



Oregon
Theodore R. Kulongoski, Governor

Department of Land Conservation and Development

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Salem, OR 97301-2540

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www.lcd.state.or.us



NOTICE OF ADOPTED AMENDMENT

03/31/2014

TO: Subscribers to Notice of Adopted Plan
or Land Use Regulation Amendments

FROM: Plan Amendment Program Specialist

SUBJECT: City of Grants Pass Plan Amendment
DLCD File Number 003-13

The Department of Land Conservation and Development (DLCD) received the attached notice of adoption. Due to the size of amended material submitted, a complete copy has not been attached. A Copy of the adopted plan amendment is available for review at the DLCD office in Salem and the local government office.

Appeal Procedures*

DLCD ACKNOWLEDGMENT or DEADLINE TO APPEAL: Tuesday, April 15, 2014

This amendment was submitted to DLCD for review prior to adoption pursuant to ORS 197.830(2)(b) only persons who participated in the local government proceedings leading to adoption of the amendment are eligible to appeal this decision to the Land Use Board of Appeals (LUBA).

If you wish to appeal, you must file a notice of intent to appeal with the Land Use Board of Appeals (LUBA) no later than 21 days from the date the decision was mailed to you by the local government. If you have questions, check with the local government to determine the appeal deadline. Copies of the notice of intent to appeal must be served upon the local government and others who received written notice of the final decision from the local government. The notice of intent to appeal must be served and filed in the form and manner prescribed by LUBA, (OAR Chapter 661, Division 10). Please call LUBA at 503-373-1265, if you have questions about appeal procedures.

***NOTE:** The Acknowledgment or Appeal Deadline is based upon the date the decision was mailed by local government. A decision may have been mailed to you on a different date than it was mailed to DLCD. As a result, your appeal deadline may be earlier than the above date specified. NO LUBA Notification to the jurisdiction of an appeal by the deadline, this Plan Amendment is acknowledged.

Cc: Bill Cobabe, City of Grants Pass
Gordon Howard, DLCD Urban Planning Specialist
Josh LeBombard, DLCD Regional Representative
Gary Fish, DLCD Transportation Planner

<paa> YA



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

FOR DLCD USE

File No.: 003-13 (20088)
[17814]
Received: 3/25/2014

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

Jurisdiction: City of Grants Pass

Local file no.: **13-40500004**

Date of adoption: 03/05/2014

Date sent: 3/25/2014

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

Yes: Date (use the date of last revision if a revised Form 1 was submitted): 11/18/13

No

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

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

No

Local contact (name and title): Lora Glover, Asst. Director, Parks & Community Development

Phone: 541.450.6071

E-mail: lglover@grantspassoregon.gov

Street address: 101 NW A Street

City: Grants Pass, OR

Zip: 97526-

PLEASE COMPLETE ALL OF THE FOLLOWING SECTIONS THAT APPLY

For a change to comprehensive plan text:

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

Element 11 - Transportation, Adding a provision referencing the Spalding Industrial Area Traffic Impact Analysis (TIA) to Appendix G of the Master Transportation Plan

For a change to a comprehensive plan map:

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

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

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

The subject property is entirely within an urban growth boundary

The subject property is partially within an urban growth boundary

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

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

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

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

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

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

For a change to a zoning map:

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

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

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

Overlay zone designation:	Acres added:	Acres removed:
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Location of affected property (T, R, Sec., TL and address):

List affected state or federal agencies, local governments and special districts:

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

Any supplemental information that may be useful to inform DLCD or members of the public of the effect of the actual change

ORDINANCE NO 14-5596

AN ORDINANCE OF THE COUNCIL OF THE CITY OF GRANTS PASS AMENDING THE MASTER TRANSPORTATION PLAN ELEMENT OF THE COMPREHENSIVE PLAN.

WHEREAS

- 1 The Grants Pass and Urbanizing Area Comprehensive Community Development Plan was adopted December 15, 1982, and
- 2 The City developed a Traffic Impact Analysis for the Spalding Industrialized Area in February, 2012, and
- 3 The ordinance amends the Master Transportation Plan Element of the Comprehensive Plan, and
- 4 The proposal is consistent with the goals and policies of the Comprehensive Plan, and
- 5 The applicable criteria from the Development Code are satisfied, and approval of the proposal is recommended by the Urban Area Planning Commission to the City Council

NOW, THEREFORE, THE CITY OF GRANTS PASS HEREBY ORDAINS

Section 1 The amendment to Master Transportation Element of the Comprehensive Plan, as set forth in Exhibit "A", is hereby adopted

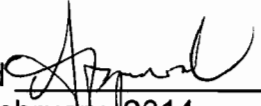
ADOPTED by the Council of the City of Grants Pass, Oregon, in regular session this 19th day February, 2014, with the following specific roll call vote

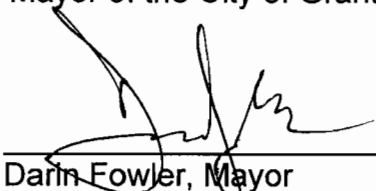
AYES. DeYoung, Gatlin, Goodwin, Hannum, Riker and Webber

NAYS None

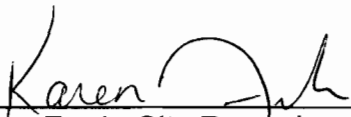
ABSTAIN. None

ABSENT: Morgan and Williams

SUBMITTED to and  by the Mayor of the City of Grants Pass, Oregon, this 24 day of February, 2014

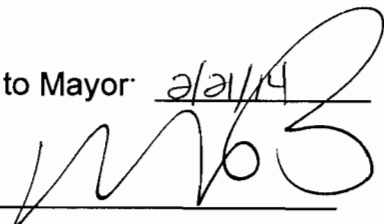

Darin Fowler, Mayor

ATTEST


Karen Frerk, City Recorder

Date submitted to Mayor: 2/21/14

Approved as to Form, Mark Bartholomew, City Attorney



Master Transportation Plan – Appendix G Addition

(To be inserted on page 7 of Appendix G)

Spalding Industrial Area Technical Memorandum

This report evaluates the traffic impacts of full development in the Spalding Industrial Area. The report also identifies the likely transportation improvements needed to meet the City's minimum operational standards for development of the area.

(To be added after page 49, as page 50 of Appendix G)

SPALDING INDUSTRIAL AREA TECHNICAL MEMORANDUM

Author:	Access Engineering, LLC
Date:	February 2012
Document Type:	Technical Memorandum
Status:	Complete
Planning Period:	Ongoing
Geographic Area Covered:	Spalding Industrial Area

Synopsis

The report is a refinement of the City's Master Transportation Plan to evaluate the traffic impacts of full development of the Spalding Industrial Area. The report identifies the likely transportation improvements needed to meet the City's minimum operational standards for development in the area. This report will become part of an overall Traffic Impact Analysis (TIA) and be the basis for a Capital Improvement Plan (CIP) for the Spalding Industrial Area.

Findings

- Current conditions indicate that intersections along Foothill Boulevard and F Street in the study area are operating within acceptable limits. However, along Agness Avenue the level of service is close to becoming unacceptable, while the intersection of Agness Avenue and Grants Pass Parkway is currently operating below acceptable limits
- As the area is expected to continue to grow, with both industrial and residential traffic anticipated, interventions should be taken as development occurs to help mitigate impacts of additional traffic
- The impact of the increased traffic on roads and intersections in the area when accounting for additional new development will mean that the level of service will fall below acceptable levels if appropriate steps are not taken

Recommendations. For specific recommendations, see page 19 of the report.

EXHIBIT "A"

Spalding Industrial Area Technical Memorandum

Grants Pass, Oregon

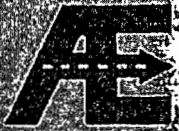


Renews: 6/30/12

February 17, 2012

EXHIBIT

2



Access Engineering LLC

134 E. 13th Ave. Suite 200

Grants Pass, Oregon 97630

Phone: (541) 253-3153

Fax: (541) 253-3154

info@accesseng.com

Spalding Industrial Area Technical Memorandum

Grants Pass, Oregon

Transportation Engineering

Traffic Design

Traffic Counts

Access Management

Traffic Control

Street Lighting

February 17, 2012

Spalding Industrial Area Technical Memorandum

I. Introduction

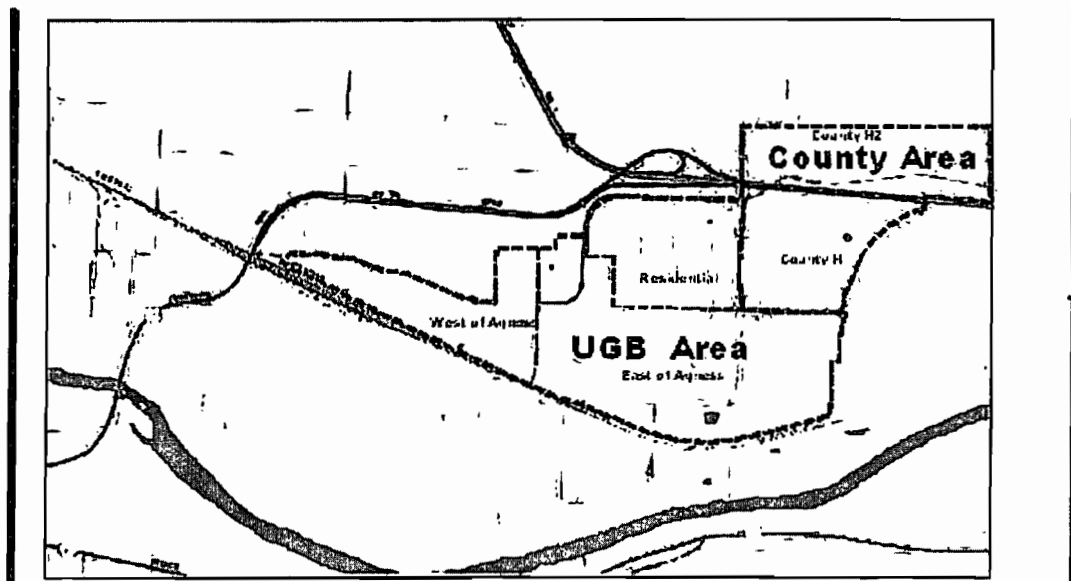
The Grants Pass City Council has authorized a refinement of the City's Master Transportation Plan to evaluate the traffic impacts of full development of the Spalding Industrial Area. This technical report identifies the likely transportation improvements needed to meet the City's minimum operational standards for development of the area. This technical report will become part of an overall Traffic Impact Analysis (TIA) and be the basis for a Capital Improvement Plan (CIP) for the Spalding Industrial Area.

II. Scope of Work

A. Description of Study Area

The Spalding Industrial Area is located in the eastern part of the Grants Pass urban area and is divided into two parts. The **UGB** area is within the current Urban Growth Boundary (UGB) of the city and is composed of parcels north of the Oregon & Pacific Railroad tracks and for the most part south of "F" Street and Foothill Boulevard. For ease of analysis the UGB area has been divided into three parts: the area **East of Agness Avenue**, predominantly zoned I (Industrial); the area **West of Agness Avenue**, zoned I, and the **Residential** area bordering Foothill Blvd., zoned R-1-8 (low density Residential) and M-1 (Manufacturing).

The City is currently undergoing an Urban Growth Boundary expansion to the northeast of the study area. The **County** area consists of the parcels in the potential UGB expansion area of Josephine County to the north and east of the **UGB** area on either side of Foothill Boulevard. The **County** area is further divided into the area south of Interstate 5 (**County H**) and the area north of Interstate 5 (**County H2**). The image below shows the Spalding Industrial Area and its components. Per the City's scope of work, the TIA will evaluate the traffic impacts of rezoning the **County** expansion area to industrial uses but the CIP will only include costs for improvements of the current **UGB** areas.



B. Study Area Streets

Table 1 lists the streets in the study area and their characteristics.

Table 1: Existing Study Area Street Characteristics

Street Segment	Jurisdiction	Classification	Posted Speed	ROW / Roadway Width -Curbs	Travel Lanes*	Bike Lanes	On-Street Parking	Sidewalks
Grants Pass Pkwy. (GPP)	ODOT	Major Arterial	45	110' / 80' - Shoulders	4	No	None	None
Agness Avenue	City	Major Arterial	35	80' / 48' Both	2	Yes	None	Both
"F" Street West of Beacon Beacon to Agness	City	Major Collector	35	60' / 44' Both 50-60' / 32' Both	2	Yes	None	Both
Foothill Bl. Agness to Industry Industry to City limits City limits to Ament Rd. Ament Rd. to Jones Cr Rd. Jones Cr Rd. to East	ODOT ODOT County County County	Major Collector	45	90-110' / 44' South 100-130' / 24' Shldrs 50' / 24' Shoulders 60' / 24' -Shoulders 80' / 22' -Shoulders	2	Yes No No No No	None	S Side None None None None
Spalding Ave. Agness to Shannon Shannon to Ament Ament to East	City County County	Major Collector Major Collector Local	25**	50' / 36' Both 40' / 24' Shoulders 60' / 24' - Shoulders	2	Yes No No	Yes None None	Both None None
Industry Drive	City	Local	25**	50-60' / 32' - Both	2	No	Yes	Both
Assembly Drive***	City	Local	25**	50' / 32' Both	2	No	Yes	Both
Lawless Lane Foothill to 800' S. 800' S to and	City	Local	25*	50' / 24' Shoulders 50' / 32' Both	2	No	No Yes	No Both
Aurora Avenue	City	Local	25**	50' / 18' Shoulders	2	No	No	None
Ament Road	County	Major Collector	40	50' / 20' - None	2	No	None	None
Pearce Park Road	County	Local	25**	15 ROW / 22' Shoulders	2	No	None	None
Jones Creek Road	County	Local	45	60' / 22' Shoulders	2	No	None	None
Buysman Way	County	Local	25**	33' / 2) 16' Shoulders	2	No	None	None

* Travel lanes shown are through lanes. See Figure 3A in Appendix A for the existing lane configuration and traffic control at the intersections.

Basic Rule

Future Planned Improvement see below

City of Grants Pass Master Transportation Plan (MTP) - Planned Improvements in Study Area

Ament Road - Full reconstruction - 36' roadway with curbs, gutters, sidewalks, and bike lanes.

Foothill Boulevard - Full reconstruction - 42' roadway with bike lanes & sidewalks.

III. Data Collection

A. Study Area Tax Lot Data

Josephine County's Assessors Office has provided listings of all tax lots, their addresses, zoning, and property and building classification codes for all properties in the study area. The Spalding Industrial Area consists of two main sections; the portion inside the City of Grants Pass Urban Growth Boundary (UGB) consisting of 82 parcels (SEE Figure 1 in Appendix A), and the portion currently outside of the UGB in Josephine County (County) along Foothill Boulevard consisting of 45 parcels (see Figure 2 in Appendix A). Table 2 shows the acreage in each of the sub areas. In the table "Vacant Acres" also includes developed parcels that have an undeveloped portion that could be subdivided. The "Redevelopable Acres" includes abandoned structures, greatly reduced usage, or farm uses. Existing developed residential parcels are not included in the "Redevelopable Acres"

Table 2 Spalding Industrial Area - Subareas

Subarea	Total All Parcels		Vacant Acres		Redevelopable Acres	
	Tax Lots	Acres	Tax Lots	Acres	Tax Lots	Acres
UGB East of Agness Avenue	42	152.93	21	64.96	4	44.73
UGB West of Agness Avenue	16	53.72	2	10.69	2	5.22
UGB North (Residential)	24	57.97	7	24.45	1	1.50
All UGB Areas (Figure 1)	82	264.62	30	100.10	7	51.45
County Area H	13	55.88	4	3.86	5	46.93
County Area H2	32	68.84	10	11.60	0	0.00
ALL County Areas (Figure 2)	45	124.72	14	15.46	5	46.93
Total Spalding Industrial Area	127	389.34	44	115.56	12	98.38

Appendix B contains a listing of all parcels in the Spalding Industrial Area divided into the five subareas and shows the acreage (total, vacant, and redevelopable), zoning, and current use.

The UGB area east of Agness is predominantly zoned I (Industrial) with three exceptions. Three parcels near the northeast corner of Agness and Spalding are zoned BP (Business Park). One small parcel on Agness just south of Grants Pass Parkway is zoned GC (General Commercial). Four parcels east of Ament Road outside the city limits, three of which are zoned RI (Rural Industrial) and one is zoned RR-1 (Rural Residential). There are 12 relatively small vacant parcels on Industry Drive and Assembly Circle totaling 18.54 acres. Three parcels east of Ament Road are vacant and comprise 37.68 acres. The former Spalding Mill property totaling 36.66 acres is currently under used as warehousing and is deemed to be redevelopable.

The UGB area west of Agness is zoned I (Industrial) and has only two vacant parcels with a total acreage of 10.69 acres. The two parcels on the northwest corner of Agness and "F" Street are deemed redevelopable totaling 5.22 acres.

The UGB Residential area is outside the city limits and contains a mixture of residential and industrial zoned parcels south and east of Foothill Boulevard. The residentially zoned parcels (R-1-8 and R-2) on either side of Aurora Avenue are fully developed. None of these parcels have been assumed to redevelop as light industrial uses. The two cemetery parcels in the northwest corner of the area are not included for redevelopment. All vacant parcels are zoned M-1 (Manufacturing?), three of which are partially vacant.

The proposed UGB expansion area in Josephine County is divided in two by Interstate 5. The parcels in the area south of I-5 (County H) are either zoned RR2.5, RR5 (Rural Residential) or FR (Farm Resource). Only about 4 acres along Pearce Park Road zoned RR with miscellaneous small structures were deemed to be candidates for redevelopment. All of the FR zoned parcels totaling 43.85 acres are assumed to be redeveloped.

In the County H2 area north of I-5 along Foothill Boulevard and Jones Creek Road there are parcels with a mixture of RC (Rural Commercial), RI (Rural Industrial) and RR2.5 (Rural Residential). In this area there are only seven parcels that are either vacant or partially vacant and candidates for redevelopment. Developed parcels in the RR2.5 zones are assumed to remain as residential properties.

B. Existing Traffic Data

After discussions with City and ODOT staff, it was decided that the PM peak hour is the critical period for analysis. Turning movement counts at the study area intersections were collected during the time period 3:00 to 6:00 PM by TrafStats, Inc on Wednesday September 21, 2011. The raw count data is displayed in Figure 3 in Appendix A and the data sheets for each intersection can be found in Appendix C. The volume data was then seasonally adjusted using the 2011 Seasonal Trend Table compiled by ODOT's Transportation Planning and Analysis Unit. The Commuter trend was used to adjust the count data to the Design Hour Volumes (DHV).

The peak hour at the study area intersections varied from as early as 3:00-4:00 PM to 4:45-5:45. The peak hour at the most critical intersection, Grants Pass Parkway at Agness Avenue, was found to be 4:30-5:30 PM. In order to provide a worst-case scenario, each intersection's peak hour was used as the basis and traffic volumes were balanced between each intersection. The seasonally adjusted and balanced DHV at the study area intersections are shown in Figure 4 in Appendix A.

C. Intersection Operations Analysis Criteria

Level of Service, delay, and volume to capacity ratios are used as measures of effectiveness for intersection performance. Level of service (LOS), based on average delay per vehicle, is used to measure the intersection operations on City streets. The latest edition of the Highway Capacity Manual defines the methods by which LOS is calculated in this analysis. LOS describes the quality of traffic flow on a roadway or at an intersection. It is described by a letter scale from "A" to "F". LOS "A" represents the highest service and LOS "F" represents the lowest. For State Highway intersections, the intersection operations are based on the ratio of the volume of traffic using a signalized intersection or unsignalized approach compared to the capacity of the intersection or approach, V/C. As the volume of traffic nears its capacity the V/C ratio approaches 1.0.

The City of Grants Pass Development Code prescribes the following minimum performance (mobility) standards for intersections

For all signalized intersections the intersection as a whole must operate at LOS "D" or better, and no approach shall fall below LOS "E", and the V/C shall not be higher than 1.0 for the sum of critical movements.

For unsignalized intersections of public streets, no arterial or collector approach shall operate below LOS "D", no other street approach shall operate below LOS "E", and no movement serving more than 20 peak hour trips shall operate below LOS "E"

At intersections with State Highways, the City's minimum performance standards shall apply in addition to the ODOT standards.

The 1999 updated Oregon Highway Plan (OHP), as amended, provides the maximum allowable v/c for various highway classifications, locations, and speeds. Table 6 in the OHP indicates the maximum allowable V/C for an expressway (Grants Pass Parkway) within an UGB is 0.70.

Josephine County applies an intersection level of service threshold of LOS D or better or a V/C of 0.85

D. Existing Intersection Operational Analysis

The first step is to examine the existing conditions in the study area to determine if there are any intersections that do not currently meet the mobility standards. Following the guidelines in ODOT's Analysis Procedure Manual (APM) the ideal saturation flow rate is set to 1750 vehicles per hour per lane. For the signalized intersection, uncoordinated, actuated operations were modeled with the existing phasing. The existing Peak Hour Factors (PHF's) from the counts were used and a standard 4 seconds of lost time were used in the signal analyses. For the unsignalized intersections, the approach with the highest volume to capacity ratio (V/C) or worst LOS are reported. Table 3 shows the results of the intersection capacity analysis for the 2012 design hour volume conditions shown in Figure 4. The Synchro6 reports can be found in Appendix D. Delay is the average vehicle delay in seconds.

Table 3 2012 Design Hour LOS Analysis; Existing Conditions

Intersection	Critical Approach	Control	Mobility Standard	V/C	Delay (Sec.)	LOS
Grants Pass Pkwy. @ Agness Ave.	Northbound	Signal/Free	0.70 D	0.64	38.1 59.3	D E
	Southbound	All-Way Stop	D		31.0	D
Agness Ave. @ "F" St./Foothill Bl.	Westbound	Stop	D		21.6	C
Agness Ave. @ Spalding Ave.	Southbound	Stop	D		15.5	C
"F" St. @ Beacon Dr	Southbound	Stop	D		11.9	B
"F" St. @ Terry Ln.	Southbound	Stop	D		13.5	B
Foothill Bl. @ Industry Dr	Northbound	Stop	D		11.1	B
Foothill Bl. @ Lawless Ln.	Northbound	Stop	D		9.9	A
Foothill Bl. @ Ament Rd.	Northbound	Stop	D		9.8	A
Foothill Bl. @ Jones Creek Rd.	Southbound	Stop	0.85/D	0.12		

Table 3 above indicates that the intersection of Grants Pass Parkway at Agness Avenue is currently operating below the ODOT minimum V/C ratio for the intersection as a whole. Since the northbound approach has the highest delay and lowest LOS, the following mitigation measures will improve the intersection to meet the ODOT mobility standard.

- ◆ Add a northbound right-turn lane, 350 feet in length,
- ◆ Change the northbound left+through+right lane to a through only lane;
- ◆ Change North-South split phasing to protected left-turns.

The resulting intersection operations are shown below:

Table 4 2012 Design Hour LOS Analysis; Existing Conditions w/Mitigation

Intersection	Critical Approach	Control	Mobility Standard	V/C	Delay (Sec.)	LOS
Grants Pass Pkwy. @ Agness Ave.	Northbound	Signal/Free	0.70 D	0.67	29.9 45.7	C D
	Southbound					

IV. Future Traffic Levels

A. Background Traffic Growth

Future traffic levels in the study area are composed of three parts, the existing traffic plus future background traffic plus project traffic. The future background traffic includes pipeline projects that have been approved but have not yet been completed or were not completed at the time of the traffic counts for this study. There are three developments adjacent to the study area, Home Depot, Main Place mixed-use development, and Fire Mountain Gems Retail that have the following trips added to the study area.

Development	Grants Pass Pkwy. @ Agness Ave.		"F" Street @ Beacon Dr. and East	
	Eastbound	Westbound	Eastbound	Westbound
Home Depot	33	25	2	2
Main Place	13	7	0	9
Fire Mountain Gems Retail	3	3	1	1
Total Pipeline Trips	49	35	3	12

In addition to the pipeline projects, future background traffic levels at the study area intersections were estimated using the historic trends procedure in ODOT's "Analysis and Procedures Manual" (APM). For Grants Pass Parkway, the 2030 Future Volumes Table was consulted for Redwood Highway at the Automatic Traffic Recording (ATR) station #17-005 one-half mile east of Redwood Avenue. This location will better represent through traffic growth since much of the future traffic on Grants Pass Parkway will be traffic from the study area and the pipeline projects listed above. The average annual growth rate at this ATR is 1.18% and the 20-year growth factor (1.236) is applied to through traffic on Grants Pass Parkway. For the City and County through streets, Agness Avenue, "F" Street, and Foothill Boulevard, a 1% per year growth or 1.2 20-year growth rate was used to calculate future no-build traffic.

B. Project Traffic

Trips generated by the full development of industrial uses on non-residential parcels in the Spalding Industrial Area are estimated using the Eighth Edition of the Institute of Transportation Engineers' (ITE) Trip Generation manual using the land use code 110 - General Light Industrial. Light Industrial is one of five potential uses categorized in the ITE manual, the others are Heavy Industrial, Manufacturing, Warehousing, and Industrial Park. Since there will be a mixture of those uses, Light Industrial was chosen because it is seen as the most common use and its trip rate was close to the average of the five possible uses.

The ITE manual lists the trip generation rate for General Light Industrial uses as 7.26 trips per acre in the PM peak hour of adjacent street traffic, with 22% entering and 78% exiting. For redevelopable properties trips from the existing use were subtracted from the total trips in the area. The future development of the Spalding Industrial Area was determined first for the UGB Area since the County Area will not be included in the determination of capital costs for future improvements. A listing of the trips generated by each parcel in each sub area is shown on the following page.

Table 5 UGB Area Trips							
UGB East of Agness			Vacant Acres	Redev. Acres	PM Peak Hour		
Tax Map	Lot	Address			Trips	Enter	Exit
38 5 18 DC	801	257 NE AGNESS AVE	3.45		25	5	20
	602	FOOTHILL BLVD	ND				
	702	FOOTHILL BLVD	ND				
	800	FOOTHILL BLVD	ND				
	802	NE AGNESS AVE	1.71		12	3	10
	900	NE AGNESS AVE	ND				
38 5 21 A	101	2123 NE INDUSTRY DR	3.11		23	5	18
	102	2137 NE INDUSTRY DR	0.74		5	1	4
	103	2151 NE INDUSTRY DR	0.59		4	1	3
	104	2165 NE INDUSTRY DR	1.01		7	2	6
	105	2179 NE INDUSTRY DR	1.15		8	2	7
	106	2188 NE INDUSTRY DR	0.53		4	1	3
	109	2144 NE INDUSTRY DR	0.91		7	1	5
	301	2200 INDUSTRY DR	0.81		6	1	5
	302	2214 INDUSTRY DR	4.06		29	8	23
	303	114 ASSEMBLY CIR	1.45		11	2	8
	304	129 ASSEMBLY CIR	1.44		10	2	8
	306	101 ASSEMBLY CIR	0.88		6	1	5
	307	2207 INDUSTRY DR	1.28		9	2	7
	308	2193 INDUSTRY DR	1.45		11	2	8
	309	2250 SPALDING AVE		28.68	186	39	147
		2250 SPALDING AVE		11.00	80	17	63
				Warehousing (150)	-16	-4	-12
	1110	2101 NE SPALDING AVE	1.18		9	2	7
38 5 22	200	450 AMENT RD	20.23		147	31	116
	300	2280 NE SPALDING AVE	8.08		59	12	48
	400	2300 NE SPALDING AVE	9.39		68	14	54
38 5 22 BC	100	NE SPALDING AVE		5.92	43	9	34
				Warehousing (150)	-26	-6	-19
	600	2285 NE SPALDING AVE		2.15	16	3	12
				Warehousing (150)	-1	-0	-1
TOTAL UGB East of Agness			63.44	44.73	743	164	588
			ND = Not Developable				
UGB West of Agness			Vacant Acres	Redev. Acres	PM Peak Hour		
Tax Map	Lot	Address			Trips	Enter	Exit
38 5 18 CD	600	398 NE AGNESS AVE		2.44	18	4	14
	700	440 NE AGNESS AVE		2.78	20	4	16
				Warehousing (150)	-21	-3	-17
38 5 21 BA	200	810 NE AGNESS AVE	8.04		58	12	48
	300	550 NE AGNESS AVE	2.85		18	4	15
TOTAL UGB West of Agness			10.89	5.22	95	21	74
UGB Residential Area			Vacant Acres	Redev. Acres	PM Peak Hour		
Tax Map	Lot	Address			Trips	Enter	Exit
38-S-C	2000	FOOTHILL BLVD	ND				
38-5-18-DD	102	2375 FOOTHILL BLVD	8.00		44	9	34
	700	488 AURORA AVE	1.50		11	2	8
	1000	501 NE LAWLESS LN	2.71		20	4	16
	1101	597 AURORA AVE	5.44	1.50	39	8	31
				Warehousing (150)	-13	-5	-8
	1300	FOOTHILL BLVD	2.50		18	4	14
	1500	408 AMENT RD	1.35		10	2	8
38-5-18-DC	101	FOOTHILL BLVD	4.95		36	8	28
TOTAL UGB Residential			24.45	1.50	164	33	132
			ND = Not Developable				
TOTAL UGB AREAS			Vacant Acres	Redev. Acres	PM Peak Hour		
					Trips	Enter	Exit
TOTAL UGB AREAS			98.59	51.45	1002	208	794

A listing of the trips generated by the parcels in each of the County Areas:

Table 4: Trip Generation Josephine County Areas

AREA H – South of I-5			Vacant	Redev	PM Peak Hour		
Tax Map	Lot	Address	Acres	Acres	Trips	Enter	Exit
36-5-15-C	1300	PEARCE PARK RD	2.00		15	3	11
	1400	2720 MOON MOUNTAIN RD					
	1500	2665 MOON MOUNTAIN RD	0.42		3	1	2
	1600	2655 PEARCE PARK RD	0.41		3	1	2
	1700	PEARCE PARK RD	1.03		7	2	6
	1800	2465 MOON MOUNTAIN RD		1.50	11	2	9
		Single Fam. Res. (210)			-3	-2	-1
	1900	2445 MOON MOUNTAIN RD		1.58	11	2	9
		Single Fam. Res. (210)			-3	-2	-1
	2100	2635 MOON MOUNTAIN RD		18.60	135	28	107
		Single Fam. Res. (210)			-3	-2	-1
	2202	2800 MOON MOUNTAIN RD		10.00	73	15	57
		Single Fam Res. (210)			-3	-2	-1
	2300	AMENT RD		15.25	111	23	87
		Single Fam. Res. (210)			-3	-2	-1
TOTAL Area H			3.86	46.93	355	68	287
AREA H2 – North of I-5			Vacant	Redev.	PM Peak Hour		
Tax Map	Lot	Address	Acres	Acres	Trips	Enter	Exit
36-5-15-C	100	191 JONES CREEK RD	0.46		3	1	3
	101	2790 FOOTHILL BLVD	2.48		18	4	14
	102	JONES CREEK RD	2.01		15	3	12
	108	2798 FOOTHILL BLVD	3.11		23	5	18
	300	2520 FOOTHILL BLVD	0.50		4	1	3
	304	2560 FOOTHILL BLVD	0.98		7	1	6
	400	2801 FOOTHILL BLVD	0.21		2	0	1
	501	FOOTHILL BLVD	0.13		1	0	1
36-5-15-D	900	3022 FOOTHILL BLVD	0.72		5	1	4
	1000	3014 FOOTHILL BLVD	1.01		7	2	6
TOTAL Area H2			32	11.60	84	18	67
			Vacant	Redev.	PM Peak Hour		
			Acres	Acres	Trips	Enter	Exit
TOTAL COUNTY AREAS			15.46	46.93	439	86	353

V Trip Distribution and Assignment

Trips to and from the Spalding Industrial Area were distributed using a spreadsheet model. The distribution of trips between the study area and the surrounding street system during the PM peak hour is based on three components. First, work-to-home and home-to-work trips predominate and are based on the distribution of households in the Grants Pass Urban Area. Second, some trips will be to and from major commercial areas. The third component are the trips from outside the urban area using Interstate 5. The percentage of trips assigned to these three components will vary depending on whether they are inbound to or outbound from the area. The following are the assumptions used in determining trip distribution.

