	Type	Width (ft)	Distance (ft) from Intersection	Direction
<b>Sunset Highway</b>				
Strassel Road	Public	20	2614	South
NW Fisher Road	Public	15	2297	North
Staley's Junction Gas Station	Private	400	713	South
22173 NW Fisher Road	Private	40	1663	North
NW Fisher Road	Public	20	1716	North
NW Fisher Road	Public	20	1716	South
Gas Station near NW Fisher Road	Private	230	1927	South
<b>Nehalem Highway</b>				
NW Fisher Road	Public	22	2244	East
NW Fisher Road	Public	22	2244	West

The rural spacing standards for road approaches are discussed in the OHP's Appendix C, Table 13 for Statewide Highways and Table 15 for District Highways. One approach near the Sunset/Nehalem intersection currently does not meet rural area spacing standards for a statewide highway: the gas station, directly adjacent to the intersection. The proximity of the Staley's Junction gas station presents safety and operational concerns for the future interchange. Additionally, three accesses of note currently meet rural spacing standards shown in Table 2-4, but could potentially be noncompliant once the final footprint of the future interchange is determined. The accesses are for the NW Fisher Road gas station property, a residence and fruit stand at 22173 NW Fisher Road, and the intersection of Fisher Road and Sunset Highway. All three of these accesses are clustered at the intersection of Sunset Highway and Fisher Road. This intersection is located approximately 1,500 feet east of the Nehalem Highway and serves as an access connecting the town of Buxton to the Sunset Highway. This intersection may need to be re-designed as it is within the influence area of ramps at the proposed interchange.

ODOT's spacing standards for interchanges are different than those for accesses. Interchange spacing standards are measured from one interchange to the next. According to Table 12 of the OHP the spacing standard for interchanges is 3 miles on the Sunset Highway and 3 miles on the Nehalem Highway. Based on the spacing standard and existing approaches on the Nehalem Highway, interchange spacing is not anticipated to be a concern on the Nehalem Highway once the interchange is constructed. The interchange spacing standard for the Sunset Highway is met. The nearest interchange is the US 26 and OR 47 Junction nearly four miles east of Staley's Junction. There is no nearby interchange to the west.

**Table 2-4. Rural Area Spacing Standards**

Posted Speed/Access Type	Statewide Highways	District Highways
	Sunset Highway (US 26) <sup>1</sup>	Nehalem Highway (OR 47)
≥55 mph	1,320 feet	700 feet
50 mph	1,100 feet	N/A

<sup>1</sup> The Sunset Highway is posted 55 mph west of Staley's Junction and 50 mph east of Staley's Junction.

## 2.5 CRASH ANALYSIS

Crash data for the study area were obtained from ODOT's Transportation Development Division, Crash Analysis and Reporting Unit. Table 2-5 and Table 2-6 provide summaries of crashes on the Sunset and Nehalem Highways for the 5 year period from 2001 through 2005. Figure 2-4 provides a collision diagram for the same 5 year period. A distinct pattern of crash types is not observed in the data; however, it may be noted that 10 of 16 crashes on the Sunset Highway and 2 of 4 on the Nehalem Highway during the period

were intersection-related.

Historical average crash rates for rural principal arterials range from 0.62 to 0.85 crashes per million vehicle miles in the State of Oregon. An examination of crashes in the Staley's Junction study area identifies crash rates of 0.95 and 0.66 crashes per million vehicle miles for the Sunset and Nehalem Highways respectively. The high crash rate on the Sunset Highway suggests an existing intersection-related safety concern.

**Table 2-5. Sunset Highway Five-Year (2001-2005) Crash Summary (Milepost 44.98 to 45.84)**

Crash by Type								
Head-On	Angle	Rear-End	Turn	Sideswipe-Overtaking	Sideswipe-Meeting	Fixed Object	Total	Crash Rate/MVMT
1	2	3	4	1	1	4	16	0.95
Crash by Severity								
Fatality	Injury A* (Major)	Injury B* (Intermediate)	Injury C* (Minor)	Property Damage Only	Total			
0	3	4	1	8	16			

**Table 2-6. Nehalem Highway Five-Year (2001-2005) Crash Summary (Milepost 76.50 to 77.00)**

Crash by Type					
Rear-End	Turn	Fixed Object	Sideswipe-Overtaking	Total	Crash Rate/MVMT
1	1	1	1	4	0.66
Crash by Severity					
Fatality	Injury A* (Major)	Injury B* (Intermediate)	Injury C* (Minor)	Property Damage Only	Total
0	0	2	1	1	4

The Oregon Department of Transportation uses a method called the Safety Priority Index System (SPIS) to identify highway locations that are considered hazardous. The SPIS values range from 0 to 100, are based on 3 years of accident data, and incorporate factors for frequency, severity, and crash rate. Within the Staley's Junction study area, the Sunset Highway is indicated as a SPIS site from its intersection with the Nehalem Highway to its intersection with NW Fisher Road. The 2005 SPIS rating for this segment is 10.08 which places the site relatively low in rank. However, it does indicate that the Sunset Highway at this location is deserving of consideration for safety improvements because of the at-grade left turns serving Sunset Highway and Nehalem Highway.

A safety improvement project was completed at the Staley's Junction intersection in 2004. The project added left-turn lanes on the Sunset Highway and reconfigured the intersection of the Sunset and Nehalem Highways. There are insufficient crash data available to indicate the effectiveness of the improvements at the time of publication of this document.

## 2.6 OPERATIONAL ANALYSIS

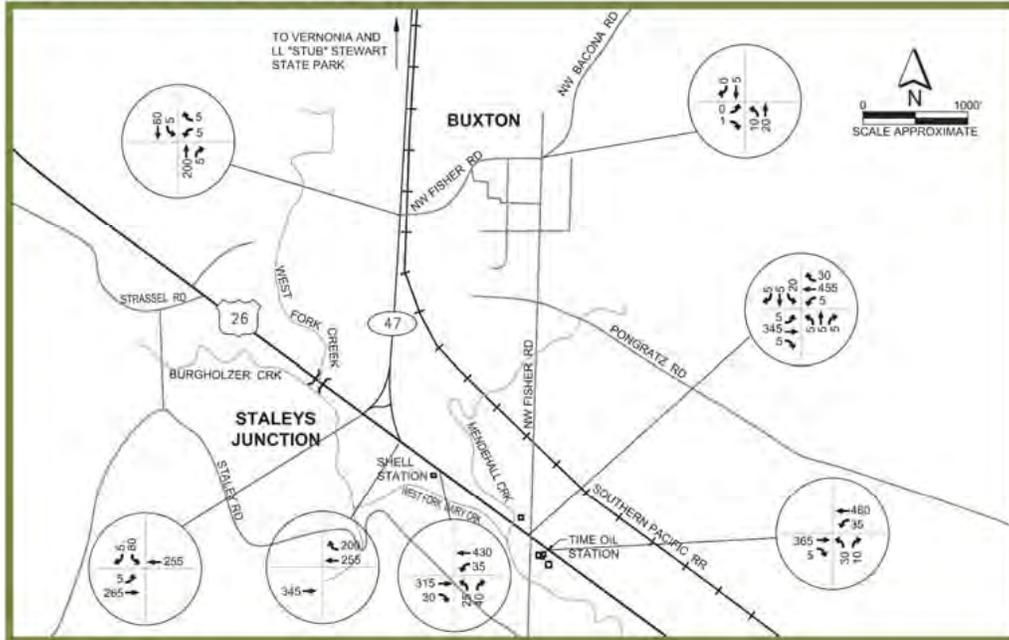
### 2.6.1 Traffic Volumes

Turning movement counts were collected by ODOT during weekday AM, PM, and Sunday peak hours in May 2005 at the four study intersections:

- Sunset Highway at Nehalem Highway
- Sunset Highway at NW Fisher Road
- Nehalem Highway at NW Fisher Road
- NW Fisher Road at Bacona Road



**Figure 2-6: 2005 PM Peak Hour Volumes (Seasonally Adjusted)**



**Figure 2-7: 2005 Sunday Peak Hour Volumes (Seasonally Adjusted)**



The intersection of the Sunset and Nehalem Highways is the focus of the analysis; the results indicate both the significance of the southbound to eastbound traffic and the influence of weekend recreational traffic volumes at Staley's Junction. During the weekday peaks, a turning volume of approximately 200 vehicles per hour is observed traveling from southbound Nehalem Highway to eastbound Sunset Highway. The turning volume is comparable to, or higher than, the Sunset Highway through-volumes for the same times. During the Sunday PM peak, the southbound to eastbound turning movement is somewhat lower at 115 vehicles per hour, but the Sunset Highway eastbound through movement is much higher, approximately 1000 vehicles per hour, due to recreational traffic. This results in a significant decrease of acceptable gaps in the Sunset Highway through-traffic to accommodate southbound turning vehicles from Nehalem Highway. The reduction of gaps leads to a higher-intensity of conflict between the southbound to eastbound turning-movement and the Sunset Highway through-movement.

### **2.6.2 Study Area Roadway Performance**

The ODOT standards for traffic operations on state highways are based on v/c ratios, meaning that the existing or forecasted volumes on a roadway are compared to the available capacity of the roadway. In other words, the v/c ratio is used to describe quality of traffic flow. A v/c ratio of 1.00 indicates that the road is at maximum capacity, or saturation, which is an unstable situation that can quickly result in gridlock. OHP prescribes a maximum v/c threshold of 0.70 for Staley's Junction intersection.

The only location showing an existing operational deficiency is the intersection of the Sunset and Nehalem Highways, where the critical movement is the southbound left-turn. Weekday peak-hour results indicate v/c ratios of less than 0.40. However, at this location the weekend peak is the critical study period. During the Sunday PM peak a v/c ratio of 0.76 is experienced in the design hour for the southbound left-turn movement. Additionally, traffic studies indicate the left-turn movement (southbound Nehalem Highway to eastbound Sunset Highway) will fail with the build-out of the L.L. "Stub" Steward State Park, and by 2021 will have an expected v/c ratio of over 4.0 for the Sunday PM peak hour.

### 3. FUTURE NO BUILD TRAVEL FORECASTS AND NEEDS ANALYSIS

This chapter addresses anticipated future conditions for the transportation network for the no-build conditions (which identifies the impacts associated with future traffic volume growth at the existing at-grade intersection).

#### 3.1 MODEL ASSUMPTIONS

The future travel demand in the Staley's Junction study area was estimated using a cumulative analysis, combining background traffic growth associated with increases in through volumes passing along the two state highways, and traffic generated by new development in the area. The selected design horizon year for this analysis is 2030. The Sunday afternoon peak was identified as the design hour for traffic analysis as this is when the highest traffic volumes occur on the Sunset Highway. Weekday AM and PM peak periods were also examined to supplement the Sunday analysis and ensure that traffic conditions and travel needs during those periods were also evaluated.

Future traffic volumes for the Sunset Highway were developed using data from two sources: ODOT's Transportation Planning Analysis Unit's (TPAU) traffic projections, and Washington County's travel demand forecasting model. Future volumes for the Nehalem Highway were developed using only the ODOT TPAU projections due to limited data available in the Washington County model for that roadway. Estimated growth on the Sunset Highway was determined by calculating geometric growth rates from each of the ODOT and Washington County data. The growth rates were then averaged and extrapolated to the 2030 horizon using the traffic growth method described in the TPAU Analysis Procedures Manual. The ODOT projections were based on a planning horizon year of 2024, while Washington County's growth estimates were based on a planning horizon of 2020.

#### 3.2 FUTURE YEAR FORECASTS

Based on the travel demand analysis, Table 3-1 indicates the growth rates applied to the Staley's Junction study area.

**Table 3-1. Staley's Junction Background Growth Rates**

Roadway	Annualized Growth Rate
Sunset Highway	2.04 %
Nehalem Highway	0.92 %
Fisher Road	0.92 %

An examination of land uses within the Staley's Junction study area identified no planned, private development in the area that may be anticipated to generate traffic. Much of the increase in travel demand in the area is attributed to background growth (i.e., the projected annualized growth rate); however, the L.L. "Stub" Stewart State Park is expected to be a significant new generator of traffic. The park opened in the summer of 2007, with about 75 percent of the park open for visitors. Full build-out of the park is expected in 2009. The new state park is located on the Nehalem Highway north of Staley's Junction, so it will particularly affect the movement of traffic between the Nehalem Highway and Sunset Highway east of Staley's Junction (e.g., for visitors traveling between the Park and the greater Portland Metropolitan Area). Intersection turning movements that are primarily affected by this traffic include the westbound-to-northbound right turn (towards the park) and the southbound-to-eastbound left turn (away from the park).

Project traffic volumes for L.L. "Stub" Stewart State Park were estimated based on data obtained from the *Washington County State Park Traffic Study* and *A Master Plan for a New State Park in Washington*

County<sup>1</sup>. Table 3-2 shows the expected traffic generated by the park during the project peak hour periods.

**Table 3-2. Stewart State Park Trip Generation**

Study Period	Inbound Traffic	Outbound Traffic
Weekday AM Peak	42	22
Weekday PM Peak	48	41
Sunday PM Peak	48	86

Source: Washington County Park Traffic Study and A Master Plan for a New State Park in Washington County, 2001.

### 3.3 FUTURE 2030 NO BUILD OPERATIONS

#### 3.3.1 Performance Standards

The No-Build option was analyzed for expected operational performance based on the guidelines described in the ODOT/TPAU 2006 Analysis Procedures Manual. Table 3-3 shows the mobility requirements for the Sunset and Nehalem Highways from the OHP and the Oregon Highway Design Manual.

