

Umatilla County

Department of Land Use Planning



DIRECTOR
ROBERT WALDHER

MEMO

LAND USE
PLANNING,
ZONING AND
PERMITTING

TO: Umatilla County Planning Commissioners
FROM: Bob Waldher, Director
DATE: February 6, 2019

CODE
ENFORCEMENT

RE: February 13, 2019 Planning Commission Hearing
Co-adoption of City of Stanfield UGB Adjustment
Plan Amendment, #P-122-19
Zone Map Amendment, #Z-313-19
Text Amendment, #T-19-078

SOLID WASTE
COMMITTEE

SMOKE
MANAGEMENT

GIS AND
MAPPING

RURAL
ADDRESSING

LIAISON, NATURAL
RESOURCES &
ENVIRONMENT

Background Information

The City of Stanfield requests the County co-adopt a proposed change to the City's Urban Growth Boundary (UGB). The proposed change would remove land from the UGB located along the west boundary of the City's UGB and add an equal amount of land to the UGB from the southeast side of the City.

The proposal basically swaps land out of the UGB in one area and adds land to the UGB in another area. The proposal specifically removes 110 acres of industrial land along with 28 acres of Open Space from the UGB and rezones the land to Exclusive Farm Use (EFU). The removal of this land would be replaced by 110 acres of EFU zoned land, to be designated Industrial. This area added to the City's UGB is nearby available City services and is better situated for the City's future Industrial needs.

The UGB amendment is requested to support efforts to make City industrial-zoned property more attractive to industrial site selectors and the industries they represent, and to provide the City of Stanfield with large industrial parcels that are located closer to City utilities and ready for development.

Criteria of Approval

The criteria of approval for amendments are found in Umatilla County Development Code 152.750-152.755 and the Joint Management Agreement (JMA) between the City and County. Provisions for Adjusting a UGB are contained in Oregon Administrative Rules (OAR) 660-024-0070 (UGB Adjustments).

Conclusion

Per the provisions of the JMA, the City of Stanfield is responsible for preparing and/or reviewing all legislative and quasi-judicial amendments to the City Comprehensive Plan text and map(s). All adopted amendments to the City's Comprehensive Plan and/or maps affecting the Urban Growth Area (UGA) or UGB shall be referred to the County for

Memo

Planning Commission Public Hearing – February 13, 2019

Co-adoption of City of Stanfield UGB Adjustment

adoption as amendments to the County Plan. The County has a responsibility to review and adopt the amendments approved by the City for these to be applicable in the UGA.

The process of approval by the County involves review by the County Planning Commission with a recommendation to the Board of County Commissioners (BCC). The BCC must also hold a public hearing(s) and make a decision whether or not to co-adopt the proposed change to the City of Stanfield UGB.

Attachments

The following attachments have been included for review by the Planning Commission:

- County Preliminary Findings and Conclusions
- Property Identification Maps
- Stanfield Area Current Comprehensive Plan Map
- Stanfield Area Proposed Comprehensive Plan Map
- Stanfield Area Zoning Map
- Stanfield Subject Area Soil Types Map
- Traffic Impact Analysis
- City Planning Staff Report

**UMATILLA COUNTY
PRELIMINARY FINDINGS AND CONCLUSIONS
CO-ADOPTION OF CITY OF STANFIELD UGB ADJUSTMENT
TEXT AMENDMENT (File #T-19-078)
PLAN AMENDMENT (File #P-122-19)
ZONING MAP AMENDMENT (File #Z-313-19)**

I. OVERVIEW

Applicants:	City of Stanfield PO Box 369 Stanfield, OR 97875	Windblown Ranch, LLC 32327 Oregon Trail Road Echo, OR 97826
Property Owners:	Windblown Ranch, LLC 32327 Oregon Trail Road Echo, OR 97826	Union Pacific Railroad 1400 Douglas St #Stop 1690 Omaha, NE 68179

Proposed Action: The City of Stanfield requests the County co-adopt a proposed change to the City’s Urban Growth Boundary (UGB). The proposed change would remove land from the UGB located along the west boundary of the City’s UGB and add an equal amount of land to the UGB from the southeast side of the City.

The proposal basically swaps land out of the UGB in one area and adds land to the UGB in another area. The proposal specifically removes 110 acres of industrial land along with 28 acres of Open Space from the UGB and rezones the land to Exclusive Farm Use (EFU). The removal of this land would be replaced by 110 acres of EFU zoned land, to be designated Industrial. This area added to the City’s UGB is nearby available City services and is better situated for the City’s future Industrial needs.

The UGB amendment is requested to support efforts to make City industrial-zoned property more attractive to industrial site selectors and the industries they represent, and to provide the City of Stanfield with large industrial parcels that are located closer to City utilities and ready for development.

Subject Property: Parcels proposed to be excluded from UGB: Township 4N, Range 29, Section 31, Tax Lot 1300 and portions of Tax Lot 1100; Township 4N, Range 29C, Tax Lot 1101 and portion of Tax Lots 1100 and 1302

Parcels proposed to be included in UGB: Township 3N, Range 29, Section 04, Tax Lots 1900, 2000, 2100, 2200, 2300, and 2400

(See attached mapping for an overview of the subject property included in the proposed request)

Comp. Plan Designation: Current and proposed Comprehensive Plan designations are shown in the attached exhibits. The area proposed for removal from the UGB has a City Comprehensive Plan designation of General Industrial, Transportation Industrial and Open Space. The area removed from the UGB will receive a new County Comprehensive Plan designation of North-South Agriculture.

The area proposed for inclusion into the UGB currently has a County Comprehensive Plan designation of North South Agriculture and will receive a new City Comprehensive Plan designation of General Industrial.

Zoning: Current zoning designations are shown in the attached exhibits. The area proposed for removal from the UGB has a City zoning designation of General Industrial, Transportation Industrial and Open Space. The area removed from the UGB will receive a new County zoning designation of Exclusive Farm Use (EFU).

The area proposed for inclusion into the UGB currently has a County zoning designation of EFU and will receive a new City zoning designation of General Industrial as it will be annexed into the City.

Land Use: Both tracts of land involved in the UGB adjustment are undeveloped.

The area to be excluded from the UGB consists of un-cultivated land on the northern portion and is bisected on the southern portion by several Union Pacific and BNSF rail lines. Land surrounding this tract is also undeveloped and primarily uncultivated, with the exception of irrigated parcels to the south near the Umatilla River.

The area proposed to be included in the UGB is currently cultivated and was recently farmed for dryland wheat. However it is less productive than other nearby farmland as there are no irrigation water rights associated with the property. The tract is bisected by a Bonneville Power Administration Easement and the Furnish Ditch irrigation canal. Lands immediately adjacent to the tract are also primarily undeveloped and are either uncultivated, or farmed for dryland crops.

Irrigation: The subject property does not contain irrigation water rights.

Soil Types:

High Value Soils are defined in UCDC 152.003 as Land Capability Class I and II. As shown in the attached soils map, neither the land proposed to be brought into the UGB nor the land proposed for removal is irrigated, and the subject property does not include water rights. In addition, it does not appear that the subject property historically had water rights. Therefore, the predominate soil types associated with the subject property are considered non-high value and are presented below:

Soil Name, Unit Number, Description	Land Capability Class	
	Dry	Irrigated
89B: Shano silt loams, 2 to 7 percent slopes	IVe	IIf
89D: Shano silt loams, 12 to 25 percent slopes	IVe	IVe
1B: Adkins fine sandy loam, 0 to 5 percent slopes	IVe	IIf
1C: Adkins fine sandy loam, 5 to 25 percent north slopes	IVe	IVe
27A: Esquatzel silt loam, 0 to 3 percent south slopes	IIIc	I
2C: Adkins fine sandy loam gravelly substratum, 5 to 25 percent slopes	IVe	IVe
95B: Taunton fine sandy loam, 1 to 7 percent slopes	IVe	IVe

Soil Survey of Umatilla County Area, 1989, NRCS. The suffix on the Land Capability Class designations are defined as “e” – erosion prone, “c” – climate limitations, “s” soil limitations and “w” – water (Survey, page. 172).

Utilities:

The area proposed to be excluded from the UGB is undeveloped and does not have nearby access to public utilities. The area proposed to be brought into the UGB is located in close proximity to existing City water and sewer mainlines along Highway 395.

The City of Stanfield includes there is sufficient capacity in the City’s water and sewer systems to service the area for future industrial development.

Transportation:

Lands proposed for removal from the UGB are generally located on the west side of Stanfield, along and adjacent to the Union Pacific and BNSF Railroad line. Access to area is from Highway 395, north of Stanfield.

Lands proposed for inclusion into the UGB are located near the northeast quadrant of the Interstate-84/Stanfield Interchange and must demonstrate compliance with the I-84/Highway 395 Interchange Area Management Plan (IAMP).

In order to comply with the requirements of Statewide Planning Goal 12 (transportation) and the requirements of the IAMP, the applicant has provided a Traffic Impact Analysis (TIA). (See attached TIA)

Public Hearings:

A Public Hearing to be held before the Umatilla County Planning Commission and City of Stanfield Planning Commission is scheduled for **Wednesday, February 13, 2019** at 6:00 PM in the cafeteria of Stanfield Secondary School, 1120 N Main Street, Stanfield, OR.

A subsequent Public Hearing for Co-adoption of the request will be held before the Umatilla County Board of Commissioners and is scheduled for **Wednesday, March 20, 2019** at 1:30 PM in Room 130 of the Umatilla County Courthouse, 216 SE Fourth Street, Pendleton, OR.

II. JOINT MANAGEMENT AGREEMENT

The City and County are authorized under the provisions of Oregon Revised Statutes (ORS) 190 to enter into intergovernmental agreements for the performance of any functions that the City or County has authority to perform. The City of Stanfield and Umatilla County entered into a Joint Management Agreement (JMA) on July 22, 2002. The JMA requires the City and County to have coordinated and consistent comprehensive plans which establish an UGB and a plan for the Urban Growth Area (UGA) within the UGB.

Statewide Planning Goal 2 (Land Use Planning) requires that the City and County maintain a consistent and coordinated plan for the UGA when amending their respective comprehensive plans, and Statewide Planning Goal 14 (Urbanization) requires that the establishment and change of a UGB shall be through a cooperative process between the City and County.

Per the provisions of the JMA, the City of Stanfield is responsible for preparing and/or reviewing all legislative and quasi-judicial amendments to the City Comprehensive Plan text and map(s). All adopted amendments to the City’s Comprehensive Plan and/or maps affecting the UGA or UGB shall be referred to the County for adoption as amendments to the County Plan. The County must adopt the amendments approved by the City for these to be applicable in the UGA. The process of approval by the County involves review by the County Planning Commission with a recommendation to the Board of County Commissioners (BCC). The BCC must also hold a public hearing(s) and make a decision whether or not to co-adopt the proposed change to the City of Stanfield UGB.

Procedures for annexation shall be in accordance with relevant methods and procedures in ORS and city ordinances. At the time of annexation, the city shall apply the appropriate zoning designation to the property and amend the City Zoning Map accordingly.

III. AMENDMENT ANALYSIS

Provisions for Adjusting a UGB are contained in Oregon Administrative Rules (OAR) 660-024-0070 (UGB Adjustments). The following contains an analysis of why the proposed amendment meets the provisions of the OAR. The standards for approval are provided in underlined text and the responses are indicated in standard text.

Oregon Administrative Rules: 660-024-0070 UGB Adjustments

- (1) A local government may adjust the UGB at any time to better achieve the purposes of Goal 14 and this division. Such adjustment may occur by adding or removing land from the UGB, or by exchanging land inside the UGB for land outside the UGB. The requirements of section (2) of this rule apply when removing land from the UGB. The requirements of Goal 14 and this division [and ORS 197.298] apply when land is added to the UGB, including land added in exchange for land removed. The requirements of ORS 197.296 may also apply when land is added to a UGB, as specified in that statute. If a local government exchanges land inside the UGB for land outside the UGB, the applicable local government must adopt appropriate rural zoning designations for the land removed from the UGB prior to or at the time of adoption of the UGB amendment and must apply applicable location and priority provisions of OAR 660-024-0060 through 660-020-0067.

County Finding: The proposed UGB adjustment is consistent with item (1) above as it exchanges land inside the UGB for land outside the UGB to better achieve the purposes of goal 14. The 110 acres of land to be removed from the UGB is currently zoned for industrial development. In order to meet the requirement to “adopt appropriate rural zoning designations,” the 110 acres to be removed from the UGB will be rezoned to the County EFU zoning designation.

- (2) A local government may remove land from a UGB following the procedures and requirements of ORS 197.764. Alternatively, a local government may remove land from the UGB following the procedures and requirements of 197.610 to 197.650, provided it determines:

County Finding: The City is submitting this proposed UGB amendment in accordance with the procedures and requirements of 197.610 to 197.650, as justified below.

- (a) The removal of land would not violate applicable statewide planning goals and rules;

County Finding: As demonstrated in the attached City of Stanfield findings document, the proposed UGB adjustment is consistent with each of the statewide planning goals.

- (b) The UGB would provide a 20-year supply of land for estimated needs after the land is removed, or would provide roughly the same supply of buildable land as prior to the removal, taking into consideration land added to the UGB at the same time;

County Finding: The proposed UGB adjustment is a 110-acre for 110-acre swap with no net gain or loss in developable land; therefore the 20-year land supply is unchanged.

- (c) Public facilities agreements adopted under ORS 195.020 do not intend to provide for urban services on the subject land unless the public facilities provider agrees to removal of the land from the UGB and concurrent modification of the agreement;

County Finding: No urban services are currently provided to the area proposed to be removed from the UGB, nor would they be provided once it is removed until such time as this area is brought back into the UGB.

- (d) Removal of the land does not preclude the efficient provision of urban services to any other buildable land that remains inside the UGB; and

County Finding: The subject properties are on the edge of the UGB and there are no properties within the UGB to the south or west of the area to be removed. Therefore, efficient provision of urban services to any other buildable land that remains inside the UGB is not precluded.

- (e) The land removed from the UGB is planned and zoned for rural use consistent with all applicable laws.

County Finding: The 110 acres to be removed from the UGB will be rezoned to County EFU, the rural designation that it had prior to being included in the UGB. This criteria is met because the zone change is taking place concurrently with the UGB adjustment.

(3) Notwithstanding sections (1) and (2) of this rule, a local government considering an exchange of land may rely on the land needs analysis that provided a basis for its current acknowledged plan, rather than adopting a new need analysis, provided:

- (a) The amount of buildable land added to the UGB to meet:

- (A) A specific type of residential need is substantially equivalent to the amount of buildable residential land removed, or

- (B) The amount of employment land added to the UGB to meet an employment need is substantially equivalent to the amount of employment land removed, and

- (b) The local government must apply comprehensive plan designations and, if applicable, urban zoning to the land added to the UGB, such that the land added is designated:

- (A) For the same residential uses and at the same housing density as the land removed from the UGB, or

- (B) For the same employment uses as allowed on the land removed from the UGB, or

- (C) If the land exchange is intended to provide for a particular industrial use that requires specific site characteristics, only land zoned for commercial or industrial use may be removed, and the land added must be zoned for the particular industrial use and meet other applicable requirements of ORS 197A.320(6).

County Finding: The amount of buildable land proposed to be added (110 acres) is equivalent to the amount of buildable land proposed to be removed from the UGB (110 acres). The land to be removed is currently zoned for industrial development; the land to be added will also be zoned for industrial development. These criteria are met; therefore no new population forecast or lands need analysis is required.

VI. DECISION

Based upon the foregoing Findings of Fact and Conclusions of Law, where it has been demonstrated the request is in compliance with the City and County Comprehensive Plans, The Stanfield Joint Management Agreement, and the State Administrative Rules for an Urban Growth Boundary Adjustment, the applicant’s request is approved.

DATED this ____ day of _____, 20____.

UMATILLA COUNTY BOARD OF COMMISSIONERS

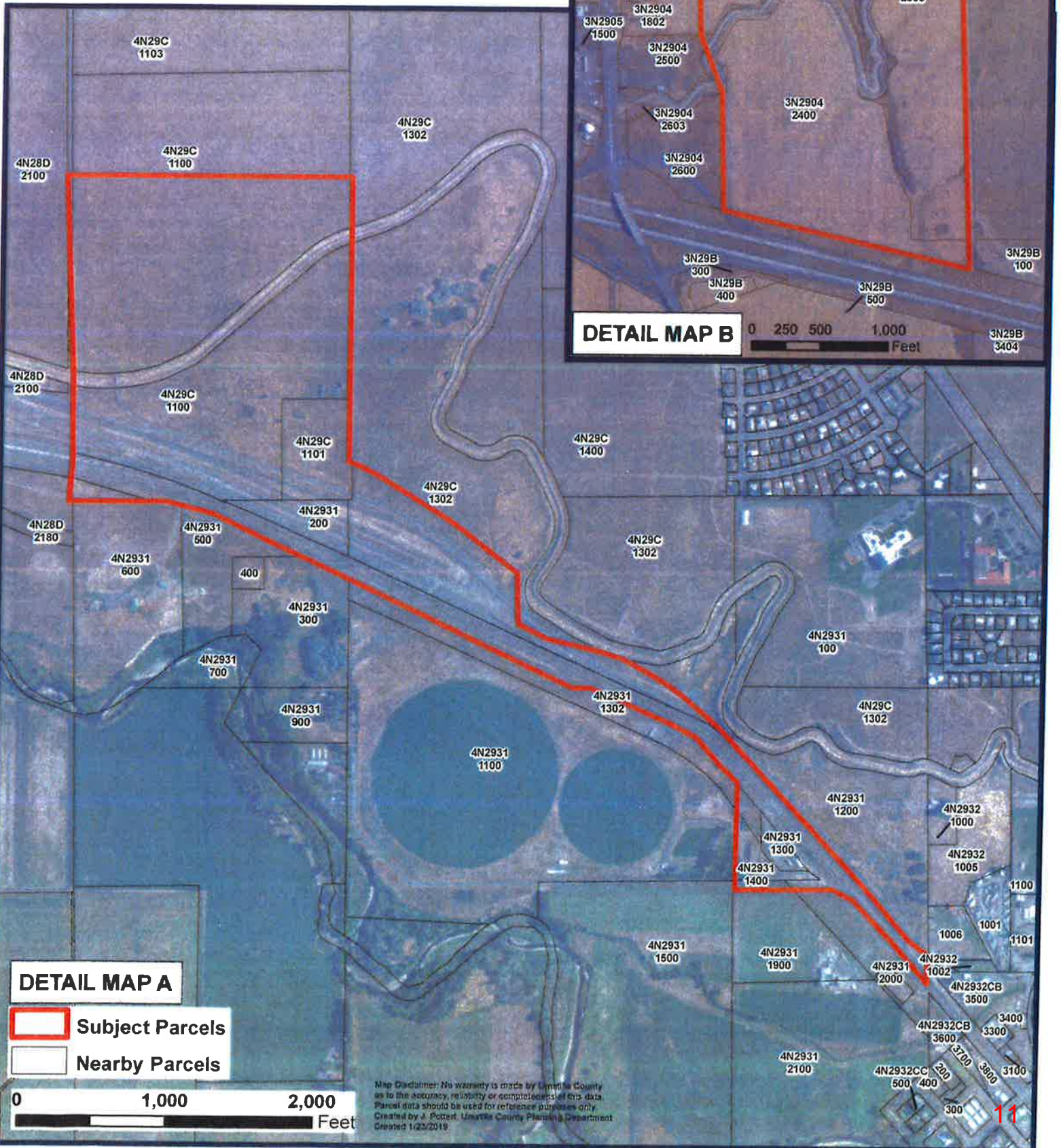
William J. Elfering, *Commissioner*

George L. Murdock, *Commissioner*

John Shafer, *Commissioner*

CITY OF STANFIELD URBAN GROWTH BOUNDARY ADJUSTMENT

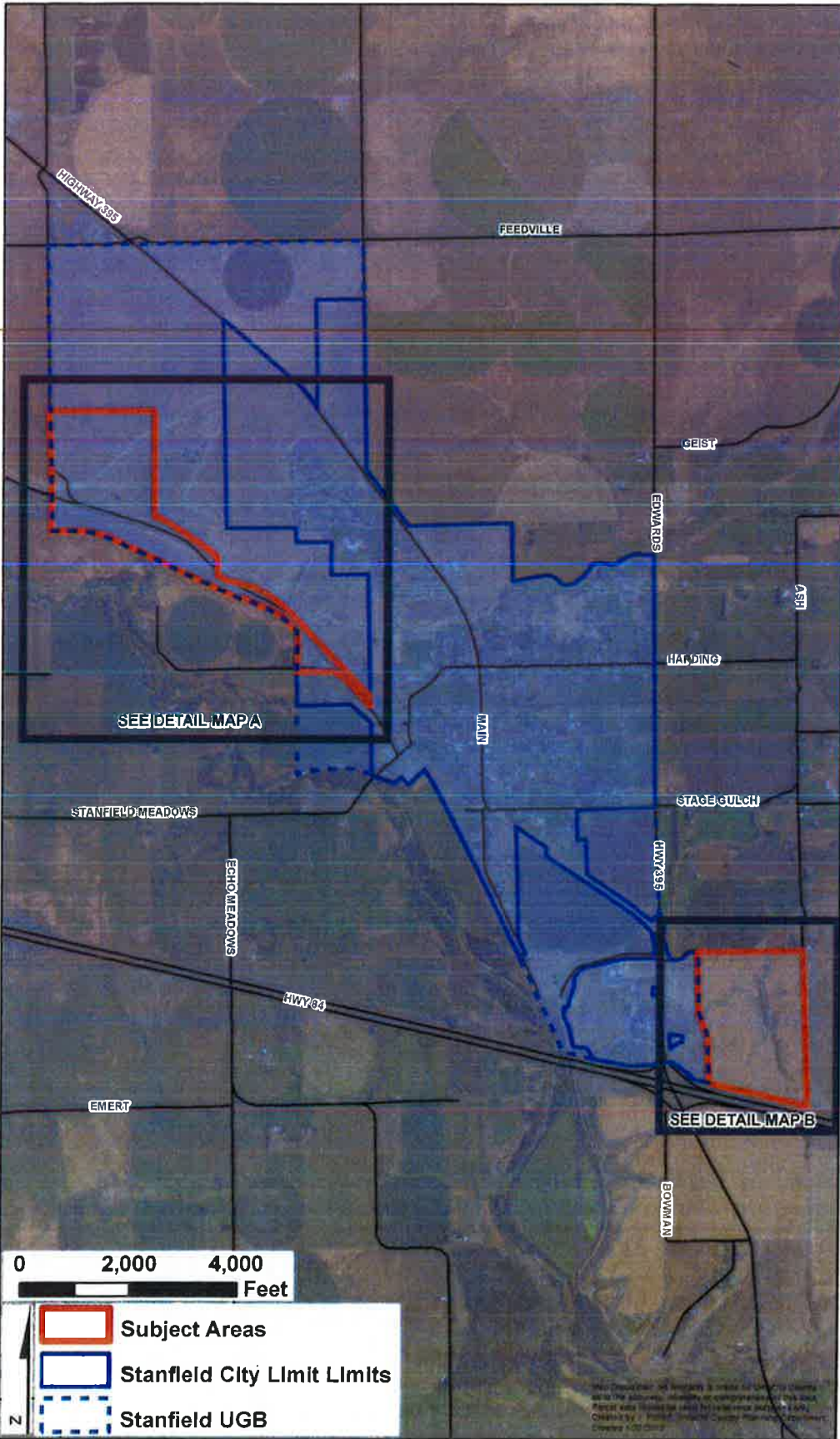
PROPERTY IDENTIFICATION DETAIL MAPS



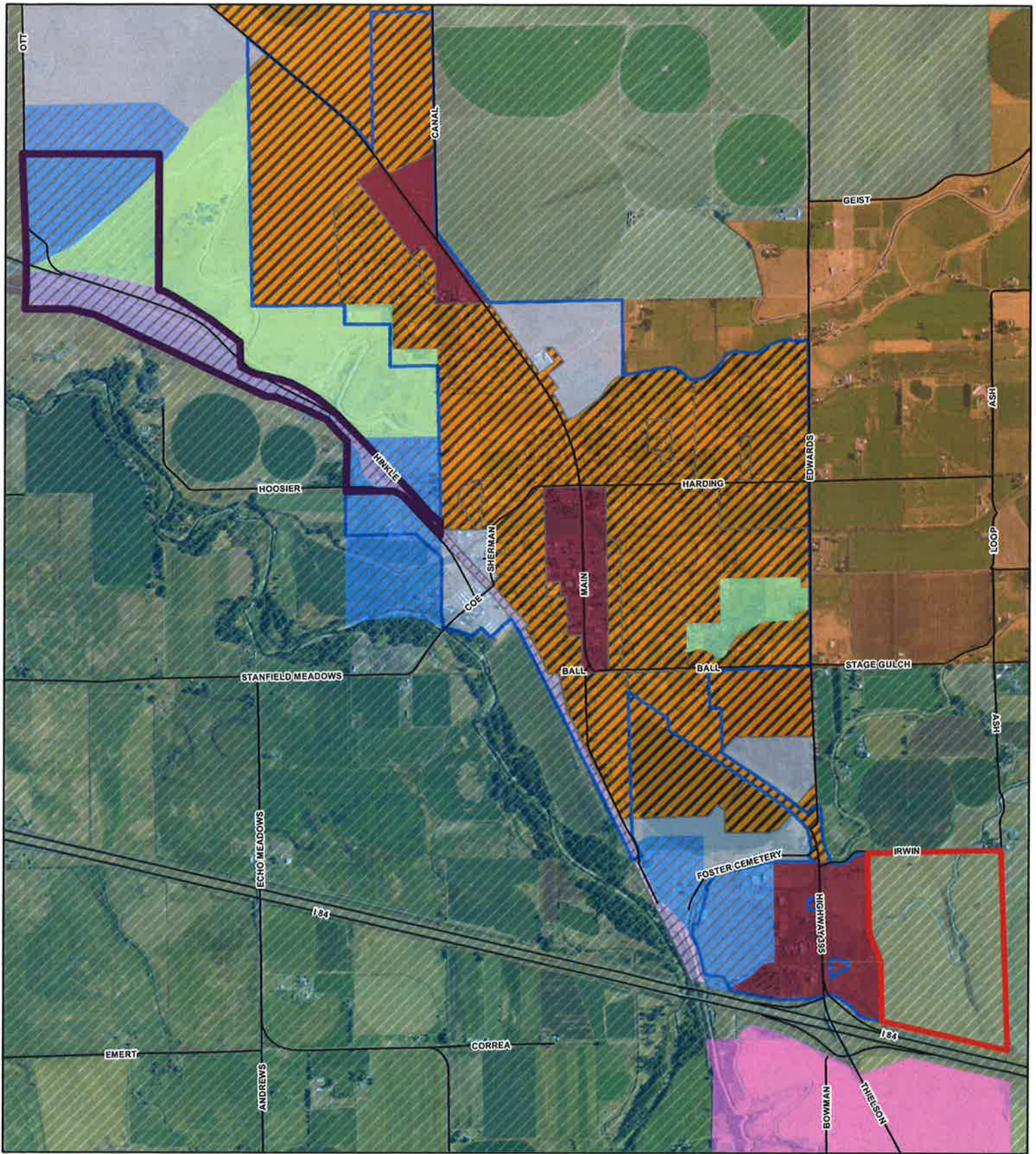
APPLICANT: CITY OF STANFIELD & WINDBLOWN RANCH
OWNER: UNION PACIFIC RAILROAD & WINDBLOWN RANCH
APPLICATION FOR: URBAN GROWTH BOUNDARY ADJUSTMENT

SEE ADDITIONAL PAGE FOR
 AREA DETAIL MAPS

**NOTIFIED LANDOWNERS WITHIN
 750 FEET OF SUBJECT AREA**



MAP & TAX	OWNER
4N2931 600	GOODRICH BRADLEY D & JOOI A
4N2931 900	POTTS MICHAEL & MCELROY VIRGINIA R
4N2931 1900	3D IDAPRO SOLUTIONS LLC
4N2931 1400	3D IDAPRO SOLUTIONS LLC
4N2931 2000	UNION PACIFIC RAILROAD CO
4N2932CB 3800	SHALE ENTERPRISES LLC
4N2932CC 200	SOMMER STEVEN J
4N2932CC 300	BRANSON RALPH W & MARY A (TRS)
4N2932CC 400	BRANSON RALPH W & MARY A (TRS)
4N2931 1500	3D IDAPRO SOLUTIONS LLC
4N2931 700	PLUTE ALBERT J
4N2932CC 500	MERRITT SANDRA S
3N2980 500	COREY DARYL E & MARJEAN (TRS)
3N2980 100	WINDY RIVER
4N29C0 1400	ZENITH DEVELOPMENT LLC
4N2932 1000	BURNETT WILLIAM J & KATHRYN S
4N2932 1001	NELSON CYNTHIA E & NELSON CYNTHIA
4N2932CB 3100	STANFIELD CITY OF
4N2932CB 3300	BUCKEYE GAS PRODUCTS CO L P
3N2904 200	GEHRKE MERLE A & PATSY M
3N2904 201	NASH JOSEPH R & RENEE D
3N2904 1300	CARNINE TRAVIS & KYLE
3N2904 1400	MILLS BROTHERS LLC
3N2904 1500	VORCE LOREN D & PATRICIA A
3N2904 1501	MILLS BROTHERS LLC
3N2904 1700	WINDY RIVER
3N2904 1800	WINDBLOWN RANCH INC
3N2904 1900	WINDBLOWN RANCH INC
3N2904 2000	WINDBLOWN RANCH INC
3N2904 2100	WINDBLOWN RANCH INC
3N2904 2200	WINDBLOWN RANCH INC
3N2904 2300	WINDBLOWN RANCH INC
3N2904 2400	WINDBLOWN RANCH INC
3N2904 2500	PILOT TRAVEL CENTERS LLC
3N2904 2600	PILOT TRAVEL CENTERS LLC
3N2905 1400	PIERCY LLOYD P & LOIS J
3N2905 1500	PILOT DELAWARE LLC
3N2980 300	STATE OF OREGON
3N2904 2603	STANFIELD IRRIG DIST
4N2932CB 3700	STANFIELD CITY OF
4N2932 1100	SCHOOL DIST #61
4N2932CB 3400	CURRY WALTER L
4N2931 2100	3D IDAPRO SOLUTIONS LLC
4N29C 1302	UNION PACIFIC RR CO
4N29C 1100	UNION PACIFIC RR CO
4N2932CB 3600	UNION PACIFIC RAILROAD CO
4N2931 400	UNION PACIFIC RR CO
4N2931 500	UNION PACIFIC RR CO
4N28D 2180	UNION PACIFIC RAILROAD CO
4N28D 2100	UNION PACIFIC RR CO
4N2931 300	UNION PACIFIC RR CO
4N2931 200	UNION PACIFIC RR CO
4N2931 1200	UNION PACIFIC RR CO
4N2931 100	UNION PACIFIC RR CO
4N29C 1103	UNION PACIFIC RR CO
4N29C 1101	UNION PACIFIC RR CO
4N2932CB 3501	CASCADE NATURAL GAS CORP
4N2932CB 3500	STANFIELD CITY OF
3N290 3404	FARMLAND RESERVE INC
3N29B 400	COREY DARYL E & MARJEAN (TRS)
4N2931 1100	STANFIELD CITY OF
3N2904 1802	PILOT TRAVEL CENTERS LLC
3N2905 1300	PIERCY LLOYD & LOIS
4N2932 1002	STANFIELD CITY OF
4N2932 1101	UPPER COLUMBIA CORP OF SEVENTH DAY ADVEN
4N2931 1300	WHITTIG KEITH
4N2932 1005	BURNETT WILLIAM J
4N2932 1006	SCHUENING TRUST ET AL
3N2904 2500A1	J R ZUKIN CORP
3N2905 1303	PIERCY LLOYD & LOIS