Trip Component	Inbound %	Outbound %
Home-to-Work/Work-to-Home	90%	90%
Work to Commercial	0%	5%
To and From Interstate 5	10%	5%

For the home-to-work / work-to-home trips, model uses the 2010 Census data on housing units by census block in the Grants Pass Urban Area. The census blocks are combined by area to determine the percentage of trips on the routes into and out of the study area. Those routes are:

Foothill Boulevard / Jones Creek Road - areas northeast of the study area

Agness Avenue / "A" Street - areas to the north for the all sub areas except the UGB Area West of Agness.

Beacon Drive / "A" Street - areas to the north for the sub area UGB Area West of Agness.

"E" / "F" Streets - downtown and areas to the west

Agness Avenue / "N" / "M" / Grants Pass Parkway - areas west of the study area between "M" St. and the river, and all areas south of the river

The work to commercial trips are distributed as follows, 1% each to Walmart and Fred Meyer via "F" Street, and 3 % to commercial areas to the west (Grants Pass Shopping Center, Home Depot, Downtown) via Grants Pass Parkway west of Agness. All Interstate 5 trips pass through the Grants Pass Parkway at Agness Avenue intersection.

Appendix E contains printouts from the spreadsheet model showing the household data by census block grouped by route, a factor modifying the number of trips based on the distance from the study area, and the assignment of trips to the study area intersections.

Figure 5I and 5O in Appendix A show the resulting distribution of inbound (5I) and outbound (5O) trips based on the above model. Trips from each parcel were then assigned to the internal study area intersections. Figure 6 in Appendix A shows the peak hour traffic assignments for the full development of the UGB Areas. Figure 7 in Appendix A shows the future year, 2032, No-build and UGB Full Development traffic levels at the study area intersections. Figure 6C in Appendix A shows the peak hour traffic assignments for the full development of the County Areas.

VI. Intersection Operational Analyses

A. Future Year No-build Intersection Operations

The Synchro6 program was used to assess the operations at the study area intersections with no future development in the Spalding Industrial Area. Following the APM procedures for future year's analyses, the PHF's were adjusted to 0.95 for major arterials, 0.90 for minor arterials, and 0.85 for collectors and locals. Since this study involves zone changes to allow industrial development, the Transportation Planning Rule (TPR) states that if an intersection is currently failing, the ODOT mobility standard is no further degradation of the V/C. That raises the allowable V/C at Grants Pass Parkway at Agness Avenue to the current 0.84. Table 7 shows the results of the intersection analysis for the No-build conditions. The Synchro reports can be found in Appendix F.

Table 7 2032 LOS Analysis; No Build

Intersection	Critical Approach	Control	Mobility Standard	V/C	Delay (Sec.)	LOS
Grants Pass Pkwy @ Agness Ave.	Southbound	Signal/Free	0.84 D	0.78	30.1 50.7	C D
Agness Ave. @ "F" St./Foothill Bl.	Southbound	All-Way Stop	D		54.2	F
Agness Ave. @ Spalding Ave.	Westbound	Stop	D		17.0	C
"F" St. @ Beacon Dr	Southbound	Stop	D		17.7	C
"F" St. @ Terry Ln.	Southbound	Stop	D		13.0	B
Foothill Bl. @ Industry Dr	Northbound	Stop	D		14.6	B
Foothill Bl. @ Lawless Ln.	Northbound	Stop	D		11.9	B
Foothill Bl. @ Ament Rd.	Northbound	Stop	D		10.1	B
Foothill Bl. @ Jones Creek Rd.	Southbound	Stop	0.85/D	0.11	10.2	B

The results of the analysis indicates that the intersection of Agness Ave. @ "F" St./Foothill Bl. will exceed the City's mobility standard. A check of the ODOT preliminary signal warrants shows that the intersection does not meet the warrant (see Appendix I). Other mitigation measures investigated were a roundabout and a two-way Stop with free movements for Agness. The roundabout would require a two-lane circle and be offset to the east due to existing developments and was discarded. Changing the control to a two-way Stop with additional lanes resulted in LOS "F" for "F" Street and Foothill Boulevard approaches. Since this analysis assumes no further industrial development in the area no mitigation is proposed at this stage.

B. Future Year Intersection Operations with Full Build-out of UGB Areas.

The Synchro analysis was performed on the study area intersections with the full development of industrial uses in the UGB Areas as shown in Figure 7. Table 8 on the following page shows the results of the analysis. The Synchro reports can be found in Appendix F.

Table 8 2032 LOS Analysis; Full Build-out All UGB Areas

Intersection	Critical Approach	Control	Mobility Standard	V/C	Delay (Sec.)	LOS
Grants Pass Pkwy. @ Agness Ave.	Southbound	Signal/Free	0.84 D	0.83	39.5 70.1	D E
Agness Ave. @ "F" St./Foothill Bl.	Northbound	All-Way Stop	D		153.7	F
Agness Ave. @ Spalding Ave.	Westbound	Stop	D		407.2	F
"F" St. @ Beacon Dr	Southbound	Stop	D		23.4	C
"F" St. @ Terry Ln.	Southbound	Stop	D		15.1	B
Foothill Bl. @ Industry Dr	Northbound	Stop	D		21.2	C
Foothill Bl. @ Lawless Ln	Northbound	Stop	D		16.8	C
Foothill Bl. @ Ament Rd.	Northbound	Stop	D		10.7	B
Foothill Bl. @ Jones Creek Rd.	Southbound	Stop	0.85/D	0.12	10.0	B

The results of this analysis show that all intersections along Agness Avenue will exceed the City's mobility standard. The Spalding Avenue intersection on Agness will meet preliminary signal warrants with full development of the UGB Area. The Agness Avenue at "F" St./Foothill Blvd. intersection meets 95% of the preliminary signal warrant due to heavy right-turn movements which are discounted. If the MUTCD Signal Warrant 3 is applied the intersection would meet the warrant.

We are recommending the installation of traffic signals at these two intersections. At "F" St./Foothill Blvd. the North-South left-turns can be protected/permissive. At Spalding Avenue Southbound left-turns can be protected/permissive and separate left- and right-turn lanes should be striped on the Spalding approach.

At Grants Pass Parkway and Agness Avenue the southbound approach will fall to LOS "E" which does not meet the City's mobility standard. In addition, the westbound left-turn lane on Grants Pass Parkway at Agness Avenue will experience queue spillover into the adjacent through lane. This situation could result in additional rear-end collisions and sideswipes due to reducing the weaving distance from the Southbound I-5 off-ramp intersection. Furthermore, the eastbound movements have extremely long queues.

We recommend the addition of a second Westbound left-turn lane, at least 250 feet in length and the addition of a second Southbound through receiving lane on Agness extending to 500 feet South of the intersection. Table 9 on the following page shows the results of this mitigation. The Synchro reports can be found in Appendix F

Table 9: 2032 LOS Analysis, Full Build-out UGB Areas with Mitigation

Intersection	Critical Approach	Control	Mobility Standard	V/C	Delay (Sec.)	LOS
Grants Pass Pkwy. @ Agness Ave.	Southbound	Signal/Free	0.84	0.75	32.1	C
			D		45.7	D
Agness Ave. @ "F" St./Foothill Bl.	Northbound	Signal/Free	1.0	0.81	21.3	C
			D		23.3	C
Agness Ave. @ Spalding Ave.	Westbound	Signal/Free	1.0	0.71	14.9	C
			D		18.7	B

SimTraffic was re-run with this mitigation in place and the results are shown in Table 12. The results show that the eastbound queues have balanced with westbound but the westbound left-turn lanes should be a minimum of 300 feet in length.

Table 12. 2032 Full Build-out UGB Areas with Grants Pass Pkwy Mitigation - 95%-tile Queues

Intersection Movement	Lane Storage (Ft.)	95 th % Queue With Mitigation
Grants Pass Pk. @ Agness Ave.		
Northbound Left turn	200*	200
Northbound Thru	475	400
Northbound Right	250	250
Southbound Left turn	75*	125
Southbound Thru + Right	500	275
Eastbound Left turn	150	175
Eastbound Thru	1150	400
Eastbound Right	175	225
Westbound Left turn	300	300
Westbound Thru	700	400
Westbound Right	225	150
Agness Ave. @ Foothill Bl./"F" St.		
Northbound Left turn	200*	200
Northbound Thru + Right	560	350
Southbound Left turn	200*	175
Southbound Thru + Right	560	350
Eastbound Movements	1000	450
Westbound Left turn	200	225
Westbound Thru + Right	340	300
Agness Ave. @ Spalding Ave.		
Northbound Thru + Right	600	250
Southbound Left turn	200*	125
Southbound Left + Thru	560	225
Westbound Left turn	250	200
Westbound Right turn	1000	125

Intersection Movement	Lane Storage (Ft.)	95 th % Queue With Mitigation
"F" St. @ Beacon Dr		
Northbound Left-Right&Thru	300	50
Southbound Left turn	110*	100
Southbound Thru + Right	660	50
Eastbound Left turn	85*	50
"F" St. @ Terry Ln.		
Southbound Left turn	150	50
Southbound Right turn	150	50
Eastbound Left turn	100	75
Foothill Bl. @ Industry Dr		
Westbound Left + Thru	1000	25
Northbound Left + Right turn	1000	125
Foothill Bl. @ Lawless Ln.		
Northbound Movements	500	75
Westbound Left + Thru	1000	25
Foothill Bl. @ Ament Rd.		
Northbound Movements	500	50
Westbound Left + Thru	1000	25
Foothill Bl. @ Jones Creek Rd.		
Eastbound Left + Thru	1000	75
Southbound Movements	500	75

C. Future Year Intersection Operations with Full Build-out of County H Area.

The next phase of the study is to add in trips from the County UGB expansion areas. The County H Area south of Interstate 5 has substantial acreage (~47 acres) currently zoned FR which could be rezoned and converted to industrial use. The County H2 Area north of Interstate 5 has only a little over 11 acres of vacant land since existing developed residential parcels will not be candidates for redevelopment.

Figure 8 in Appendix A shows the traffic levels in the study area with the addition of trips from the County H Area from Figure 6C along with the No-build traffic levels in 2032. Table 13 shows the results of the intersection operational analysis. The mitigation measures identified for the UGB Areas are assumed to be in place.

Table 13 2032 LOS Analysis; Full Build-out UGB w/Mitigation + County H Areas

Intersection	Critical Approach	Control	Mobility Standard	V/C	Delay (Sec.)	LOS
Grants Pass Pkwy. @ Agness Ave.	Southbound	Signal/Free	0.84 D	0.78	35.1 47.7	D D
Agness Ave. @ "F" St./Foothill Bl.	Northbound	Signal/Free	1.0 D	0.97	41.9 51.5	D D
Agness Ave. @ Spalding Ave.	Northbound	Signal/Free	1.0 D	0.79	20.2 25.2	C C
"F" St. @ Beacon Dr	Southbound	Stop	D		25.4	D
"F" St. @ Terry Ln.	Southbound	Stop	D		22.2	C
Foothill Bl. @ Industry Dr.	Northbound	Stop	D		28.1	D
Foothill Bl. @ Lawless Ln.	Northbound	Stop	D		23.8	C
Foothill Bl. @ Ament Rd.	Northbound	Stop	D		18.6	C
Foothill Bl. @ Jones Creek Rd.	Southbound	Stop	0.85/D	0.12	10.1	B

Even though the intersection of Agness Avenue at "F" Street/Foothill Blvd. Technically meets the City's mobility standards. SimTraffic was run to see if queuing would be acceptable. Table 14 on the following page shows the results of the simulation.

Adding the County H Area will impact the Foothill Boulevard approach to Agness Avenue. Westbound queues on Foothill will spill back past the Industry Drive intersection and causing extensive queuing on Northbound Industry. The queue on the Northbound through lane on Agness Avenue at Foothill will also spillback through the Spalding intersection. We recommend the following mitigation.

Continue the second Southbound through lane on Agness from 500 feet South of Grants Pass Pkwy to 500 feet South of Spalding Avenue. At Agness Avenue and "F" Street/Foothill Blvd. Add a westbound right-turn lane, 150 feet in length and add Northbound right-turn lane, 200 feet in length. Table 15 on the following page shows the results of this mitigation. The Synchro reports can be found in Appendix G

Table 14 2032 Full Build-out UGB Areas + County H Area - 95%-tile Queues

Intersection Movement	Lane Storage (FL)	95 th % Queue With Mitigation
Grants Pass Pk. @ Agness Ave.		
Northbound Left turn	200*	200
Northbound Thru	475	375
Northbound Right	350	325
Southbound Left turn	75*	150
Southbound Thru + Right	500	475
Eastbound Left turn	150	100
Eastbound Thru	1150	450
Eastbound Right	175	175
Westbound Left turn	300	325
Westbound Thru	700	425
Westbound Right	225	100
Agness Ave. @ Foothill Bl./"F" St.		
Northbound Left turn	200*	250
Northbound Thru + Right	560	625
Southbound Left turn	200*	225
Southbound Thru + Right	560	425
Eastbound Movements	1000	375
Westbound Left turn	200	350
Westbound Thru + Right	340	450
Agness Ave. @ Spalding Ave.		
Northbound Thru + Right	600	325
Southbound Left turn	200*	150
Southbound Left + Thru	560	350
Westbound Left turn	250	275
Westbound Right turn	1000	300

Intersection Movement	Lane Storage (FL)	95 th % Queue With Mitigation
"F" St. @ Beacon Dr		
Northbound Left-Right&Thru	300	50
Southbound Left turn	110*	100
Southbound Thru + Right	660	75
Eastbound Left turn	85*	50
"F" St. @ Terry Ln.		
Southbound Left turn	150	50
Southbound Right turn	150	50
Eastbound Left turn	100	75
Foothill Bl. @ Industry Dr		
Westbound Left + Thru	1000	700
Northbound Left + Right turn	1000	1375
Foothill Bl. @ Lawless Ln.		
Northbound Movements	500	75
Westbound Left + Thru	1000	50
Foothill Bl. @ Ament Rd.		
Northbound Movements	500	75
Westbound Left + Thru	1000	25
Foothill Bl. @ Jones Creek Rd.		
Eastbound Left + Thru	1000	75
Southbound Movements	500	75

Table 15: 2032 LOS Analysis; Full Build-out UGB + County H with Mitigation

Intersection	Critical Movement	Control	Mobility Standard	V/C	Delay (Sec.)	LOS
Agness Ave. @ "F" St./Foothill Bl.	Northbound	Signal/Free	1.0 D	0.79	23.2 28.8	C C

Next SimTraffic was re-run to see the effect on queues in the study area. Table 16 on the following page shows the results of the simulation. The SimTraffic Reports are in Appendix G

Table 16: 2032 Full Build-out UGB + County H with Mitigation- 95%-tile Queues

Intersection Movement	Lane Storage (FL)	95th % Queue With Mitigation
Grants Pass Pk. @ Agness Ave.		
Northbound Left turn	200*	200
Northbound Thru	475	475
Northbound Right	250	300
Southbound Left turn	75*	125
Southbound Thru + Right	500	325
Eastbound Left turn	150	75
Eastbound Thru	1150	500
Eastbound Right	175	225
Westbound Left turn	225	175
Westbound Thru	700	300
Westbound Right	225	75
Agness Ave. @ Foothill Bl./"F" St.		
Northbound Left turn	200*	200
Northbound Thru	560	450
Northbound Right	150	175
Southbound Left turn	200*	200
Southbound Thru + Right	580	200
Eastbound Movements	1000	225
Westbound Left turn	200	225
Westbound Thru	340	125
Westbound Right turn	150	150
Agness Ave. @ Spalding Ave.		
Northbound Thru + Right	600	300
Southbound Left turn	200*	100
Southbound Left + Thru	560	125
Westbound Left turn	250	250
Westbound Right turn	1000	200

Intersection Movement	Lane Storage (FL)	95th % Queue With Mitigation
"F" St. @ Beacon Dr		
Northbound Left-Right&Thru	300	50
Southbound Left turn	110*	100
Southbound Thru + Right	860	75
Eastbound Left turn	85*	50
"F" St. @ Terry Ln.		
Southbound Left turn	150	50
Southbound Right turn	150	75
Eastbound Left turn	100	75
Foothill Bl. @ Industry Dr		
Westbound Left + Thru	1000	50
Northbound Left + Right turn	1000	225
Foothill Bl. @ Lawless Ln.		
Northbound Movements	500	75
Westbound Left + Thru	1000	25
Foothill Bl. @ Ament Rd.		
Northbound Movements	500	75
Westbound Left + Thru	1000	50
Foothill Bl. @ Jones Creek Rd.		
Eastbound Left + Thru	1000	125
Southbound Movements	500	75

The results of the queuing analysis show that the recommended mitigation will result in acceptable queues in the study area.

D Future Year Intersection Operations with Full Build-out of County H + H2 Areas.

Figure 9 in Appendix A shows the traffic levels in the study area with the addition of trips from the County H2 Area from Figure 6C along with the No-build traffic levels in 2032. Table 17 on the following page shows the results of the intersection operational analysis. The mitigation measures identified for the UGB and County H Areas are assumed to be in place.

Table 17 2032 LOS Analysis; Full Build-out UGB + County Areas H & H2

Intersection	Critical Approach	Control	Mobility Standard	V/C	Delay (Sec.)	LOS
Grants Pass Pkwy. @ Agness Ave.	Southbound	Signal/Free	0.84 D	0.79	36.0 48.2	D D
Agness Ave. @ "F" St./Foothill Bl.	Northbound	Signal/Free	1.0 D	0.95	27.0 31.4	C C
Agness Ave. @ Spalding Ave.	Northbound	Signal/Free	1.0 D	0.78	17.4 25.0	B C
"F" St. @ Beacon Dr.	Southbound	Stop	D		25.7	D
"F" St. @ Terry Ln.	Southbound	Stop	D		15.9	B
Foothill Bl. @ Industry Dr	Northbound	Stop	D		33.0	D
Foothill Bl. @ Lawless Ln.	Northbound	Stop	D		27.4	D
Foothill Bl. @ Ament Rd.	Northbound	Stop	D		21.2	C
Foothill Bl. @ Jones Creek Rd.	Southbound	Stop	0.85/D	0.18	10.7	B

Once again the traffic levels rise on Foothill Blvd. raising the V/C ratio close to 1.0. SimTraffic was run to see if queuing would be acceptable. Table 18 shows the results of the simulation.

Table 18: 2032 Full Build-out UGB + County H & H2 - 95%-tile Queues

Intersection & Movement	Lane Storage (Ft.)	95% Queue With Mitigation
Grants Pass Pk. @ Agness Ave.		
Northbound Left turn	200*	200
Northbound Thru	475	800
Northbound Right	250	350
Southbound Left turn	75*	125
Southbound Thru + Right	500	300
Eastbound Left turn	150	125
Eastbound Thru	1150	525
Eastbound Right	175	200
Westbound Left turn	250	250
Westbound Thru	700	375
Westbound Right	225	200
Agness Ave. @ Foothill Bl./"F" St.		
Northbound Left turn	200*	175
Northbound Thru	560	425
Northbound Right	150	225
Southbound Left turn	200*	200
Southbound Thru + Right	560	175
Eastbound Movements	1000	275
Westbound Left turn	250	250
Westbound Thru	340	125
Westbound Right turn	150	150
Agness Ave. @ Spalding Ave.		
Northbound Thru + Right	600	300
Southbound Left turn	200*	150
Southbound Left + Thru	560	125
Westbound Left turn	250	225
Westbound Right turn	1000	150

Intersection & Movement	Lane Storage (Ft.)	95% Queue With Mitigation
"F" St. @ Beacon Dr		
Northbound Left-Right & Thru	300	50
Southbound Left turn	110*	100
Southbound Thru + Right	860	75
Eastbound Left turn	85*	75
"F" St. @ Terry Ln.		
Southbound Left turn	150	75
Southbound Right turn	150	50
Eastbound Left turn	100	75
Foothill Bl. @ Industry Dr.		
Westbound Left + Thru	1000	25
Northbound Left + Right turn	1000	175
Foothill Bl. @ Lawless Ln.		
Northbound Movements	500	75
Westbound Left + Thru	1000	25
Foothill Bl. @ Ament Rd.		
Northbound Movements	500	75
Westbound Left + Thru	1000	50
Foothill Bl. @ Jones Creek Rd.		
Eastbound Left + Thru	1000	75
Southbound Movements	500	75

Queues for northbound Agness Avenue at Grants Pass Parkway have grown to 800 feet. We recommend changing the northbound right-turn phase to permissive+overlap and lengthening the right-turn lane to 350 feet.

At Agness Avenue and Foothill Blvd./"F" Street the V/C ratio can be improved by changing the westbound through lane to a through + left turn lane and changing the East-West to split phasing. Table 19 shows the results of these mitigation measures>

Table 19 2032 LOS Analysis; Full Build-out UGB + County H & H2 with Mitigation

Intersection	Critical Approach	Control	Mobility Standard	V/C	Delay (Sec.)	LOS
Grants Pass Pkwy. @ Agness Ave.	Southbound	Signal/Free	0.84 D	0.77	34.8 48.7	C D
Agness Ave. @ "F" St./Foothill Bl.	Eastbound	Signal/Free	1.0 D	0.82	38.9 50.7	D D

Table 20: 2032 Full Build-out UGB + County H & H2 with Mitigation- 95%-tile Queues

Intersection Movement	Lane Storage (Ft.)	95 th % Queue With Mitigation
Grants Pass Pk. @ Agness Ave.		
Northbound Left turn	250*	225
Northbound Thru	475	350
Northbound Right	400	300
Southbound Left turn	75*	150
Southbound Thru + Right	500	250
Eastbound Left turn	150	125
Eastbound Thru	1150	350
Eastbound Right	175	225
Westbound Left turn	250	200
Westbound Thru	700	350
Westbound Right	225	250
Agness Ave. @ Foothill Bl./"F" St.		
Northbound Left turn	200*	200
Northbound Thru	560	350
Northbound Right	150	100
Southbound Left turn	200*	175
Southbound Thru + Right	580	175
Eastbound Movements	1000	200
Westbound Left turn	250	250
Westbound Thru + Left	340	200
Westbound Right turn	150	150
Agness Ave. @ Spalding Ave.		
Northbound Thru + Right	600	225
Southbound Left turn	200*	100
Southbound Left + Thru	560	175
Westbound Left turn	250	250
Westbound Right turn	1000	150

Intersection Movement	Lane Storage (Ft.)	95 th % Queue With Mitigation
"F" St. @ Beacon Dr		
Northbound Left-Right&Thru	300	50
Southbound Left turn	110*	100
Southbound Thru + Right	660	75
Eastbound Left turn	85*	50
"F" St. @ Terry Ln.		
Southbound Left turn	150	50
Southbound Right turn	150	50
Eastbound Left turn	100	75
Foothill Bl. @ Industry Dr		
Westbound Left + Thru	1000	50
Northbound Left + Right turn	1000	300
Foothill Bl. @ Lawless Ln.		
Northbound Movements	500	75
Westbound Left + Thru	1000	--
Foothill Bl. @ Ament Rd.		
Northbound Movements	500	100
Westbound Left + Thru	1000	50
Foothill Bl. @ Jones Creek Rd.		
Eastbound Left + Thru	1000	75
Southbound Movements	500	75

VII. Summary and Recommendations

The following is a summary of the Mitigation measures recommended at various stages of development of the Spalding Industrial Area.

Current Mitigation (2012) (See Figure 10 in Appendix A)*

Grants Pass Pkwy @ Agness Ave:

- Add northbound right-turn lane, 350 feet in length,
- Change northbound left-thru-right lane to through only;
- Change North-South split phasing to protected left-turns.

UGB Area Fully Developed (See Figures 11N and 11S in Appendix A)*

Agness Ave. @ "F" St./Foothill Bl.

- Install traffic signal - North-South left-turns protected/permissive.

Agness Ave. @ Spalding Ave.

- Install traffic signal - Southbound left-turns protected/permissive.
- Restripe Westbound for separate left- and right-turn lanes, 250 feet.

Grants Pass Pk. @ Agness Ave.

- Add second Westbound left-turn lane, 300 feet in length.
- Add second Southbound through lane on Agness to 500 feet South.

UGB + County H Fully Developed (See Figure 12N and 12S in Appendix A)

Agness Ave.

- Add second southbound through lane from 500 feet South of Grants Pass Pkwy to 500 feet South of Spalding Ave.

Agness Ave. @ "F" St./Foothill Bl.

- Add Westbound right-turn lane, 150 feet in length.
- Add Northbound right-turn lane, 200 feet.

UGB + County H & H2 Fully Developed (See Figure 13 in Appendix A)*

Grants Pass Pk. @ Agness Ave.:

- Change NB right-turn phase to permissive+overlap

Agness Ave. @ Foothill Bl./"F" St..

- Change WB through lane to through + left turn
- Change East-West to split phasing.

Figure 1
Spalding Industrial Area Traffic Impact Study
UGB Area

The map displays the Spalding Industrial Area with various land use designations and boundaries. The legend indicates the following categories:

- Viable Development:** Represented by a solid black fill.
- Potential Re-Development:** Represented by a diagonal hatched pattern.
- Undeveloped:** Represented by a white fill.
- Residence:** Represented by a dark gray fill.
- Area Boundary:** Indicated by a dashed line.
- Subarea Boundary:** Indicated by a dotted line.

Key features and labels on the map include:

- WEST OF AGNESS:** A large area on the left side of the map.
- EAST OF AGNESS:** A large area on the right side of the map.
- RESIDENTIAL:** A label in the upper right quadrant.
- RAILROAD COMMERCIAL PARK PHASE 3:** A label in the center of the map.
- SEE MAP 36 5 5 C:** A reference to another map in the upper right.
- SEE MAP 36 5 22 BC:** A reference to another map in the lower right.
- 365 05W 21AC:** A specific area label in the lower center.
- OREGON:** A label on the right edge of the map.
- CENTRAL:** A label on the right edge of the map.

The map also shows various roads, including Highway 101, and other geographical features like the Willamette River.

