DATE: February 14, 2007

TO: Oregon Transportation Commission

FROM: Mathew L. Garrett
Director

SUBJECT: March 2007 OTC Consent Agenda Item
Adoption of the Stanfield Access Management Plan

Requested Action

Region 5 requests that the Oregon Transportation Commission (OTC) adopt the Stanfield Interchange Access Management Plan (AMP). Adoption of this Plan will amend the Oregon Highway Plan (OHP) to include an Access Management plan for the Stanfield/Echo interchange area (Exit 188) along I-84. OTC adoption will establish policies for the interchange area to guide Oregon Department of Transportation (ODOT) and local governments for managing the interchange facility. This access management plan has been adopted into all relevant local comprehensive plans and transportation system plans.

Background

In 2005, ODOT placed the Stanfield/Echo interchange over-pass bridge on the OTIA lll bridge replacement list. As required for replacing interchanges, Region 5 Planning commenced a planning study to ensure that the new interchange would function as designed. Oregon State University instigated a study to determine if the bridges listed on the bridge replacement list for OTIA lll needed replacement or if they could be rehabilitated. The study determined that the Stanfield/Echo interchange over-pass would be rehabilitated.

The Stanfield Interchange is located on Interstate 84 at exit 188 near the cities of Stanfield and Echo, Oregon. The interchange bridge was constructed in 1967 and widened in 1987 to better accommodate pedestrian and bicycle travel. The need to reconstruct the interchange was previously identified due to structural issues, sight distance deficiencies attributed to the horizontal curvature of the bridge and substandard geometric design. However, a recent interchange bridge evaluation has concluded the overpass does not require reconstruction at this time. Instead, a structural repair project is proposed to mitigate the structural issues without modifying the interchange bridge. The existing sight distance limitations will remain.

The Stanfield AMP was prepared in cooperation with state and local jurisdictions to identify transportation improvements needed to serve forecasted long-range growth and access management strategies in the interchange area. The purpose of the Stanfield AMP is to maintain the capacity of the interchange area while providing safe access to adjacent properties and the connecting roadway system.

The Stanfield – Echo interchange is developing around the Pilot Truck facility located in the Northwest quadrant of the interchange.

The Oregon Highway Plan policies direct ODOT to plan and manage interchange areas for safe and efficient operation. The Stanfield Access Management Plan for an Interchange is a joint effort between the City of Stanfield, the City of Echo, Umatilla County, and ODOT to ensure the safe function of the I-84/Stanfield interchange area and to meet the future needs of the interchange and the adjacent roadway system.

The transportation benefits of implementing the Stanfield AMP include:

- Timely planning to assure suitable placement and spacing of roads before development occurs.
- A plan for the City(s) and County to use as a tool to work with developers for orderly improvements that is consistent with the transportation facility's function, capacity, and performance standards.
- TSPs and implementing ordinances that safely and efficiently accommodate expected traffic in the Interchange Area.

The recommended roadway improvement plan works to protect the function of the interchange and the adjacent roadway system. Recommended improvements to the interchange overpass are separated into short-term and long-term projects to meet the financial restrictions of ODOT. Other recommended improvements would provide traffic control at study intersections for safe and efficient operations between connecting roadways and pedestrian/bicycle facilities along Thielson and US 395 as identified in figure 5 of the plan.

A series of plan, policy, and ordinance amendments were adopted by the cities of Echo, Stanfield, and Umatilla County during the fall of 2005 in support of this plan. OTC adoption of this Facility Plan will affirm its compatibility with the local comprehensive plans. Adoption of this Facility Plan will make the local actions already taken consistent with the state transportation plan. Adoption into the state plan also helps protect the decisions made locally consistent with The Planning Rule (TPR) requiring local plans be consistent with the state plan. Adoption by the OTC is the complimentary action to support the legal proceedings and actions that have been completed by the local agencies.

The Facility Plan is attached as exhibit “A.” ODOT findings of fact that demonstrate compliance with the modal plan amendment process and the facility plan adoption process are attached as exhibit “B.” Letters of compatibility from affected local jurisdictions are attached as exhibit “C.” Additional copies of the Facility Plan may be requested from ODOT Region 5 Planning (541) 963-1345. Notification of this OTC action has been provided to each affected local jurisdiction and the DLCD.

FINAL REPORT
Prepared for

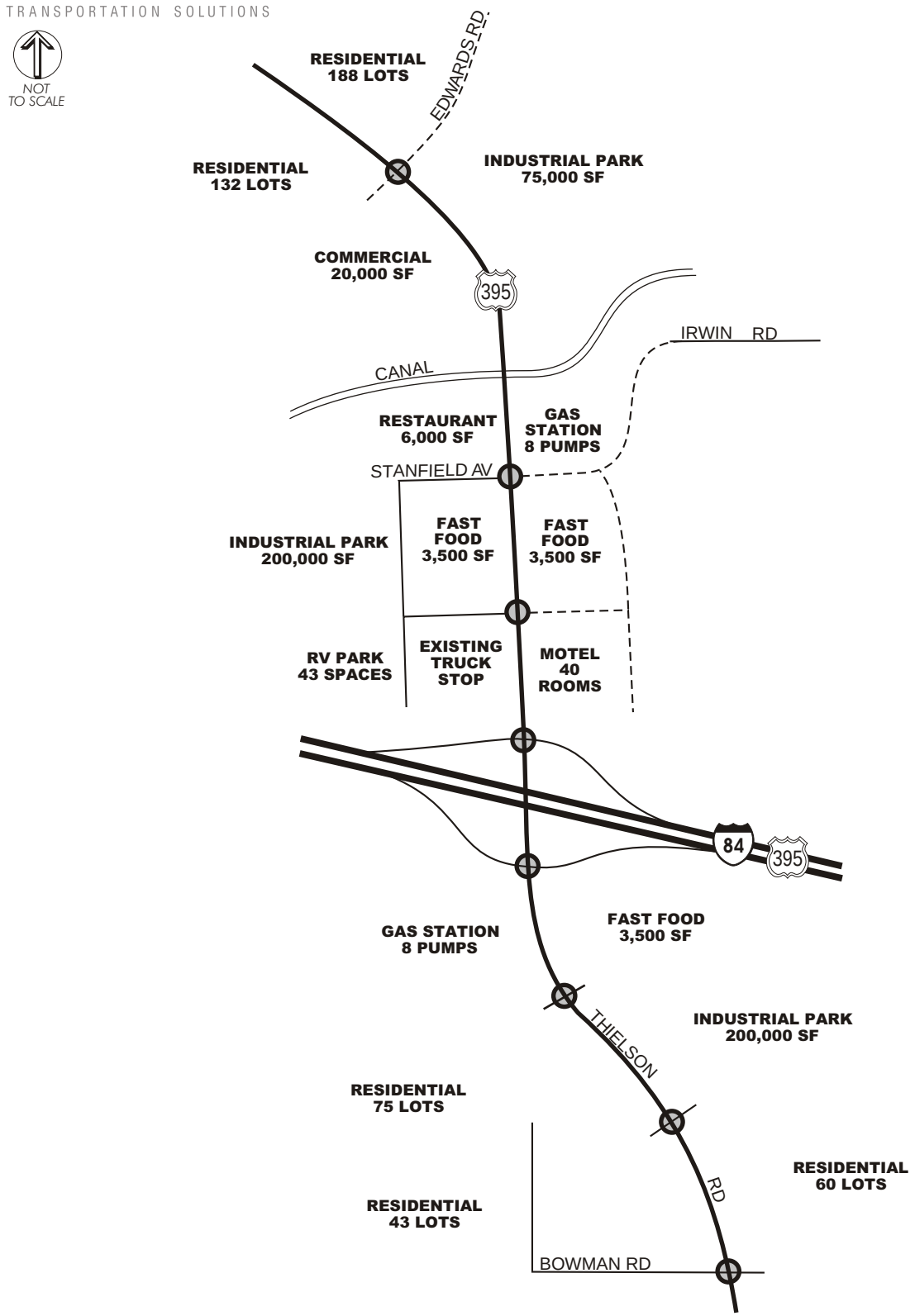
Oregon Department of Transportation

Stanfield Interchange Access Management Plan

November 2005

DKS *Associates*

TRANSPORTATION SOLUTIONS



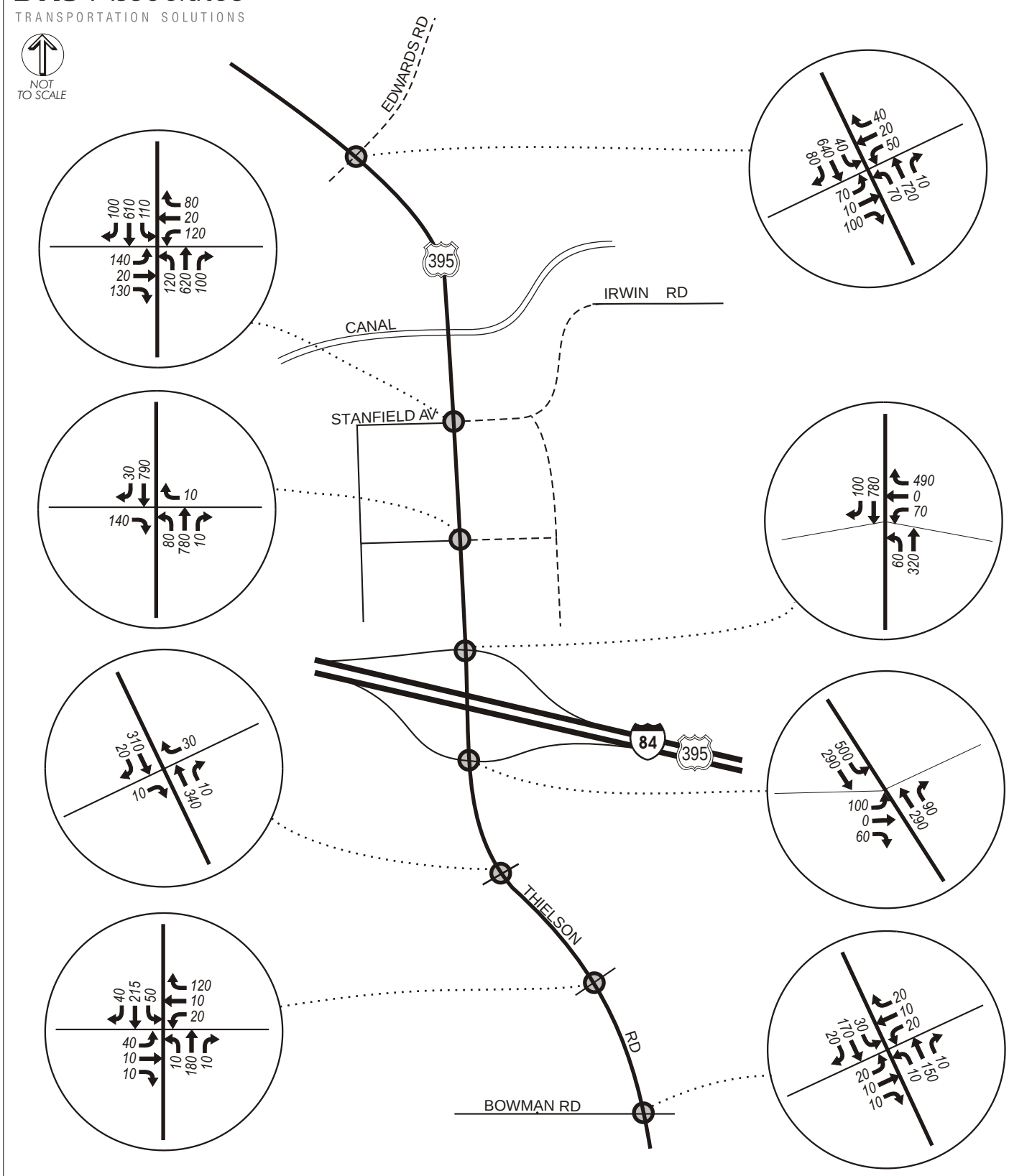
LEGEND

- Study Intersections

Figure 1
FUTURE FULL BUILD-OUT LAND USE

DKS *Associates*

TRANSPORTATION SOLUTIONS



LEGEND

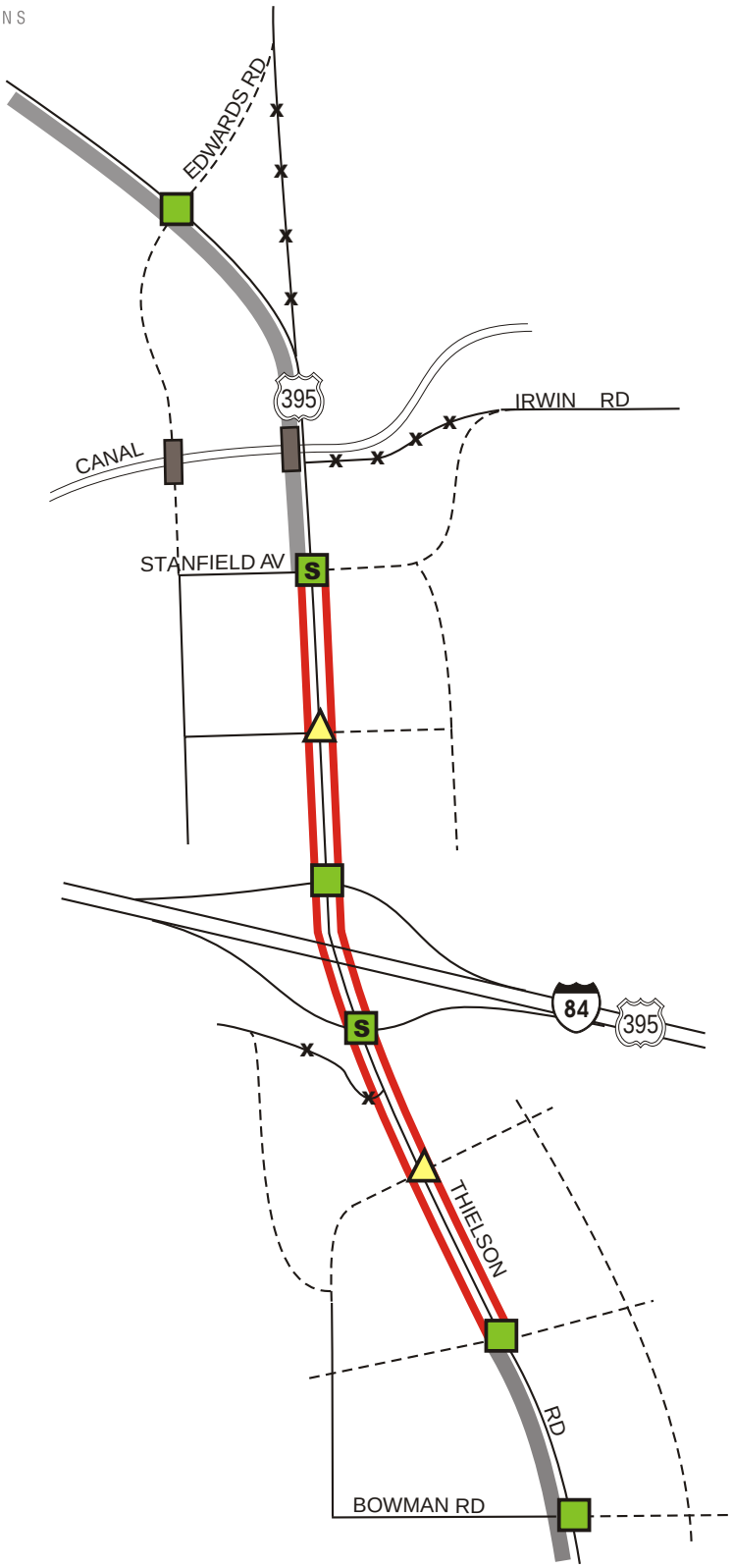
- Study Intersections
- 00 - Peak Hour Traffic Volumes

Figure 2
2024 PM PEAK HOUR TRAFFIC VOLUMES

DKS *Associates*

TRANSPORTATION SOLUTIONS

NOT TO SCALE



LEGEND

- Road Realignment
- Sidewalk
- Off-Street Trail
- Proposed Roadway
- S - Traffic Signal
- Full Access
- Restricted Access
- Bridge

Note: Roadway network does not include the potential future reconstruction of the interchange overpass and Thielson Road.

