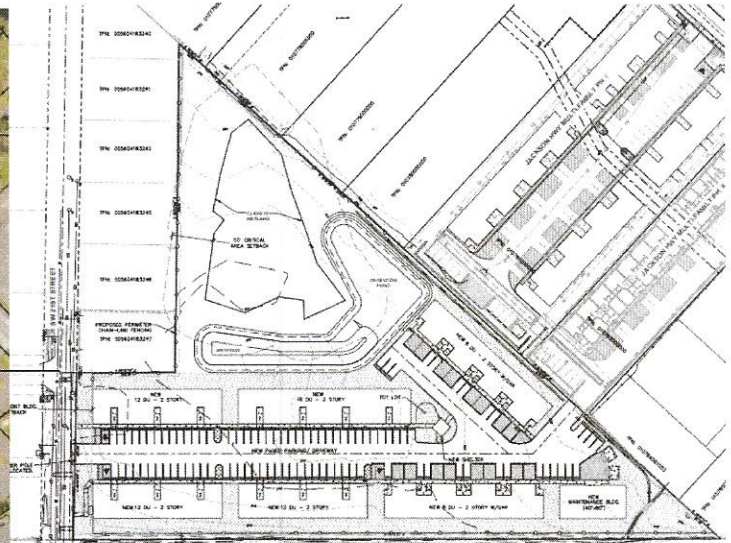
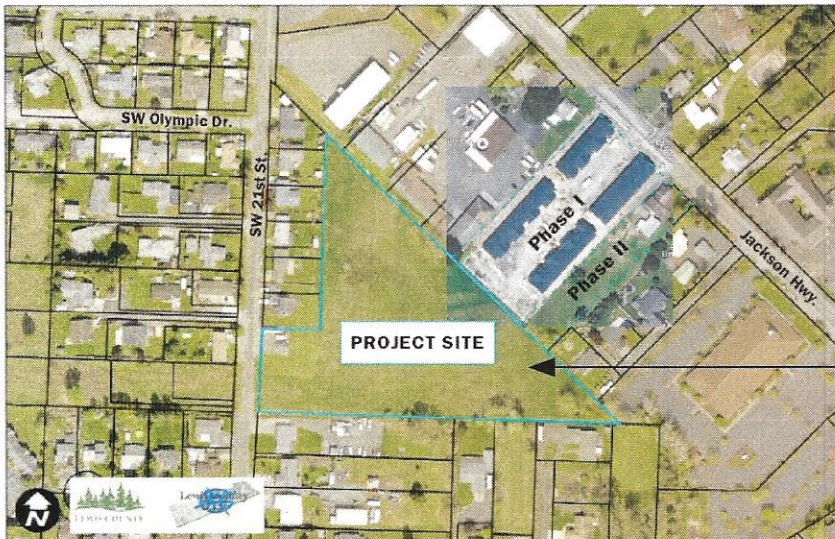


Chehalis

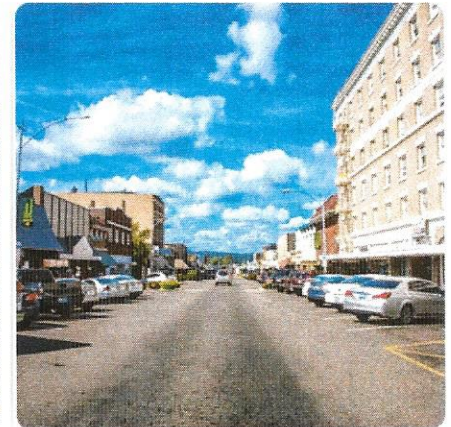
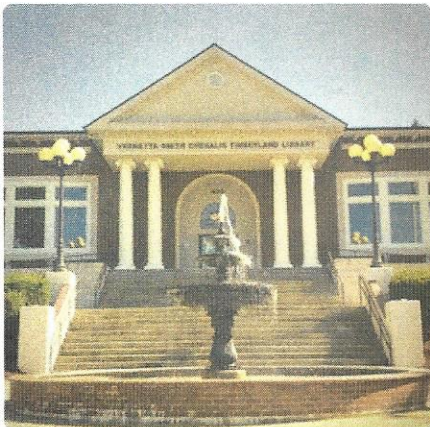
JACKSON PARK PHASE III TRANSPORTATION AND PARKING IMPACT ANALYSIS

April 4, 2022



Jake Traffic Engineering, Inc.

Mark J. Jacobs, PE (OR and WA), PTOE, President
2614 39th Ave. SW - Seattle, WA 98116 - 2503
Tel. 206.762.1978 - Cell 206.799.5692
E-mail jaketraffic@comcast.net





April 4, 2022

K & W PROPERTIES, LLC
Attn: Stephanie Werner
148 Rosewood Drive
Chehalis, WA 98532

Re: Jackson Park Phase III – Chehalis
Transportation and Parking Impact Analysis

Dear Ms. Werner,

I am pleased to present this Transportation and Parking Impact Analysis for a development of a 68 unit apartment complex with 145 parking stalls. The site is located on the east side of SW 21st St. and about 620' north of SW Salsbury Avenue in Chehalis. Access to the site is via SW 21st St. and a connection to Jackson Highway via Jackson Park Phase II

Chehalis Municipal Code Section 12.04.330.B.2 requires the preparation of a Traffic Impact Analysis be conducted for projects that generate 10 or more PM peak hour trips within an existing or proposed Transportation Benefit District. Per CMC 3.11.010 the Chehalis Transportation Benefit District's geographic boundaries are comprised of the corporate limits of the City of Chehalis. The following intersections are studied/inspected in this report:

Study (traffic volume count, operational calculations and safety) Intersections:

1. SW Salsbury Ave. at Jackson Hwy
2. SW 21st St. at S. Market Blvd.-Jackson Hwy
3. SW 20th St. at S. Market Blvd.

Inspection (operational discussion and safety) Intersections:

4. SW 21st St. at SW Salsbury Ave.
5. SW 21st St at Site Access

I have inspected the site and surrounding street system. The general format of this report is to describe the proposed project, identify existing traffic conditions (baseline), project future traffic conditions and identify Agency street/road improvements (future baseline), calculate the traffic that would be generated by the project and then add it to the future baseline traffic volumes. Operational analyses are used to determine the specific project traffic impact and appropriate traffic mitigation measures to reduce the impact.

The **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS** begin on page 11 of this report.

K & W PROPERTIES, LLC
Attn: Stephanie Werner
April 4, 2022
Page -2-

PROJECT INFORMATION

Figure 1 is a vicinity map which shows the location of the site and the surrounding street system.