Access Engineering

Figure 2
Spalding Industrial Area Traffic Impact Study
County Area

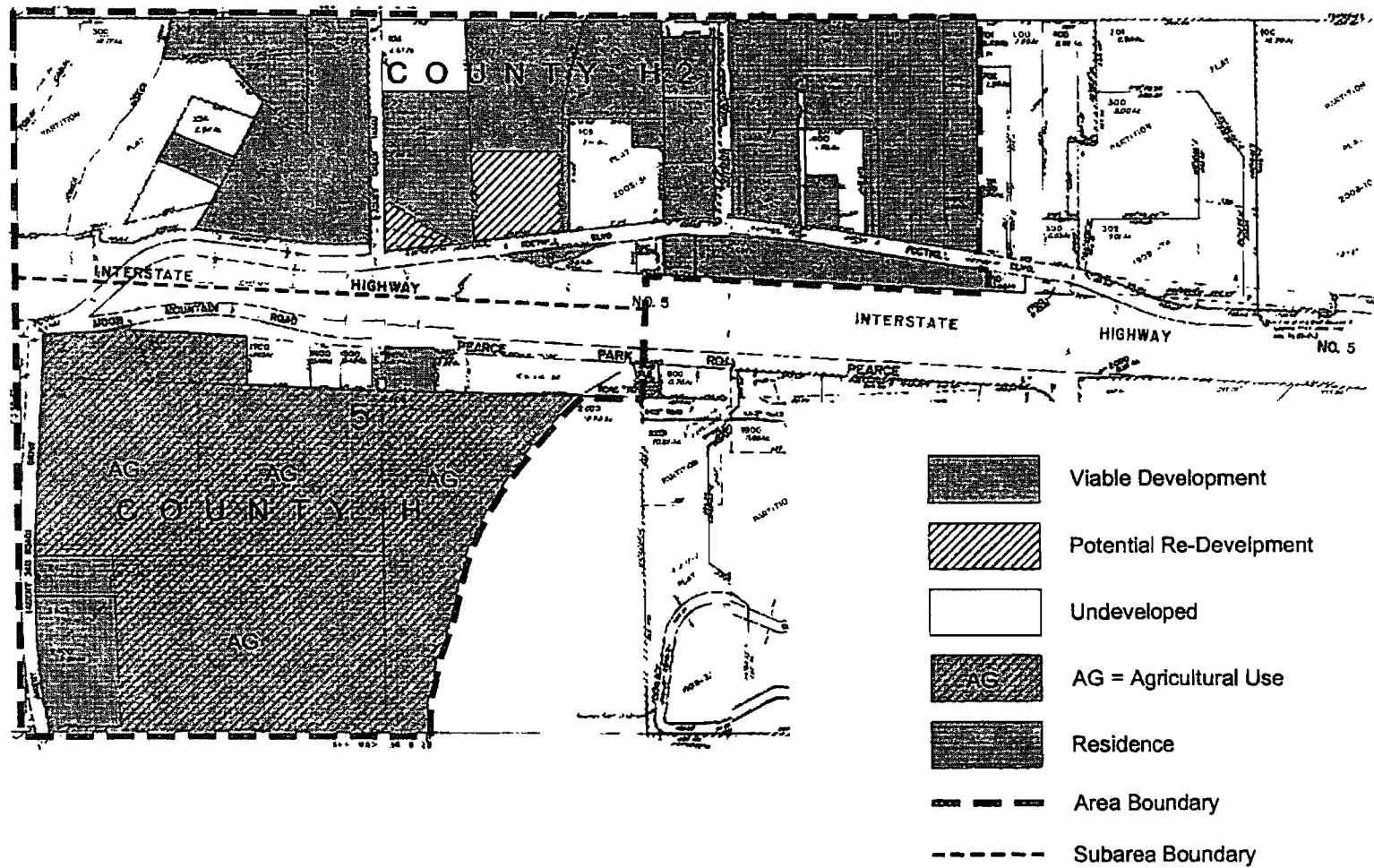
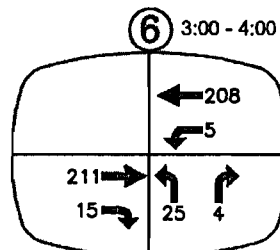
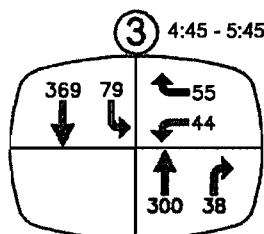
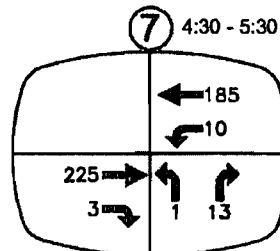
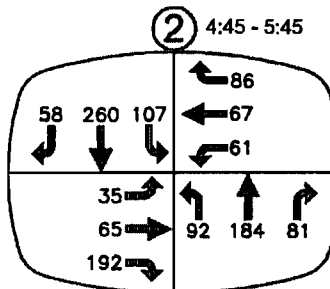
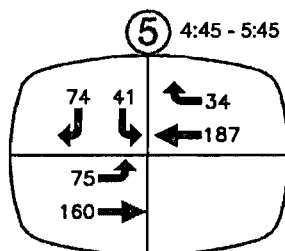
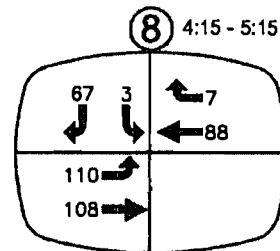
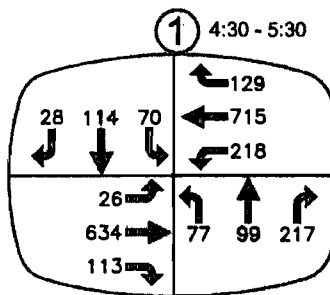
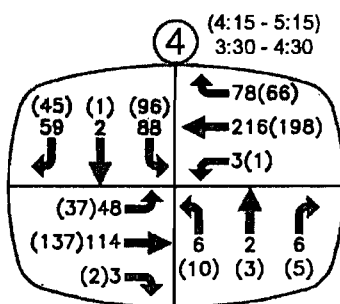
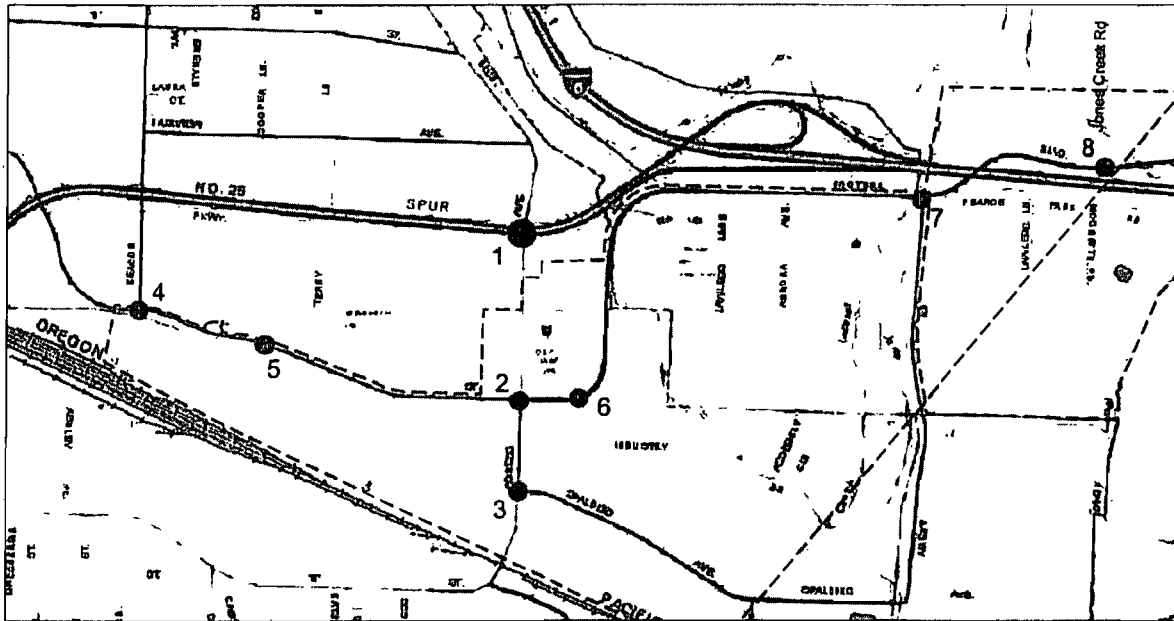


Figure 3

Spalding Industrial Area Traffic Impact Study 2011 Raw Peak Hour Traffic Counts



Spalding Industrial Area Traffic Impact Study

Study Area Intersection Geometry

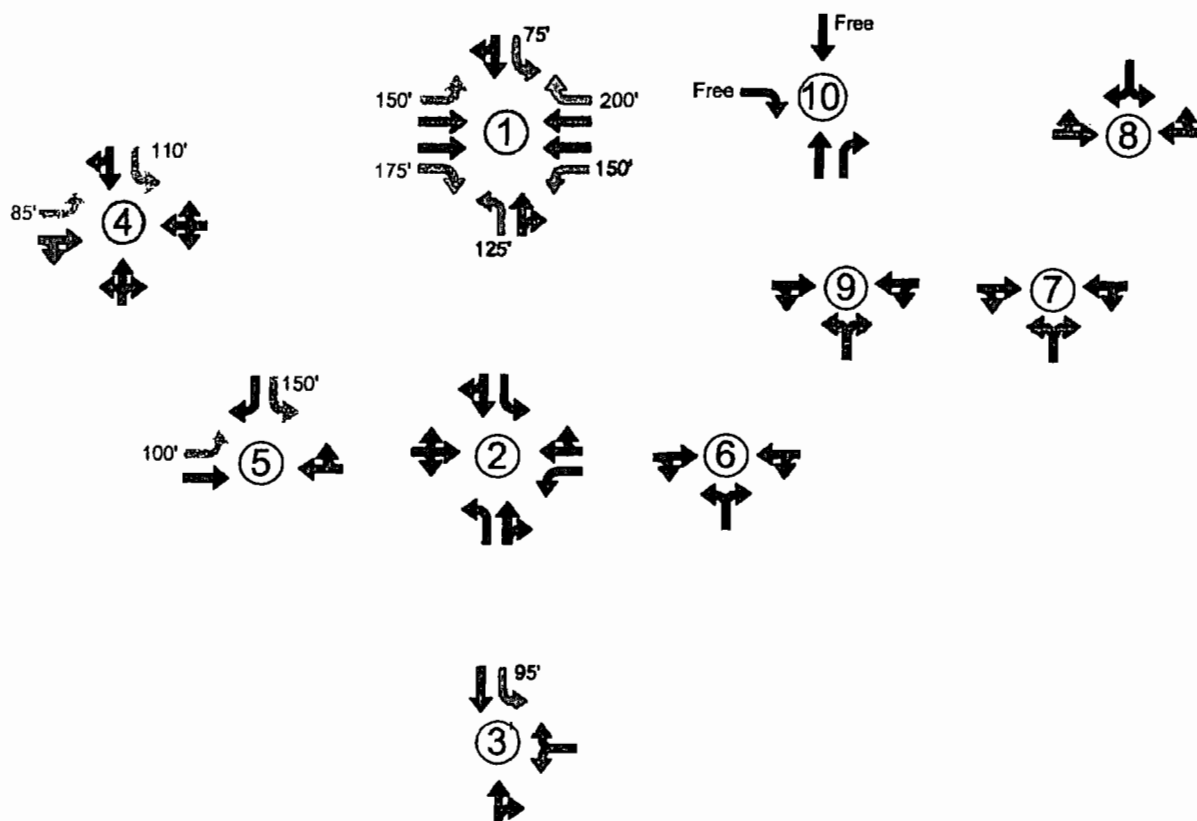


Figure 4

Spalding Industrial Area Traffic Impact Study 2012 Season Adjusted and Balanced Traffic Counts

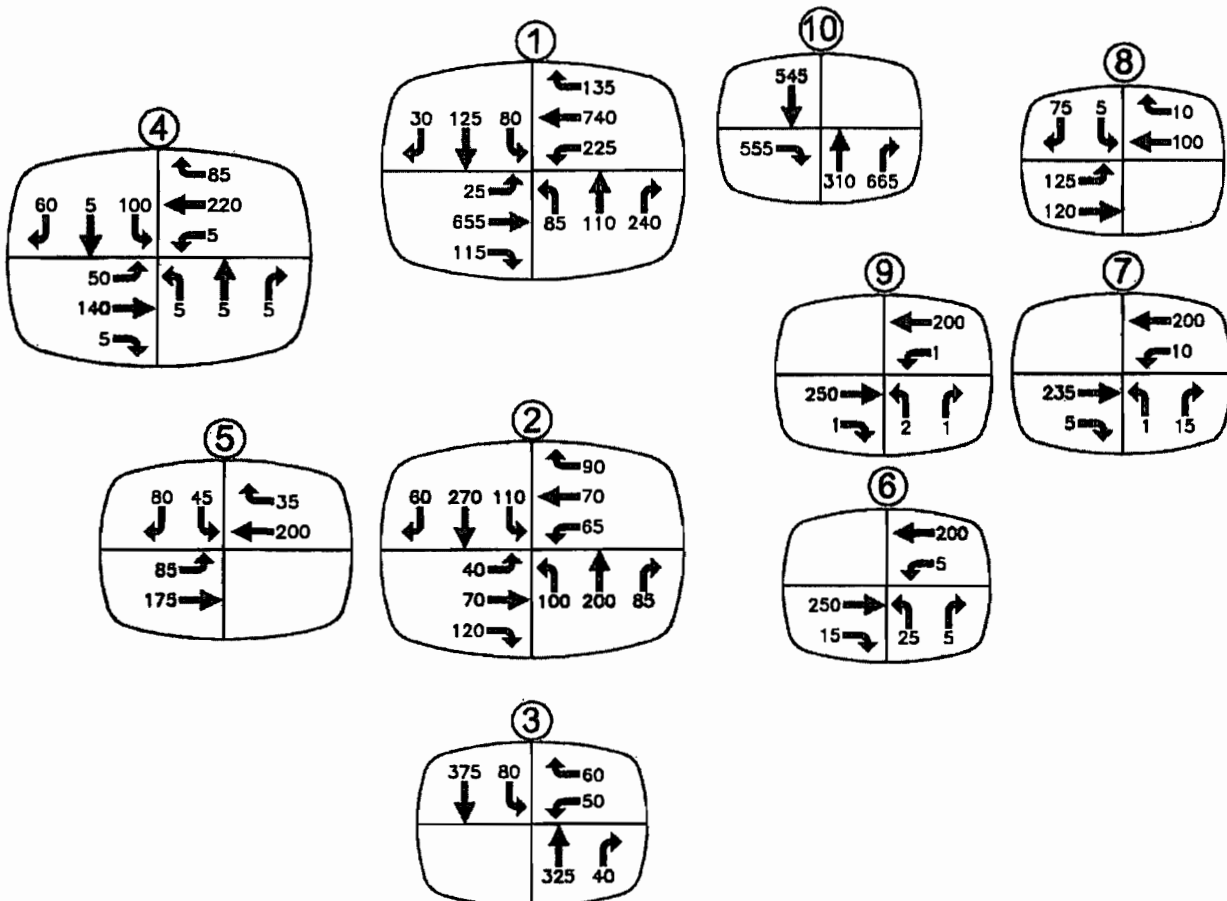
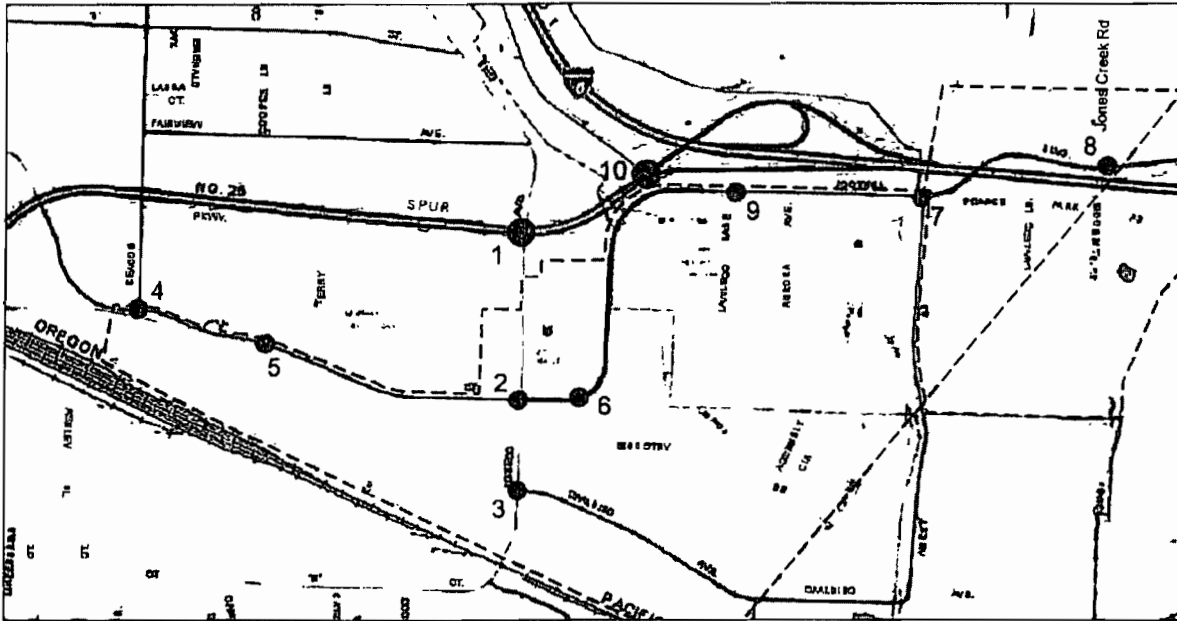


Figure 5I

Spalding Industrial Area Traffic Impact Study
Trip Distribution - Inbound

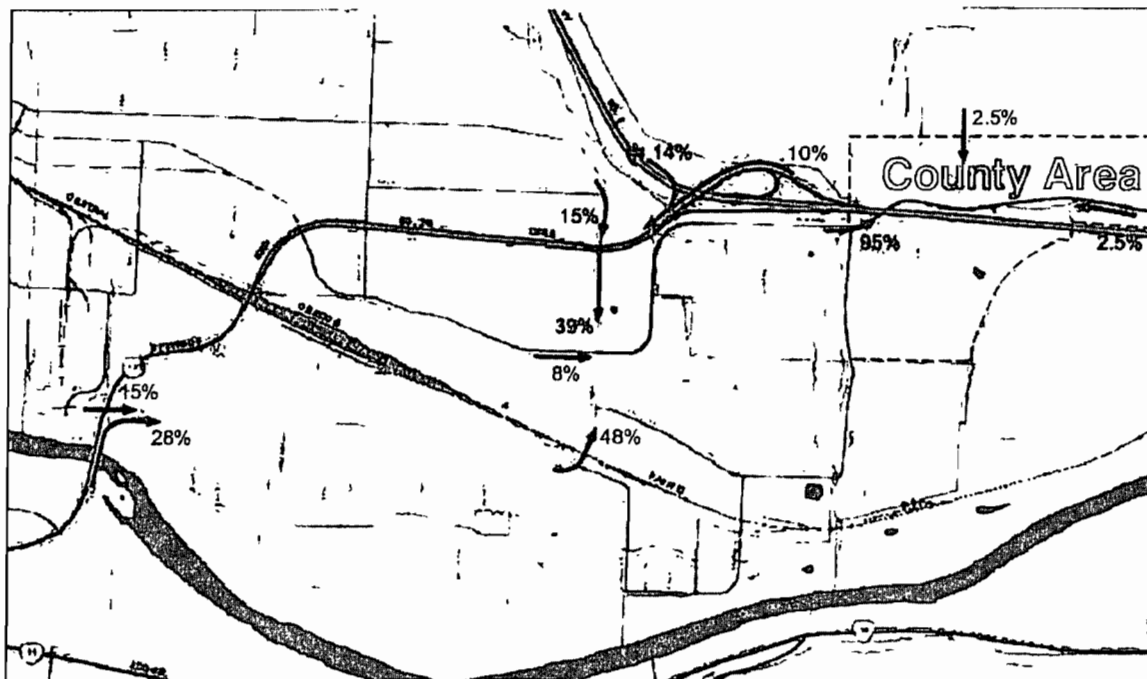
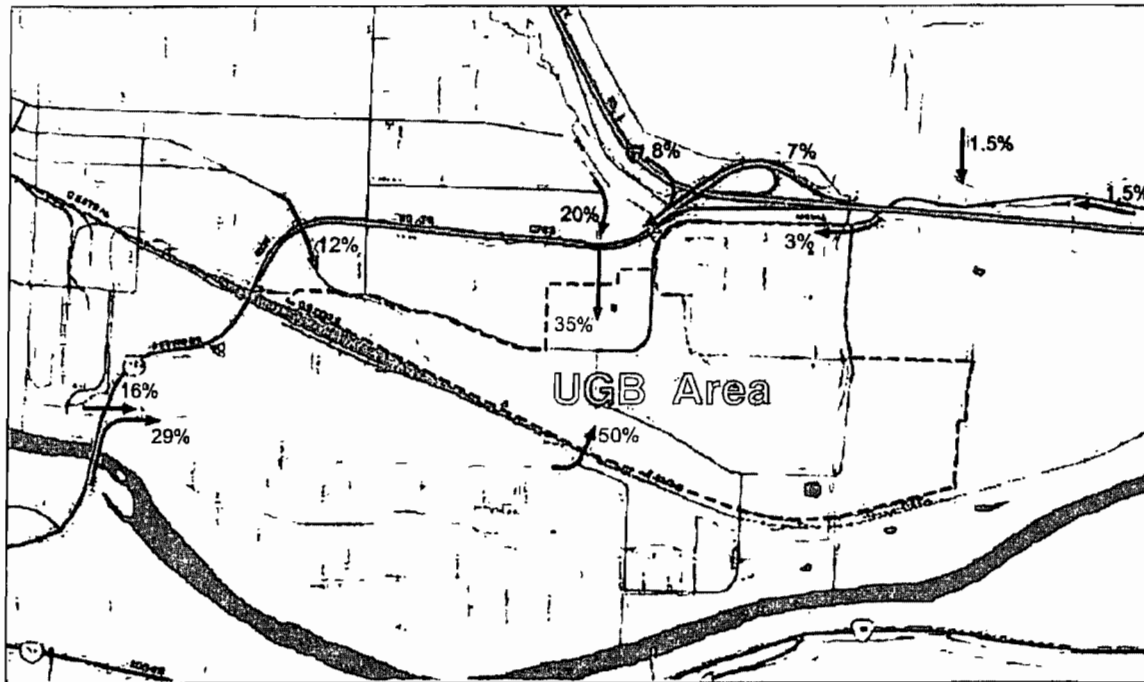


Figure 50

Spalding Industrial Area Traffic Impact Study
Trip Distribution - Outbound

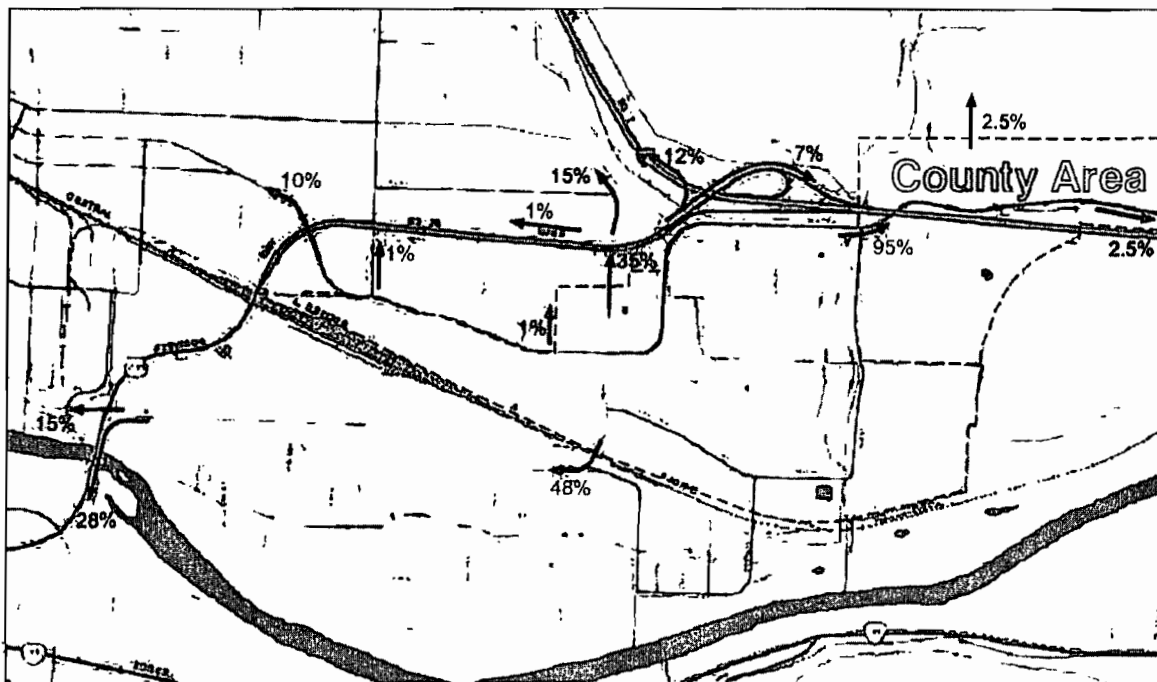
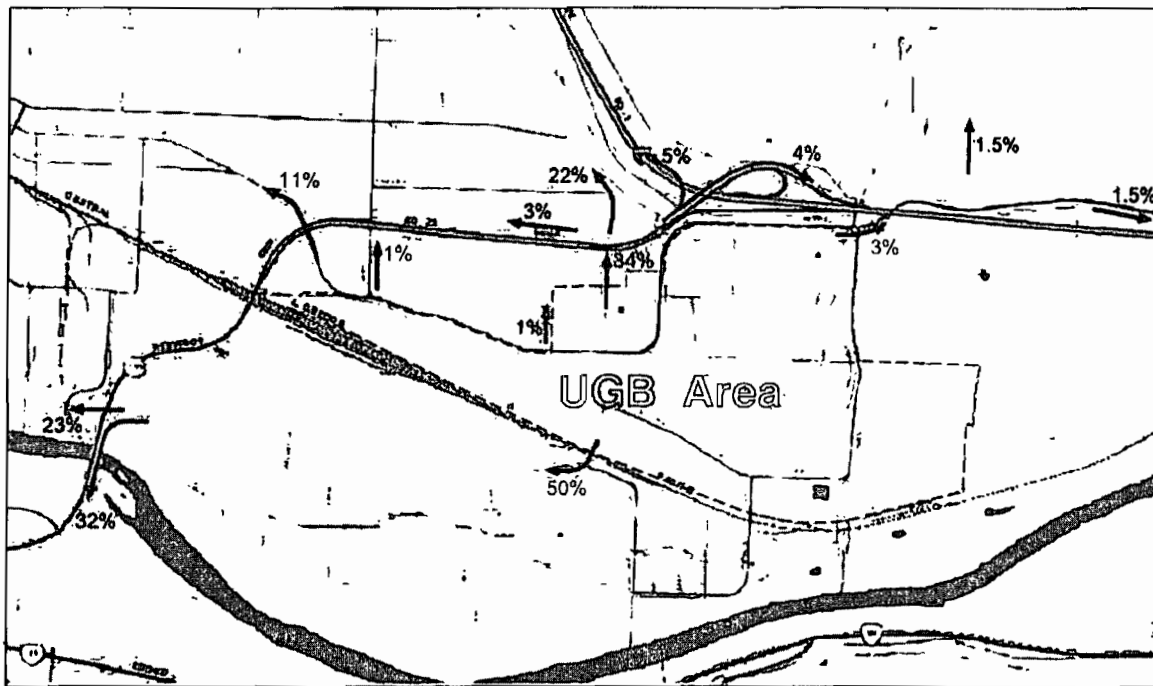


Figure 6

Spalding Industrial Area Traffic Impact Study UGB Area Full Build-out Peak Hour Assignments

xx - Vacant
(xx) - Redeveloped

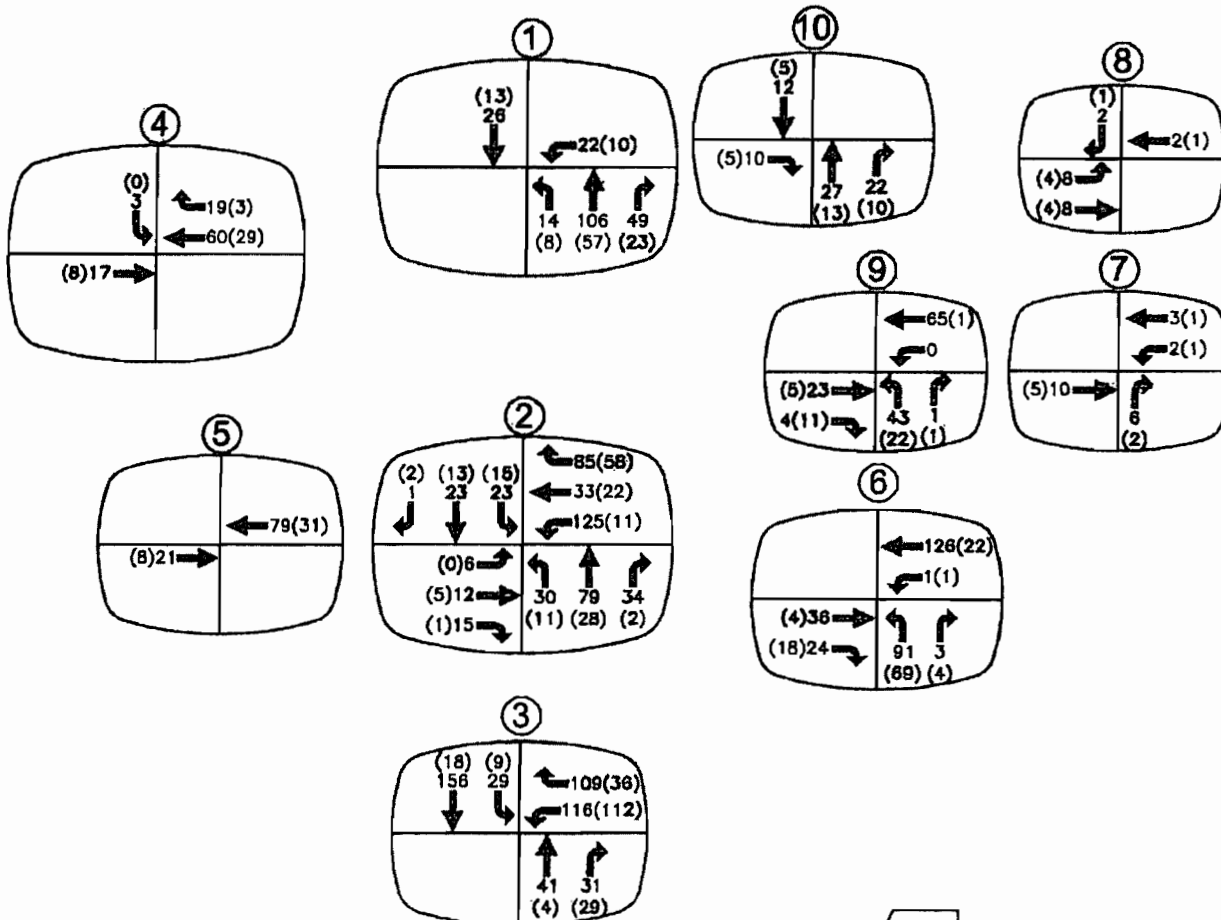
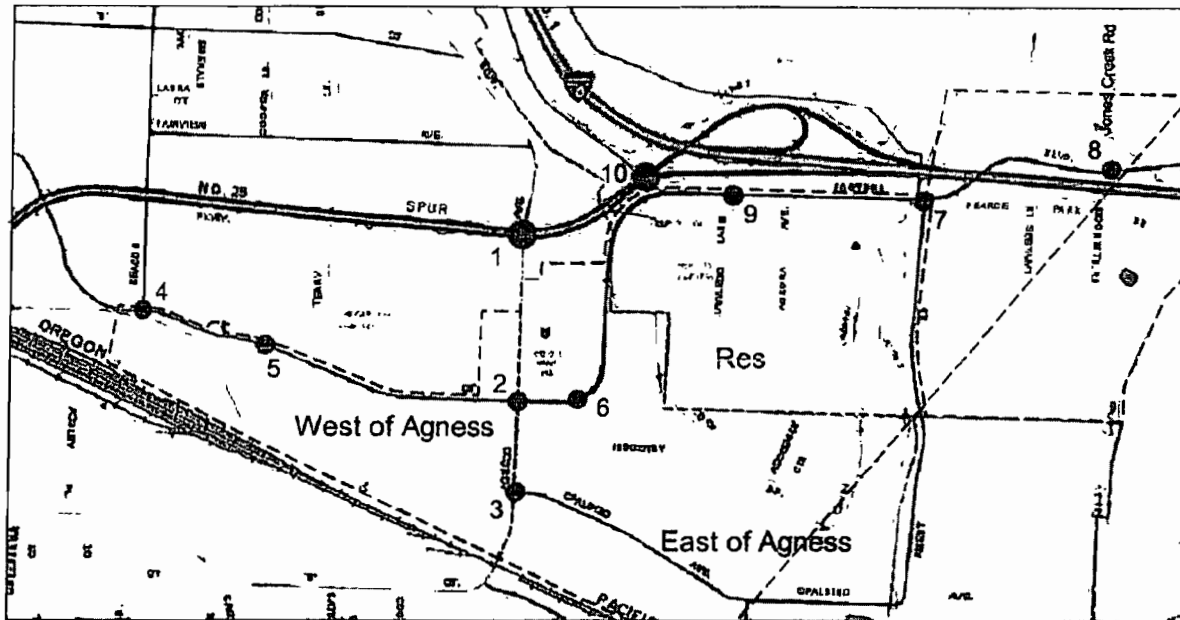