STANFIELD AREA CURRENT COMPREHENSIVE MAP

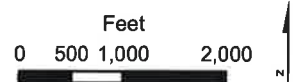
UGB Swap Area



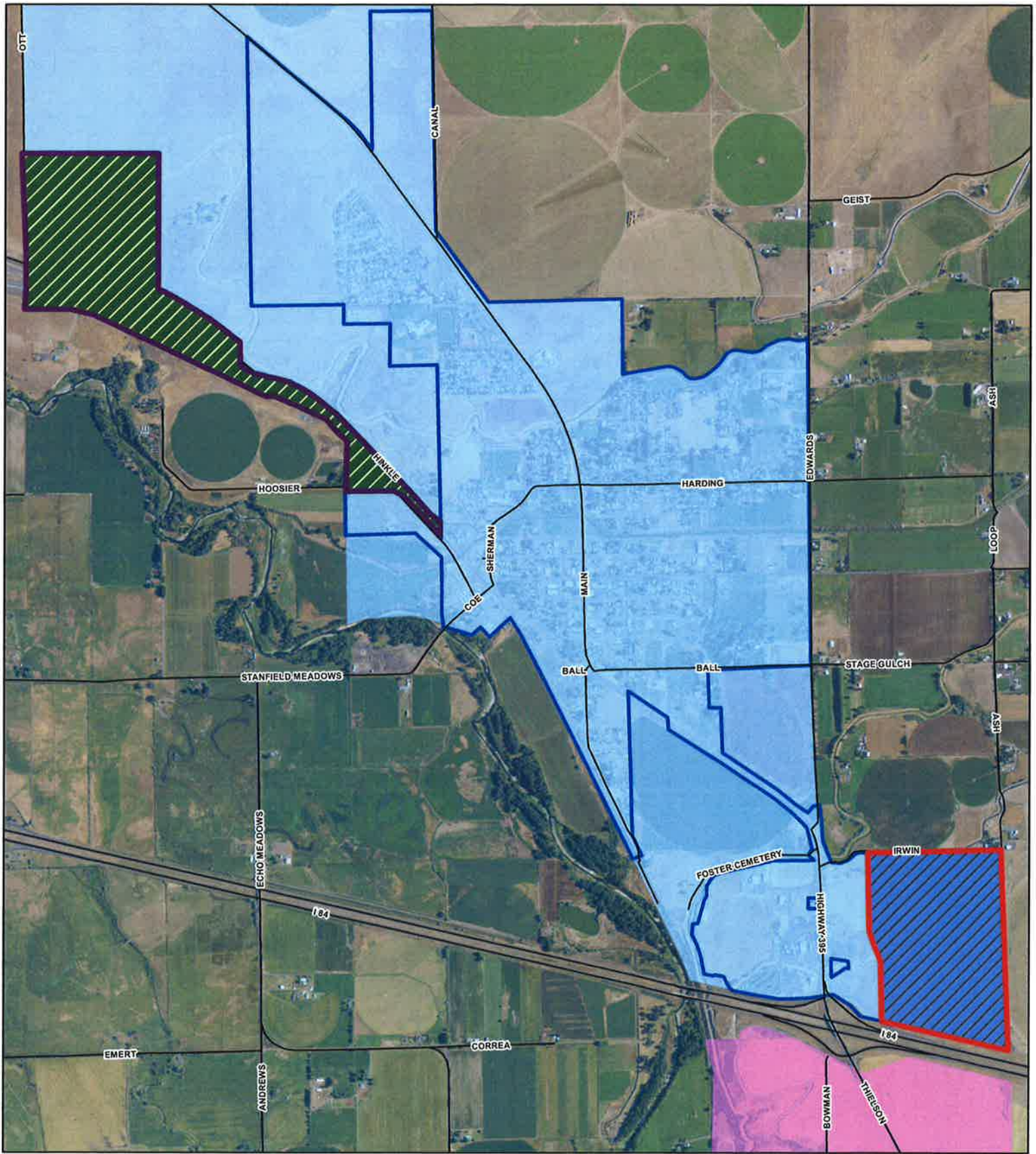
City Zoning



County Comprehensive



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STANFIELD AREA PROPOSED COMPREHENSIVE MAP

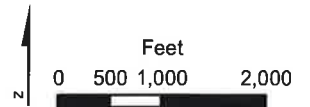
UGB Swap Area



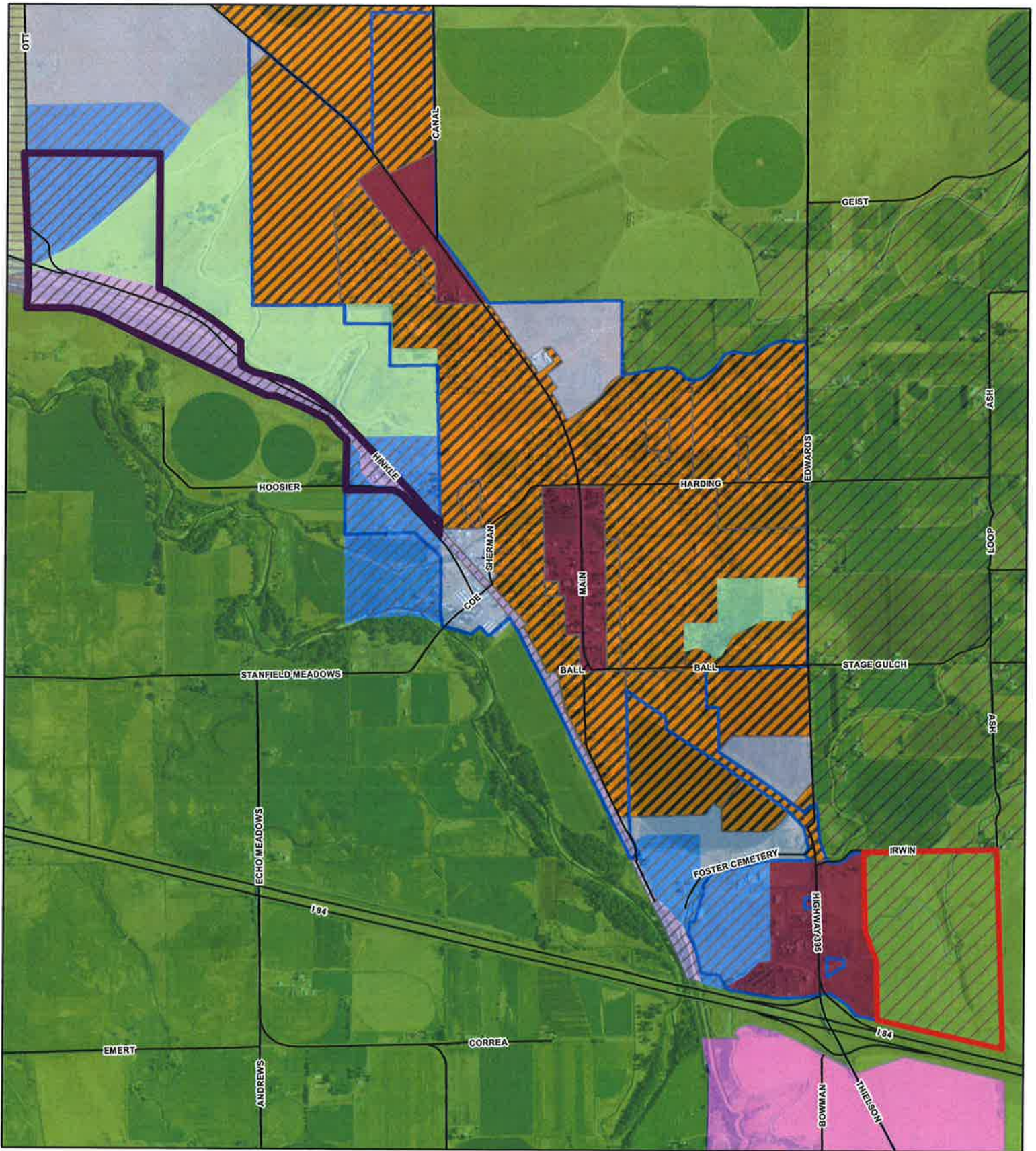
City Zoning



County Comprehensive Plan



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STANFIELD AREA CURRENT ZONING MAP

UGB Swap Area

- OUT
- IN

City Zoning

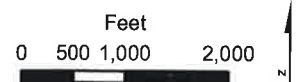
- General Industrial
- Transportation Industrial
- Open Space
- Residential

Light Industrial

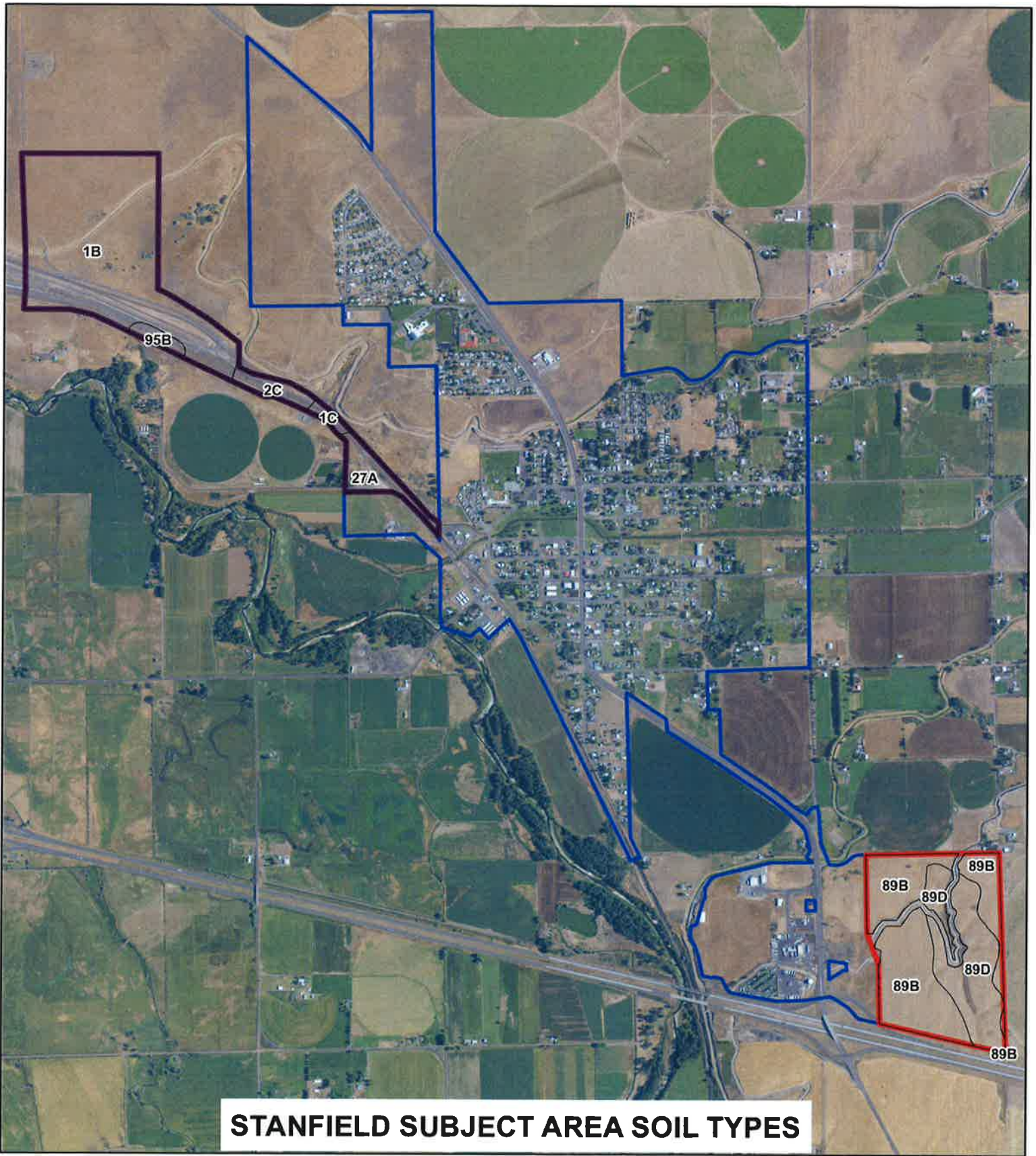
- Downtown District
- Stanfield City Limits
- Echo UGB

County Zones

- EFU
- EFU-40
- EFU/FI



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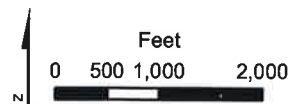


STANFIELD SUBJECT AREA SOIL TYPES

SOIL MAP SYMBOL	SOIL NAME	LAND CAPABILITY CLASS
89B	SHANO	DRY: IVe IRRIGATED: IIe
89D	SHANO	DRY: IVe IRRIGATED: IVe
1B	ADKINS	DRY: IVe IRRIGATED: IIe
1C	ADKINS	DRY: IVe IRRIGATED: IVe
27A	ESQUATZEL	DRY: IIIc IRRIGATED: I
2C	ADKINS	DRY: IVe IRRIGATED: IVe
95B	TAUNTON	DRY: VIe IRRIGATED: IVe

UGB Swap Area

 OUT
 Stanfield City Limits
 IN



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Date:	February 19, 2018
To:	Blair Larsen, City Manager, City of Stanfield Jeff Wise, PE, ODOT
From:	Joe Bessman, PE
Project Reference No.:	1066
Project Name:	City of Stanfield UGB Amendment



The purpose of this memorandum is to address the requirements within Oregon Administrative Rule 660-12 (commonly referred to as the Transportation Planning Rule) for a proposed 110-acre Urban Growth Boundary (UGB) amendment in the City of Stanfield, Oregon. The proposed plan is to add approximately 110.6 acres of land on the northeast quadrant of the I-84/US 395 service interchange that is currently designated *Exclusive Farm Use 40-acre Minimum (EFU-40)* into the UGB as *General Industrial*. Simultaneously, the City plans to remove 138 acres zoned *Open Space* (28 acres) and *Transportation Industrial/General Industrial* (110 acres) located along Hinkle Road and the Burlington Northern Santa Fe (BNSF) railroad. Figure 1 illustrates the location of the lands proposed to be included within the City's UGB, and Figure 2 illustrates the lands proposed for exclusion as part of the land exchange.

It is acknowledged that the proposed land exchange will need to demonstrate compliance with the Stanfield Interchange Area Management Plan (IAMP), a long-range plan on methods to manage property and land uses in the vicinity of the I-84/US 395 interchange. The IAMP was developed in 2005 and adopted as an amendment to the City's Transportation System Plan.

The lands that are proposed for removal from the UGB are generally those that are located linearly along the BNSF Railroad line, and land slopes and the narrow shape would not readily support the City's industrial/employment land needs. The proposed acreage near the I-84/US 395 interchange is located adjacent to Downtown/Tourist Commercial zoned lands, and the rectangular parcel would provide design flexibility that better supports industrial uses. Effectively, the removal of 138 acres of largely unproductive land (110 of which is zoned for industrial uses) will be replaced with 110.58 acres of developable land, with exception of lands along the Furnish Ditch and Bonneville Power Administration (BPA) easement that bisect the property. It is proposed that when the 138-acre parcel is removed from the UGB that it will be designated for farming uses or open space.



Figure 1. Illustration of proposed UGB Amendment lands.



Figure 2. Land to be removed from UGB (outlined in red)
(Legend: blue: General/Transportation Industrial, gray: General Industrial)

REGIONAL TRAVEL IMPACTS COMPARISON

The Oregon Transportation Planning Rule (TPR) implements Statewide Planning Goal 12. Oregon Administrative Rule 660-012-0060(1) and (2) apply to amendments to acknowledged comprehensive plans. OAR 660-012-0060(1) and (2) establish a two-step process for evaluating an amendment's impacts on transportation network of highways and streets. The first step in assessing an amendment's potential transportation impact is to compare the trip generation potential of the property assuming a "reasonable worst-case" development scenario under the existing and proposed land use. If the trip generation potential increases with the proposed zoning, additional operational analysis is required to assess whether the rezone will "significantly affect" the transportation system. Conversely, if the trip generation with the proposed zoning is equal to or less than that of the existing zoning, no additional operational analysis is necessary to conclude that the proposal does not "significantly affect" the transportation system. A comparison between trip generation associated with the land exchange scenarios is discussed below.

UGB AMENDMENT INCLUDED LANDS

This section describes planning scenarios for the proposed lands on the northeast quadrant of the I-84/US 395 interchange.

Existing Zoning Land Use Scenario

Per Umatilla County Code 152.055, Exclusive Farm Use (EFU) lands are intended to preserve and maintain agricultural lands for farm use, including range and grazing uses, consistent with existing and future needs for agricultural products, forest and open spaces; to conserve and protect scenic resources; to maintain and improve the quality of air, water and land resources of the county and to establish criteria and standards for farm and non-farm uses and related and supportive uses which are deemed appropriate. Outright allowable uses within the EFU zone would generally allow a single residence on each established parcel and typical farming uses, accommodating up to six residences.

The ability to develop to this density within the existing EFU zoning is not encumbered by the BPA easement or Furnish Ditch. While these land constraints may limit where homesites or farming uses can occur on the property, the remaining usable portions of the property would support the residential/farming uses allowed under the existing zoning.

Proposed Zoning Land Use Scenario

Per City of Stanfield Development Code 2.3, the *General Industrial* (GI) District allows a broad range of uses. These include heavy and light manufacturing, warehousing, wholesale trade, transportation terminals, limited supporting retail ancillary to industrial uses, government facilities, utilities, and similar uses.

Unlike the limited impact with the EFU zoning, the Furnish Ditch and BPA easement will limit the developable acreage within the lands proposed for inclusion. The BPA easement is 250 feet wide and extends 2,600 feet through the property, encompassing a total of 14.92 acres. The alignment and width of Furnish Ditch, and the remnant portions of land between the ditch and BPA easement will render an additional 12.85 acres as non-buildable, leaving 82.81 acres of developable land within the overall 110.58-acre parcel.

To prepare a reasonable development scenario, we reviewed the Regional Economic Opportunities Analysis (EOA) for Morrow and Umatilla Counties that was prepared in 2013. The EOA projected cumulative industrial land needs for various employment sectors within the two Counties showing 275.6 acres needed through 2033. These were broken out by the classifications provided for cumulative industrial land needs within the EOA (Appendix C, Exhibit 1.06), as summarized in Table 1.

Table 1. Cumulative Morrow/Umatilla County Industrial Land Need (through 2033)

Employment Sector	Land Need (Acres)	Percentage of Total
Construction	3.7	1%
Manufacturing	75.9	28%
Wholesale Trade	20.6	7%
Transportation, Warehousing, Utilities (TWU)	158	57%
Professional	4.4	2%
Other	13.4	5%

A range of potential site uses could occupy the entirety of the UGB expansion lands. This use could include a single tenant or multiple uses throughout the land area. To ensure that the scenario was based on projected Countywide land needs, it was assumed that development of the proposed UGB lands would generally follow this same distribution of uses as the EOA-projected needs. Table 2 summarizes the resultant land use assumptions for the proposed UGB amendment based on similar available ITE land-use classifications.

Table 2. Proposed UGB ITE Industrial Land Use Classifications and Land Area

Employment Sector	ITE Classification	UGB Land (Acres)
Construction	General Light Industrial (110)	1.11
Manufacturing	Manufacturing (140)	22.77
Wholesale Trade	High-Cube Warehouse/ Distribution Center (152)	6.18
Transportation, Warehousing, Utilities (TWU)	Utilities (170)	47.41
Professional	General Light Industrial (110)	1.32
Other	General Light Industrial (110)	4.02
Total of Proposed Land-Uses		82.81

As further discussed within this report, based on review of the Stanfield Interchange Area Management Plan, these lower-intensity assumptions in Table 2 are similar to the low-density Industrial Park classification of the 57-acre parcel south of the interchange, reflecting a much lower Floor Area Ratio (FAR) than those cited within the EOA.

Trip Generation Comparison

Comparative trip generation estimates were prepared based on data contained within the Institute of Transportation Engineers' standard reference *Trip Generation, 9th Edition*. Table 3 presents a comparison of the trips that could be generated by the existing and proposed zoning per the assumptions outlined above. As shown in this table, the proposed inclusion of these industrial lands within the City's UGB could substantially increase the trip generation potential of this area from its current EFU zoning.

Table 3. Comparison of Trip Generation Potential

Land Use	ITE Code	Size	Weekday Daily Trips	Weekday PM Peak Hour		
				Total Trips	In	Out
<i>Existing Exclusive Farm Use (EFU) Zoning</i>						
Single Family Detached Housing	210	6 Parcels/ Residences	57	6	3	3
<i>Proposed General Industrial (GI) Zoning</i>						
General Light Industrial	110	6.45 acres	334	47	10	37
Manufacturing	140	22.77 acres	885	190	101	89
High Cube Warehouse/ Distribution Center	152	6.18 acres (0.30 FAR) 80,760 SF	136	10	3	7
Utilities	170	47.41 acres	626	63	28	35
Total			1,981	309	142	168
Increase in Trips (Proposed – Existing Zoning)			+1,924	+303	+139	+165

With the projected increase in trips associated with incorporation and rezoning of the developable 82.81 acres, the potential for a significant impact is present with the proposed amendment. Accordingly, the second step of the TPR process is required to identify whether the increase in trips will create new impacts on the transportation system.

UGB AMENDMENT EXCLUDED LANDS

This section provides a review of the development and trip potential of lands proposed for removal from the City of Stanfield UGB.

Existing Zoning Land Use Scenario

Lands that are currently in the UGB and proposed to be excluded as part of the land exchange include a mixture of 138 acres of *General Industrial*, *General/Transportation Industrial*, and *Open Space*. As shown in Figure 1, of the 138-total acre site, 28-acres are designated as *Open Space* and connect the *General/Transportation Industrial* with the *General Industrial* designated lands, creating a single contiguous parcel for the land exchange. The City of Stanfield *Open Space* District is described within City Code Section 2.6; City Code allows uses within this zoning district such as farming/grazing that provide negligible trip generation potential.

The City's *General Industrial* Zoning district was described within the preceding section as allowing land uses that store or produce products and materials. Code Section 2.3.170 identifies additional provisions for the *Transportation Industrial* Sub-District, which includes rail-related facilities, transportation terminals subject to special use standards. As these additional uses would generally be considered lower intensity than those also allowed within the *General Industrial* designation, the same land use assumptions would be applied to assess a reasonable worst-case scenario.

Of the remaining 110 acres in the existing land proposed to be exchanged for a more productive land-use, a significant portion of the property does not lend itself to development. Based on a review of aerial imagery, a portion of the land located along the BNSF rail line right-of-way does not have sufficient width to accommodate rail-supportive development. This multi-track railroad section consumes approximately 39 acres of land, and the Feed Canal alignment impacts approximately 3 additional acres, leaving

approximately 68 acres of developable industrial lands (110 Industrial acres – 42 non-productive acres = 68 developable acres).

Application of the same land use type assumptions as the proposed zoning scenario (Table 2, Page 4) results in the distribution of land provided within Table 4, with the resulting trip generation potential summarized in Table 5.

Table 4. Excluded UGB ITE Industrial Land Use Classifications and Land Area

Employment Sector	ITE Classification	UGB Land (Acres)
Construction	General Light Industrial (110)	0.91
Manufacturing	Manufacturing (140)	18.7
Wholesale Trade	High-Cube Warehouse/ Distribution Center (152)	5.08
Transportation, Warehousing, Utilities (TWU)	Utilities (170)	38.9
Professional	General Light Industrial (110)	1.1
Other	General Light Industrial (110)	3.3
Total Lands		68 Acres

Table 5. Comparison of Trip Generation Potential

Land Use	ITE Code	Size	Weekday Daily Trips	Weekday PM Peak Hour		
				Total Trips	In	Out
<i>Proposed General Industrial (GI) Zoning</i>						
General Light Industrial	110	5.31 acres	275	39	9	30
Manufacturing	140	18.70 acres	727	156	83	73
High Cube Warehouse/ Distribution Center	152	5.08 acres (0.30 FAR) 66,385 SF	112	8	3	5
Utilities	170	38.9 acres	513	51	23	28
Total			1,627	254	118	136
<i>Proposed Exclusive Farm Use (EFU) Zoning</i>						
Single Family Detached Housing	210	3 Parcels/ Residences	29	3	2	1
Increase in Trips (Proposed – Existing Zoning)			(1,598)	(251)	(116)	(135)

UGB AMENDMENT TRIP GENERATION COMPARISON

A comparison of the trip generation potential of lands proposed for inclusion into the UGB (as summarized within Table 3) and lands excluded from the UGB (as summarized within Table 5) is summarized in Table 6. Weekday p.m. peak hour trips were applied as the basis for comparison, consistent with planning conducted as part of the Stanfield Interchange Area Management Plan and City Transportation System Plan.

Table 6. Comparison of Trip Generation Potential

Scenario	Weekday Daily Trips	Weekday PM Peak Hour		
		Total Trips	In	Out
Proposed UGB	+1,924	+303	+139	+164
Excluded UGB	(1,598)	(251)	(116)	(135)
Trip Difference	+326	+52	+23	+29

As shown in Table 6, there would be a minor increase in daily and weekday p.m. peak hour trips associated with the proposed UGB amendment based on the variance in developable lands the UGB land exchange provides. As the City’s land supply was prepared to satisfy an overall City employment need, the more accessible and developable lands proposed for inclusion will better meet the City land needs and goals.

The location of the two separate sites will also influence regional transportation impacts. The lands excluded from the UGB are likely to rely on US 395 for their primary truck access, with trips impacting routes through Stanfield and Hermiston to access I-84 or I-82. The lands near the I-84/US 395 junction would benefit from improved access to the Interstate highway system, but the increased reliance on the interstate would impact the adjacent access points.

Based on this review and comparison of the proposed land exchange, the overall impacts to the City of Stanfield is provision of more developable industrial lands with improved interstate access. Overall traffic levels are expected to be reasonably similar, with differences in travel patterns and travel routes. The slightly increased number of daily and weekday p.m. peak hour trips is offset by the ability to rely on the Interstate System for regional trips, lessening impacts on the US 395 corridor through Stanfield and Hermiston (and potentially other nearby Cities).

While the regional impacts are expected to be neutral to positive overall, the point impacts of the included lands need to be addressed to ensure that safe and functional access to the lands can be provided given the adjacent land uses and system constraints. System impacts associated with the land exchange would show a reduction in through trips from I-84 onto US 395 that would have travelled to the excluded UGB lands.

PROPOSED UGB INFRASTRUCTURE PLANNING ANALYSIS

This section of the report describes the functional and geometric transportation requirements necessary to serve the proposed UGB amendment. As the proposed UGB amendment extends east of undeveloped lands already designated for commercial and industrial uses and adjacent to an interchange with an adopted Interchange Area Management Plan, this review was initiated with a literature review of prior planning efforts and policies.

LITERATURE REVIEW

Based on discussions with City of Stanfield and ODOT Region 5 staff, the following documents were reviewed as part of this analysis:

- City of Stanfield Transportation System Plan
- Stanfield Interchange Access Management Plan (November 2005)
- Oregon Highway Plan

- City of Stanford Development Code and Zoning

A summary of these materials and their relevance to the proposed UGB amendment is summarized below.

Oregon Highway Plan

The Oregon Highway Plan is a modal element of the Oregon Transportation Plan (OTP) and part of Oregon's Statewide Transportation Plan. It defines policy and investment strategies as well as implementation strategy and performance measures for the State highway system. The original document was prepared in 1999 and subsequently updated.

The first goal of the Oregon Highway Plan is to maintain and improve safe and efficient movement of people and goods and contribute to the health of the economy and community livability. Several policies and action items are provided to support this goal. Relevant to the proposed UGB amendment, Action 1F2 states that when developing State, regional, or local plans, a minimum 20-year planning horizon should be provided. When assessing highway mobility for amendments to transportation system plans or acknowledged comprehensive plans, the planning horizon should be the same as the adopted local/regional documents, or 15 years from the proposed date of amendment adoption, whichever is greater.

State Highway Classification System

Policy 1A defines the classification of the highway system. Highways are classified based on four levels of importance: 1) Interstate, 2) Statewide, 3) Regional, and 4) District. These classifications provide priority for funding strategies and improvements. Within the study area, I-84 is an *Interstate Highway* that is intended to provide connections to major cities, regions of the state, and other states. US 395 is classified as a *Statewide Highway* from the eastbound ramps north, and as a *District Highway* south of the eastbound ramps toward Echo.

Mobility Standards

The Oregon Highway Plan was revised following development of the Stanfield Interchange Area Management Plan. Key changes that have occurred that impact the area plans include the transition of performance standards into mobility targets and changes to the applicable targets (generally to accept higher levels of congestion). However, Action 1F.6 notes that for TPR purposes the mobility targets are to be considered "standards".

Due to the importance of interstate interchange ramp terminals, Action 1F.1 of the Oregon Highway Plan states the following:

Although an interchange serves both the mainline and the crossroad to which it connects, it is important that the interchange be managed to maintain safe and efficient operation of the mainline through the interchange area. The main objective is to avoid the formation of traffic queues on off-ramps which back up into the portions of the ramps needed for safe deceleration from mainline speeds or onto the mainline itself. This is a significant traffic safety concern. The primary cause of traffic queuing at off-ramps is inadequate capacity at the intersections of the ramps with the crossroad. These intersections are referred to as ramp terminals. In many instances where ramp terminals connect with another state highway, the mobility target for the connecting highway will generally signify that traffic backups onto the mainline can be avoided. However, in some instances where the crossroad is another state highway or a local road, the mobility target

will not be a good indicator of possible future queuing problems. Therefore, the better indication is a maximum volume to capacity ratio for the ramp terminals of interchange ramps that is the more restrictive volume to capacity ratio for the crossroad, or 0.85.

In the case of the I-84/US 395 interchange ramp terminals, the standards for US 395 (classified as a Statewide Highway and Freight Route) apply. ODOT performance standards for intersections surrounding the I-84/US 395 interchange are based on the posted speed, functional classification, and the location (whether within or outside of an urban growth boundary). Table 7 summarizes the area intersection characteristics and performance standards.