**Table 3-3. State of Oregon Maximum V/C Ratios Outside Metro**

	Sunset Highway (Freight Route on Statewide Highway)	Nehalem Highway (District)
Planning <sup>1</sup>	0.70	0.75
Design <sup>2</sup>	0.60	0.70

<sup>1</sup> Source: Oregon Highway Plan.

<sup>2</sup> Source: Oregon Highway Design Manual.

It should be noted there are separate criteria for planning and design. The planning criteria from the OHP are used to identify problem locations. The design criteria from the Oregon Highway Design Manual are used as the basis for establishing design objectives for traffic operations when a roadway improvement is proposed. The Nehalem Highway at the Sunset Highway intersection is currently at the threshold of the OHP mobility requirements.

In order to apply the HCM standards to the various alternatives, the forecasted traffic was distributed to the roadway network to determine the turning-movement volumes for each intersection. Since some intersection geometries appear in multiple build concepts, several of the concepts shared the same turning movement volumes, resulting in equivalent estimated v/c values for similar movements in the no-build.

### 3.4 FUTURE 2030 DEFICIENCIES

#### 3.4.1 Traffic Operations

At the Nehalem/Sunset intersection, the southbound left turn movement is the critical concern within the Staley's Junction study area, due to the conflict between left-turning vehicles and through traffic on Sunset Highway. As indicated in Table 3-3, the OHP prescribes a maximum v/c threshold of 0.70 for this movement. The current v/c ratio at the intersection is 0.76 during the Sunday peak hour. Therefore, the movement presently exhibits a deficiency, and the failure of this movement will be exacerbated by the increase in traffic traveling between L.L. "Stub" Stewart State Park and the Portland area as well as an increase in traffic traveling on the Sunset Highway.

<sup>1</sup> Washington County State Park Traffic Study, David Evans and Associates, May 2001. and Master Plan for a New State Park in Washington County, Oregon State Parks, 2001.

The left-turn movement from southbound Fisher Road to eastbound Sunset Highway also experiences significant delays, although the volume of traffic making this movement is much lower. The Sunday Peak through volumes on Sunset Highway leave few acceptable gaps for left-turning vehicles.

The future operations analysis of the No-Build option indicates the likely high level of congestion on the Sunset Highway during the 2030 Sunday Peak. Since the eastbound through movement on the Sunset Highway will be at capacity, vehicles on the southbound Nehalem Highway and southbound Fisher Road will be effectively unable to make a left turn. Excessive delays and long queues are expected at the two intersections.

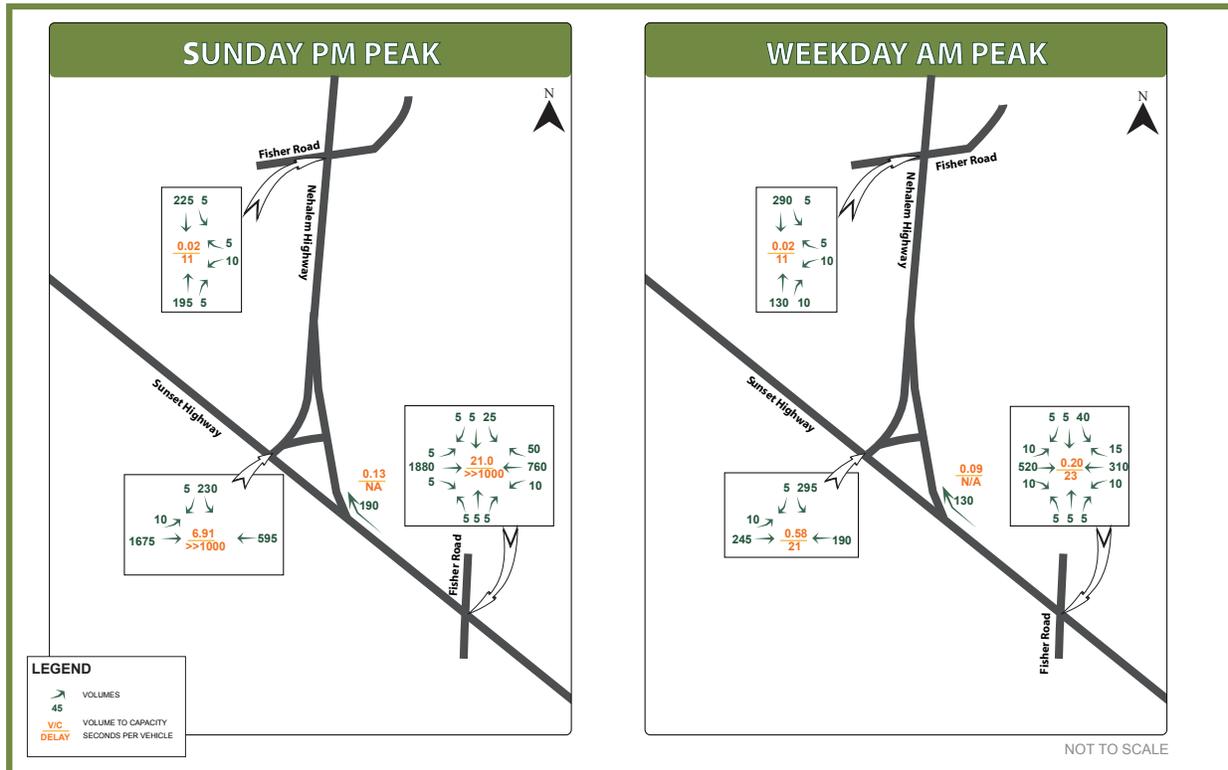
Table 3-4 and Figure 3-1 present the results of the future operations analysis with the No-Build option. The v/c is reported for critical movements at the existing intersections. Delay is reported for the critical movements where applicable.

**Table 3-4. 2030 No-Build Operations**

Intersection/Movement	Sunday PM Peak		Weekday AM Peak	
	V/C	Delay (sec/veh)	V/C	Delay (sec/veh)
Nehalem Hwy & Sunset Hwy				
SB to EB	6.91	>1000	0.58	21
WB to NB	0.13	-	0.09	-
Nehalem Hwy & Fisher Rd WB to SB				
	0.02	11	0.02	11
Sunset Hwy & Fisher Rd SB to EB				
	21.00	>1000	0.20	23

Additionally, forecasted traffic volumes for the 2030 horizon indicate that the east-bound Sunset Highway will operate near saturation, or v/c of 1.00, during Sunday peak periods assuming the Sunset Highway remains in the current condition of one lane in each direction. An increase of roadway width in the vicinity of the new interchange would alleviate merge and diverge turbulence at the interchange.

**Figure 3-1: 2030 No Build Volumes, V/C and Delay**





## 4. ALTERNATIVE DEVELOPMENT AND ANALYSIS

Using the project purpose and need and existing and future conditions (evaluation year 2030), ODOT developed alternative options and grade-separated interchange for replacing the Staley's Junction intersection. This chapter chronicles the development of alternative options and grade-separated interchange and explains how the preferred alternative was reached.

### 4.1 EVALUATION OF ALTERNATIVE OPTIONS

Five initial alternative options were developed and evaluated against the project purpose and need, and transportation factors. The intent of this process was to assess improvements that are cost-effective ways to address safety and other operational problems. These initial options included:

- round-about
- all-way stop
- installation of a flashing yellow light on Sunset Highway
- all movement signalization
- modify to an interchange

The project's objective to satisfy the fundamental travel safety and traffic problems at the existing intersection served as the basis for developing the screening criteria; consequently the criteria were, (1) provide for uncongested and safe operation of the intersection/interchange area and, (2) improve traffic movement and safety at the intersection/interchange area. When evaluated against the project purpose and need, only the "modify to an interchange" alternative option would meet the project's purpose and need (Table 4-1).

### 4.2 EVALUATION OF INTERCHANGE CONCEPTS

After the initial alternatives options in Table 4-1 were evaluated and the "modify to an interchange" option was refined into five interchange concepts for further evaluation in the IAMP process. The volume to capacity rates were for the 2030 planning horizon. The following descriptions highlight the key elements of each interchange concept.

- Concept 1: Included an overpass and loop ramp for the Nehalem Highway connection to the eastbound Sunset Highway. The loop ramp connected with the Sunset Highway near the location of the existing Nehalem Highway intersection. The westbound Sunset Highway-to-northbound Nehalem Highway movement was served by a ramp connection and the remaining movements are served by stop-controlled intersections. See Figure 4-1 for an illustration of this concept.
- Concept 2: A variation of Concept 1. Included an overpass and loop ramp for the Nehalem Highway connections to the eastbound Sunset Highway. In this case the loop ramp connected with the Sunset Highway east of the existing Nehalem Highway intersection near the existing gas station. The westbound Sunset Highway-to-northbound Nehalem Highway movement was served by a ramp connection and the remaining movements were served by stop-controlled intersections. See Figure 4-2 for an illustration of this concept.
- Concept 3: Included an overpass and loop ramp for the Nehalem Highway connections to the eastbound Sunset Highway. All movements between the two roadways were served by ramp junctions. See Figure 4-3 for an illustration of this concept.
- Concept 4: Included fully directional flyover ramps for the Nehalem Highway connections to the eastbound Sunset Highway. All movements between the two roadways were served by ramp junctions. See Figure 4-4 for an illustration of this concept.

**Table 4-1: Project Needs Screening of Conceptual Alternatives**

SCREENING FACTORS	<b>Objective</b>	Provide for uncongested and safe operation of the intersection/ interchange area	Improve traffic movement and safety at the intersection/ interchange area.	<b>EVALUATION CONCLUSION</b>
	<b>Criteria</b>	Improvement provides smooth flow of vehicles through intersection/interchange, especially for key left turn movements from SB Nehalem Highway to EB Sunset Highway and from EB Sunset Highway to NB Nehalem Highway.	Improvement reduces accident potential within study area.	
	<b>Measure</b>	<b>Project Management Team's Conclusion</b>	<b>Project Management Team's Conclusion</b>	
ALTERNATIVES	<b>No Build</b>	Would not eliminate or address conflicting left turn movements from SB Nehalem Highway to EB Sunset Highway and from EB Sunset Highway to NB Nehalem Highway.	Would not eliminate or address conflicting left turn movements from SB Nehalem Highway to EB Sunset Highway and from EB Sunset Highway to NB Nehalem Highway.	<b>Does not meet project need. Do not advance.</b>
	<b>Install Flashing Yellow Signal</b>	Would not eliminate or address conflicting left turn movements from SB Nehalem Highway to EB Sunset Highway and from EB Sunset Highway to NB Nehalem Highway.	Would not eliminate or address conflicting left turn movements from SB Nehalem Highway to EB Sunset Highway and from EB Sunset Highway to NB Nehalem Highway.	<b>Does not meet project need. Do not advance.</b>
	<b>Roundabout</b>	Would increase traffic congestion on the highway, especially during weekend peak hour conditions. Heavy volumes on the Sunset Highway would create an imbalance of traffic flow with few gaps for Nehalem Highway traffic to merge onto the EB Sunset Highway. Adverse impact to freight mobility by slowing traffic on designated freight route.	Would likely increase accident potential. High speed traffic on Sunset Highway would need to slow down and divert from a straight path into a roundabout unfamiliar to the average driver. Large vehicles or over-dimensional vehicles would have a difficult time with the geometric layout.	<b>Does not meet project need. Do not advance.</b>
	<b>All-Way Stop</b>	Would increase traffic congestion on the highway, especially during weekend peak hour conditions. Adverse impact to freight mobility by slowing traffic on designated freight route.	Would likely increase accident potential. Highway traffic stops at the intersection, especially given the high traffic speeds along the approaching rural highway sections, would contribute to higher likelihood of rear-end accidents, than the current intersection configuration and operational characteristics.	<b>Does not meet project need. Do not advance.</b>
	<b>All movement Signalization</b>	Would increase traffic congestion on the highway, especially during weekend peak hour conditions. Adverse impact to freight mobility by slowing traffic on designated freight route.	Would likely increase accident potential. Highway traffic stops at the intersection, especially given the high traffic speeds along the approaching rural highway sections, would contribute to higher likelihood of rear-end accidents, than the current intersection configuration and operational characteristics.	<b>Does not meet project need. Do not advance.</b>
	<b>Grade-Separation</b>	Grade-separation would improve traffic flow and eliminate conflict points.	Grade-separation would eliminate key conflict points and reduce accident potential.	<b>Meets project need. Advance to the next level of evaluation.</b>