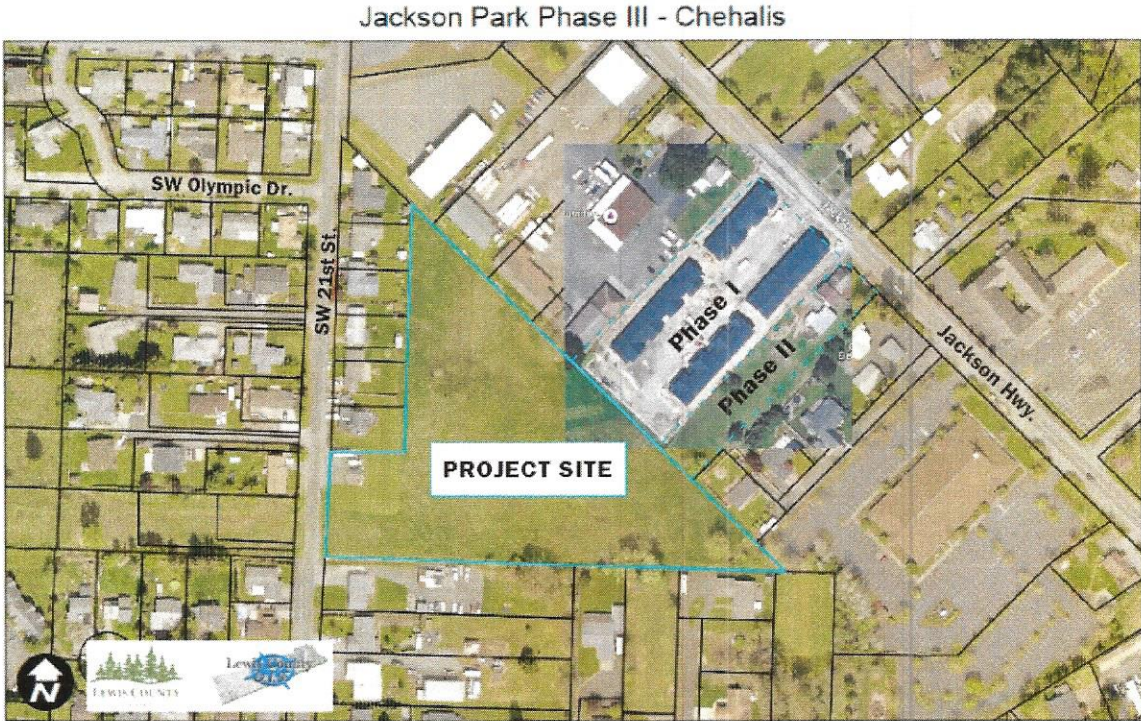
Figure 2 shows the Preliminary Site Plan prepared by RB Engineering, Inc. dated 07.09.2021 is attached. The plan depicts a development of a 68 unit apartment complex in six buildings, a small maintenance building and a detention pond. Also shown are 145 parking stalls including three accessible and 16 garage stalls and the site access/circulation. Access to the site is via SW 21st St. and a connection to Jackson Highway via Jackson Park Phase II

Full development and occupancy of the proposed Jackson Park Phase III project is anticipated to occur by 2023/2024, presuming the permits are issued in a timely manner. However, to ensure a conservative analysis 2027 has been used as the horizon year.

EXISTING ENVIRONMENT

Project Site

An aerial image of the project site obtained from Lewis County GIS is depicted below.



The site is Lewis County parcel #005604183244 and is currently undeveloped.

K & W PROPERTIES, LLC
Attn: Stephanie Werner
April 4, 2022
Page -4-

Figure 3 shows the existing traffic control, number of street lanes, number of approach lanes at intersections and other pertinent information.

Pedestrian Facilities (General)

Pedestrian sidewalks:

- SW Salsbury Ave. between SW 20th and 21st Streets – both sides
- Bishop Rd. south of SW Salsbury Ave. – west side of the street adjacent to Chehalis Elementary School
- SW 20th St. north of SW Salsbury Ave. – East side of the street

Marked crosswalks exist on all legs of the SW 20th St.-Bishop Rd at SW Salsbury Ave. all way stop controlled intersection and a midblock crossing exists across SW Salsbury Avenue on the east side of the access driveway to Olympic Elementary School.

Alternative Transportation

The City of Chehalis is served by Twin Transit; Chehalis Red. The nearest transit stop, 15 is located in the vicinity of SW Market St.-Jackson Hwy at SW 21st Street about ¼ mile north of the project site.



Transit service exists near the site. More information on Transit Service is available at <https://twintransit.org/routes/>

Schools

The Chehalis School District online information, <https://chehalisschools.org/>, indicates that students living in Jackson Park Phase III would primarily attend the following schools:





**JAMES W. LINTOTT
ELEMENTARY**

Grades P - 2
1220 Bishop Road, Chehalis, WA 98532
Phone: (360) 807-7215
Email: jle@chehalisschools.org
Web: chehalisschools.org/jle



Grades 3 - 5
1240 Bishop Rd., Chehalis, WA 98532
Phone: (360) 807-7225
Email: ose@chehalisschools.org
Web: chehalisschools.org/ose



Grades 6 - 8
1060 SW 20th St., Chehalis, Washington
98532
Phone: (360) 807-7230
Fax: (360) 740-1849
Email: cms@chehalisschools.org
Web: chehalisschools.org/cms



Grades 9 - 12
342 SW 16th St., Chehalis, Washington
98532
Phone: (360) 807-7235
Fax: 360-748-3664
Email: wfw@chehalisschools.org
Web: chehalisschools.org/wfw

In addition to the above primary schools some Grade 4 to 5 students could attend Olympic Elementary School located at 2057 SW Salsbury Avenue near the site.

The Elementary and Middle School students living in the Jackson Park III project are within walking distance of respective schools. Good pedestrian infrastructure exists on SW Salsbury Street west of SW 21st Street for students to walk to and from school.

I understand the City has applied for a grant funding for safe-walking-routes on several street segments in the site vicinity. Enhancing pedestrian facilities on SW 21st Street would be appropriate.

Traffic Volumes

Figure 4 shows the baseline PM peak hour traffic volumes at the study intersections. Traffic Count Consultants, a firm specializing in the collection of traffic data, conducted PM peak period turning movement counts at the study intersections. The count data sheets are attached in the appendix.

Intersection Operations

Traffic engineers have developed criteria for intersection operations called level of service (LOS). The LOS's are A to F with A and B being very good and E and F being more congested. LOS C and D correlate to busy traffic conditions with some restrictions to the ability to choose travel speed, change lanes and the general convenience comfort and safety.

K & W PROPERTIES, LLC
 Attn: Stephanie Werner
 April 4, 2022
 Page -6-

The procedures in the Transportation Research Board Highway Capacity Manual, HC6 were used to calculate the level of service at the study intersections. The following table depicts the LOS and corresponding average delay in seconds at signalized and stop control intersections:

Intersection Type	Level of Service					
	A	B	C	D	E	F
Signalized	<10	>10 and <20	>20 and <35	>35 and <55	>55 and <80	>80
Stop Control	<10	>10 and <15	>15 and <25	>25 and <35	>35 and <50	>50

LOS Analysis Software

The LOS of the study intersections were calculated using the Synchro software program (v10). Table 1, at the end of report prior to Figure, shows the existing LOS operations of the study intersections.

LOS Criteria

The City of Chehalis Municipal Code Section **12.04.330** subsection J.1 below identifies the City’s operational standard at LOS C.

J. Mitigation.

1. The TIA will include a proposed mitigation plan. The mitigation may be either the construction of necessary transportation improvements or contributions to the city for the proposed project’s fair share cost of identified future transportation improvements, as identified in the city’s comprehensive plan. Levels of service “E” and “F” will be used as the threshold for determining appropriate mitigating measures on roadways and intersections in the study area. Mitigating measures will be required to the extent that the transportation facilities operate at a LOS “C” (LOS-C) condition or better upon completion of the development.

Incident/Safety History

Incident data was reviewed using the WSDOT accident data portal available online at <https://remoteapps.wsdot.wa.gov/highwaysafety/collision/data/portal/public/>. This portal was used to review incidents in the site vicinity for the years 2017 to 2021. The WSDOT data is attached.

K & W PROPERTIES, LLC
Attn: Stephanie Werner
April 4, 2022
Page -7-

Inspection of the five years of recorded incidents near the site:

- SW 21st St. from S. Market Blvd-Jackson Hwy to SW Salsbury St. Ave. none recorded
- SW 20th St. from S. Market Blvd to SW Salsbury St. Ave. none recorded
- SW Salsbury St: SW 20th St. to Jackson Hwy no recorded incidents
- S. Market Blvd.-Jackson Hwy. from just NW of SW 20th St. to just SE of Salsbury Ave. 15 incidents (10-fender benders, three-possible injury and two-suspected minor injury) in 5 years with no apparent pattern.

Summarizing - Safety inspection of the study intersections and street corridors near the site did not reveal any apparent safety issue.

INFRASTRUCTURE IMPROVEMENT PROJECTS

City of Chehalis

I have reviewed the City of Chehalis Six Year Transportation Improvement Program 2022 to 2027 for transportation projects near the site, copy attached. One project of note near the site is the City TIP includes a project on S. Market Blvd. from SW 13th St. to the south City limit to reconstruct the street and provide pedestrian improvements. The planned start year is 2025.

Other: as iterated earlier in this report I understand the City has applied for a grant funding for safe-walking-routes on several street segments in the site vicinity.