Figure 3
INTERCHANGE STUDY AREA NEEDS

DKS *Associates*
TRANSPORTATION SOLUTIONS

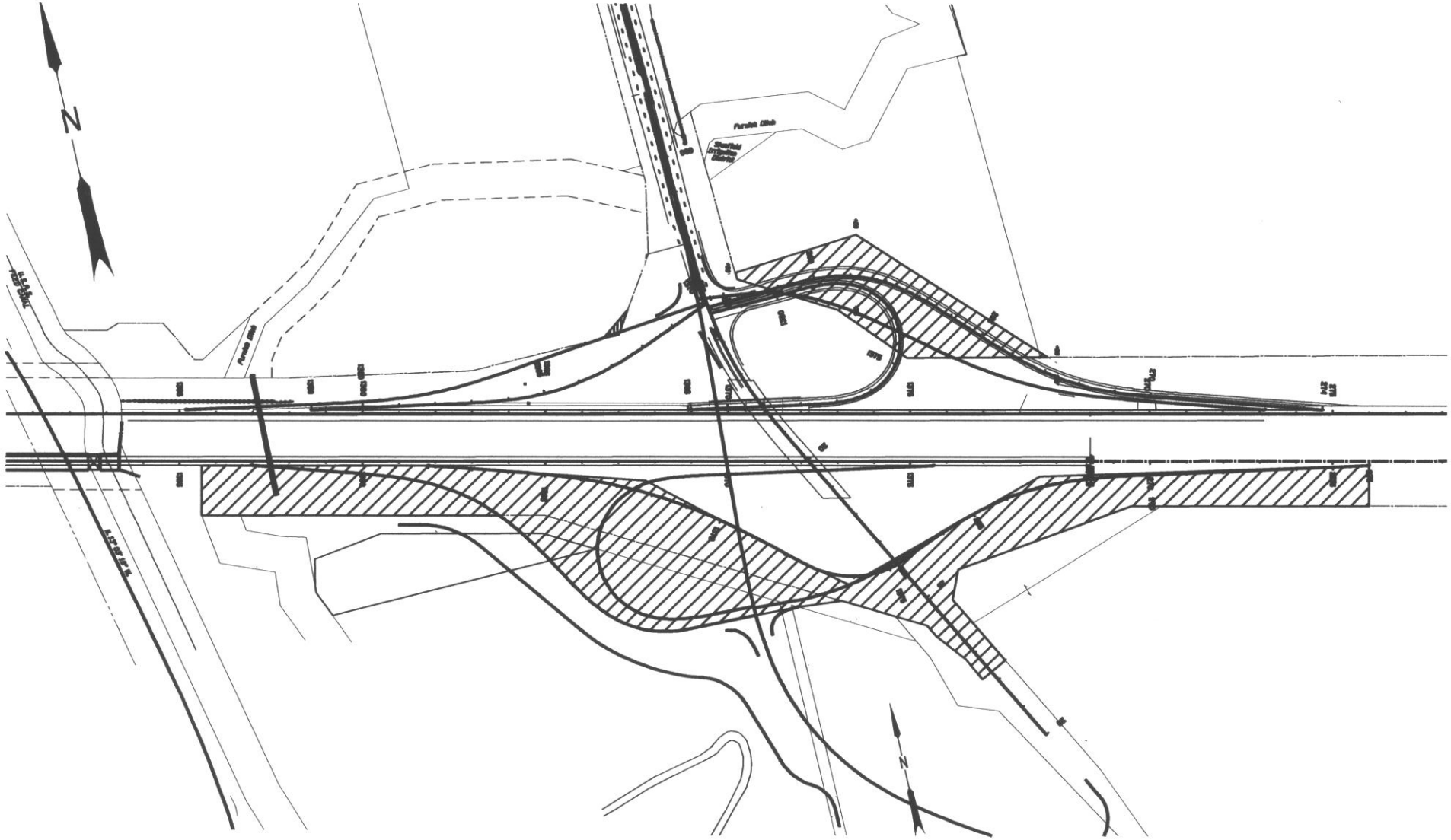


Figure 4
PROPOSED INTERCHANGE
RIGHT OF WAY IMPACTS

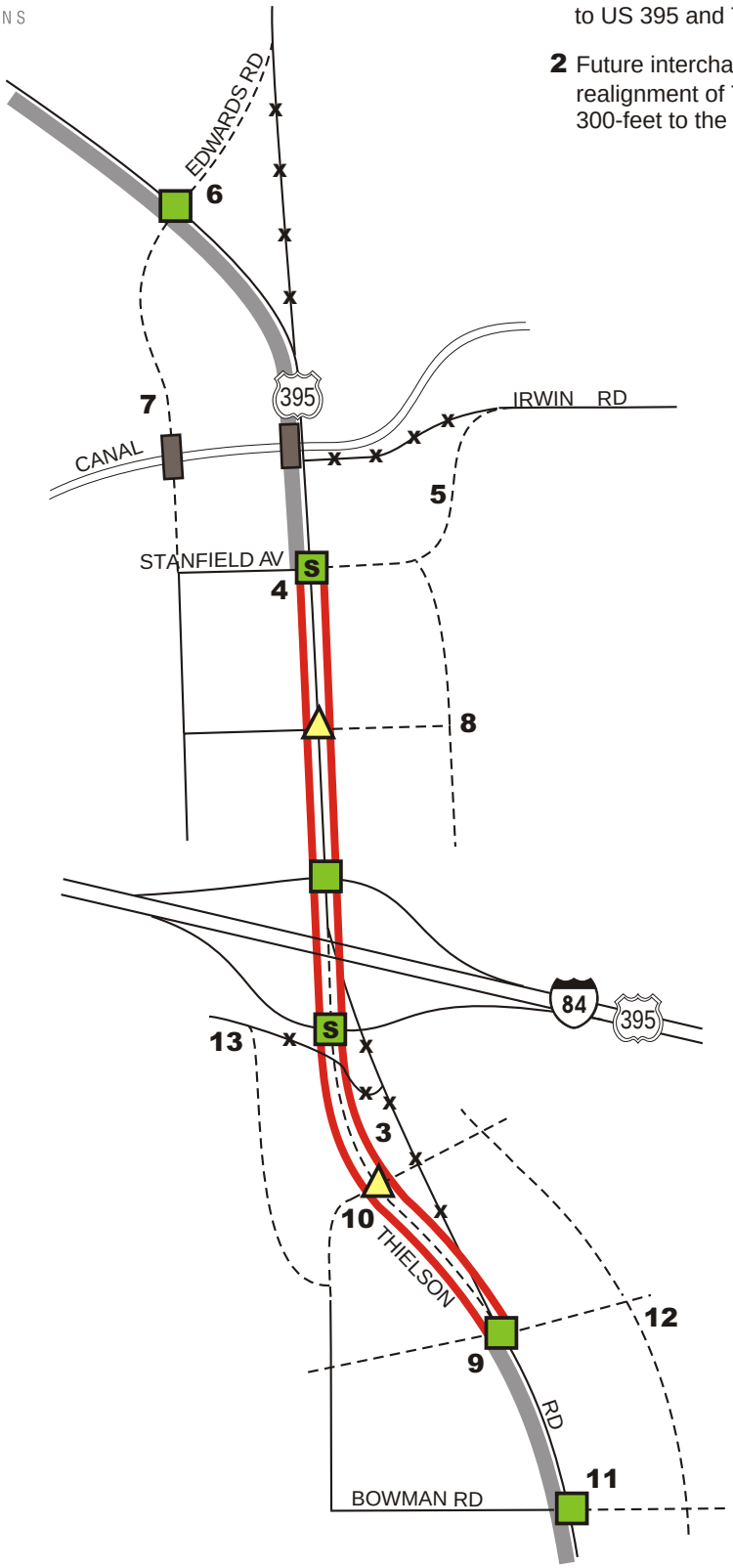
DKS *Associates*

TRANSPORTATION SOLUTIONS

NOT TO SCALE

1 Apply ODOT minimum spacing standards to US 395 and Thielson Road.

2 Future interchange reconstruction includes the realignment of Thielson Road approximately 300-feet to the west.



LEGEND

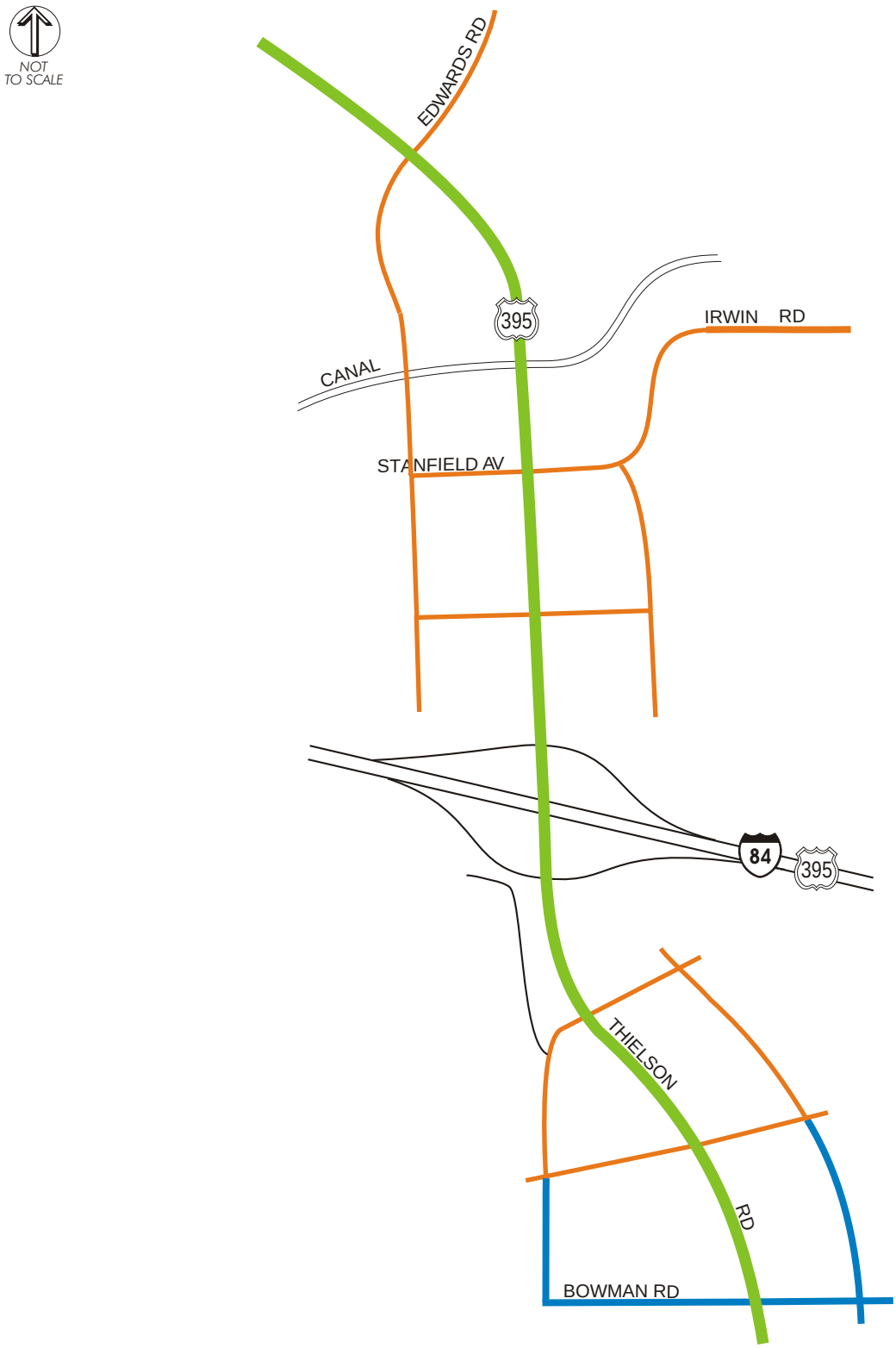
- x—x - Road Realignment
- Sidewalk
- Off-Street Trail
- Proposed Roadway
- S - Traffic Signal
- Full Access
- Restricted Access
- Bridge

Note: Roadway network includes the potential future reconstruction of the interchange overpass and realignment of Thielson Road.

Figure 5
STANFIELD INTERCHANGE AREA MANAGEMENT PLAN

DKS *Associates*

TRANSPORTATION SOLUTIONS



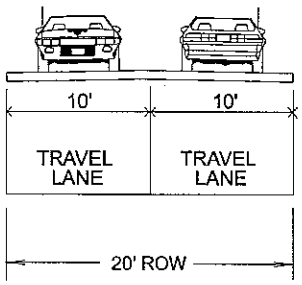
LEGEND

- Arterial
- Residential Collector
- Industrial/Commercial Collector
- Local Street

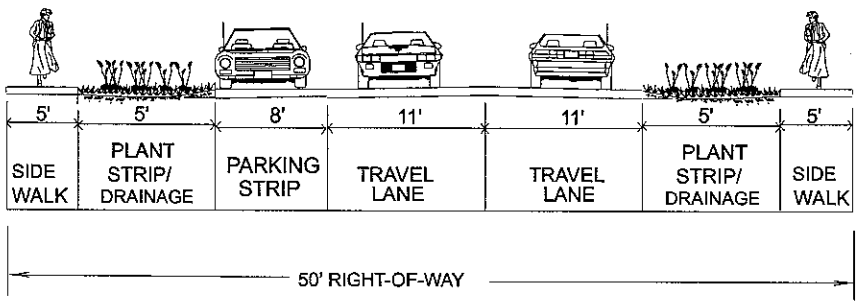
Note: Roadway network includes the potenial future reconstruction of the interchange overpass and realignment of Thielson Road.