Figure 6C

Spalding Industrial Area Traffic Impact Study County Area Full Build-out Vacant lots Peak Hour Assignments

xx - Area H
(xx) - Area H2

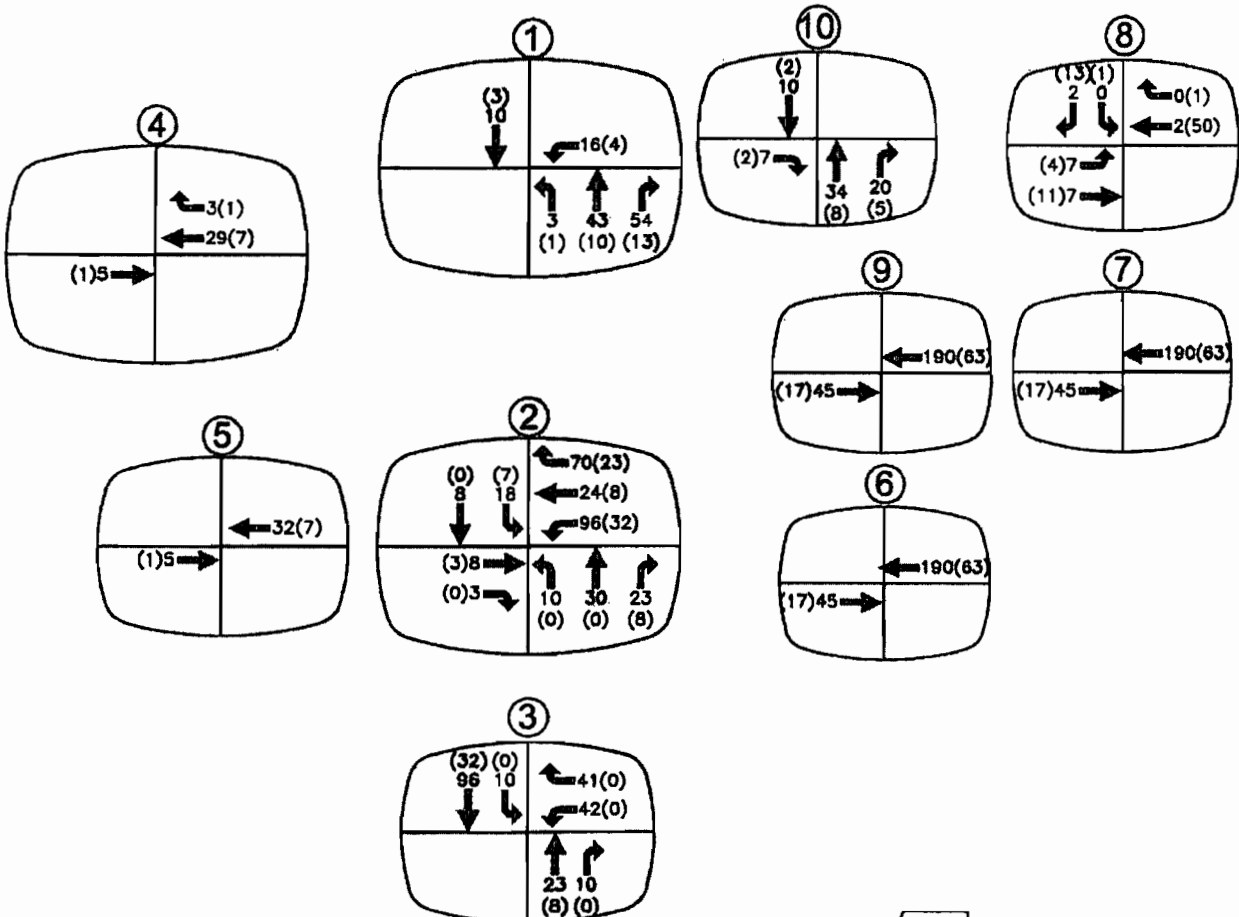
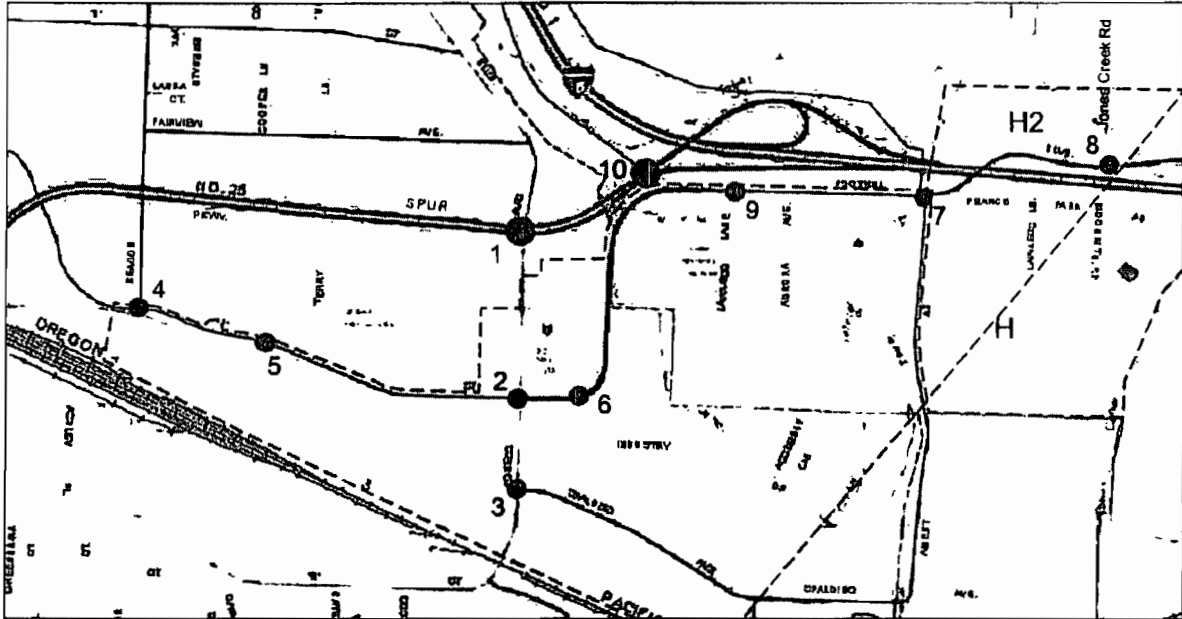


Figure 7

Spalding Industrial Area Traffic Impact Study 2032 Design Hour Volumes Full Build-out UGB Area Only

XX - No Build
(XX) - Full Build UGB Area

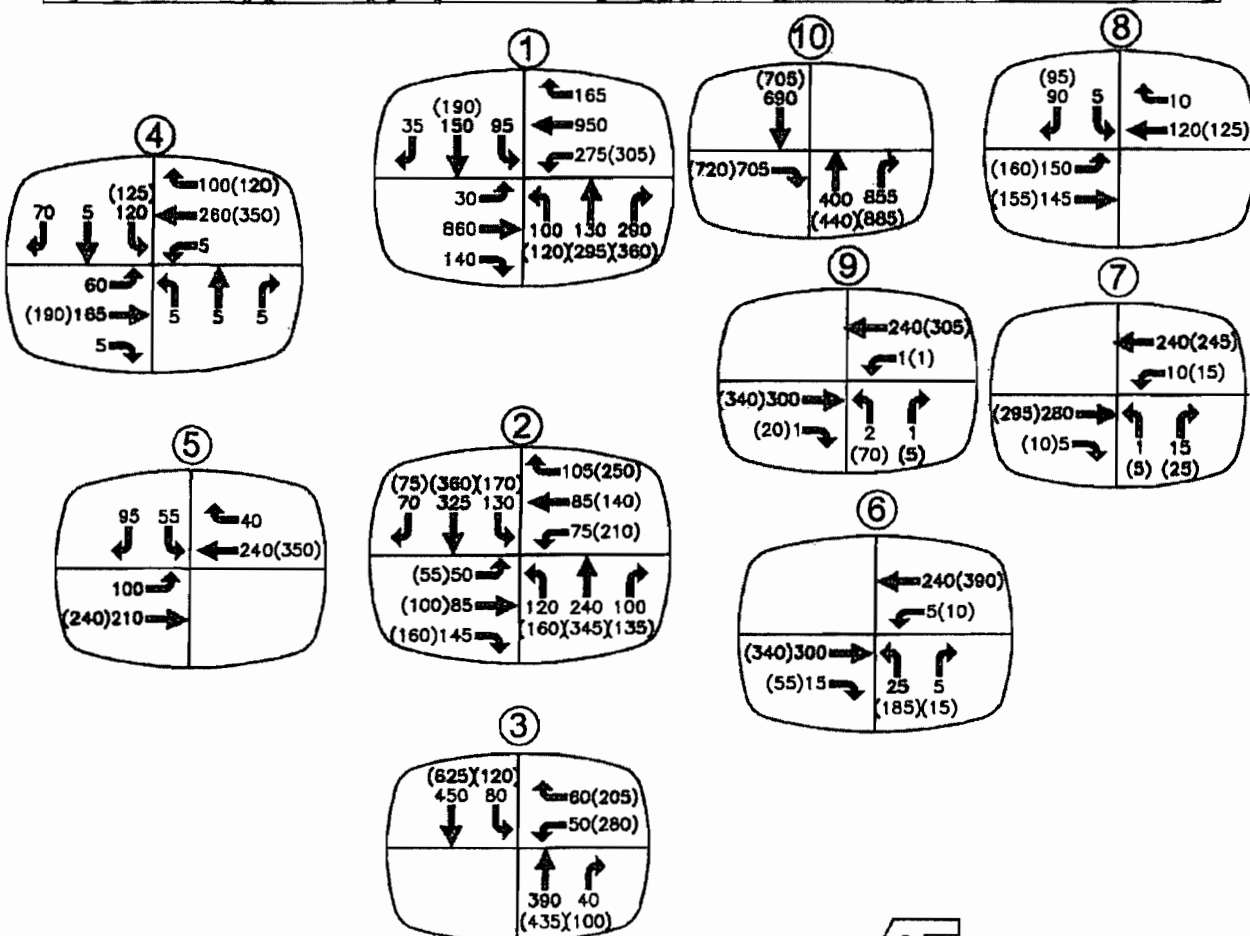
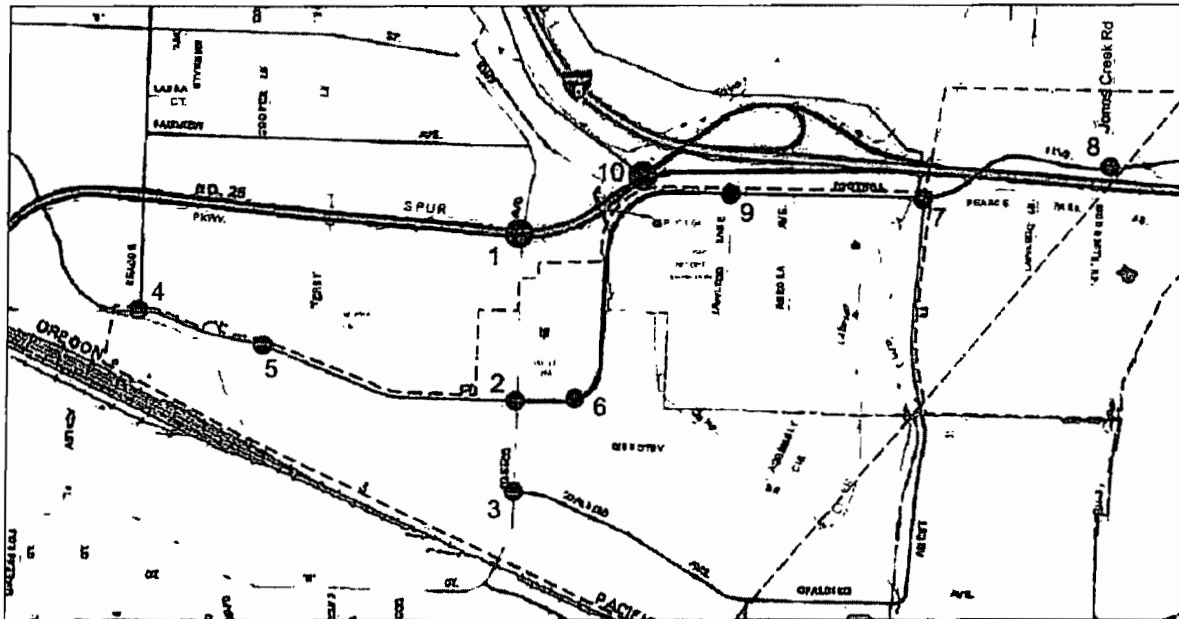


Figure 8

Spalding Industrial Area Traffic Impact Study

2032 Design Hour Volumes

Full Build-out All UGB + County H

xx - No Build

(xx) - Full Build All UGB + Count H

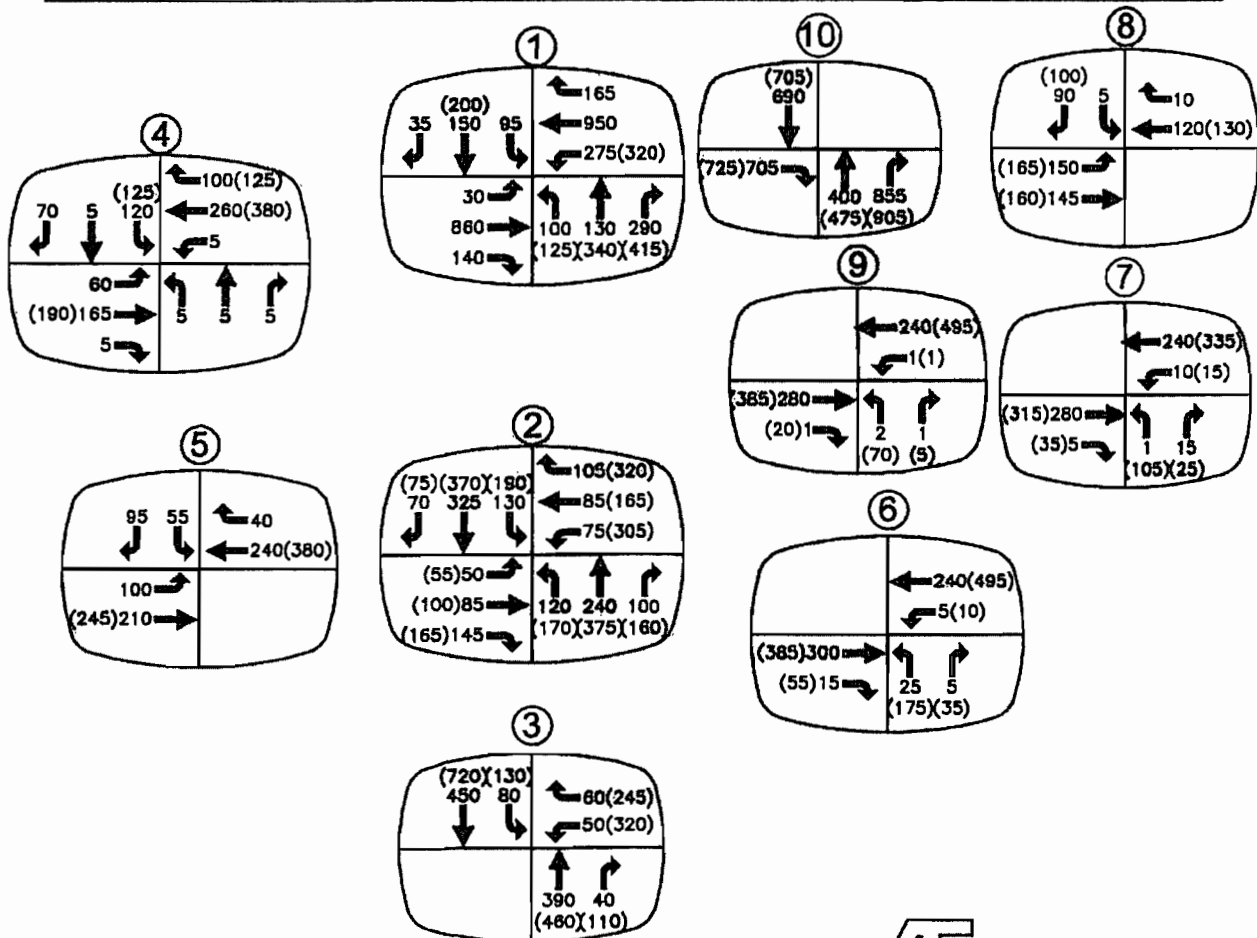
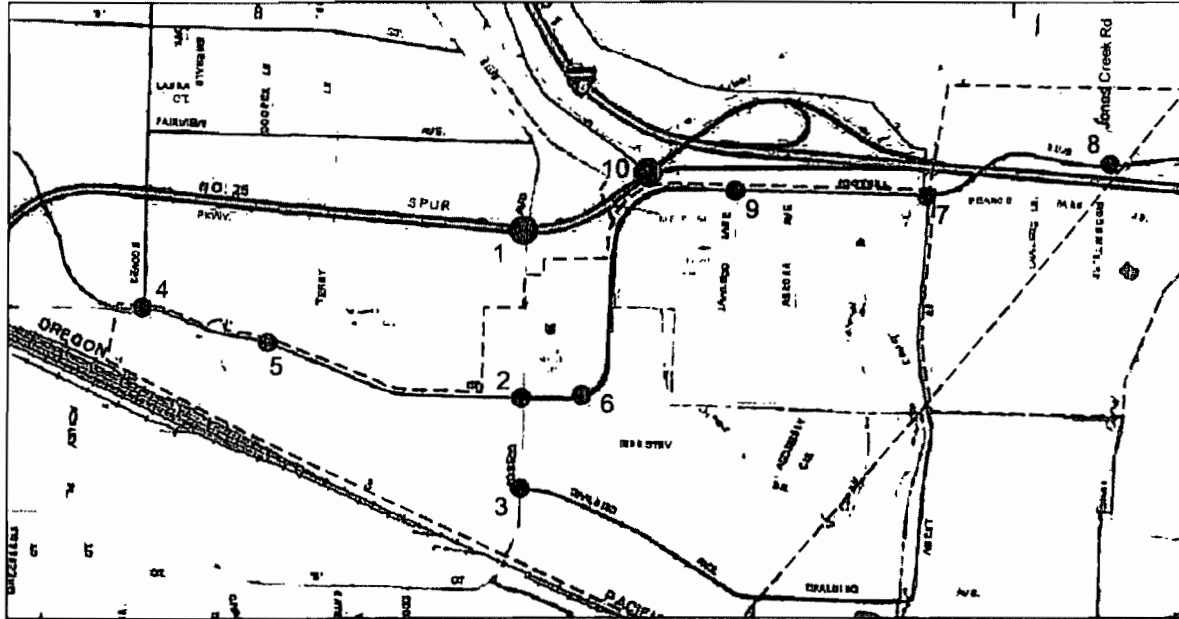


Figure 9

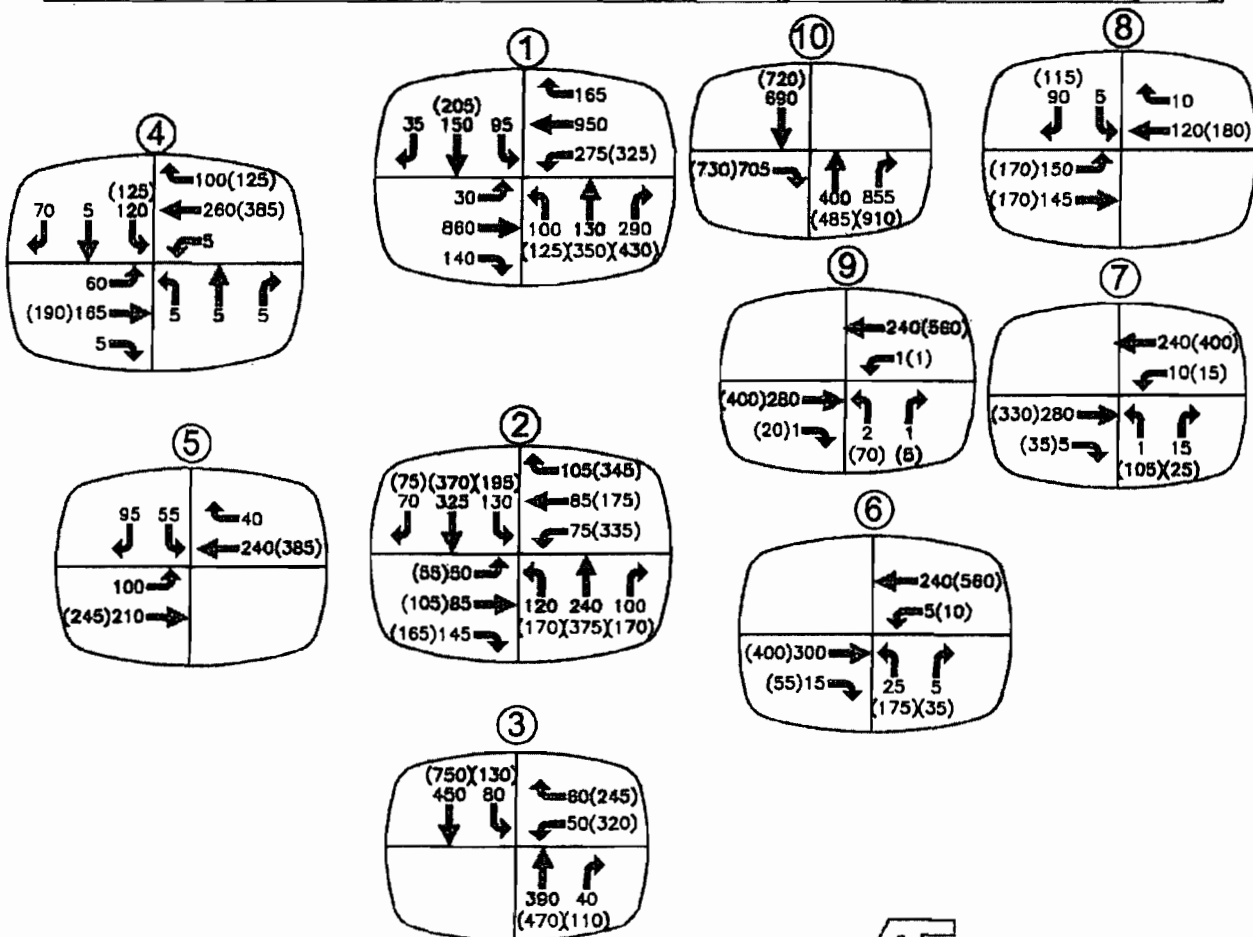
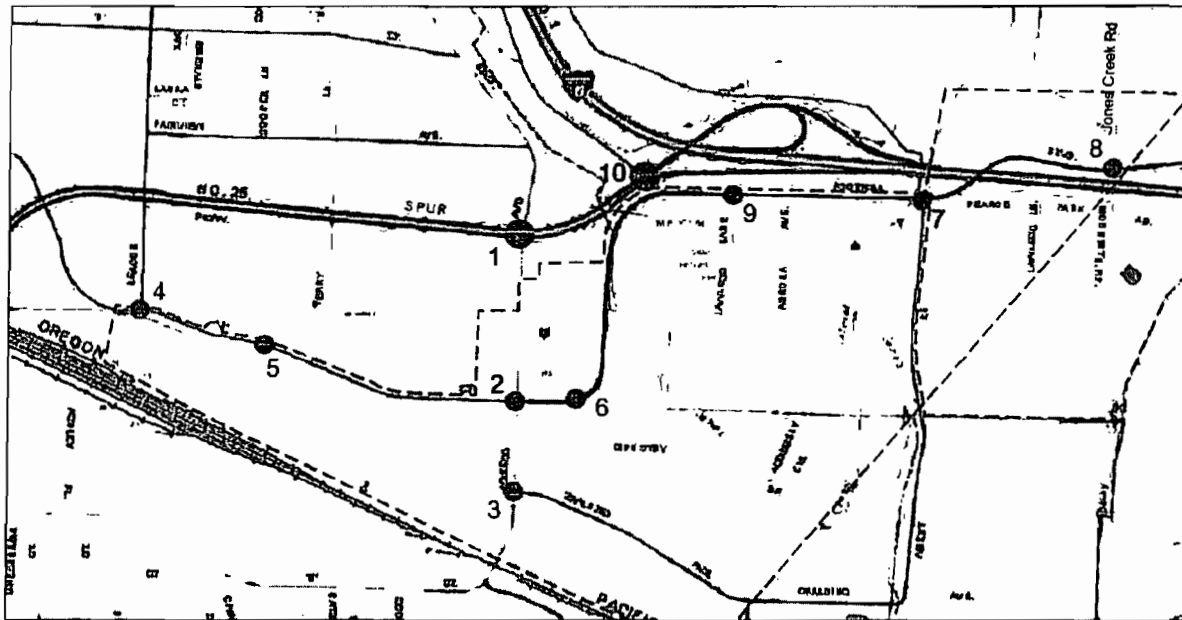
Spalding Industrial Area Traffic Impact Study

2032 Design Hour Volumes

Full Build-out All UGB + County + H2

XX - No Build

(xx) - Full Build All UGB + County + H2



Appendix B

Spalding Area Parcel Data

UGB Area East of Agness

Tax Map	Lot Address	Acres	Zoning	Current Use	Vacant Acres	Redev Acres
36 5 16 DC	601 257 NE AGNESS AVE	3.45	I	Parking/ Vacant	3.45	
	602 FOOTHILL BLVD	0.30	I	Vacant	ND	
	700 2001 FOOTHILL BLVD	4 18	I	Misc. Industrial		
	701 345 NE AGNESS AVE	5.00	I	Comm. Shop		
	702 FOOTHILL BLVD	0.65	I	Vacant	ND	
	800 FOOTHILL BLVD	0.33	I	Vacant	ND	
	801 FOOTHILL BLVD	2.18	I	Misc. Industrial		
	802 NE AGNESS AVE	1 71	I	Misc. Small Str	1 71	
	900 NE AGNESS AVE	0.11	GC	Vacant	ND	
36 5 21 A	101 2123 NE INDUSTRY DR	3.11	I	Vacant	3.11	
	102 2137 NE INDUSTRY DR	0.74	I	Vacant	0.74	
	103 2151 NE INDUSTRY DR	0.59	I	Vacant	0.59	
	104 2165 NE INDUSTRY DR	1.01	I	Vacant	1.01	
	105 2179 NE INDUSTRY DR	1 15	I	Vacant	1 15	
	106 2186 NE INDUSTRY DR	0.53	I	Vacant	0.53	
	107 2172 NE INDUSTRY DR	0.92	I	Office Single		
	109 2144 NE INDUSTRY DR	0.91	I	Vacant	0.91	
	301 2200 INDUSTRY DR	0.81	I	Vacant	0.81	
	302 2214 INDUSTRY DR	4.06	I	Vacant	4.06	
	303 114 ASSEMBLY CIR	1 45	I	Vacant	1.45	
	304 129 ASSEMBLY CIR	1.44	I	Vacant	1.44	
	305 115 ASSEMBLY CIR	2.29	I	Whse/Manf Steel		
	306 101 ASSEMBLY CIR	3.43	I	Church/Vac.	0.88	
	307 2207 INDUSTRY DR	1.29	I	Vacant	1.29	
	308 2193 INDUSTRY DR	1.45	I	Vacant	1.45	
	309 2250 SPALDING AVE	36.66	I	Warehousing/Vac.		25.66
	2250 SPALDING AVE		I	Warehousing/Vac.		11.00
	900 605 NE AGNESS AVE	0.52	BP	Yard/ACC Imp		
	1100 2100 NE SPALDING AVE	3.50	BP	Machine Shop		
	1102 2150 NE SPALDING AVE	1.52	BP	Vacant	1.52	
	1103 2164 NE SPALDING AVE	4 73	I	Office Multi-Use		
	1104 2188 NE SPALDING AVE	0.68	I	Manuf. Warehouse		
	1105 2245 NE SPALDING AVE	3.02	I	Stone, Clay, Glass		
	1106 2207 NE SPALDING AVE	1 42	I	Manuf. Warehouse		
	1107 2185 NE SPALDING AVE	2.38	I	Manuf Warehouse		
	1108 2163 NE SPALDING AVE	2.56	I	Manuf Warehouse		
	1109 2143 SPALDING AVE	2.51	I	Manuf Warehouse		
	1110 2101 NE SPALDING AVE	4.59	I	Manuf. Warehouse/Vac.	1.18	
36 5 22	200 450 AMENT RD	20.23	RI	Vacant	20.23	
	300 2280 NE SPALDING AVE	8.06	RR-1	Vacant	8.06	
	400 2300 NE SPALDING AVE	9.39	RI	Vacant	9.39	
36 5 22 BC	100 NE SPALDING AVE	5.92	RI	Lumber & Wood Prod.		5.92
	600 2285 NE SPALDING AVE	2.15	RI	Comm. Shop		2.15
TOTAL UGB East of Agness		152.93			64.96	44.73

ND = Not Developable

UGB Area West of Agness

Tax Map	Lot Address	Acres		Current Use	Vacant Acres	Redev Acres
36 5 16 CD	301 135 NE TERRY LN	2.70	I	Walmart Parking		
	302 NE F ST	0.65	I	Jail		
	600 398 NE AGNESS AVE	2.44	I	Misc. Ind. Imp.		2.44
	700 440 NE AGNESS AVE	2.78	I	Office Multi-Use		2.78
36 5 21 BA	100 NE AGNESS AVE	1.81	I	Utility Station		
	200 610 NE AGNESS AVE	8.04	I	Vacant	8.04	
	201 578 NE AGNESS AVE	1.31	I	Mini Warehouse		
	290 NE AGNESS AVE	0.20	I	Utility		
	300 550 NE AGNESS AVE	2.65	I	Vacant	2.65	
	401 2001 NE F ST	7.34	I	Jail		
36 5 21 BB	100 NE TERRY LN	4.54	I	Jail		
36 5 16 CC	300 1775 NE F ST	1.38	I	Wood Prod		
	302 1775 NE F ST	2.60	I	Wood Prod		
	1100 NE BEACON DR	6.48	I	Wood Prod		
	1501 1901 NE F ST	2.63	I	Jail		
36 5 17 DD	401 BEACON DR	6.17	I	Wood Prod		
TOTAL UGB West of Agness		53.72			10.69	5.22

UGB Residential Area

Tax Map	Lot Address	Acres		Current Use	Vacant Acres	Redev Acres
36-5-C	2000 FOOTHILL BLVD	0.35	RR-2.5	Vacant	ND	
36-5-16-DD	100 2315 FOOTHILL BLVD	1.00	M-1	Single Family Res.		
	101 350 AMENT RD	1.05	M-1	MFS 4 Double		
	102 2375 FOOTHILL BLVD	11.45	M-1	Whse/Manf Conc./Vac.	6.00	
	200 2323 FOOTHILL BLVD	0.23	R-2	Single Family Res.		
	201 2325 FOOTHILL BLVD	0.62	R-2	Single Family Res.		
	300 2309 FOOTHILL BLVD	0.50	R-1-8	Single Family Res.		
	301 475 AURORA AVE	0.50	R-1-8	Single Family Res.		
	400 503 AURORA AVE	0.48	R-1-8	Single Family Res.		
	500 501 AURORA AVE	0.53	R-1-8	Single Family Res.		
	600 523 AURORA AVE	0.53	R-1-8	Single Family Res.		
	601 505 AURORA AVE	0.53	R-1-8	Single Family Res.		
	700 498 AURORA AVE	1.50	R-1-8	Misc. Small Str	1.50	
	800 498 AURORA AVE	0.53	R-1-8	Single Family Res.		
	900 502 AURORA AVE	0.53	R-1-8	Single Family Res.		
	1000 501 NE LAWLESS LN	4.31	M-1	Whse/Manf Steel/Vac.	2.71	
	1101 597 AURORA AVE	8.16	M-1	Single Family Res./Vac.	5.44	1.50
	1200 575 AURORA AVE	0.53	R-1-8	Single Family Res.		
	1300 FOOTHILL BLVD	2.50	M-1	Vacant	2.50	
	1400 404 AMENT RD	0.93	M-1	Single Family Res.		
	1500 408 AMENT RD	4.07	M-1	Single Family Res./Vac.	1.35	
36-5-16-DC	100 2131 FOOTHILL BLVD	6.45	M-1	Cemetery		
	101 FOOTHILL BLVD	4.95	M-1	Vacant	4.95	
TOTAL		57.97			24.45	1.50