Table 7. Oregon Highway Plan Mobility Targets (TPR Standards, OHP Table 6)

Intersection	Functional Classification	Locational Characteristics	Posted Speed	ODOT Mobility Standard
I-84/US 395 Eastbound Ramps	Interstate Ramp Terminal/Statewide Highway	Non-STA Non-MPO Rural Lands	45 mph	v/c < 0.70
I-84/US 395/ Westbound Ramps	Interstate Ramp Terminal/Statewide Highway	Non-STA Non-MPO Rural Lands	45 mph	v/c < 0.70
US 395/ Pilot Restricted Access	Statewide Highway/ Local Interest Road	Non-STA Non-MPO City ≥ 45 mph	45 mph	v/c < 0.90
US 395/ Stanfield Avenue	Statewide Highway/ Local Interest Road	Non-STA Non-MPO City ≥ 45 mph	45 mph	v/c < 0.90
US 395/ Irwin Road	Statewide Highway/ Local Interest Road	Non-STA Non-MPO City ≥ 45 mph	45 mph	v/c < 0.90

With the existing two-way stop-control in place at area intersections, these performance standards are generally based on the classification of the minor approach. With exception of the interchange terminals, changes in traffic control that impacts mainline operations would revert to the Statewide Highway performance standard within an urban area (v/c ratio < 0.80).

Access Spacing

The Oregon Highway Plan also provides access spacing standards for highways within Appendix C. With an Annual Average Daily Traffic (AADT) of 9,600 vehicles on US 395 north of the I-84 interchange the applicable spacing standard is 800 feet within the urban area and 990 feet in the rural area. More critically, standard access spacing from the interchange ramp terminal is 1,320 feet (freeway interchange with two-lane crossroad, OHP Table 17) whether to a restricted access or full-access location.

Relevance to the UGB Amendment

Based on this review, the Oregon Highway Plan provides several relevant elements related to the proposed UGB amendment. It defines the horizon forecast year for the analysis as 2033 (15-year horizon for a plan amendment versus the typical 20-year horizon for development of a plan), it classifies highways

based on their function and purpose, and it establishes performance standards and access spacing standards based on these classifications.

With the adopted Interchange Access Management Plan guiding future development plans and property access at the I-84/US 395 interchange, compliance with the IAMP is expected to be consistent with ODOT access policies. The location of Stanfield Avenue complies with current ODOT access spacing policies from the ramp terminal, but the right-in, right-out for the Pilot Travel Center or the identified right-in, right-out to serve the future development of lands on the east side of US 395 would not comply with current access spacing standards.

CITY OF STANFIELD TRANSPORTATION SYSTEM PLAN

The City of Stanfield's Transportation System Plan (TSP) was prepared in June 2001 following completion of the US 395 Corridor Plan. The TSP assessed future year 2020 conditions and projected population to increase from 1,770 persons in 1997 to 2,490 persons by 2020, with annual growth of 1.44 percent throughout the County and 1.9 percent in Stanfield, resulting in a 60-percent traffic volume increase across the planning horizon. The TSP assessed only a single intersection (Main Street and Coe Avenue) which showed acceptable long-term operations.

Within the alternatives analysis, a project to construct a new access and traffic signal on US 395 north of the I-84 interchange (at Stanfield Avenue serving both the east and west side of US 395 per Figure 6-2) was identified, along with new multi-use pathways from the interchange into the City of Stanfield. The TSP identifies that in 2001 there were ongoing discussions about the potential siting of a truck stop on the east side of the US 395 corridor opposite the Pilot Travel Center, along with hotel, truck wash, truck repair facility, and restaurant. When the TSP was prepared the median along US 395 had not been constructed, and Stanfield Avenue was not relocated to its current alignment.

The TSP identified that the cost of installing a traffic signal and left- and right-turn lanes were estimated at \$250,000 and the construction should be a joint effort between the City of Stanfield, ODOT, and private developers in the area. Driveways and streets (including closures/relocations) were not included within this cost (it is assumed that the associated costs would be the responsibility of developers).

STANFIELD INTERCHANGE AREA MANAGEMENT PLAN

The Stanfield Interchange Access Management Plan (IAMP) was prepared in November 2005 and updates the findings of the City's TSP with more current plans and policies, implementing elements of the Oregon Highway Plan based on the specific land use and transportation needs and constraints. This document included a detailed literature review of several prior planning efforts that had occurred along the US 395 corridor surrounding the interchange. The Plan was prepared prior to the construction of Stanfield Avenue, and the relocation of the Pilot Travel Center truck access to this facility. Key findings of the IAMP that pertain to this property includes the following:

- Structural improvements were required in 2005 at the interchange overcrossing. These were planned for construction in 2006/2007.
- Sight distance deficiencies were identified at the interchange ramp terminals due to the crest vertical curve of the structure. The planned structural retrofit improvements to the interchange were not intended to address the sight distance deficiencies.
- Freight movements are of paramount importance given the designation of area highways and their role in interstate commerce. In addition, pedestrian and bicycle connectivity was

encouraged within the IAMP, particularly as a means to link the City of Stanfield to the City of Echo. Multi-use pathways along both the west and east side of the interchange were recommended.

- Operational conditions at the interchange terminals were adequate in 2005, with critical delays for the ramps operating at Level of Service “B” or “C”. Crash rates, a measure of safety of the various roadway users, were slightly higher at the interchange than Statewide averages, though this did not reflect the addition of a raised median that limits turning movements and cross-over crashes along Stanfield Avenue, or the relocation of access to the current Stanfield Avenue alignment.
- Approximately 30 to 35 percent of trips from lands within the surrounding area are expected to travel to the I-84/US 395 interchange.
- Access from lands east of the US 395 corridor were assumed to occur from a signalized US 395/Stanfield Avenue – Irwin Road intersection and a restricted (right-in, right-out) access aligned with the Pilot Travel Center right-in, right-out access (see Figure 3). The new signalized Stanfield Avenue intersection was identified to more safely accommodate truck turning movements and to serve future area growth. A local street network connecting to the new signal was recommended on the east side of the highway, with signalization to occur when warranted.
- The IAMP also recommended signalization of the eastbound I-84/US 395 ramps (when warranted) to address increasing delays.
- Growth rates were identified within the IAMP as well as build-out of adjacent lands. Figure 1 shows the assumed growth assumptions for the areas surrounding the interchange. This includes build-out of the adjacent lands with the development assumptions shown in Figure 3 and application of 1 percent annual growth.

Generally, the IAMP provides the overall access recommendations to serve potential development surrounding the interchange. The analysis of the UGB amendment builds on these assumptions and maintains consistency with the access spacing provisions that were identified within the IAMP and adopted as an amendment to the City’s Transportation System Plan.

It should be noted that subsequent to the IAMP, ODOT revised its policies related to roundabouts on State Highways. Based on emerging research, ODOT will now require consideration of a roundabout and comparison to a traffic signal as part of the Design Acceptance Package. This change in policy reflects the significant reduction in fatal and serious injury crashes at roundabouts due to the lower entry speeds and reduced conflict points.

Stanfield UGB Amendment

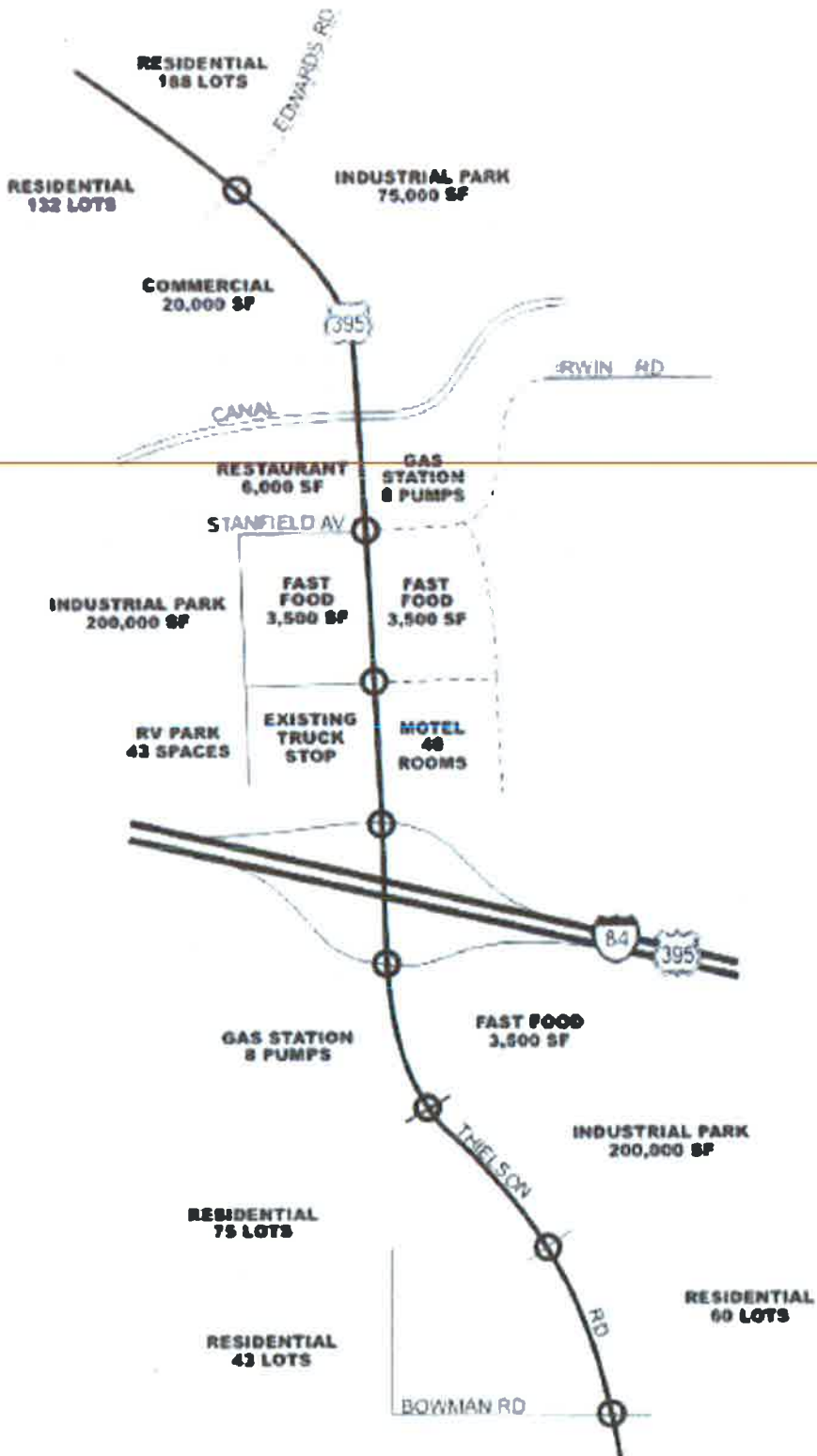


Figure 3. Assumed Stanfield UGB Development (IAMP Figure 1).

Stanfield UGB Amendment

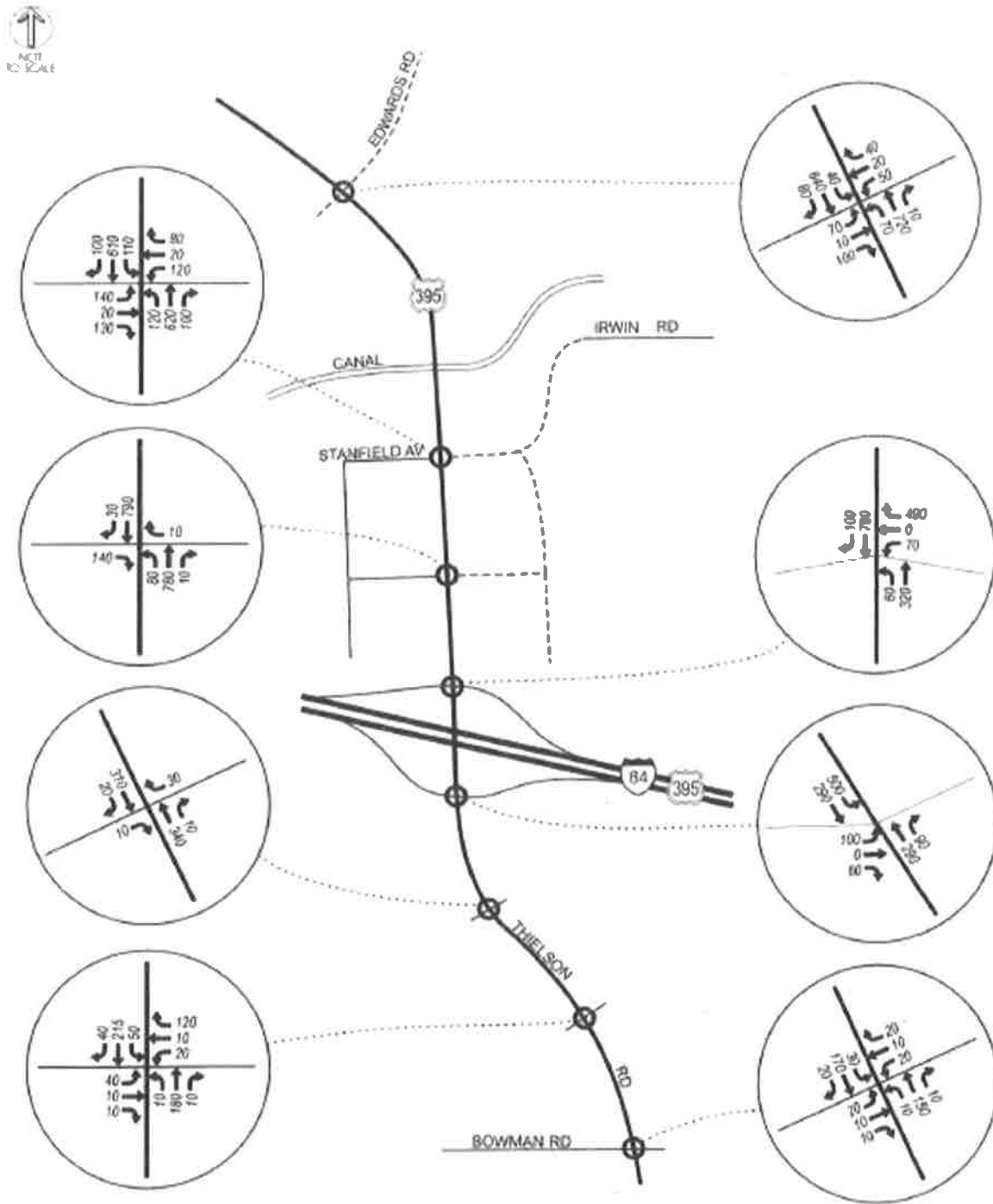


Figure 4. Stanfield IAMP Forecast Year 2024 Traffic Volumes (IAMP Figure 2)

EXISTING CONDITIONS

The existing conditions analysis is intended to describe the current geometric, operational, and safety characteristics of area roadway facilities. This is intended to help prioritize area needs and deficiencies, and also serves to calibrate the existing analysis models to field conditions. The existing conditions review was based on field data collected on November 2, 2017 and data collection efforts in late September 2017 as further described below.

Existing Conditions Safety Review

Review of area safety was provided through review and summary of reported crashes from the ODOT Crash Analysis and Reporting Unit. Within the State of Oregon crashes that are required for reporting include those that involve at least one motor vehicle, result in any level of personal injury, or property damage exceeding \$1,500. The most recent five-year period available was reviewed as part of this analysis (January 2011 through December 2015) as shown in Table 8. As there have been no significant geometric or operational changes within the interchange area or along US 395 during this time period, these crash patterns are expected to reflect the current safety conditions, and were used as a screening method to identify issues for field review.

Table 8. Summary of Reported Crashes (January 2011 through December 2015)

Intersection	# of Crashes	Crash Severity			Crash Type				Crash Rate Per MEV
		Fatal	Injury	Non-Injury	Rear-End	Turning/ Angle	Fixed Object	Other	
I-84/US 395 Eastbound Ramps	6	0	3	3	1	4	0	1	0.64
I-84/US 395 Westbound Ramps	5	0	3	2	0	4	1	0	0.34
US 395/ Pilot Restricted Access	3	0	1	2	0	1	1	1	0.19
US 395/ Stanfield Avenue	3	0	1	2	0	3	0	0	0.22
US 395/ Irwin Road	1	0	0	1	0	0	1	0	0.09

Review of the crash patterns by overall crash characteristics, vehicle types, movement types, driver factors, and environmental factors did not identify any crash patterns. The sight distance deficiencies noted within the IAMP at the ramp terminals did not appear to influence the crash patterns. The measured crash rates were relatively low, and none were considered indicators of geometric or operational issues at any of the study area intersections.

INTERSECTION SIGHT DISTANCE

Field review was conducted along the US 395 frontage to identify whether there were any existing constraints to achieving minimum American Association of State Highway Officials (AASHTO) recommendations for stop-controlled sight distance at the US 395/right-in, right-out access identified within the IAMP or the realigned US 395/Stanfield Avenue intersection. It is assumed that side-street stop-control would remain, at least on an interim basis. Sight distance information and minimum recommendations are based on the standard reference *A Policy on Geometric Design of Highways and Streets, 6th Edition* published by the AASHTO in 2011, commonly referred to as the *Green Book*.

Intersection Sight Triangles

Given the minor-street stop-control that will be installed at the new intersections, sight triangles were developed based on guidance cited within Conditions B1 (left-turn from minor road) and B2 (right-turn from minor road) of the *Green Book*. All distances were measured from a vertex point located 14.5 feet from the major-road travel way along the center of the approaching travel lane, accounting for comfortable positioning distance from the travel way (6.5 feet) and the distance from the front of the vehicle to the driver eye (8.0 feet). The assumed eye height is 3.5 feet above the departing road and the object height is also 3.5 feet above the major road, which allows the motorists entering the roadway, to see and identify an approaching vehicle.

Intersection sight triangles vary based on the speed of the roadway and the number of travel lanes that a driver entering the roadway must cross. The posted speed on US 395 is 45 miles per hour. Figure 5 illustrates the recommended measurements at each access.

Case B1: Left-Turn From Stop

Recommended intersection sight distances are based on the distance an approaching vehicle travels during the time it takes a motorist on the side-street to make a decision and safely accelerate into the travel lane without unduly interfering with major-street traffic. Given the generally flat slopes and five-lane cross-section, a time gap of 8.5 seconds was applied based for a typical passenger car, 10.9 seconds for a single-unit truck, and 12.9 seconds for a combination truck. AASHTO Formula 9-1 summarizes the recommended sight distances.

Passenger Vehicle Intersection Sight Distance = $1.47 V_{major (mph)} t_{gap (sec)} = 562.3$ feet

Single-Unit Truck Intersection Sight Distance = $1.47 V_{major (mph)} t_{gap (sec)} = 721.0$ feet

Combination Truck Intersection Sight Distance = $1.47 V_{major (mph)} t_{gap (sec)} = 853.3$ feet

Field review identified that sight lines are limited from the east side of US 395 toward the north by the horizontal curve and roadside vegetation. However, from Stanfield Avenue approximately 960 feet of sight distance is available, exceeding the minimum requirements to serve combination trucks.

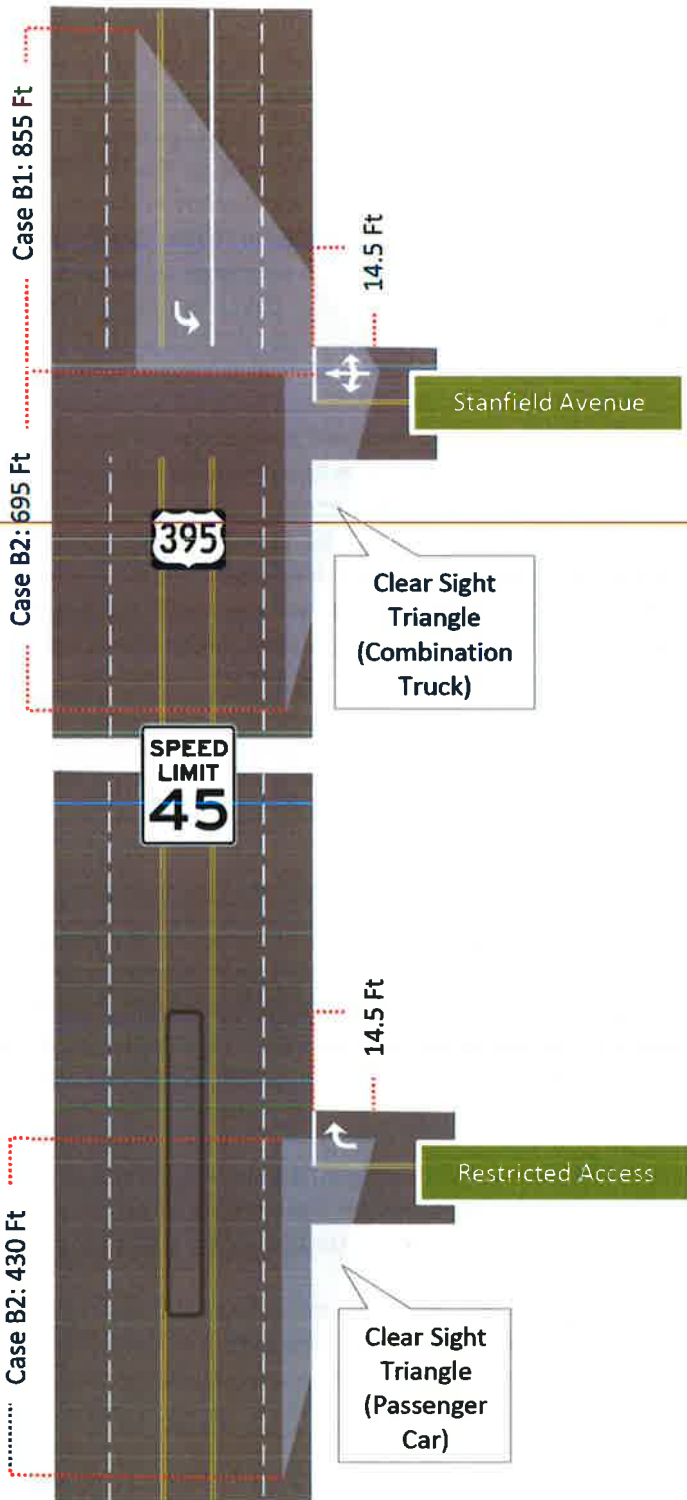


Figure 5. Intersection Sight Triangle Measurements for Case B1 (Left-Turn from Stop) and Case B2 (Right-Turn from Stop) at the right-in, right-out (left) and Stanfield Avenue access (right) connections identified in the IAMP.

Case B2: Right Turn from the Minor Road

Views for motorists entering the major roadway toward the drivers' left must be adequate to accommodate a right-turn. The right-turn maneuver requires that the driver select a gap in traffic flow toward the oncoming motorist, enter the roadway and accelerate. A time gap of 6.5 seconds is applied to account for this maneuver at the proposed future right-in, right-out access. Accesses designed as right-in, right-out only are much safer than full movement accesses as it reduces the amount of time that the entering motorist crosses one or more lanes of travel and eliminates the likelihood of severe crashes. A longer time gap of 8.5 seconds is recommended for single unit trucks and 10.5 seconds for combination trucks. These higher values were also reviewed at the Stanfield Avenue intersection based on the industrial designation of lands to the east.

Passenger Vehicle Intersection Sight Distance = $1.47 V_{major} (mph) t_{gap} (sec) = 430.0$ feet

Single-Unit Truck Intersection Sight Distance = $1.47 V_{major} (mph) t_{gap} (sec) = 562.3$ feet

Combination-Unit Truck Intersection Sight Distance = $1.47 V_{major} (mph) t_{gap} (sec) = 694.6$ feet

Field review showed that from both accesses there are clear sight lines to the top of the interchange overcrossing, which is located approximately 1,000 feet to the south of the identified proposed right-in, right-out access and approximately 1,920 feet south of Stanfield Avenue. Recommended intersection sight distance is met at both access locations.

TRAFFIC OPERATIONS

STUDY AREA

As previously discussed within this report, regional trip impacts are expected to be minor with the proposed land exchange. The proposed UGB amendment will reduce trips from I-84 along the US 395 corridor but shows a slightly higher overall trip generation potential based on the equivalent acreage and more developable lands. Accordingly, the study area assessed includes the portion of US 395 extending from the I-84 eastbound ramp terminal north to Irwin Road. Confirmation of this scope was obtained from ODOT based on the May 22, 2017 correspondence included within the attachments.

INTERSECTION OPERATIONS

To ensure consistency with the TPR and OHP requirements, analysis was conducted of year 2033 conditions. This forecast year meets the Oregon Highway Plan requirements for a 15-year analysis for Transportation Planning Rule amendments, and exceeds the horizon period of both the adopted IAMP and City TSP. The results of the operational analysis are summarized in Table 9. Additional details on the analysis methodology and scenarios are presented below.

Stanfield UGB Amendment

Table 9. Summary of Intersection Operations

Intersection	ODOT Mobility Standard	Existing Design Hour				Year 2033 Current UGB				Year 2033 UGB Amendment				Acceptable?
		CM	LOS	Del	v/c	CM	LOS	Del	v/c	CM	LOS	Del	v/c	
I-84/US 395 Eastbound Ramps	v/c < 0.70	EB LTR	C	24.7	0.40	EB LTR	F	>100	>1.0	EB LTR	F	>100	>1.0	No
I-84/US 395 Westbound Ramps	v/c < 0.70	WB LT	B	12.8	0.01	WB LT	F	89.8	0.71	WB LT	F	95.0	0.73	Yes
US 395/Pilot LI-RIRO Access	v/c < 0.90	EB R	B	10.0	0.12	EB R	C	15.2	0.33	EB R	B	14.7	0.32	Yes
US 395/Stanfield Ave	v/c < 0.90	EB LT	C	16.5	0.12	EB LT	F	>100	>1.0	EB LT	F	>100	>1.0	No
US 395/Irwin Road	v/c < 0.90	-	-	-	-	Intersection Closed				Intersection Closed				N/A

Traffic counts were collected on Wednesday, September 27, 2017. These traffic counts reflect travel patterns the week after the re-opening of the I-84 corridor following wildfire related closures. The system peak was identified between 4:25 p.m. and 5:25 p.m., with approximately 650 vehicles north of Irwin Road and 800 vehicles near the I-84 westbound ramps.

To reflect 30th highest hourly design volumes, the existing counts were factored based on ODOT Automatic Traffic Recorder (ATR) Station 30-019, located on US 395 northwest of Feedville Road. This shows that September counts are two percent lower than the peak July month, and October counts are three percent lower. A 2.5 percent adjustment was applied to reflect existing year 2017 30th highest hourly design conditions.

Analysis of existing design hour conditions showed that all of the unsignalized study area intersections currently operate with low delays, with side-streets operating at Level of Service "C" or better and well within ODOT mobility standards. Existing operations are summarized in Table 9.

YEAR 2033 EXISTING UGB TRAVEL FORECASTS

Travel forecasts were prepared as part of the IAMP showing the impact of UGB build-out and continued regional growth. Review of the travel forecasts show that the current traffic volumes along US 395 would need to double within the next seven years to achieve the forecast 2024 projections shown. Review of the ODOT Future Volume Tables projects volumes on US 395 (ODOT Highway 54) will experience nearly flat growth trends between 2015 and 2035 immediately north of the I-84 interchange (9,600 vehicles increasing to 9,700 vehicles) and north of Tuttle Avenue (6,000 vehicles increasing to 6,100 vehicles).

Despite the aggressive growth assumptions within the IAMP, for purposes of this analysis these projected volumes were further increased for an additional nine years to reflect year 2033 conditions with build-out of the current UGB.

Revised travel projections were developed as follows:

- Projected year 2024 traffic volumes from the IAMP reflecting UGB build-out were increased to reflect year 2033 forecast conditions through the application of a one-percent annual growth rate.
- Traffic volumes were rounded to the nearest five vehicles to reflect the relative imprecision of forecast volumes.
- Volumes along the US 395 corridor were balanced between intersections. It was observed that traffic projections within the adopted IAMP were not balanced along the corridor, resulting in significant volume disparities between Stanfield Avenue and the I-84 eastbound ramp terminal.

Comparison of the seasonally adjusted year 2017 design hour volumes and projected 2033 forecasts are summarized in Table 10.

Table 10. Growth Rate Review

Intersection	2017 Design Hour TEV	Forecast 2024 IAMP TEV	2033 Projected & Balanced TEV	Cumulative Growth	Effective Annual Growth Rate (Compounding)
I-84/ US 395 Eastbound Ramps	511	1,330	1,450	284%	7%
I-84/ US 395 Westbound Ramps	817	1,820	1,930	236%	6%
US 395/ Pilot Restricted Access	850	1,840	1,835	216%	5%
US 395/ Stanfield Avenue	745	2,170	2,095	281%	7%
US 395/ Irwin Road	643	1,660	1,545	240%	6%

The revised year 2033 design hour travel projections are illustrated in Figure 6, and a summary of the resultant operational analysis is summarized in Table 9.

YEAR 2033 PROPOSED UGB AMENDMENT TRAVEL FORECASTS

Travel forecasts with the UGB Amendment were developed by assigning the forecast trip generation potential (as shown in Table 3) onto the transportation system. This analysis assumed the same roadway configuration identified within the IAMP, which includes an eastern extension of Stanfield Avenue and restricted access opposite the Pilot Travel Center passenger car access. Within this analysis it was assumed that the restricted access would include right-in, right-out movements only, though provision of a left-in to mirror the configuration of the Pilot Travel Center could also be considered as part of future land use applications. The internal roadway connections identified within the IAMP allow the UGB lands access to both US 395 connections, though Stanfield Avenue is expected to generally serve the UGB expansion and the restricted access will primarily serve lands already within the UGB.

Travel patterns for the UGB expansion lands were developed based on current travel patterns, with some modifications to better reflect the regional employment trends provided with *General Industrial* uses versus those of the Pilot Travel Center. This resulted in approximately 55 percent of all trips oriented toward the north along the US 395 corridor, and 45 percent oriented south toward I-84. The resultant trip assignment and the projected year 2033 design hour traffic volumes with the UGB amendment are shown in Figure 6.