Figure 6
STREET FUNCTIONAL CLASSIFICATION

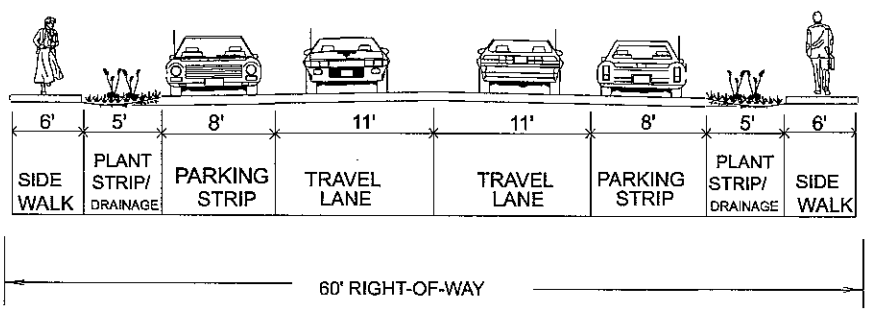
Alley



Local Street



Collector



Downtown Arterial

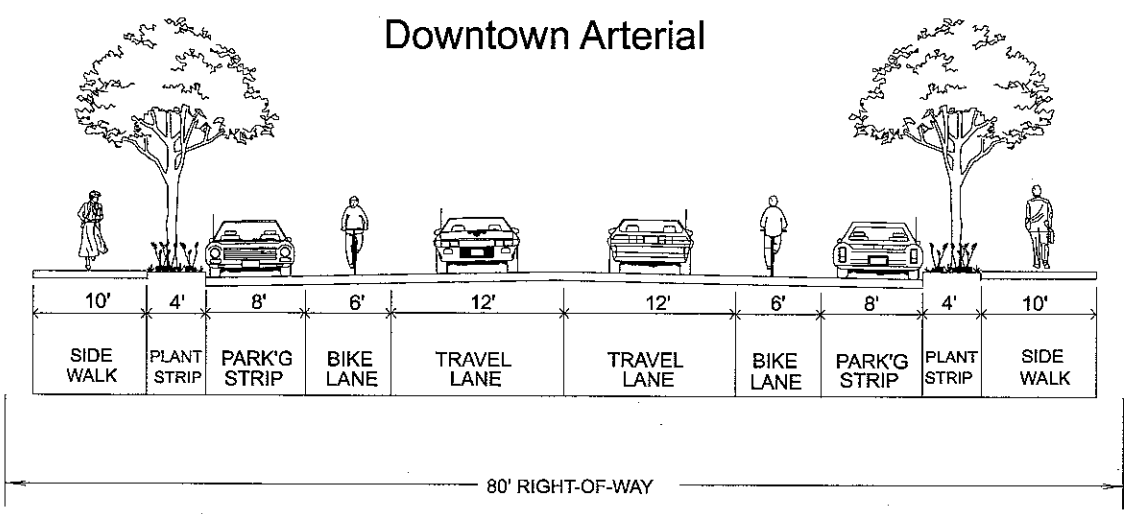
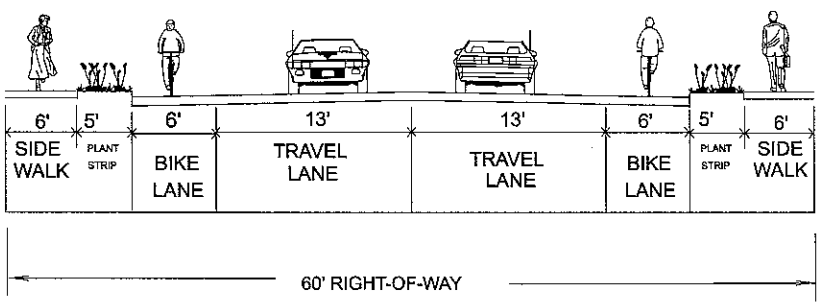


Figure 7
Local/Downtown
Cross-section

Commercial/Industrial Collector



Commercial/Industrial Arterial (Thielsen Road)

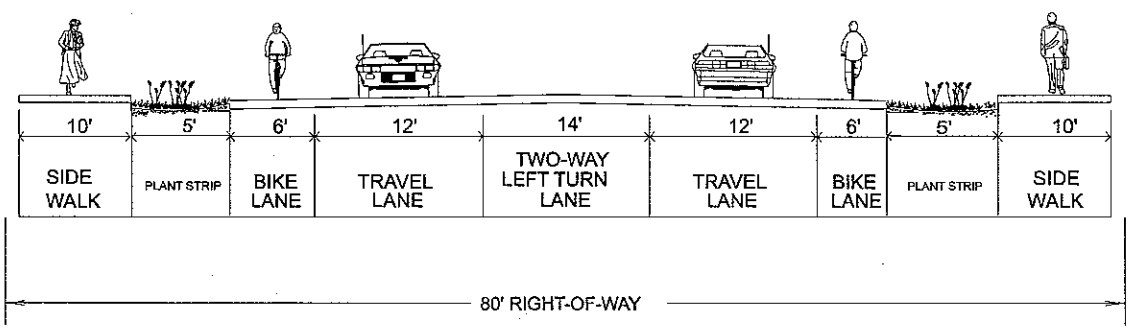
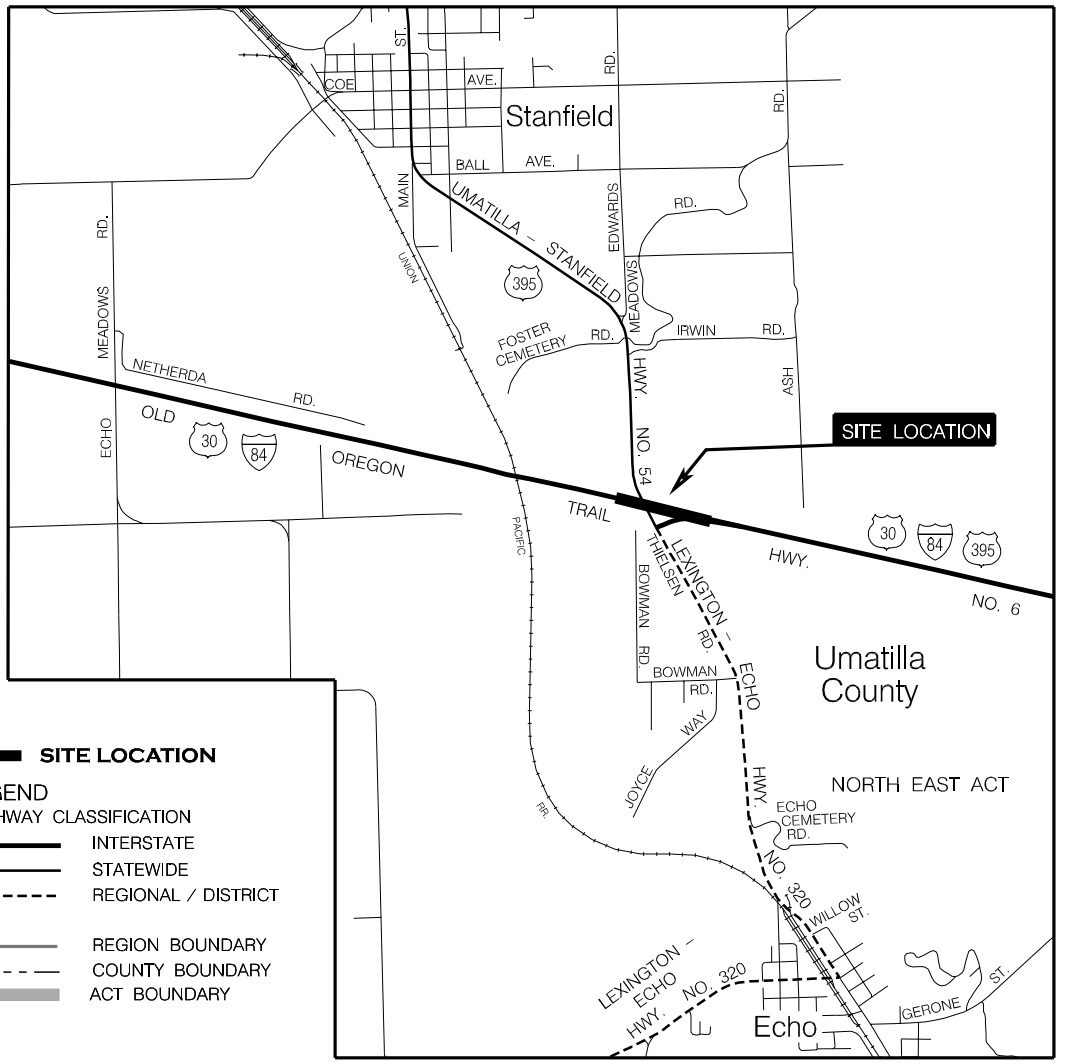


Figure 8
Commercial/Industrial
Cross-section

PROJECT LOCATION

ODOT REGION 5



STANFIELD ACCESS MANAGEMENT PLAN (STANFIELD INTERCHANGE)

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

SCALE
0 0.5 MILES

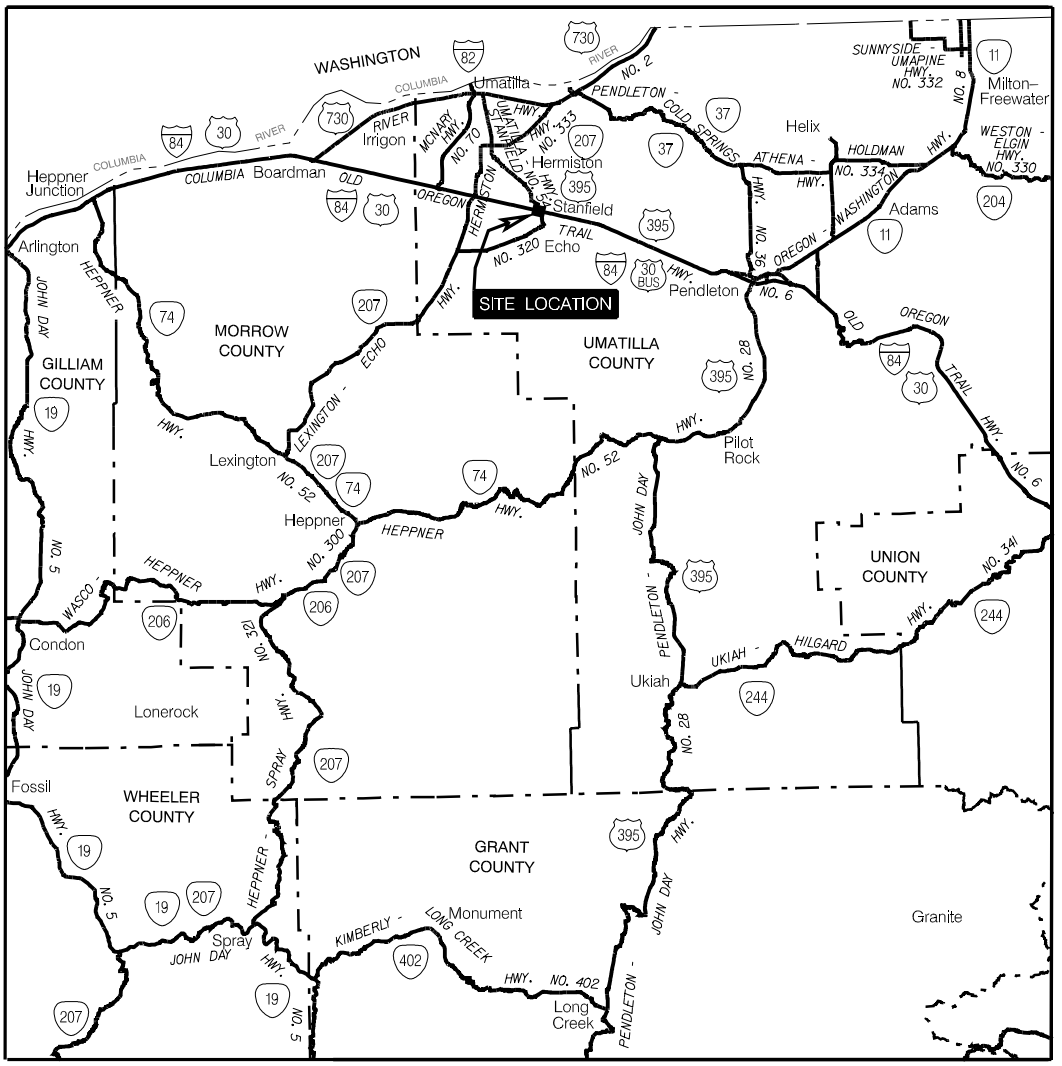
SPECIAL PROJECT # 1957
MARCH 2007

PRODUCED BY ODOT - GIS UNIT - (503)986-3154

PROJECT VICINITY

ODOT REGION 5

N



STANFIELD ACCESS MANAGEMENT PLAN (STANFIELD INTERCHANGE)

STATE HIGHWAY -

COUNTY BOUNDARY -

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

SCALE

0 10 MILES

SPECIAL PROJECT # 1957

MARCH 2007

PRODUCED BY ODOT - GIS UNIT - (503)986-3154

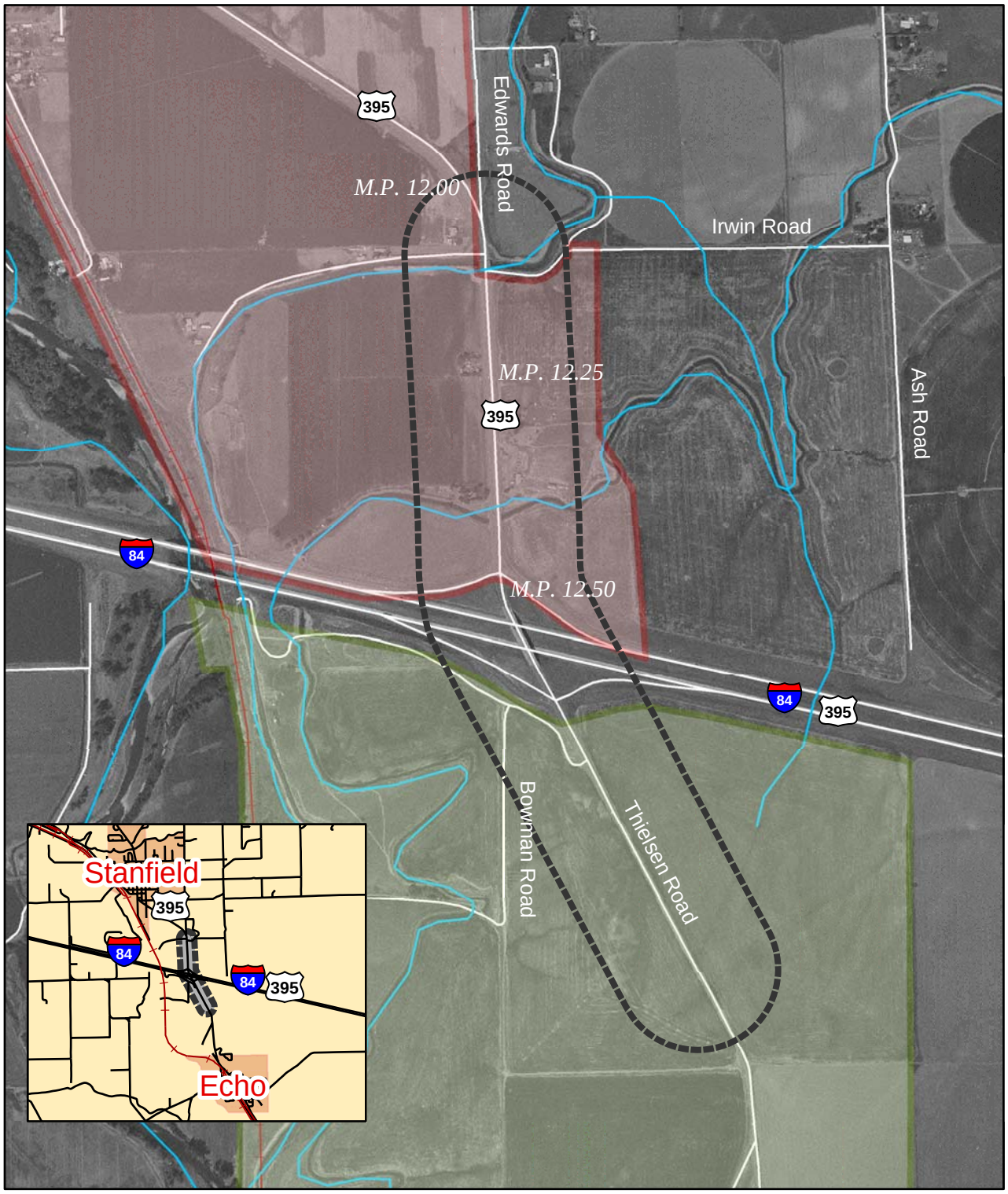


Photo Source: The Oregon Rural Lands Database 2001

Not To Scale

Legend

- Railroad
- Waterway
- Study Area
- Echo UGB Boundary
- Stanfield UGB Boundary

Figure 1

STUDY AREA

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CHAPTER 1: INTRODUCTION

This introduction chapter presents a project overview which includes the project management team and the public involvement program for the Stanfield Access Management Plan (AMP).