Lewis County

Lewis County's draft Six Year Transportation Improvement Program 2022 to 2027 available on-line 03.15.2022 was inspected for transportation projects near the site. No County road improvements are noted near the site.

HORIZON YEAR CONDITIONS "WITHOUT" THE PROJECT

Figure 5 shows the projected 2027 PM peak hour traffic volumes "without" the project. These volumes include the existing traffic volume counts plus background growth. JTE, Inc. conducted a traffic report in Lewis County in 2015 near the site that included a Turning Movement Count at the SW Salsbury Ave. at Jackson Highway intersection. The recorded entering traffic at the intersection in 2015 was 575 versus the 588 noted in the 2022 count, little changed. However to ensure a conservative analysis I have applied a 2% per year growth rate.

K & W PROPERTIES, LLC
 Attn: Stephanie Werner
 April 4, 2022
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TRIP GENERATION AND DISTRIBUTION

Definitions

A vehicle trip is defined as a single or one direction vehicle movement with either the origin or destination (exiting or entering) inside the proposed development.

Traffic generated by development projects consists of the following types:

- Pass-By Trips: Trips made as intermediate stops on the way from an origin to a primary trip destination.
- Diverted Link Trips: Trips attracted from the traffic volume on a roadway within the vicinity of the generator but which require a diversion from that roadway to another roadway in order to gain access to the site.
- Captured Trips: Site trips shared by more than one land use in a multi-use development.
- Primary (New) Trips: Trips made for the specific purpose of using the services of the project.

Trip Generation

The proposed Jackson Park Phase III project is expected to generate the vehicular trips during the average weekday, street traffic AM and PM peak hours as shown in Table 2. The trip generation for the project is calculated using trip rates from the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition, for the Multi-Family Housing (ITE Land Use Code 220). All site trips made by all vehicles for all purposes, including commuter, visitor, and service and delivery vehicle trips are included in the trip generation values.

TABLE 2 - VEHICULAR TRIP GENERATION JACKSON PARK III - CHEHALIS TRANSPORTATION AND PARKING IMPACT ANALYSIS										
Time Period	Size (X)	TG Rate	Enter %	Enter Trips	Exit %	Exit Trips	Total (T)	Pass-by %*	Pass-by Trips	Net Total
Proposed: Multi-Family Housing (Low-Rise) Not Close to Rail Transit - General Urban/Suburban (ITE LUC 220; 68-units)										
Weekday	68	6.74	50%	229	50%	229	458	--	--	--
AM peak hour	68	0.4	24%	7	76%	21	27	--	--	--
PM peak hour	68	0.51	63%	22	37%	13	35	--	--	--

Where X = number of units or sf and T = Trips; parenthesis (xx) denote negative values
 * - Pass-by rates per ITE, local Agency data and Traffic Engineering Experience, residential trips are typically considered new thus for analysis no pass-by to account for service/delivery type trips is taken
 Trip rates per the Institute of Transportation Engineers Trip Generation Manual 11th Edition
 Note: Due to rounding some values may not add up

K & W PROPERTIES, LLC
Attn: Stephanie Werner
April 4, 2022
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The net traffic associated with the Jackson Park Phase III is 35 PM peak hour trips with 22 entering and 13 exiting.

Trip Distribution

Figure 6 shows the site generated traffic assigned to the street system. Trips to and from the site were distributed to the surrounding street network based on the characteristics of the network, existing traffic volume patterns and the location of likely trip origins and destinations (residential, business, shopping, social and recreational opportunities).

HORIZON YEAR CONDITIONS “WITH” THE PROJECT

Traffic Volumes

Figure 7 shows the projected 2027 PM peak hour traffic volumes “with” the proposed project at the analysis and site access intersections. The site generated PM peak hour traffic volumes shown on Figure 6 were added to the projected background traffic volumes shown on Figure 5 to obtain the Figure 7 volumes.

Level of Service

Table 1 shows the calculated LOS for the horizon year (2027) “with” and “without” project conditions at the analysis intersections. Based on my operational analysis the analyzed intersections would continue to operate at LOS ‘C’ or better for both “with” and “without” project conditions that exceeds the City criteria.

I have inspected the operation at the SW 21st St. at SW Salsbury Ave. intersection using traffic data collected at the nearby study intersection. The intersection is an All Way Stop controlled that likely was justified due to the proximity of Olympic Elementary School located at 2057 SW Salsbury Avenue. The intersection operates at a good LOS with no recorded accidents in the five years inspected.

Access Connectivity

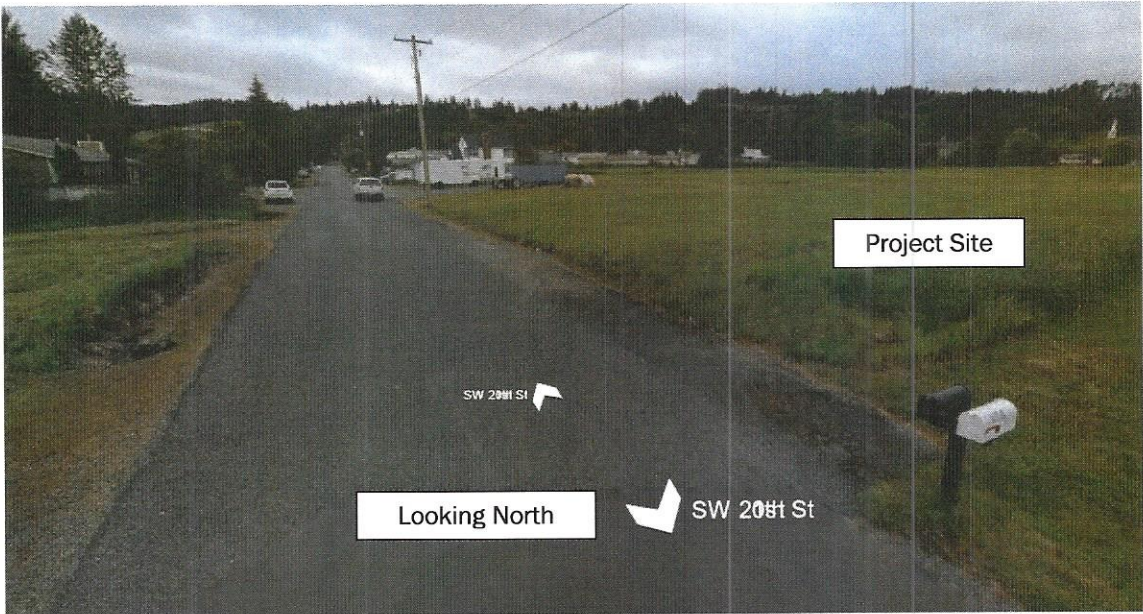
Access to the proposed project is via a new driveway on SW 21st St. and a connection to Jackson Hwy Multifamily Phase II that has access to Jackson Highway. It is anticipated that some residents of the proposed Jackson Park III would use the access to Jackson Highway via Jackson Highway Multifamily Phase II. There also would be a few residents, likely parents dropping off or picking their children from school. Jackson Highway Multifamily Phase II that would cut through Jackson Park III to access SW 21st Street. The traffic affect of the cut through traffic would be minimal.

SITE ACCESS INSPECTION

I have inspected the site, the site access and the streets in the site vicinity. Access to the site would be a full access driveway on SW 21st Street. Below are Bing Aerial Streetview

K & W PROPERTIES, LLC
Attn: Stephanie Werner
April 4, 2022
Page -10-

photographs looking to the north and south, respectively at the site access on SW 21st Street:



The required **Stopping Sight Distance** for a 25 MPH speed per the American Association of State Highway and Transportation Officials "A Policy on Geometric Design of Highways and Streets" is 155 feet. The Entering Sight Distance is 240 and 280 feet for a right

K & W PROPERTIES, LLC
Attn: Stephanie Werner
April 4, 2022
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turn/crossing and left turn from a stop, respectively. AASHTO identifies SSD as the critical sight line to be provided, see Section 9.5.1 attached in the Appendix.