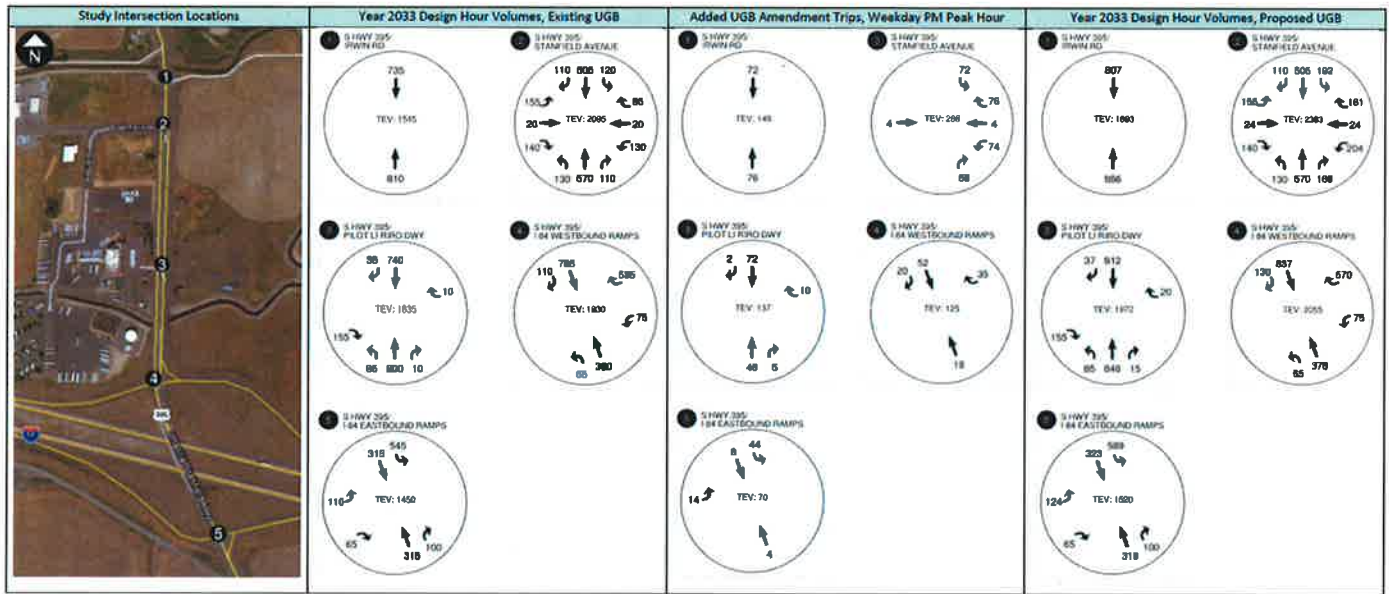


Figure 6. Forecast Volume Scenarios, Weekday PM Peak Hour

INTERSECTION MITIGATION

The operations analysis shows mitigation needs at the I-84/US 395 Eastbound Ramp Terminal and the US 395/Stanfield Avenue intersection. Both locations show that without improvements build-out of the UGB lands will result in long delays and congestion. While the I-84/US 395 ramp terminal is forecast to meet ODOT mobility standards, long delays approaching nearly 100 seconds per vehicle are shown for the westbound left-turn movements. Mitigation options at each location are further discussed below.

I-84/US 395 Eastbound Ramp Terminal

The unsignalized eastbound ramp terminal provides free flow movements on US 395 and stop-control on the eastbound approach, typical of a diamond service interchange. The design of the ramp provides a single-lane stop-controlled approach with adequate width to easily accommodate truck maneuvers. US 395 provides a three-lane cross-section at the intersection, separating left-turns entering the I-84 Eastbound Ramp. The northbound US 395 approach provides only a right-turn taper. An aerial view of the intersection is shown in Figure 7.



Figure 7. I-84/US 395 Eastbound Ramp. Source: *Maps.google.com*.

Sight lines from the stop sign are clear toward the south but somewhat constrained toward the north (particularly for passenger cars) due to the grade of the overcrossing and presence of guardrail, as shown in Figure 8.



Figure 8. Views of the I-84/US 395 Eastbound Ramp facing north toward Stanfield.

Delays and congestion at the eastbound ramp terminal were previously forecast within the IAMP and the Transportation System Plan (as well as the preceding US 395 Corridor Plan). Within each of these plans signalization was identified as the long-term mitigation measure, with implementation to occur when Manual on Uniform Traffic Control Devices (MUTCD) signal warrants are met. Per MUTCD Section 4B.02, signal warrants represent the minimum conditions to consider intersection signalization. For planning purposes, MUTCD Volume-Based Warrants 1, 2, and 3 were reviewed for both existing and build-out conditions, as summarized in Table 11.

Table 11. MUTCD Signal Warrant Analysis Summary

Warrant	Warrant Description	Existing Conditions	Forecast Conditions
#1	Eight-Hour Vehicular Volume	No	Yes
#2	Four-Hour Vehicular volume	No	Yes
#3	Peak Hour	No	Yes

With build-out of the UGB lands, volume-based signal warrants will be met. To meet the volume-based warrant criteria, the existing traffic volumes would need to increase approximately 52-percent. This rate of growth at the interchange ramp is not likely to occur without substantial development of the surrounding lands within the current and expanded UGB.

Operational analysis of the existing intersection configuration with signalization shows that changes to the ramp terminal geometry beyond signalization would be required to meet ODOT mobility standards with full build-out of the amended UGB. The critical issue at the ramp terminal is the southbound left-turn demand onto I-84 eastbound. During the 30th highest design hour today there are approximately 220 vehicles that make this left-turn maneuver. The IAMP shows that with build-out of the current UGB there

would be 500 forecast left-turning vehicles during the peak hour, which increases to 545 with continued regional growth and balancing, and 589 with the UGB amendment. While reaching this volume of left-turns within the planning horizon seems unlikely, if these forecasts were realized (particularly with the existing 20% truck volume) dual left-turn lanes and dual receiving/merge lanes would be required with or without the proposed UGB amendment.

Level of Service worksheets within the adopted IAMP assumed that signalization would include only widening along the eastbound approach, providing a separate left- and right-turn lane. However, it appears that the 2024 weekday p.m. peak hour scenario erroneously analyzed the existing volumes rather than the projected conditions shown in the report. Accordingly, additional geometric improvements were not identified.

Review of the signalized ramp terminal intersection based on existing design hour volumes show that the current geometric configuration would be capable of supporting a 210-percent increase in current traffic volumes before exceeding a volume to capacity ratio of 0.85. The ability to serve more than double the current traffic volume at the interchange terminal is reasonably expected to serve area needs through the planning horizon.

To comply with current ODOT policies, review was also conducted of a single-lane roundabout at the ramp terminal intersection. This analysis shows that with the HCM 6th Edition calibration a single-lane roundabout would operate over capacity and the intersection would require a multilane design to serve projected volumes. Similar to a traffic signal, substantial reserve capacity would be available to accommodate growth from the current traffic levels with implementation of a single-lane design. Assuming uniform and linear growth at the intersection a single-lane roundabout could accommodate a 244-percent increase in traffic before the eastbound approach would exceed a v/c ratio of 0.85.

Based on review of the forecasts and consistent with prior IAMP recommendations, signalization of the US 395/I-84 eastbound ramp terminal should continue to serve as the first phase of improvements and occur when warranted. Signalization with the current geometric configuration is expected to provide adequate reserve capacity to accommodate growth through the planning horizon. If additional capacity is needed, the required regrading and reconstruction of the ramp terminal could provide the opportunity to either widen for a larger traffic signal or a roundabout capable of accommodating UGB build-out.

US 395/I-84 Westbound Ramp Terminal

The unsignalized I-84 Westbound Ramp Terminal with US 395 meets ODOT mobility standards with the proposed UGB amendment but operates with excessively long delays with full build-out of area lands. As discussed above, the timing of this congestion is expected to be delayed beyond the 2033 horizon period as it is dependent on absorption of lands surrounding the interchange.

Due to the available movements and directional patterns, the need for improvements at the westbound ramps will occur after improvements are required at the eastbound ramps. The critical turning movements are provided at the ramp terminal as right-turns. Long-term projections show that the westbound left-turn toward Echo will ultimately result in delays approaching 100 seconds per vehicle.

The need for improvements at the ramp terminal could be influenced by improvements at the eastbound ramp terminal and at Stanfield Avenue. If the traffic signals identified within the IAMP were installed north and south of the westbound ramps the additional gaps in platooned traffic could provide lower delays

than the random arrivals assumed with the Highway Capacity Manual methodology applied. The signalization of the ramp terminal

would likely increase overall intersection delays (and the v/c ratio due to stopping the major street through movements) but could be coordinated with the adjacent traffic signals. It is recommended that the need for improvements at the westbound ramps be considered as part of any future upgrades to the eastbound ramps, and a consistent intersection form (roundabout or traffic signal) should be prioritized to assist in driver understanding and expectation.

Consideration of signalizing the westbound ramps would need to carefully consider signal head placement and visibility due to the location of the intersection near the apex of the vertical curve. Northbound vehicles may not be able to clearly view the signal displays when following other vehicles, so auxiliary or supplemental displays should be considered as part of any future signalization plans. If a roundabout were constructed the extension of the splitter islands and other approach treatments could provide the appropriate driver awareness cues.

US 395/Stanfield Avenue Intersection

The most critical intersection within the study area is the US 395/Stanfield Avenue intersection, as it is likely to be the first location within the corridor to experience congestion within the higher-speed and higher-volume section of US 395. Conditions at the intersection are worsened by the number of trucks that rely on this intersection for access from the Pilot Truck Stop. New industrial or commercial uses along the east side of US 395 would trigger the need for capacity improvements.

As part of any future connection to serve the development of properties to the east, Irwin Avenue should be relocated to align with Stanfield Avenue (see Figure 9). The current intersection of US 395/Irwin Road does not provide a southbound left-turn bay, and with the adjacent 70-foot wide bridge structure over the Stanfield Drain there is no cost-effective way to provide the left-turn bay at Irwin Avenue. Restriping of US 395 will likely be required, potentially coupled with additional improvements, even with the relocated access at Stanfield Avenue to provide an adequate southbound left-turn storage bay of approximately 300-feet, similar to the turn bay on the northbound approach to accommodate truck storage needs.



Figure 9. US 395/Stanfield Avenue constraints

The current intersection of Stanfield Avenue was constructed by ODOT to improve the original access spacing from 970-feet to 1,560 feet from the center of the westbound ramp terminal. This spacing exceeds ODOT's 1,320-foot access spacing, but in doing so provides limited storage for a new southbound left-turn bay despite the adopted planning efforts that were in place and had identified this needed connection. If Stanfield Avenue were located at 1,320 feet from the ramp terminal the necessary southbound left-turn storage could be acquired without changes to roadway striping or impacts to the bridge structure. To provide the necessary southbound left-turn storage bay the two following options were identified:

- Narrow the inside through lanes to 11-feet and the outside lanes to 12-feet. Provide a 14-foot wide center turn lane, leaving five-foot shoulders along the structure. This design would require a separate structure to cross the Stanfield Drain as part of any future multi-use pathway. However, provision of a separate ped/bike structure would provide a more comfortable and desirable route compared to travel along the US 395 shoulder.
- Relocate Stanfield Avenue south to provide 1,320 feet of spacing from the center of the westbound ramp terminal and modify the raised median to maintain the current northbound left-turn storage bay length. This intersection relocation will comply with ODOT spacing standards and accommodate an approximately 350-foot southbound left-turn storage bay.

In addition to identifying a location suitable to provide the lane configurations required to serve the industrial lands, capacity needs were also reviewed. Without improvements the existing stop-control will be unable to serve trucks accessing US 395 from either side of the highway. Prior plans have identified a need for signalization when warranted, which would require increasing the overall intersection volumes by 50 percent to achieve (to meet Warrant 1 Condition A thresholds), or increasing the mainline US 395 volumes by 40 percent (to meet Warrant 1 Condition B thresholds).

Review of the forecast UGB build-out volumes shows that signalization of the intersection maintaining a five-lane cross-section on US 395 and three-lane section on Stanfield Avenue provides adequate long-term capacity to serve travel demands. 95th percentile left-turn queues can be accommodated within the existing turn bays. The new approaches should include a new southbound left-turn bay with a minimum storage length of 300 feet, and the westbound approach should provide a minimum left-turn storage bay length of 250 feet.

Installation of a new traffic signal on the US 395 corridor should also include driver awareness treatments as there are no other signals in the site vicinity today. This could include Signal Ahead signs, reflectorized signal backplates, and auxiliary signal heads that are visible from behind semi-trucks. As part of urbanization, ODOT standards will also include installation of marked crosswalks on all sides of the intersection, pedestrian push buttons with accessible landings and ramps, and overhead illumination. It is recommended that the signal include protected and permissive left-turn signal displays with flashing yellow arrows, which will allow time of day flexibility with left-turn control. If a signal is installed, communication equipment should also be provided to allow ODOT staff the ability to remotely view conditions and settings, and to provide future interconnect to the ramp terminal intersections. Passenger car U-turn provisions may also be useful in conjunction with the future restricted access to the south.

While signalization has previously been identified as the long-range traffic control improvement at Stanfield Avenue, ODOT policies require that an analysis also assess the feasibility of a roundabout based on the higher overall safety benefits. For this analysis, it was assumed that the highway approaches would maintain two through lanes, and the Stanfield Avenue approaches would be single-lane approaches. This configuration could accommodate forecast demands with the mainline approaches operating below 60 percent of the intersection's capacity, and side-streets operating at nearly 75 percent of their capacity.

The primary geometric and functional benefits of a roundabout is that the four-lane highway bridge section and location of Stanfield Avenue could be maintained, and it would easily accommodate U-turns, allowing motorists using the restricted access opposite the Pilot Travel Center passenger car entrance to return to the freeway. In addition, the roundabout would not require meeting MUTCD signal warrants to install, potentially allowing it to serve the truck needs much sooner.

Ultimately, the selection of either a traffic signal or a roundabout could adequately serve travel demands at a four-legged Stanfield Avenue intersection with US 395. While the up-front costs of a multi-lane roundabout are likely higher than those of a traffic signal, there may be additional grant or partnership opportunities to help bridge the funding gap. The specific design needs of either treatment would be developed within a Design Acceptance Package (DAP) process and would be subject to the design standards in place at the time.

Restricted Access Review

Future access opposite the Pilot Travel Center left-in, right-in, right-out will not allow minor street left-turns toward the I-84 ramps. Operationally a left-in access toward the east would function acceptably, and depending on the ultimate land uses could help to separate passenger cars from trucks similar to what occurs at the Pilot Travel Center, providing more efficient operations at the future Stanfield Avenue intersection if signalized. The decision of whether the left-in is permitted should be made following the design of the southbound Stanfield Avenue left-turn lane, as a southerly relocation of Stanfield Avenue and the northbound left-turn lane could preclude the left-in opportunity.

TRANSPORTATION PLANNING RULE COMPLIANCE

OAR Section 660-012-0060 of the Transportation Planning Rule (TPR) sets forth the relative criteria for evaluating plan and land use regulation amendments. Table 12 summarizes the criteria in Section 660-012-0060 and the applicability to the proposed rezone application.

Table 12. Summary of Criteria in OAR 660-012-0060

Section	Criteria	Applicable?
1	Describes how to determine if a proposed land use action results in a significant impact.	Yes
2	Describes measures for complying with Criteria #1 where a significant impact is determined.	Yes
3	Describes measures for complying with Criteria #1 and #2 without assuring that the allowed land uses are consistent with the function, capacity and performance standards of the facility.	No
4	Determinations under Criteria #1, #2, and #3 are coordinated with other local agencies.	Yes
5	Indicates that the presence of a transportation facility shall not be the basis for an exception to allow development on rural lands.	No
6	Indicates that local agencies should credit developments that provide a reduction in trips.	No
7	Outlines requirements for a local street plan, access management plan, or future street plan.	Yes
8	Defines a mixed-use, pedestrian-friendly neighborhood.	No
9	Outlines requirements under which a local government may find that an amendment to a zoning map does not significantly affect an existing and planned transportation facility.	No
10	Outlines requirements under which a local government may amend a plan without applying performance standards related to motor vehicle traffic congestion, delay or travel time.	No
11	Outlines requirements under which a local government may approve an amendment with partial mitigation.	Not Requested

As noted in Table 12, there are eleven criteria that apply to Plan and Land Use Regulation Amendments. Of these, Criteria #1, #2, and #4 are applicable to the proposed land use action. In addition, Section 11 (partial mitigation for industrial/traded sector jobs) could be applied for if required. Criteria #1 and #2 are

provided below in italics with responses shown in standard font. Criteria #4 is summarized in Table 4 with a response provided in the “*applicable*” column.

OAR 660-012-0060 (1) Where an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule, to assure that allowed land uses are consistent with the identified function, capacity, and performance standards (e.g. level of service, volume-to-capacity ratio, etc.) of the facility. A plan or land use regulation amendment significantly affects a transportation facility if it would:

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);

(b) Change standards implementing a functional classification system; or

(c) As measured at the end of the planning period identified in the adopted transportation system plan:

(A) Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

Response: The proposed UGB land exchange provides negligible regional impacts on the transportation system. The trip generation potential of the existing and proposed lands are similar, and the difference in locations provides the potential to reduce the trip length required along US 395 to access the industrial lands. The types of travel are consistent with the identified facility classifications, and access is consistent with the findings and recommendations of the adopted IAMP.

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standard identified in the TSP or comprehensive plan; or

Response: Capacity needs were previously identified within the study area as part of the IAMP. These include improvements to the I-84 Eastbound Ramp terminal with US 395 and improvements at the US 395/Stanfield Avenue intersection. The previously identified access management strategies and improvements remain adequate to serve area needs through the planning horizon. The proposed land exchange does not change the necessary sizing or control types of identified improvements.

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standard identified in the TSP or comprehensive plan.

Response: Area intersections are forecast to meet performance standards through the planning horizon. Revised analysis as part of this UGB amendment identified that additional minor transportation improvements may be required at the I-84 eastbound ramp terminal with US 395 beyond those identified within the IAMP to meet the previously projected UGB build-out demands. These needs are a result of corrections to the IAMP analysis and not the UGB

amendment and based on current TPAU travel projections are unlikely to be required within the planning horizon.

OAR 660-012-0060 (2) Where a local government determines that there would be a significant effect, compliance with section (1) shall be accomplished through one or a combination of the following unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule. A local government using subsection (2)(e), section (3), section (10) or section (11) to approve an amendment recognizes that additional motor vehicle traffic congestion may result and that other facility providers would not be expected to provide additional capacity for motor vehicles in response to this congestion.

(a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.

(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.

(c) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.

(d) Providing other measures as a condition of development or through a development agreement or similar funding method, including but not limited to transportation system management measures or minor transportation improvements. Local governments shall as part of the amendment, specify when measures or improvements provided pursuant to this subsection will be provided.

(e) Providing improvements that would benefit modes other than the significantly affected mode, improvements to facilities other than the significantly affected facility, or improvements at other locations, if the provider of the significantly affected facility provides a written statement that the system-wide benefits are sufficient to balance the significant effect, even though the improvements would not result in consistency for all performance standards.

Response: The previously identified improvements are anticipated to meet area needs throughout the planning horizon with the access management strategies identified within the IAMP. Further refinement of the recommended improvements within the IAMP (and City TSP) may be appropriate to respond to current ODOT policies and to accommodate the previously identified intersection design needs. These design issues would also be required with the current UGB, and do not represent a change as part of the proposed UGB land exchange.

(4) Determinations under sections (1) - (3) of this rule shall be coordinated with affected transportation facility and service providers and other affected local governments.

(a) In determining whether an amendment has a significant effect on an existing or planned transportation facility under subsection (1)(c) of this rule, local governments shall

rely on existing transportation facilities and services and on the planned transportation facilities, improvements and services set forth in subsections (b) and (c) below.

(c) Within interstate interchange areas, the improvements included in (b)(A)–(C) are considered planned facilities, improvements and services, except where:

(A) ODOT provides a written statement that the proposed funding and timing of mitigation measures are sufficient to avoid a significant adverse impact on the Interstate Highway system, then local governments may also rely on the improvements identified in paragraphs (b)(D) and (E) of this section; or

(B) There is an adopted interchange area management plan, then local governments may also rely on the improvements identified in that plan and which are also identified in paragraphs (b)(D) and (E) of this section.

Response: The materials presented within this letter have been scoped and prepared in accordance with ODOT procedures, and in review of the adopted IAMP. There are several improvements identified within the IAMP to serve the current UGB, and these general improvements will provide adequate capacity to support the proposed UGB land exchange. As identified within this report, an update to the IAMP is recommended for the following reasons:

- To respond to current ODOT mobility targets;
- To revise the analysis prepared for the US 395/I-84 Eastbound Ramp Terminal;
- To address current ODOT policies related to safety, mobility, and roundabouts; and
- To address the geometric constraints in implementing the previously recommended mitigation measures.

FINDINGS AND RECOMMENDATIONS

This section describes the overall findings and recommendations of the proposed UGB Amendment. A summary of these recommendations is provided in Figure 10.

- The City's UGB was coordinated with the State to support forecast population and employment growth. However, acreage along the BNSF rail line is unlikely to serve as productive industrial land due to the ownership, narrow parcel shape, and slopes. The proposed land exchange will incorporate an equivalent acreage of land that is readily developable and situated near the I-84 and US 395 corridors.
- Trip generation comparison of the proposed UGB amendment shows that the trip generation potential of both sites is similar. The location of the current industrial lands near the BNSF mainline and farther from the I-84 corridor are likely to increase the trip lengths, particularly for heavy trucks. The proposed UGB amendment will situate the industrial lands adjacent to the I-84 corridor.
- A detailed review was conducted to ensure that the UGB amendment could be served by the existing and planned transportation infrastructure identified within the adopted IAMP.



Figure 10. Summary of Findings and Recommendations

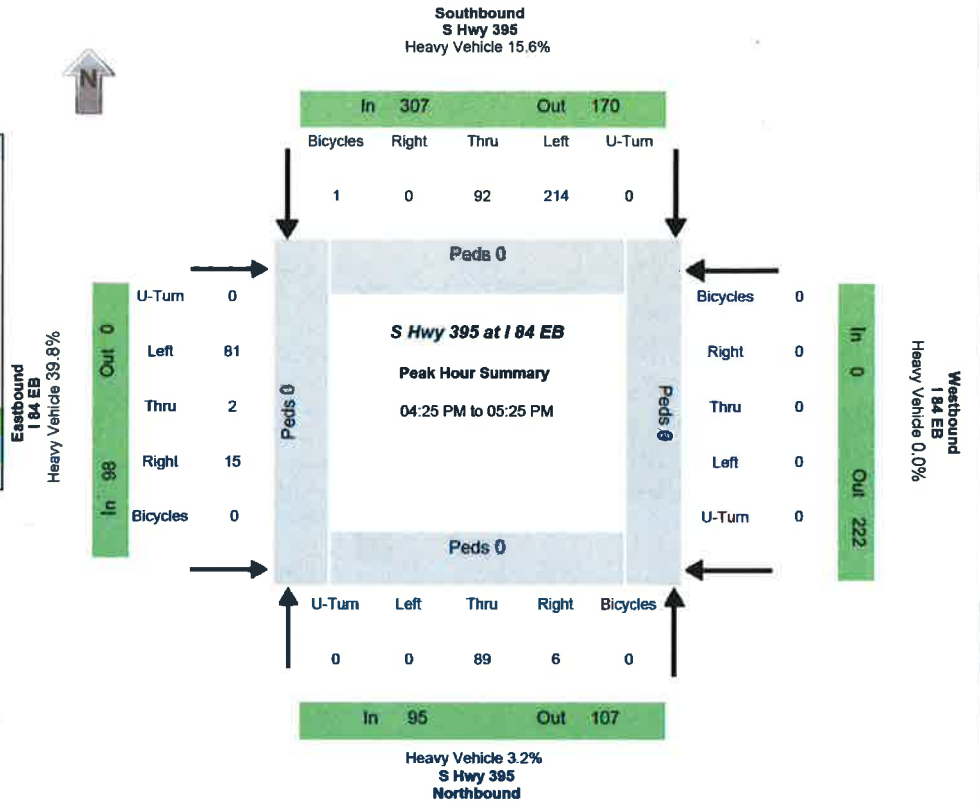
- The IAMP prepared in 2005 projected much higher growth rates than the historical trends that followed its adoption. The change in forecasts reduces the need, scale, and timing of improvements. Further, since the adoption of the IAMP, ODOT policies related to roundabouts, mobility targets, safety, and multimodal provisions have been revised. While the IAMP provides a long-range assessment of interchange access strategies, specific projects and timing will need to be revisited as part of future development.
- As part of the UGB Amendment, refinements to the IAMP (consistent with the general recommendations) are necessary to address functional area needs required to appropriately implement the study recommendations. These include the following:
 - To serve existing UGB lands and amended UGB lands east of US 395, Irwin Road should be closed as part of any initial development, and an eastern extension of Stanfield Avenue should serve as the primary access to these lands.
 - Improvements are required at the US 395/Stanfield Avenue intersection to serve long-term needs. This could either take the form of a multi-lane roundabout or a traffic signal. The ultimate selection of an intersection treatment could be based on available grants, private/public funding partnerships, and coordination with a wide range of modal and jurisdictional stakeholders.
 - If signalization of the US 395/Stanfield Avenue intersection is selected (as identified in the current IAMP and TSP), this will require the provision of a three-lane cross-section to the east (to provide separate left- and through/right-turn lanes) and a new southbound left-turn lane along US 395. The new southbound left-turn lane should provide a minimum storage length of 250 feet, but with the truck demands a longer storage bay would be preferred. The ability to develop a southbound left-turn bay is limited by the proximity to the four-lane (70-foot width) bridge over the Stanfield Drain to the north. To provide the necessary southbound left-turn storage bay, the Stanfield Avenue intersection should either be relocated to the south (to 1,320 feet to maintain ODOT interstate interchange spacing standards), or striping changes will be required along the bridge that will narrow the existing shoulders. This decision should consider potential modifications to adopted plans for a multi-use trail system along US 395 and could require either bridge widening or separate bicycle and pedestrian bridges along the corridor. Consistent with the recommendations within the IAMP, signalization would occur when warranted.
 - If a roundabout is selected (consistent with ODOT's current "roundabout first" policies) the multilane design should accommodate a four-lane section along US 395 (with raised splitter islands) and single-lane approaches from Stanfield Avenue. Appropriate freight accommodations will be critical within this design, both to accommodate over-dimensional loads and to allow typical interstate trucks to maintain their own lane while maneuvering through the roundabout.
 - Signalization of the US 395/I-84 eastbound ramps in their current configuration (as identified within the IAMP) is not adequate to accommodate the forecast demands with or without the UGB amendment. If the high projected demands for southbound to I-84 eastbound travel are realized, the intersection will require additional turn lanes or a modified partial cloverleaf interchange design. As noted above, the demand projections within the IAMP are significantly higher than historical or projected area growth trends. Updates to the IAMP are recommended to address this deficiency. Signalization with the existing configuration could accommodate 210% overall intersection volume growth, which is expected to meet area demands beyond the planning horizon.

- While projected to meet ODOT mobility standards, high left-turn delays are forecast at the US 395/I-84 westbound ramps based on the travel projections within the IAMP with or without the UGB amendment. The increased delays are dependent on growth toward the south within Echo and may not fully materialize within the planning horizon based on historical and current forecast travel projections. The provision of a roundabout at the US 395/Stanfield Avenue intersection could provide mitigation by supporting a U-turn, providing a travel alternative for peak period left-turn demands.
- The restricted access opposite the Pilot Travel Center passenger car access is anticipated to serve right-in, right-out movements. The ability to also serve left-in maneuvers from the north will be dependent on the ultimate location of the Stanfield Avenue intersection. If the intersection is relocated to the south to accommodate a new southbound left-turn bay for the signalized US 395/Stanfield Avenue intersection the remaining median space may be inadequate to accommodate the southbound left-in maneuver.

The proposed UGB amendment does not significantly impact the transportation system as it does not change area needs or improvements. However, changes in ODOT policies, functional geometric requirements to implement the IAMP recommendations, and significantly lower historical and projected travel projections along the US 395 corridor indicate that the need and timing of improvements may be delayed beyond the original forecasts. In addition, as development occurs it is expected that further refinement of the improvement designs will be required to fully address the multimodal and geometric needs.