Project Overview

The Stanfield Interchange is located on Interstate 84 at exit 188 near the cities of Stanfield and Echo, Oregon. The interchange bridge was constructed in 1967 and widened in 1987 to better accommodate pedestrian and bicycle travel. The need to reconstruct the interchange was previously identified due to structural issues, sight distance deficiencies attributed to the horizontal curvature of the bridge and substandard geometric design. However, a recent interchange bridge evaluation has concluded the overpass does not require reconstruction at this time. Instead, a structural repair project is proposed to mitigate the structural issues without modifying the interchange bridge. The existing sight distance limitations will remain.

The Stanfield AMP was prepared in cooperation with state and local jurisdictions to identify transportation improvements needed to serve forecasted long-range growth and access management strategies in the interchange area. The purpose of the Stanfield AMP is to maintain the capacity of the interchange area while providing safe access to adjacent properties and the connecting roadway system.

Project Management Team

The Project Management Team (PMT) includes key representatives from agencies directly involved in the Stanfield AMP. These individuals were active in the review process and provided comments on each of the work products developed during this study, and were included in monthly updates to the overall work process. The initial roster of the PMT is listed below.

- Diane Berry, City of Echo / City Manager
- Doug Wright, Interchange Project Leader
- George Ruby, ODOT District Manager
- Patrick Knight, ODOT Contract Manager
- Patty Perry, Umatilla County / Planner
- Shelly Bonnett, City of Stanfield / City Manager
- Tom Kuhlman, ODOT Region Traffic Engineer
- Carl Springer, DKS Associates / Consultant Project Manager

Public Meetings

In addition to the regular PMT meeting, a public open house was held to present interim work products, and to solicit feedback and discussion from the general public. Residents of both Stanfield and Echo and any residence from the surrounding unincorporated portions of Umatilla County were invited to the public workshop. Local business owners were also encouraged to attend the open house.

The open house served as an opportunity to summarize the first three technical memos that report the existing interchange area deficiencies, and how the various plans have attempted to address the long-term needs for the interchange. The public was asked to provide feedback and comments on the proposed reconstruction of the interchange and problems that may be created by the access spacing standards along US 395. Minutes of the public open house and individual comments were reviewed and incorporated into the decision-making process of this plan.

CHAPTER 2: GOALS AND OBJECTIVES

This chapter summarizes the overall goals and objectives developed for this study to provide an evaluation criteria for the Stanfield AMP. The goals and objectives recommended for the Stanfield AMP are listed below.

Goal #1: Enhance congestion management and maintain adequate freight mobility – This interchange provides a vital connection to state and regional facilities for freight travel and access to local communities. It is important that the long-term facility design and access provisions for adjoining land development does not detract adversely from these primary objectives.

The success of meeting these goals will be measured by:

- Compliance with applicable access spacing standards, as incorporated into local TSPs and the ODOT *Highway Plan.*
- The ratio of long-term traffic volumes versus the ultimate facility improvement plans, referred to as volume-to-capacity ratio.

Goal #2: Increase safety for all travel modes – Several elements of the existing interchange fall short of providing adequate facilities for trucks, pedestrian and bicycle travels. All travel modes that could potentially use the interchange will be reviewed in the context of a recommended alternative to evaluate traffic safety issues. The ability of the plan to accommodate all travel modes will be evaluated by:

- Sight distance for automobiles and trucks at the freeway ramp junctions, and other public cross-streets within the study area.
- Provisions bicycle facilities consistent with State Bicycle Planning guidelines.
- Provision of pedestrian facilities consistent with State standards.

Goal #3: Coordinate transportation plans and relevant land development standards between jurisdictions – The outcomes of this planning study will be compared to each of the transportation plans for local jurisdictions, and necessary plan updates will be identified. As appropriate, changes to land use ordinances will be noted for subsequent adoption by city or county boards to implement the plan recommendations.

CHAPTER 3: BACKGROUND DOCUMENT REVIEW

This chapter summarizes the review of background documents and identifies potential conflicts and discrepancies between previous planning documents and demonstrates how local plans fit into the larger regional context. The documents reviewed are listed below.

City of Echo Transportation System Plan (TSP), April, 2001
City of Stanfield Transportation System Plan (TSP), June, 2001
US 395 North Corridor Plan
Pilot Travel Center, Traffic Impact Study, November, 1995
The Oregon Rural Lands Database, April, 2002
US 395 Corridor Refinement Plan
Joint Management Agreement Between City of Echo and Umatilla County
Joint Management Agreement Between City of Stanfield and Umatilla County
Access Management Rules (OAR 734-051)
Oregon Highway Plan
Freight Moves the Oregon Economy
State Transportation Improvement Program (STIP)
Transportation System Planning Guidelines

These studies were considered through the process, as appropriate, but the land development estimates and travel demand forecasts done in conjunction with the AMP supersede these studies.

Key Findings

Our review of the background transportation planning documents revealed a long list of issues that should be considered in this project, as discussed in later sections. The key findings that appear to be most relevant in this study are noted below.

- Freight movement (trucks, rail and pipeline) is of paramount importance to the area, and the AMP must take these modes into consideration.
- Non-motorized forms of transportation should be encouraged through the adequate provision of pedestrian and bicycle facilities, enhancing transportation connections between Echo and Stanfield.
- Transportation System Plans (TSP) for both the City of Stanfield and the City of Echo should be updated with the Stanfield Access Management Plan outcomes.

City of Echo Transportation System Plan (TSP), April, 2001

The City of Echo, Oregon is located a few miles south of I-84 and is accessed from the Stanfield interchange via Thielsen Road.

Key areas of the TSP that pertain to the Stanfield AMP are primarily access spacing issues and the relationship of Thielsen Road to I-84. The Echo TSP conforms to ODOT's access spacing criteria, and therefore does not present any additional constraints to the AMP. The Capital Improvement Program listed in the TSP includes the following projects that should be considered in the AMP:

- Umatilla County Roadway Project (Thielsen Road) ($1,941,000 total project cost)
- Construct a multi-use path along Thielsen Road between I-84 and the city limits (cost TBD).

The Echo urban growth boundary (UGB) extends north of the City limits along Thielsen Road up to the I-84 eastbound on-off ramps.

City of Stanfield Transportation System Plan (TSP), June, 2001

The City of Stanfield, Oregon, is located a few miles north of the Stanfield/I-84 interchange. It is accessed from the interchange via Highway 395.

Key areas of the TSP that pertain to the Stanfield AMP are primarily access spacing issues and the relationship of Highway 395 to I-84. The Stanfield TSP conforms to ODOT's access spacing criteria, and therefore does not present any additional constraints to the AMP. The Capital Improvement Program listed in the TSP includes the following projects that should be considered in the AMP:

- Construct new access to US 395, north of I-84 interchange ($250,000 total project cost)
- Construct multi-use paths along US 395 to I-84 interchange ($255,000 total project cost)

The Stanfield UGB extends south of City limits along US 395, up to the I-84 westbound on-off ramps.

US 395 North Corridor Plan

The US 395 corridor is covered in two studies: the *US Highway 395 North (Umatilla-Stanfield) Draft Corridor Strategy* and the *US Highway 395 South (Pendleton-California Border) Corridor Strategy*. The Corridor Strategies were developed to identify projects for the Oregon STIP.

The US 395 North Corridor Plan covers a section of US 395 extending from I-84 (including the city of Echo) to US 730 in the city of Umatilla. This plan addresses transportation system improvement projects and provides an access management plan for the entire US 395 North Corridor.

The purpose of the Corridor Plan is to establish both short and long-term management direction for all modes of transportation in the corridor (there is currently passenger vehicles, three Union Pacific railroad lines, the UP Hinkle Rail Yard, a Greyhound Bus line, paratransit service, the Port of Umatilla and a general aviation airport located in the corridor), and make major transportation tradeoff decisions. Projects that were identified in the area of this study are summarized in Table 1.

Table 1 - US 395 North Corridor Plan Projects near Echo or Stanfield

Lead Agency	*Description*
	*Constrained Funding**
ODOT	Construct a new street access and traffic signal on US 395 approximately 1,320 feet north of the I-84 westbound on/off ramp. Project should include both a left turn storage bay and right turn deceleration lanes.
Stanfield	Extend multi-use asphalt path along the west side of US 395 from Ball Avenue to the I-84 interchange. Also construct a 10' wide path along the east side of the US 395 from the north end of the I-84 overpass to approximately ¼ mile north of the interchange.
	*Unconstrained Funding***
ODOT/Stanfield	Construct new access to US 395 and realign Edwards Road.
Echo/Umatilla County	Widen Thielsen Road to 36' to allow for two 12' travel lanes and 6' wide paved shoulders and include a 6' wide raised sidewalk across the I-84 overpass.

**Constrained* – These projects, along with committed projects, are deemed the highest priority. Constrained projects do not yet have funding authorization, but will be implemented in later years of the STIP.

***Unconstrained* – These projects would be funded if all the needs in the Corridor could be funded. However, based on current revenue forecasts they are not likely to be funded within the 20-year planning horizon. Alternative funding sources for these projects include development exaction, local improvement districts and urban renewal districts, among others.

The overall corridor strategy is to "accommodate efficient movement of through travel, while maintaining environmental integrity, enhancing travel safety and supporting economic development." The reports set forth objectives which are intended to embody this overall strategy for the corridor, and to set direction and provide guidance for corridor-wide transportation plans and improvements.

Pilot Travel Center, Traffic Impact Study, November, 1995

This report documents projected traffic impacts associated with a proposed 18-acre truck stop adjacent to the I-84/US 395 interchange. The truck stop was proposed with two access ways, one for trucks only, approximately 925 feet from the I-84 westbound on ramp, and one for automobiles only located approximately 675 feet from the same on ramp. All study intersections were projected to operate acceptably at LOS D or better, even under year 2015 traffic volume conditions. Left turn lanes at the site driveways were found to be warranted. Right turn lanes were not found to be warranted, however, they were recommended for both safety and capacity reasons (namely the reduction of delay for through traffic).

The Oregon Rural Lands Database, April, 2002

This data CD includes aerial photographs, geographic information system shape files for land use information such as contours, county boundaries, forest ownership, zoning, watersheds, wetlands, water resources, vegetation, soils, land ownership, water quality, etc.

US 395 Corridor Refinement Plan

This technical memorandum was completed as a supplement to the US 395 Corridor Refinement Plan, with the specific assignment of evaluating 2025 buildout year development assumption impacts on intersections in the I-84 corridor, including both east and westbound on-off ramps at the I-84/US 395 interchange.

Assuming full build out utilizing peak hour traffic generation based on a reasonable maximum development potential it was found that the I-84/US 395 eastbound on-off ramp intersection requires s signal by 2025 in order to meet capacity demands.

Joint Management Agreement Between City of Echo and Umatilla County

The joint management agreement (JMA) was created in 2004 to facilitate the appropriate developmental transition from rural to urban land uses within the City's urban growth area and to insure cooperation and information sharing in both the establishment and revisions of the UGB. Additionally, the JMA insures cooperation between the City and the County regarding development concerns within the urban growth area and other identified areas of mutual interest.

With relevance to the Stanfield Access Management Plan, the County shall coordinate with and seek comments from the City regarding major transportation improvement projects. Thus, both City and County Comprehensive Plans must be updated with the results from this study. The Echo UGB extends up to the I-84 eastbound on-off ramps.

Joint Management Agreement Between City of Stanfield and Umatilla County

The joint management agreement (JMA) was created in 2002 and shares the same basic content as the afore mentioned JMA between the City of Echo and Umatilla County.

Both City and County Comprehensive Plans must be updated with the results from the Stanfield AMP study. The Stanfield UGB extends to and includes the westbound I-84 on-off ramps, meaning that according to the JMA, the City retains responsibility for land use actions as the Stanfield AMP project will protrude into the City's UGB.

Access Management Rules (OAR 734-051)

The purpose of Oregon's Access Management Rule is to control the issuing of permits for access to state highways, state highway rights-of-way and other properties under the State's jurisdiction. In addition, the ability to close existing approaches, set spacing standards and establish a formal appeals process in relation to access issues is also identified.

These rules enable the State to set policy and direct location and spacing of intersections and approaches on state highways, ensuring the relevance of the functional classification system and preserving the efficient operation of state routes. Regulating access can:

- Protect resource lands
- Preserve highway capacity
- Ensure safety for segments of state routes with sharp curves, steep grades or obstructed sight distance.

The access management standards adopted by ODOT are summarized in Table 2.

Table 2 - ODOT Access Management Standards for US 395

	Posted Speed (MPH)				
Facility	***>55***	***50***	***40,45***	***30,35***	***<20***
Statewide Highway (feet)	1320	1100	990	770	550

These standards will be used in the AMP to verify access spacing for any proposed roadways in the vicinity of the highway interchange and for analysis of current access conditions on congested state highways. These standards will be applied to all rights of way under ODOT's jurisdiction, namely US 395, which is designated as a statewide highway.