Parked vehicles, signage and vegetation can affect sight lines. Appropriate vehicular, signage and vegetation restriction within the site access sight triangle is recommended. Per the Google Street View appropriate sight lines would be available for the site access onto a low volume dead end street.

PARKING ANALYSIS

The project includes 145 parking stalls that correlate into 2.13 stall unit. Chehalis Municipal Code parking requirement per Chapter 17.84 **PARKING AND LOADING** identifies for use code R121 Apartments that two parking stalls per unit be provided. The proposed project provides the City code required parking.

In addition I inspected the ITE Parking Generation 5th Edition that provides Parking Generation rates for a variety of land uses including Multifamily Housing (Low-Rise) LUC 220. The data includes rates for sites in a variety of settings. The site is General Urban/Suburban with limited transit. Per the ITE data the typical/85th percentile parking demand are 1.21/1.52 stall/unit, respectively

The proposed 145 parking stalls are ample for the project.

AGENCY TRAFFIC IMPACT MITIGATION REQUIREMENTS

The City will require that the project site access and circulation be constructed in conformance to City requirements. Additionally, street frontage improvements to City requirements are required.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This report analyzed the traffic and parking impact of the proposed Jackson Park Phase III development of a 68 unit apartment complex with 145 parking stalls. The site is located on the east side of SW 21st St. and about 620' north of SW Salisbury Avenue in Chehalis. Access to the site is via SW 21st St. and a connection to Jackson Highway via Jackson Park Phase II

Existing traffic data was obtained at the street intersections identified for analysis. Future horizon year traffic volumes were derived using a growth factor of two percent per year. Level of service analyses were performed for existing and projected future horizon traffic volumes during the PM peak hour. The evaluation of the traffic impact of the proposed project included adding project generated traffic to the future traffic volume projections and calculating the level of service. The "with" project traffic operations were then compared to the "without" project operations. The comparison of traffic operations "with" and "without" the project identified that the project would not cause a significant adverse affect on the operation of the study intersections. In addition, sight lines and safety inspection were conducted at the study intersections and no apparent deficiencies were noted.

K & W PROPERTIES, LLC
Attn: Stephanie Werner
April 4, 2022
Page -12-

Based on my analysis I recommend that Jackson Park Phase III be allowed with the following traffic impact mitigation measures.

- Construct site in accordance with applicable City requirements.
- Install the site access on SW 21st Street per applicable City requirements.
- The City has applied for a grant funding for safe-walking-routes on several street segments in the site vicinity. Work with the City to allocate funds to SW 21st Street.

If you have any questions you can contact me at 206.762.1978 or email me at jaketraffic@comcast.com.



Very truly yours,

Mark J. Jacobs, PE, PTOE, President
JAKE TRAFFIC ENGINEERING, INC.

04.04.2022

MJJ: mjj

TABLE 1 - PM PEAK HOUR LEVEL OF SERVICE
 JACKSON PARK PHASE III - CHEHALIS
 TRANSPORTATION AND PARKING IMPACT ANALYSIS

INTERSECTION	APPROACH	2022 EXISTING	2027 W/O PROJECT	2027 W/ PROJECT
1. SW Salsbury Ave. at Jackson Hwy	Overall EB	A (0.6) B (11.8)	A (0.6) B (12.3)	A (0.7) B (12.3)
2. SW 21 st St. at S. Market Blvd.-Jackson Hwy	Overall NB	A (0.5) B (13.7)	A (0.5) B (14.7)	A (0.7) C (15.3)
3. SW 20 th St. at S. Market Blvd.	Overall NB	A (1.4) C (16.4)	A (1.6) C (18.3)	A (1.6) C (18.7)
I. SW 21 st St. at SW Salsbury Ave	Overall	--	--	A*
I. Site access on SW 21 st Street	Overall WB	-- --	-- --	A* A*

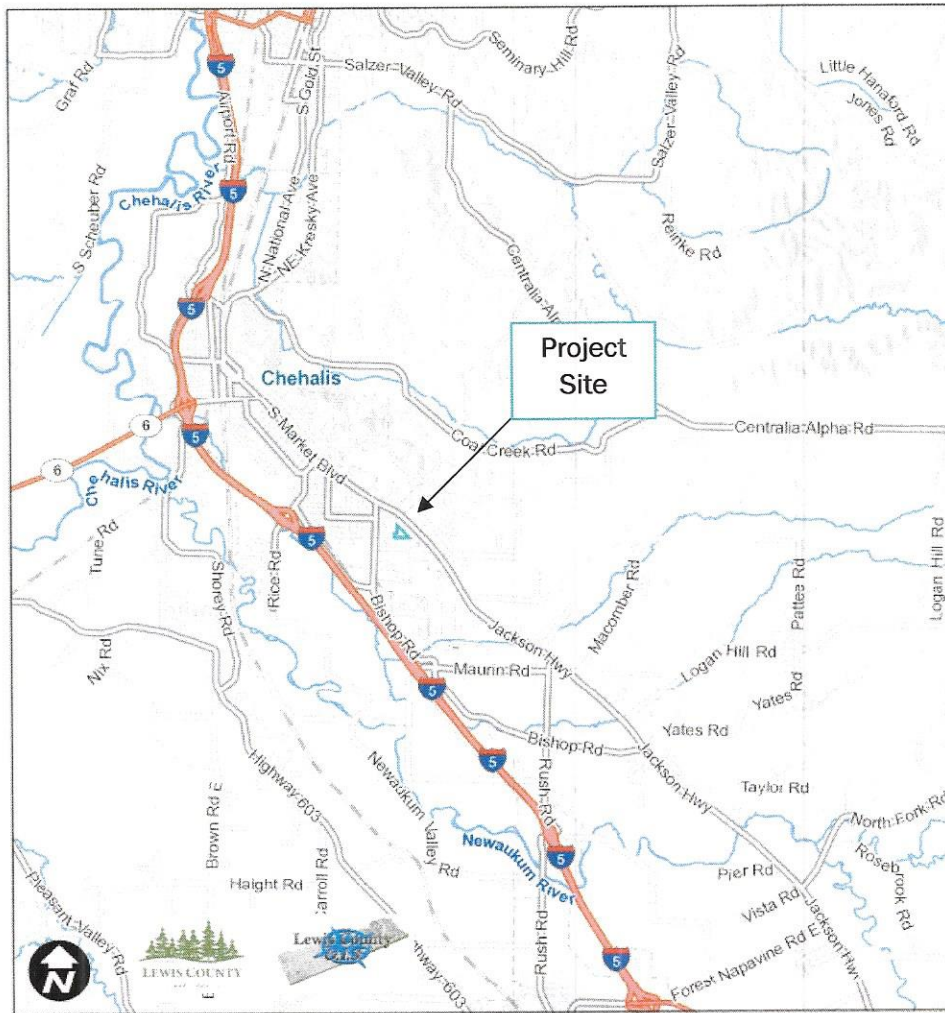
* - LOS via Traffic Engineering Inspection

Number shown in parenthesis is the average control delay in seconds per vehicle for the intersection as a whole or approach movement, which determines the LOS per the Highway Capacity Manual.