Figure 4-1: Concept 1 Schematic Operations

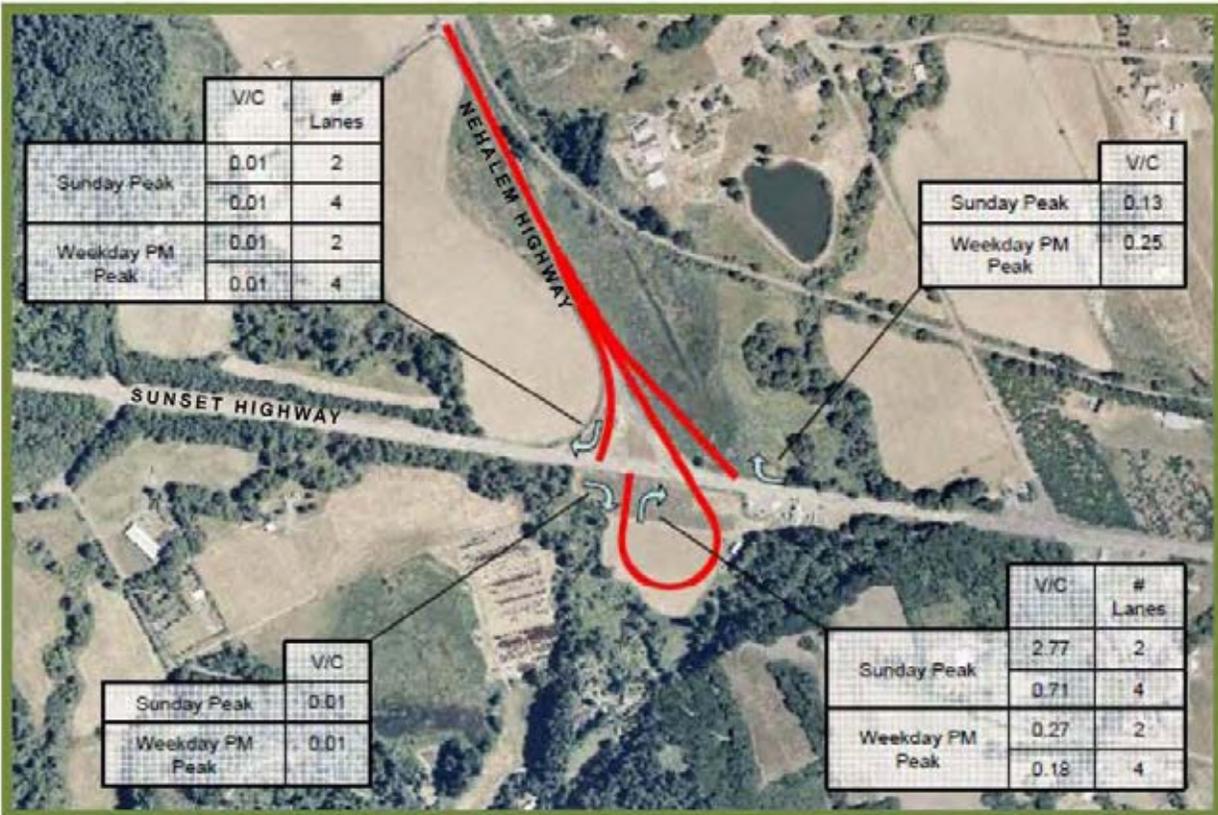


Figure 4-2: Concept 2 Schematic Operations

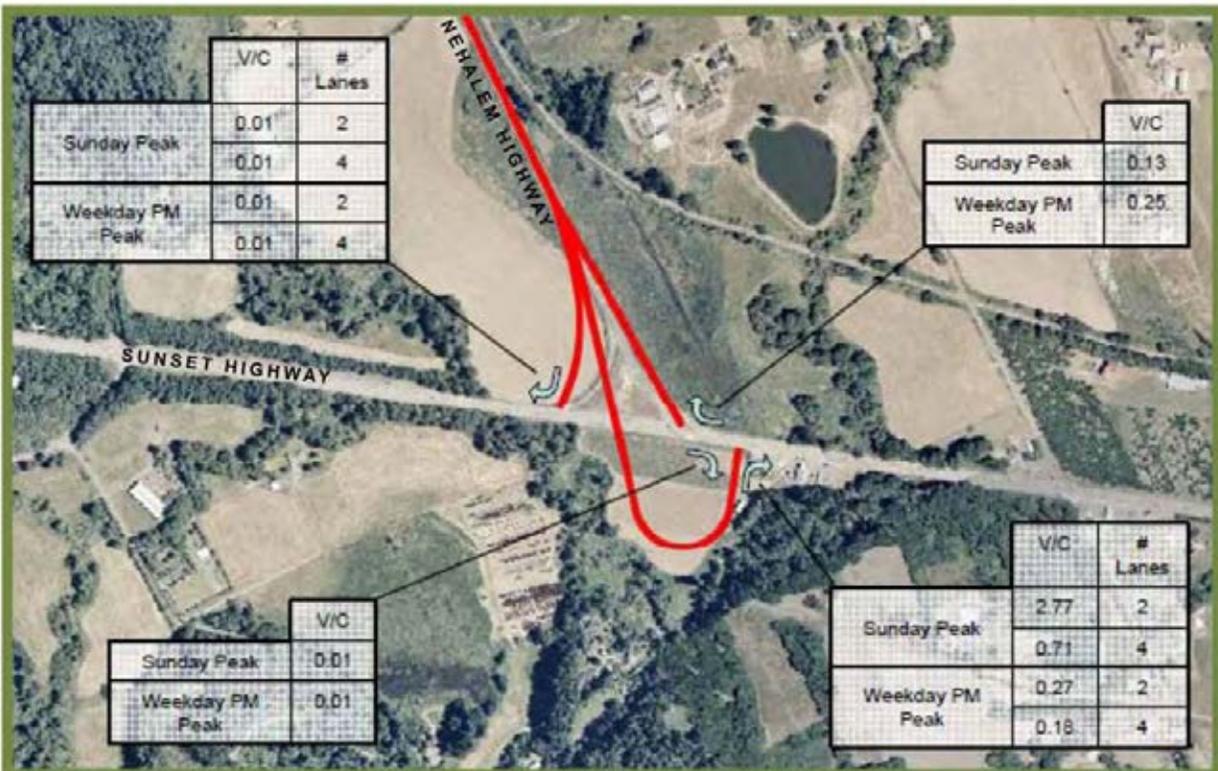


Figure 4-3: Concept 3 Schematic Operations

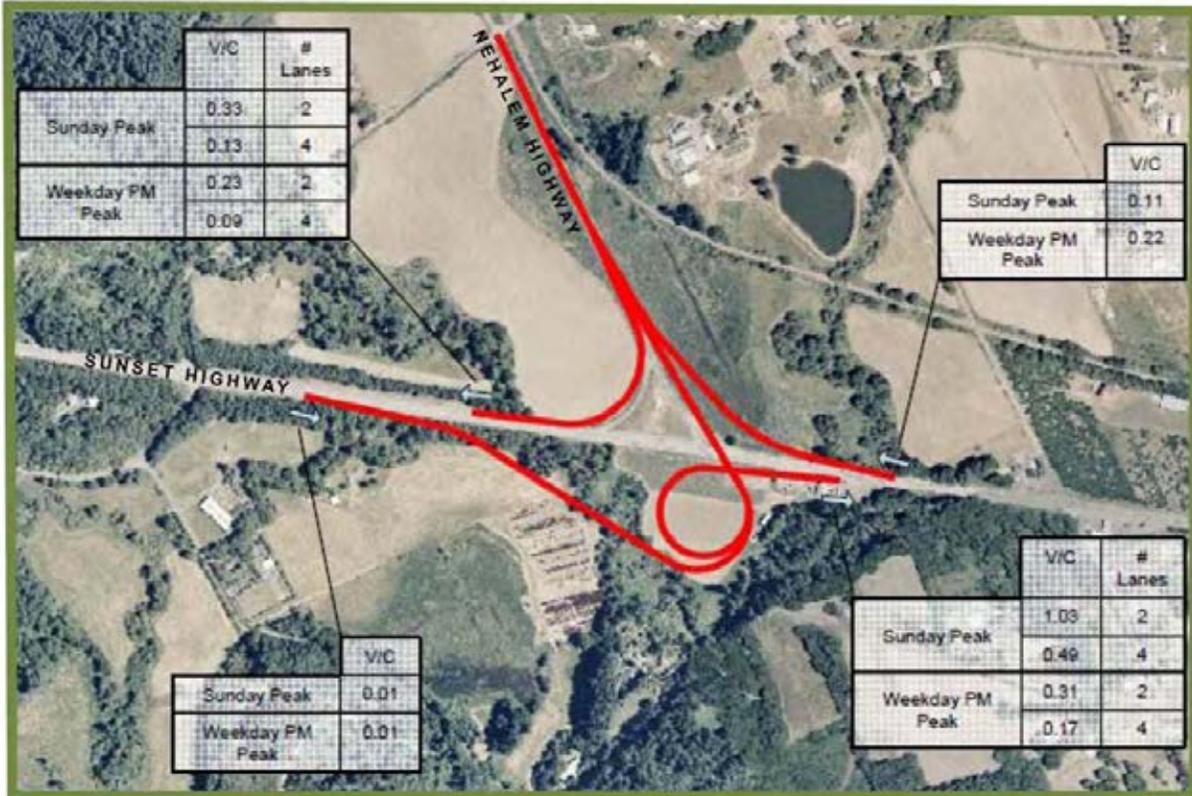
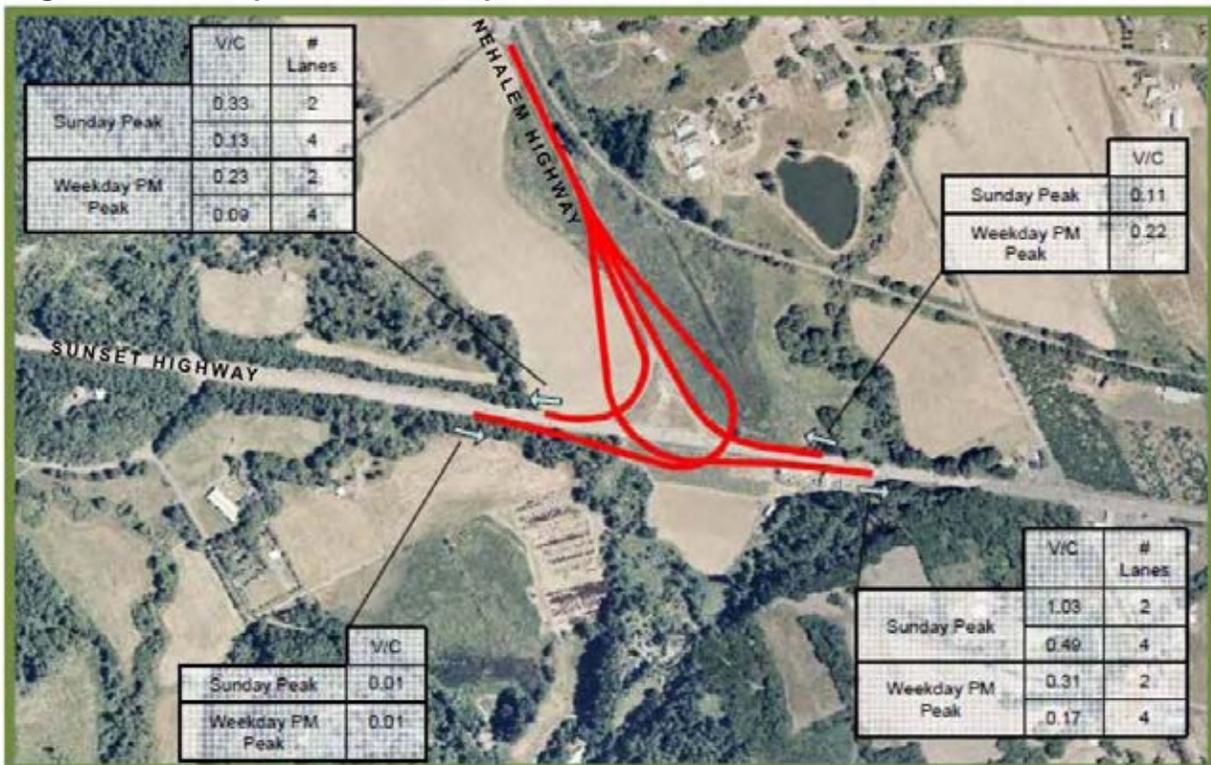
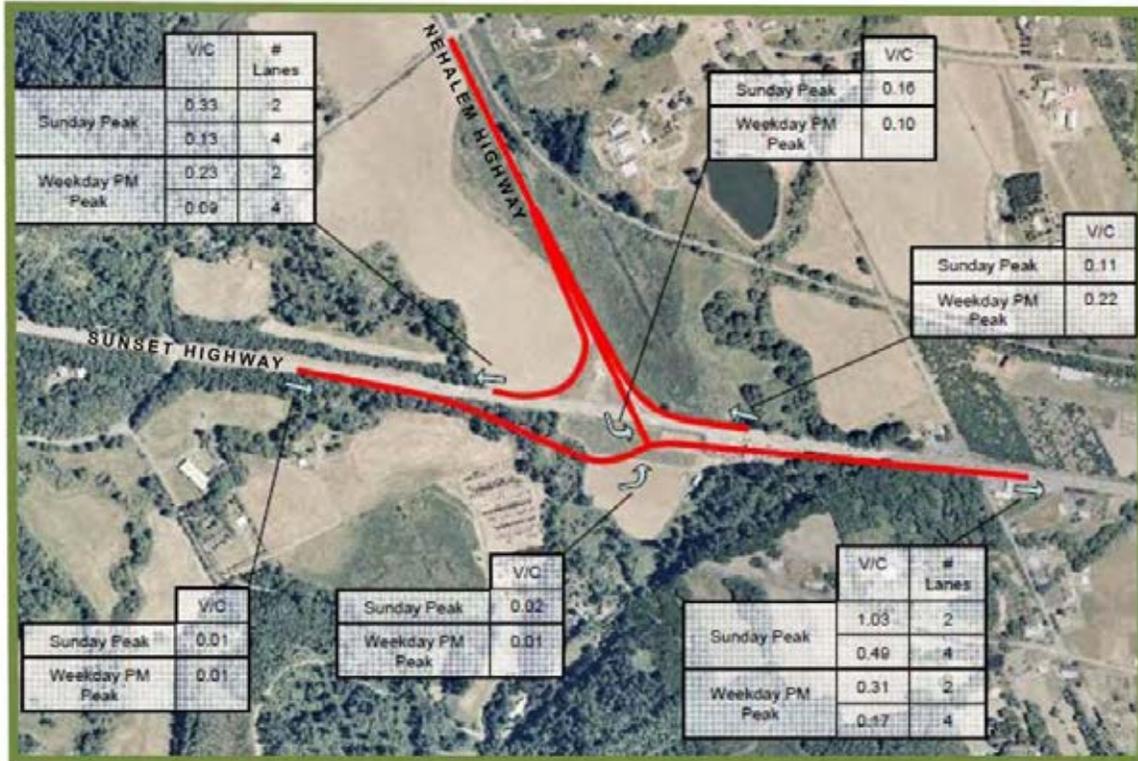


Figure 4-4: Concept 4 Schematic Operations



- Concept 5: Included an overpass and “T” intersection with ramps serving the connection between the Nehalem Highway and eastbound Sunset Highway. The Nehalem Highway connections with westbound Sunset Highway were served by ramp junctions. See Figure 4-5 for an illustration of this concept.