Oregon Highway Plan

The basic framework for the Oregon Highway Plan is a refinement and application of the goals and policies stated in the Oregon Transportation Plan applied to the state highway system. These goals include:

- Increasing safety and capacity as well as preserving capital investments previously made on the state highway system.
- Fostering cooperation with both regional and local governments.
- Increasing linkages between land use and transportation.
- Access management development and adherence.
- Providing linkages with other transportation modes.
- Creating a sustainable and environmentally friendly system.

The Highway Plan gives policy and investment direction to large scale corridor plans and TSPs, but is not intended to direct specific projects and modal alternatives. The access spacing standards and maximum volume-to-capacity (v/c) benchmarks are relevant to the Stanfield AMP.

The highways of statewide importance that are specifically identified in The Highway Plan in the vicinity of the Stanfield Interchange include:

- Interstate 84, which is classified as a Interstate Highway and Major Freight Route with the primary objective being to provide mobility between urban areas and a secondary objective being to provide mobility for regional trips *within* a metropolitan area. The operations of this facility should provide safe and efficient high-speed continuous flow. The maximum volume to capacity ratios for two hour peak hour operating conditions is .70. One mile is required for access spacing between the start and end of tapers of adjacent intersections.
- US 395 is classified as a Statewide Highway and Freight Route and is part of the National Highway System (NHS). The primary objective is to provide inter-urban and inter-regional mobility to areas that are not directly served by Interstate Highways. Statewide Highways should provide safe and efficient, high speed, continuous flow operation. Interruptions in urban areas should be minimal. The maximum volume-to-capacity ratio for two hour peak operating conditions is 0.80.

Freight Moves the Oregon Economy

The movement of freight has a far reaching effect on the Oregon economy. This report attempts to identify some of the concerns and needs about maintaining and enhancing current and future freight mobility. The report simply reports information about freight from numerous federal, state, regional, local, and other sources. Therefore, it serves as a compendium to these documents rather than an independent document that develops new data or ideas. It provides an overview of:

- Importance of freight to the national and Oregon economy
- Freight transportation planning and programming
- Oregon's freight transportation system
- Freight performance, concerns and needs
- Possible future directions for freight capacity

Interstate 84 is on of the most important east-west highways for moving freight in the state of Oregon and is designated as a facility in the National Highway System as well as a State System Route. Truck volumes on I-84 average over 3,000 trucks a day at the Stanfield interchange. Additionally, Union Pacific operates a rail lines through the I-84 corridor and an oil distribution line from the Oregon-Washington boarder to a Union Pacific distribution pick up area. US 395 averages between 500 and 1,500 trucks a day and also supports a rail and gas line within the corridor.

As efficient freight movement will be an important consideration for the Stanfield AMP, all relevant aspects of this plan will be incorporated.

State Transportation Improvement Program (STIP)

The current (2004-2007) Statewide Transportation Improvement Program (STIP) serves as ODOT's short term capital improvement program and provides funding and scheduling information for transportation projects for both ODOT and the metropolitan planning organizations in the state. Projects funded in the STIP reflect and advance the Oregon Transportation Plan for highways, public transportation, freight and passenger rail and bicycle and pedestrian facilities. Additionally, monies obtained from the sale of state bonds authorized in the 2003 Oregon Transportation Investment Act (OTIA III) and placed in the STIP coffers have been dedicated to modernization, bridge and pavement preservation projects. Therefore, many of the projects in the 2004-2007 STIP are preservation oriented.

The following projects will have an impact on the Stanfield AMP:

- Rehabilitation on US 395 of the US 395/I-84 interchange. Construction is scheduled to begin in 2007 (total cost budgeted for $2,157,000).
- Access management improvements on US 395 are scheduled to begin in 2006 for the East side located on US 395 (total cost budgeted for $1,017,000).

Transportation System Planning Guidelines

The 2001 Transportation System Planning Guidelines updates the Oregon Department of Transportation's 1995 guidelines and is designed to provide assistance to local jurisdictions in the preparation and update of TSPs to comply with requirements associated with:

- Transportation Planning Rule 1999, OAR 660
- Access Management Rules, 2000 OAR 734
- Oregon Public Transportation Plan,, 1997
- Oregon Highway Plan, 1999
- Oregon Aviation Plan, 2000

- Executive Order 12898 on Environmental Justice for Minority and Low Income Populations: USDOT Order 56102 and FHWA Order 6640.23.
- Executive Order EO-23 on Quality Development
- Executive Order EO-00-07 on Sustainability

The Stanfield AMP will comply with all of the relevant guidelines and will serve as an amendment to several local TSPs including the City of Echo and the City of Stanfield and Umatilla County.

CHAPTER 4: EXISTING CONDITIONS

This chapter defines the geographic boundaries of the AMP and presents the existing transportation and land use conditions in the study area. This information includes an assessment of land use development patterns, policies, and regulations that could affect the safety, function, and capacity of the street system.

The first step in studying a transportation corridor typically includes an assessment of the facilities currently provided and how well they meet today's travel demands and agencies standards. This is referred to as an Existing Conditions analysis. Key background information was taken from the US 395 Corridor Refinement Plan, a traffic study for the Pilot Travel Center and traffic counts collected by ODOT in August 2003. Field surveys were taken to collect additional inventory data for the purpose of this study. This data was evaluated to establish benchmarks for future assessment of transportation performance in the interchange study area.

Figure 1 shows the interchange study area, located along Thielsen Road and US 395 at Interstate 84 between Echo and Stanfield, Oregon. The study area boundary begins approximately one-half mile south of the I-84/US 395 interchange and extends the same distance to the north.

For an interchange with two-lane crossroads in an urban area, the Oregon Highway Plan (OHP) identifies a minimum spacing standard[1] of 1,320 feet to the nearest full access. The study area for the Stanfield AMP essentially doubles this influence area (approximately 2,640 feet, or one-half mile).

Motor Vehicles

Interstate-84, Thielsen Road and US 395 primarily serve autos, trucks and bus traffic within the study area. The motor vehicle system can be described by their functional designations, the physical characteristics of the existing facilities, current day design standards, and the volume of motor vehicle traffic using them. This information is useful to understanding how well the current facility meets with current standards, and how effectively it serves the existing operational requirements for motor vehicles.

Street Functional Class System

Street system functional classifications relate the roadway design to how it should be used. The City of Echo and Umatilla County TSPs classify Thielsen Road as an arterial street. Arterials form the primary roadway network within and through a region. They provide a facility which distributes traffic between cities, neighborhoods and districts. Generally, arterials are high capacity roadways

[1] *Oregon Highway Plan*, Oregon Department of Transportation, 1999, Table 16.

which carry high traffic volumes entering or leaving the City. Thielsen Road carries the highest amount of traffic in the Echo urban area[2] and connects the local neighborhood streets in Echo with I-84 and US 395.

On the other side of Interstate 84, the City of Stanfield TSP[3] and the Oregon Highway Plan[4] classify US 395 as a Statewide Highway and Freight Route. According to the 1999 OHP, the primary function of a State Highway is to "provide connections and links to larger urban areas, ports, and major recreation areas that are not directly served by interstate highways." The management objective for statewide highways is to provide for safe and efficient high-speed, continuous-flow operation in rural areas and high- to moderate-speed operations with limited interruptions of flow in urban and urbanizing areas. Thus, access spacing and other operational roadway characteristics such as traffic control devices are of primary importance. The Umatilla County TSP[5] classifies all ODOT facilities including Interstate, State, and US Highways as arterial roads. Table 3 distinguishes the facility and jurisdictional responsibility and classifications of the roadways within the study area.

Table 3 - Existing Functional Classification

Facility	Jurisdictional Responsibility	State Classification	County Classification	City Classification
I-84	ODOT	Interstate Highway	Arterial	N/A
US 395	ODOT	Statewide Highway	Arterial	Statewide Highway
Thielsen Road	ODOT	District Highway	Arterial	Arterial

Roadway Characteristics

The posted speed along US 395 in the study area is 45 miles per hour (mph). The pavement width along US 395 is approximately 82 feet with four travel lanes and a 14.5-foot, raised-median between the I-84/US 395 interchange and W. Stanfield Avenue. The raised center median was constructed within the last year to improve site circulation and safety for the Pilot Travel Center, which was opened in 1996. The first driveway, approximately 650 feet from the interchange, is restricted to autos only, and general truck and recreational vehicles are directed to W. Stanfield Avenue, approximately 1,300 feet from the nearest off-ramp. The raised center median prohibits left-turns from the Pilot Travel center at the auto driveway approach. There are no turning restrictions at the truck access point via W. Stanfield Avenue. Aside from the median restrictions, there are no other restrictions for motor vehicle movement on US 395 within the study area. To date, there are no pedestrian sidewalks or bicycle facilities along US 395 and pavement condition is considered good based on a subjective evaluation of pavement conditions.

The bridge crossing at the I-84 interchange is also posted speed at 45 mph. There are two travel lanes, one in each direction with a four-foot shoulder on each side of the bridge. There are no sidewalks or striped bicycle lanes on the bridge. The five-lane section of US 395 transitions to the two-lane bridge over crossing I-84 by dropping the outside southbound lane as a right-turn only lane onto the freeway westbound, and adding a lane from the westbound off-ramp. The westbound off-ramp right turn onto US 395 is not controlled by stop signs, and is a free-flow movement for

[2] *Echo Transportation System Plan*, David Evans and Associates, February 2001.
[3] *Stanfield Transportation System Plan*, David Evans and Associates, June, 2001.
[4] *Oregon Highway Plan*, Oregon Department of Transportation, 1999.
[5] *Umatilla County Transportation System Plan*, David Evans and Associates, April 2002.

motor vehicles. Vehicles that exit I-84 westbound that intend to turn left into the Pilot Travel Center at the first driveway must weave across one lane of through traffic within 400 feet, possibly causing a safety related issue. As noted above, trucks are directed to use the entrance at W. Stanfield Avenue, another 1000 feet to the north.

Thielsen Road is a two-lane facility with a posted speed of 45 miles per hour south of the interchange. The pavement width along Thielsen Road is approximately 50 feet with two travel lanes. This section of Thielsen Road was recently improved, and ownership transferred to ODOT from Umatilla County. There are no dedicated pedestrian or bicycle facilities in place and pavement condition is considered good based on a subjective evaluation of pavement conditions. As noted previously, a multi-use path is planned for this section of roadway, but these improvements have not been reflected in the state's improvement program budget.

Table 4 summarizes the existing roadway characteristics, in table form, for the study area. In addition to the general roadway characteristics mentioned above, driveway and intersection approaches in the study area have specific characteristics as well. Table 5 designates the driveway or intersection approach with the associated characteristics.

Table 4 - Existing Roadway Characteristics

Facility	Posted Speed	Pavement width	Lanes	Pedestrian Facilities	Bicycle Facilities	Pavement Conditions
US 395	45 mph	82 feet	4	No	No	Good
Thielsen Road	45 mph	50 feet	2	No	No	Good
Interchange	45 mph	50 feet	3	No	No	Good

Table 5 - Intersection Approach Characteristics

Access Point	Ownership	Side of Roadway	Approach Width
US 395			
Private Drive 1	Private	East	25 feet
Pilot Tuck Stop (autos)	Private	West	45 feet
Private Drive 2	Private	East	25 feet
W. Stanfield Avenue (Pilot Truck Stop – trucks & recreational vehicles)	Public/Private	West	60 feet
Irwin Road	Public	East	30 feet
Thielsen Road			
Private Drive 3	Private	West	25 feet

The recommended stopping sight distance for all three of the above roadways is 495 feet, based on a design speed of 55 mph (10 mph over the posted speed limit), based on standards[6] published by the American Association of State Highway and Transportation Officials (AASHTO). The private drive 1 (right-in, right-out), immediately north of the overcrossing, has the shortest sight distance at 500' due to vertical curves in the existing bridge, but is still within the required parameters. The other driveways and approaches on US 395 have longer sight distance, and comply with this standard. Similarly, there are no sight distance restrictions on Thielsen Road within the study area.

[6] *A Policy on Geometric Design of Highways and Streets*, AASHTO 2001.

However, the vertical and horizontal curves of existing bridge structure overcrossing I-84 does limit sight distance for vehicles stopped at the off-ramps. Sight distance at each intersection is approximately 400 feet, which is less than the AASHTO minimum stopping sight distance parameters. This substandard conditions should be corrected in the future.

Access Spacing

Driveway access points and intersection approaches in the study area were inventoried and compared to the access spacing standards in the *Oregon Highway Plan* and local TSPs. These standards state that the minimum distance from the center of the off ramp to the center of the first full access approach is 1,320 feet[7]. Beyond this distance from the interchange, the general spacing standard[8] between access points (including driveways and intersection approaches) is 990 feet on US 395 (statewide highway) and 500 feet on Thielsen Road (district highway) assuming a posted speed of 45 miles per hour and in a urban setting. Figure 3 shows the access points along both US 395 and Thielsen Road.

North of I-84, there are three private street or driveway connections within the minimum 1,320 feet access spacing standard. The first is a private driveway, approximately 450 feet north of the ramp junctions, the next is the Pilot Truck Stop access for autos, at 650 feet, and the third is a minor private driveway at 940 feet. South of I-84 on Thielsen Road there is one access, approximately 460 feet from the ramp junction. This access point is currently a dirt road that is presumed to be a private drive. Public access onto Thielsen Road is provided via Bowman Road, which is located just south of the study area, and well beyond access spacing concerns. Table 6 provides an inventory of intersection approaches and driveways in the interchange study area.

Table 6 - Access Spacing on US 395/Thielsen Road

Route/Access Point	Spacing Standards from Freeway Ramps (feet)	Distance from Ramp Junction (feet)	Distance between Nearest Access Point (feet)
US 395			
Private Drive 1	1,320	450	450
Pilot Truck Stop (autos only)	1,320	650	200
Private Drive 2	1,320	940	390
W. Stanfield Avenue*	990	1,450	510
Irwin Road*	990	1,960	510
Thielsen Road			
Private Drive 3	1,320	460	460

* Spacing for W. Stanfield Avenue (Pilot truck entrance) and Irwin Road based on spacing requirements outside the interchange influence area.

Peak hour traffic turn movement counts were conducted in August of 2003 by the Oregon Department of Transportation. The manual turn movement counts were taken during a 14 hour period including the weekday, AM (7-9 AM) and PM (4-6 PM), peak periods to determine existing operating conditions. Figure 4 shows the existing PM peak hour traffic volumes at the I-84/US 395 interchange. Typically, traffic counts in rural areas are adjusted for "seasonal" volatility, as traffic can be much higher in peak travel months as opposed to the winter months, which tend to experience the lowest traffic volumes. This variation must be accounted for when analyzing

[7] *Oregon Highway Plan*, Oregon Department of Transportation, 1999.
[8] *Oregon Highway Plan*, Oregon Department of Transportation, 1999, Tables 13 and 15.

operations or planning mitigation measures. The Automatic Traffic Recorder (ATR 30-004), located on I-84 between the I-84/ US 395 intersection and City of Pendleton, operated by ODOT[9] indicates that August is the peak traffic month for this area. As a result, the traffic volumes from the August ODOT manual count were not adjusted.