ND = Not Developable

					Vacant Acres	Redev Acres
TOTAL UGB AREAS		264.62			100.11	51.45

Josephine County Areas

AREA H – South of I-5

Tax Map	Lot Address	Acres	Zoning	Current Use	Vacant Acres	Redev Acres
36-5-15-C	1300 PEARCE PARK RD	2.37	RR5	Misc Small Structure	2.00	
	1400 2720 MOON MOUNTAIN RD	0.70	RR5	Single Fam. Res.		
	1500 2665 MOON MOUNTAIN RD	0.42	RR2.5	Misc Small Structure	0.42	
	1600 2655 PEARCE PARK RD	0.41	RR2.5	Misc Small Structure	0.41	
	1700 PEARCE PARK RD	1.03	RR2.5	Vacant	1.03	
	1800 2465 MOON MOUNTAIN RD	1.50	RR2.5	Special Purpose Bldg		1.50
	1900 2445 MOON MOUNTAIN RD	1.58	RR2.5	Single Fam. Res.		1.58
	2100 2635 MOON MOUNTAIN RD	18.60	FR	Farm/SFRes.		18.60
	2202 2800 MOON MOUNTAIN RD	10.00	FR	Farm/SFRes		10.00
	2300 AMENT RD	15.25	FR	Farm		15.25
	2400 425 AMENT RD	2.02	M-1,RR2.5	Single Fam. Res.		
	2401 377 AMENT RD	1.00	RR2.5	Single Fam. Res.		
	2402 381 AMENT RD	1.00	RR2.5	Single Fam. Res.		
TOTAL Area H	13	55.88			3.86	46.93

AREA H2 – North of I-5

Tax Map	Lot Address	Acres	Zoning	Current Use	Vacant Acres	Redev Acres
36-5-15-C	100 191 JONES CREEK RD	3.26	RI	Single Fam. Res./Vac.	0.46	
	101 2790 FOOTHILL BLVD	6.89	RC	IND-Misc. Impr./Vac.	2.48	
	102 JONES CREEK RD	2.01	RR2.5	Vacant	2.01	
	103 195 JONES CREEK RD	1.00	RR2.5	Misc Small Structure		
	104 2828 FOOTHILL BLVD	2.17	RC	Warehouse		
	107 2794 FOOTHILL BLVD	3.32	RC	Warehouse		
	108 2798 FOOTHILL BLVD	3.11	RC	Vacant	3.11	
	109 2820 FOOTHILL BLVD	1.01	RC	Warehouse		
	200 272 W JONES CREEK RD	0.40	RR2.5	Single Fam. Res.		
	300 2520 FOOTHILL BLVD	18.17	RR2.5	Trucking/Res./Res.Vac.	0.50	
	301 250 JONES CREEK RD	1.20	RR2.5	Single Fam. Res.		
	302 270 JONES CREEK RD	1.86	RI	Single Fam. Res.		
	304 2560 FOOTHILL BLVD	2.64	RI	Whse/Manf steel/Vac.	0.98	
	400 2801 FOOTHILL BLVD	0.85	RC	Single Fam. Res./Vac.	0.21	
	500 2821 FOOTHILL BLVD	0.44	RC	MFS Class4 Single		
	501 FOOTHILL BLVD	0.37	RC	Vacant	0.13	
	800 2877 FOOTHILL BLVD	0.50	RC	MFS Class4 Single		
36-5-15-D	900 3022 FOOTHILL BLVD	0.72	RR2.5	Vacant	0.72	
	1000 3014 FOOTHILL BLVD	1.01	RR2.5	Vacant	1.01	
	1100 3000 FOOTHILL BLVD	0.66	RR2.5	MFS 5 Double		
	1200 2994 FOOTHILL BLVD	2.30	RR2.5	Single Fam. Res.		
	1300 2950 FOOTHILL BLVD	2.30	RR2.5	Single Fam. Res.		
	1400 2924 FOOTHILL BLVD	1.78	RR2.5	Single Fam. Res.		
	1401 241 BUYSMAN WAY	1.64	RR2.5	MFS 7 Double		
	1402 2882 FOOTHILL BLVD	1.05	RR2.5	MFS 5 Double		
	1403 2888 FOOTHILL BLVD	1.00	RR2.5	MFS 4 Double		
	1404 2910 FOOTHILL BLVD	0.90	LI	Whse/Manf Wood		
	1405 2944 FOOTHILL BLVD	1.50	RR2.5	Single Fam. Res.		
	1406 2938 FOOTHILL BLVD	1.41	RR2.5	Single Fam. Res.		
	1490 FOOTHILL BLVD	0.25	RR2.5	Driveway		
	1491 FOOTHILL BLVD	0.09	RR2.5	Driveway		
	1600 3033 FOOTHILL BLVD	3.03	RC	MFS 4 Single		
TOTAL Area H2	32	68.84			11.60	0.00

					Vacant Acres	Redev Acres
TOTAL COUNTY AREAS		124.72			15.46	46.93

Appendix C

Traffic Count Data

LOCATION AGNESS AVE @ F ST 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EG 11-034 W 1

Site. 0015
Date: 9/21/2011
Wednesday

Peak Hour Detail

Interval	Southbound AGNESS				Westbound F ST				Northbound AGNESS				Eastbound F ST				Total
Begin	Ped1	Right	Thru	Left	Ped2	Right	Thru	Left	Ped3	Right	Thru	Left	Ped4	Right	Thru	Left	
3:00 PM	0	19	33	17	0	25	19	18	0	11	76	15	0	22	22	11	288
3:15 PM	0	13	34	20	0	18	30	22	0	17	41	24	0	23	12	7	259
3:30 PM	0	13	34	20	0	18	30	22	0	17	41	24	0	23	12	7	261
3:45 PM	0	14	37	22	0	21	33	26	0	21	50	26	0	33	19	18	289
4:00 PM	0	8	32	22	0	12	16	16	0	19	60	38	0	22	12	12	269
4:15 PM	0	10	40	29	0	14	16	14	0	29	50	29	0	26	12	20	296
4:30 PM	0	9	41	27	0	22	16	14	0	15	38	21	0	25	14	19	261
4:45 PM	0	10	53	31	0	14	16	11	0	22	38	22	0	27	17	11	275
5:00 PM	0	19	59	20	0	28	17	20	0	23	43	25	1	38	15	11	319
5:15 PM	0	13	80	20	0	21	17	13	0	19	59	18	0	31	16	14	314
5:30 PM	6	16	68	36	0	20	16	17	0	17	44	27	0	26	17	9	319
5:45 PM	0	17	74	15	0	21	17	12	0	16	40	14	0	25	13	6	211
Totals	6	157	578	284	0	234	197	194	1	235	569	273	5	320	178	130	3361
Entering			1019				625				1077				628		
Exiting			1092				627				933				697		

Vehicle Totals

Cars	6	140	554	262	0	223	191	186	1	220	546	264	5	314	175	124	3211
	100%	89.2%	95.8%	92.3%		95.3%	97.0%	95.9%	100%	93.6%	96.0%	96.7%	100%	98.1%	98.3%	95.4%	95.5%
Light	0	9	17	15	0	5	3	4	0	8	10	7	0	4	3	1	86
	0.0%	5.7%	2.9%	5.3%		2.1%	1.5%	2.1%	0.0%	3.4%	1.8%	2.6%	0.0%	1.3%	1.7%	0.8%	2.6%
Bike	0	0	3	1	0	0	1	0	0	0	6	1	0	2	0	0	14
	0.0%	0.0%	0.5%	0.4%		0.0%	0.5%	0.0%	0.0%	0.0%	1.1%	0.4%	0.0%	0.6%	0.0%	0.0%	0.4%
Medium	0	8	4	5	0	3	1	2	0	2	4	1	0	0	0	5	35
	0.0%	5.1%	0.7%	1.8%		1.3%	0.5%	1.0%	0.0%	0.9%	0.7%	0.4%	0.0%	0.0%	0.0%	3.8%	1.0%
Heavy	0	0	0	1	0	3	1	2	0	5	3	0	0	0	0	0	15
	0.0%	0.0%	0.0%	0.4%		1.3%	0.5%	1.0%	0.0%	2.1%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%

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LOCATION AGNESS AVE @ F ST 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EG 11-034 W 1

Site. 0015
Date: 9/21/2011
Wednesday

Peak Hour Detail

Peak Hour: 4:45 PM - 5:45 PM

Interval	Southbound AGNESS				Westbound F ST				Northbound AGNESS				Eastbound F ST				Total
Begin	Ped1	Right	Thru	Left	Ped2	Right	Thru	Left	Ped3	Right	Thru	Left	Ped4	Right	Thru	Left	
Totals	6	58	260	107	0	86	67	61	0	81	184	92	3	122	65	35	1227
Factor	0.25	0.76	0.81	0.74		0.77	0.93	0.76		0.88	0.78	0.85	0.38	0.80	0.96	0.80	0.96
Entering		425				214				357				222			
Factor		0.89				0.82				0.93				0.87			
Exiting		443				217				305				253			
Factor		0.89				0.89				0.91				0.90			

Peak Vehicles

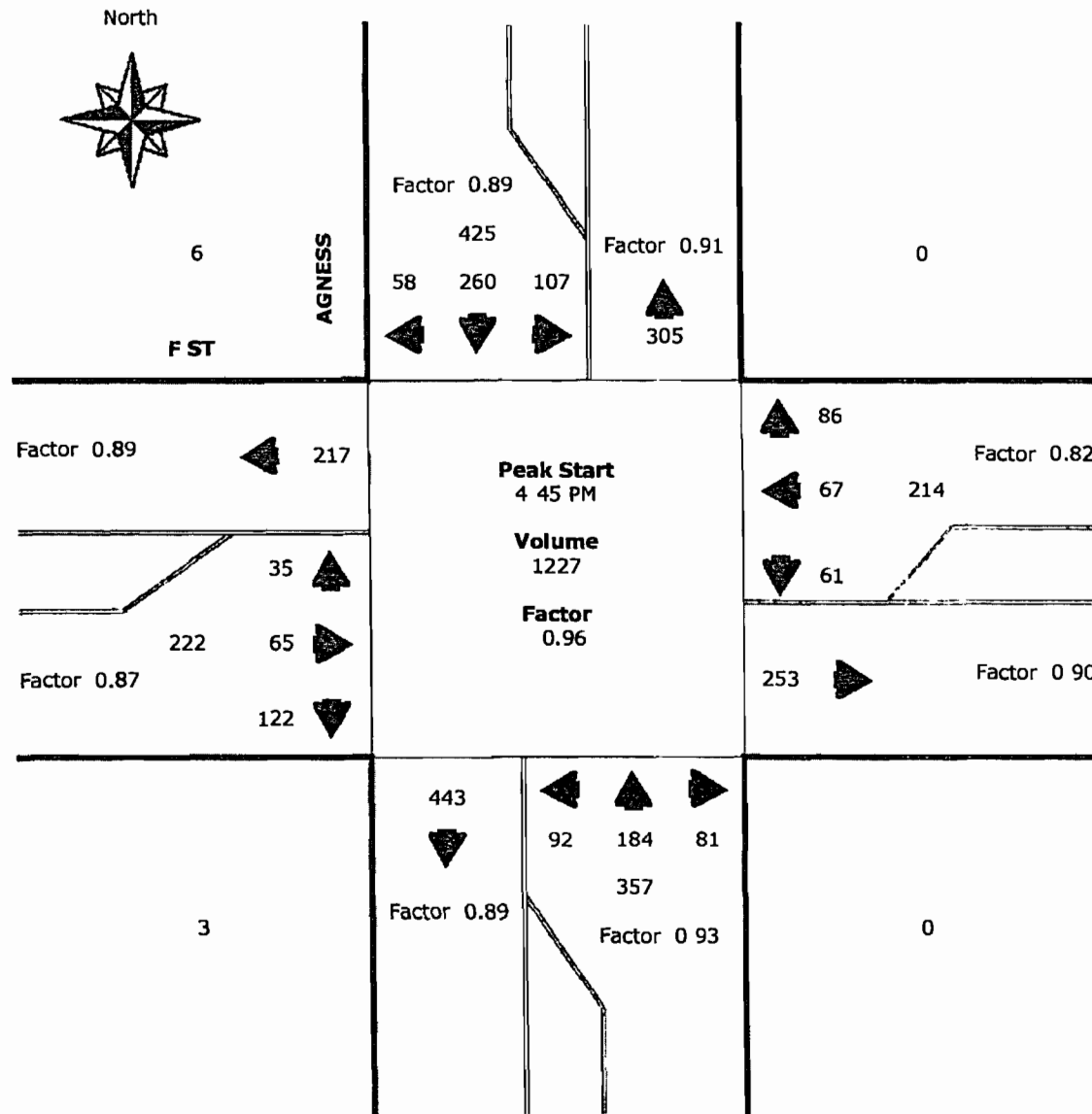
Cars	6	55	251	101	0	83	63	57	0	77	180	88	3	121	63	34	1182
	100%	94.8%	96.5%	94.4%		96.5%	94.0%	93.4%		95.1%	97.8%	95.7%	100%	99.2%	96.9%	97.1%	96.3%
Light	0	2	5	4	0	2	1	2	0	3	1	2	0	1	2	0	25
	0.0%	3.4%	1.9%	3.7%		2.3%	1.5%	3.3%		3.7%	0.5%	2.2%	0.0%	0.8%	3.1%	0.0%	2.0%
Bike	0	0	2	1	0	0	1	0	0	0	1	1	0	0	0	0	6
	0.0%	0.0%	0.8%	0.9%		0.0%	1.5%	0.0%		0.0%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.5%
Medium	0	1	2	1	0	0	1	0	0	1	2	1	0	0	0	1	10
	0.0%	1.7%	0.8%	0.9%		0.0%	1.5%	0.0%		1.2%	1.1%	1.1%	0.0%	0.0%	0.0%	2.9%	0.8%
Heavy	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	4
	0.0%	0.0%	0.0%	0.0%		1.2%	1.5%	3.3%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%

LOCATION AGNESS AVE @ F ST 1500-1800
CITY GRANTS PASS, OR
FILENAME. V12EG 11-034 W 1

Site 0015
Date 9/21/2011
Wednesday

Peak Hour Detail

Peak Hour Diagram



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LOCATION AGNESS AVE @ SPALDING AVE 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EF 11-034 N

Site: 0015
Date: 9/21/2011
Wednesday

Peak Hour Detail

Peak Hour Detail																		
Interval Begin	Ped1	Southbound AGNESS			Ped2	Westbound SPALDING			Ped3	Northbound AGNESS			Ped4	Eastbound			Total	
		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		
3:00 PM	0	0	71	1	0	16	0	7	2	4	77	0	0	0	0	0	178	
3:15 PM	0	0	71	6	0	9	0	8	0	4	74	0	0	0	0	0	174	
3:30 PM	0	0	70	9	0	25	0	24	1	6	55	0	0	0	0	0	190	
3:45 PM	0	0	101	9	0	16	0	11	1	8	77	0	0	0	0	0	223	
4:00 PM	0	0	64	3	1	13	0	6	1	8	100	0	0	0	0	0	196	
4:15 PM	0	0	73	8	1	5	0	6	0	7	96	0	0	0	0	0	196	
4:30 PM	0	0	75	7	0	15	0	17	0	5	56	0	0	0	0	0	175	
4:45 PM	0	0	79	14	0	13	0	10	0	5	67	0	0	0	0	0	188	
5:00 PM	0	0	100	18	0	16	0	17	0	15	77	0	0	0	0	0	243	
5:15 PM	0	0	101	23	0	14	0	6	0	10	80	0	0	0	0	0	234	
5:30 PM	0	0	89	24	0	12	0	11	0	8	76	0	0	0	0	0	220	
5:45 PM	0	0	72	10	0	12	0	8	0	9	48	0	0	0	0	0	159	
Totals	0	0	966	132	4	166	0	131	5	89	883	0	0	0	0	0	2376	
Entering			1098				297				972					0		
Exiting			1097				0				1049					221		

Vehicle Totals

Cars	0	0	938	123	4	158	0	122	5	84	846	0	0	0	0	0	0	0	0	2280
			97.1%	93.2%	100%	95.2%		93.1%	100%	94.4%	95.8%									96.0%
Light	0	0	20	4	0	3	0	2	0	2	21	0	0	0	0	0	0	0	0	52
			2.1%	3.0%	0.0%	1.8%		1.5%	0.0%	2.2%	2.4%									2.2%
Bike	0	0	1	3	0	3	0	4	0	1	2	0	0	0	0	0	0	0	0	14
			0.1%	2.3%	0.0%	1.8%		3.1%	0.0%	1.1%	0.2%									0.6%
Medium	0	0	7	2	0	2	0	3	0	2	10	0	0	0	0	0	0	0	0	26
			0.7%	1.5%	0.0%	1.2%		2.3%	0.0%	2.2%	1.1%									1.1%
Heavy	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
			0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.5%									0.2%

LOCATION AGNESS AVE @ SPALDING AVE 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EF 11-034 N

Site: 0015
Date: 9/21/2011
Wednesday

Peak Hour Detail

Peak Hour: 4:45 PM - 5:45 PM

Interval	Southbound AGNESS				Westbound SPALDING				Northbound AGNESS				Eastbound				Total
Begin	Ped1	Right	Thru	Left	Ped2	Right	Thru	Left	Ped3	Right	Thru	Left	Ped4	Right	Thru	Left	
Totals	0	0	369	79	0	55	0	44	0	38	300	0	0	0	0	0	885
Factor			0.91	0.82		0.86		0.65		0.63	0.94						0.91
Entering			448				99				338				0		
Factor			0.90				0.75				0.92						
Exiting			413				0				355				117		
Factor			0.88								0.94				0.89		

Peak Vehicles

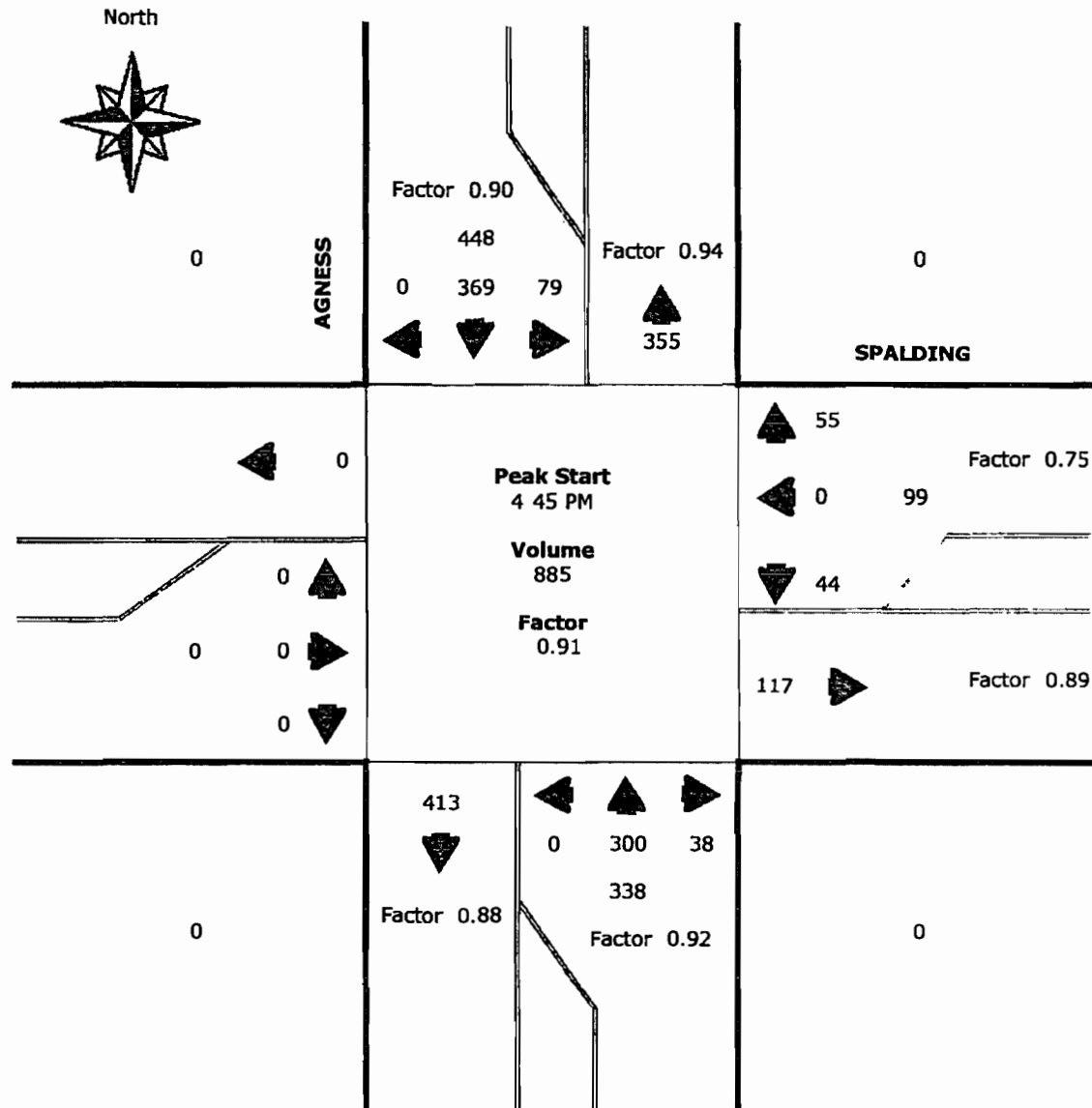
Cars	0	0	361	73	0	53	0	42	0	37	290	0	0	0	0	0	856
			97.8%	92.4%		96.4%		95.5%		97.4%	96.7%						96.7%
Light	0	0	4	3	0	1	0	0	0	1	6	0	0	0	0	0	15
			1.1%	3.8%		1.8%		0.0%		2.6%	2.0%						1.7%
Bike	0	0	0	2	0	1	0	1	0	0	1	0	0	0	0	0	5
			0.0%	2.5%		1.8%		2.3%		0.0%	0.3%						0.6%
Medium	0	0	4	1	0	0	0	1	0	0	3	0	0	0	0	0	9
			1.1%	1.3%		0.0%		2.3%		0.0%	1.0%						1.0%
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0.0%	0.0%		0.0%		0.0%		0.0%	0.0%						0.0%

LOCATION AGNESS AVE @ SPALDING AVE 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EF 11-034 N

Site: 0015
Date: 9/21/2011
Wednesday

Peak Hour Detail

Peak Hour Diagram



LOCATION BEACON DR @ F ST 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EE 11-034 E

Site 0015
Date: 9/21/2011
Wednesday

Peak Hour Detail

Interval	Southbound BEACON				Westbound F ST				Northbound BEACON				Eastbound F ST				Total
Begin	Ped1	Right	Thru	Left	Ped2	Right	Thru	Left	Ped3	Right	Thru	Left	Ped4	Right	Thru	Left	
3:00 PM	0	14	0	23	0	17	65	2	0	1	0	1	0	0	34	10	167
3:15 PM	0	12	0	28	0	14	86	0	0	2	0	0	0	0	23	10	126
3:30 PM	0	16	1	22	0	28	59	1	0	1	0	1	0	1	25	19	174
3:45 PM	0	12	1	21	0	13	40	2	0	2	0	0	0	0	29	19	188
4:00 PM	0	17	0	20	0	17	62	0	0	0	2	3	0	2	21	10	154
4:15 PM	0	12	0	25	0	20	55	0	0	0	0	0	0	0	39	18	162
4:30 PM	0	12	0	20	0	20	41	0	0	3	1	6	0	2	29	12	146
4:45 PM	0	12	0	26	0	13	52	0	0	0	1	1	0	0	32	14	152
5:00 PM	0	9	1	25	0	13	50	0	0	1	1	1	0	0	37	3	141
5:15 PM	0	13	0	19	0	17	39	0	0	1	2	0	0	0	30	5	127
5:30 PM	0	9	0	26	0	17	58	1	1	1	0	0	0	0	24	5	142
5:45 PM	0	17	0	18	0	15	29	0	0	2	0	0	0	0	24	5	140
Totals	0	157	3	273	0	204	586	7	1	17	8	15	1	5	347	110	1734
Entering			433				797				40				462		
Exiting			15				758				322				637		

Vehicle Totals

Cars	0	157	3	270	0	194	572	6	1	16	8	15	1	5	341	109	1698
		100%	100%	98.9%		95.1%	97.6%	85.7%	100%	94.1%	100%	100%	100%	100%	98.3%	99.1%	97.9%
Light	0	0	0	1	0	7	11	0	0	0	0	0	0	0	6	0	25
		0.0%	0.0%	0.4%		3.4%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	1.4%
Bike	0	0	0	2	0	2	1	0	0	0	0	0	0	0	0	1	6
		0.0%	0.0%	0.7%		1.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.3%
Medium	0	0	0	0	0	1	2	1	0	1	0	0	0	0	0	0	5
		0.0%	0.0%	0.0%		0.5%	0.3%	14.3%	0.0%	5.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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LOCATION BEACON DR @ F ST 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EE 11-034 E

Site: 0015
Date: 9/21/2011
Wednesday

Peak Hour Detail

Peak Hour: 3:30 PM - 4:30 PM

Interval	Southbound					Westbound				Northbound				Eastbound				Total
	Begin	Ped1	Right	Thru	Left	Ped2	Right	Thru	Left	Ped3	Right	Thru	Left	Ped4	Right	Thru	Left	
Totals		0	59	2	88	0	78	216	3	0	6	2	6	0	3	114	46	623
Factor			0.87	0.50	0.88		0.70	0.87	0.75		0.38	0.25	0.50		0.38	0.73	0.61	0.90
Entering			149				297				14				163			
Factor			0.96				0.84				0.70				0.87			
Exiting			8				281				126				208			
Factor			0.67				0.86				0.67				0.80			

Peak Vehicles

Cars	0	59	2	86	0	74	210	2	0	5	2	6	0	3	113	46	608
		100%	100%	97.7%		94.9%	97.2%	66.7%		83.3%	100%	100%		100%	99.1%	100%	97.6%
Light	0	0	0	1	0	3	5	0	0	0	0	0	0	0	1	0	10
		0.0%	0.0%	1.1%		3.8%	2.3%	0.0%		0.0%	0.0%	0.0%		0.0%	0.9%	0.0%	1.6%
Bike	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
		0.0%	0.0%	1.1%		1.3%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.3%
Medium	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	3
		0.0%	0.0%	0.0%		0.0%	0.5%	33.3%		16.7%	0.0%	0.0%		0.0%	0.0%	0.0%	0.5%
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%

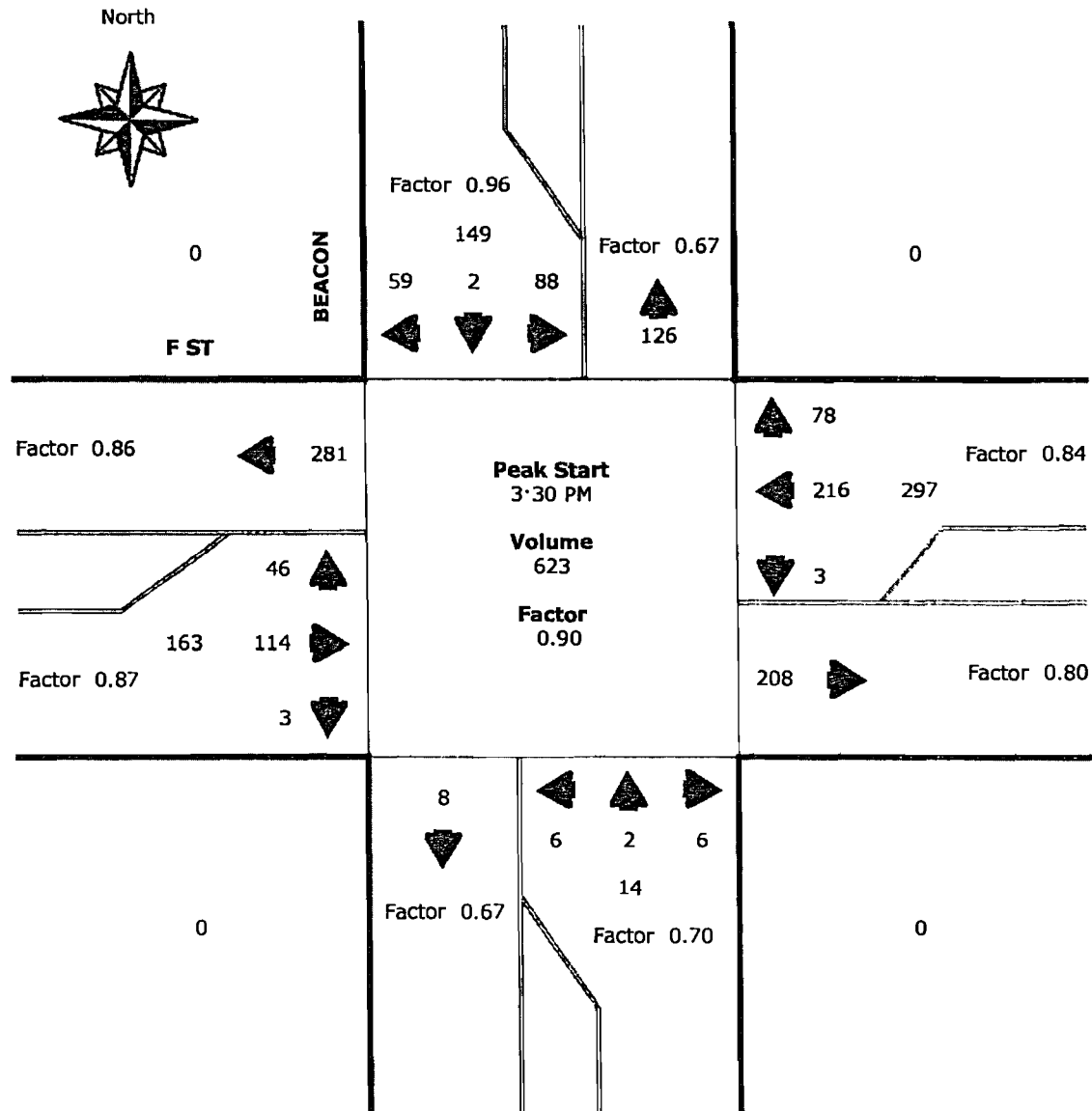
LOCATION BEACON DR @ F ST 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EE 11-034 E

Site
Date.