Project: Jackson Park Phase III – Chehalis
Location: East side of SW 21st St. ~620' north of SW Salsbury Avenue



NORTH



JTE, Inc.
FIGURE 1

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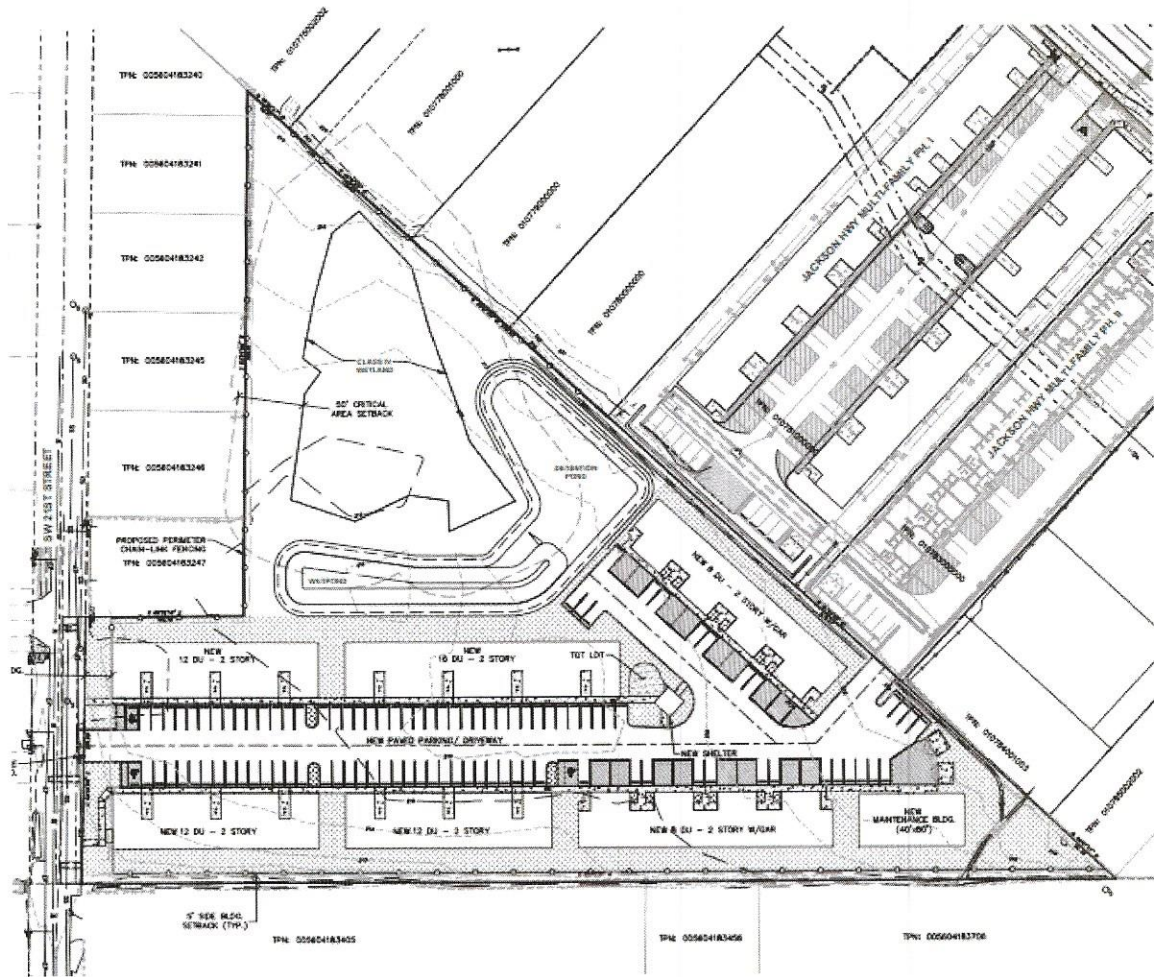
JACKSON PARK III – CHEHALIS
TRANSPORTATION AND PARKING IMPACT ANALYSIS

VICINITY MAP

Project: Jackson Park Phase III – Chehalis
Location: East side of SW 21st St. ~620' north of SW Salsbury Avenue



NORTH



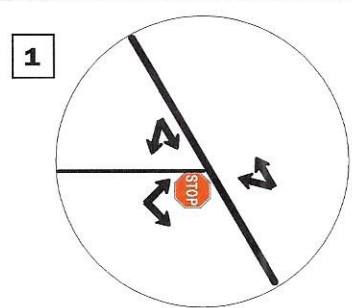
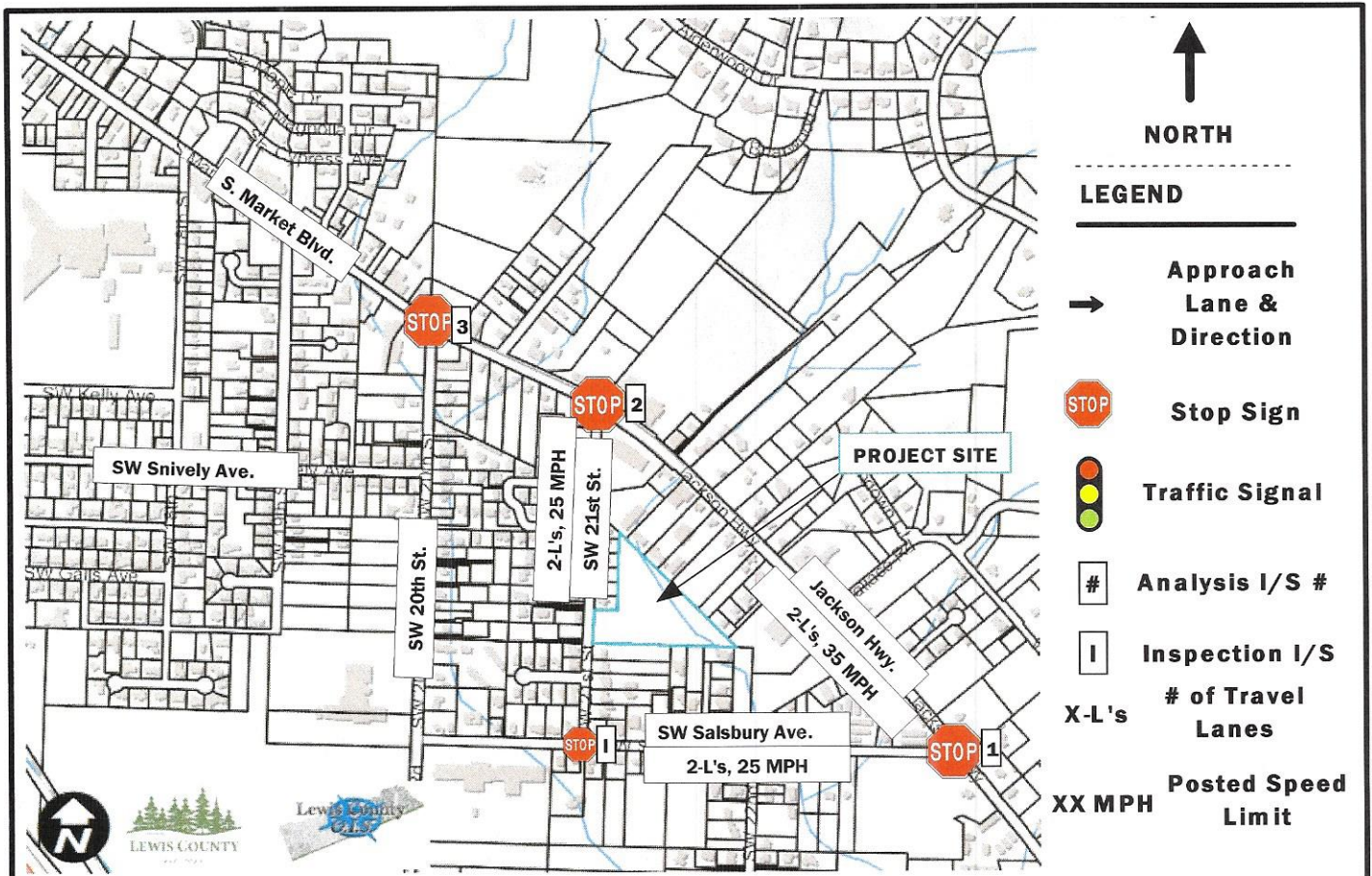
Note: An 8.5 x 11" copy of the Site Plan is included with this report

JTE, Inc.
FIGURE 2

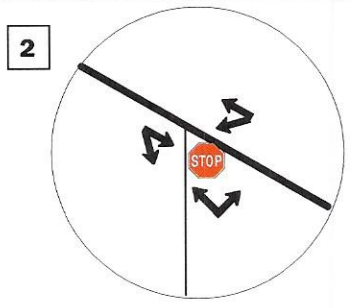
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JACKSON PARK III – CHEHALIS
TRANSPORTATION AND PARKING IMPACT ANALYSIS

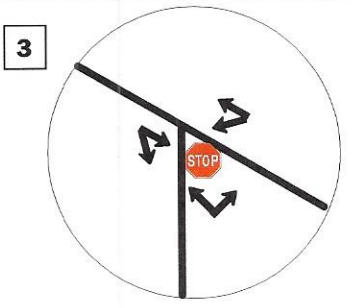
PRELIMINARY SITE PLAN



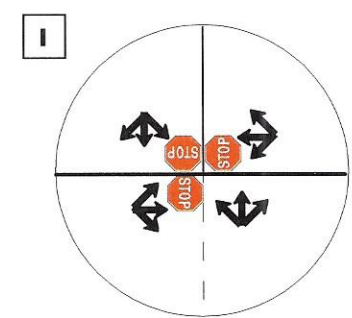
1
Jackson Hwy. at
SW Salsbury Ave.