Interstate 84 is designated in the *Oregon Highway Plan* as being a major freight route. Consequently, truck traffic is the majority of vehicles passing through the study area. ATR 30-004 calculates that 38% of vehicles are passenger vehicles, meaning the remaining 62% of traffic is comprised of light trucks (2-axle single units) and heavy trucks (2-axle single unit with heavy trailer, 3-axle and greater single unit and all combinations).

Traffic Levels of Service

Level of Service (LOS) is used as a measure of effectiveness for intersection operation. It is similar to a "report card" rating based upon average vehicle delay. Level of Service A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. Level of Service D and E are progressively worse peak hour operating conditions. Level of service is reported for the major and minor street turning movements. Minor street, lower volume approaches can have low levels of service, LOS E and even LOS F, however, the majority of traffic may not be delayed, in cases where major street traffic is not required to stop. LOS E or F conditions at unsignalized intersections generally indicate that additional study is needed to determine if traffic signal controls are more appropriate for this location.

The August manual turn movement counts described above were used to determine the existing 2004 LOS based on the *2000 Highway Capacity Manual* methodology for unsignalized intersections[10]. The PM peak hour serves as the analysis period of this report because the highest traffic volumes were observed during this time. Table 7 lists the existing PM peak hour Level of Service at the I-84/US 395 interchange based on the August ODOT manual turn movement count. Both of the study intersections operate at a LOS of C or better during the PM peak period, and both have acceptable v/c ratios below the required 0.85 identified by the *Oregon Highway Plan*.

Table 7 - Existing PM Peak Hour Intersection Level of Service

Intersection	Traffic Control	Level of Service for Major / Minor Approach
I-84 / US 395 Interchange WB	Stop sign	A/B
I-84 / US 395 Interchange EB	Stop sign	A/C

Safety

In 2002, the section of US 395 between the Stanfield City Limits to the I-84 interchange (including the I-84 westbound on/off ramp and US 395 intersection) had a crash rate of 1.72 per million vehicle miles traveled[11]. Comparatively, non-freeway routes on the Oregon state highway system had a crash rate of 1.52 per million vehicle miles traveled[12] in 2002. This section of US 395 within the AMP study area has a slightly above average crash rate when compared to the statewide average of similar facilities. It is noted that the recent raised center median improvement was constructed last year, and the benefits of that improvement are not reflected in these previous

[9] ODOT operates over 130 ATRS throughout the state. These ATRs count traffic flows 24 hours a day 365 days a year.
[10] *2000 Highway Capacity Manual*, Transportation Research Board, 2000.
[11] *2002 Oregon State Highway Crash Rate Tables,* Oregon Department of Transportation, September 2003.
[12] *2002 Oregon State Highway Crash Rate Tables,* Oregon Department of Transportation, September 2003.

statistics. Furthermore, the I-84 westbound/US 395 intersection does not appear on ODOT's 2002 Safety Priority Index System (SPIS) list, which would indicate there is not a significant intersection safety concern.

Table 8 summarizes crash statistics in the study area. Crash data from mile post 9.25 to mile post 12.44 along US 395 between 2001 and 2003[13] is provided and shows a much lower crash rate than is observed on the section of US 395 discussed above.

Table 8 - Crash Data from 2001 - 2003

Location	US 395 (MP 9.25 to MP 12.44)
Fatalities	0
Injuries	3
Property Damage Only	11
Total Crashes	12
Crash Rate (crashes per million vehicles)	0.59

* Note: The center raised median was installed in 2001 providing some safety benefit in the study area.

Pedestrians & Bicycles

There are currently no existing sidewalks or dedicated pedestrian walkways (such as a multi-use path) along Thielsen Road or US 395 in the interchange study area. There currently exists 4 foot wide shoulders on the interchange bridge, however, no sidewalks are present. The Capital Improvement Program listed in the City of Echo Transportation System Plan (TSP) includes the construction of a multi-use path along Thielsen Road between I-84 and the city limits. The Capital Improvement Program listed in the City of Stanfield TSP also includes the construction of multi-use paths along US 395 to the I-84 interchange, although project specifics are still being worked out with Stanfield, Echo, ODOT and Umatilla County. The proposed multi-use paths would provide adequate pedestrian access between the City of Echo and the City of Stanfield.

Public Transportation

There are no local bus services provided in the study area. Intercity bus service is provided by Greyhound along I-84 and US 395 within the study area utilizing the existing interchange bridge, however terminals for this service are only located in Hermiston and Pendleton so no stops are made in the study area. Both terminals provide connections to the southeast (including La Grande and Boise), west (including Portland) and north (including Pasco and Spokane). Pendleton, Hermiston, Pilot Rock and the Umatilla Indian Reservation have dial-a-ride transit service available for the transportation disadvantaged, however, none is available in the study area.

Rail Service

The nearest rail freight connection to the study area is west of Stanfield and south of Hermiston at the Hinkle Rail yards, approximately 3 miles northwest of the study area. The Hinkle Rail yards is a major maintenance and repair facility and handles over 800 rail cars a day. A major freight line serves these yards and runs parallel to US 395 approximately a quarter mile west of the study area. There are no at-grade railroad crossings in the study area. The line is owned and operated by Union Pacific Railroad as a Class I railroad. Additionally, a Union Pacific main line runs through

[13] *Umatilla County Transportation System Plan*, David Evans and Associates, April 2002.

Echo eastward through Pendleton. Approximately 1 train an hour passes along this alignment, going through the west side of Stanfield and the heart of Echo.

Existing Land Use

Land in the study area is largely undeveloped. A Pilot Truck and Travel Center is the only commercial use currently in the study area boundaries and is located in the northwest quadrant of the westbound I-84/US 395 intersection. There are two residential lots that have access directly onto US 395 (private drives 1 and 2). Land in the study area is zoned as "urban" according to Umatilla County[14], however, a small portion in the northwest corner of the study area is zoned as "Agricultural". Figure 3 shows the existing land use in the study area.

The study area north of Interstate 84 is under the jurisdiction of the City of Stanfield, while the study area south of the intersection is under the jurisdiction of the City of Echo. The City of Stanfield identifies five distinct land use categories north of the Interstate 84 interchange along US 395. These are shown in Table 9 and include:

Table 9 - City of Stanfield Zoning Classifications

Zoning Classification	Description	Acres
Within AMP Study Area		
D/TC	Tourist Commercial	56.94*
LI	Light Industrial	22.00
Adjacent to Study Area		
GI	General Industrial	35.41
LI	Light Industrial	22.00
EFU	Exclusive Farm Use	66.35
R/NC	Residential/Neighborhood Commercial	12.00

*This includes the 18.22 acres currently occupied by the Pilot Travel Center

The study area south of the Interstate 84, under the jurisdiction of the City of Echo, identifies two land use classifications. Additionally, just south of the study area, in the southwest corner of Bowman Road/Thielsen Road a 43 unit, detached single family subdivision has been approved and is currently in the process of being constructed. There are no other development projects currently in the study area involving the undeveloped parcels between the Interstate 84 interchange and the development on Bowman Road. There is, however, potential for future development to occur in this area. The City of Echo Commercial-Light Industrial zoning classification extends from Bowman Road north to the I-84 eastbound ramps, and eastward from the intersection of County Road/ Bowman Road to the edge of the city's UGB. The area outside of the Commercial-Light Industrial boundaries described above is zoned Farm Residential, with a small section below Bowman Road zoned as Multi-Family Residential. The existing land use classifications within the study area and under the jurisdiction of the City of Echo are shown in Table 10.

[14] *The Oregon Rural Lands Database*, Umatilla County, 2001.

Table 10 - City of Echo Zoning Classifications

Zoning Classification	Description	Acres
C-2	Commercial - Light Industrial	N/A
R-4	Farm Residential	N/A

The US 395 Corridor Refinement Plan[15] estimates that at full build out of these lands, approximately 1,400 additional PM peak hour trips will be generated, and travel through, the I-84/ US 395 interchange.

Findings

The foregoing Existing Conditions analysis had the following findings. Several issues should be considered in the design of planned improvements, and for local circulation plan that will be developed as a part of this project:

- Sight distance is limited on the overcrossing bridge at the east and westbound I-84
- Several existing access points to US 395 and Thielsen Road are closer than recommended minimum spacing guidelines. Land access and circulation should be adjusted to better comply with the OHP standards.
- Currently, development within the study area is limited, consisting of a few residential houses and a Pilot Travel Center. At full build-out this urban development could impact the interchange area with significant increases in traffic volumes during the PM peak period.

[15] *US 395 Corridor Refinement Plan Existing/Future Conditions Supplemental Analysis for the I-84/Highway 207 and I-84 US 395 Interchanges*, Kittelson & Associates, April 28, 2002.

CHAPTER 5: FUTURE NEEDS ANALYSIS

This chapter presents the future transportation needs of the interchange study area. This information includes future land use assessment, traffic volumes projections, an evaluation of the transportation system's ability to adequately serve future demand and recommended improvements required to alleviate future deficiencies and safety issues.

Future Land Use Assessment

The initial land use forecast is based on a future full build-out scenario of the interchange area. This approach provides an analysis of a conservative, worst-case scenario that is consistent with the methods used in the US 395 Corridor Refinement Plan. This method does not account for market factors.

The study area is under two local jurisdictions – the cities of Stanfield and Echo. This future build-out analysis is based on existing zoning designations within the respective cities. The zoning codes provide the development standards to characterize the intensity of development. Land Use Codes for each future development are based on the ITE Trip Generation Manual[16].

Key Assumptions

- Tourist Commercial areas assume a mix of commercial service uses typical for an interchange – truck stop (existing); fast food restaurants; gas station; and motel.
- Industrial areas assume small-scale, low-intensity manufacturing and warehouse distribution.
- The existing urban growth boundaries are assumed sufficient to accommodate future growth to 2025 and no additional lands will be designated for urban development in the study area.

Previous Studies

US 395 Corridor Refinement Plan

This study[17] utilized a planning horizon year of 2025 to estimate potential full build-out development scenarios for a larger study area (north to Feedville Road and the Highway 207 interchange), although no documentation is available to characterize these scenarios. It was determined that the future build-out had the potential to generate an additional 3,200 weekday AM peak hour vehicle trips and an additional 4,000 PM peak hour vehicle trips. The study estimated that approximately 30-35 percent of the trips would be oriented to the US 395/ I-84 corridor, which would result in 1,400 additional PM peak hour vehicle trips through the Stanfield interchange.

[16] *Trip Generation Manual*, Institute of Transportation Engineers, Seventh Edition, 2003.
[17] *US 395 Corridor Refinement Plan Existing/Future Conditions Supplemental Analysis for I-84/Highway 207 and I-84/US 395 Interchanges*, Kittelson & Associates, April 28, 2002.

Stanfield TSP

The Stanfield TSP was prepared in June 2001. It assumed that Stanfield would grow at an average annual rate of 1.49 percent to 2020. Umatilla County has not allocated the recent OEA 2025 population forecast to incorporated cities, however the 2025 aggregate forecast is based on a similar growth rate (1.3 percent) to the 2020 forecast used in the TSP. Therefore, there is no indication in the underlying population forecasts to suggest a dramatic change in the growth rates for this area.

A key underlying assumption was that western Umatilla County would experience faster growth driven by four major employers locating in the area – the Two Rivers Correctional Institution, the Umatilla Chemical Agent Disposal Facility, the Union Pacific Railroad Hinkle Locomotive Shop, and the Wal-Mart Distribution Center and Truck Maintenance Facility. All four of these projects have been constructed and are operational. These projects feed into the background traffic growth assumptions for the region, particularly US 395 North through Stanfield.

Echo TSP

The Echo TSP was prepared in April 2001. It assumed that Echo would sustain a 1.0 percent average annual growth rate to 2020. Umatilla County has not allocated the recent OEA 2025 population forecast to incorporated cities, however the 2025 aggregate forecast is based on a similar growth rate (1.3 percent) to the 2020 forecast used in the TSP. Therefore, there is no indication in the underlying population forecasts to suggest a dramatic change in the growth rates for this area.

Future Land Use Forecast

Stanfield (North of Interchange)

The study area north of I-84 is under the jurisdiction of the City of Stanfield. Land within the study area is zoned for Tourist Commercial (D/TC), General Industrial (GI) and Light Industrial (LI). Areas adjacent to the study area are zoned for industrial, residential, and agriculture uses.

Northeast Quadrant

The Northeast quadrant of the interchange has 18.06 acres of land zoned Tourist Commercial. Future build out is assumed to be a mix of uses including a gas station (8 pumps) with mini-mart (2,000 square feet) (Land Use Code 834), a fast food restaurant (3,500 square feet with drive-thru) (Land Use Code 845), and a motel (40 rooms) (Land Use Code 320).

Future access to this site will mirror the west side of US 395. The gas station will have a right-in/right-out driveway with similar access spacing as the west side of US 395. A new roadway will be provided at US 395 opposite Stanfield Ave to provide access for the fast food restaurant and motel. There will be a link between the gas station and fast-food restaurant.

The adjacent land is zoned EFU and is not assumed to be developed within the planning horizon.

Northwest Quadrant

The Northwest quadrant of the interchange has a mix of Tourist Commercial and Industrial zoning. The major existing use is the Pilot Truck Stop located on 18.22 acres of land zoned Tourist Commercial. In addition to the Truck Stop, the site has a fast food restaurant with a drive-thru and a 43-space RV Park. No additional development is assumed on this site. However, there is vacant land on either side of the Stanfield Avenue intersection that is assumed to develop with a 3,500 square foot fast-food restaurant with drive-thru (Land Use Code 934), and a 6,000 square foot high-turnover, sit-down restaurant (Land Use Code 932).

Light Industrial and General Industrial areas are assumed to develop as an Industrial Park (Land Use Code 130) with a mix of manufacturing, service and warehouse facilities. Using relatively low floor-to-area ratio, this 57-acre area would be expected to develop with about 200,000 square feet of space.

Farther north on US 395, a 12-acre site fronts onto US 395 and is zoned Residential/Neighborhood Commercial. This area is assumed to develop into a small strip shopping center (Land Use Code 814) with 20,000 square feet space containing a variety of shops and services.

There is a 25-acre site on the north side of US 395 (across from the Neighborhood Commercial) that is assumed to develop into another Industrial Park (Land Use Code 130) with 75,000 square feet of space.

Future residential development is expected on both sides of US 395 as turns northwest into Stanfield. An adjacent 33-acre area is zoned R/UH is assumed to develop into 132 detached single-family houses (4 lots per acre). There is an additional 47 acres north of US 395 that is assumed to develop into 188 lots that will have access onto US 395 as well as Ball Avenue.

Echo (South of Interchange)

The study area south of I-84 is under the jurisdiction of the City of Echo. Land within the study area is zoned for Tourist Commercial (C-2), Light Industrial (M-1) and Residential (R-4).