Data Provided by K-D-N.com 503-594-4224

N/S street	S Hwy 395
E/W street	I 84 EB
City, State	Stanfield OR
Site Notes	
Location	45.761742 - -119.203263
Start Date	Wednesday, September 27, 2017
Start Time	04:00:00 PM
Weather	
Study ID #	116501
Peak Hour Start	04:25:00 PM
Peak 15 Min Start	05:05:00 PM
PHF (15-Min Int)	0.85



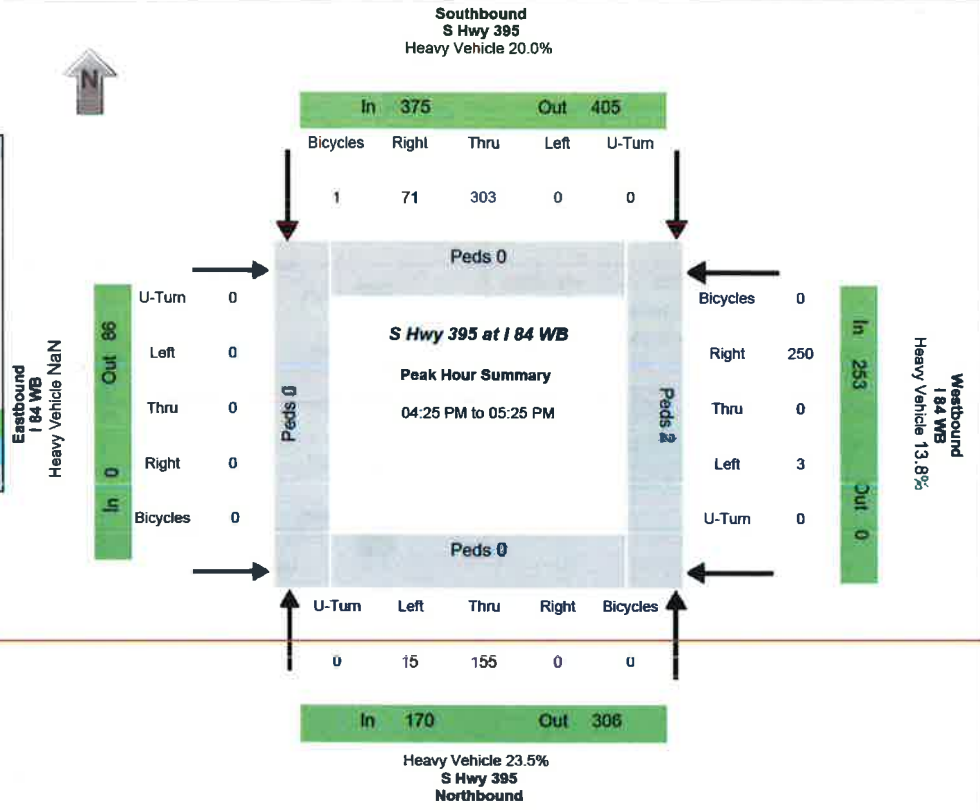
Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	89	6	0	214	92	0	0	81	2	15	0	0	0	0	0	95	306	98	0	107	170	0	222
Percent Heavy Vehicles																							
0.0%	2.2%	16.7%	0.0%	21.0%	3.3%	0.0%	0.0%	46.8%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	15.7%	39.8%	0.0%	2.8%	23.5%	NaN	21.2%

PHV - Bicycles												PHV - Pedestrians									
Northbound				Southbound				Eastbound				Westbound				in Crosswalk					
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

Time	Northbound S Hwy 395				Southbound S Hwy 395				Eastbound I 84 EB				Westbound I 84 EB				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
04:00:00 PM	0	10	2	0	18	6	0	0	9	0	1	0	0	0	0	0		
04:05:00 PM	0	19	1	0	30	8	0	0	11	0	0	0	0	0	0	0		
04:10:00 PM	0	5	0	0	20	5	0	0	6	0	1	0	0	0	0	0	152	
04:15:00 PM	0	5	1	0	12	5	0	0	2	0	1	0	0	0	0	0	132	
04:20:00 PM	0	6	0	0	8	5	0	0	1	0	2	0	0	0	0	0	85	
04:25:00 PM	0	5	1	0	27	6	0	0	7	0	0	0	0	0	0	0	94	
04:30:00 PM	0	8	0	0	18	13	0	0	9	0	2	0	0	0	0	0	118	
04:35:00 PM	0	8	0	0	17	3	0	0	6	0	0	0	0	0	0	0	130	
04:40:00 PM	0	6	2	0	14	8	0	0	6	0	2	0	0	0	0	0	122	
04:45:00 PM	0	10	0	0	20	7	0	0	7	0	3	0	0	0	0	0	119	
04:50:00 PM	0	5	0	0	8	4	0	0	10	0	0	0	0	0	0	0	112	
04:55:00 PM	0	12	1	0	8	4	0	0	7	1	3	0	0	0	0	0	110	478
05:00:00 PM	0	10	1	0	18	5	0	0	2	0	0	0	0	0	0	0	99	468
05:05:00 PM	0	12	0	0	18	11	0	0	10	0	0	0	0	0	0	0	123	450
05:10:00 PM	0	6	0	0	21	10	0	0	8	1	2	0	0	0	0	0	135	461
05:15:00 PM	0	6	1	0	19	15	0	0	5	0	2	0	0	0	0	0	147	483
05:20:00 PM	0	1	0	0	26	6	0	0	4	0	1	0	0	0	0	0	134	499
05:25:00 PM	0	9	0	0	12	1	0	0	5	1	2	0	0	0	0	0	116	483
05:30:00 PM	0	10	0	0	20	6	0	0	4	0	0	0	0	0	0	0	108	473
05:35:00 PM	0	7	0	0	15	15	0	0	8	0	0	0	0	0	0	0	115	484
05:40:00 PM	0	12	0	0	18	5	0	0	4	0	0	0	0	0	0	0	124	485
05:45:00 PM	0	6	0	0	14	5	0	0	5	0	0	0	0	0	0	0	114	468
05:50:00 PM	0	5	0	0	9	3	0	0	6	0	4	0	0	0	0	0	96	468
05:55:00 PM	0	6	2	0	18	9	0	0	2	0	4	0	0	0	0	0	98	473

Data Provided by K-D-N.com 503-594-4224

N/S street	S Hwy 395
E/W street	I 84 WB
City, State	Stanfield OR
Site Notes	
Location	45.764017 - -119.204546
Start Date	Wednesday, September 27, 2017
Start Time	04:00:00 PM
Weather	
Study ID #	116502
Peak Hour Start	04:25:00 PM
Peak 15 Min Start	05:10:00 PM
PHF (15-Min Int)	0.91



Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
15	155	0	0	0	303	71	0	0	0	0	0	3	0	250	0	170	374	0	253	306	405	86	0

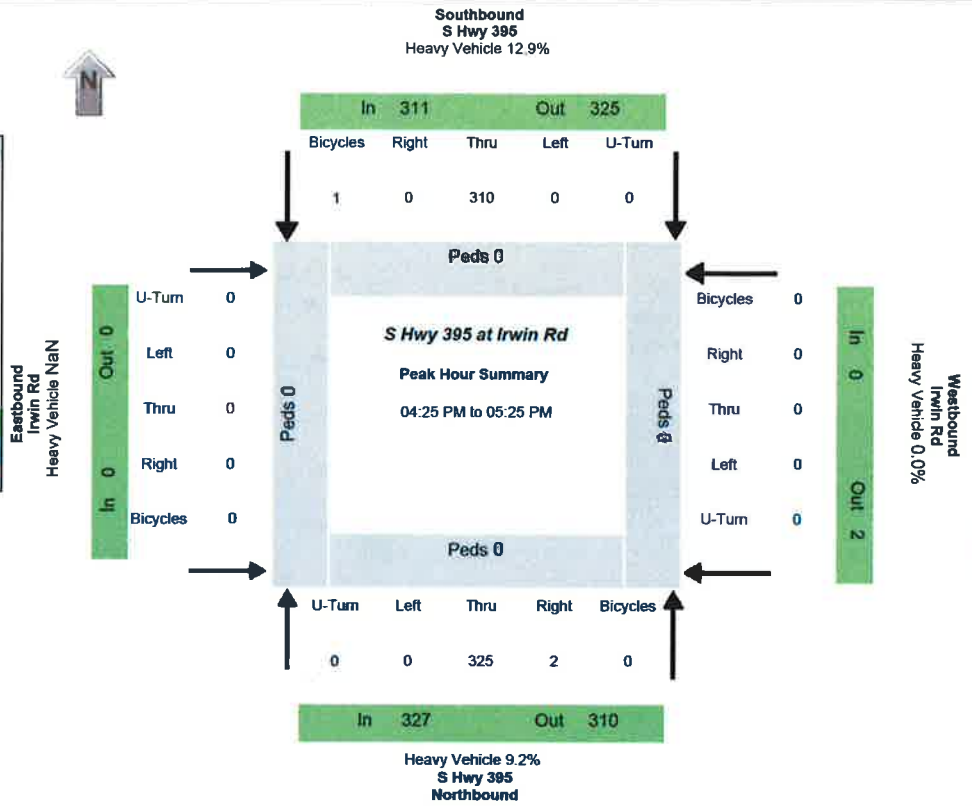
Percent Heavy Vehicles																							
6.7%	25.2%	0.0%	0.0%	0.0%	15.8%	38.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.0%	0.0%	23.5%	20.1%	NaN	13.8%	15.7%	18.3%	32.6%	0.0%

PHV - Bicycles																PHV - Pedestrians					
Northbound				Southbound				Eastbound				Westbound				in Crosswalk					
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	2

Time	Northbound S Hwy 395				Southbound S Hwy 395				Eastbound I 84 WB				Westbound I 84 WB				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
04:00:00 PM	0	19	0	0	0	23	4	0	0	0	0	0	1	0	30			
04:05:00 PM	1	29	0	0	0	38	9	0	0	0	0	0	0	0	27			
04:10:00 PM	0	11	0	0	0	25	4	0	0	0	0	0	0	0	17	238		
04:15:00 PM	2	5	0	0	0	17	12	0	0	0	0	0	0	2	30	229		
04:20:00 PM	0	7	0	0	0	13	4	0	0	0	0	0	0	0	15	164		
04:25:00 PM	0	11	0	0	0	33	3	0	0	0	0	0	0	0	21	175		
04:30:00 PM	3	14	0	0	0	30	7	0	0	0	0	0	1	0	24	186		
04:35:00 PM	2	12	0	0	0	20	7	0	0	0	0	0	0	0	19	207		
04:40:00 PM	2	10	0	0	0	22	5	0	0	0	0	0	0	0	20	198		
04:45:00 PM	0	17	0	0	0	25	9	0	0	0	0	0	1	0	22	193		
04:50:00 PM	0	15	0	0	0	12	5	0	0	0	0	0	1	0	18	182		
04:55:00 PM	2	16	0	0	0	12	5	0	0	0	0	0	0	0	22	182	793	
05:00:00 PM	2	10	0	0	0	23	5	0	0	0	0	0	0	0	23	171	779	
05:05:00 PM	1	21	0	0	0	29	3	0	0	0	0	0	0	0	14	190	743	
05:10:00 PM	1	13	0	0	0	31	6	0	0	0	0	0	0	0	12	194	749	
05:15:00 PM	1	10	0	0	0	34	8	0	0	0	0	0	0	0	21	203	753	
05:20:00 PM	1	4	0	0	0	32	10	0	0	0	0	0	0	0	36	218	797	
05:25:00 PM	1	13	0	0	0	13	3	0	0	0	0	0	0	0	16	201	775	
05:30:00 PM	1	13	0	0	0	25	6	0	0	0	0	0	1	0	30	205	772	
05:35:00 PM	2	13	0	0	0	30	3	0	0	0	0	0	0	0	12	182	772	
05:40:00 PM	3	13	0	0	0	23	4	0	0	0	0	0	0	0	21	200	777	
05:45:00 PM	1	10	0	0	0	18	6	0	0	0	0	0	1	0	17	177	756	
05:50:00 PM	2	9	0	0	0	12	2	0	0	0	0	0	0	0	17	159	749	
05:55:00 PM	1	7	0	0	0	26	6	0	0	0	0	0	1	0	12	148	743	

Data Provided by K-D-N.com 503-594-4224

N/S street	S Hwy 395
E/W street	Irwin Rd
City, State	Stanfield OR
Site Notes	
Location	45.76923 -119.204823
Start Date	Wednesday, September 27, 2017
Start Time	04:00:00 PM
Weather	
Study ID #	116505
Peak Hour Start	04:25:00 PM
Peak 15 Min Start	05:10:00 PM
PHF (15-Min Int)	0.90



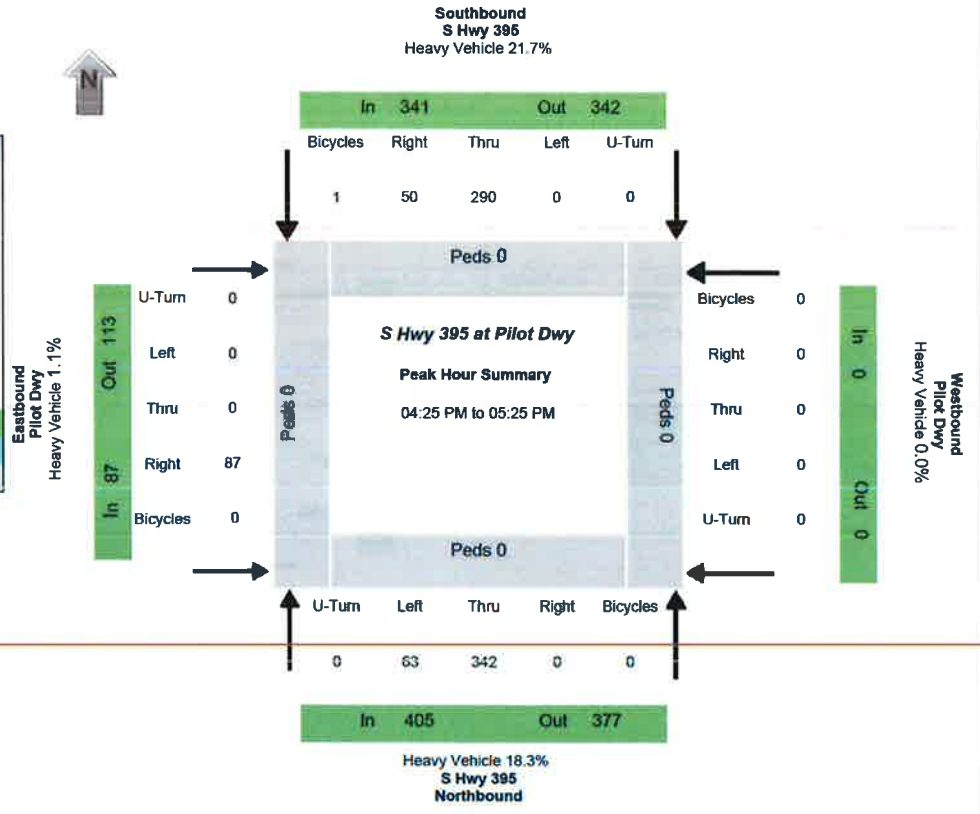
Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	325	2	0	0	310	0	0	0	0	0	0	0	0	0	0	327	310	0	0	310	325	0	2
Percent Heavy Vehicles																							
0.0%	9.2%	0.0%	0.0%	0.0%	12.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.2%	12.0%	NaN	0.0%	12.9%	9.2%	NaN	0.0%

PHV - Bicycles												PHV - Pedestrians									
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

Time	Northbound S Hwy 395				Southbound S Hwy 395				Eastbound Irwin Rd				Westbound Irwin Rd				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
04:00:00 PM	0	44	1	0	0	20	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	45	0	0	0	38	0	0	0	0	0	0	0	0	0	0		
04:10:00 PM	0	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0	188	
04:15:00 PM	0	32	1	0	0	23	0	0	0	0	0	0	0	0	0	0	179	
04:20:00 PM	0	18	0	0	0	16	0	0	0	0	0	0	0	0	0	0	130	
04:25:00 PM	0	18	0	0	0	25	0	0	0	0	0	0	0	0	0	0	133	
04:30:00 PM	0	29	0	0	0	25	0	0	0	0	0	0	0	0	0	0	131	
04:35:00 PM	0	21	0	0	0	30	0	0	0	0	0	0	0	0	0	0	145	
04:40:00 PM	0	28	0	0	0	24	0	0	0	0	0	0	0	0	0	0	157	
04:45:00 PM	0	35	0	0	0	24	0	0	0	0	0	0	0	0	0	0	162	
04:50:00 PM	0	28	0	0	0	10	0	0	0	0	0	0	0	0	0	0	149	
04:55:00 PM	0	32	1	0	0	13	0	0	0	0	0	0	0	0	0	0	143	621
05:00:00 PM	0	30	1	0	0	27	0	0	0	0	0	0	0	0	0	0	142	614
05:05:00 PM	0	25	0	0	0	34	0	0	0	0	0	0	0	0	0	0	163	590
05:10:00 PM	0	22	0	0	0	31	0	0	0	0	0	0	0	0	0	0	170	603
05:15:00 PM	0	21	0	0	0	32	0	0	0	0	0	0	0	0	0	0	165	600
05:20:00 PM	0	36	0	0	0	35	0	0	0	0	0	0	0	0	0	0	177	637
05:25:00 PM	0	21	0	0	0	18	0	0	0	0	0	0	0	0	0	0	163	633
05:30:00 PM	0	33	0	0	0	25	0	0	0	0	0	0	0	0	0	0	168	637
05:35:00 PM	0	20	0	0	0	28	0	0	0	0	0	0	1	0	0	0	146	635
05:40:00 PM	0	30	0	0	0	24	0	0	0	0	0	0	0	0	0	0	161	637
05:45:00 PM	0	29	0	0	0	11	0	0	0	0	0	0	0	0	0	0	143	618
05:50:00 PM	0	13	0	0	0	12	0	0	0	0	0	0	0	0	0	0	119	605
05:55:00 PM	0	19	0	0	0	28	0	0	0	0	0	0	0	0	0	0	112	606

Data Provided by K-D-N.com 503-594-4224

N/S street	S Hwy 395
E/W street	Pilot Dwy
City, State	Stanfield OR
Site Notes	
Location	45.765841 - -119.204678
Start Date	Wednesday, September 27, 2017
Start Time	04:00:00 PM
Weather	
Study ID #	116503
Peak Hour Start	04:25:00 PM
Peak 15 Min Start	05:10:00 PM
PHF (15-Min Int)	0.90



Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
63	342	0	0	0	290	50	0	0	0	87	0	0	0	0	0	405	340	87	0	377	342	113	0

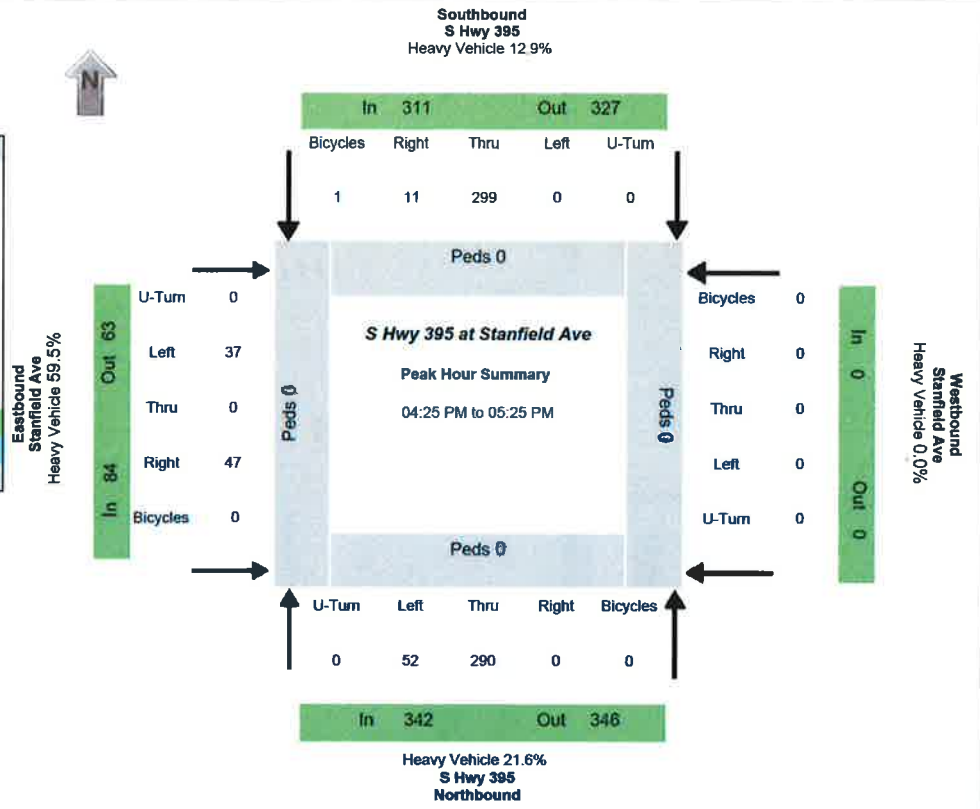
Percent Heavy Vehicles																							
0.0%	21.6%	0.0%	0.0%	0.0%	25.5%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	18.3%	21.8%	1.1%	0.0%	19.9%	21.6%	0.0%	0.0%

PHV - Bicycles														PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				in Crosswalk					
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

Time	Northbound S Hwy 395				Southbound S Hwy 395				Eastbound Pilot Dwy				Westbound Pilot Dwy				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
04:00:00 PM	1	48	0	0	0	21	2	0	0	0	6	0	0	0				
04:05:00 PM	8	48	0	0	0	40	2	0	0	0	7	0	0	0				
04:10:00 PM	3	18	0	0	0	24	2	0	0	0	5	0	0	0	235			
04:15:00 PM	5	37	0	0	0	17	11	0	0	0	12	0	0	0	239			
04:20:00 PM	7	15	0	0	0	13	3	0	0	0	4	0	0	0	176			
04:25:00 PM	7	25	0	0	0	28	3	0	0	0	8	0	0	0	195			
04:30:00 PM	10	28	0	0	0	30	3	0	0	0	7	0	0	0	191			
04:35:00 PM	8	23	0	0	0	24	5	0	0	0	3	0	0	0	212			
04:40:00 PM	3	27	0	0	0	19	6	0	0	0	8	0	0	0	204			
04:45:00 PM	3	37	0	0	0	24	4	0	0	0	9	0	0	0	203			
04:50:00 PM	4	26	0	0	0	8	2	0	0	0	10	0	0	0	190			
04:55:00 PM	5	35	0	0	0	13	1	0	0	0	4	0	0	0	185	819		
05:00:00 PM	5	28	0	0	0	26	0	0	0	0	5	0	0	0	172	805		
05:05:00 PM	6	29	0	0	0	27	9	0	0	0	5	0	0	0	198	776		
05:10:00 PM	2	23	0	0	0	26	7	0	0	0	11	0	0	0	209	793		
05:15:00 PM	5	26	0	0	0	31	5	0	0	0	9	0	0	0	221	787		
05:20:00 PM	5	35	0	0	0	34	5	0	0	0	8	0	0	0	232	832		
05:25:00 PM	7	22	0	0	0	12	7	0	0	0	4	0	0	0	215	813		
05:30:00 PM	5	38	0	0	0	25	2	0	0	0	6	0	0	0	215	811		
05:35:00 PM	7	18	0	0	0	25	7	0	0	0	8	0	0	0	193	813		
05:40:00 PM	4	30	0	0	0	23	3	0	0	0	4	0	0	0	205	814		
05:45:00 PM	2	25	0	0	0	17	3	0	0	0	7	0	0	0	183	791		
05:50:00 PM	8	18	0	0	0	11	2	0	0	0	3	0	0	0	160	783		
05:55:00 PM	3	16	0	0	0	26	6	0	0	0	6	0	0	0	152	701		

Data Provided by K-D-N.com 503-594-4224

N/S street	S Hwy 395
E/W street	Stanfield Ave
City, State	Stanfield OR
Site Notes	
Location	45.768346 -119.204835
Start Date	Wednesday, September 27, 2017
Start Time	04:00:00 PM
Weather	
Study ID #	116504
Peak Hour Start	04:25:00 PM
Peak 15 Min Start	05:10:00 PM
PHF (15-Min Int)	0.92

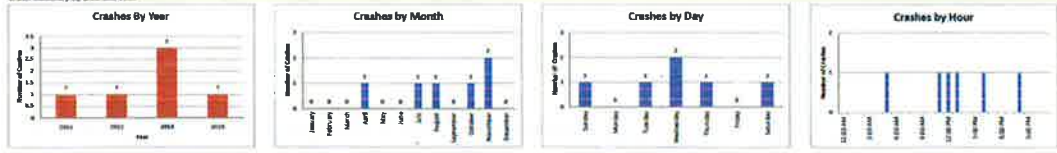


Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
52	290	0	0	0	299	11	0	37	0	47	0	0	0	0	0	342	310	84	0	346	327	63	0
Percent Heavy Vehicles																							
98.1%	7.9%	0.0%	0.0%	0.0%	10.4%	81.8%	0.0%	18.8%	0.0%	91.5%	0.0%	0.0%	0.0%	0.0%	0.0%	21.6%	12.9%	58.5%	0.0%	21.4%	9.2%	95.2%	0.0%

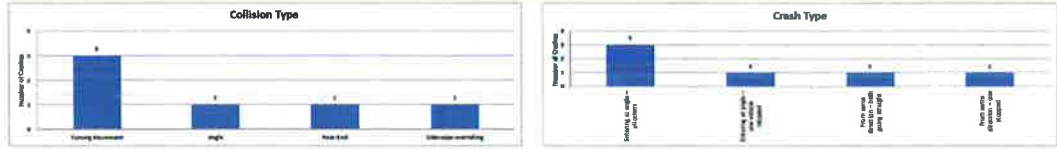
PHV - Bicycles														PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				in Crosswalk					
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

Time	Northbound S Hwy 395				Southbound S Hwy 395				Eastbound Stanfield Ave				Westbound Stanfield Ave				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
04:00:00 PM	6	42	0	0	0	19	1	0	3	0	4	0	0	0				
04:05:00 PM	5	43	0	0	0	38	0	0	2	0	4	0	0	0				
04:10:00 PM	5	13	0	0	0	20	0	0	7	0	6	0	0	0	218			
04:15:00 PM	4	33	0	0	0	23	0	0	0	0	5	0	0	0	208			
04:20:00 PM	0	15	0	0	0	15	1	0	3	0	1	0	0	0	151			
04:25:00 PM	9	16	0	0	0	25	0	0	2	0	6	0	0	0	158			
04:30:00 PM	7	21	0	0	0	24	1	0	8	0	9	0	0	0	163			
04:35:00 PM	6	17	0	0	0	26	4	0	4	0	3	0	0	0	188			
04:40:00 PM	1	26	0	0	0	24	0	0	2	0	1	0	0	0	184			
04:45:00 PM	5	32	0	0	0	22	2	0	3	0	6	0	0	0	184			
04:50:00 PM	4	22	0	0	0	10	0	0	6	0	0	0	0	0	166			
04:55:00 PM	4	31	0	0	0	12	1	0	2	0	2	0	0	0	164	724		
05:00:00 PM	1	27	0	0	0	27	0	0	4	0	5	0	0	0	158	713		
05:05:00 PM	4	25	0	0	0	34	0	0	0	0	2	0	0	0	181	686		
05:10:00 PM	4	19	0	0	0	30	1	0	3	0	3	0	0	0	189	695		
05:15:00 PM	5	21	0	0	0	31	1	0	0	0	5	0	0	0	188	693		
05:20:00 PM	2	33	0	0	0	34	1	0	3	0	5	0	0	0	201	736		
05:25:00 PM	5	17	0	0	0	18	0	0	4	0	1	0	0	0	186	723		
05:30:00 PM	7	31	0	0	0	25	0	0	2	0	2	0	0	0	190	720		
05:35:00 PM	3	15	0	0	0	28	1	0	5	0	4	0	0	0	168	716		
05:40:00 PM	0	30	0	0	0	23	1	0	0	0	3	0	0	0	180	719		
05:45:00 PM	3	22	0	0	0	11	0	0	7	0	9	0	0	0	165	701		
05:50:00 PM	6	12	0	0	0	10	2	0	1	0	3	0	0	0	143	693		
05:55:00 PM	0	16	0	0	0	28	0	0	3	0	3	0	0	0	136	691		

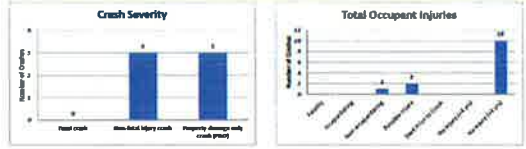
Crash Summary by Date and Time



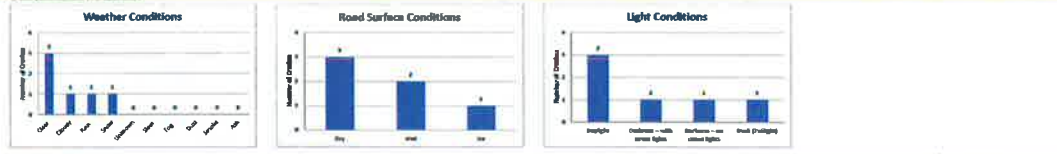
Crash Summary by Type



Crash Severity



Crash Environmental Characteristics



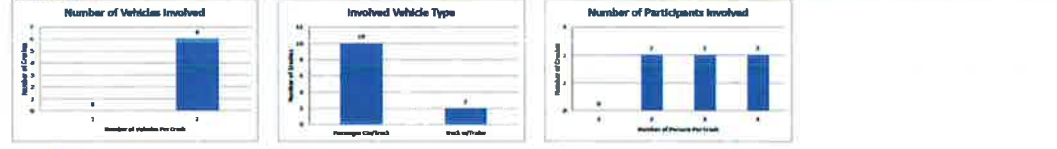
Crash Area Characteristics



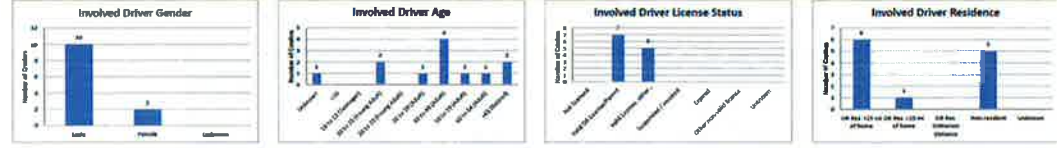
Driving Impairments



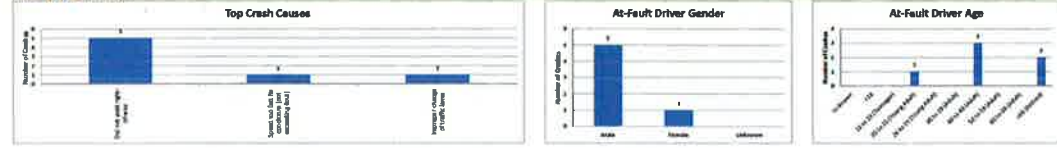
Vehicles and Occupants



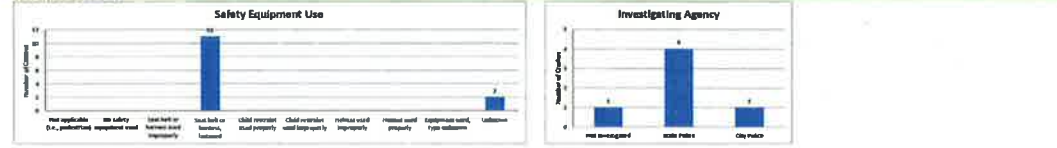
Involved Driver Characteristics



At-Fault Driver Characteristics

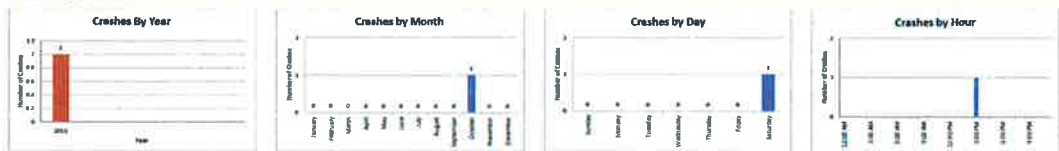


Other Crash Characteristics



Project Name: **Shimada TRM Assessment**
 Project Number: **1006**
 Agency Information: **Shimada County**
 Title/Client: **January 2011 through December 2010**
 Date Prepared: **COOT Crash Analysis Reporting Draft**
 Analyst: **2010**
 Summary Date: **10/26/2017**
 File File Name:
 File Path: **LS Shimada Road (200 Feet Radius)**