2
S. Market Blvd. - Jackson Hwy.
at SW 21st St.



3
S. Market Blvd at
SW 20th St.



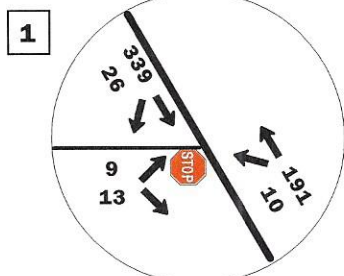
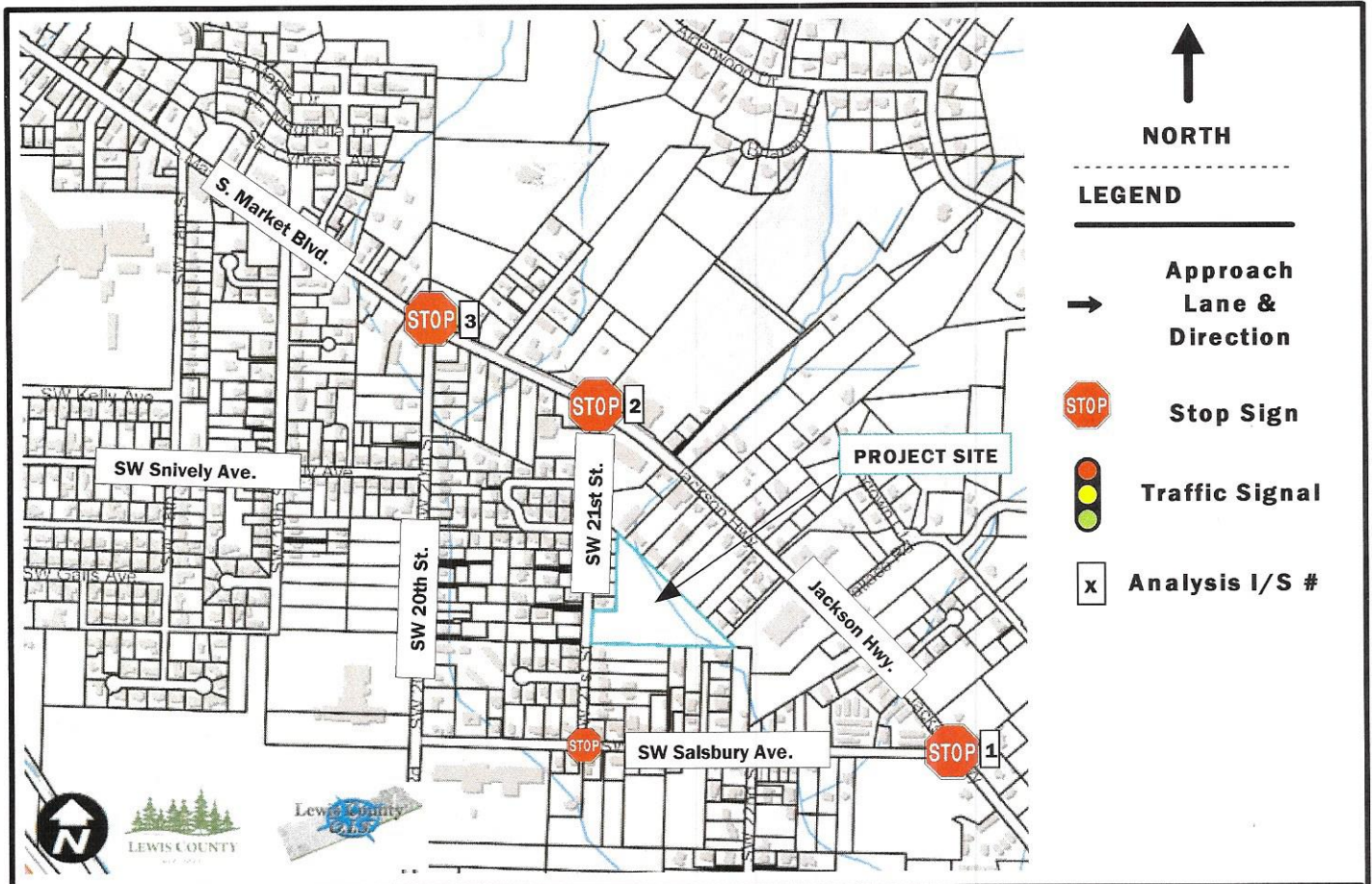
I
SW 21st St. at
SW Salsbury Ave.

JTE, Inc.
FIGURE 3

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**JACKSON PARK PHASE III - CHEHALIS
TRANSPORTATION AND PARKING IMPACT ANALYSIS**

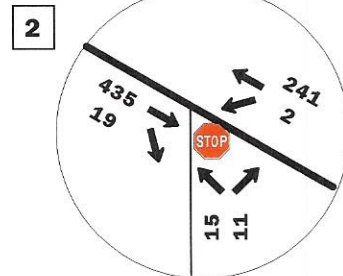
EXISTING STREET CONDITIONS



1

Jackson Hwy. at
SW Salsbury Ave.

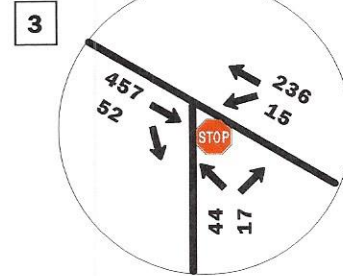
Wednesday 03.02.2022
1630 - 1730



2

Jackson Hwy. at
SW 21st St.