The proposed interchange design will include a realignment of Thielsen Road and Bowman Road, which may lead to a change in the zoning designation for either Tax Lot 1700 or 2600.

In the current configuration, Tax Lot 2600 is on either side of Thielsen Road at the interchange. Given the access spacing requirements, it is assumed that the Tourist Commercial zoning will shift slightly to the south. This area is assumed to develop with a gas station (8 pumps) with mini-mart (2,000 square feet) (Land Use Code 853) and a fast food restaurant (3,500 square feet with drive-thru) (Land Use Code 934). The balance of the parcel (approximately 110 acres) is planned for Light Industrial uses and is assumed to develop as an Industrial Park (Land Use Code 130) with a mix of manufacturing, service and warehouse facilities. Using relatively low floor-to-area ratio and accounting for the topography, this area is expected to develop with about 200,000 square feet of space.

Future residential development is expected on both sides of Thielsen Road. The Echo Heights subdivision (43 lots) has been platted along Bowman Road. Tax Lot 1700 is west of Bowman Road and is assumed to develop into 75 detached single-family houses (1 acre lots) after factoring for local streets and topography. A portion of Tax Lot 3300 (approximately 100 acres) on the east side of Thielsen Road is assumed to develop into 60 detached single-family houses (1 acre lots) after factoring for local streets and topography.

A map of the future land use assessment for the full build-out scenario is shown in Figure 1.

Figure 1 - Land Use Map

Future Travel Demand Forecast

The 2024 future full build-out travel demand forecast for the study area was developed from an analysis of anticipated local and regional growth over an approximate 20 year period. Local growth comprises vehicle trips generated by new development within the interchange study area. Regional growth comprises vehicle trips generated outside the study area, including within the cities of Stanfield and Echo. The methodology for estimating the future travel demand for local and regional trips are summarized in the following sections.

Local and Regional Travel Demand Growth

Local travel demand growth was estimated based on the future land use assessment of vacant land the interchange area. Each build-out land use assumption was evaluated to estimate the number of vehicle trips that would be generated during the PM peak hour. The trip generation estimates for each land use were based on available ITE trip generation data[18] and include reductions for passby trips that would occur at retail land uses. Passby trips are existing traffic volumes that are attracted from the adjacent stream of traffic to the site and do not count as new trips. The trip generation estimate for the future full build-out scenario is summarized in Table 11.

Table 11 - Future Year 2024 Build-out Development

Land Use	Size	Daily Trips	PM Peak Hour Trips
Single-Family Residential	498 dwellings	4,766	501
Industrial Park	475,000 SF	3,306	409
Fast Food	10,500 SF	2,910	203
Restaurant	6,000 SF	435	38
Gas Station	16 pumps	990	82
Motel	40 rooms	225	19
Commercial	20,000 SF	1,264	115
Total		13,911	1,383

The new vehicle trips generated by the future build-out land use scenario were distributed through the roadway network based on vehicle travel patterns determined from existing PM peak hour turn movement counts within the interchange study area.

Regional travel demand growth within the interchange area was estimated based on available ODOT highway forecast data[19] for US 395. The highway forecast data provided future daily volumes for several locations on US 395 in the vicinity of the study area which were utilized to determine an appropriate total annual growth rate. This total growth was compared to the estimated local traffic growth rate and the remaining portion of the growth was assumed to be regional growth. This methodology resulted in an approximate one-percent per year regional growth rate within the interchange study area.

The forecasted year 2024 volumes are calculated by applying the regional one-percent per year growth rate (22% over 20 years compounded annually) to the existing traffic volumes and adding the local growth trips at each intersections. Figure 2 shows the 2024 future traffic volumes at intersections within the interchange study area.

[18] *Trip Generation Manual*, Institute of Transportation Engineers, Seventh Edition, 2003.
[19] ODOT, Transportation Planning Unit, Transportation System Analysis, Data Resources, Future Traffic Volumes, 2023 Future Volumes – Primary Highways, Highway No. 54.

Figure 2-Future Volumes

Future Conditions Analysis

The future conditions within the interchange study area were determined to identify expected deficiencies and safety issues. The findings are discussed in the following sections.

Traffic Levels of Service

The future travel demand forecast was evaluated to determine the 2024 study area performance based on the *2000 Highway Capacity Manual* methodology for unsignalized intersections[20]. The PM peak hour serves as the analysis period of this evaluation because the highest traffic volumes occur during this time. Table 12 summarizes the 2024 PM peak hour operating conditions at intersections within the interchange study area. For stop sign controlled intersections, the volume to capacity ratio represents the condition for the worst minor street approach.

Table 12 - Future Year 2024 PM Peak Hour Intersection Level of Service

Intersection	Traffic Control	Average Delay	LOS	V/C*
I-84/US 395 Interchange WB	Stop sign	9.9	B/D	0.52
I-84/US 395 Interchange EB	Traffic signal	8.6	A	0.69
Pilot Access/US 395	Stop sign	1.4	A/B	0.22
Stanfield Avenue/US 395	Traffic signal	15.5	B	0.47
Edwards Road/US 395	Stop sign	6.3	A/E	0.59
Restricted Access Road/Thielsen Road	Stop sign	0.6	A/B	0.04
Full Access Road/Thielsen Road	Stop sign	3.9	A/C	0.12
Bowman Road/Thielsen Road	Stop sign	2.1	A/B	0.05

* For stop controlled intersections, the v/c represents the condition for the worst minor street approach.

ODOT has set a maximum v/c of 0.70 for an interstate highway, 0.75 for a statewide highway and 0.80 for a district highway based on performance standards set in the Oregon Highway Plan[21] for facilities inside an urban growth boundary with speeds less than 45 miles per hour. The future signalized intersections operate with acceptable v/c ratios. The majority of study intersections operate at LOS D or better during the PM peak hour.

US 395 at the I-84 westbound ramps operate at LOS D for left turning vehicles on the minor street approach. This operating condition would only be expected during the PM peak hour with minimal vehicle delays during the rest of the day. An analysis of the future 2024 volumes and the Eight-Hour Vehicular Volume traffic signal warrant[22] found a traffic signal is not warranted at this intersection.

[20] *2000 Highway Capacity Manual*, Transportation Research Board, 2000.
[21] *Oregon Highway Plan*, Oregon Department of Transportation, 1999, Table 6.
[22] *Manual of Uniform Traffic Control Devices*, Chapter 11, Traffic Signal Warrants, Warrant 1 – Eight Hour Vehicular Volume.

US 395 at Edwards Road operates with LOS E for the minor street approach. In the future, it may be difficult for vehicles to turn left from the minor street approach during peak hours when volumes on US 395 are high. This intersection may require an alternative design in the future to improve peak hour operating conditions. A center two-way left-turn lane or other channelized access design would allow minor street left turning vehicles to make a two stage turn movement (vehicles cross one direction of traffic and use the center left turn lane to wait for the other direction to clear). An analysis of the future 2024 volumes and the Eight-Hour Vehicular Volume traffic signal warrant found a traffic signal is not warranted at the US 395/Edwards Road intersection.

Study Area Needs

Future transportation improvements are required to alleviate future deficiencies and safety issues within the interchange study area. The transportation needs within the interchange study area are shown in Figure 3 and summarized below.

Roadway Improvements

An evaluation of the future year 2024 traffic volumes and operating conditions serves to measure the interchange study area's ability to adequately serve future local and regional demand.

- A traffic signal would be required at the I-84/US 395 eastbound ramps to improve intersection performance and meet ODOT operating standards. The signal should be constructed as volumes at the intersection reaches the minimum levels recommended for traffic signal controls.
- A center two-way left-turn lane (or similar channelized median design) should be considered as a short-term treatment on US 395 along sections with full access unsignalized intersections to safely accommodate major street left turn movements due to high vehicle speeds. This recommendation would apply on US 395 near Edwards Road and on Thielsen Road near Bowman Road.
- As local development occurs, the supporting local street network will be constructed and vehicles will be able to access signalized intersection on US 395 and Thielsen Road. With improved local connectivity, a center median restricting left turn movements should be considered at the full access unsignalized intersections on US 395 and Thielsen Road to reduce vehicle conflicts.

Access Spacing

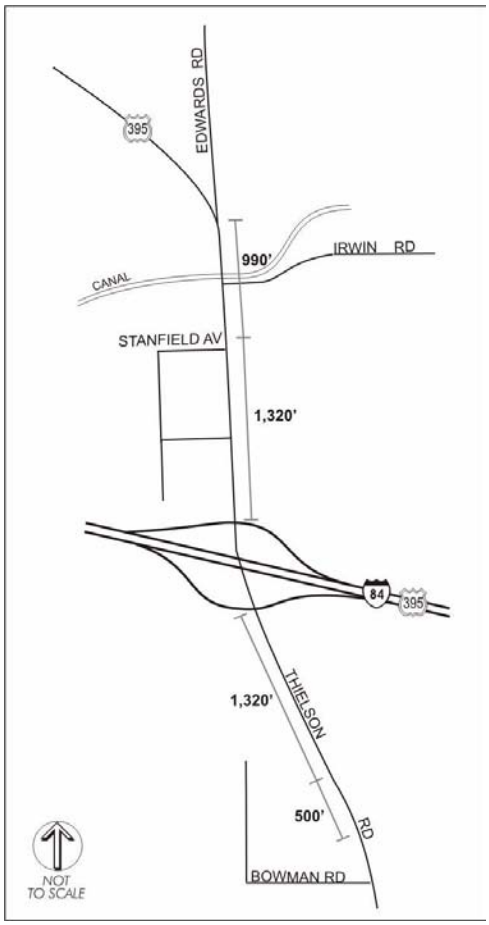
Several existing access points to US 395 and Thielsen Road are closer than recommended minimum spacing guidelines. For an interchange with two-lane crossroads in a developed urban area, the minimum spacing standard[23] is 1,320 feet to the nearest full access and 750 feet to the nearest restricted access (right-in/right-out). This standard applies to US 395 north of the interchange and Thielsen Road south of the interchange. Beyond this distance from the interchange, the general spacing standard[24] between access points (including driveways and intersection approaches) is 990 feet on US 395 (statewide highway) and 500 feet on Thielsen Road (district highway) assuming a posted speed of 45 miles per hour and in a urban setting.

- The US 395/Pilot Access intersection is located approximately 650 feet from the interchange and is restricted to auto use only. This will also provide a restricted access (right-in/right-out)

[23] *Oregon Highway Plan*, Oregon Department of Transportation, 1999, Table 16.
[24] *Oregon Highway Plan*, Oregon Department of Transportation, 1999, Tables 13 and 15.

to the east side of US 395. The existing raised center median prohibits eastbound left turn movements exiting the Pilot truck stop.

- The US 395/West Stanfield Avenue intersection is located approximately 900 feet from the interchange. General truck and recreational vehicles are directed to utilize this intersection to access the Pilot truck stop. Based on the existing spacing from the interchange, this intersection is an ideal location for a full access intersection for both sides of US 395. A traffic signal is recommended at this intersection to adequately serve the additional traffic generated by the adjacent future land uses (gas station and three restaurants) and to improve safety for truck turn movement with increasing volumes on US 395.
- Irwin Road should be realigned to the south to connect to the proposed traffic signal at US 395/West Stanfield Avenue. This will ensure compliance with the access spacing standards and provide for safer vehicle movements at intersections on US 395. The new alignment would provide future land uses on the east side of US 395 a connection to a signalized access.
- Edwards Road should be realigned to the west and intersect with US 395 a minimum of 990 feet north of Stanfield Avenue. Full access at the proposed US 395/Edwards Road intersection is recommended to adequately serve the adjacent future land use (commercial and industrial park) and the forecasted volumes on US 395.
- The west leg of the proposed US 395/Edwards Road intersection should be extended to provide a new roadway connection to West Stanfield Avenue south of the canal. A new bridge over the canal would be required to accommodate the proposed roadway. This connection would reduce the vehicle demand at the unsignalized US 395/Edwards Road intersection and overall improve connectivity west of US 395.
- Local roadway circulation should be constructed east of US 395 between Stanfield Avenue and the interchange. A local street network would provide connectivity between future land uses and provide vehicle access to the traffic signal at the US 395/Stanfield Avenue intersection.
- A restricted access point (right-in/right-out) is recommended on Thielsen Road a minimum of 750 feet south of the interchange to meet the recommended interchange access spacing and provide access to the adjacent future land uses (gas station and fast food).
- A full access point is recommended on Thielsen Road a minimum of 1,320 feet south of the interchange to meet the recommended interchange access spacing and provide access to the adjacent future land uses (industrial park and residential).



- The Bowman Road/Thielsen Road intersection is located approximately 2,300 feet south of the interchange. Based on the existing spacing from the interchange, this intersection is an ideal location for an additional full access intersection on Thielsen Road. The Bowman Road/

Thielsen Road intersection would be located approximately 1,000 feet south of the proposed full access (described in the previous bullet).

- Local roadway circulation should be constructed to the east and west of Thielsen Road between Bowman Road and the interchange. A north-south roadway should be provided a minimum of 300-feet to the east and west of Thielsen Road with connections to each proposed access point on Thielsen Road to create a local street grid network. This local street system would provide connectivity between the future land uses and allow vehicles to use the full access intersections.
- A local roadway just south of the interchange on the west side of Thielsen Road has full access today. This existing access point does not meet ODOT spacing standards and should be closed. Alternative access to the local roadway to the south should be provided.

Pedestrian and Bicycle Facilities

The Capital Improvement Program (CIP) listed in the City of Echo TSP includes the construction of a multi-use path along Thielsen Road between I-84 and the city limits. The CIP listed in the City of Stanfield TSP also includes multi-use paths along US 395 to the I-84 interchange.

- Sidewalks should be constructed on both sides of US 395 and Thielsen Road between the proposed traffic signal US 395/West Stanfield Avenue intersection and the first full access intersection on Thielsen Road south of the interchange. The demand for pedestrians crossing US 395 may increase where the sidewalks on both sides of US 395 transition to a multi-use path provided only on the west side of US 395. The proposed traffic signal would provide a signalized pedestrian crossing across US 395 at this location. The future land uses along US 395 and Thielsen Road would benefit from sidewalks with improved safety and convenience of pedestrian and bicycle travel between developments. For example, a guest at the motel or RV park could walk to a restaurant for dinner.
- A multi-use path should be constructed along the west side of US 395 between Stanfield Avenue and the Stanfield city limits and along the west side of Thielsen Road between the Echo city limits and the first full access intersection south of the interchange. The multi-use path would improve the safety and convenience of pedestrian and bicycle travel between Stanfield and Echo. The multi-use path would connect to sidewalks on the west side of US 395 and Thielsen Road allowing pedestrians and bicyclists access to signalized crossings over US 395 and Thielsen Road. A bridge would be required for the multi-use path to cross the canal north of Stanfield Avenue.

Right-of-Way

The potential future reconstruction of the I-84/US 395 interchange overpass would require additional right-of-way to accommodate each new ramp layout. Figure 4 shows the proposed interchange design and associated right-of-way needs. The westbound loop on-ramp shown in the northeast quadrant of the interchange is not part of the ultimate design. It will provide temporary vehicle access to I-84 during the initial phases of the construction project.