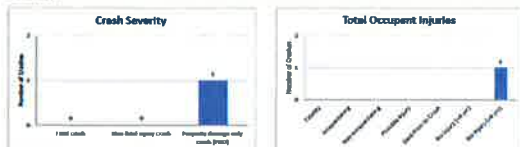
Crash Summary by Date and Time



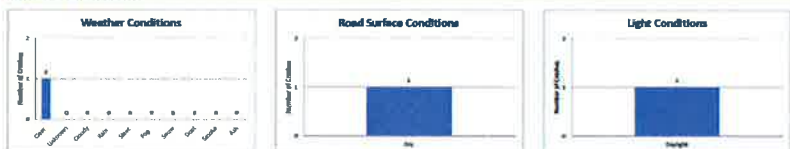
Crash Summary by Type



Crash Severity



Crash Environment Characteristics



Crash Area Characteristics



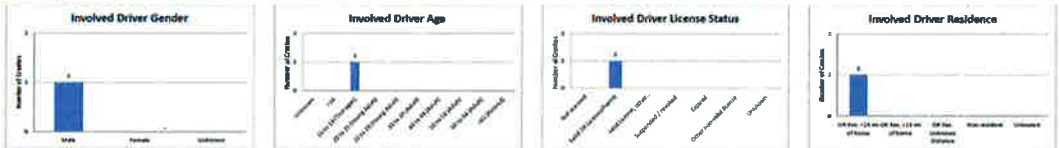
Driving Requirements



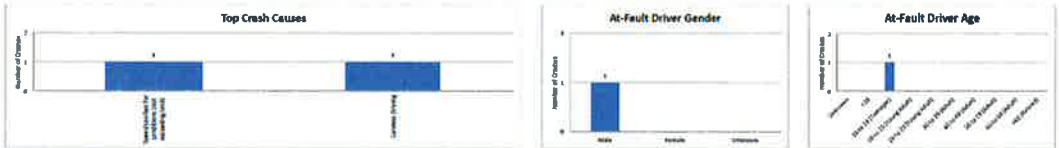
Vehicles and Occupants



Involved Driver Characteristics



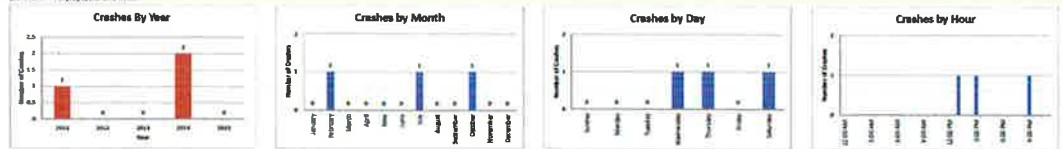
At-Fault Driver Characteristics



Other Crash Characteristics



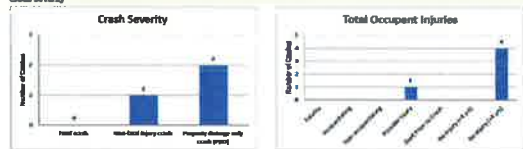
Crash Summary by Date and Time



Crash Summary by Type



Crash Severity



Crash Environmental Characteristics



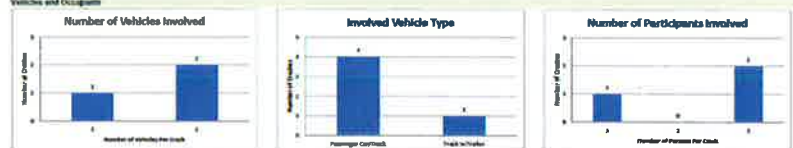
Crash Area Characteristics



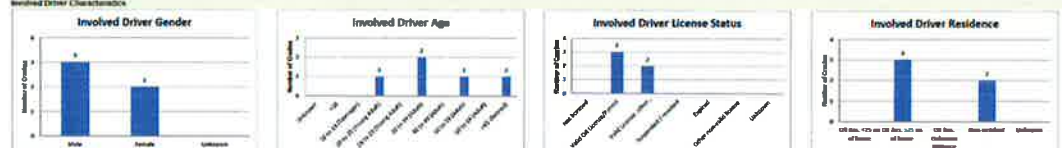
Driving Impairment



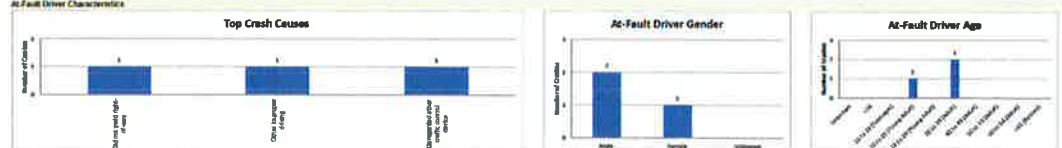
Vehicles and Occupants



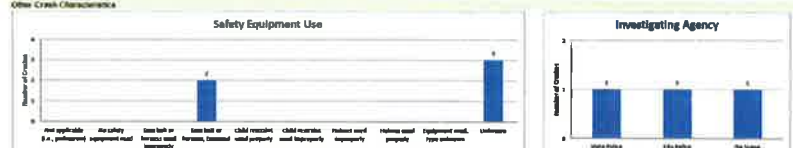
Involved Driver Characteristics



At-Fault Driver Characteristics

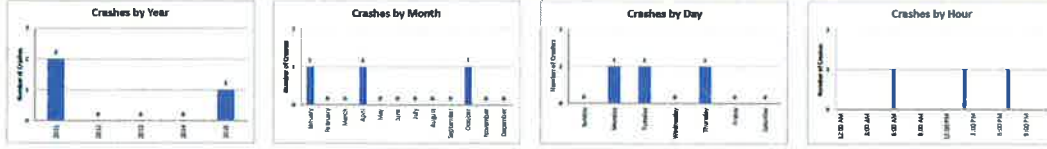


Other Crash Characteristics

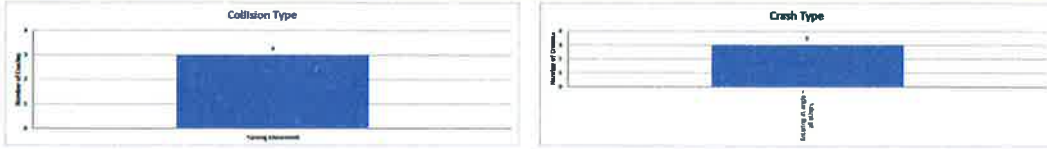


Project Name: Tarrant County Transportation
 Project Number: 1205
 County Information: Unimodal/Central
 Date Started: January 2014 through December 2014
 Data Processed: QDOT Crash Analysis Reporting System
 Agency: Tarrant County
 Summary Date: 05/07/2015
 Test File Name: N/A
 File Path: \\SR-001\shared\reports\QDOT\1205\1205-01-14-15

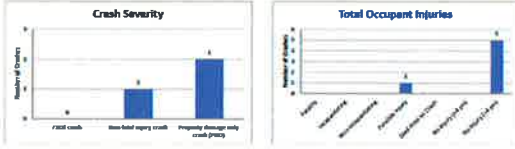
Crash Summary by Date and Time



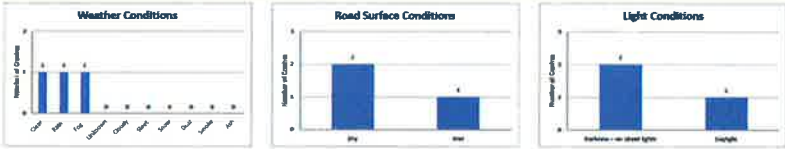
Crash Summary by Type



Crash Severity



Crash Environment Characteristics



Crash Area Characteristics



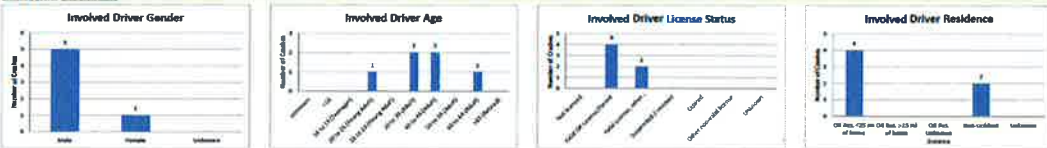
Driving Impairments



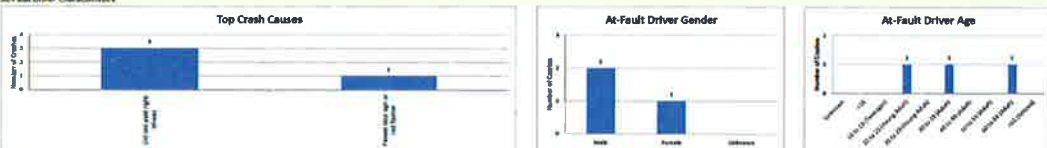
Vehicles and Occupants



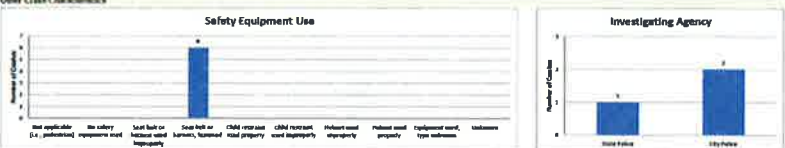
Involved Driver Characteristics



All-Fault Driver Characteristics

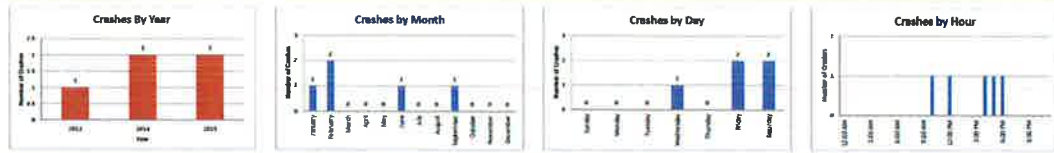


Other Crash Characteristics



Project Name: Southold USB Assessment
 Project Number: 6388
 Query Information: Suffolk County
 Data Question: January 2015 through December 2016
 Data Provider: ODOT Crash Analysis Planning Unit
 Analyst: JBR
 Reporting Date: 10/20/2017
 Test File Name: 149036_2016 Worksheet Review (REV) Test Report
 File Name:

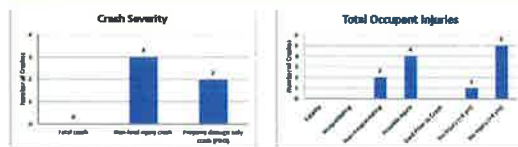
Crash Summary by Date and Time



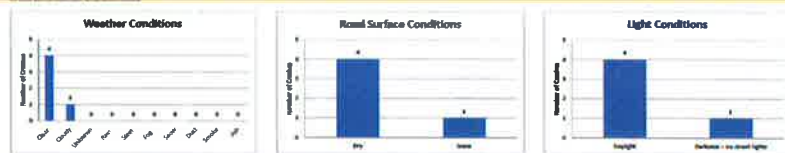
Crash Summary by Type



Crash Severity



Crash Environmental Characteristics



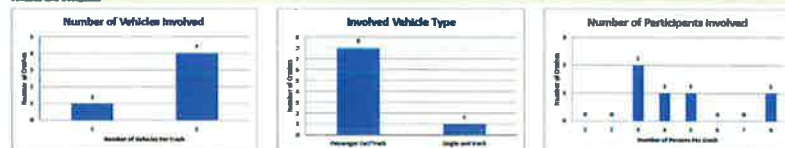
Crash Area Characteristics



Crash Impairments



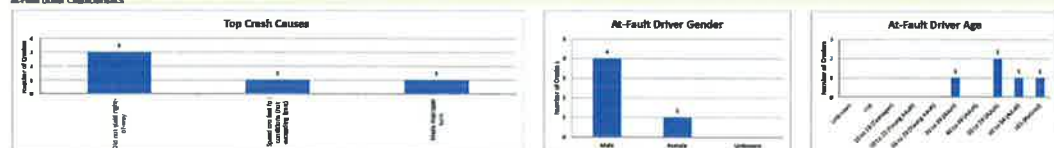
Vehicle and Occupant



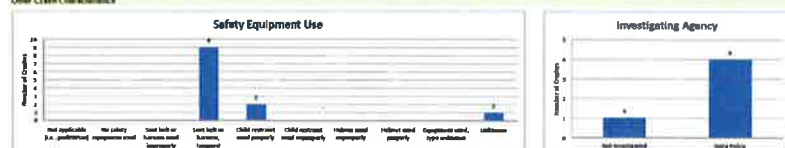
Involved Driver Characteristics



At-Fault Driver Characteristics



Other Crash Characteristics



Existing Conditions
Weekday PM Peak Hour

1: S Hwy 395 & Irwin Rd
10/31/2017

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	340	2	0	311	0
Future Vol, veh/h	0	0	0	0	0	0	0	340	2	0	311	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	11	0	0	13	0
Mvmt Flow	0	0	0	0	0	0	0	378	2	0	346	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	535	726	173	552	725	190	346	0	0	380	0	0
Stage 1	346	346	-	379	379	-	-	-	-	-	-	-
Stage 2	189	380	-	173	346	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	433	354	847	421	354	826	1224	-	-	1190	-	-
Stage 1	649	639	-	620	618	-	-	-	-	-	-	-
Stage 2	800	617	-	818	639	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	433	354	847	421	354	826	1224	-	-	1190	-	-
Mov Cap-2 Maneuver	433	354	-	421	354	-	-	-	-	-	-	-
Stage 1	649	639	-	620	618	-	-	-	-	-	-	-
Stage 2	800	617	-	818	639	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1224	-	-	-	-	1190	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Existing Conditions
Weekday PM Peak Hour

2: S Hwy 395 & Stanfield Avenue
10/31/2017

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↕↕	↕↕	
Traffic Vol, veh/h	38	48	53	297	306	11
Future Vol, veh/h	38	48	53	297	306	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	300	0	325	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	19	91	98	8	10	82
Mvmt Flow	41	52	58	323	333	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	617	173	345	0	-	0
Stage 1	339	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Critical Hdwy	7.18	8.72	6.06	-	-	-
Critical Hdwy Stg 1	6.18	-	-	-	-	-
Critical Hdwy Stg 2	6.18	-	-	-	-	-
Follow-up Hdwy	3.69	4.21	3.18	-	-	-
Pot Cap-1 Maneuver	385	621	735	-	-	-
Stage 1	645	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	355	621	735	-	-	-
Mov Cap-2 Maneuver	355	-	-	-	-	-
Stage 1	594	-	-	-	-	-
Stage 2	696	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.6	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	735	-	355	621	-	-
HCM Lane V/C Ratio	0.078	-	0.116	0.084	-	-
HCM Control Delay (s)	10.3	-	16.5	11.3	-	-
HCM Lane LOS	B	-	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.4	0.3	-	-

Existing Conditions
Weekday PM Peak Hour

3: S Hwy 395 & Pilot RIRO Dwy
10/31/2017

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↕	↕	
Traffic Vol, veh/h	0	89	65	351	297	51
Future Vol, veh/h	0	89	65	351	297	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	22	26	0
Mvmt Flow	0	99	72	390	330	57

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	194	387	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.92	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.31	2.2	-	-
Pot Cap-1 Maneuver	0	818	1183	-	-
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	818	1183	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	1.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1183	-	818	-	-
HCM Lane V/C Ratio	0.061	-	0.121	-	-
HCM Control Delay (s)	8.2	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Existing Conditions
Weekday PM Peak Hour

4: S Hwy 395 & I-84 Westbound Ramps
10/31/2017

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations						↕	↕	↕	↕		↕	↕
Traffic Vol, veh/h	0	0	0	3	0	256	15	159	0	0	311	73
Future Vol, veh/h	0	0	0	3	0	256	15	159	0	0	311	73
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	180	-	0	115	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	14	7	25	0	0	16	38
Mvmt Flow	0	0	0	3	0	281	16	175	0	0	342	80

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	589	631	-	424	0	-	-
Stage 1	207	207	-	-	-	-	-
Stage 2	382	424	-	-	-	-	-
Critical Hdwy	6.4	6.5	-	4.17	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-
Follow-up Hdwy	3.5	4	-	2.263	-	-	-
Pot Cap-1 Maneuver	474	401	0	1109	-	0	0
Stage 1	832	734	0	-	-	0	0
Stage 2	694	590	0	-	-	0	0
Platoon blocked, %							
Mov Cap-1 Maneuver	467	0	-	1109	-	-	-
Mov Cap-2 Maneuver	467	0	-	-	-	-	-
Stage 1	820	0	-	-	-	-	-
Stage 2	694	0	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT/WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1109	-	467	-	-
HCM Lane V/C Ratio	0.015	-	0.007	-	-
HCM Control Delay (s)	8.3	-	12.8	0	-
HCM Lane LOS	A	-	B	A	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Existing Conditions
Weekday PM Peak Hour

5: S Hwy 395 & I-84 Eastbound Ramps

10/31/2017

Intersection												
Int Delay, s/veh	8.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↑	↗	↘	↑	
Traffic Vol, veh/h	83	2	15	0	0	0	0	91	6	219	94	0
Future Vol, veh/h	83	2	15	0	0	0	0	91	6	219	94	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	420	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	47	50	0	0	0	0	0	2	17	21	3	0
Mvmt Flow	98	2	18	0	0	0	0	107	7	258	111	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	738	741	111	-	0	0	114	0	0
Stage 1	627	627	-	-	-	-	-	-	-
Stage 2	111	114	-	-	-	-	-	-	-
Critical Hdwy	6.87	7	6.2	-	-	-	4.31	-	-
Critical Hdwy Stg 1	5.87	6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.87	6	-	-	-	-	-	-	-
Follow-up Hdwy	3.923	4.45	3.3	-	-	-	2.389	-	-
Pot Cap-1 Maneuver	327	292	948	0	-	-	1365	-	0
Stage 1	456	409	-	0	-	-	-	-	0
Stage 2	813	717	-	0	-	-	-	-	0
Platoon blocked, %									
Mov Cap-1 Maneuver	265	0	948	-	-	-	1365	-	-
Mov Cap-2 Maneuver	265	0	-	-	-	-	-	-	-
Stage 1	370	0	-	-	-	-	-	-	-
Stage 2	813	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.7	0	5.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	298	1365	-
HCM Lane VC Ratio	-	-	0.395	0.189	-
HCM Control Delay (s)	-	-	24.7	8.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0.7	-

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	886	0	0	807	0
Future Vol, veh/h	0	0	0	0	0	0	0	886	0	0	807	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	11	0	0	13	0
Mvmt Flow	0	0	0	0	0	0	0	984	0	0	897	0

Major/Minor	Minor2	Minor1			Major1			Major2				
Conflicting Flow All	1389	1881	449	1433	1881	492	897	0	0	984	0	0
Stage 1	897	897	-	984	984	-	-	-	-	-	-	-
Stage 2	492	984	-	449	897	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	104	72	563	96	72	528	765	-	-	710	-	-
Stage 1	305	361	-	270	329	-	-	-	-	-	-	-
Stage 2	532	329	-	564	361	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	104	72	563	96	72	528	765	-	-	710	-	-
Mov Cap-2 Maneuver	104	72	-	96	72	-	-	-	-	-	-	-
Stage 1	305	361	-	270	329	-	-	-	-	-	-	-
Stage 2	532	329	-	564	361	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	765	-	-	-	-	710	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection						
Int Delay, s/veh	52.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↕↕	↕↗	
Traffic Vol, veh/h	153	142	131	676	665	109
Future Vol, veh/h	153	142	131	676	665	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	300	0	325	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	25	25	8	10	25
Mvmt Flow	166	154	142	735	723	118

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1434	421	841	0	-	0
Stage 1	782	-	-	-	-	-
Stage 2	652	-	-	-	-	-
Critical Hdwy	7.3	7.4	4.6	-	-	-
Critical Hdwy Stg 1	6.3	-	-	-	-	-
Critical Hdwy Stg 2	6.3	-	-	-	-	-
Follow-up Hdwy	3.75	3.55	2.45	-	-	-
Pot Cap-1 Maneuver	~ 101	522	659	-	-	-
Stage 1	357	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 79	522	659	-	-	-
Mov Cap-2 Maneuver	~ 79	-	-	-	-	-
Stage 1	280	-	-	-	-	-
Stage 2	423	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s\$ 330.4		1.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	659	-	79	522	-	*
HCM Lane V/C Ratio	0.216	-	2.105	0.296	-	-
HCM Control Delay (s)	12	-	\$ 623.3	14.8	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	0.8	-	15.1	1.2	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↕	↕	↕
Traffic Vol, veh/h	0	153	87	850	861	33
Future Vol, veh/h	0	153	87	850	861	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	22	26	0
Mvmt Flow	0	170	97	944	957	37

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	497	994	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.92	4.1	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.31	2.2	-	-	-
Pot Cap-1 Maneuver	0	521	704	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	521	704	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	704	-	521	-	-
HCM Lane V/C Ratio	0.137	-	0.326	-	-
HCM Control Delay (s)	10.9	-	15.2	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.5	-	1.4	-	-

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕	↕	↕	↕			↕	↕
Traffic Vol, veh/h	0	0	0	76	0	534	65	349	0	0	850	109
Future Vol, veh/h	0	0	0	76	0	534	65	349	0	0	850	109
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	180	-	0	115	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	14	7	25	0	0	16	38
Mvmt Flow	0	0	0	84	0	587	71	384	0	0	934	120

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	1520	1582	-	1056	0	-	0
Stage 1	526	526	-	-	-	-	-
Stage 2	994	1056	-	-	-	-	-
Critical Hdwy	6.4	6.5	-	4.17	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-
Follow-up Hdwy	3.5	4	-	2.263	-	-	-
Pot Cap-1 Maneuver	132	110	0	641	-	0	-
Stage 1	597	532	0	-	-	0	-
Stage 2	361	305	0	-	-	0	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	117	0	-	641	-	-	-
Mov Cap-2 Maneuver	117	0	-	-	-	-	-
Stage 1	531	0	-	-	-	-	-
Stage 2	361	0	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	89.8	1.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	641	-	117	-	-	-
HCM Lane V/C Ratio	0.111	-	0.714	-	-	-
HCM Control Delay (s)	11.3	-	89.8	0	-	-
HCM Lane LOS	B	-	F	A	-	-
HCM 95th %tile Q(veh)	0.4	-	3.9	-	-	-

Intersection												
Int Delay, s/veh	450.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↑	↗	↘	↑	
Traffic Vol, veh/h	109	0	65	0	0	0	0	316	98	545	316	0
Future Vol, veh/h	109	0	65	0	0	0	0	316	98	545	316	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	420	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	47	50	0	0	0	0	0	2	17	21	3	0
Mvmt Flow	128	0	76	0	0	0	0	372	115	641	372	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	2084	2141	372	-	0	0	487	0	0
Stage 1	1654	1654	-	-	-	-	-	-	-
Stage 2	430	487	-	-	-	-	-	-	-
Critical Hdwy	6.87	7	6.2	-	-	-	4.31	-	-
Critical Hdwy Stg 1	5.87	6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.87	6	-	-	-	-	-	-	-
Follow-up Hdwy	3.923	4.45	3.3	-	-	-	2.389	-	-
Pot Cap-1 Maneuver	~ 44	36	678	0	-	-	984	-	0
Stage 1	134	121	-	0	-	-	-	-	0
Stage 2	570	478	-	0	-	-	-	-	0
Platoon blocked, %				-	-	-	-	-	-
Mov Cap-1 Maneuver	~ 15	0	678	-	-	-	984	-	-
Mov Cap-2 Maneuver	~ 15	0	-	-	-	-	-	-	-
Stage 1	~ 47	0	-	-	-	-	-	-	-
Stage 2	570	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, \$ 3705.4		0	9.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	24	984	-
HCM Lane V/C Ratio	-	-	8.529	0.652	-
HCM Control Delay (s)	-	-	\$ 3705.4	15.2	-
HCM Lane LOS	-	-	F	C	-
HCM 95th %tile Q(veh)	-	-	25.6	5	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	886	0	0	807	0
Future Vol, veh/h	0	0	0	0	0	0	0	886	0	0	807	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	11	0	0	13	0
Mvmt Flow	0	0	0	0	0	0	0	984	0	0	897	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1389	1881	449	1433	1881	492	897	0	0	984	0	0
Stage 1	897	897	-	984	984	-	-	-	-	-	-	-
Stage 2	492	984	-	449	897	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	104	72	563	96	72	528	765	-	-	710	-	-
Stage 1	305	361	-	270	329	-	-	-	-	-	-	-
Stage 2	532	329	-	564	361	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	104	72	563	96	72	528	765	-	-	710	-	-
Mov Cap-2 Maneuver	104	72	-	96	72	-	-	-	-	-	-	-
Stage 1	305	361	-	270	329	-	-	-	-	-	-	-
Stage 2	532	329	-	564	361	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	765	-	-	-	-	710	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection												
Int Delay, s/veh	1328.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	155	24	140	204	24	161	130	570	168	192	505	110
Future Vol, veh/h	155	24	140	204	24	161	130	570	168	192	505	110
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	200	-	-	325	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	25	0	25	0	0	0	25	8	0	0	10	25
Mvmt Flow	168	26	152	222	26	175	141	620	183	209	549	120

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1632	2112	335	1700	2081	402	669	0	0	803	0	0
Stage 1	1027	1027	-	994	994	-	-	-	-	-	-	-
Stage 2	605	1085	-	706	1087	-	-	-	-	-	-	-
Critical Hdwy	8	6.5	7.4	7.5	6.5	6.9	4.6	-	-	4.1	-	-
Critical Hdwy Stg 1	7	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.75	4	3.55	3.5	4	3.3	2.45	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 53	52	598	~ 61	54	604	778	-	-	830	-	-
Stage 1	212	314	-	267	326	-	-	-	-	-	-	-
Stage 2	399	295	-	397	295	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	~ 10	32	598	~ 11	33	604	778	-	-	830	-	-
Mov Cap-2 Maneuver	~ 10	32	-	~ 11	33	-	-	-	-	-	-	-
Stage 1	174	235	-	~ 219	267	-	-	-	-	-	-	-
Stage 2	209	242	-	~ 197	221	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, \$	3893.8	4936.5	1.6	2.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	778	-	-	10	167	11	186	830	-	-
HCM Lane V/C Ratio	0.182	-	-	-16.848	1.067	20.158	1.081	0.251	-	-
HCM Control Delay (s)	10.7	-	-	\$ 7860.6	144.6	\$ 9285	141.3	10.8	-	-
HCM Lane LOS	B	-	-	F	F	F	F	B	-	-
HCM 95th %tile Q(veh)	0.7	-	-	22.6	8.9	29.2	9.7	1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗	↖	↕			↕	
Traffic Vol, veh/h	0	0	155	0	0	20	85	848	15	0	812	37
Future Vol, veh/h	0	0	155	0	0	20	85	848	15	0	812	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	125	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	0	0	22	0	0	26	0
Mvmt Flow	0	0	172	0	0	22	94	942	17	0	902	41

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	-	-	472	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	6.92	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	3.31	-
Pot Cap-1 Maneuver	0	0	541	0
Stage 1	0	0	-	0
Stage 2	0	0	-	0
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	541	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	12	1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	736	-	-	541	537	-	-
HCM Lane V/C Ratio	0.128	-	-	0.318	0.041	-	-
HCM Control Delay (s)	10.6	-	-	14.7	12	-	-
HCM Lane LOS	B	-	-	B	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	1.4	0.1	-	-

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕	↕	↕	↕			↕	↕
Traffic Vol, veh/h	0	0	0	75	0	570	65	378	0	0	837	130
Future Vol, veh/h	0	0	0	75	0	570	65	378	0	0	837	130
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	180	-	0	115	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	14	7	25	0	0	16	38
Mvmt Flow	0	0	0	82	0	626	71	415	0	0	920	143

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	1549	1622	-	1065	0	-	-
Stage 1	557	557	-	-	-	-	-
Stage 2	992	1065	-	-	-	-	-
Critical Hdwy	6.4	6.5	-	4.17	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-
Follow-up Hdwy	3.5	4	-	2.263	-	-	-
Pot Cap-1 Maneuver	127	104	0	636	-	0	0
Stage 1	578	515	0	-	-	0	0
Stage 2	362	302	0	-	-	0	0
Platoon blocked, %							
Mov Cap-1 Maneuver	113	0	-	636	-	-	-
Mov Cap-2 Maneuver	113	0	-	-	-	-	-
Stage 1	513	0	-	-	-	-	-
Stage 2	362	0	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	95	1.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	636	-	113	-	-
HCM Lane V/C Ratio	0.112	-	0.729	-	-
HCM Control Delay (s)	11.4	-	95	0	-
HCM Lane LOS	B	-	F	A	-
HCM 95th %ile Q(veh)	0.4	-	4	-	-

Intersection												
Int Delay, s/veh	736.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↑	↗	↘	↑	
Traffic Vol, veh/h	124	0	65	0	0	0	0	319	100	589	323	0
Future Vol, veh/h	124	0	65	0	0	0	0	319	100	589	323	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	420	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	47	50	0	0	0	0	0	2	17	21	3	0
Mvmt Flow	146	0	76	0	0	0	0	375	118	693	380	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	2200	2259	380	-	0	0	493	0	0
Stage 1	1766	1766	-	-	-	-	-	-	-
Stage 2	434	493	-	-	-	-	-	-	-
Critical Hdwy	6.87	7	6.2	-	-	-	4.31	-	-
Critical Hdwy Stg 1	5.87	6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.87	6	-	-	-	-	-	-	-
Follow-up Hdwy	3.923	4.45	3.3	-	-	-	2.389	-	-
Pot Cap-1 Maneuver	~ 36	30	671	0	-	-	979	-	0
Stage 1	~ 116	105	-	0	-	-	-	-	0
Stage 2	568	475	-	0	-	-	-	-	0
Platoon blocked, %									
Mov Cap-1 Maneuver	~ 11	0	671	-	-	-	979	-	-
Mov Cap-2 Maneuver	~ 11	0	-	-	-	-	-	-	-
Stage 1	~ 34	0	-	-	-	-	-	-	-
Stage 2	568	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, \$	5872.9	0	11
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	17	979	-
HCM Lane V/C Ratio	-	-	13.08	0.708	-
HCM Control Delay (s)	-	-	\$ 5872.9	17.1	-
HCM Lane LOS	-	-	F	C	-
HCM 95th %tile Q(veh)	-	-	28.6	6.2	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Parameter	Approach			
	EB (West Leg) 1.84 Eastbound Thru	WB (East Leg) 1.01 Eastbound Thru	SB (South Leg) 0.11ev 350	NB (North Leg) 0.11ev 350
INPUTS				
Lane Configuration				
Entry Lane(s) Configuration (Note: This assumes 4 legs.)	LTR Case: 1	LTR Case: 1	LTR Case: 1	LTR Case: 1
RT bypass configuration (Note: This is in addition to the entry lane(s))	None Case: 1	None Case: 1	None Case: 1	None Case: 1
Number of conflicting circ lanes	1	1	1	1
Number of conflicting cut lanes for bypass lane (if used)				
Vehicular Volumes				
Flow (veh/h)	U (v1U) L (v1) T (v2) R (v3)	U (v4U) L (v4) T (v5) R (v6)	U (v7U) L (v7) T (v8) R (v9)	U (v10U) L (v10) T (v11) R (v12)
% HV	124 0 65	0 0 0	0 319 100	589 323 0
PHF	0.47 50 0	0 0 0	0 2 17	21 3 0
	0.85 0.85 0.85 0.85	0.85 0.85 0.85 0.85	0.85 0.85 0.85 0.85	0.85 0.85 0.85 0.85
Pedestrian Volumes (crossing leg)				
P ₀	0	0	0	0
Constants				
Time period, T (h)	0.25			
PCE for HV	2			
Default Values				
Lane volume assignment				
Case 4: LT, TR (bias to right lane)	0.47 0.53	0.47 0.53	0.47 0.53	0.47 0.53
% Volume in left lane, right lane				
Case 5: L, LTR (bias to left lane)	0.53 0.47	0.53 0.47	0.53 0.47	0.53 0.47
% volume in left lane, right lane				
Case 6: LTR, R (bias to right lane)	0.47 0.53	0.47 0.53	0.47 0.53	0.47 0.53
% volume in left lane, right lane				
Capacity models				
Case 1: 1 coast lane				
Calibration parameters				
A (intercept)	1379.84 1379.84	1379.84 1379.84	1379.84 1379.84	1379.84 1379.84
B (coefficient)	0.0010238 0.0010238	0.0010238 0.0010238	0.0010238 0.0010238	0.0010238 0.0010238
Case 2: 2 coast lanes				
Calibration parameters				
A (intercept)	1349.83 1419.56	1349.83 1419.56	1349.83 1419.56	1349.83 1419.56
B (coefficient)	0.0009213 0.0008478	0.0009213 0.0008478	0.0009213 0.0008478	0.0009213 0.0008478
RT bypass, 1 coast lane (assumed same as Case 1 above)				
Calibration parameters				
A (intercept)	1379.84	1379.84	1379.84	1379.84
B (coefficient)	0.0010238	0.0010238	0.0010238	0.0010238
RT bypass, 2 coast lanes (assumed right lane, Case 2 above)				
Calibration parameters				
A (intercept)	1419.56	1419.56	1419.56	1419.56
B (coefficient)	0.0008478	0.0008478	0.0008478	0.0008478
SUMMARY				
Entry lane volume (veh/h)	N/A 188 N/A	N/A 0 N/A	N/A 511 N/A	N/A 1073 N/A
Entry lane capacity (veh/h)	N/A 287 N/A	N/A 748 N/A	N/A 460 N/A	N/A 1204 N/A
x (v/c ratio)	N/A 0.74 N/A	N/A 0.00 N/A	N/A 1.11 N/A	N/A 0.89 N/A
Lane control delay (s/veh)	N/A 48.0 N/A	N/A 4.8 N/A	N/A 105.1 N/A	N/A 25.4 N/A
Lane LOS	E	A	F	D
Approach control delay (s/veh)	48.0	0.0	105.1	25.4
Approach LOS	E	A	F	D
Intersection control delay (s/veh)	50.8			
Intersection LOS	F			
95th percentile queue (veh)	N/A 5.3 N/A	N/A 0.0 N/A	N/A 17.4 N/A	N/A 13.5 N/A