**Figure 4-5: Concept 5 Schematic Operations**



An analysis of the Nehalem Highway and Sunset Highway intersection was performed for each of these concepts to identify differences in their general operational characteristics. This first-cut evaluation of the concepts consisted of an analysis of 2030 Sunday PM Peak and Weekday PM Peak v/c ratios for each of the movements between the Nehalem Highway and the Sunset Highway.

A significant operational differentiator between the concepts was the type of intersection proposed for the movement from the southbound Nehalem Highway-to-eastbound Sunset Highway. As indicated above, this movement represents the greatest traffic conflict within the study area. The critical analysis period for this movement is the Sunday Peak when recreational traffic volumes would be the greatest on the eastbound Sunset Highway and the southbound Nehalem Highway. The initial analysis showed that the concepts with stop-controlled connections for this movement would experience a v/c ratio of 2.77 during the 2030 Sunday PM Peak period, while the concepts with ramp junctions resulted in a v/c of 1.03. In both cases, the results exceed the Oregon Highway Plan v/c threshold of 0.70.

In order to determine the extent of improvements required to meet the OHP v/c criteria, a second analysis was performed on the design concepts. The analysis identified v/c ratios for the ramp connections with modified concepts that included two through-lanes in each direction on the Sunset Highway. Figure 4-1 through Figure 4-5 show the results of the analyses for each concept with both one and two through-lanes in each direction.

The initial concept analyses revealed that the southbound Nehalem Highway to eastbound Sunset Highway movement must be provided with a ramp junction and two through-lanes (i.e., two lanes in each direction) to meet the OHP criteria through the 2030 planning horizon.

Concurrent with the transportation analysis of the five concepts, ODOT, the ATF, and CAC used a screening

process to evaluate each of the five interchange concepts with respect to the environmental and operational evaluation criteria. Table 4-2 illustrates the evaluation of the five interchange concepts. Evaluation criteria were expanded to address a series of additional transportation, land use, natural resources, cultural and built-environment, and cost-effectiveness. These criteria were applied to each concept using a nominal level of measurement (i.e., +/-), which were summed. Among the five concepts, Concept 1 most adequately met the evaluation criteria, with Concept 2 coming in a close second. Therefore, Concept 1 became the preferred design concept and ODOT began to refine the concept for further analysis.

Concept 1 included ramp junctions for all movements and two through-lanes in each direction on the Sunset Highway within the influence area of the interchange ramps. The refined concept also included a provision for making a “u-turn” from the westbound Sunset Highway to eastbound Sunset highway. This provision resulted from comments in the public process regarding access from southbound Fisher Road to eastbound Sunset Highway. Due to Sunday PM conflicts with the Fisher Road left-turn movement, access would be restricted to right-turns only in the future. In anticipation of the turn restriction, the u-turn movement was provided at the Sunset Highway and Nehalem Highway interchange. Figure 4-6 shows the three phased approach for constructing refined Concept 1.

#### 4.2.1 Supplemental Traffic Operations Analysis

During the IAMP process, L.L. “Stub” Stewart State Park opened for public use and new information about park-related traffic became available. The previous state park traffic study assumed that much of the outbound campsite traffic would occur in the PM peak. However, the new information from the park indicates that all campsites must be vacated by 1:00 pm. This revised trip generation reduces the PM Peak outbound trip rate from 0.3 to 0.05 trips per campsite. All other trip generation rates remain the same as those used in the previous traffic study. New trip generation estimates were prepared based on the outbound rate reduction and final counts of developed campsites and day-use parking spaces. Table 4-3 shows the modified trip generation results.

**Table 4-3. Staley’s Junction Revised Sunday PM Trip Generation**

Campsites				Day Use				Totals
<b>2015</b>	# Sites	144		<b>2015</b>	# Spaces	70		
	<b>Rate</b>	<b>Split</b>	<b>Trips</b>		<b>Rate</b>	<b>Split</b>	<b>Trips</b>	<b>Trips</b>
Total	0.25	100%	36	Total	0.40	100%	28	64
In	0.20	80%	28.8	In	0.12	30%	8.4	37
Out	0.05	20%	7.2	Out	0.28	70%	19.6	27
<b>2030</b>	# Sites	176		<b>2030</b>	# Spaces	120		
	<b>Rate</b>	<b>Split</b>	<b>Trips</b>		<b>Rate</b>	<b>Split</b>	<b>Trips</b>	<b>Trips</b>
Total	0.25	100%	44	Total	0.40	100%	48	92
In	0.20	80%	35.2	In	0.12	30%	14.4	50
Out	0.05	20%	8.8	Out	0.28	70%	33.6	42

Note: Total trip generation rate maintains the same inbound rate from DEA report and assumes an outbound rate of 0.05 versus 0.30 in previous analysis.

The only significant change in traffic operations resulting from the revised trip generation occurs on the critical movement at the Nehalem Highway and Sunset Highway Intersection. Therefore an isolated operations analysis was performed at that location using the revised trip generation rates. Table 4-4 shows a comparison of original and revised v/c ratios for the critical southbound Nehalem Highway to eastbound Sunset Highway movement. The revised v/c ratios show a more significant change in the 2015 horizon because the conflicting through movement volume on the Sunset Highway is much less in 2015 versus 2030. However, also shown in the original v/c calculation, the construction of a stop-controlled interchange in Phase 1 (See Section 5.3.2.1 for more information) still does not meet the mobility standards. Instead,

**Table 4-2. Evaluation of Interchange Concepts**

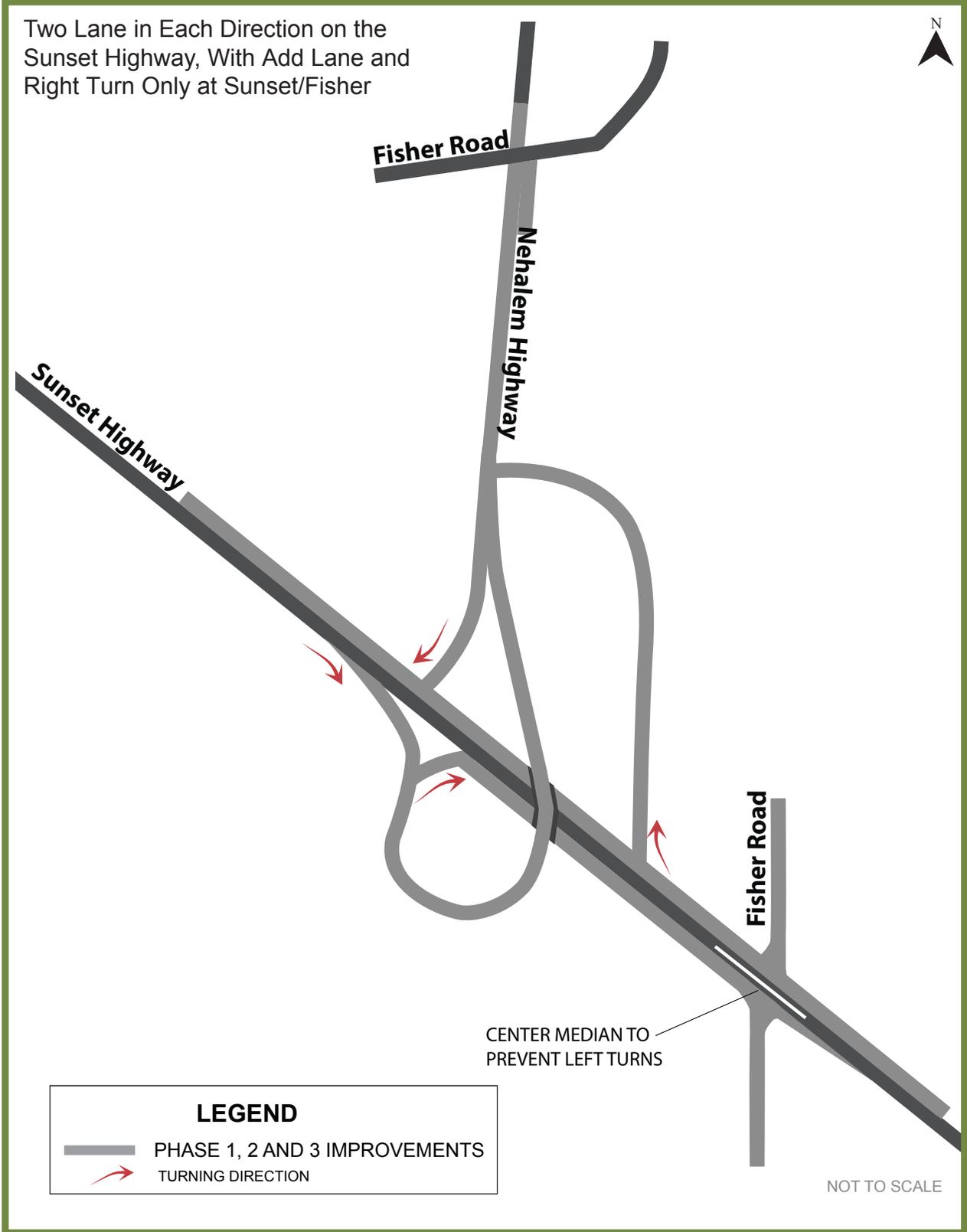
EVALUATION FACTORS		ALTERNATIVES						
Transportation	Evaluation Criteria	Measure	Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Comments
Provide for uncongested and safe operation of the intersection/interchange area and Improve traffic movement and safety at the intersection/interchange area.	Improvement provides smooth flow of vehicles through intersection/interchange, especially for left turn move from Southbound Nehalem Highway to Eastbound Sunset Highway. Improvement reduces accident potential within study area.	Volume/Capacity (OHP target V/C is 0.70 and below). Number of vehicle conflict points.	0.71(-)	0.71(-)	0.49(+)	0.49(+)	0.49(+)	
Provide for an adequate system of local roads and streets to provide access and circulation with the interchange area.	Minimizes deviation from access management standards.	Less (+) or more (-) difficult to achieve access management standards.	(+)	(+)	(-)	(-)	(-)	
Do not preclude future options of widening Sunset Highway.	Improvement allows future highway widening as included in applicable plans.	Allows (+) or does not allow (-) widening of the Sunset Highway to a minimum of 2 lanes in each direction.	(+)	(+)	(+)	(+)	(+)	
<b>Land Use</b>								
Meet the transportation needs of the current and planned land uses as contained in the Washington County Rural/Natural Resource Plan	Improvement minimizes need for Goal 12 exceptions. Improvements minimize use of agricultural land	Avoids (+) or requires (-) Goal 12 exception. Avoids (+) does not avoid (-) dividing Goal 3-protected parcels.	(+)	(+)	(+)	(+)	(+)	Project required due to safety problems, and safety improvements allowed under Goal 12. No division because likely to purchase of farmland adjacent to highway.

EVALUATION FACTORS		ALTERNATIVES						
Transportation	Evaluation Criteria	Measure	Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Comments
<b>Natural Environment</b>								
Avoid or minimize adverse impacts to known wildlife habitat, and surface water.	Improvement minimizes adverse effects to identified wildlife habitat area(s).	Avoids (+) or potentially adversely impacts (-) identified habitat areas.	(+)	(+)	(-)	(-)	(-)	All potentially impact riparian areas. Concepts 3, 4 and 5 have greater potential for impacts to stream/riparian areas. Impacts can be mitigated.
	Improvement minimizes adverse effects to identified wetlands.	Avoids (+) or potentially adversely effects (-) identified wetland areas.	(-)	(-)	(-)	(-)	(-)	Can be mitigated.
	Improvement minimizes adverse effects to FEMA 100-year floodplain or floodway.	Avoids (+) or potentially includes (-) fill or structural elements in 100-year floodplain.	(-)	(-)	(-)	(-)	(-)	As required by regulations, fill in floodplain will be offset by cutting into (or hollowing out) the floodplain and providing a balance in floodplain capacity.
	Improvement minimizes adverse effects to streams.	Avoids (+) or includes (-) fill in designated floodway.	(-)	(-)	(-)	(-)	(-)	Floodway likely spanned.
	Improvement minimizes adverse effects to streams.	Avoids (+) or potentially include (-) fill or structural elements in stream channel.	(+)	(+)	(+)	(+)	(+)	Streams channels expected to be spanned by bridges within in stream piers.
<b>Cultural &amp; Built Environment</b>								
Avoid or minimize displacement of homes and businesses.	Interchange footprint minimizes potential for residential displacement(s).	Lower (+) or higher (-) potential of displacing one (or more) residence(s).	(+)	(+)	(+)	(+)	(+)	No residences expected to be replaced.