The eastbound off-ramp would require significant right-of-way to allow for a future southbound to eastbound loop on-ramp. The proposed layout of the eastbound ramps and realignment of Thielsen Road require significant right-of-way impacts to the adjacent property. The westbound off-ramp would require additional right-of-way to accommodate the temporary westbound loop on-ramp. The westbound on-ramp would impact the existing trailer park and truck parking area.

Figure 3 - Interchange Study Area Needs

Figure 4 - Proposed Interchange Right-of-way Impacts

CHAPTER 6: ACCESS MANAGEMENT PLAN

This chapter presents the Stanfield Interchange Access Management Plan (AMP) to address future needs for capacity, connectivity and safety in the Stanfield AMP study area. The recommended AMP is based on the future transportation needs presented in chapter 5.

A recent evaluation of the Stanfield interchange has concluded the bridge structure does not require reconstruction at this time. However, the proposed bridge reconstruction may be needed in the future. To accommodate both future scenarios, the management plan has been developed to consider both future alternatives: with and without the potential future reconstruction of the interchange overpass. The recommended AMP is summarized below.

Roadway Improvement Plan

An evaluation of the roadway system needs and future operating conditions serves to measure the interchange area's ability to adequately serve future local and regional demand. The recommended improvement projects for the Stanfield AMP are shown in Table 13. The potential future reconstruction of the interchange overpass is listed as a separate long-term project. The remaining projects identified in Table 13 are recommended with or without the reconstruction of the interchange overpass. Planning level cost estimates were prepared for each improvement based on average unit costs for similar projects. The cost estimates do not include the cost of obtaining additional right-of-way for the improvements.

Table 13 - Recommended Transportation Improvement Projects

Project Description	Cost Estimate
SHORT TERM	
Rehabilitate the Stanfield/I-84 interchange bridge by repaving the interchange ramps and US 395 along the Pilot property. Construct a temporary westbound loop on-ramp. Replace the I-84 eastbound section of the Umatilla River bridge. Take access control on the east side of the Pilot property including building a fence and paving approaches.	$12,162,000
LONG TERM	
Replace the Stanfield/I-84 interchange bridge and reconfigure the on and off ramps to meet ODOT standards. Construct sidewalks on both sides of the new US 395 overpass.	$9,300,000
Construct a traffic signal at I-84/US 395 eastbound ramps. Intersection should be monitored to assess when volumes reach the minimum level recommended for traffic signal control.	$300,000
Construct a center two-way left turn lane (or similar channelized median design) on US 395 approximately 200-feet north and south of Edwards Road with appropriate tapers.	$125,000

Construct a center two-way left turn lane (or similar channelized median design) on Thielsen Road approximately 100-feet north and south of Bowman Road.	$100,000
Construct a center two-way left turn lane (or similar channelized median design) on Thielsen Road approximately 100-feet north and south of the first full access intersection south of the interchange.	$100,000
Provide a multi-use path along the west side of US 395 between Stanfield Avenue and the Stanfield city limits. The multi-use path would require a bridge structure to cross the Feed Canal.	$900,000
Provide a multi-use path along the west side of Thielsen Road between the Echo city limits and the first full access intersection south of the interchange. The multi-use path would require two separate bridge structures to cross the Furnish Ditch and Feed Canal.	$1,000,000
Construct sidewalks on both sides of US 395 between West Stanfield Avenue and the Stanfield interchange westbound ramps.	$350,000
Construct sidewalks on both sides of Thielsen Road between the Stanfield interchange eastbound ramps and the first full access intersection on Thielsen Road south of the interchange.	$350,000
TOTAL SHORT TERM	**$12,162,000**
TOTAL LONG TERM	**$12,525,000**

Access Management Plan

Access management is the practice of controlling or limiting access onto arterial and collector facilities to balance the need to provide efficient, safe and timely travel with the ability to allow access to the individual destination. Numerous driveways or street intersections increase the number of conflicts and potential for accidents and decrease mobility and traffic flow. With future development and increased traffic volumes, the need for access control within the interchange study area is critical.

The access management plan is recommended to address the access spacing needs within the interchange area. These access management action items are recommended with or without the potential future reconstruction of the interchange overpass. The Stanfield AMP action items identified below correspond to the numbered items in Figure 5.

1. The current ODOT minimum spacing standards[25] for fully developed urban areas should be applied to Thielsen Road within the interchange study area. The spacing standard for US 395 will reflect current access spacing (650' right-in/right out and 900' full access at Stanfield Avenue) to accommodate current development.
2. The future reconstruction of the interchange overpass includes the realignment of Thielsen Road south of the interchange approximately 300 feet to the west of the current alignment.
3. ODOT and the responsible local agencies should take steps to protect the required right-of-way for the potential future realignment of Thielsen Road. All future access points on Thielsen Road between the interchange and Bowman Road should be located to adequately accommodate the realignment project. No buildings, structures, etc. should be placed within the realignment area which would prohibit construction of the realignment project.

[25] *Oregon Highway Plan*, Oregon Department of Transportation, 1999, Table 13, 15 and 16.

4. Provide full access at the US 395/West Stanfield Avenue intersection. Add a traffic signal when volumes reach the minimum levels recommended for signalized control.
5. Realign Irwin Road to the south to connect to the proposed traffic signal at US 395/West Stanfield Avenue.
6. Realign Edwards Road to the west and intersect with US 395 a minimum of 990 feet north of Stanfield Avenue. Provide full access at the proposed US 395/Edwards Road intersection.
7. Extend the west leg of the proposed US 395/Edwards Road intersection to provide a new roadway connection to West Stanfield Avenue south of the canal. A new bridge over the canal would be required to accommodate the proposed roadway.
8. Construct a local roadway system to the east of US 395 between Stanfield Avenue and the interchange.
9. Provide a full access point on Thielsen Road a minimum of 1,320 feet south of the interchange.
10. Provide a restricted access point (right in/right out) on Thielsen Road a minimum of 750 feet south of the interchange.
11. Provide a full access point at the Bowman Road/Thielsen Road intersection.
12. Construct a local roadway network to the east and west of Thielsen Road between Bowman Road and the interchange. Provide a north-south roadway a minimum of 300-feet to the east and west of Thielsen Road with connections to each proposed access point on Thielsen Road.
13. Close the existing local roadway access onto Thielsen Road just south of the interchange. Provide alternative access to the local roadway to the south.

Roadway Cross-Sections

The Stanfield TSP and Echo TSP identify street standard requirements for pavement width, right-of-way, sidewalk width, bike lane width and minimum posted speed limit for each roadway functional classification. Within the interchange study area, Stanfield TSP street standards should be applied to roadway improvement projects north of the interchange and Echo TSP street standards should be applied to roadway improvement projects south of the interchange.

The proposed future full build-out land use (shown in Figure 1) was evaluated to determine the roadway system long-term needs within the interchange area. The recommended functional classification for proposed roadways within the interchange area are shown in Figure 6. The recommended functional classifications include arterial, commercial/industrial arterial, collector, commercial/industrial collector, local residential street. Figure 7a and 7b shows the recommended cross-sections for the City of Echo.

The Stanfield TSP includes street standards for local residential, alley, residential collector, industrial/commercial collector, local streets and arterials. This range of functional classifications should meet the needs of the future roadway system north of the interchange. The Echo TSP includes street standards for residential, alley, collector and arterials. The needs of the future roadway system south of the interchange can not be met by this range of functional classifications. The alley, local residential street, residential collector, downtown arterial, commercial/industrial collector, and the commercial/industrial arterial cross-sections (Figures 7 & 8) should be added to the Echo TSP street standards and the Echo Subdivision ordinance.

Figure 5 - Interchange Plan

Figure 6 - Functional Classification

Figure 7 – City Cross-section

Figure 8 – Commercial/Industrial Cross-section

Land Use Amendments

The following changes to Comprehensive Plan policies and development standards are recommended based on the future transportation needs analysis presented in this study.

City of Echo

The Future Travel Forecasts and Needs Analysis identifies the location of access points necessary to support future development in the interchange area while alleviating future deficiencies and safety issues. The proposed future transportation improvements and access points on Thielsen Road are consistent with the Echo TSP, the 1999 Oregon Highway Plan, Access Management Standards for Interchanges (developed urban areas), and the US 395 Corridor Plan recommendations. Though the area is not fully developed, the interchange access management standards are consistent with those associated with a fully developed urban area.

The Echo zoning ordinance includes specific provisions (9-3-2-E) that require applicants to obtain an access permit from ODOT prior to final City approval of a development permit. These provisions should be sufficient to implement the recommendations of the Stanfield AMP. The Echo TSP and associated City ordinance should be amended to include residential collector, commercial/industrial arterial, and commercial/industrial collector cross-section standards.

The City of Echo should amend Table 7-1 in the Echo TSP (page 7-2) to replace the collector cross-section with the residential collector and commercial/industrial collector cross-section standards and add the commercial/industrial arterial to accommodate development in the interchange area. The recommended changes are shown below.

Table 14 - Recommended Street Standards

Classification	Pavement Width	Right-of-way Width	Min. Posted Speed
Alley	20 ft. Gravel	20ft	20 mph
Local/Residential	30 ft. Paved	50 ft.	15 – 20 mph
Residential Collector	38 ft.	60 ft.	25 – 30 mph
Arterial - Downtown	52 ft.	80 ft.	25 mph
Collector – Industrial/Commercial	38 ft.	60 ft.	25 – 35 mph
Arterial – Industrial/Commercial	50 ft.	80 ft.	25 – 35 mph

In addition, the following descriptions should replace the Collectors description on page 7-3 of the Echo TSP and be inserted into the Echo Subdivision Ordinance:

Alley – The standard for an alley shall be two 10’ gravel travel lanes within a 20’ right-of-way.

Local Residential Street – The standard for a local residential street shall be a 28’ paved roadway that includes two 11’ travel lanes, 8’ parking on one side of the street, 5’ planting strip on both sides of the street, and 5’ sidewalks on both sides of the street. The paved roadway shall include a flat curb to protect the roadway from deterioration. The right-of-way for a residential street shall be 50’.

Residential Collector Street – The standard for the residential collector street shall be a 38’ paved roadway that includes two 11’ travel lanes, 8’ parking on both sides of the street, 5’ planting strip on both sides of the street, and 5’ sidewalks on both sides of the street. The paved roadway shall

include a flat curb to protect the roadway from deterioration. The right-of-way for a collector street shall be 60'.

Downtown Arterial – The standard for the downtown arterial street shall be a 52' paved roadway that includes two 12' travel lanes, 6' bike lanes on both sides of the street, 8' parking on both sides of the street, 4' planting strip on both sides of the street, and 10' sidewalks on both sides of the street. The paved roadway shall include a curb and drainage facilities. The right-of-way for the downtown arterial street shall be 80'.

Commercial/Industrial Collector Street – This option should be applied in areas where industrial and/or commercial developments are most prevalent such as the interchange area. The standard for the commercial/industrial collector street shall be a 38' paved roadway that includes two 13' travel lanes, 6' bike lanes on both sides of the street, 5' planting strips on both sides of the street, and 6' sidewalks on both sides of the street. The paved roadway shall include curbs and drainage facilities. The right-of-way for a commercial/industrial collector street shall be 60'.

Commercial/Industrial Arterial Street – This option should be applied in areas where industrial and/or commercial developments are most prevalent such as the interchange area. The standard for the commercial/industrial arterial street shall be a 50' paved roadway that includes a 14' center (continuous turning) lane, two 12' travel lanes, 6' bike lanes on both sides of the street, 5' planting strips on both sides of the street, and 10' sidewalks on both sides of the street. The paved roadway shall include curbs and drainage facilities. The right-of-way for a commercial/industrial arterial shall be 80'.

City of Stanfield

The Future Travel Forecasts and Needs Analysis identifies the location of access points necessary to support future development in the interchange area while alleviating future deficiencies and safety issues. The proposed future transportation improvements and access points on US 395 are consistent with the Stanfield Comprehensive Plan, TSP, and the US 395 Corridor Plan recommendations. In order to continue to access current development, the standards within the 1999 Oregon Highway Plan and Access Management Standards for Interchanges (developed urban areas) have been compromised to 650' for right-in/right-out and 900' for full access. ODOT has invested significant funds to accommodate current development in this area prior to this planning study.

The Stanfield Transportation Goal 1, Objective G calls for limiting access to U.S. 395 south of Ball Avenue and requiring the provision of streets parallel to the highway to serve those areas as development occurs. This objective is consistent with the recommendations of the Needs Analysis.

The Stanfield zoning ordinance includes specific provisions that require applicants to obtain an access permit from ODOT as a condition of City approval for a development permit. These provisions should be sufficient to implement the recommendations of the Stanfield AMP.

US 395 Access Control

The ODOT has purchased access control rights from many properties along US 395. Once the state has acquired the access rights to a property, road approach permits can only be applied for at locations on the property where the right of access has been reserved. These "reservations of access" give the property owner the common law right of access to the state highway only at specific locations and they are clearly identified in the deed where the property owner sold the right-of-way to the state.

The local street connections shown in the AMP are consistent with the future connections identified in the Stanfield Transportation System Plan. Review of this AMP by ODOT does not imply tacit approval to modify or grant additional access rights. This must be accomplished by applying to ODOT for such modification or grant.

An “indenture of access” is used to modify existing access rights such as moving or widening the reservation or lifting other restrictions that may have been placed on it. A “grant of access” is required to gain an additional access point to the highway and, depending on the circumstances, may require payment to the state for the market value of the grant. Application for both the indenture and grant of access is made to local ODOT district office.

CHAPTER 7: CONCLUSION

The Oregon Highway Plan policies direct ODOT to plan and manage interchange areas for safe and efficient operation. This AMP is a joint effort between ODOT, the City of Stanfield, the City of Echo and Umatilla County to ensure the I-84/Stanfield interchange area can meet future transportation needs.

The transportation benefits of implementing the Stanfield AMP include:

- Timely planning to assure suitable placement and spacing of roads before development occurs.
- A plan for the City(s) and County to use as a tool to work with developers for orderly improvements that is consistent with the transportation facility's function, capacity, and performance standards.
- TSPs and implementing ordinances that safely and efficiently accommodate expected traffic in the Interchange Area.

The recommended roadway improvement plan would work to protect the function of the interchange and the adjacent roadway system. Recommended improvements to the interchange overpass were separated into short-term and long-term projects to meet the needs of ODOT. Other recommended improvements would provide traffic control at study intersections for safe and efficient operations between connecting roadways and pedestrian/bicycle facilities along US 395.

With future development and increased traffic volumes, the need for access control within the interchange study area is critical. The access management plan provides an initial concept for a local roadway system within the interchange area based on ODOT and local jurisdiction spacing standards. The identified roadway improvement plan and the access management action items may be implemented with or without the potential future reconstruction of the interchange overpass.

The recommended roadway improvement plan and access management plan are consistent with the Stanfield TSP, the 1999 Oregon Highway Plan, Access Management Standards for Interchanges in fully developed urban areas, and the US 395 Corridor Plan recommendations.