Parameter	Approach			
	EB (West Leg) 1-84 Eastbound Ramps	WB (East Leg) 1-84 Eastbound Ramps	NB (South Leg)	SB (North Leg)
ISPRUTS				
Lane Configuration	LTR	LTR	LTR	LTR
Entry Lane(s) Configuration (Note: This assumes 4 legs.)	Case: 1	Case: 1	Case: 1	Case: 1
RT bypass configuration (Note: This is in addition to the entry lane(s))	None	None	None	None
Number of conflicting circ lanes	1	1	1	1
Number of conflicting exit lanes for bypass lane (if used)				
Vehicular Volume	U (v1U) L (v1) T (v2) R (v3)	U (v4U) L (v4) T (v5) R (v6)	U (v7U) L (v7) T (v8) R (v9)	U (v10U) L (v10) T (v11) R (v12)
Flow (veh/h)	202.52 4.88 36.6	0 0 0	0 222.04 14.64	534.36 229.36 0
% HV	47 50 0	0 0 0	0 2 17	21 3 0
PHF	0.85 0.85 0.85	0.85 0.85 0.85	0.85 0.85 0.85	0.85 0.85 0.85
Pedestrian Volume (crossing leg)				
P_L_P	0	0	0	0
Constants				
Time period, T (h)	0.25			
PCE for HV	2			
Default Values				
Lane volume assignment				
Case 4: L, TR (bias to right lane)	0.47 0.53	0.47 0.53	0.47 0.53	0.47 0.53
% Volume in left lane, right lane				
Case 5: L, LTR (bias to left lane)	0.53 0.47	0.53 0.47	0.53 0.47	0.53 0.47
% volume in left lane, right lane				
Case 6: LTR, R (bias to right lane)	0.47 0.53	0.47 0.53	0.47 0.53	0.47 0.53
% volume in left lane, right lane				
Capacity models				
Case 1: 1 carpl lane				
Calibration parameters				
A (intercept)	1379.64 1379.64	1379.64 1379.64	1379.64 1379.64	1379.64 1379.64
B (coefficient)	0.0010238 0.0010238	0.0010238 0.0010238	0.0010238 0.0010238	0.0010238 0.0010238
Case 2: 2 carpl lanes				
Calibration parameters				
A (intercept)	1349.63 1419.56	1349.63 1419.56	1349.63 1419.56	1349.63 1419.56
B (coefficient)	0.0009213 0.0008478	0.0009213 0.0008478	0.0009213 0.0008478	0.0009213 0.0008478
RT bypass, 1 carpl lane (assumed same as Case 1 above)				
Calibration parameters				
A (intercept)	1379.64	1379.64	1379.64	1379.64
B (coefficient)	0.0010238	0.0010238	0.0010238	0.0010238
RT bypass, 2 carpl lanes (assumed right lane, Case 2 above)				
Calibration parameters				
A (intercept)	1419.56	1419.56	1419.56	1419.56
B (coefficient)	0.0008478	0.0008478	0.0008478	0.0008478
SUMMARY				
Entry lane volume (veh/h)	N/A 273 N/A	N/A 0 N/A	N/A 280 N/A	N/A 699 N/A
Entry lane capacity (veh/h)	N/A 324 N/A	N/A 734 N/A	N/A 429 N/A	N/A 1194 N/A
x (v/c ratio)	N/A 0.84 N/A	N/A 0.00 N/A	N/A 0.65 N/A	N/A 0.75 N/A
Lane control delay (s/veh)	N/A 54.2 N/A	N/A 4.9 N/A	N/A 26.1 N/A	N/A 15.3 N/A
Lane LOS	N/A F N/A	N/A A N/A	N/A D N/A	N/A C N/A
Approach control delay (s/veh)	54.2	0.0	26.1	15.3
Approach LOS	F	N/A	D	C
Intersection control delay (s/veh)	24.7			
Intersection LOS	C			
95th percentile queue (veh)	N/A 7.5 N/A	N/A 0.0 N/A	N/A 4.5 N/A	N/A 7.6 N/A

Existing Conditions with 210% Growth
Weekday PM Peak Hour

5: S Hwy 395 & I-84 Eastbound Ramps
11/13/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↑	↗	↘	↑	
Traffic Volume (vph)	83	2	15	0	0	0	0	91	6	219	94	0
Future Volume (vph)	83	2	15	0	0	0	0	91	6	219	94	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00						1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00						1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	1.00	1.00	
Frt		0.98						1.00	0.85	1.00	1.00	
Flt Protected		0.96						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1277						1863	1380	1492	1845	
Flt Permitted		0.96						1.00	1.00	0.37	1.00	
Satd. Flow (perm)		1277						1863	1380	579	1845	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor (vph)	210%	210%	210%	210%	210%	210%	210%	210%	210%	210%	210%	210%
Adj. Flow (vph)	205	5	37	0	0	0	0	225	15	541	232	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	12	0	0	0
Lane Group Flow (vph)	0	240	0	0	0	0	0	225	3	541	232	0
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	47%	50%	0%	0%	0%	0%	0%	2%	17%	21%	3%	0%
Turn Type	Perm	NA						NA	Perm	pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4								2	6		
Actuated Green, G (s)		17.8						14.2	14.2	40.2	40.2	
Effective Green, g (s)		17.8						14.2	14.2	40.2	40.2	
Actuated g/C Ratio		0.27						0.21	0.21	0.60	0.60	
Clearance Time (s)		4.5						4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		339						394	292	640	1107	
v/s Ratio Prot								0.12		c0.27	0.13	
v/s Ratio Perm		0.19							0.00	c0.24		
v/c Ratio		0.71						0.57	0.01	0.85	0.21	
Uniform Delay, d1		22.2						23.7	20.9	9.4	6.1	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		6.6						2.0	0.0	10.0	0.1	
Delay (s)		28.8						25.7	20.9	19.4	6.2	
Level of Service		C						C	C	B	A	
Approach Delay (s)		28.8			0.0			25.4			15.4	
Approach LOS		C			A			C			B	
Intersection Summary												
HCM 2000 Control Delay		19.9										B
HCM 2000 Volume to Capacity ratio		0.85										
Actuated Cycle Length (s)		67.0								13.5		
Intersection Capacity Utilization		58.6%										B
Analysis Period (min)		15										
c Critical Lane Group												

Mitigated UGB Build-Out
Weekday PM Peak Hour

2: S Hwy 395 & Stanfield Avenue

11/14/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	168	178	222	201	141	803	209	669
v/c Ratio	0.57	0.64	0.62	0.63	0.44	0.76	0.59	0.66
Control Delay	30.5	21.2	30.6	18.7	15.1	27.9	17.5	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.5	21.2	30.6	18.7	15.1	27.9	17.5	24.9
Queue Length 50th (ft)	61	12	81	12	32	165	48	133
Queue Length 95th (ft)	145	84	181	85	79	307	109	242
Internal Link Dist (ft)		626		348		819		242
Turn Bay Length (ft)	300		200		325			
Base Capacity (vph)	358	435	435	505	384	1614	481	1619
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.41	0.51	0.40	0.37	0.50	0.43	0.41
Intersection Summary								

Mitigated UGB Build-Out
Weekday PM Peak Hour

2: S Hwy 395 & Stanfield Avenue
11/14/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	24	140	204	24	161	130	570	168	192	505	110
Future Volume (vph)	155	24	140	204	24	161	130	570	168	192	505	110
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.87		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1330	1257		1662	1521		1330	3025		1662	2860	
Flt Permitted	0.43	1.00		0.47	1.00		0.29	1.00		0.20	1.00	
Satd. Flow (perm)	609	1257		814	1521		407	3025		353	2860	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	26	152	222	26	175	141	620	183	209	549	120
RTOR Reduction (vph)	0	134	0	0	156	0	0	25	0	0	18	0
Lane Group Flow (vph)	168	44	0	222	45	0	141	778	0	209	651	0
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	25%	0%	25%	0%	0%	0%	25%	8%	0%	0%	10%	25%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	22.7	9.2		21.5	8.6		37.9	27.3		36.9	27.8	
Effective Green, g (s)	22.7	9.2		21.5	8.6		37.9	27.3		38.9	27.8	
Actuated g/C Ratio	0.29	0.12		0.27	0.11		0.48	0.35		0.50	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	300	147		362	166		321	1052		360	1012	
v/s Ratio Prot	0.10	0.03		c0.10	0.03		0.06	c0.26		c0.08	0.23	
v/s Ratio Perm	0.07			c0.07			0.15			0.21		
v/c Ratio	0.56	0.30		0.61	0.27		0.44	0.74		0.58	0.64	
Uniform Delay, d1	22.9	31.7		23.9	32.1		12.2	22.5		12.8	21.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	1.1		3.1	0.9		1.0	2.8		2.4	1.4	
Delay (s)	25.3	32.8		27.0	33.0		13.2	25.2		15.1	22.6	
Level of Service	C	C		C	C		B	C		B	C	
Approach Delay (s)		29.2			29.8			23.4			20.8	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.4			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			78.5			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			72.5%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group



Project #: [Redacted]
 Project Name: [Redacted]
 Analyst: [Redacted]
 Date: 2/19/2018
 North-South Street: [Redacted]
 East-West Street: [Redacted]
 Intersection: US 395/I-84 Eastbound Ramps
 Scenario: Existing Conditions

Volume-Based Warrant Summary			
Warrant No.	Description	Warrant Factor	Met?
Warrant 1:	Eight-Hour Vehicular Volume	70%	Yes
Warrant 2:	Four-Hour Vehicular Volume	70%	Yes
Warrant 3:	Peak Hour	70%	Yes

Volume Adjustment Factor: 1.00
 North-South Approach: Major
 East-West Approach: Minor
 Major Street No. Thru Lanes: 2
 Minor Street No. Thru Lanes: 1
 Speed Factor (Speed >40mph): Yes
 Population Factor (Population <10,000): Yes
 Warrant Factor: 70%
 Peak Hour/Daily Count: Peak Hour

Major Road	Minor Road
Rural Interstate	Rural Interstate
Rural Principal Arterial	Rural Principal Arterial
Rural Minor Arterial	Rural Minor Arterial
Rural Major Collector	Rural Major Collector
Rural Minor Collector	Rural Minor Collector
Urban Interstate	Urban Interstate
Urban Other Fwy & Expwy	Urban Other Fwy & Expwy
Urban Principal Arterial	Urban Principal Arterial
Urban Minor Arterial	Urban Minor Arterial

Case: 2 Case: 1

Peak Hour Traffic Volumes			
Major Street		Minor Street	
SB	NB	EB	WB
97	314	255	0

Passing Growth Factors	
SB	NB
1.00	1.52
1.00	1.00
1.00	1.00
1.00	1.00

Traffic Volumes		Traffic Volume Profile				Hourly Profiles DCHRP (17.110)	
		Major Street		Minor Street		Major Street Profile	Minor Street Profile
Time	Profile	NB	SB	EB	WB		
12:00 AM	Highest Hour	147	477	157	0	1.00	1.00
1	Highest Hour	146	472	152	0	0.99	1.00
2	Highest Hour	133	429	137	0	0.90	0.90
3	Highest Hour	119	386	137	0	0.81	0.87
4	Highest Hour	99	322	117	0	0.67	0.77
5	Highest Hour	98	316	114	0	0.66	0.75
6	Highest Hour	93	300	108	0	0.63	0.71
7	Highest Hour	83	268	104	0	0.56	0.69
8	Highest Hour	81	261	99	0	0.55	0.65
9	Highest Hour	80	257	97	0	0.54	0.64
10	Highest Hour	76	247	93	0	0.52	0.61
11	Highest Hour	75	241	92	0	0.51	0.60
12	Highest Hour	73	236	88	0	0.48	0.58
13	Highest Hour	73	236	79	0	0.49	0.52
14	Highest Hour	60	193	62	0	0.40	0.41
15	Highest Hour	51	166	56	0	0.35	0.36
16	Highest Hour	43	139	42	0	0.29	0.28
17	Highest Hour	33	107	35	0	0.22	0.23
18	Highest Hour	30	97	29	0	0.20	0.19
19	Highest Hour	16	52	21	0	0.11	0.14
20	Highest Hour	10	32	11	0	0.07	0.07
21	Highest Hour	8	27	9	0	0.06	0.06
22	Highest Hour	5	16	5	0	0.03	0.04
23	Highest Hour	5	16	5	0	0.03	0.04
24	Highest Hour	5	16	5	0	0.03	0.04



Project #: 1006
 Project Name: Stanfield UGB Amendment
 Analyst: JRS
 Date: 2/19/2018
 North-South Street: US 395
 East-West Street: Stanfield Avenue
 Intersection: US 395/Stanfield Avenue
 Scenario: Existing Conditions

Volume-Based Warrant Summary			
Warrant No.	Description	Warrant Factor	Met?
Warrant 1:	Eight Hour Vehicular Volume	70%	Yes
Warrant 2:	Four Hour Vehicular Volume	70%	Yes
Warrant 3:	Peak Hour	70%	Yes

Volume Adjustment Factor: 1.0
 North-South Approach: Minor
 East-West Approach: Minor
 Major Street No. Thru Lanes: 2
 Minor Street No. Thru Lanes: 1
 Speed Factor (Speed >40mph): Yes
 Population Factor (Population <10,000): Yes
 Warrant Factor: 70%
 Peak Hour/Daily Count: Peak Hour

Major Road	Minor Road
Rural Interstate	Rural Interstate
Rural Principal Arterial	Rural Principal Arterial
Rural Minor Arterial	Rural Minor Arterial
Rural Major Collector	Rural Major Collector
Rural Minor Collector	Rural Minor Collector
Urban Interstate	Urban Interstate
Urban Other Frewy & Expwy	Urban Other Frewy & Expwy
Urban Principal Arterial	Urban Principal Arterial
Urban Minor Arterial	Urban Minor Arterial

Case: 2 Case: 9

Peak Hour Traffic Volumes			
Major Street		Minor Street	
NB	SB	EB	WB
351	308	86	0

Hourly Growth Factors		
	NB	WB
NB	1.00	1.00
SB	1.00	
EB	1.00	
WB	1.00	

Traffic Volumes		Traffic Volume Profile				Hourly Profile (DLHP 05-110)	
		Major Street		Minor Street		Major Street Profile	Minor Street Profile
		NB	SB	EB	WB		
12:00 AM	Highest Hour	351	308	86	0	1.00	1.00
2	Highest Hour	347	305	81	0	0.99	0.95
3	Highest Hour	316	277	80	0	0.90	0.93
4	Highest Hour	284	249	77	0	0.81	0.89
5	Highest Hour	237	208	76	0	0.67	0.88
6	Highest Hour	233	204	76	0	0.66	0.88
7	Highest Hour	221	194	72	0	0.63	0.84
8	Highest Hour	197	173	71	0	0.56	0.83
9	Highest Hour	193	170	69	0	0.55	0.80
10	Highest Hour	189	166	64	0	0.54	0.75
11	Highest Hour	181	159	62	0	0.52	0.72
12	Highest Hour	177	156	61	0	0.51	0.71
13	Highest Hour	174	152	58	0	0.49	0.68
14	Highest Hour	174	152	50	0	0.49	0.59
15	Highest Hour	142	125	40	0	0.40	0.47
16	Highest Hour	122	107	38	0	0.35	0.44
17	Highest Hour	103	90	26	0	0.29	0.31
18	Highest Hour	79	69	22	0	0.22	0.25
19	Highest Hour	71	62	11	0	0.20	0.13
20	Highest Hour	38	33	8	0	0.11	0.09
21	Highest Hour	24	21	7	0	0.07	0.08
22	Highest Hour	20	17	5	0	0.06	0.05
23	Highest Hour	12	10	2	0	0.03	0.03
24	Highest Hour	12	10	2	0	0.03	0.03

CITY OF STANFIELD

160 S Main Street PO Box 369 Stanfield, OR 97875



Tom McCann
Mayor

W. Blair Larsen
City Manager

City Hall: 541-449-3831
Fax: 541-449-1828

PLANNING STAFF REPORT

GENERAL INFORMATION

Date: 12/17/2018

File No.: 01-2019

Applicant: City of Stanfield, Windblown Ranch

Owner(s): Windblown Ranch, LLC, Union Pacific Railroad

Location: Out: Township 4N, Range 29, Section 31, Tax Lot 1300 and portions of Tax Lot 1100; Township 4N, Range 29, Section C, Tax Lot 1101 and portions of Tax Lots 1100 and 1302.
In: Township 3N, Range 29, Section 04, Tax Lots 1900, 2000, 2100, 2200, 2300, 2400.
(See attached Map and Survey Report)

Notice to DLCD: 1/2/2019

Notice Mailed to Interested Parties: 1/14/2019

Newspaper Notice: 2/1/2019

Joint City-County Planning Commission Public Hearing: 2/13/2019

City Council Public Hearing: 2/19/2019

County Commission Public Hearing: 3/20/2019

Assigned Staff: Blair Larsen, City Manager

PROPOSAL

An adjustment to the City of Stanfield Urban Growth Boundary (UGB) to remove 110 acres of industrial land and 28 acres of open space from within the UGB and replace it with 110 acres of land that will be rezoned for future industrial use. As part of the UGB adjustment, the 110 acres industrial land removed will be rezoned from city zone General Industrial and General Industrial/Transportation Industrial to county zone Exclusive Farm Use (EFU). The 28 acres of Open Space removed from the City's UGB will also be rezoned to county zone EFU. The 110 acres added to the UGB will be rezoned from county zone EFU to city zone General Industrial. The City's and County's Comprehensive Plan Map will be updated to reflect the proposed change. The City's Comprehensive Plan Map designation will be consistent with the City zoning. The County's Comprehensive Plan Map will be amended to include the area removed from the City's UGB and designate the land as "North-South Agriculture." In addition to the UGB change, the 110 acres added to the UGB will be annexed into the city limits of the City of Stanfield.

SUMMARY

The City of Stanfield, in cooperation with Windblown Ranch, LLC, proposes an urban growth boundary adjustment that would remove 110 acres of land from the UGB and replace it with 110 acres in a different location, adjacent to the current UGB. The attached maps and legal descriptions (Exhibits A, B, C and D) depict the current and proposed UGB. The proposed amendment would remove property owned by Union Pacific Railroad in the northwestern part of the City of Stanfield's UGB and replace it with property owned by Windblown Ranch, LLC that is adjacent to the southern edge of the City of Stanfield's UGB and current city limits at the northeastern corner of the Stanfield I-84/US 395 Interchange.

This action was initiated by the property owner, Windblown Ranch, LLC, who requested the UGB amendment. The attached Consent to Boundary Amendments demonstrates their approval and cooperation in this process (See Exhibit E). The other property owner, Union Pacific Railroad, has affirmed their neutrality in this matter. (see Exhibit F)

The stated reason for the UGB amendment request is as follows: "to support efforts to make the properties more attractive to industrial site selectors and the industries they represent, and to provide the City of Stanfield with large, industrial parcels that are ready for development." Specifically, the City receives leads from the State of Oregon for potential industrial developers, however, these industries are looking for larger parcels located nearer to City utilities than the industrial lands currently available within the City's UGB.

Two zone changes are necessary if the UGB adjustment is approved, and are part of this staff report and public hearings process. The 138 acres of land to be removed from the UGB would need to be rezoned to the appropriate county zone—in this case, county zone Exclusive Farm Use (EFU), as this is the zoning designation of the adjacent lands that are in Umatilla County's jurisdiction. The 110 acres of land to be added to the UGB will be rezoned from county zone EFU to city zone General Industrial, and annexed into the city limits (See Exhibit G for the City's Current Proposed Zoning Maps).

STAFF FINDINGS

The following findings are intended to support the proposed UGB adjustment and plan amendment by demonstrating compliance with the City of Stanfield Comprehensive Plan and Development Code.

Several sections of the City of Stanfield Comprehensive Plan and Development Code are applicable to this proposal in regard to the procedures to be followed in considering the zone change and map amendment. Those sections can be found in Appendix A of this report.

The following sections of the City of Stanfield Development Code are applicable to this proposal.

1. City of Stanfield Development Code 4.1.200: Description of Permit/Decision-making Procedures.

All land use and development permit applications, except building permits, shall be decided by using the procedures contained in this Chapter. General procedures for all permits are contained in Section 4.1.7. Specific procedures for certain types of permits are contained in Section 4.1.2 through 4.1.6. The procedure "type" assigned to each permit governs the decision-making process for that permit. There are four types of permit/decision-making procedures: Type I, II, III, and IV. These procedures are described in subsections A-D below. In addition, Table 4.1.200 lists all of the City's land use and development applications and their required permit procedure(s).

D. Type IV Procedure (Legislative). Type IV procedures apply to legislative matters. Legislative matters involve the creation, revision, or large-scale implementation of public policy (e.g., adoption of land use regulations, zone changes, and comprehensive plan amendments that apply to entire districts). Type IV matters are considered initially by the Planning Commission with final decisions made by the City Council.

Finding 1: This proposal is a Type IV Procedure (Legislative), as it requires both a land use map change and an amendment to the Comprehensive Plan. As such, it is subject to the process outlined in the City's Development Code, Section 4.1.600 which can be found in Appendix A. The purpose of the Public Hearings scheduled for February 13, 2019 before the Planning Commission and February 19, 2019 before the City Council is to make a decision on the proposed amendments.

2. City of Stanfield Development Code 4.7.200 and 4.7.600

a. 4.7.200 Legislative Amendments

Legislative amendments are policy decisions made by City Council. They are reviewed using the Type IV procedure in Chapter 4.1, Section 5, and shall conform to Section 4.7.600

b. 4.7.600: Transportation Planning Rule Compliance.

- A. When a development application includes a proposed comprehensive plan amendment or land use district change, the proposal shall be reviewed to determine whether it significantly affects a transportation facility, in accordance with Oregon Administrative Rule (OAR) 660-012-0060. Significant means the proposal would:
 1. Change the functional classification of an existing or planned transportation facility. This would occur, for example, when a proposal causes future traffic to exceed the capacity of “collector” street classification, requiring a change in the classification to an “arterial” street, as identified by the City’s Transportation System Plan; or
 2. Change the standards implementing a functional classification system; or
 3. Allow types or levels of land use that would result in levels of travel or access what are inconsistent with the functional classification of a transportation facility; or
 4. Reduce the performance standards of the facility below the minimum acceptable level identified in the Transportation System Plan.
- B. Amendments to the comprehensive plan and land use standards that significantly affect a transportation facility shall assure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the Transportation System Plan. This shall be accomplished by one of the following:
 1. Limiting allowed land uses to be consistent with the planned function of the transportation facility; or
 2. Amending the Transportation System Plan to ensure that existing, improved, or new transportation facilities are adequate to support the proposed land uses consistent with the requirement of the Transportation Planning Rule; or,
 3. Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes of transportation.

Finding 2: The proposed UGB adjustment would impact the transportation system, however the impact would be compatible with the current and planned streets in the existing Stanfield Transportation System Plan (See Exhibits H and I). A traffic study conducted by Transight Consulting, LLC (see Exhibit J) found that the regional transportation impacts would be neutral to positive overall, but the UGB adjustment would affect travel patterns. The area that the proposal removes from the Urban Growth Area would have relied more on US 395 in the northern part of Stanfield for highway access, while the area that the proposal adds will rely more on the US 395/I-84 interchange in the southern part of Stanfield for highway access. The study details the adjustments needed to serve the new area (such as a signalized interchange at Stanfield Avenue and US 395 and a needed turn lane onto the planned eastward extension of Stanfield Avenue).

3. City of Stanfield Comprehensive Plan

The sections of the City of Stanfield Comprehensive Plan which are relevant and applicable to the proposed UGB adjustment, zone change, and map amendment are discussed below. Specific items within these chapters which are not relevant to this proposal are not listed in order to achieve maximum clarity and efficiency. Further, the proposal has been determined to have no significant impact on the following sections, in regard to any of the listed values, policies, or programs within each section:

- Section 1. Authority
- Section 2. Technical Reports
- Section 3. Plan Implementation Measures
- Section 4. Availability of Plan
- Section 5, Part D. Natural Resources, Open Spaces, Scenic and Historic Areas (Goal 5)
- Section 5, Part E. Air, Water, and Land Resources Quality (Goal 6)
- Section 5, Part F. Areas Subject to Natural Disasters and Hazards (Goal 7)
- Section 5, Part G. Floodplain Management (Goal 7 Continued)
- Section 5, Part H. Recreational Needs (Goal 8)
- Section 5, Part I. Housing (Goal 10)
- Section 5, Part K. Public Facilities and Services (Goal 11)
- Section 5, Part M. Energy Conservation (Goals 5 and 13)

The replacement of 110 acres of industrial land with 110 acres of industrial land in a different location has no impact on any of the above sections.

- a. Section 5, Part A. Citizen Involvement (Goal 1): To maintain a citizen involvement program that ensures opportunity for citizens to participate in all phases of the planning process

Finding 3A: This UGB amendment will follow the City of Stanfield Code requirements for a legislative process which includes published newspaper notices, a joint public hearing before the City and County Planning Commissions, a public hearing before the City Council and a public hearing before the County Commission. The process for this UGB adjustment meets the goal for citizen involvement.

- b. Section 5, Part B. Land Use Planning (Goal 2): To maintain a land use planning process and policy framework as a basis for all decisions and actions related to the use of land and to assure an adequate factual basis for such decisions and actions.

Finding 3B: The City is basing this urban growth boundary amendment on information provided by site selectors representing companies seeking industrial land in our region. Multiple sources have indicated a need for large parcels of land zoned for industrial development that is close to existing City and private utility lines. A recent visit to the site from a site selector for a manufacturing company has confirmed the desirability of this land for this purpose. The landowner of the property that would be brought into the Urban Growth Area by this change is in agreement that this UGB change is in the best interest of future development of his property. The owner of the land that is proposed to be removed from the Urban Growth

Area has taken a completely neutral position. This UGB adjustment meets the goal of establishing an adequate factual basis for land use planning.

- c. Section 5, Part C. Agricultural Lands (Goal 2): To preserve and maintain agricultural lands. It shall be City policy:
 - i. To provide for adequate residential, commercial, and industrial development within the urban growth boundary.
 - ii. To encourage restriction of non-farm development outside the urban growth boundary.
 - iii. To ensure compatibility of urban areas with nearby agricultural activity by requiring recommended setbacks from farmland and a vegetative buffer along the perimeter of the urban growth boundary where farmlands adjoin.
 - iv. To prevent fragmentation of farmable land within the city and urban growth area prior to conversion to urban development.
 - v. To support and protect continued agricultural activities within the city and urban growth area, while also mitigating conflicts between urban and agricultural areas.

Finding 3C: This proposal seeks to meet the City's policy "to provide for adequate industrial development within the urban growth boundary—" the available industrial lands within the current urban growth boundary do not provide parcels in the size that industrial developers are looking for that are close to City water and sewer infrastructure. The proposed UGB change consists of an "acre-for-acre swap" and will not decrease the amount of agricultural land located outside the UGB. The proposal does not encourage non-farm development outside the UGB and the subject property is contiguous with the existing UGB boundary, and thereby does not lead to fragmentation of farmable land. This UGB adjustment meets the goal of preserving agricultural land as there will be no net decrease of land zoned for agricultural use and industrial development will continue to occur inside the UGB.

- d. Section 5, Part J. Economic Development (Goal 9): To diversify and improve the economy of the community.
 - i. Objectives:
 - 1. To encourage commercial and industrial development.
 - 2. To improve the range and increase the number of retail and service commercial businesses and professional services.
 - 3. To ensure the provision of attractive, functional and convenient shopping areas.
 - 4. To cooperate with and encourage the use of local manpower training agencies and programs to expand job opportunities, reduce unemployment, reduce out-migration of youth, accommodate the growth of the local labor force, and maximize the utilization of local manpower as job opportunities increase.
 - ii. Policy Groups:
 - 1. Industrial development

- a. Seek to attract a variety of new industries that produce minimal environmental pollution but also accommodate heavy industries.
- b. Minimize or mitigate high noise levels, heavy traffic volumes, and other undesirable attributes of heavy commercial and industrial development.
- c. Work with the Port of Umatilla, Department of Economic and Community Development (OECDD) and the Union Pacific Railroad to develop and fill an industrial part and large industrial sites on railroad land within the urban growth boundary.
- d. Consider extension of the urban growth area westward into the Hinkle railyard area at the discretion of the Union Pacific Railroad and subject to development of a feasible public services plan for the area.
- e. Cooperate with the Union Pacific Railroad, City of Hermiston, Umatilla County, Port of Umatilla, and OECDD to develop an overall development scheme for the Hinkle-Feedville area.
- f. Protect industrial development from the encroachment of incompatible uses, and buffer industrial areas from residential neighborhoods.
- g. Work with property owners and interested agencies to develop an improvement and development plan for the Foster Townsite and adjoining industrial areas.
- h. Provide community facilities necessary to serve industry.
- i. Segregate industrial and heavy commercial development into the northwest of the urban growth area and Foster Townsite area, but consider additional nodes for this type of development along Highway 395, if service and/or ownership constraints prevent adequate land area being made available within a reasonable period of time.

Finding 3D: This proposal encourages industrial development by making large parcels near water, sewer and transportation infrastructure available for such development. The City believes that this action will make it easier to attract a variety of new industries. This belief has already been confirmed by one recent site visit from a firm interested in building a manufacturing facility in the area. While the area being removed from the City's urban growth area is owned by Union Pacific, they have shown no interest in developing it or even making it more attractive to other potential developers. Despite the City's adopted policies to cooperate and work with Union Pacific, nothing can be done without their interest and cooperation.

It is the City's belief that this proposal fits into the policy to "consider additional notes for this type of development along Highway 395, if service and/or ownership constraints prevent adequate land area being made available within a reasonable period of time." The Comprehensive plan was adopted in July, 2003, and service and property owner constraints have prevented the development of the Union Pacific land that the City now seeks to remove

from its Urban Growth Boundary. The last 17 years have been more than a reasonable period of time for that land to be made available for industrial development.