EVALUATION FACTORS		ALTERNATIVES							
Transportation	Evaluation Criteria	Measure	Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Comments	
	Interchange footprint minimizes potential for business displacement(s).	Lower (+) or higher (-) potential of displacing one (or more) business(es).	(-)	(-)	(-)	(-)	(-)	Potential displacement of Staley's Junction gas station	
	Improvement minimizes new right-of-way.	Avoids (+) or includes (-) acquisition of new right-of-way.	(-)	(-)	(-)	(-)	(-)	All concepts will require acquisition of new right-of-way	
	Minimize the need to purchase property for right-of-way or easement purposes.	Avoids (+) or potentially adversely effects (-) known archaeological site(s).	(+)	(+)	(+)	(+)	(+)		
	Improve or minimize impacts to known archaeological and historic resources.	Avoids (+) or potentially adversely effects (-) historic above-ground properties (s) previously listed on the NR or determined NR-eligible.	(+)	(+)	(+)	(+)	(+)	No known archaeological resources impacted. No historic resources previously evaluated impacted.	
		Avoids (+) or potentially adversely effects (-) potentially historic above-ground resources.	(-)	(-)	(-)	(-)	(-)	Assumes unevaluated and potentially historic railroad right-of-way may be affected on all concepts IF Nehalem Highway and Fisher Road intersection needs improvements. Any impacts would likely not have adverse effects, or could be mitigated.	
		Avoids (+) or potentially "uses" (-) known/potential historic properties or resources potentially protected by Section 4(f) provisions.	(-)	(-)	(-)	(-)	(-)		
<b>Project Development</b>									
	Provide an affordable and cost-effective range of solutions.	Number of overpasses and bridges.	1(+)	1(+)	3(-)	6(-)	2(-)		
		<b>TOTAL (+) / (-)</b>	<b>11/8</b>	<b>11/8</b>	<b>9/10</b>	<b>9/10</b>	<b>8/11</b>		

Note: Not all project objectives from the Purpose and Need Statement are included as objectives in this evaluation; objectives that cannot be measured or evaluated at the current project stage are omitted.

**Figure 4-6: 2030 Build, Concept 1**



Phase 1 will improve safety for the Nehalem Highway southbound to Sunset Highway eastbound turning movement, which is the primary purpose of the interchange.

**Table 4-4. Comparison of Original and Revised Phase 1 Operations, Sunday PM Peak**

Intersection/Movement	2015		2030	
	Original V/C	New V/C	Original V/C	New V/C
Nehalem Hwy & Sunset Hwy				
SB to EB	1.29	0.92	2.77	2.53



## **5. INTERCHANGE AREA MANAGEMENT PLAN**

This chapter summarizes the selected interchange concept as the preferred alternative and the phasing of the interchange development, and short, medium, and long-range access management actions.

### **5.1 INTERCHANGE FUNCTION AND CLASSIFICATION**

The intended function of the Staley's Junction interchange is to safely and efficiently accommodate future traffic demands associated with current rural land uses and increased demand associated with development of the L.L. "Stub" Stewart State Park. Staley's Junction interchange is principally a rural interchange that connects US 26, the Sunset Highway to OR 47, the Nehalem Highway. The primary function of the interchange is to minimize the conflicts between through traffic on the Sunset Highway and the movement of vehicles entering the highway from the Nehalem Highway or turning from the Sunset Highway onto the Nehalem Highway.

The area surrounding Staley's Junction is rural. The interchange is to continue to serve rural land uses. The interchange improvements under consideration in this study are not intended to facilitate commercial or residential development in the interchange area, beyond what is permitted outright in the adopted Washington County Comprehensive Plan. As such, the interchange will be improved to a jughandle interchange with a stop-control ramp.

The Nehalem Highway is a District Highway that provides access to unincorporated Washington County, the local Buxton community, the City of Vernonia, and areas in Columbia County to the north. District-level highways are facilities of county-wide significance and function largely as county and city arterials or collectors.

The Sunset Highway is a Statewide Highway providing intrastate mobility from Ontario, Oregon to Seaside, and is part of the National Highway System and a designated Statewide Freight Route. The primary function of Statewide-level highways is to provide inter-urban and inter-regional mobility and provide connections to larger urban areas, ports, and major recreation areas not served by Interstate Highways.

### **5.2 MANAGEMENT INFLUENCE AREA**

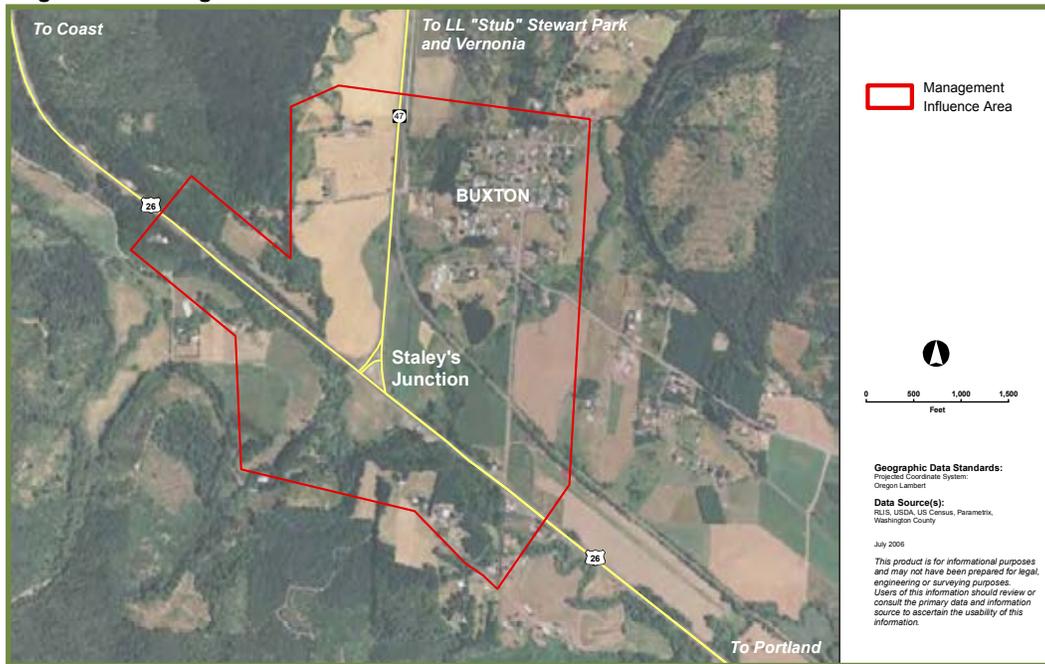
As shown in Figure 5-1 the IAMP management influence area includes areas to the north, east, south, and west of the Nehalem/Sunset intersection. The functional classification of US 26 and OR 47, the local road circulation and the surrounding land uses were used to determine the boundary for the management influence area.

### **5.3 PREFERRED ALTERNATIVE**

Concurrent with developing the preliminary design of Concept 1, ODOT began refining the preliminary cost estimates for the concept. It became apparent that geotechnical issues on land to the east of the Nehalem Highway and north of the Sunset Highway would need to be addressed. ODOT determined that building a safe and long lasting facility on that piece of land would substantially impact a wetland. Additionally, the extensive construction excavation and fill required to build a stable roadbed in the geotechnical unstable wetland would cost substantially more than building a facility west of the Nehalem Highway. Therefore, ODOT decided to revisit Concept 2, which is not located on the parcel to the east of the Nehalem Highway and ranked a close second in the objective and evaluation screening exercise.

The refined Concept 2 included an overpass and loop ramp for the Nehalem Highway connections to the eastbound Sunset Highway. The Nehalem Highway connection to the overpass and loop ramp would include a connection facility located to the west of the Nehalem Highway. The loop ramp would connect with the

**Figure 5-1: Management Influence Area**



Sunset Highway east of the existing Nehalem Highway intersection near the existing gas station. Refined Concept 2 would include two through-lanes in each direction on the Sunset Highway within the influence area of the interchange ramps.

When developing cost estimates for refined Concept 2, ODOT found that high costs associated with geotechnical issues in the study area and the cost of building a stop-controlled interchange at the same time as adding a through lane in each direction on the Sunset Highway would be prohibitive. Therefore, ODOT refined Concept 2 to a three-phased project, named Concept A. The phased approach is intended to meet the immediate goal of implementing safety improvements within available funding limits while also identifying additional future improvements that will further improve operations in the Staley's Junction area.

The phased approach for Concept 2 (which evolved into Concept A), the preferred alternative, is a "jughandle", stop-controlled interchange design on the west side of the Nehalem Highway which can be developed in three phases, as described below.

### 5.3.1 Operational Improvements

Prior to full implementation of Concept A Phase 1, Intelligent Transportation System (ITS) concepts will be integrated along Sunset Highway near Staley's Junction. ITS is a cost effective and highly beneficial operational improvement.

#### 5.3.1.1 Intelligent Transportation System (ITS) Variable Speed System Improvement

The implementation of an ITS, which will manage the existing highway system of the US 26 corridor at Staley's Junction is warranted. The ITS, when integrated into a transportation corridor, can save lives, save time and save money without increasing the physical size of the highway. The implementation of the ITS variable speed system is a viable and safety mitigation project to assist in reducing speeds and increasing traffic gaps during heavy traffic periods. The application of ITS is to improve safety for turning vehicles on to eastbound US 26 from OR 47.

The rural two-lane US 26 in the Staley's Junction area is over capacity during the seasonal recreational peak period as a result of weekend coastal traffic. As the traffic analysis indicates the critical traffic movement at the at-grade intersection is the left turn from southbound Nehalem Highway (OR 47) to eastbound US 26 during the Sunday PM peak period. The heavy eastbound traffic on US 26 reduces the "gaps" in traffic for the left turning vehicles from OR 47. This situation results in an increased waiting time for left turning vehicles onto US 26. The heavy traffic eastbound on US 26, creates a situation where left turning vehicles accept reduced gaps and make quicker left turns into the traffic flow. This situation causes disruptions in the traffic flow and potential unsafe conditions.

The Staley's Junction ITS variable speed system will monitor real time traffic conditions to improve the operations of the at-grade intersection during heavy traffic peak periods. The ITS variable speed real time monitoring will enable the US 26 corridor speed to be reduced during heavy traffic to allow for safer turning movements. The speed reduction will assist in maintaining a consistent flow of traffic on US 26.

The ITS variable speed system can be implemented for a relatively low cost with immediate safety benefits at intersection. The Intelligent Transportation System would also be incorporated into the jughandle interchange concept to help manage the corridor.

### **5.3.2 Concept A Phase 1**

#### **5.3.2.1 Phase 1 Short-Term Improvements**

Phase 1 provides a jughandle interchange that will eliminate the left turns across Sunset Highway (Figure 5-2). Phase 1 addresses the primary safety issue at Staley's Junction.

- The Sunset Highway will remain two through lanes at the interchange (i.e., one lane in each direction) but with a barrier in the middle of the highway in the vicinity of the interchange.
- Sunset Highway Eastbound to Nehalem Highway Northbound traffic would turn right from the Sunset Highway and cross over the Sunset Highway to a stop control on the Nehalem Highway.
- Another safety improvement of this phase is to acquire access rights along the Sunset Highway for 1,320 feet in both directions from the stop controlled ramp on the Sunset Highway.
- This phase will acquire the Staley's Junction gas station.
- The Sunset Highway/Fisher Road and Nehalem Highway/Fisher Road intersections full turning movements will remain.

This improvement will substantially improve the safety of travelers using the interchange by providing a grade-separated crossing and eliminating the at-grade left turns.

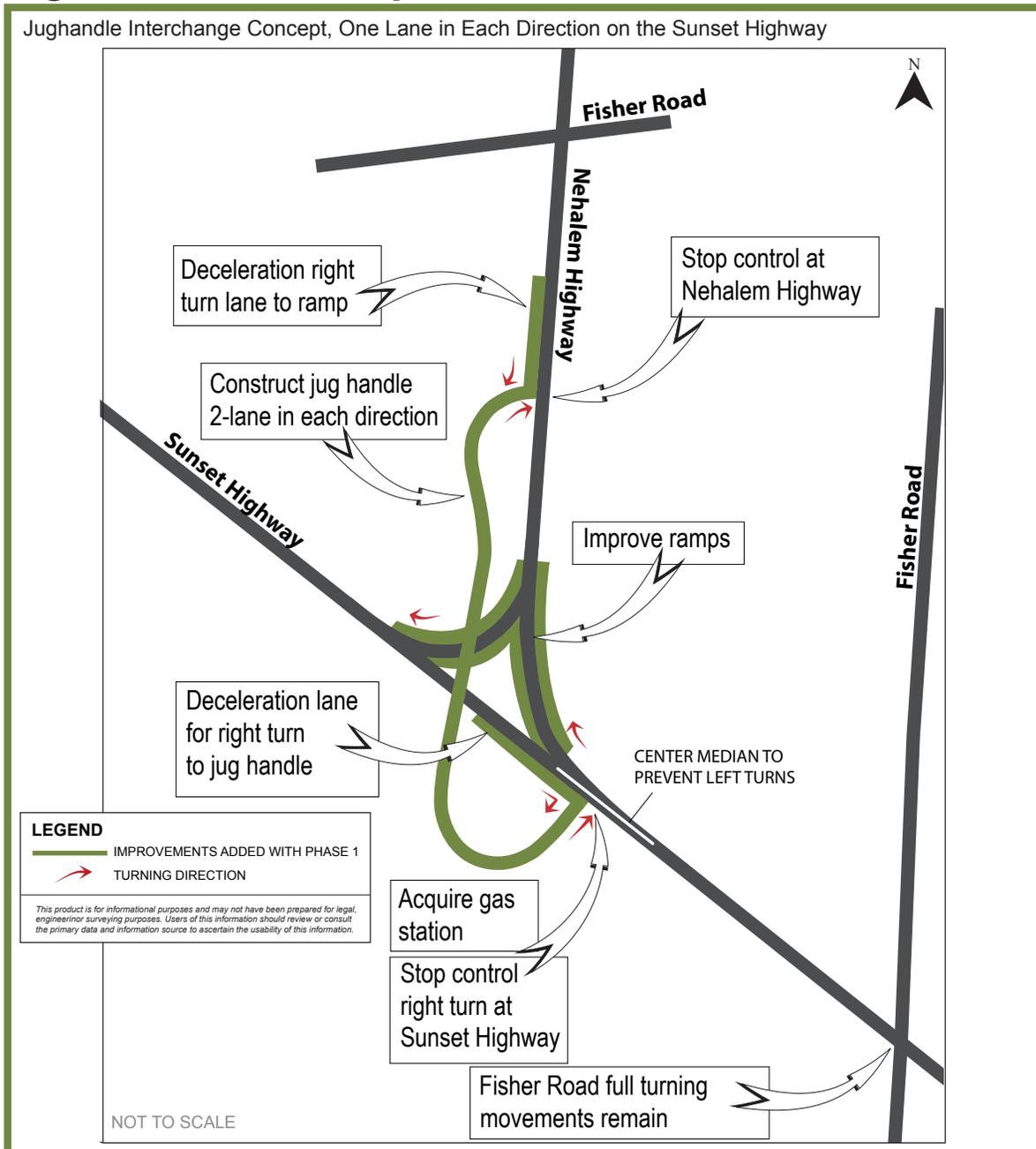
#### **5.3.2.2 Phase 1 Operations Analysis**