Wednesday 03.02.2022
1630 - 1730



3

S. Market Blvd at
SW 20th St.

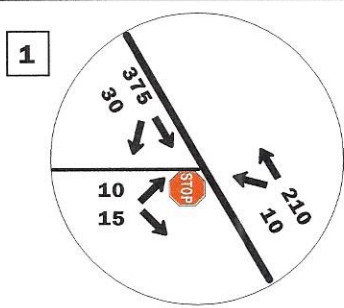
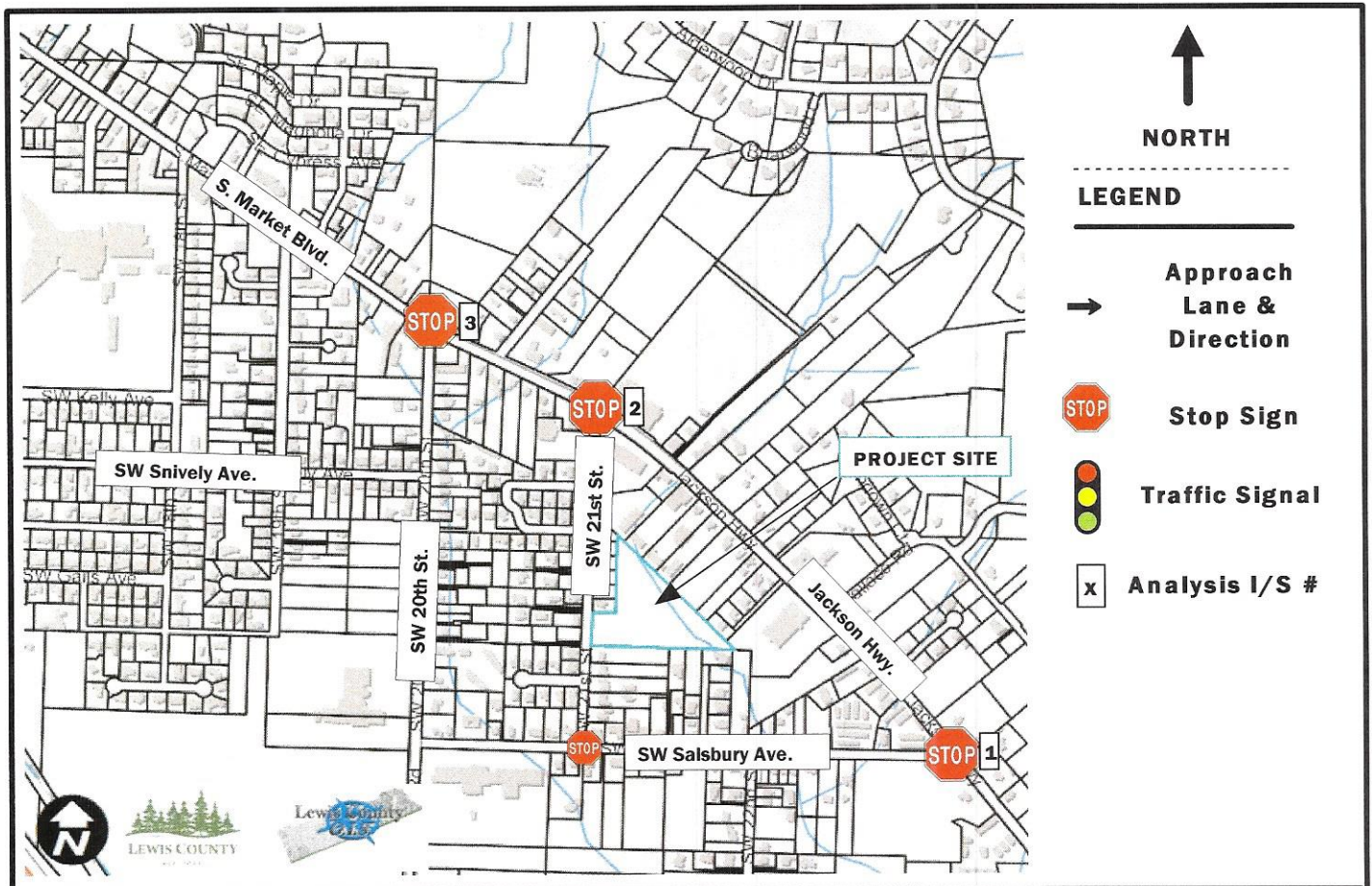
Tuesday 03.29.2022
1630 - 1730

JTE, Inc.
FIGURE 4

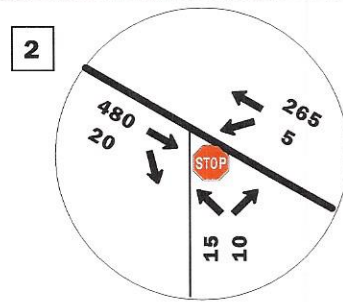
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**JACKSON PARK PHASE III - CHEHALIS
TRANSPORTATION AND PARKING IMPACT ANALYSIS**

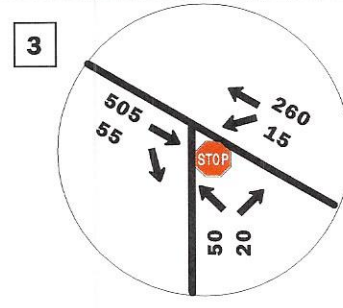
EXISTING PM PEAK HOUR TRAFFIC VOLUMES



Jackson Hwy. at SW Salsbury Ave.



Jackson Hwy. at SW 21st St.

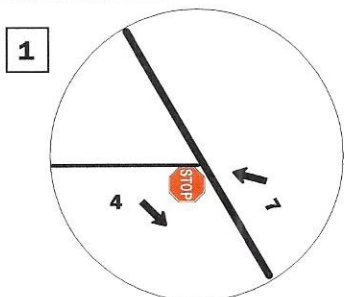
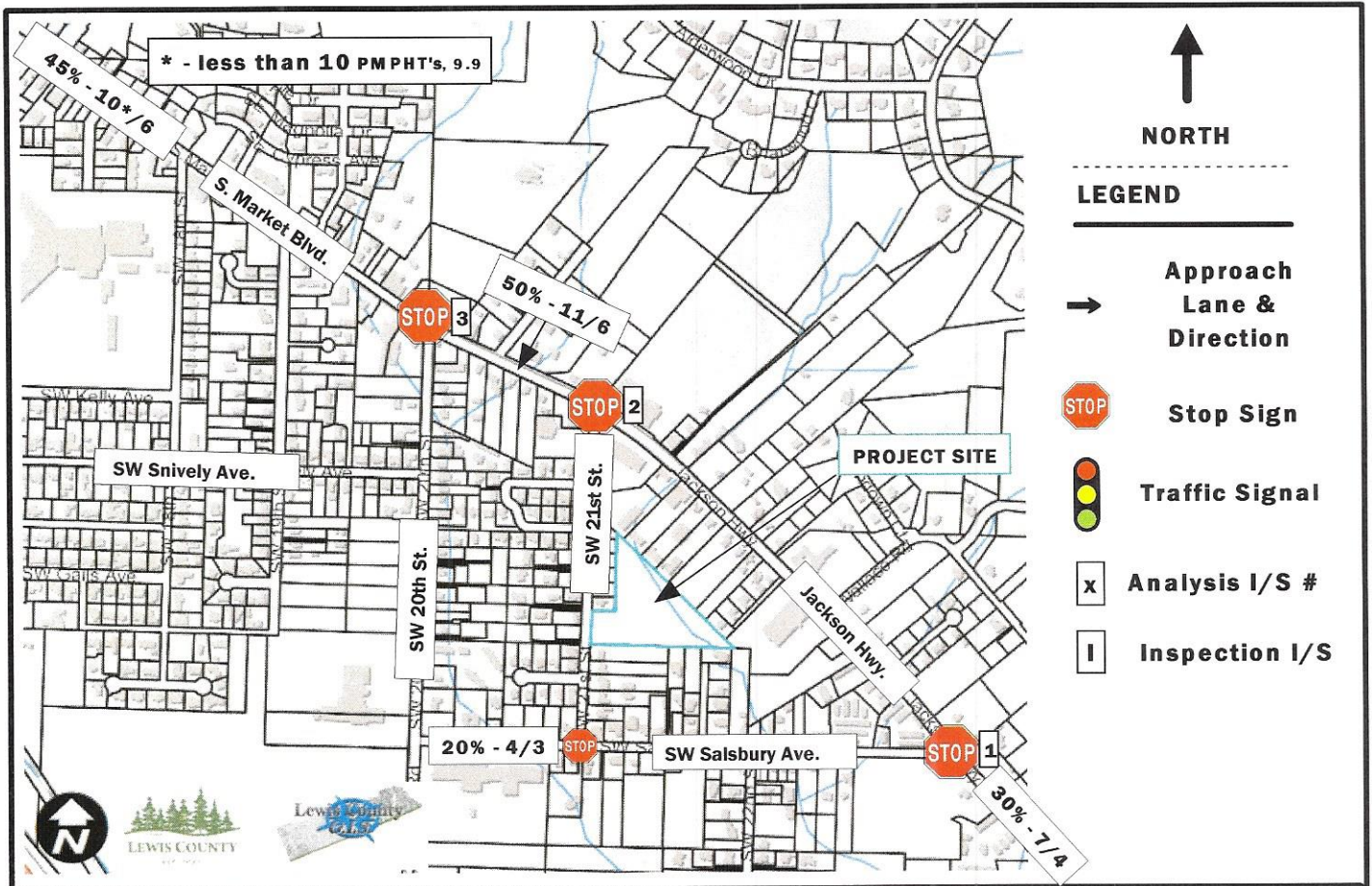