- e. Section 5, Part L. Transportation (Goal 12) Overall Goal: To provide and encourage a safe, convenient, and economic transportation system.

Finding 3E: The City and Property Owner conducted a traffic study for this UGB adjustment to examine the impact on US 395, as required by the Oregon Department of Transportation. This traffic study examined how any additional traffic would fit with the City's current Transportation System Plan (TSP) and found that the regional transportation impacts would be neutral to positive overall, but the UGB adjustment would affect travel patterns. The area that the proposal removes from the Urban Growth Area would have relied more on US 395 in the northern part of Stanfield for highway access, while the area that the proposal adds will rely more on the US 395/I-84 interchange in the southern part of Stanfield for highway access. The study details the adjustments needed to serve the new area (such as a signalized interchange at Stanfield Avenue and US 395 and a needed turn lane onto the planned eastward extension of Stanfield Avenue), which are all included in the City's TSP already. The final report is attached as Exhibit J. This proposal fits the policies included in this part of the Comprehensive Plan, as well as the City's Transportation System Plan.

- f. Section 6. Plan Implementation Measure Review: The City Comprehensive Plan and implementation measures shall be reviewed at least biannually to determine conformity with changes in:
 - i. Oregon Revised Statutes and Administrative rules;
 - ii. Oregon Case Law;
 - iii. Oregon Statewide Planning Goals;
 - iv. Requirements of the City;
 - v. Needs of residents or landowners within the city or urban growth areas; and
 - vi. Concerns of the County and other affected governmental units.

Finding 3F: This proposal conforms to this policy. The goal of the proposal—to provide large, developable parcels of industrial land close to City infrastructure—meets the needs of residents and local landowners who are seeking jobs and developable land for their industrial needs.

- g. Section 5, Part N. Urbanization (Goal 14): Goal: To provide for an orderly and efficient transition from rural to urban land use.
 - i. Objectives:
 1. To encourage development to occur within a relatively compact urban area.
 2. To manager growth so that urban areas are developed when urban services (water and sewer service) are available. Land adjacent to the city limits are preferred so that services are extended in a logical and orderly fashion.
 3. Preserve large parcels of land (ten acres or greater) within the urban growth boundary for future urban development.
 4. To jointly manager the land within the urban growth area (UGA) in concert with Umatilla County.

5. To prevent leap-frog development and premature parcelization of land.
- ii. Growth Controls:
1. Adopt a 10-acre minimum lot size, "Urban Holding Zone" to be applied to lands mapped as EFU, Farm Residential or Urban Holding;
 2. Proposed annexation areas must demonstrate that sufficient public facilities (water—including source supply, sewer—including treatment facilities, storm drainage, and transportation systems) are available or will be installed in conjunction with any land development;
 3. Allow development adjacent to existing or approved developments only. "Cherry stem" annexations are prohibited except where improvements to be constructed as a result contribute to the orderly and efficient urbanization of the intervening land uses;
 4. Adopt special standards for the Urban Holding Zone to address existing non-conforming lots of record. Require development or further subdivision of those lands to include property owner agreement.
 5. Minimum average lot area for Urban Holding areas shall be ten (10) acres, until City public facilities and services are available and adequate to serve the proposed use on the property. At that time, the lot must be annexed into City limits to receive public facilities and services.

Finding 3G: The area proposed to be excluded from the Urban Growth area has no development, and has no access to public facilities. The area proposed to be brought within the Urban Growth Boundary is located close to existing City water and sewer main lines along Highway 395, and borders the existing City Limits. This area has no existing development. The property owner's intention is to maintain the existing property lines until development occurs and City utilities are extended to the property itself. There is sufficient capacity in the City's water and sewer systems to service the area, and the traffic study (see Exhibit J) shows how existing transportation infrastructure meets the needs of future development, and what modifications may be necessary when development occurs. This proposal satisfies all the requirements of the City's urbanization policy, as set forth in the Comprehensive Plan.

- h. Section 7. Plan Amendment. This section outlines the process for amendments to the Comprehensive Plan, all of which have been codified into the Stanfield Development Code (See Appendix A).

Finding 3H: The process followed for this proposal conforms to the requirements for Comprehensive Plan and Zoning Map amendments outlined in the Stanfield Comprehensive Plan and Stanfield Development Code.

The following section of the City of Stanfield Comprehensive Plan must be amended if this proposal is approved:

i. Section 5, Part J: Economic Development (Goal 9)

i. Policy Groups:

1. a. Industrial Development

- a. Segregate industrial and heavy commercial development into the northwest of the urban growth area and Foster Townsite area, but consider additional small nodes for this type of development along Highway 395, if service and/or ownership constraints prevent adequate land area being made available within a reasonable period of time.

Finding 3I: This proposal requires an amendment to the Comprehensive Plan and Map, which are both legislative amendments. As such, it is subject to the process outlined in the City's Development Code, which can be found in Appendix A. The purpose of the Public Hearings scheduled for February 13, 2019 before the Planning Commission and February 19, 2019 before the City Council is to make a decision on the proposed amendments.

~~The proposed amendment to the City's comprehensive plan would change Section 5, Part J, Industrial Development Policy Group so that it reads:~~

Segregate industrial and heavy commercial development into the northwest of the urban growth area, ~~and Foster Townsite area,~~ and Highway 395/Interstate 84 Interchange, but consider additional nodes for this type of development along Highway 395, if service and/or ownership constraints prevent adequate land area being made available within a reasonable period of time.

4. State Planning Goals

a. Goal 1: Citizen Involvement

- i. To ensure the opportunity for citizen involvement in all phases of the planning process.

Finding 4A: This UGB amendment will follow the City of Stanfield Code requirements for a legislative process which includes published newspaper notices, a joint public hearing before the City and County Planning Commissions, a public hearing before the City Council, and a public hearing before the County Commission. The process for this UGB adjustment meets the goal for citizen involvement.

b. Goal 2: Land Use Planning

- i. To establish a land use planning process and policy framework as a basis for all decisions and actions related to the use of land and to assure an adequate factual base for such decisions and actions.

Finding 4B: The City is basing this urban growth boundary amendment on information provided by site selectors representing companies seeking industrial land in our region. Multiple sources have indicated a need for large parcels of land zoned for industrial development that is close to existing City and private utility lines. A recent visit to the site from a site selector for a manufacturing company has confirmed the desirability of this land for this purpose. The landowner of the property that would be brought into the Urban Growth Area by this change is in agreement that this UGB change is in the best interest of future development of his property. The owner of the land that is proposed to be removed from the Urban Growth

Area has taken a completely neutral position. This UGB adjustment meets the goal of establishing an adequate factual basis for land use planning.

c. Goal 3: Agricultural Land

- i. To preserve and maintain agricultural lands.

Finding 4C: The proposed UGB change consists of an “acre-for-acre swap” and maintains the amount of agricultural land located outside the UGB. As shown in Exhibit K, the soil classification of the land to be brought into the UGB and the land to be taken out of the UGB are similar, and none of the lands involved in the proposal contain high-value soil types (high-value soils in Umatilla County are defined as Land Capability Class I and II). In addition, the subject property does not contain irrigation water rights. Therefore, it is naturally less productive than other nearby agriculturally-zoned properties that do have irrigation water rights.

The proposal will continue to make it possible for non-farm development to be encouraged inside the UGB. Also, the subject property is contiguous with the existing UGB boundary, and thereby does not lead to fragmentation of farmable land. This UGB adjustment meets the goal of preserving agricultural land as there will be no net decrease of land zoned for agricultural use and industrial development will continue to occur inside the UGB.

d. Goal 4: Forest Lands

- i. To preserve forest lands for forest use.

Finding 4D: The proposed UGB adjustment does not include any forest land; therefore it is consistent with Goal 4.

e. Goal 5: Open Space, Scenic and Historic Areas, and Natural Resources

- i. To conserve open space and protect natural and scenic resources.

Finding 4E: The subject property has not been included in any inventory of needed open space or scenic areas, nor has it been identified in either the City of Stanfield or Umatilla County Comprehensive Plans as having any historic or cultural resources which need to be preserved and/or protected. Therefore, the proposed UGB adjustment is consistent with Goal 5.

f. Goal 6: Air, Water, and Land Resources Quality

- i. To maintain and improve the quality of the air, water, and land resources of the state.

Finding 4F: The City of Stanfield has sufficient regulatory measures in place so as to ensure that subsequent development of the subject properties will not produce any unanticipated impacts resulting from the proposed UGB adjustment. As this is a UGB adjustment, with no net gain in developable land, there will be no greater air, water, and land resources quality than would be without the amendment. Therefore, the proposed UGB adjustment is consistent with Goal 6.

g. Goal 7: Areas Subject to Natural Disasters and Hazards

- i. To protect life and property from natural hazards.

Finding 4G: The UGB adjustment area is up the grade from the Umatilla River and is well out of any flood zone. There are no potential hazards identified in the area, beyond what could be

typically expected from any property in the Northeastern Oregon region. This proposed UGB adjustment is consistent with Goal 7.

h. Goal 8: Recreational Needs

- i. To satisfy the recreational needs of the citizens of the state.

Finding 4H: There are no recreational needs identified in or near the UGB adjustment area on either the City or County Comprehensive Plans, the City Parks Master Plan, or any other local, state, or federal document. The adjacent properties already within the UGB are designated for commercial development. The proposed UGB adjustment is consistent with Goal 8 as there are no identified recreational needs associated with the subject sites.

i. Goal 9: Economy of the State

- i. To diversify and improve the economy of the state.

Finding 4I: The Statewide Economic Development Goal requires that local land use plans “provide for an adequate supply of sites of suitable sizes, types, locations, and service levels for a variety of industrial and commercial uses consistent with plan policies.” Goal 9 is intended to be applied on a community-wide basis and requires that future economic growth be accommodated, in part, by ensuring that there is sufficient suitable land planned and zoned for commercial and industrial uses. The proposed UGB expansion is consistent with Goal 9 as it is creating a site of size and shape deemed suitable for industrial development.

j. Goal 10: Housing

- i. To provide for the housing needs of the citizens of the state.

Finding 4J: There is no impact on Goal 10 as this UGB adjustment involves only land currently zoned for industrial development and land that will be zoned industrial.

k. Goal 11: Public Facilities and Services

- i. To plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

Finding 4K: Since this is a UGB adjustment, with no net gain or loss of land, there are no additional infrastructure impacts associated with the action. In fact, there could be a reduction of needed infrastructure, as the land proposed to be added to the Urban Growth Area is closer to existing utility lines and would require less additional infrastructure than the land proposed to be removed from the UGA. Consequently, there is no additional facilities planning that needs to take place with this proposed UGB adjustment, and it is, therefore, consistent with Goal 11.

l. Goal 12: Transportation

Finding 4L: Since this is a UGB adjustment, with no net gain or loss of land, there is no additional impact on the transportation system. The City and Property Owner conducted a traffic study for this UGB adjustment to examine the impact on US 395, as required by the Oregon Department of Transportation. The final report is attached as Appendix B. This proposed UGB adjustment is consistent with Goal 12.

m. Goal 13: Energy Conservation

Finding 4M: Since this is a UGB adjustment, with no net gain or loss of land, there is no net increase on energy usage. This proposed UGB adjustment is consistent with Goal 13

n. Goal 14: Urbanization

Finding 4N: As the land proposed to be added to the Urban Growth Area is closer to transportation and utility infrastructure, the proposed UGB Amendment will allow the subject sites to develop industrial uses in a more orderly and efficient manner than would be likely in the current configuration. It facilitates the transition from rural land to urban industrial land and is therefore consistent with Goal 14.

o. Goals 15-19: Willamette Greenway, Estuarine Resources, Coastal Shorelines, Beaches and Dunes, and Ocean Resources

Finding 4O: The locations of the affected properties are distant from shorelines and rivers, and therefore Goals 15 through 19 are not applicable.

5. Oregon Administrative Rules: 660-024-0070 UGB Adjustments

- (1) A local government may adjust the UGB at any time to better achieve the purposes of Goal 14 and this division. Such adjustment may occur by adding or removing land from the UGB, or by exchanging land inside the UGB for land outside the UGB. The requirements of section (2) of this rule apply when removing land from the UGB. The requirements of Goal 14 and this division [and ORS 197.298] apply when land is added to the UGB, including land added in exchange for land removed. The requirements of ORS 197.296 may also apply when land is added to a UGB, as specified in that statute. If a local government exchanges land inside the UGB for land outside the UGB, the applicable local government must adopt appropriate rural zoning designations for the land removed from the UGB prior to or at the time of adoption of the UGB amendment and must apply applicable location and priority provisions of OAR 660-024-0060 through 660-020-0067.

Finding 5A: This proposed UGB adjustment is consistent with item (1) as it exchanges land inside the UGB for land outside the UGB to better achieve the purposes of goal 14. The 110 acres portion of the Union Pacific land to be removed from the UGB is currently zoned for industrial development. In order to meet the requirement to “adopt appropriate rural zoning designations,” the 110 acres to be removed from the UGB will be rezoned to the County EFU designation.

- (2) A local government may remove land from a UGB following the procedures and requirements of ORS 197.764. Alternatively, a local government may remove land from the UGB following the procedures and requirements of 197.610 to 197.650, provided it determines:

Finding 5B: The City is submitting this proposed UGB amendment in accordance with the procedures and requirements of 197.610 to 197.650, as justified below.

- (a) The removal of land would not violate applicable statewide planning goals and rules;

Finding 5C: As demonstrated in the findings above, the proposed UGB adjustment is consistent with each of the statewide planning goals.

- (b) The UGB would provide a 20-year supply of land for estimated needs after the land is removed, or would provide roughly the same supply of buildable land as prior to the removal, taking into consideration land added to the UGB at the same time;

Finding 5D: The proposed UGB adjustment is a 110-acre for 110-acre swap with no net gain or loss in developable land; therefore the 20-year land supply is unchanged.

- (c) Public facilities agreements adopted under ORS 195.020 do not intend to provide for urban services on the subject land unless the public facilities provider agrees to removal of the land from the UGB and concurrent modification of the agreement;

Finding 5E: No urban services are currently provided to the area proposed to be removed from the UGB, nor would they be provided once it is removed until such time as this area is brought back into the UGB.

- (d) Removal of the land does not preclude the efficient provision of urban services to any other buildable land that remains inside the UGB; and

Finding 5F: The subject properties are on the edge of the UGB and there are no properties within the UGB to the south or west of the area to be removed.

- (e) The land removed from the UGB is planned and zoned for rural use consistent with all applicable laws.

Finding 5G: As discussed previously, the 110 acres to be removed from the UGB will be rezoned to County zone EFU, the rural designation that it had prior to being included in the UGB. This criteria will be met as the zone change will take place concurrently with the UGB adjustment.

(3) Notwithstanding sections (1) and (2) of this rule, a local government considering an exchange of land may rely on the land needs analysis that provided a basis for its current acknowledged plan, rather than adopting a new need analysis, provided:

- (a) The amount of buildable land added to the UGB to meet:

- (A) A specific type of residential need is substantially equivalent to the amount of buildable residential land removed, or

(B) The amount of employment land added to the UGB to meet an employment need is substantially equivalent to the amount of employment land removed, and

(b) The local government must apply comprehensive plan designations and, if applicable, urban zoning to the land added to the UGB, such that the land added is designated:

(A) For the same residential uses and at the same housing density as the land removed from the UGB, or

(B) For the same employment uses as allowed on the land removed from the UGB, or

(C) If the land exchange is intended to provide for a particular industrial use that requires specific site characteristics, only land zoned for commercial or industrial use may be removed, and the land added must be zoned for the particular industrial use and meet other applicable requirements of ORS 197A.320(6).

Finding 5H: The amount of buildable land proposed to be added (110 acres) is substantially equivalent to the amount of buildable land proposed to be removed from the UGB (110 acres). The land to be removed is currently zoned for industrial development; the land to be added will also be zoned for industrial development. These criteria are met; therefore no new population forecast or lands need analysis is required.

6. Soil Conditions (See Exhibit K) of the lands proposed to be excluded from and added to the Urban Growth Boundary.

Finding 6: As shown on the included maps, the soil types found on the land proposed to be added to the City's Urban Growth Boundary are the same or poorer quality than the soil types found on the land proposed to be removed from the City's UGB. The proposal would result in either a neutral effect on available soil types in agriculturally zoned areas around the City, or a slight improvement.

EVALUATION

1. The City's recently completed water improvements project expanded the City's water system to the I-84 interchange, which opens up these properties for development. The Owners are interested in developing their properties, and, realizing that annexation would be required in order to obtain City services, they would like these properties annexed into the City to prepare the sites for future development.
2. No development is currently planned for the properties, however industrial developers are beginning to show interest. It is believed that inclusion in the Urban Growth Boundary and annexation will make the properties more marketable.

CONCLUSIONS AND RECOMMENDATION

Based on the above stated findings and evaluation, the staff submits the following conclusions:

1. The request is consistent with Statewide Planning Goals Stanfield Comprehensive Plan, and Oregon Revised Statutes and Administrative Rules.
 2. There are no necessary improvements to be made until the property is developed further.
 3. The City Manager recommends approval of the annexation applications.
-

Appendix A

Sections of the City of Stanfield Comprehensive Plan and Development Code are applicable to this proposal in regard to the procedures to be followed in considering the zone change and map amendment:

1. City of Stanfield Comprehensive Plan, Section 7. Plan Amendment

a. SECTION 7. PLAN AMENDMENT

Amendments to the Comprehensive Plan may be initiated through the City Planning Department by property owners and residents within or adjacent to the city limits or urban growth boundary, by Umatilla County and by affected agencies or organizations. Amendments may also be initiated by the City Council, Planning Commission, City Administrator, or City Planner. All amendments shall be forwarded to LCDC in accordance with applicable State Statutes and Administrative Rules, and to Umatilla County in accordance with the Stanfield Planning Area Joint Management Agreement.

The City of Stanfield will process, review and act on a requested Plan amendment per the following procedures:

A. The Planning Commission shall set a public hearing date and give notice thereof through a newspaper of general circulation in the city at least ten (10) days prior to the hearing and if applicable, notice shall be mailed to:

1. Property owners within 250 feet of land subject to a proposed amendment to Comprehensive Plan map A, C, or D; and

2. Affected governmental units which may be impacted by or who have requested opportunity to review and comment on proposed amendments.

B. Copies of proposed amendments shall be made available for review at least ten (10) days prior to the Planning Commission hearing.

C. Within ten (10) days after the close of the public hearing, the Planning Commission shall make findings of fact and recommend to the City Council adoption, revision or denial of proposed amendments.

D. Upon receipt of the Planning Commission recommendation the City Council, shall set a public hearing date and give notice thereof through a newspaper of general circulation in the city at least ten (10) days prior to the hearing and if applicable, notice shall be mailed to:

1. Property owners within 250 feet of land subject to a proposed amendment to Comprehensive Plan map A, C, or D; and

2. Affected governmental units which may be impacted by or who have requested the opportunity to review and comment on proposed amendments.

E. Copies of proposed amendments and the Planning Commission recommendation shall be made available for review at least ten (10) days prior to the City Council hearing.

F. Within ten (10) days after the close of the hearing, the City Council shall make findings of fact and adopt, adopt with changes, or deny the proposed amendments. Adoption of plan amendments is effective upon:

1. City adoption in the case of amendment of a Comprehensive Plan map for an area within the city limits.
2. County co-adoption in the case of amendment of plan goals, objectives, policies, or plan maps for the urban growth area; or the urban growth boundary location.

Formal LCDC acknowledgment may subsequently be required for some plan amendments, but they are effective locally per the above.

G. Notice of plan amendment decisions and copies of any plan amendments adopted by the City shall be sent to Umatilla County, LCDC, the applicant, the news media, and all persons or agencies that testified at the public hearings or in writing.

H. The applicant for an amendment bears the legal burden of proof regarding the amendment and the financial responsibility of defending an appeal of the City's approval of the amendment. The City may, however, elect to participate fully or partially in terms of staff and costs associated with the defense of such an appeal.

2. City of Stanfield Development Code Chapter 4

4.1.200 Description of Permit/Decision-making Procedures.

All land use and development permit applications, except building permits, shall be decided by using the procedures contained in this Chapter. General procedures for all permits are contained in Section 4.1.7. Specific procedures for certain types of permits are contained in Section 4.1.2 through 4.1.6. The procedure "type" assigned to each permit governs the decision-making process for that permit. There are four types of permit/decision-making procedures: Type I, II, III, and IV. These procedures are described in subsections A-D below. In addition, Table 4.1.200 lists all of the City's land use and development applications and their required permit procedure(s).

- A. **Type I Procedure (Ministerial).** Type I decisions are made by City Manager, or someone he or she officially designates, without public notice and without a public hearing. The Type I procedure is used when there are clear and objective approval criteria, and applying city standards and criteria requires no use of discretion;
- B. **Type II Procedure (Administrative).** Type II decisions are made by City Manager or designee with public notice and an opportunity for a public hearing if appealed. The appeal of a Type II decision is heard by the Planning Commission;
- C. **Type III Procedure (Quasi-Judicial).** Type III decisions are made by the Planning Commission after a public hearing, with appeals reviewed by the City Council. Type III decisions generally use discretionary approval criteria.
- D. **Type IV Procedure (Legislative).** Type IV procedures apply to legislative matters. Legislative matters involve the creation, revision, or large-scale implementation of public policy (e.g., adoption of land use regulations, zone changes, and comprehensive plan amendments that apply to entire districts).

Type IV matters are considered initially by the Planning Commission with final decisions made by the City Council.

4.1.600 Type IV Procedure (Legislative)

A. Pre-Application Conference. A pre-application conference is required for all Type IV applications. The requirements and procedures for a pre-application conference are described in Section 4.1.7.C.

B. Application Requirements.

1. Application forms. Type IV applications shall be made on forms provided by the City Manager.
2. Submittal Information. The application shall contain:
 - a. The information requested on the application form;
 - b. A map and/or plan addressing the appropriate criteria and standards in sufficient detail for review and decision (as applicable);
 - c. The required fee; and
 - d. 10 copies of a letter or narrative statement that explains how the application satisfies each and all of the relevant approval criteria and standards.

D. Notice of Hearing.

1. Required hearings. A minimum of two hearings, one before the Planning Commission and one before the City Council, are required for all Type IV applications, except annexations where only a hearing by the City Council is required.
2. Notification requirements. Notice of public hearings for the request shall be given by the City Manager in the following manner:
 - a. At least 20 days, but not more than 40 days, before the date of the first hearing on an ordinance that proposes to amend the comprehensive plan or any element thereof, or to adopt an ordinance that proposes to rezone property, a notice shall be prepared in conformance with ORS 227.175 and mailed to:
 - (1) Each owner whose property would be rezoned in order to implement the ordinance (i.e., owners of property subject to a comprehensive plan amendment shall be notified if a zone change would be required to implement the proposed comprehensive plan amendment);
 - (2) Any affected governmental agency.
 - (3) Recognized neighborhood groups or associations affected by the ordinance;
 - (4) Any person who requests notice in writing;

- (5) For a zone change affecting a manufactured home or mobile home park, all mailing addresses within the park, in accordance with ORS 227.175.
 - (6) Owners of airports shall be notified of a proposed zone change in accordance with ORS 227.175;
 - b. At least 10 days before the scheduled Planning Commission public hearing date, and 10 days before the City Council hearing date, notice shall be published in a newspaper of general circulation in the City.
 - c. The City Manager shall:
 - (1) For each mailing of notice, file an affidavit of mailing in the record as provided by Subsection a; and
 - (2) For each published notice, file in the record the affidavit of publication in a newspaper that is required in subsection b.
 - d. The Department of Land Conservation and Development (DLCD) shall be notified in writing of proposed comprehensive plan and development code amendments at least 45 days before the first public hearing at which public testimony or new evidence will be received.
 - e. Notifications for annexation shall follow the provisions of this Chapter and ORS 199.
3. Content of notices. The mailed and published notices shall include the following information:
- a. The number and title of the file containing the application, and the address and telephone number of the City Manager's office where additional information about the application can be obtained;
 - b. A description of the location of the proposal reasonably calculated to give notice of the location of the geographic area;
 - c. A description of the proposal in enough detail for people to determine that a change is proposed, and the place where all relevant materials and information may be obtained or reviewed;
 - d. The time(s), place(s), and date(s) of the public hearing(s); a statement that public oral or written testimony is invited; and a statement that the hearing will be held under this title and rules of procedure adopted by the Council and available at City Hall (See subsection E below); and
 - e. Each mailed notice required by section D shall contain the following statement: "Notice to mortgagee, lienholder, vendor, or seller: The Stanfield Development Code requires that if you receive this notice it shall be promptly forwarded to the purchaser."
4. Failure to receive notice. The failure of any person to receive notice shall not invalidate the action, providing:
- a. Personal notice is deemed given where the notice is deposited with the United States Postal Service;

- b. Published notice is deemed given on the date it is published.

E. Hearing Process and Procedure.

- 1. Unless otherwise provided in the rules of procedure adopted by the City Council:
 - a. The presiding officer of the Planning Commission and of the City Council shall have the authority to:
 - (1) Regulate the course, sequence, and decorum of the hearing;
 - (2) Direct procedural requirements or similar matters; and
 - (3) Impose reasonable time limits for oral presentations.
 - b. No person shall address the Commission or the Council without:
 - (1) Receiving recognition from the presiding officer; and
 - (2) Stating their full name and address.
 - c. Disruptive conduct such as applause, cheering, or display of signs shall be cause for expulsion of a person or persons from the hearing, termination or continuation of the hearing, or other appropriate action determined by the presiding officer.
- 2. Unless otherwise provided in the rules of procedures adopted by the Council, the presiding officer of the Commission and of the Council, shall conduct the hearing as follows:
 - a. The presiding officer shall begin the hearing with a statement of the nature of the matter before the body, a general summary of the procedures, a summary of the standards for decision-making, and whether the decision which will be made is a recommendation to the City Council or the final decision of the Council;
 - b. The City Manager's report and other applicable staff reports shall be presented;
 - c. The public shall be invited to testify;
 - d. The public hearing may be continued to allow additional testimony or it may be closed; and
 - e. The body's deliberation may include questions to the staff, comments from the staff, and inquiries directed to any person present.

F. Continuation of the Public Hearing. The Planning Commission or the City Council may continue any hearing, and no additional notice of hearing shall be required if the matter is continued to a specified place, date, and time.

G. Decision-Making Considerations. The recommendation by the Planning Commission and the decision by the City Council shall be based on consideration of the following factors:

- 1. Approval of the request is consistent with the Statewide Planning Goals;

2. Approval of the request is consistent with the Comprehensive Plan; and
3. The property and affected area is presently provided with adequate public facilities, services and transportation networks to support the use, or such facilities, services and transportation networks are planned to be provided concurrently with the development of the property.

H. Approval Process and Authority.

1. The Planning Commission shall:
 - a. After notice and a public hearing, vote on and prepare a recommendation to the City Council to approve, approve with modifications, approve with conditions, deny the proposed change, or adopt an alternative; and
 - b. Within 14 business days of determining a recommendation, the presiding officer shall sign the written recommendation, and it shall be filed with the City Manager.
2. Any member of the Planning Commission who votes in opposition to the Planning Commission's majority recommendation may file a written statement of opposition with the City Manager before the Council public hearing on the proposal. The City Manager shall send a copy to each Council member and place a copy in the record.
3. If the Planning Commission fails to adopt a recommendation to approve, approve with modifications, approve with conditions, deny the proposed change, or adopt an alternative proposal, within 60 days of its first public hearing on the proposed change, the City Manager shall:
 - a. Report the failure together with the proposed change to the City Council; and
 - b. Provide notice and put the matter on the City Council's agenda, a public hearing to be held, and a decision to be made by the Council. No further action shall be taken by the Commission.
4. The City Council shall:
 - a. Approve, approve with modifications, approve with conditions, deny, or adopt an alternative to an application for legislative change, or remand the application to the Planning Commission for rehearing and reconsideration on all or part of the application;
 - b. Consider the recommendation of the Planning Commission; however, it is not bound by the Commission's recommendation; and
 - c. Act by ordinance, which shall be signed by the Mayor after the Council's adoption of the ordinance.

I. Vote Required for a Legislative Change.

1. A vote by a majority of the qualified voting members of the Planning Commission present is required for a recommendation for approval, approval with modifications, approval with

conditions, denial or adoption of an alternative.

2. A vote by a majority of the qualified members of the City Council present is required to decide any motion made on the proposal.

J. Notice of Decision. Notice of a Type IV decision shall be mailed to the applicant, all participants of record, and the Department of Land Conservation and Development, within five business days after the City Council decision is filed with the City Manager. The City shall also provide notice to all persons as required by other applicable laws.

K. Final Decision and Effective Date. A Type IV decision, if approved, shall take effect and shall become final as specified in the enacting ordinance, or if not approved, upon mailing of the notice of decision to the applicant.

L. Record of the Public Hearing.

1. A verbatim record of the proceeding shall be made by stenographic, mechanical, or electronic means. It is not necessary to transcribe an electronic record. The minutes and other evidence presented as a part of the hearing shall be part of the record;
2. All exhibits received and displayed shall be marked to provide identification and shall be part of the record;
3. The official record shall include:
 - a. All materials considered by the hearings body;
 - b. All materials submitted by the City Manager to the hearings body regarding the application;
 - c. The verbatim record made by the stenographic, mechanical, or electronic means; the minutes of the hearing; and other documents considered;
 - d. The final ordinance;
 - e. All correspondence; and
 - f. A copy of the notices that were given as required by this Chapter.

4.7.200 Legislative Amendments.

Legislative amendments are policy decisions made by City Council. They are reviewed using the Type IV procedure in Chapter 4.1, Section 5 and shall conform to Section 4.7.600.

4.7.600 Transportation Planning Rule Compliance.

A. When a development application includes a proposed comprehensive plan amendment or land use district change, the proposal shall be reviewed to determine whether it significantly affects a transportation facility, in accordance with Oregon Administrative Rule (OAR) 660-012-0060. Significant means the proposal would:

1. Change the functional classification of an existing or planned transportation facility. This would occur, for example, when a proposal causes future traffic to exceed the capacity of “collector” street classification, requiring a change in the classification to an “arterial” street, as identified by the City’s Transportation System Plan; or
2. Change the standards implementing a functional classification system; or
3. Allow types or levels of land use that would result in levels of travel or access what are inconsistent with the functional classification of a transportation facility; or
4. Reduce the performance standards of the facility below the minimum acceptable level identified in the Transportation System Plan.

B. Amendments to the comprehensive plan and land use standards that significantly affect a transportation facility shall assure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the Transportation System Plan. This shall be accomplished by one of the following:

1. Limiting allowed land uses to be consistent with the planned function of the transportation facility; or
2. Amending the Transportation System Plan to ensure that existing, improved, or new transportation facilities are adequate to support the proposed land uses consistent with the requirement of the Transportation Planning Rule; or,
3. Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes of transportation.