Although Phase 1 addresses the primary safety problem at Staley's Junction, it will not meet the Oregon Highway Plan (OHP) mobility standard for this location, even in the relatively near term. Figure 5-3 and Table 5-1 show the projected 2015 volumes, v/c ratio, and delay for this jughandle interchange concept. During this time, v/c is projected to be 0.92. The OHP v/c standard for this Nehalem Highway intersection with the Sunset Highway is 0.70. Although at Phase 1 the project would not achieve the standard for the Sunday PM Peak it would be achieved for the Weekday AM Peak. The safety and mobility associated with turning movement would be substantially improved and would establish the framework for achieving the standard when funds become available for Phase 2.

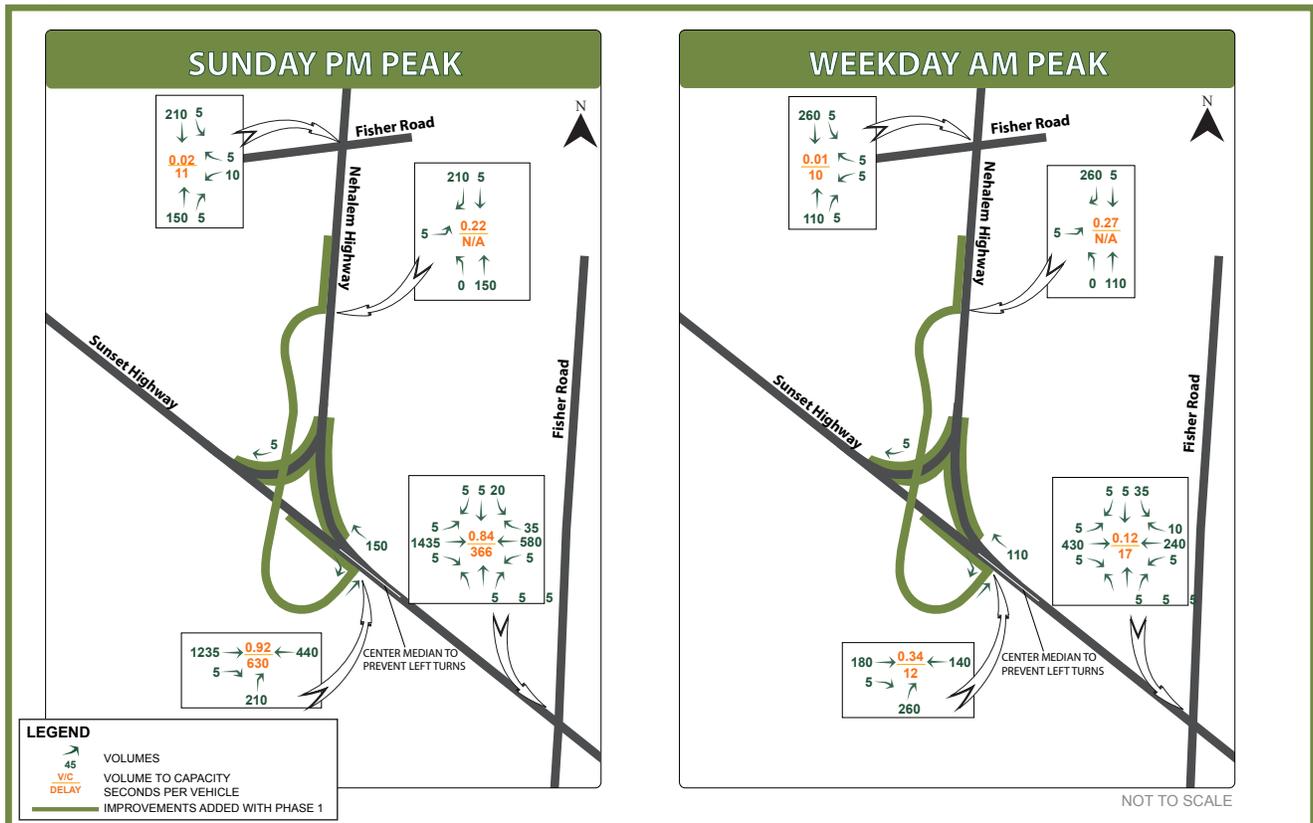
**Table 5-1. 2015 Build Concept A Phase 1 Operation**

Intersection/Movement	Sunday PM Peak		Weekday AM Peak	
	V/C	Delay (sec/veh)	V/C	Delay (sec/veh)
Nehalem Hwy & Sunset Hwy				
SB to EB	0.92	630	0.34	12
SB to WB	0.24	-	0.08	-
EB to NB	0.01	-	0.01	-
WB to NB	0.10	-	0.07	-
Sunset Hwy & Fisher Rd (SB to EB)	0.84	366	0.12	17

**Figure 5-2: 2015 Concept A Build Phase 1**



**Figure 5-3: 2015 Concept A Build Phase 1**



Jughandle Interchange Concept Volumes, V/C and Delay. One Lane in Each Direction on the Sunset Highway. Stop Control on Nehalem Highway.  
*This product is for informational purposes and may not have been prepared for legal, engineering or surveying purposes. Users of this information should review or consult the primary data and information source to ascertain the usability of this information.*

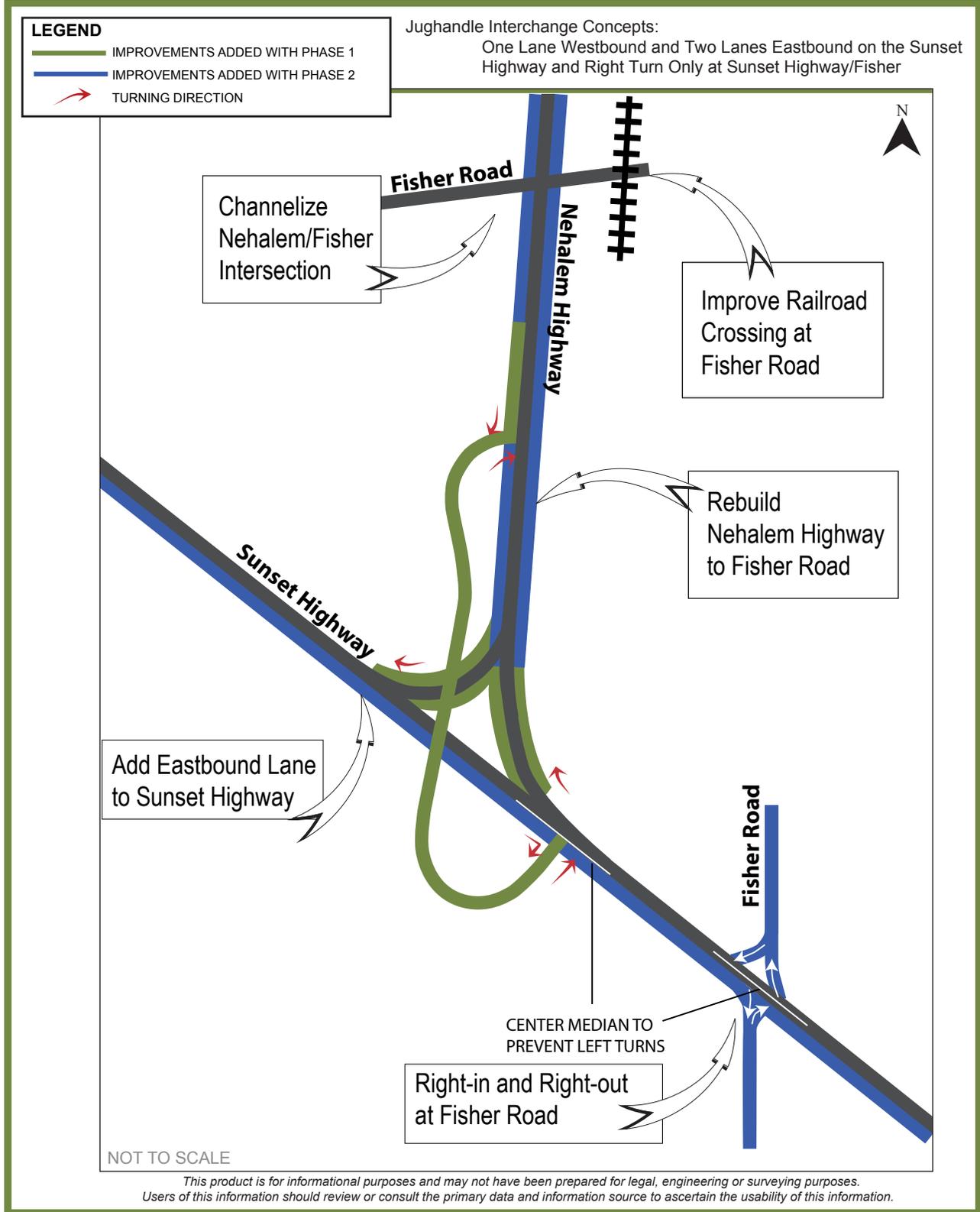
### 5.3.3 Concept A Phase 2

#### 5.3.3.1 Phase 2 Medium-Term Improvements

Phase 2 of the interchange concept will add a lane to the Sunset Highway eastbound to meet the mobility standards. Adding an eastbound lane to the Sunset Highway will create “gaps” for cars turning right on the Sunset Highway. A second lane eastbound on the Sunset Highway in the vicinity of the new interchange will alleviate merge and diverge turbulence at the interchange. Figure 5-4 shows the major elements of Concept A Phase 2 at Staley’s Junction. These elements include:

- This Phase will add an eastbound lane on the Sunset Highway through the jughandle.
- Because the eastbound lane will extend into the intersection at the Sunset Highway/Fisher Road intersection, movements will be restricted to “right-in and right-out” turns by extending the median barrier through the intersection.
- The only traffic movement that will not be accommodated by the jughandle interchange is the northbound Fisher Road to westbound Sunset Highway. Traffic from Fisher Road that wants to turn west will have to turn right on to the Sunset Highway eastbound to turn around and return to travel Sunset Highway westbound.
- This phase will require the improvements to the Nehalem Highway including channelization at Fisher Road and at the ramp intersection with the Nehalem Highway.
- The raising of Nehalem Highway will require railroad crossing improvements at Fisher Road, so the grade at the intersection and railroad crossing are the same.