0015
9/21/2011
Wednesday

Peak Hour Detail

Peak Hour Diagram



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LOCATION Foothill Blvd @ Ament Rd 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EH 11-034 N 1

Site 0015
Date: 9/21/2011
Wednesday

Peak Hour Detail

Interval	Southbound				Westbound FOOTHILL				Northbound AMENT				Eastbound FOOTHILL				Total
Begin	Ped1	Right	Thru	Left	Ped2	Right	Thru	Left	Ped3	Right	Thru	Left	Ped4	Right	Thru	Left	
3:00 PM	0	0	0	0	0	0	49	2	0	5	0	0	0	0	51	0	107
3:15 PM	0	0	0	0	0	0	39	1	0	4	0	0	0	2	51	0	97
3:30 PM	0	0	0	0	0	0	59	0	0	4	0	0	0	1	49	0	113
3:45 PM	0	0	0	0	0	0	39	1	0	3	0	0	0	1	42	0	86
4:00 PM	0	0	0	0	0	0	31	1	0	5	0	1	0	0	44	0	82
4:15 PM	0	0	0	0	0	0	32	2	0	3	0	0	0	0	65	0	102
4:30 PM	0	0	0	0	0	0	47	4	0	4	0	0	0	0	59	0	114
4:45 PM	0	0	0	0	0	0	33	2	0	3	0	1	0	0	60	0	99
5:00 PM	0	0	0	0	0	0	54	1	0	3	0	0	0	1	54	0	113
5:15 PM	0	0	0	0	0	0	51	3	0	3	0	0	0	2	52	0	111
5:30 PM	0	0	0	0	0	0	41	2	0	1	0	0	0	2	51	0	97
5:45 PM	0	0	0	0	0	0	34	2	0	4	0	0	0	1	34	0	75
Totals	0	0	0	0	0	0	509	21	0	42	0	2	0	10	612	0	1196
Entering		0					530			44				622			
Exiting		31					511			0				654			

Vehicle Totals

Cars	0	0	0	0	0	0	484	20	0	41	0	2	0	8	576	0	1131
							95.1%	95.2%		97.6%		100%		80.0%	94.1%		94.6%
Light	0	0	0	0	0	0	14	0	0	1	0	0	0	2	23	0	40
							2.8%	0.0%		2.4%		0.0%		20.0%	3.8%		3.3%
Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
							0.0%	0.0%		0.0%		0.0%		0.0%	0.3%		0.2%
Medium	0	0	0	0	0	0	6	1	0	0	0	0	0	0	6	0	13
							1.2%	4.8%		0.0%		0.0%		0.0%	1.0%		1.1%
Heavy	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5	0	10
							1.0%	0.0%		0.0%		0.0%		0.0%	0.8%		0.8%

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LOCATION Foothill Blvd @ Ament Rd 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EH 11-034 N 1

Site
Date.

0015
9/21/2011
Wednesday

Peak Hour Detail

Peak Hour 4:30 PM - 5:30 PM

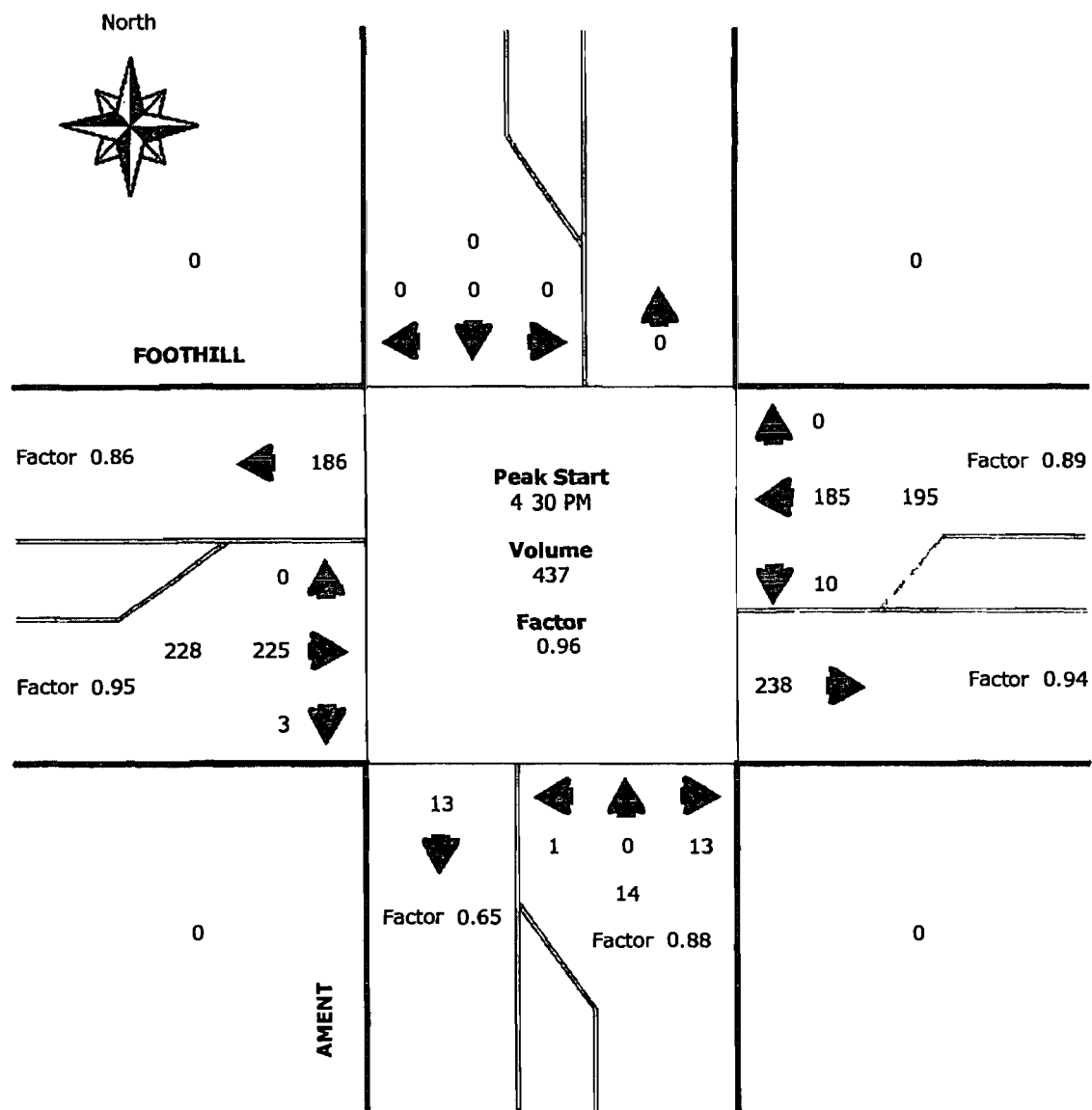
Interval Begin	Southbound				Ped2	Westbound FOOTHILL			Ped3	Northbound AMENT			Ped4	Eastbound FOOTHILL			Total
	Ped1	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left	
Totals	0	0	0	0	0	0	185	10	0	13	0	1	0	3	225	0	437
Factor							0.86	0.63		0.81		0.25		0.38	0.94		0.96
Entering Factor		0					195			14				228			
							0.89			0.88				0.95			
Exiting Factor		13					186			0				238			
		0.65					0.86							0.94			

Peak Vehicles

Cars	0	0	0	0	0	0	174	9	0	0	12	0	1	0	0	3	215	0	414
							94.1%	90.0%			92.3%		100%			100%	95.6%		94.7%
Light	0	0	0	0	0	0	6	0	0	0	1	0	0	0	0	0	8	0	15
							3.2%	0.0%			7.7%		0.0%			0.0%	3.6%		3.4%
Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
							0.0%	0.0%			0.0%		0.0%			0.0%	0.4%		0.2%
Medium	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
							0.5%	10.0%			0.0%		0.0%			0.0%	0.0%		0.5%
Heavy	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	1	0	5
							2.2%	0.0%			0.0%		0.0%			0.0%	0.4%		1.1%

Peak Hour Detail

Peak Hour Diagram



LOCATION Foothill Ave @ Industry Dr 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EI 11-034 N

Site Date 0015
9/21/2011
Wednesday

Peak Hour Detail

Interval	Southbound				Westbound FOOTHILL				Northbound INDUSTRY				Eastbound FOOTHILL				Total
Begin	Ped1	Right	Thru	Left	Ped2	Right	Thru	Left	Ped3	Right	Thru	Left	Ped4	Right	Thru	Left	
3:00 PM	0	0	0	0	0	0	57	1	0	2	0	6	0	3	50	0	119
3:15 PM	0	0	0	0	0	0	41	0	0	0	0	0	0	4	70	0	119
3:30 PM	0	0	0	0	0	0	64	2	0	0	0	7	0	4	45	0	122
3:45 PM	0	0	0	0	0	0	46	0	0	0	0	10	0	4	46	0	108
4:00 PM	0	0	0	0	0	0	40	0	0	0	0	4	0	1	53	0	98
4:15 PM	0	0	0	0	0	0	39	0	0	0	0	15	0	1	56	0	122
4:30 PM	0	0	0	0	0	0	50	0	0	1	0	4	0	1	51	0	107
4:45 PM	0	0	0	0	0	0	40	0	0	0	0	15	0	2	68	0	112
5:00 PM	0	0	0	0	0	0	65	0	0	1	0	4	0	0	55	0	125
5:15 PM	0	0	0	0	0	0	55	0	0	0	0	12	0	7	55	0	119
5:30 PM	0	0	0	0	0	0	44	0	0	0	0	2	0	8	58	0	112
5:45 PM	0	0	0	0	0	0	35	0	0	0	0	14	0	5	35	0	79
Totals	0	0	0	0	0	0	576	5	0	8	0	51	0	40	662	0	1342
Entering			0				581				59				702		
Exiting			45				627				0				670		

Vehicle Totals

Cars	0	0	0	0	0	0	550	4	0	7	0	50	0	39	623	0	1273
							95.5%	80.0%		87.5%		98.0%		97.5%	94.1%		94.9%
Light	0	0	0	0	0	0	19	0	0	1	0	0	0	0	29	0	49
							3.3%	0.0%		12.5%		0.0%		0.0%	4.4%		3.7%
Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
							0.0%	0.0%		0.0%		0.0%		0.0%	0.2%		0.1%
Medium	0	0	0	0	0	0	3	0	0	0	0	0	0	0	4	0	7
							0.5%	0.0%		0.0%		0.0%		0.0%	0.6%		0.5%
Heavy	0	0	0	0	0	0	4	1	0	0	0	1	0	1	5	0	12
							0.7%	20.0%		0.0%		2.0%		2.5%	0.8%		0.9%

Clackamas County Traffic Engineering, 150 Beaver Creek Road Oregon City, OR 97045
 Questions about this report? Call 503-742-4400

LOCATION CITY FOOTHILL AVE @ INDUSTRY DR 1500-1800
 FILENAME GRANTS PASS, OR
 V12EI 11-034 N

Site 0015
 Date: 9/21/2011
 Wednesday

Peak Hour Detail

Peak Hour 3:00 PM - 4:00 PM

Interval	Southbound				Westbound FOOTHILL				Northbound INDUSTRY				Eastbound FOOTHILL				Total
Begin	Ped1	Right	Thru	Left	Ped2	Right	Thru	Left	Ped3	Right	Thru	Left	Ped4	Right	Thru	Left	
Totals	0	0	0	0	0	0	208	5	0	4	0	25	0	15	211	0	468
Factor							0.81	0.63		0.50		0.63		0.94	0.75		0.96
Entering		0					213			29				226			
Factor							0.81			0.66				0.76			
Exiting		20					233			0				215			
Factor		0.83					0.82							0.76			

Peak Vehicles

Cars	0	0	0	0	0	0	194	4	0	3	0	24	0	15	197	0	437
							93.3%	80.0%		75.0%		96.0%		100%	93.4%		93.4%
Light	0	0	0	0	0	0	12	0	0	1	0	0	0	0	13	0	26
							5.8%	0.0%		25.0%		0.0%		0.0%	6.2%		5.6%
Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
							0.0%	0.0%		0.0%		0.0%		0.0%	0.0%		0.0%
Medium	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
							0.5%	0.0%		0.0%		0.0%		0.0%	0.0%		0.2%
Heavy	0	0	0	0	0	0	1	1	0	0	0	1	0	0	1	0	4
							0.5%	20.0%		0.0%		4.0%		0.0%	0.5%		0.9%

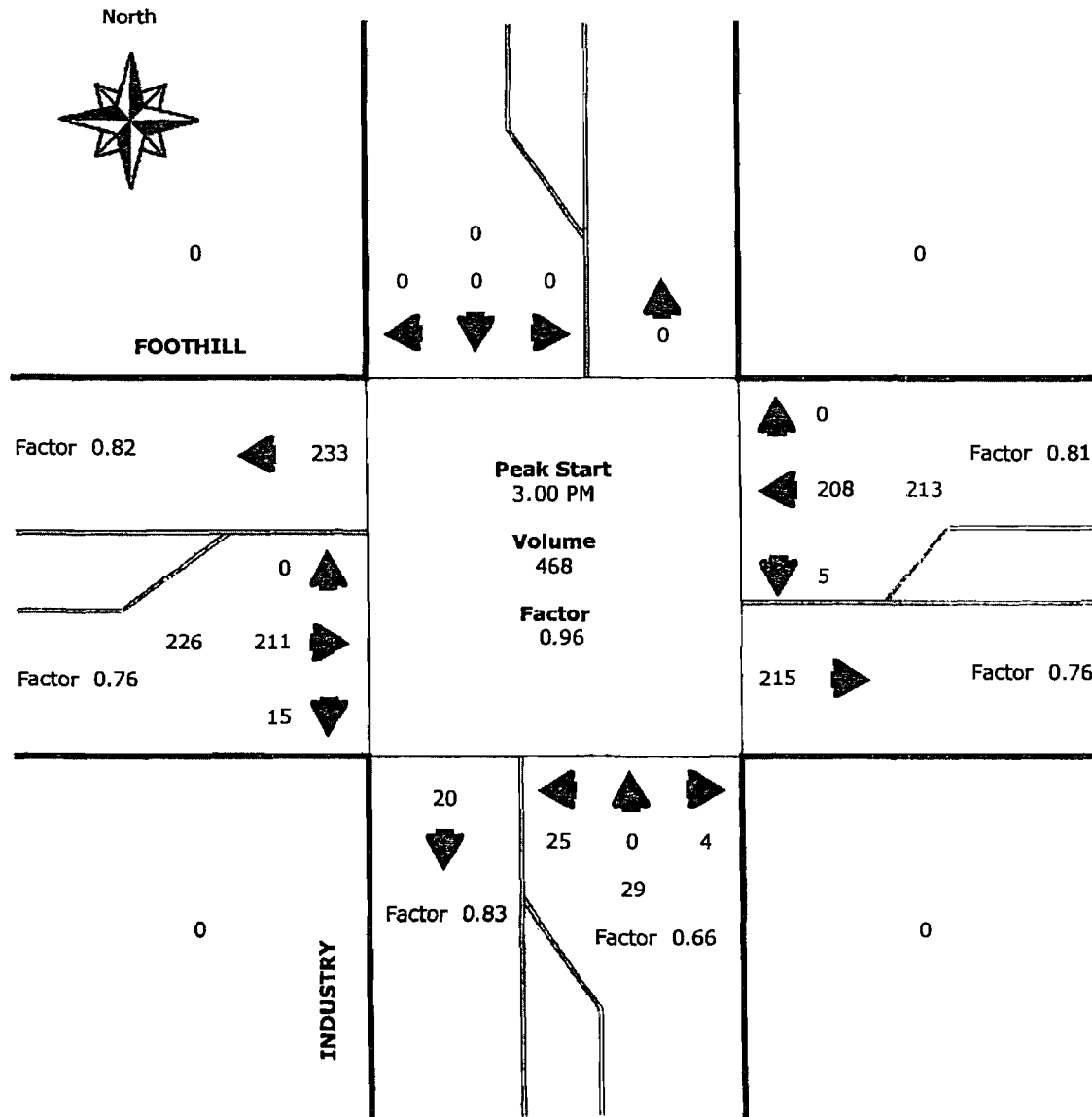
Clackamas County Traffic Engineering, 150 Beaver Creek Road Oregon City, OR 97045
 Questions about this report? Call 503-742-4400

LOCATION: Foothill Ave @ Industry Dr 1500-1800
 CITY: Grants Pass, OR
 FILENAME: V12EI 11-034 N

Site: 0015
 Date: 9/21/2011
 Wednesday

Peak Hour Detail

Peak Hour Diagram



WWW TRAFSTATS.COM
OFFICE 503 646.2942

LOCATION Foothill Blvd @ Jones Creek 1500-1800
CITY GRANTS PASS, OR
FILENAME V12ED 11-034 S

Site: 0015
Date: 9/21/2011
Wednesday

Peak Hour Detail

Interval	Southbound JONES CREEK				Westbound FOOTHILL				Northbound				Eastbound FOOTHILL				Total
	Ped1	Right	Thru	Left	Ped2	Right	Thru	Left	Ped3	Right	Thru	Left	Ped4	Right	Thru	Left	
3:00 PM	0	15	0	3	0	1	29	0	0	0	0	0	0	0	28	15	91
3:15 PM	0	16	0	2	0	1	25	0	0	0	0	0	0	0	28	25	89
3:30 PM	0	23	0	3	0	3	35	0	0	0	0	0	0	0	23	17	104
3:45 PM	0	15	0	3	0	1	20	0	0	0	0	0	0	0	24	10	77
4:00 PM	0	10	0	2	0	1	18	0	0	0	0	0	0	0	22	19	72
4:15 PM	0	20	0	1	0	2	19	0	0	0	0	0	0	0	37	23	102
4:30 PM	0	16	0	1	0	0	19	0	0	0	0	0	0	0	21	29	86
4:45 PM	0	16	0	0	0	1	16	0	0	0	0	0	0	0	29	29	95
5:00 PM	0	15	0	1	0	0	34	0	0	0	0	0	0	0	21	29	100
5:15 PM	0	13	0	3	0	2	25	0	0	0	0	0	0	0	27	14	84
5:30 PM	0	20	0	1	0	2	14	0	0	0	0	0	0	0	19	31	87
5:45 PM	0	15	0	0	0	1	16	0	0	0	0	0	0	0	11	19	62
Totals	0	184	0	20	0	25	270	0	0	0	0	0	0	0	290	260	1049
Entering			204				295			0					550		
Exiting			0				454			285					310		

Vehicle Totals

Cars	0	176	0	15	0	23	257	0	0	0	0	0	0	0	277	252	1000
		95.7%		75.0%		92.0%	95.2%								95.5%	96.9%	95.3%
Light	0	6	0	3	0	1	10	0	0	0	0	0	0	0	8	7	35
		3.3%		15.0%		4.0%	3.7%								2.8%	2.7%	3.3%
Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
		0.0%		0.0%		0.0%	0.0%								0.3%	0.0%	0.1%
Medium	0	2	0	1	0	1	3	0	0	0	0	0	0	0	4	1	12
		1.1%		5.0%		4.0%	1.1%								1.4%	0.4%	1.1%
Heavy	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
		0.0%		5.0%		0.0%	0.0%								0.0%	0.0%	0.1%

LOCATION Foothill Blvd @ Jones Creek 1500-1800
CITY GRANTS PASS, OR
FILENAME V12ED 11-034 S

Site 0015
Date: 9/21/2011
Wednesday

Peak Hour Detail

Peak Hour 4:15 PM - 5:15 PM

Interval	Southbound JONES CREEK				Ped2	Westbound FOOTHILL			Ped3	Northbound				Eastbound FOOTHILL			Total
	Begin	Ped1	Right	Thru		Left	Right	Thru		Left	Right	Thru	Left	Ped4	Right	Thru	
Totals		0	67	0	3	0	7	88	0	0	0	0	0	0	108	110	383
Factor			0.84		0.75		0.35	0.65							0.73	0.95	0.94
Entering			70				95			0				218			
Factor			0.83				0.70							0.91			
Exiting			0				155			117				111			
Factor							0.79			0.86				0.73			

Peak Vehicles

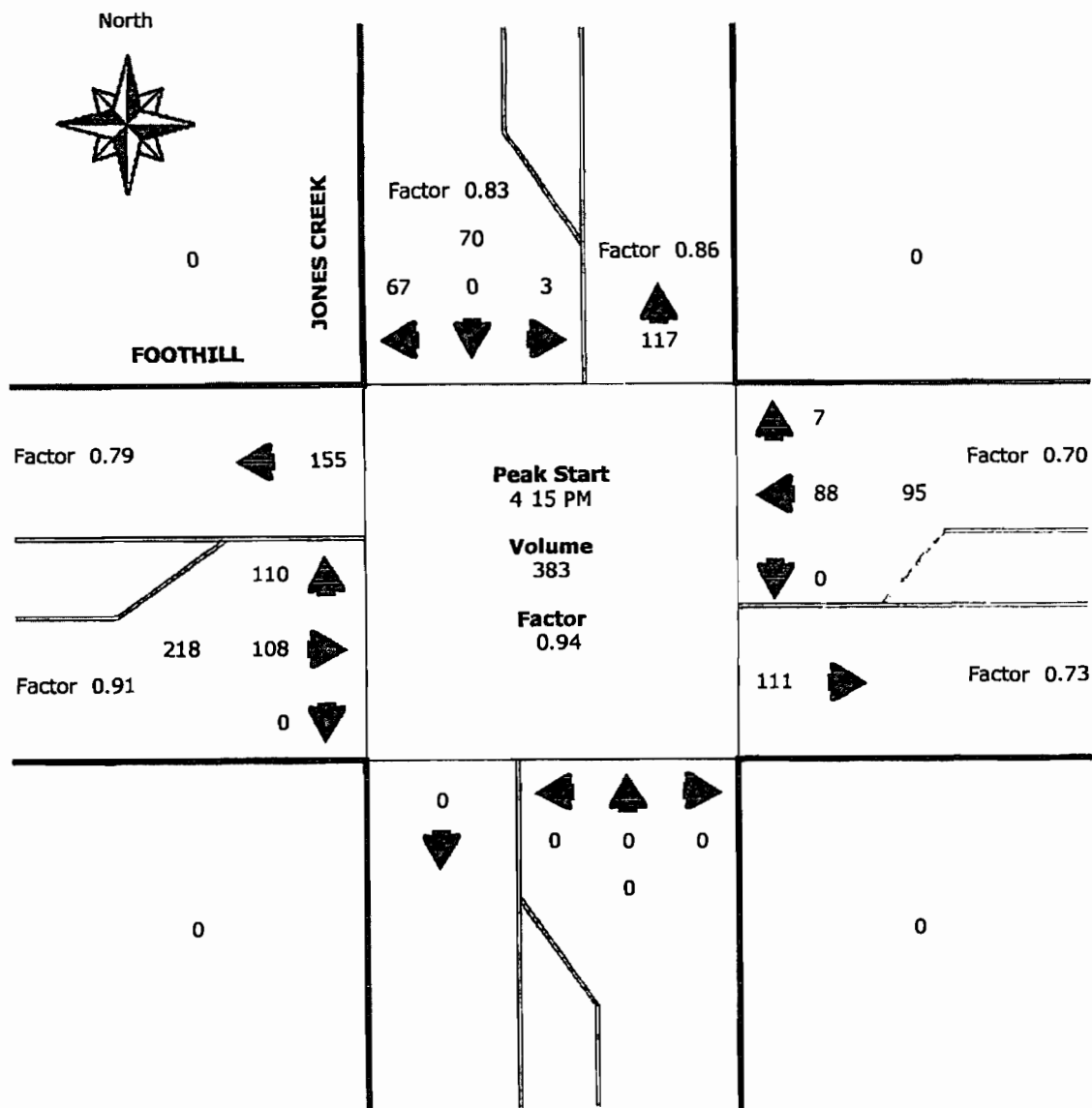
Cars	0	63	0	3	0	7	83	0	0	0	0	0	0	0	103	107	366
		94.0%		100%		100%	94.3%								95.4%	97.3%	95.6%
Light	0	3	0	0	0	0	3	0	0	0	0	0	0	0	4	3	13
		4.5%		0.0%		0.0%	3.4%								3.7%	2.7%	3.4%
Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0.0%		0.0%		0.0%	0.0%								0.0%	0.0%	0.0%
Medium	0	1	0	0	0	0	2	0	0	0	0	0	0	0	1	0	4
		1.5%		0.0%		0.0%	2.3%								0.9%	0.0%	1.0%
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0.0%		0.0%		0.0%	0.0%								0.0%	0.0%	0.0%

LOCATION Foothill Blvd @ Jones Creek 1500-1800
CITY GRANTS PASS, OR
FILENAME V12ED 11-034 S

Site 0015
Date: 9/21/2011
Wednesday

Peak Hour Detail

Peak Hour Diagram



LOCATION GRANTS PASS PKWY @ AGNESS AVE 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EJ 11-034 S

Site 0016
Date 9/21/2011
Wednesday

Peak Hour Detail

Interval	Beg/In	Ped1	Southbound AGNESS			Ped2	Westbound GRANTS PASS PKWY			Ped3	Northbound AGNESS			Ped4	Eastbound GRANTS PASS PKWY			Total
			Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left	
3:00 PM		0	7	20	13	0	22	121	35	0	63	38	26	0	20	125	4	494
3:15 PM		0	5	20	22	0	21	141	45	0	58	20	21	0	19	141	4	588
3:30 PM		0	7	17	16	0	23	156	45	0	41	18	16	3	18	134	5	499
3:45 PM		0	5	23	20	0	24	141	46	0	36	30	21	0	20	168	5	540
4:00 PM		0	5	18	21	0	17	149	42	0	36	35	17	0	19	133	6	498
4:15 PM		0	7	18	14	0	22	145	44	0	55	29	21	0	26	147	8	531
4:30 PM		0	6	21	14	0	35	195	45	0	56	27	20	0	26	143	3	591
4:45 PM		0	22	30	18	0	32	170	54	0	45	23	17	0	37	152	10	600
5:00 PM		0	6	32	15	0	30	193	56	0	61	15	15	0	23	156	6	608
5:15 PM		0	4	21	23	0	32	157	68	0	55	34	25	0	27	163	7	623
5:30 PM		0	11	20	21	0	28	167	56	0	42	36	16	0	27	134	18	576
5:45 PM		0	10	27	18	0	20	146	35	0	45	16	14	0	17	102	9	460
Totals		0	86	292	210	0	306	1881	566	1	593	321	229	4	279	1723	85	6576
Entering				588				2753				1143				2087		
Exiting				1137				2196				712				2526		

Vehicle Totals

Cars	0	84	278	208	0	298	1833	533	1	563	312	227	4	267	1640	85	6333
		97.7%	95.2%	99.0%		97.4%	97.4%	94.2%	100%	94.9%	97.2%	99.1%	100%	95.7%	95.2%	100%	96.3%
Light	0	1	14	2	0	2	14	13	0	10	7	1	0	10	30	0	104
		1.2%	4.8%	1.0%		0.7%	0.7%	2.3%	0.0%	1.7%	2.2%	0.4%	0.0%	3.6%	1.7%	0.0%	1.6%
Bike	0	0	0	0	0	3	1	0	0	0	0	0	0	0	2	0	6
		0.0%	0.0%	0.0%		1.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
Medium	0	1	0	0	0	3	32	19	0	15	2	1	0	2	40	0	115
		1.2%	0.0%	0.0%		1.0%	1.7%	3.4%	0.0%	2.5%	0.6%	0.4%	0.0%	0.7%	2.3%	0.0%	1.7%
Heavy	0	0	0	0	0	0	1	1	0	5	0	0	0	0	11	0	18
		0.0%	0.0%	0.0%		0.0%	0.1%	0.2%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.3%

Clackamas County Traffic Engineering, 150 Beaver Creek Road Oregon City, OR 97045

Questions about this report? Call 503-742-4400

LOCATION GRANTS PASS PKWY @ AGNESS AVE 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EJ 11-034 S

Site:
Date:

0016
9/21/2011
Wednesday

Peak Hour Detail

Peak Hour: 4:30 PM - 5:30 PM

Interval Begin	Ped1	Southbound AGNESS			Ped2	Westbound GRANTS PASS PKWY			Ped3	Northbound AGNESS			Ped4	Eastbound GRANTS PASS PKWY			Total
		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left	
Totals	0	28	114	70	0	129	715	218	0	217	99	77	0	113	634	26	2440
Factor		0.58	0.89	0.76		0.92	0.92	0.87		0.89	0.73	0.77		0.76	0.87	0.65	0.95
Entering			212				1062				393				773		
Factor			0.88				0.95				0.86				0.89		
Exiting			445				820				254				921		
Factor			0.92				0.93				0.87				0.88		

Peak Vehicles

Cars	0	28	112	69	0	128	698	206	0	211	99	76	0	111	605	26	2369
		100%	98.2%	98.6%		99.2%	97.6%	94.5%		97.2%	100%	98.7%		98.2%	95.4%	100%	97.1%
Light	0	0	2	1	0	0	5	7	0	1	0	0	0	2	7	0	25
		0.0%	1.8%	1.4%		0.0%	0.7%	3.2%		0.5%	0.0%	0.0%		1.8%	1.1%	0.0%	1.0%
Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.3%	0.0%	0.1%
Medium	0	0	0	0	0	1	12	5	0	4	0	1	0	0	17	0	40
		0.0%	0.0%	0.0%		0.8%	1.7%	2.3%		1.8%	0.0%	1.3%		0.0%	2.7%	0.0%	1.6%
Heavy	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0	4
		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.5%	0.0%	0.0%		0.0%	0.5%	0.0%	0.2%

Clackamas County Traffic Engineering, 150 Beavercreek Road Oregon City, OR 97045
 Questions about this report? Call 503-742-4400

LOCATION
 CITY
 FILENAME

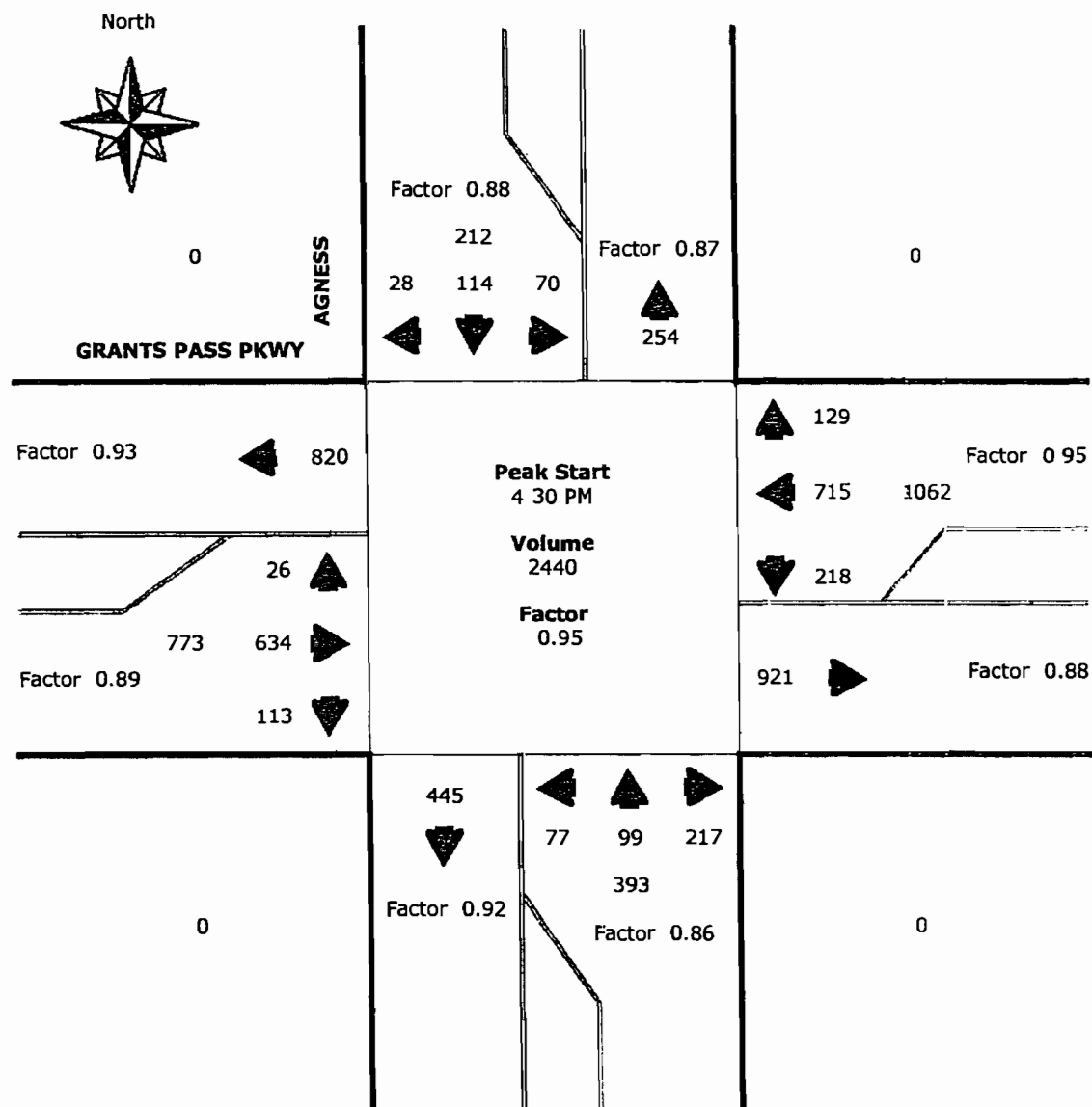
GRANTS PASS PKWY @ AGNESS AVE 1500-1800
 GRANTS PASS, OR
 V12EJ 11-034 S

Site
 Date.