**Figure 5-4: 2030 Concept A Build Phase 2**

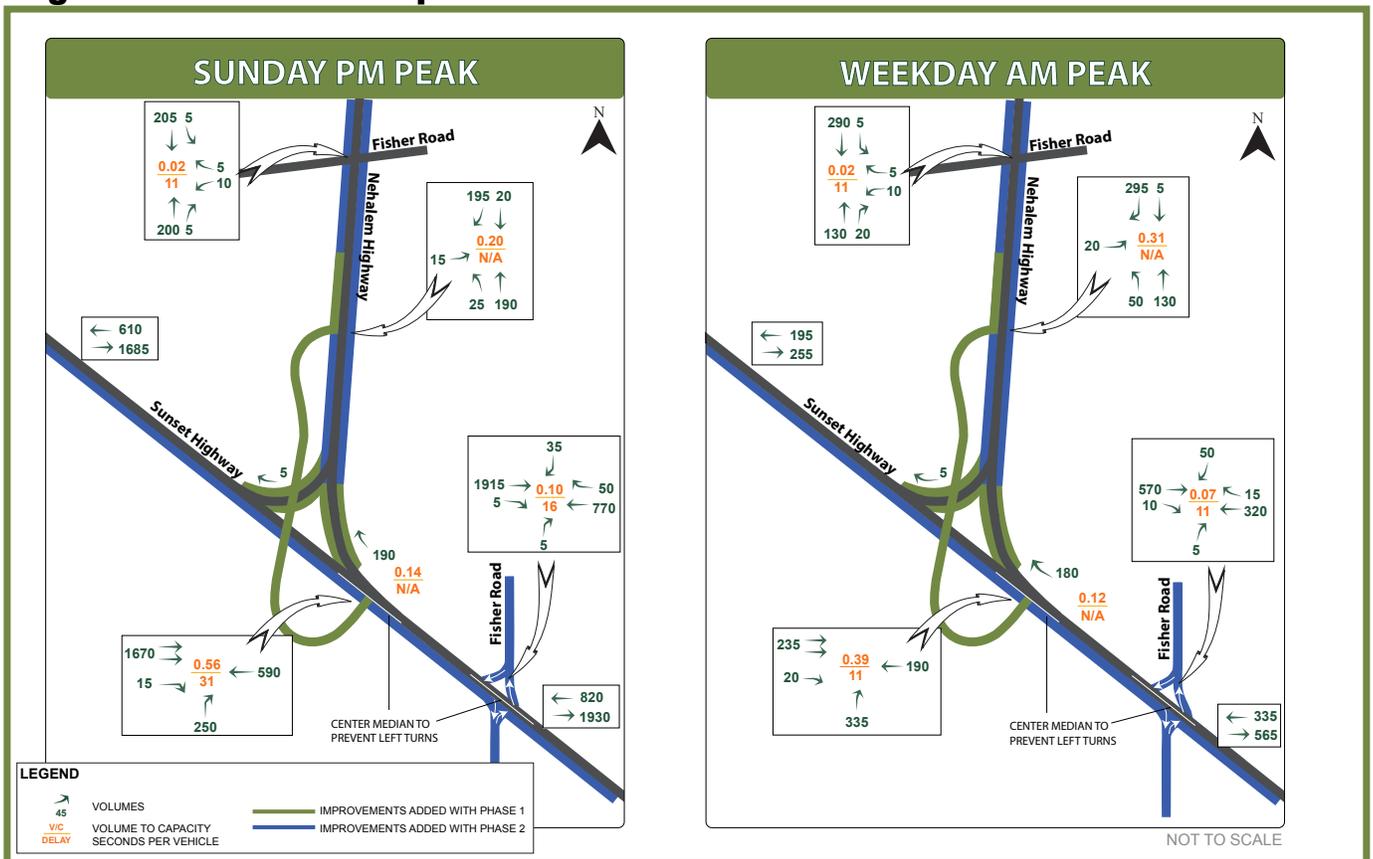


### 5.3.3.2 Phase 2 Operations Analysis

Figure 5-5 and Table 5-2 show the projected 2030 volumes, v/c ratio, and delay for the design concept. Compared with 2015 Build Concept A Phase 1 Operations as shown in Table 5-1, Phase 2 improvements are projected to improve the v/c ratio for all of the movements. All of the movements are projected to meet mobility standards as a result of the Phase 2 improvements. Once the additional eastbound lane is constructed, the interchange will meet the mobility (v/c) standards for the Sunset and Nehalem Highways for the Sunday PM peak time. The OHP planning threshold for v/c for the Nehalem Highway at the Sunset Highway is 0.70. The Sunday PM peak hour v/c is projected to be 0.56 and Weekday AM peak hour is projected to be 0.39.

Capacity of the Sunset Highway is the most significant operational constraint within the Staley's Junction study area. The 2030 forecast traffic volumes indicates that the Sunset Highway eastbound will be operating near or above saturation. This will result in bottleneck situation downstream from the interchange as the two eastbound lanes will be merging into one single lane. Improving the bottleneck constraint on the Sunset Highway is beyond the scope of the Staley's Junction IAMP; however, its effects will impact operations at the proposed interchange.

**Figure 5-5: 2030 Concept A Build Phase 2**



Jughandle Interchange Concept Volumes, V/C and Delay  
One Lane Westbound and Two Lanes Eastbound on the Sunset  
Highway and Right Turn Only at Sunset Highway/Fisher

*This product is for informational purposes and may not have been prepared for legal, engineering or surveying purposes. Users of this information should review or consult the primary data and information source to ascertain the usability of this information.*

**Table 5-2. 2030 Build Concept A Phase 2 Operations**

Intersection/Movement	Sunday PM Peak		Weekday AM Peak	
	V/C	Delay (sec/veh)	V/C	Delay (sec/veh)
Nehalem Hwy & Sunset Hwy				
SB to EB	0.56	39	0.39	11
SB to WB	0.33	-	0.11	-
EB to NB	0.01	-	0.01	-
WB to NB	0.14	-	0.12	-
Nehalem Hwy & Fisher Rd (WB to SB)	0.02	11	0.02	11
Sunset Hwy & Fisher Rd	0.10	15	0.07	10

### 5.3.4 Concept A Phase 3

#### 5.3.4.1 Phase 3 Long-Term Improvements

The final long-term improvement to the Staley's Junction interchange will be the balancing of the number of lanes on the Sunset Highway. Figure 5-6 shows the Concept A Phase 3 interchange concept at Staley's Junction.

- This phase will add a westbound lane on the Sunset Highway through the interchange area. This will result in the Sunset Highway being two lanes eastbound and two lanes westbound at the interchange.

#### 5.3.4.2 Phase 3 Operations Analysis

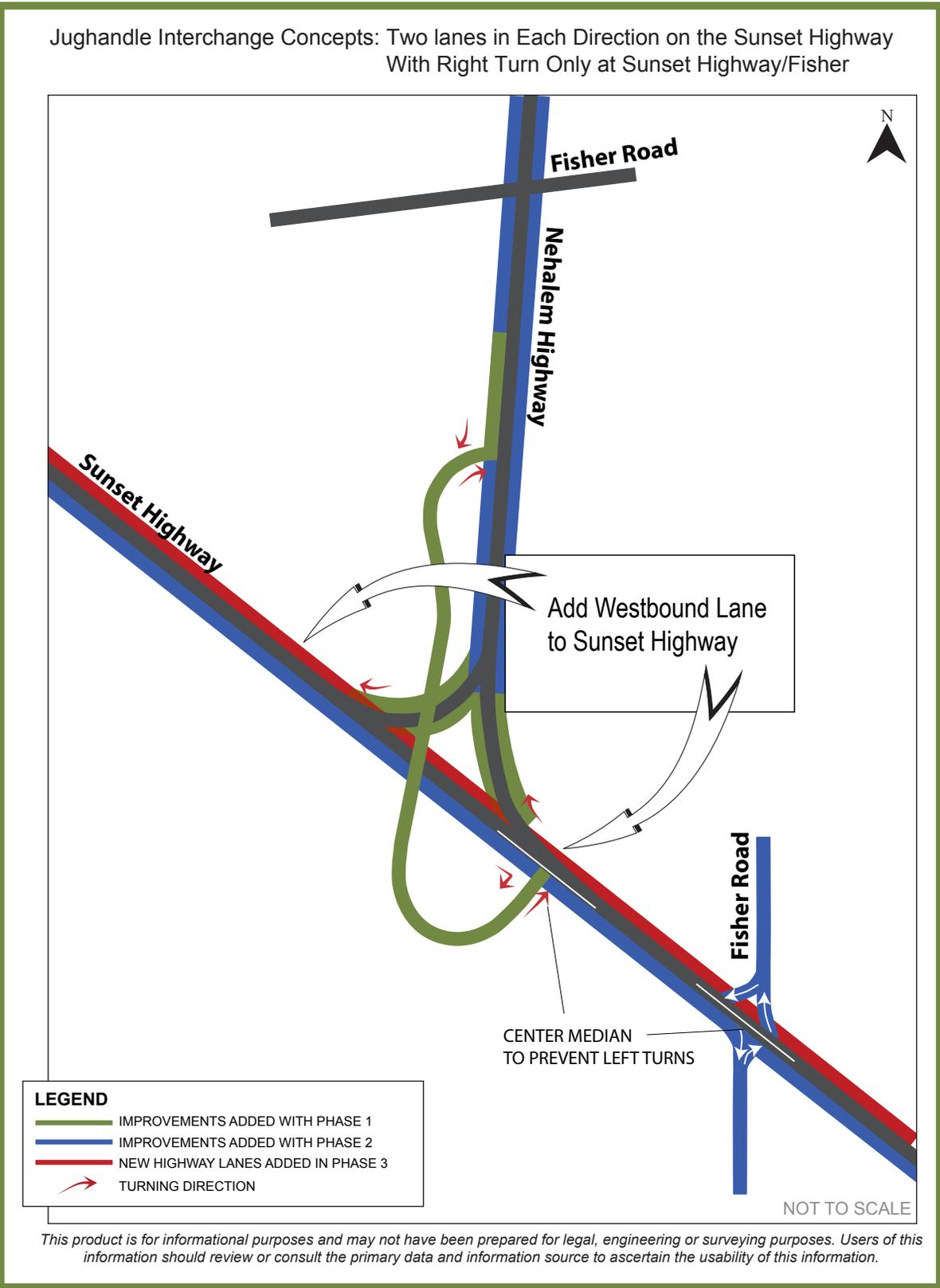
Figure 5-7 and Table 5-3 show the projected 2030 volumes, v/c ratio, and delay for the interchange concept. The Phase 3 improvements will allow the westbound climbing to extend to the interchange area to allow slower vehicles to move into the lane before the hill.

**Table 5-3. 2030 Build Concept A Phase 3 Operations**

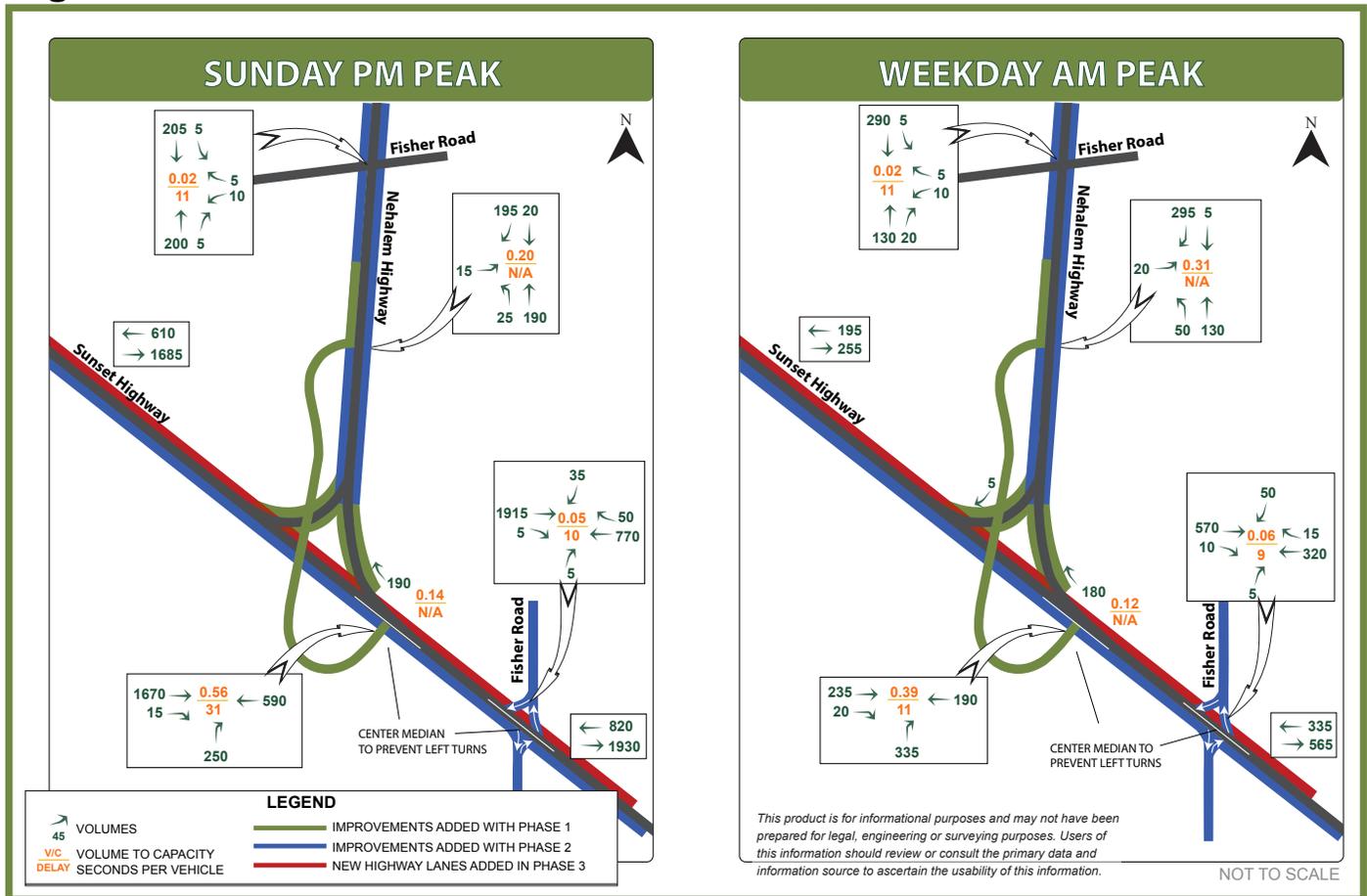
Intersection/Movement	Sunday PM Peak		Weekday AM Peak	
	V/C	Delay (sec/veh)	V/C	Delay (sec/veh)
Nehalem Hwy & Sunset Hwy				
SB to EB	0.56	31	0.39	11
SB to WB	0.13	-	0.05	-
EB to NB	0.02	-	0.02	-
WB to NB	0.14	-	0.12	-
Sunset Hwy & Fisher Rd, right-in/right-out, 2 lanes westbound	0.05	-	0.06	-

### Figure 5-6: 2030 Concept A Build Phase 3

Jughandle Interchange Concepts: Two lanes in Each Direction on the Sunset Highway  
With Right Turn Only at Sunset Highway/Fisher



**Figure 5-7: 2030 Build Phase 3**



Jughandle Interchange Concept Volumes, V/C and Delay: Two Lanes in Each Direction on Sunset Highway, With Right Turn Only at Sunset Highway/Fisher

## 5.4 INTERCHANGE AREA MANAGEMENT POLICIES

The purpose of the interchange area management policies discussed in this section is to improve operations and safety and preserve capacity for the IAMP area in order to protect the major investment in the Staley's Junction interchange. This plan balances the traffic generated in the interchange area under adopted and acknowledged Washington County rural plan designations and considers development potential over the planning horizon with the function and capacity of the new interchange.