0016
 9/21/2011
 Wednesday

Peak Hour Detail

Peak Hour Diagram



WWW TRAFSTATS.COM
OFFICE 503 646.2942

LOCATION TERRY LN @ F ST 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EC 11-034 S

Site: 0015
Date: 9/21/2011
Wednesday

Peak Hour Detail

Interval	Southbound TERRY				Westbound F ST				Northbound				Eastbound F ST				Total
Begin	Ped1	Right	Thru	Left	Ped2	Right	Thru	Left	Ped3	Right	Thru	Left	Ped4	Right	Thru	Left	
3:00 PM	0	27	0	13	0	5	56	0	0	0	0	0	0	0	41	17	159
3:15 PM	0	20	0	10	0	4	36	0	0	0	0	0	0	0	37	14	116
3:30 PM	0	20	0	8	0	10	54	0	1	0	0	0	0	0	31	15	139
3:45 PM	0	18	0	10	0	8	43	0	0	0	0	0	0	0	38	18	135
4:00 PM	0	24	0	9	0	6	51	0	0	0	0	0	0	0	26	12	128
4:15 PM	0	17	0	8	0	6	55	0	0	0	0	0	0	0	38	23	147
4:30 PM	0	21	0	8	0	9	41	0	0	0	0	0	0	0	32	21	132
4:45 PM	0	22	0	15	0	10	44	0	0	0	0	0	0	0	45	13	148
5:00 PM	0	15	0	10	0	9	47	0	0	0	0	0	0	0	45	18	144
5:15 PM	0	18	0	15	0	6	37	0	0	0	0	0	0	0	36	21	123
5:30 PM	6	23	0	6	0	10	53	0	0	0	0	0	0	0	40	11	149
5:45 PM	0	16	0	6	0	3	27	0	0	0	0	0	0	0	28	15	95
Totals	7	226	0	113	0	89	544	0	1	0	0	0	0	0	437	198	1615
Entering			339				633			0					635		
Exiting			0				770			287					550		

Vehicle Totals

Cars	7	223	0	112	0	89	524	0	1	0	0	0	0	0	427	196	1579
	100%	98.7%		99.1%		100%	96.3%		100%						97.7%	99.0%	97.8%
Light	0	1	0	1	0	0	16	0	0	0	0	0	0	0	8	2	28
	0.0%	0.4%		0.9%		0.0%	2.9%		0.0%						1.8%	1.0%	1.7%
Bike	0	1	0	0	0	0	2	0	0	0	0	0	0	0	2	0	5
	0.0%	0.4%		0.0%		0.0%	0.4%		0.0%						0.5%	0.0%	0.3%
Medium	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3
	0.0%	0.4%		0.0%		0.0%	0.4%		0.0%						0.0%	0.0%	0.2%
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.0%	0.0%		0.0%		0.0%	0.0%		0.0%						0.0%	0.0%	0.0%

LOCATION TERRY LN @ F ST 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EC 11-034 S

Site 0015
Date 9/21/2011
Wednesday

Peak Hour Detail

Peak Hour 4:15 PM - 5:15 PM

Interval	Southbound TERRY				Westbound F ST				Northbound				Eastbound F ST				Total
Begin	Ped1	Right	Thru	Left	Ped2	Right	Thru	Left	Ped3	Right	Thru	Left	Ped4	Right	Thru	Left	
Totals	0	74	0	41	0	34	187	0	0	0	0	0	0	0	160	75	571
Factor		0.88		0.68		0.85	0.85								0.89	0.82	0.96
Entering			115				221				0				235		
Factor			0.80				0.91								0.93		
Exiting			0				261				109				201		
Factor							0.91				0.91				0.84		

Peak Vehicles

Cars	0	73	0	40	0	34	179	0	0	0	0	0	0	0	158	74	558
		98.6%		97.6%		100%	95.7%								98.8%	98.7%	97.7%
Light	0	0	0	1	0	0	6	0	0	0	0	0	0	0	1	1	9
		0.0%		2.4%		0.0%	3.2%								0.6%	1.3%	1.6%
Bike	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
		0.0%		0.0%		0.0%	0.5%								0.6%	0.0%	0.4%
Medium	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
		1.4%		0.0%		0.0%	0.5%								0.0%	0.0%	0.4%
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0.0%		0.0%		0.0%	0.0%								0.0%	0.0%	0.0%

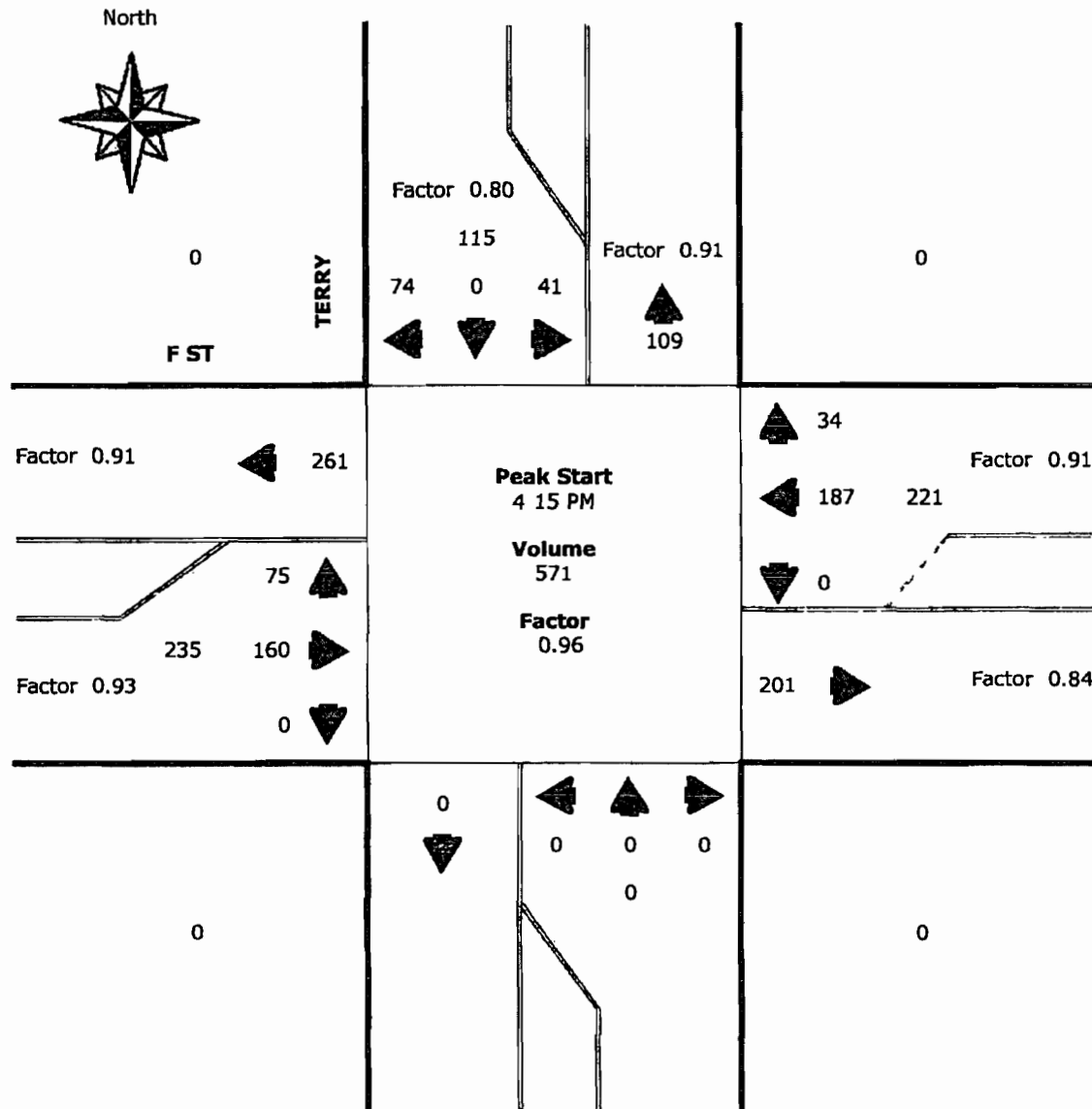
LOCATION TERRY LN @ F ST 1500-1800
CITY GRANTS PASS, OR
FILENAME V12EC 11-034 S

Site.
Date

0015
9/21/2011
Wednesday

Peak Hour Detail

Peak Hour Diagram



Appendix D

Synchro Reports - Existing Conditions

1 GRANTS PASS PKWY & AGNESS AVE
HCM Signalized Intersection Capacity Analysis

Spalding Industrial Area
2012 Existing DHV

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SEB	SBR
Lane Configurations												
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90	1.00	0.97	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1614	3228	1444	1630	3260	1458	1548	1462	1662	1699	1662	1699
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1614	3228	1444	1630	3260	1458	1548	1462	1662	1699	1662	1699
Volume (vph)	25	655	115	225	740	135	85	110	240	80	125	30
Peak-hour factor, PHF	0.89	0.89	0.89	0.95	0.95	0.95	0.86	0.86	0.86	0.88	0.88	0.88
Adj. Flow (vph)	28	736	129	237	779	142	99	128	279	91	142	34
RTOR Reduction (vph)	0	0	89	0	0	84	0	73	0	0	9	0
Lane Group Flow (vph)	28	736	40	237	779	58	99	334	0	91	167	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot		Perm	Prot		Perm	Split		Split		Split	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6						
Actuated Green, G (s)	3.9	25.4	25.4	16.5	38.0	38.0	23.2	23.2		13.8	13.8	
Effective Green, g (s)	2.9	26.4	26.4	15.5	39.0	39.0	23.2	23.2		13.8	13.8	
Actuated g/C Ratio	0.03	0.28	0.28	0.16	0.41	0.41	0.24	0.24		0.15	0.15	
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	4.0	4.0	2.5	4.0	4.0	2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	49	898	402	266	1340	599	378	357		242	247	
v/s Ratio Prot	0.02	c0.23		c0.15	0.24		0.06	c0.23		0.05	c0.10	
v/s Ratio Perm			0.03			0.04						
v/c Ratio	0.57	0.82	0.10	0.89	0.58	0.10	0.26	0.94		0.38	0.67	
Uniform Delay, d1	45.4	32.0	25.4	38.9	21.6	17.2	28.9	35.1		38.7	38.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.5	6.2	0.1	28.7	0.8	0.1	0.3	31.5		0.7	6.5	
Delay (s)	57.9	38.2	25.6	67.6	22.4	17.2	29.2	66.6		37.4	44.9	
Level of Service	E	D	C	E	C	B	C	E		D	D	
Approach Delay (s)		37.0			31.0			59.3			42.3	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM Average Control Delay	39.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	94.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

2 F St & AGNESS AVE
HCM Unsignalized Intersection Capacity Analysis

Spalding Industrial Area
2012 Existing DHV

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	70	135	70	75	95	100	205	90	120	290	65
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.93	0.93	0.93	0.89	0.89	0.89
Hourly flow rate (vph)	46	80	155	85	91	116	108	220	97	135	326	73
Direction Lane #	EB1	EB2	WB1	WB2	NB1	NB2	SB1	SB2				
Volume Total (vph)	282	85	207	108	317	135	399					
Volume Left (vph)	46	85	0	108	0	135	0					
Volume Right (vph)	155	0	116	0	97	0	73					
Hadj (s)	-0.28	0.53	-0.36	0.52	-0.20	0.52	-0.11					
Departure Headway (s)	7.8	8.8	7.9	8.4	7.6	8.2	7.5					
Degree Utilization, x	0.61	0.21	0.46	0.25	0.67	0.31	0.83					
Capacity (veh/h)	433	377	415	409	448	426	466					
Control Delay (s)	22.2	13.0	16.2	13.0	23.8	13.5	36.9					
Approach Delay (s)	22.2	15.3		21.1		31.0						
Approach LOS	C	C		C		D						

Intersection Summary			
Delay	23.6		
HCM Level of Service	C		
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		

3 SPALDING AVE & AGNESS AVE

HCM Unsignalized Intersection Capacity Analysis

Spalding Industrial Area
2012 Existing DHV



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WT		↑		WT	↑
Sign Control	Stop		Free		Stop	Free
Grade	0%		0%		0%	0%
Volume (veh/h)	50	60	335	40	90	410
Peak Hour Factor	0.75	0.75	0.92	0.92	0.90	0.90
Hourly flow rate (vph)	67	80	364	43	100	456
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1041	386			408	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1041	386			408	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	71	88			91	
cM capacity (veh/h)	234	664			1157	

Direction/Lane #	WBL	NBT	SBL	SBT
Volume Total	147	408	100	456
Volume Left	67	0	100	0
Volume Right	80	43	0	0
cSH	361	1700	1157	1700
Volume to Capacity	0.41	0.24	0.09	0.27
Queue Length 95th (ft)	48	0	7	0
Control Delay (s)	21.6	0.0	8.4	0.0
Lane LOS	C		A	
Approach Delay (s)	21.6	0.0	1.5	
Approach LOS	C			

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

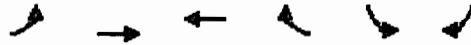
4 F St & BEACON Dr
HCM Unsignalized Intersection Capacity Analysis

Spalding Industrial Area
2012 Existing DHV

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	50	140	5	5	240	85	5	5	5	100	5	65
Peak Hour Factor	0.87	0.87	0.87	0.84	0.84	0.84	0.70	0.70	0.70	0.96	0.96	0.96
Hourly flow rate (vph)	57	161	6	6	286	101	7	7	7	104	5	68
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	387			167			697	678	164	635	630	336
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	387			167			697	678	164	635	630	336
tC, single (s)	4.1			4.1			7.2	6.6	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	95			100			98	98	99	72	99	90
cM capacity (veh/h)	1177			1417			300	349	868	368	379	708
Direction Lane #	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume Total	57	167	393	21	104	73						
Volume Left	57	0	6	7	104	0						
Volume Right	0	6	101	7	0	68						
cSH	1177	1700	1417	408	368	667						
Volume to Capacity	0.05	0.10	0.00	0.05	0.28	0.11						
Queue Length 95th (ft)	4	0	0	4	29	9						
Control Delay (s)	8.2	0.0	0.2	14.3	18.6	11.1						
Lane LOS	A		A	B	C	B						
Approach Delay (s)	2.1		0.2	14.3	15.5							
Approach LOS				B	C							
Intersection Summary												
Average Delay			4.4									
Intersection Capacity Utilization			50.6%			ICU Level of Service				A		
Analysis Period (min)			15									

5 F St & TERRY Ln
HCM Unsignalized Intersection Capacity Analysis

Spalding Industrial Area
2012 Existing DHV



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑		↰	↰
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	85	180	210	40	45	80
Peak Hour Factor	0.93	0.93	0.91	0.91	0.80	0.80
Hourly flow rate (vph)	91	194	231	44	56	100
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	275				629	253
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275				629	253
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				86	87
cM capacity (veh/h)	1294				416	788

Direction/Lane #	EB1	EB2	WB1	SB1	SB2
Volume Total	91	194	275	56	100
Volume Left	91	0	0	56	0
Volume Right	0	0	44	0	100
cSH	1294	1700	1700	416	788
Volume to Capacity	0.07	0.11	0.16	0.14	0.13
Queue Length 95th (ft)	6	0	0	12	11
Control Delay (s)	8.0	0.0	0.0	15.0	10.2
Lane LOS	A			B	B
Approach Delay (s)	2.8		0.0	11.9	
Approach LOS				B	

Intersection Summary				
Average Delay		3.6		
Intersection Capacity Utilization		33.1%	ICU Level of Service	A
Analysis Period (min)		15		

6 FOOTHILL BL & INDUSTRY DR
HCM Unsignalized Intersection Capacity Analysis

Spalding Industrial Area
2012 Existing DHV



Movement	EBL	EBR	WBL	WBR	NBL	NBR
Lane Configurations	1			1	2	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	235	15	5	230	30	5
Peak Hour Factor	0.76	0.76	0.81	0.81	0.66	0.66
Hourly flow rate (vph)	309	20	6	284	45	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			329		615	319
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			329		615	319
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		90	99
cM capacity (veh/h)			1231		451	719

Direction/Lane	EBL	WBL	NBL
Volume Total	329	290	53
Volume Left	0	6	45
Volume Right	20	0	8
cSH	1700	1231	476
Volume to Capacity	0.19	0.01	0.11
Queue Length 95th (ft)	0	0	9
Control Delay (s)	0.0	0.2	13.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.2	13.5
Approach LOS			B

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

7 F St & AMENT Rd
HCM Unsignalized Intersection Capacity Analysis

Spalding Industrial Area
2012 Existing DHV



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	250	5	10	205	1	15
Peak Hour Factor	0.95	0.95	0.89	0.89	0.88	0.88
Hourly flow rate (vph)	263	5	11	230	1	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			268		519	266
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			268		519	266
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	98
cM capacity (veh/h)			1289		516	778

Direction/Lane#	EBT	WBL	NBL
Volume Total	268	242	18
Volume Left	0	11	1
Volume Right	5	0	17
cSH	1700	1289	754
Volume to Capacity	0.16	0.01	0.02
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.4	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	0.4	9.9
Approach LOS		A	A

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		30.6%	ICU Level of Service
Analysis Period (min)		15	A

8 F St & JONES CR Rd
HCM Unsignalized Intersection Capacity Analysis

Spalding Industrial Area
2012 Existing DHV



Movement	EBL	EBH	WBL	WBR	SEB	SEH
Lane Configurations		↑	↑		↑	↑
Sign Control		Free	Free		Stop	Stop
Grade		0%	0%		0%	0%
Volume (veh/h)	125	120	100	10	5	75
Peak Hour Factor	0.91	0.91	0.70	0.70	0.83	0.83
Hourly flow rate (vph)	137	132	143	14	6	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	157				557	150
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	157				557	150
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				99	90
cM capacity (veh/h)	1429				444	896

Direction/Lane	EBL	EBH	SEB
Volume Total	269	157	96
Volume Left	137	0	6
Volume Right	0	14	90
cSH	1429	1700	843
Volume to Capacity	0.10	0.09	0.11
Queue Length 95th (ft)	8	0	10
Control Delay (s)	4.4	0.0	9.8
Lane LOS	A		A
Approach Delay (s)	4.4	0.0	9.8
Approach LOS			A

Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

9 F St & Lawless Ln
HCM Unsignalized Intersection Capacity Analysis

Spalding Industrial Area
2012 Existing DHV

Movement	EBL	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	250	1	1	210	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	272	1	1	228	2	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			273		503	272
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			273		503	272
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1290		528	766

Direction/Lane #	EBL	WBL	NBL
Volume Total	273	229	3
Volume Left	0	1	2
Volume Right	1	0	1
cSH	1700	1290	589
Volume to Capacity	0.16	0.00	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	11.1
Lane LOS		A	B
Approach Delay (s)	0.0	0.0	11.1
Approach LOS			B

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		24.4%	ICU Level of Service
Analysis Period (min)		15	A

1 GRANTS PASS PKWY & AGNESS AVE

Lanes, Volumes, Timings

Spalding Industrial Area
2012 Existing DHV



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	150		175	200		200	125		0	75		0
Storage Lanes	1		1	1		1	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	72	317	137	72	317	137	72	72		72	72	
Trailing Detector (ft)	2	157	0	2	157	0	2	2		2	2	
Turning Speed (mph)	15		15	15		15	15		15	15		15
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		1225			903			1197			591	
Travel Time (s)		18.6			13.7			23.3			13.4	
Volume (vph)	25	655	115	225	740	135	85	110	240	80	125	30
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.86	0.86	0.86	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Mid-Block Traffic (%)		0%			0%			20%			0%	
Turn Type	Prot		Perm	Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6						
Detector Phases	5	2	2	1	6	6	8	8		4	4	
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	8.0	30.0	30.0	9.5	30.0	30.0	27.0	27.0		27.0	27.0	
Total Split (s)	10.0	30.7	30.7	20.3	41.0	41.0	27.0	27.0	0.0	27.0	27.0	0.0
Total Split (%)	9.5%	29.2%	29.2%	19.3%	39.0%	39.0%	25.7%	25.7%	0.0%	25.7%	25.7%	0.0%
Maximum Green (s)	7.0	25.7	25.7	17.3	36.0	36.0	23.0	23.0		23.0	23.0	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	0.5	0.5	0.0	0.5	0.5	0.5	0.5		0.5	0.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	2.5	4.0	4.0	2.5	4.0	4.0	2.5	2.5		2.5	2.5	
Minimum Gap (s)	2.0	2.7	2.7	2.0	2.7	2.7	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	8.0	10.0	10.0	8.0	10.0	10.0	8.0	8.0		8.0	8.0	
Time To Reduce (s)	4.0	13.0	13.0	4.0	13.0	13.0	4.0	4.0		4.0	4.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 93.7
Natural Cycle: 105
Control Type: Actuated-Uncoordinated

Splits and Phases: 1 GRANTS PASS PKWY & AGNESS AVE

↰ 01	→ 02	↰ 04	↰ 08
↰ 05	→ 06		

2 F St & AGNESS AVE
Lanes, Volumes, Timings

Spalding Industrial Area
2012 Existing DHV

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SEB	SEB
Lane Configurations												
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	150		0	125		0	150		0
Storage Lanes	0		0	1		0	1		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			45			35			35	
Link Distance (ft)		1766			410			628			1197	
Travel Time (s)		40.1			6.2			12.2			23.3	
Volume (vph)	40	70	135	70	75	95	100	205	90	120	290	65
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.93	0.93	0.93	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

3 SPALDING AVE & AGNESS AVE

Lanes, Volumes, Timings

Spalding Industrial Area
2012 Existing DHV



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑		↑	↑
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		0	95	
Storage Lanes	1	0		0	1	
Turning Speed (mph)	15	9		9	15	
Link Speed (mph)	30		35			35
Link Distance (ft)	1768		640			628
Travel Time (s)	40.2		12.5			12.2
Volume (vph)	50	60	335	40	90	410
Peak Hour Factor	0.75	0.75	0.92	0.92	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

4 F St & BEACON Dr
Lanes, Volumes, Timings

Spalding Industrial Area
2012 Existing DHV

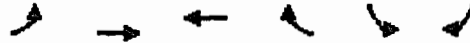
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SEB	SEB
Lane Configurations												
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	85		0	0		0	0		0	110		0
Storage Lanes	1		0	0		0	0		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1065			913			419			693	
Travel Time (s)		24.2			20.8			9.5			15.8	
Volume (vph)	50	140	5	5	240	85	5	5	5	100	5	65
Peak Hour Factor	0.87	0.87	0.87	0.84	0.84	0.84	0.70	0.70	0.70	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	7%	7%	7%	1%	1%	1%
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

5 F St & TERRY Ln
Lanes, Volumes, Timings

Spalding Industrial Area
2012 Existing DHV



Lane Group	EBT	EBT	WBT	WBT	SBL	SBL
Lane Configurations	↑	↑	↑	↑	↑	↑
Ideal Flow (vph)	1750	1750	1750	1750	1750	1750
Storage Length (ft)	100			0	150	0
Storage Lanes	1			0	1	1
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		25	
Link Distance (ft)		913	1766		552	
Travel Time (s)		20.8	40.1		15.1	
Volume (vph)	85	180	210	40	45	80
Peak Hour Factor	0.93	0.93	0.91	0.91	0.80	0.80
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

6 FOOTHILL BL & INDUSTRY DR
Lanes, Volumes, Timings

Spalding Industrial Area
2012 Existing DHV

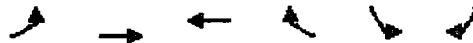
	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	45			45	25	
Link Distance (ft)	410			1054	1164	
Travel Time (s)	6.2			16.0	31.7	
Volume (vph)	235	15	5	230	30	5
Peak Hour Factor	0.76	0.76	0.81	0.81	0.66	0.66
Heavy Vehicles (%)	1%	1%	2%	2%	3%	3%
Signal Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

8 F St & JONES CR Rd
Lanes, Volumes, Timings

Spalding Industrial Area
2012 Existing DHV



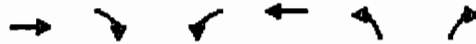
Lane Group	EBL	EBT	WBT	WBR	SEB	SEB
Lane Configurations		↖	↖		↗	↗
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1393	648		530	
Travel Time (s)		31.7	14.7		12.0	
Volume (vph)	125	120	100	10	5	75
Peak Hour Factor	0.91	0.91	0.70	0.70	0.83	0.83
Heavy Vehicles (%)	1%	1%	2%	2%	2%	2%
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

9 F St & Lawless Ln.
Lanes, Volumes, Timings

Spalding Industrial Area
2012 Existing DHV



Lane Group	EBL	EBR	WBL	WBR	NBL	NBR
Lane Configurations	↑			↑	↑	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	25	
Link Distance (ft)	1134			1305	846	
Travel Time (s)	25.8			29.7	23.1	
Volume (vph)	250	1	1	210	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Mid-Block Traffic (%)	5%			5%	0%	
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

10 15 EB ON RAMP & GRANTS PASS PKWY
Lanes, Volumes, Timings

Spalding Industrial Area
2012 Existing DHV



Lane Group	WBL	WBR	SEL	SER	NEL	NET	NER	SWL	SWR	SWR
Lane Configurations										
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Turning Speed (mph)	15	9	15	15	15		20	15		9
Link Speed (mph)	30		45			45			45	
Link Distance (ft)	1094		1289			903			801	
Travel Time (s)	24.9		19.5			13.7			12.1	
Volume (vph)	0	0	0	555	0	310	665	0	545	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Sign Control	Free		Free			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

1 GRANTS PASS PKWY & AGNESS AVE
HCM Signalized Intersection Capacity Analysis

Spalding Industrial Area
2012 Existing DHV w/Mitigation



Movement	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SEB	SEB
Lane Configurations	↑	↑↑	↑	↑↑	↑	↑	↑	↑	↑	↑	↑
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1614	3228	1444	1630	3260	1458	1630	1718	1458	1662	1699
Fit Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1614	3228	1444	1630	3260	1458	1630	1718	1458	1662	1699
Volume (vph)	25	655	115	225	740	135	85	110	240	80	125
Peak-hour factor, PHF	0.89	0.89	0.89	0.95	0.95	0.95	0.86	0.86	0.86	0.88	0.88
Adj. Flow (vph)	28	736	129	237	779	142	99	128	279	91	142
RTOR Reduction (vph)	0	0	68	0	0	61	0	0	242	0	8
Lane Group Flow (vph)	28	736	61	237	779	81	99	128	37	91	168
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	0%	0%	0%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot	
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Actuated Green, G (s)	1.9	33.1	33.1	13.3	44.5	44.5	7.4	10.7	10.7	7.1	10.4
Effective Green, g (s)	0.9	34.1	34.1	12.3	45.5	45.5	7.4	10.7	10.7	7.1	10.4
Actuated g/C Ratio	0.01	0.43	0.43	0.15	0.57	0.57	0.09	0.13	0.13	0.09	0.13
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	2.5	4.0	4.0	2.5	4.0	4.0	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	18	1373	614	250	1850	827	150	229	185	147	220
v/s Ratio Prot	0.02	c0.23		c0.15	0.24		c0.06	0.07		0.05	c0.10
v/s Ratio Perm			0.04			0.06			0.03		
v/c Ratio	1.56	0.54	0.10	0.95	0.42	0.10	0.66	0.56	0.19	0.62	0.76
Uniform Delay, d1	39.6	17.2	13.8	33.6	9.9	7.9	35.2	32.5	30.9	35.2	33.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	417.6	0.5	0.1	42.3	0.2	0.1	9.4	2.4	0.3	6.5	14.0
Delay (s)	457.3	17.7	13.9	75.9	10.1	8.0	44.6	34.9	31.2	41.7	47.7
Level of Service	F	B	B	E	B	A	D	C	C	D	D
Approach Delay (s)		30.9			23.3			34.8			45.7
Approach LOS		C			C			C			D

Intersection Summary			
HCM Average Control Delay	29.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	80.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

1 GRANTS PASS PKWY & AGNESS AVE

Lanes, Volumes, Timings

Spalding Industrial Area
2012 Existing DHV w/Mitigation

	←	→	↙	↘	←	↙	↘	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗	↙	↑	↗	↙	↑	↗
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	150		175	225		225	125		350	75		0
Storage Lanes	1		1	1		1	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	72	317	137	72	317	137	72	72	50	72	72	
Trailing Detector (ft)	2	157	0	2	157	0	2	2	0	2	2	
Turning Speed (mph)	15		15	15		15	15		15	15		15
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		1225			903			1197			591	
Travel Time (s)		18.6			13.7			23.3			13.4	
Volume (vph)	25	655	115	225	740	135	85	110	240	80	125	30
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.86	0.86	0.86	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Mid-Block Traffic (%)		0%			0%			20%			0%	
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phases	5	2	2	1	6	6	3	8	8	7	4	
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	8.0	30.0	30.0	9.5	30.0	30.0	10.0	27.0	27.0	10.0	27.0	
Total Split (s)	10.0	42.7	42.7	32.3	65.0	65.0	18.0	28.0	28.0	17.0	27.0	0.0
Total Split (%)	8.3%	35.6%	35.6%	26.9%	54.2%	54.2%	15.0%	23.3%	23.3%	14.2%	22.5%	0.0%
Maximum Green (s)	7.0	37.7	37.7	29.3	60.0	60.0	14.0	24.0	24.0	13.0	23.0	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.0	0.5	0.5	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.5	4.0	4.0	2.5	4.0	4.0	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		18.0	18.0		18.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length 78.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 1 GRANTS PASS PKWY & AGNESS AVE

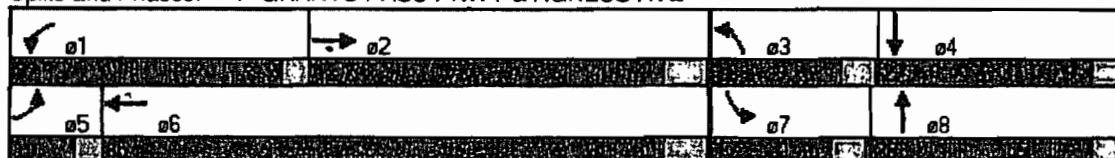


Figure 11N
Spalding Industrial Area Traffic Impact Study
UGB Area Mitigation Plan - North