### 5.4.1 WASHINGTON COUNTY LAND USE POLICY

ODOT is relying on the following policies and development codes to insure that the land uses within the IAMP area will remain rural. The land use policies for the Staley's Junction area are contained in the Rural/Natural Resource element of the Washington County Comprehensive Plan. The Rural/Natural Resource element provides the framework for guiding future land use decisions in the areas outside the established urban growth boundaries (UGB). Appendix C includes a discussion of the County's Policies for the Rural/Natural Resource Plan and Community Development Code (CDC).

The Rural/Natural Resource Plan Element specifically requires the County to recognize the need for rural development to support the rural character of the area. The County will ensure that development will not adversely affect the surrounding agricultural and forest activities.

Adopted land use designations in the immediate vicinity of Staley's Junction include the following resource districts (Agriculture and Forest 20 acres minimum (AF-20) and Exclusive Forest and Conservation (EFC)) and several exception areas (Agriculture and Forest 10 acres (AF-10), Agriculture and Forest 5 acres (AF-5), and Rural Commercial (RCOM)). Appendix C Staley's Junction IAMP identifies permitted land uses in the land use districts surrounding the interchange.

While the surrounding land use districts permit a wide variety of potential land uses, some of which could have higher trip generation rates, the districts of the IAMP are within a rural area and urban uses are not allowed. Therefore, all potential land uses must support the rural character and will not adversely affect the surrounding agricultural and forest activities.

Washington County CDC provisions that apply to surrounding rural (i.e., non-resource) lands require that land uses with greater impacts be 'compatible' with surrounding uses (CDC 346-4.2, 348-4.2) and that uses be scaled for rural residents, agricultural and forest uses (CDC 352-3.2 and 4.2). These existing Code provisions will ensure that future uses are consistent with the planned function and capacity of the proposed interchange improvements.

The uses allowed in the AF-20 and EFC resource districts are based on statutorily allowed uses on farmland (ORS 215.213 (1) and (2)) and uses permitted under Oregon Administrative Rules for farm lands (OAR 660, Division 33) and forest lands (OAR 660 Division 6). The statutory and administrative rule provisions are designed to protect rural resource lands from development that would interfere with farm and/or forest uses. The provisions provide certainty and, because they limit potential development, help ensure that future development is consistent with the planned function and capacity of the proposed interchange.

Additionally, land within the ¼ mile interchange influence area is entirely within the 100 year floodplain, which further constrains potential development. Any development within the floodplain must balance cut and fill so that there is no net rise in floodwaters. Floodplain requirements are set forth in Section 421 of the CDC. Since there is limited land area for cut and fill, the presence of the floodplain is another significant constraint, in addition to rural land use provisions, on larger scale land uses.

## **5.5 ACCESS MANAGEMENT**

This section summarizes the Access Management Plan prepared as part of the Staley's Junction IAMP. See Appendix G for the Access Management Strategy. The Access Management Strategy is illustrative only and is not part of the adopted IAMP.

### **5.5.1 Role of Access Management**

Access management balances the need for access to and from developed lands with the need to provide a facility that promotes safe and efficient travel. Access management principles account for driver expectations within the complex interchange environment. Drivers transitioning between the Sunset and Nehalem highways via the interchange must perceive and respond to changing environments including the size and number of travel lanes, traffic volumes, speeds, vehicle spacing, and number and types of distractions. This complex transition can be made safer and more efficient through access management.

The relationship between high access density and increased crash rates is well documented. As drivers approach each access along a roadway, they must process information and make decisions. These include decisions to change speed, path, or direction, and to accommodate vehicles entering and leaving the roadway. Managing the access type, number, and interval has a direct effect on the safety and function of the subject roadway.

## 5.5.2 Access Control in the Study Area

### 5.5.2.1 Phase 1: Short-Term Access Management

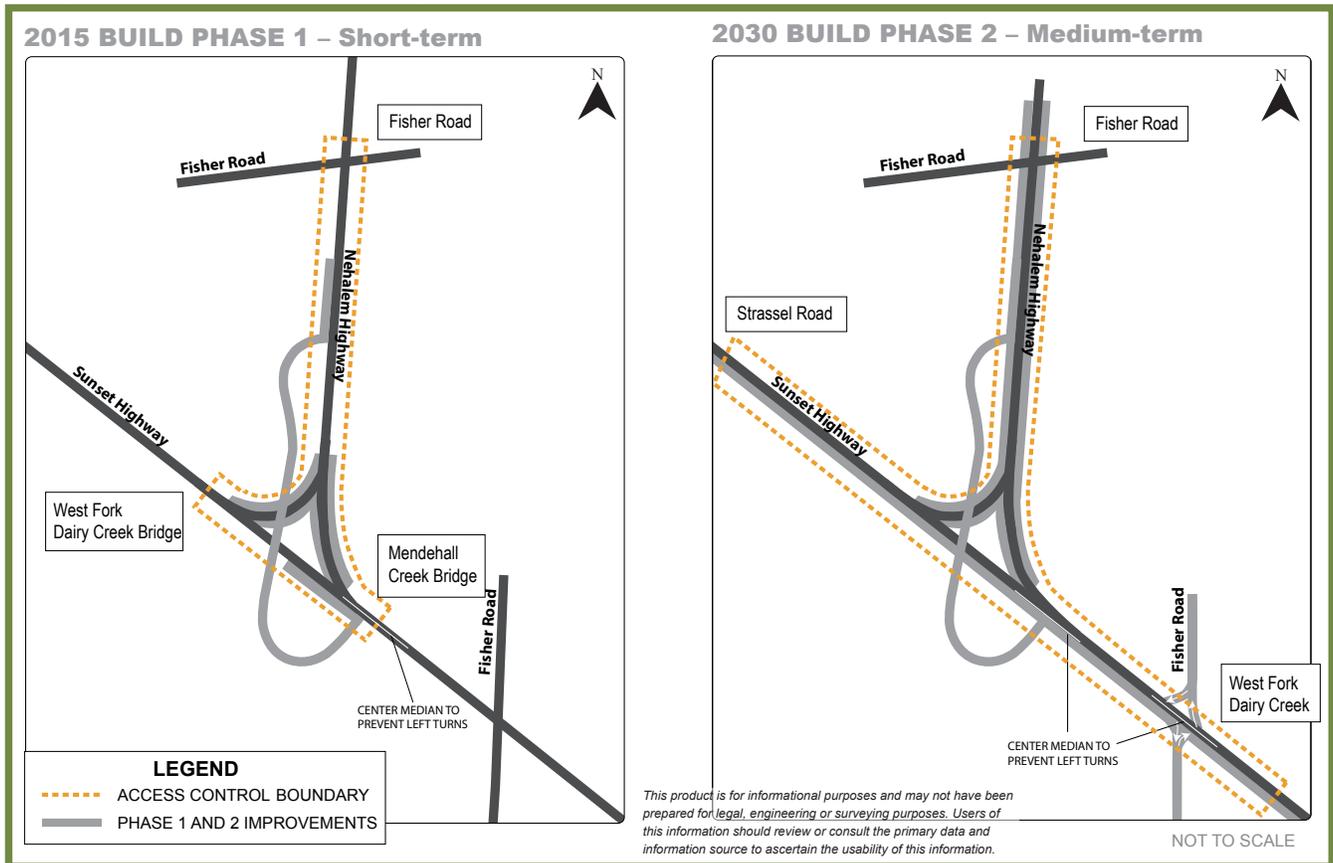
Figure 5-8 shows the access control plan for Phase 1. Phase 1 of the project will acquire access rights on Nehalem Highway (District Highway) from the Sunset Highway north beyond Fisher Road. Fisher Road on the Nehalem Highway will remain as a full intersection. The ramps will be fully access controlled.

No at-grade crossing will be allowed on the Sunset Highway within the interchange area. From the stop controlled access point on the Sunset Highway, ODOT will acquire access control west to approximately the West Fork Dairy Creek Bridge and acquire access control to approximately the Mendenhall Creek Bridge in Phase 1. The Staley's Junction gas station and its access have been closed.

### 5.5.2.2 Phase 2: Medium-Term Access Management

Figure 5-8 shows the access control plan for Phase 2. Phase 2 of the project on the Sunset Highway will purchase access control from the stop controlled access point to West Fork Dairy Creek Bridge, Fisher Road will be restricted to right-in/right-out movements with a center median separator. ODOT shall purchase access control west of the stop control ramp to approximately Strassel Road. The Strassel Road intersection shall remain open as a full intersection. A detailed access management strategy will be required to determine private access points to the Sunset Highway at the time of final design for Phase 2 of the project. ODOT will review existing access in this area and close or consolidate accesses as possible.

**Figure 5-8: Interchange Concept with Access Control**



### **5.5.2.3 Phase 3: Long-Term Access Management**

Phase 3 of the project will not require additional access control on the Nehalem Highway and the Sunset Highway.

## **5.6 LOCAL CIRCULATION**

This project is not expected to have significant impacts on the existing local transportation system. Right-in/right-out only restrictions to be implemented at the Fisher Road and Sunset Highway intersection, however, will require some motorists who currently use Fisher Road to select alternate routes involving the state and local roadway system. These changes are projected to affect 25 to 45 vehicles during the weekend and weekday peak travel periods of the 2030 evaluation year.

## **5.7 IMPLEMENTATION**

This IAMP and the Washington County land use planning regulations are consistent with each other. ODOT has collaborated with Washington County during the development of the IAMP, and Washington County's Resolution and Order 10-80 incorporates references to the Staley's Junction IAMP into the non-regulatory portion of the 2020 Transportation Plan. Specifically, the county will add references to the Technical Appendix of its adopted 2020 Transportation Plan.

The right-in/right-out restriction at the intersection of Fisher Road and the Sunset Highway is an operational decision that is permitted outright and is not a land use decision or action. Washington County and ODOT will coordinate on any potential plan amendments to the properties surrounding the interchange and any potential reclassification of Fisher Road, consistent with existing, adopted 2020 Transportation Plan policies and Statewide Planning Goals.

No modifications to the Washington County land use planning program, including land use overlays, are needed. Appendix C includes a list of uses currently allowed in the zones within the Staley's Junction study area. Pursuant to Washington County's adopted and acknowledged Community Development Code, these uses will continue to be allowed on parcels near the intersection.

The IAMP is limited to higher-level policy decisions to allow the Staley's Junction project to continue its design process. ODOT will remain engaged with Washington County and the public during the project development process in order to ensure that the interchange will function adequately and safely, and retain the rural character of the area.

Prior to construction, ODOT will need to seek review and approval under Article VII of the Community Development Code from Washington County. The intent of this Article is to identify public transportation improvements that are subject to development review and establish the standards and procedures for such review. This Article applies to project development for the design, construction, operation, maintenance, repair and preservation of public transportation facilities including roadways and bridges, and transit, bicycle and pedestrian facilities authorized by the Washington County TSP. Thus, Article VII applies to the replacement of the Staley's Junction intersection with an interchange.

Article VII specifies additional standards for the replacement of an intersection with an interchange in the AF-20, EFU, and EFC Districts (a Category C project). The project must identify reasonable design build alternatives that are safe and can be constructed at a reasonable cost, must assess the effects of the identified alternatives on farm and forest practices, and must select the identified alternative that has the least impact on farm and forest lands in the immediate vicinity. Additionally, the project must not force a significant change in accepted farm or forest practices or significantly increase the cost of accepted farm or forest practices on surrounding lands. The Staley's Junction IAMP project is anticipated to comply with these

standards.

The Staley's Junction interchange project will gather information on property ownership, legal access rights, and driveway permits in the interchange area. It is anticipated that the Staley's Junction interchange project will develop an access management strategy that will identify approach locations, turning movements to be permitted, and access rights to be purchased prior to project construction. The development of the access management strategy will take the following factors into consideration:

- Access and circulation needs of affected property owners, business owners, and residents,
- State standards set forth in OAR 734-051,
- Design of roads in the interchange management area,
- Traffic volumes and characteristics,
- Impacts of access management alternatives on the local street system, and
- Other applicable plans and policies.

Meetings with affected property owners will continue until access rights have been purchased during the property acquisition phase, beginning at the earliest in 2011.

The access management strategy will be implemented in the following manner:

- ODOT will document the final access management strategy.
- The Staley's Junction project will purchase right-of-way and access rights necessary to enact the strategy.
- ODOT will issue access permits and establish reservations of access as needed to enact the strategy.
- During construction, the Staley's Junction project will make changes to private property approaches in accordance with the access management strategy.

ODOT will make future property access decisions consistent with this plan and OAR 734-051. ODOT and Washington County will coordinate with each other through their respective access permitting, building permitting, and land use processes for accesses that fall within their respective jurisdictions. Opportunities to move in the direction of access spacing standards will be explored and implemented where practical.