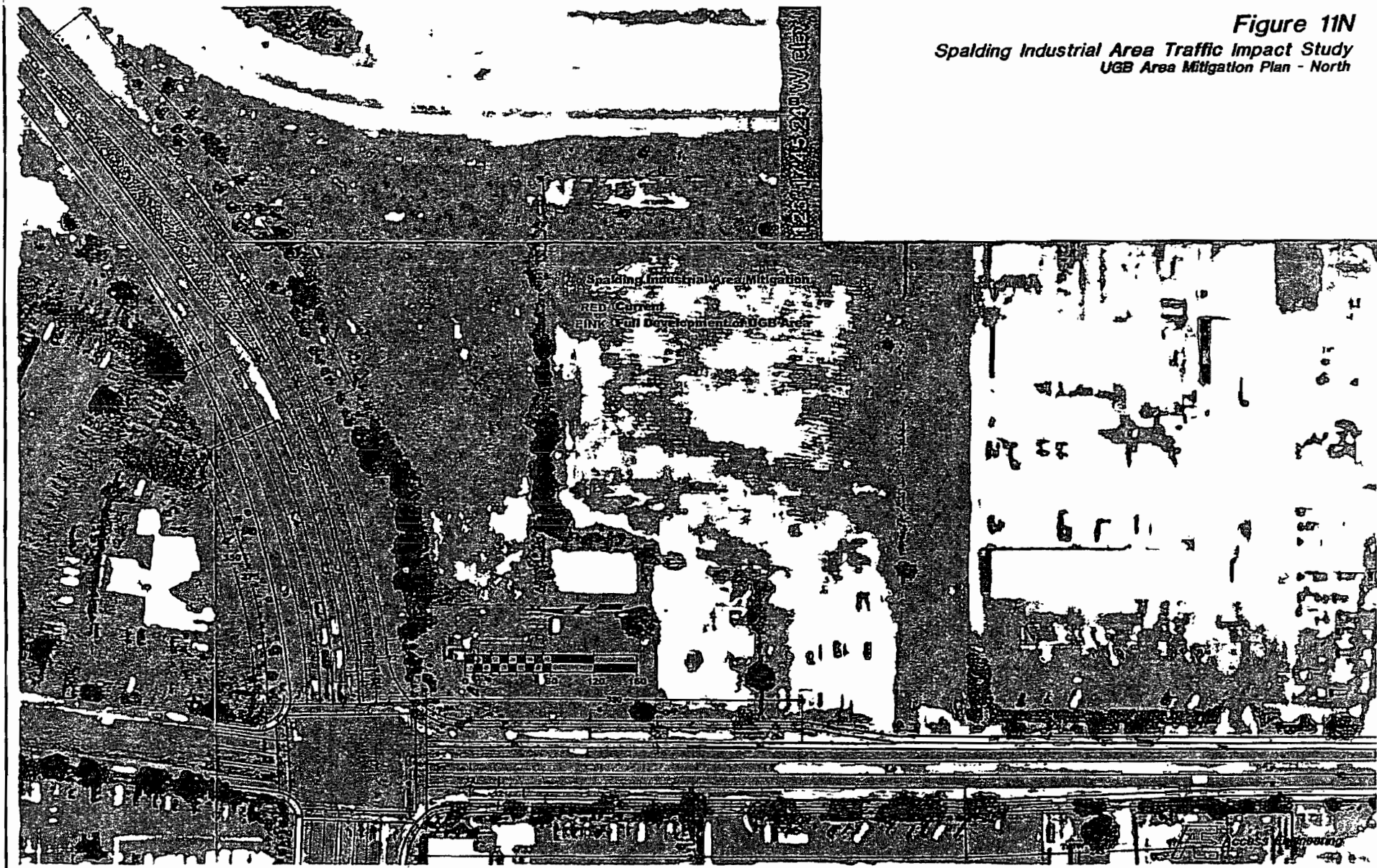


Figure 10
Spalding Industrial Area Traffic Impact Study
Current (2012) Mitigation Plan

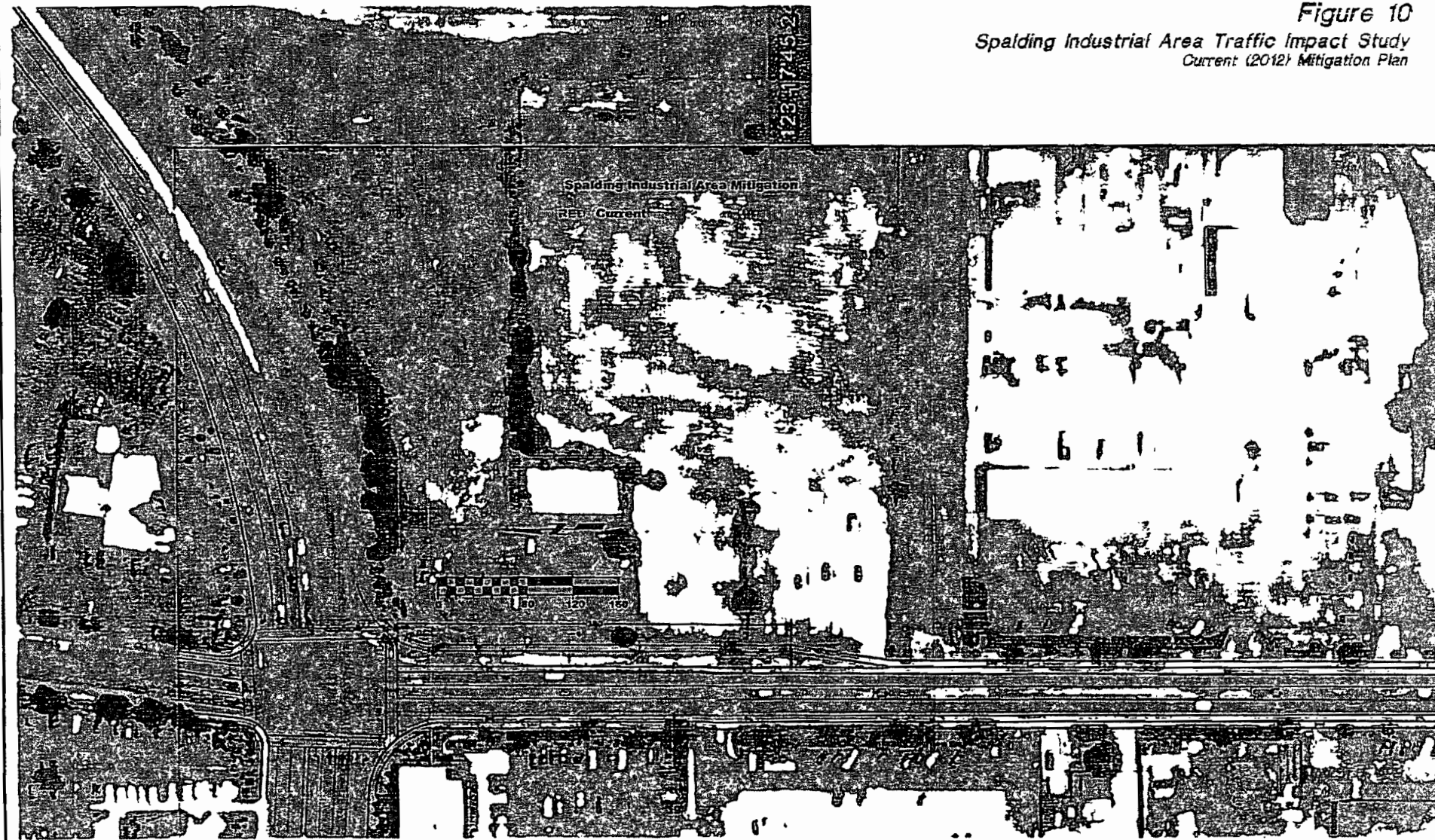


Figure 12N
Spalding Industrial Area Traffic Impact Study
UGB + County H Areas Mitigation Plan - North

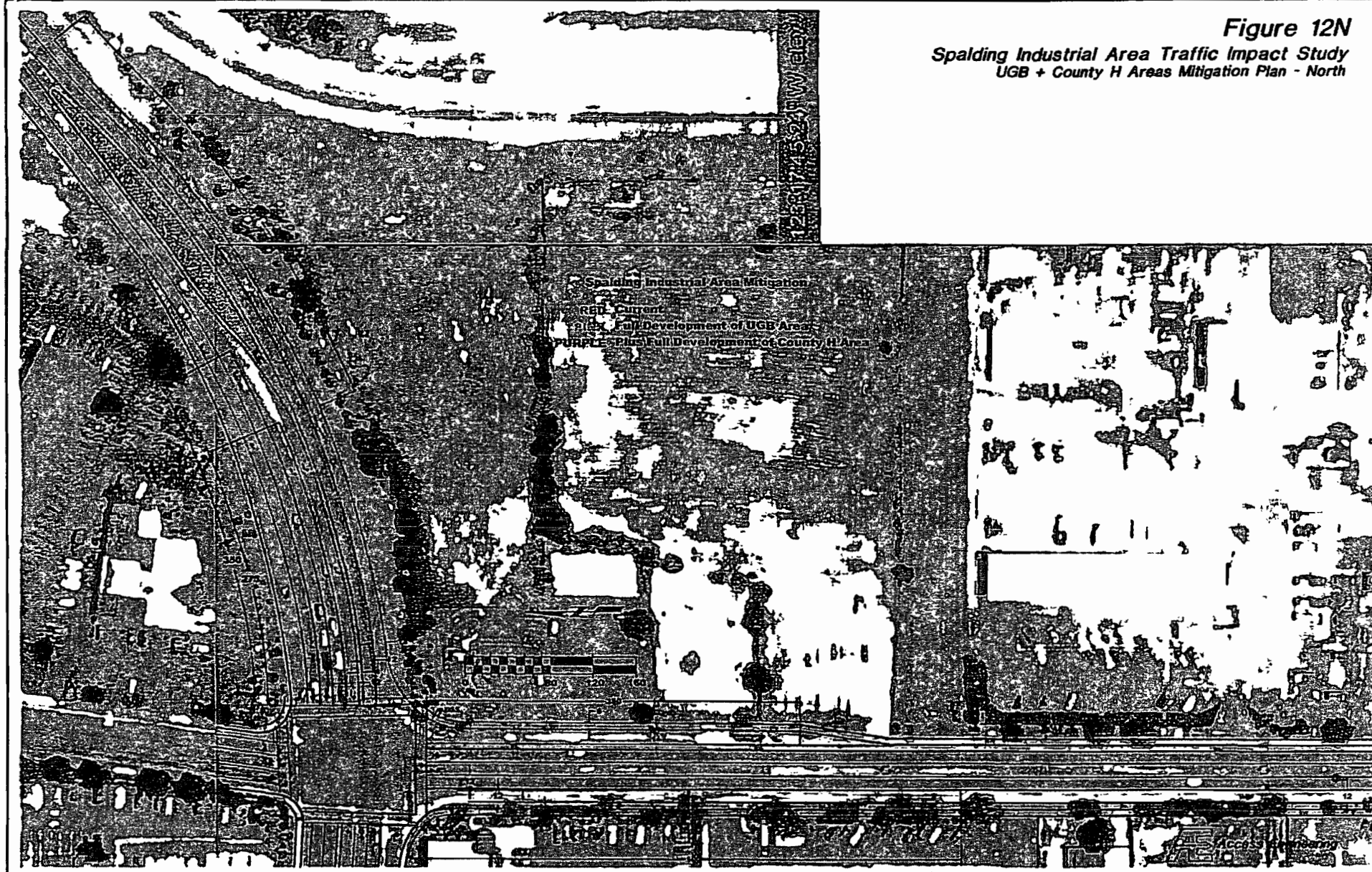


Figure 11S

Spalding Industrial Area Traffic Impact Study
UGB Area Mitigation Plan - South

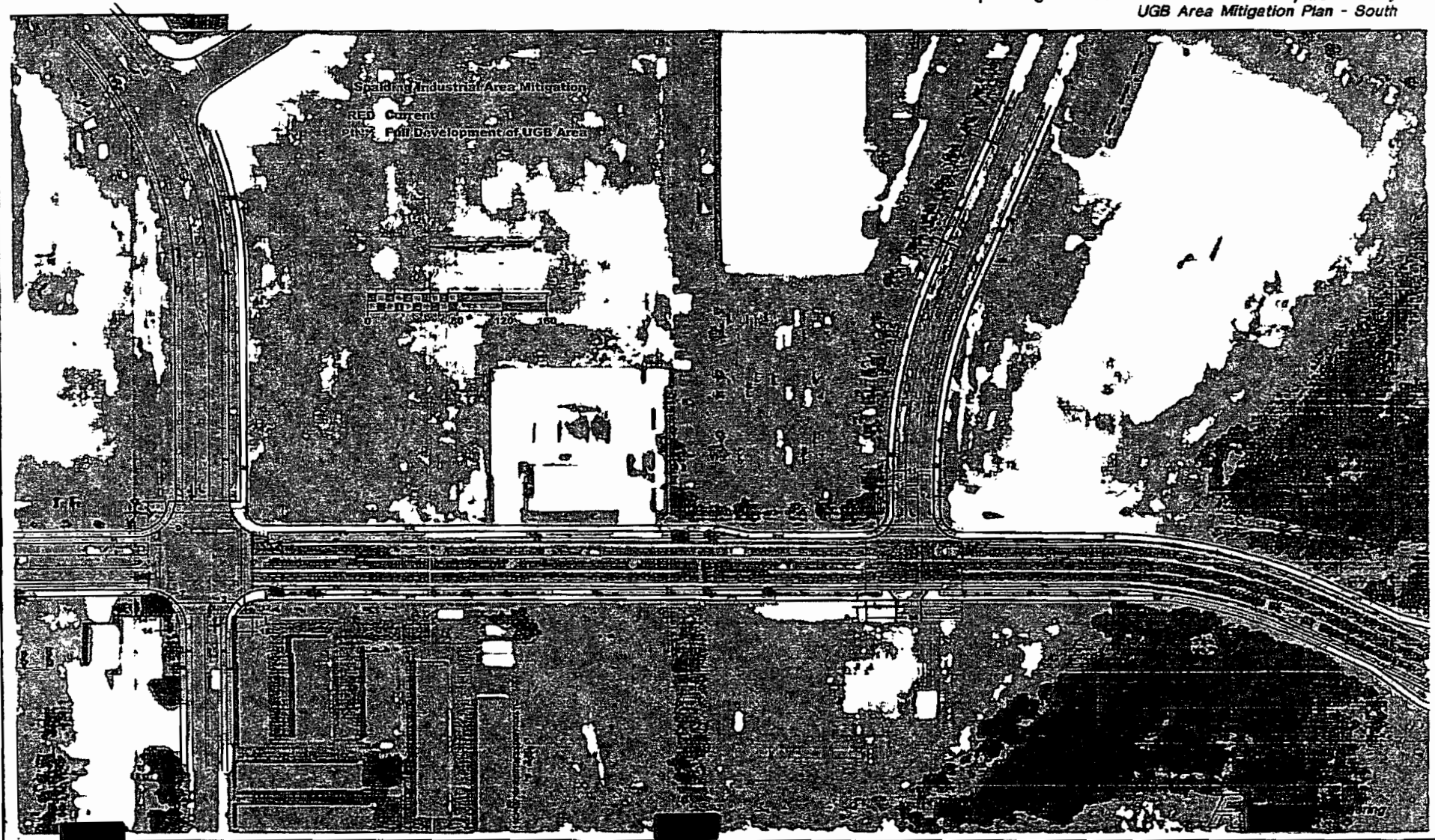
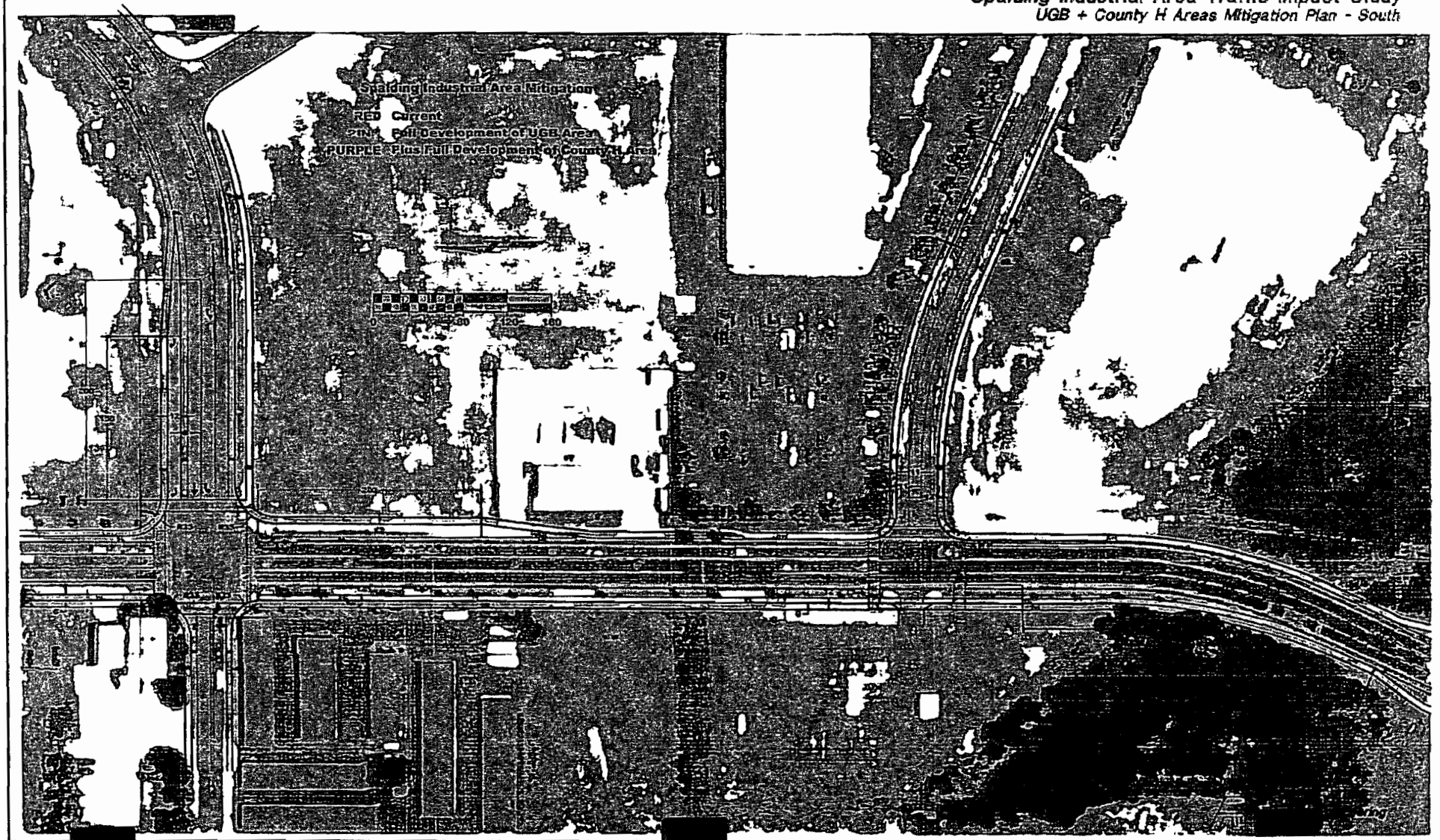


Figure 13
Spalding Industrial Area Traffic Impact Study
UGB + County H + H2 Areas Mitigation Plan



Figure 12S
Spalding Industrial Area Traffic Impact Study
UGB + County H Areas Mitigation Plan - South



CITY OF GRANTS PASS COMMUNITY DEVELOPMENT DEPARTMENT

**SPALDING TRAFFIC IMPACT ANALYSIS
COMPREHENSIVE PLAN TEXT AMENDMENT
CITY COUNCIL FINDINGS OF FACT-TYPE IV**

Procedure Type:	Type IV: Planning Commission Recommendation
Project Number:	13-40500004
Project Type:	Comprehensive Plan Text Amendment
Applicant:	City of Grants Pass
Planner Assigned:	Lora Glover
Application Received:	November 8, 2013
Application Complete:	November 8, 2013
Date of Planning Commission Staff Report:	December 31, 2013
Date of Planning Commission Hearing:	January 8, 2014
Date of Planning Commission Finding of Fact:	January 22, 2014
Date of City Council Staff Report:	January 28, 2014
Date of City Council Hearing:	February 19, 2014, continued from February 5, 2014
Date of Findings of Fact:	March 5, 2014

I. PROPOSAL:

The proposal revises the Master Transportation Plan Element of the Comprehensive Plan. The amendment includes:

- Adding a provision referencing the Spalding Industrial Area Traffic Impact Analysis (TIA) to Appendix G of the Master Transportation Plan (see Exhibits 1-2).

II. AUTHORITY AND CRITERIA:

Policy 13.5, Grants Pass and Urbanizing Area Comprehensive Community Plan: Policies, provides for amendments to the Comprehensive Plan Map. Section 2.060, City of Grants Pass Development Code, authorizes the processing of legislative reviews using a Type IV procedure. This procedure provides for Planning Commission action as an advisory body, with the City Council making the final decision to approve or deny. The decision on the Comprehensive Plan amendment must be based on the criteria contained in Policies 13.5.4 of the Comprehensive Community Plan: Policies.

Additionally, in accordance with Section V.2. of the Intergovernmental Agreement for the Orderly Management of the Grants Pass Urban Growth Boundary, the City provided written notice to Josephine County. The County has automatic party status regarding legislative decisions for the purposes of standing for appeals.

III. APPEAL PROCEDURE:

The City Council's final decision may be appealed to the State Land Use Board of Appeals (LUBA) as provided in state statutes. A notice of intent to appeal must be filed with LUBA within 21 days of the Council's written decision.

IV. PROCEDURE:

- A. The application was submitted and deemed complete on November 8, 2013. The application was processed in accordance with Section 2.060 of the Development Code, and Sections III and V of the 1998 Intergovernmental Agreement.
- B. Notice of the proposed amendment was mailed to the Oregon Department of Land Conservation and Development (DLCD) on November 8, 2013, in accordance with ORS 197.610 and OAR Chapter 660-Division 18.
- C. Notice of the proposed amendment was mailed to Josephine County on November 8, 2013, in accordance with the 1998 Intergovernmental Agreement.
- D. Notice of the proposed amendment for the January 8, 2014, Planning Commission hearing and the City Council hearing of February 5, 2014, was published in the newspaper on January 2, 2014, in accordance with Section 2.053(2) of the Development Code.
- E. A public hearing was held by the Planning Commission on January 8, 2014, to consider the proposal and make a recommendation to City Council. The Planning Commission made a recommendation to the City Council.
- F. At the February 5, 2014, City Council hearing, at the request of Staff, the matter was continued until February 19, 2014.
- G. A public hearing was held by the City Council on February 19, 2014, to consider the proposal. The City Council approved the ordinance on February 19, 2014.

V. SUMMARY OF EVIDENCE:

- A. The basic facts and criteria regarding this application are contained in the February 19, 2014, City Council staff report and its exhibits, which are attached as Exhibit "A" and incorporated herein.
- B. The minutes of the public hearing held by the City Council on February 19, 2014, which are attached as Exhibit "B", summarize the oral testimony presented and are hereby adopted and incorporated herein.
- C. The PowerPoint presentation given by staff at the February 19, 2014, City Council hearing is attached as Exhibit "C" and incorporated herein.
- D. The ordinance with the final text which incorporates the text of this proposal is attached as Exhibit "D" and incorporated herein.

VI. GENERAL FINDINGS AND DISCUSSION:

The Master Transportation Plan recommends a system of connected streets throughout Grants Pass. As certain areas of the City develop, additional traffic impact analyses are conducted to ensure the viability of the document in order to provide guidance for development in these areas. The guidance provided helps mitigate impacts on surrounding neighborhoods while enabling interconnectivity and transit options.

The Spalding Industrial Area Technical Memorandum is part of an overall TIA and is the basis for an ongoing Capital Improvement Plan (CIP) for the Spalding Industrial Area.

VII. FINDINGS IN CONFORMANCE WITH APPLICABLE CRITERIA:

For Comprehensive Plan amendments, Comprehensive Plan Policy 13.5.4 requires that all of the following criteria be met:

CRITERION (a): Consistency with other finding, goals, and policies of the Comprehensive Plan.

City Council Response: Satisfied. The following transportation goals and policies from the Master Transportation Plan pertain to this application:

Goal 1: Provide a Comprehensive Transportation System

In keeping with transportation policies and directives from the federal and state levels, the plan emphasizes a comprehensive, multimodal transportation system.

a) Objective 1.1: Complete the Transportation System

Policy 1.1.1: Complete the missing links in the arterial and collector network in the urban area to improve accessibility to all parts of the area and improve the efficiency of the street network.

Policy 1.1.3 Provide facilities for bicyclists and pedestrians for safe and convenient travel by non motorized travel modes.

Response: As envisioned in the Plan, the Spalding Industrial Area will be a draw for industrial uses. As such, transportation becomes a concern that needs to be addressed to ensure viability of the development as it occurs. The TIA addresses potential impacts in the area and provides recommendations for interconnectivity for different modes of transportation.

b) Objective 1.4: Provide safety for all travelers

Policy 1.4.2: Minimize conflicts between motorized vehicles and bicyclists and pedestrians.

Response: The TIA addresses transportation issues related to different modes of transportation. The increased efficiency of design ensures good traffic flow while minimizing potential conflict points.

Goal 2: Working together to meet transportation needs

a) Objective 2.4 Integrate land use and transportation decisions

Policy 2.4.1 Integrate decisions about development and transportation investments to ensure the best fit between development in the urban area and the transportation facilities and services needed to serve it.

Response: The proposed amendment results from the City's inclusion of the Spalding Area in the Urban Growth Boundary. Further, the City is considering the extension of the Urban Growth Boundary eastward to include potentially more area to be developed for industrial uses.

Goal 5: Protect and preserve the natural environment

a) Objective 5.2 Enhance Community Aesthetics

Policy 5.2.3: Provide a safe, attractive and welcoming environment for bicyclists and pedestrians through the provision of special facilities such as:

- Bicycle lanes, paths and/or trails
- Pedestrian walkways or trails, and
- Buffering of facilities for pedestrians and bicyclists from traffic.

Response: Transit options are key to the success of any development. Implementation of the TIA will ensure that each aspect noted above will be adequately addressed as the development takes place.

b) Objective 5.3: Protect Neighborhoods

Policy 5.3.1: Keep through traffic off of residential streets through the provision of an adequate network of arterials and collectors, and consideration of neighborhood traffic control devices.

Response: This area is a potential industrial area which is immediately adjacent to both established and future residential areas. As a result, there is significant need to anticipate the impact of industrial traffic on these residential areas. The TIA anticipates these concerns and provides solutions to help mitigate these impacts.

c) Objective 5.6 Mitigate Negative Impacts

Policy 5.6.1: Mitigate negative environmental impacts associated with the construction, operation and maintenance of transportation facilities.

Response: Industrial areas tend to have significant issues with operation and maintenance of transportation facilities due to the heavy use of the roads by industrial vehicles. Implementing the recommendations of the TIA will help mitigate the overuse of the roads.

Goal 7: Implement planned transportation improvements.

a) Objective 7.1 Encourage private sector participation in implementation.

Policy 7.5.1: Encourage private sector participation in implementation of the projects, programs and policies included in the transportation plan.

Policy 7.5.4 Encourage new developments to extend/connect roads, trails, paths, adjacent to their developments.

Response: The proposed amendment would reference the Spalding Industrial Area TIA. This would provide developers with needed guidance for implementation of necessary improvements to existing infrastructure and new roadways.

CRITERION (b): A change in circumstances, validated by and supported by the data base or proposed changes to the data base, which would necessitate a change in findings, goals, and policies.

City Council Response: Satisfied. The City has determined that this area has the potential for industrial and residential development. The Transportation Plan serves as the database for street designations, and provides guidance for future development.

CRITERION (c): Applicable planning goals and guidelines of the State of Oregon.

City Council Response: Satisfied. A primary function of a street system is to provide access to all categories of land use. The proposal is consistent with the applicable planning goals for the reasons given below.

Goal 1: Citizen Involvement.

Response: Additional findings of fact and conclusions of law may be required following public hearings on the subject application. Prior to public hearing, there is no basis upon which to make any findings or conclusions with respect to the cited criterion. Public notice of the proposal has been provided. As of the date of this report, no objections have been received.

Goal 2: Land Use Planning.

Response: The proposed changes will amend the Master Transportation Plan, adopted by the City and County in December 1997. Amending the Plan requires compliance with the procedures for reaching a land use decision.

Goal 11: Public Facilities and Services (OAR 660-015-0000(11)).

Response: Under this goal, the governing body is tasked 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. The proposed amendment is in compliance with the Comprehensive Plan and Goal 11. The amendment includes an update to the acknowledged Grants Pass Urban Area Master Transportation Plan.

Goal 12: Transportation (OAR 660-015-0000(12)).

The purpose of Goal 12 is to provide and encourage a safe, convenient and economic transportation system. The proposed amendments enhance the current transportation network by providing additional safe and convenient bikeways and bike lanes for the public. The proposed amendment is consistent with the Grants Pass Master Transportation Plan and applicable planning goals and guidelines of the State of Oregon.

CRITERION (d): Citizen review and comment.

City Council Response: Satisfied. The proposed legislative action requires proper public notice in the media and notice to owners of adjoining property. No comments have been received as of the date of this report.

CRITERION (e): Review and comment from affected governmental units and other agencies.

City Council Response: Satisfied. The Department of Land Conservation and Development (DLCD), the Oregon Department of Transportation (ODOT) and Josephine County were notified of the proposed amendment. No comments were received as of the date of this report.

CRITERION (f): A demonstration that any additional need for basic urban services (water, sewer, streets, storm drainage, parks, and fire/police protection) is adequately covered by adopted utility plans and service policies, or a proposal for the requisite changes to said utility plans and service policies as a part of the requested Comprehensive Plan amendment.

City Council Response: Satisfied. The purpose of the proposal is to refine a street plan that provides guidance for evaluating how well new projects fit into the City's long-range plans. Continuing to show street locations or design criteria that are unfeasible will impede efficient development in the city.

CRITERION (g): Additional information as required by the review body.

City Council Response: Satisfied Contingent on Review Body Direction. Additional information was not requested by the Council.

CRITERION (h): In lieu of item (2) above, demonstration that the Plan was adopted in error.

City Council Response: Not Applicable. Criterion (b) is applicable. The Plan was not adopted in error. The proposed amendments are adopted in response to a change in circumstances. See Criterion (b) for discussion of the change in circumstances.

VIII. DECISION AND SUMMARY:

The City Council **APPROVED** the amendment to adopt the Spalding TIA into the Comprehensive Plan/Master Transportation Plan. The vote was 6-0-2, with Councilors DeYoung, Webber, Gatlin, Goodwin, Riker & Hannum in favor. None were against. Councilors Morgan and Williams were absent.

XI. FINDINGS APPROVED AND DECISION ADOPTED BY THE GRANTS PASS CITY COUNCIL this 5th day of March, 2014.

Darin Fowler, Mayor