S. Market Blvd at SW 20th St.

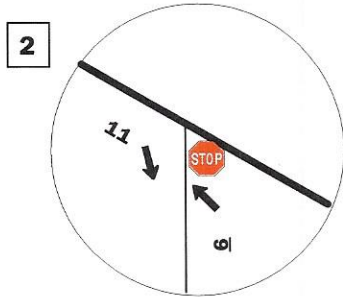
JTE, Inc.
FIGURE 5

Reprint in Color Only

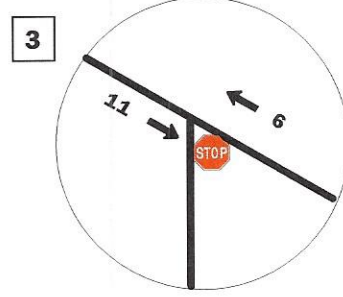
**JACKSON PARK PHASE III - CHEHALIS
TRANSPORTATION AND PARKING IMPACT ANALYSIS
PROJECTED 2027 PM PEAK HOUR TRAFFIC VOLUMES
WITHOUT THE PROJECT**



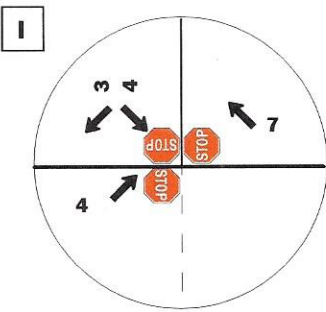
Jackson Hwy. at SW Salsbury Ave.



Jackson Hwy. at SW 21st St.



S. Market Blvd at SW 20th St.



SW 21st St. at SW Salsbury Ave.

NET NEW SITE GENERATED PM PEAK HOUR TRIPS				
Direction	Total	Site Access	(Existing)	Net New
Enter	22	22	-	22
Exit	13	13	-	13
Total	35	35	-	35

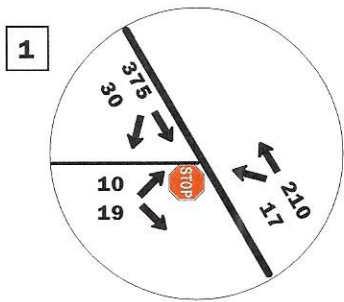
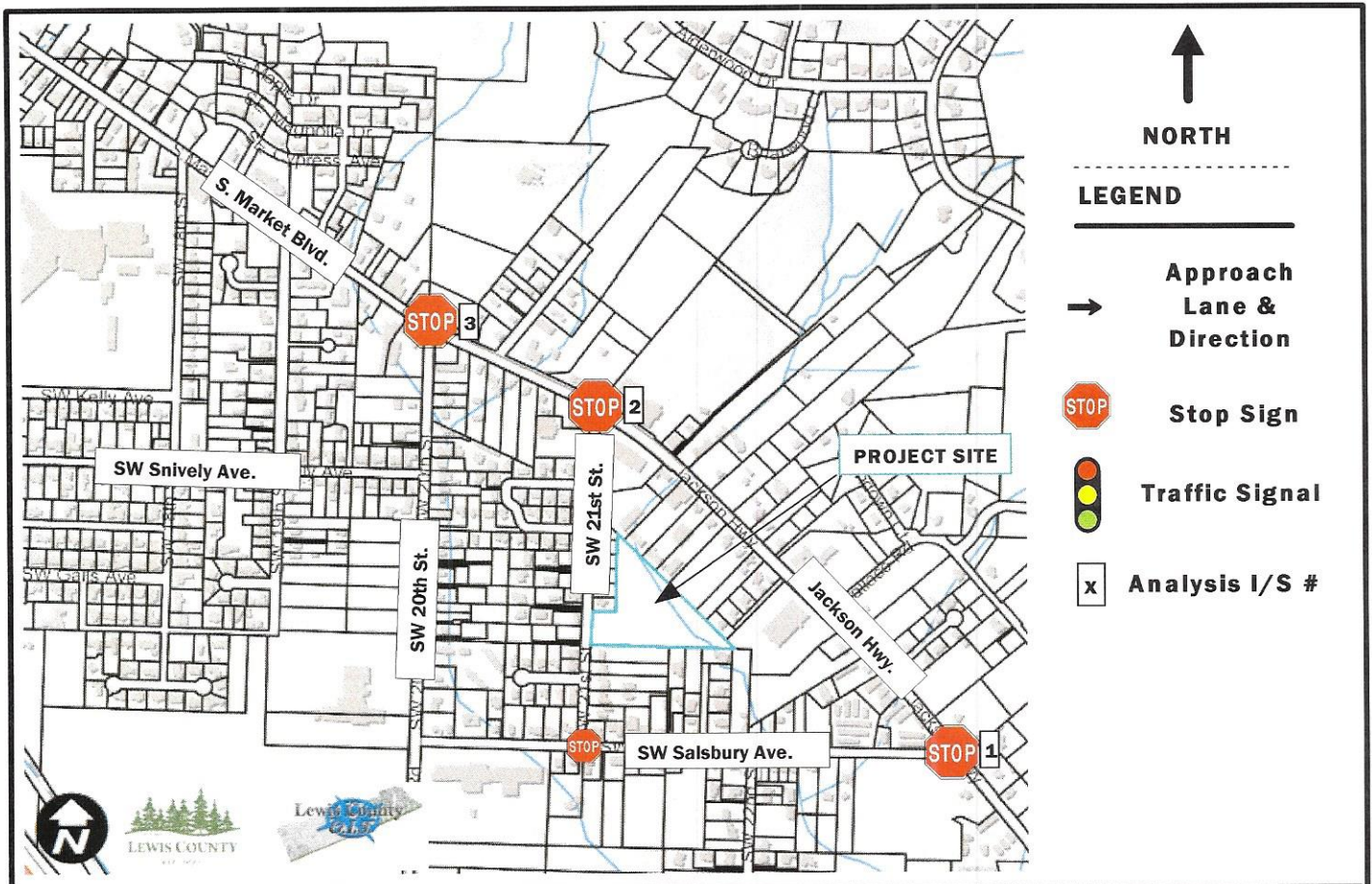
Note: Rounding can result in minor trip differential

xx% distribution - enter/exit PMPHT's

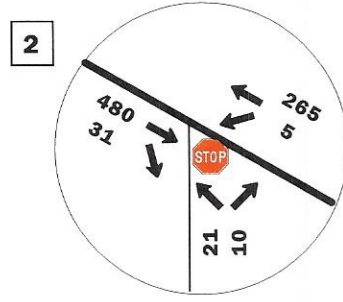
JTE, Inc.
FIGURE 6

Reprint in Color Only

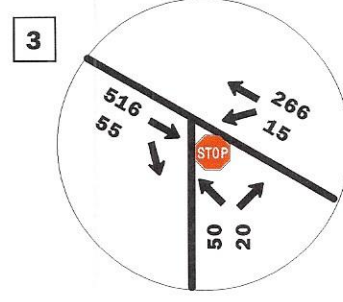
**JACKSON PARK PHASE III - CHEHALIS
TRANSPORTATION AND PARKING IMPACT ANALYSIS
PROJECTED GENERATED PM PEAK HOUR TRAFFIC VOLUMES
AND DISTRIBUTION**



Jackson Hwy. at SW Salsbury Ave.



Jackson Hwy. at SW 21st St.



S. Market Blvd at SW 20th St.


JTE, Inc.
FIGURE 7

Reprint in Color Only

**JACKSON PARK PHASE III - CHEHALIS
TRANSPORTATION AND PARKING IMPACT ANALYSIS
PROJECTED 2027 PM PEAK HOUR TRAFFIC VOLUMES
WITH THE PROJECT**

APPENDIX

1



Prepared for: **Jake Traffic**

Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com



WBE/DBE

Intersection: Jackson Hwy & SW Salisbury Ave **Date of Count:** Wed 03/02/2022

Location: Chehalis, Washington **Checked By:** Jen

Time Interval Ending at	From North on (SB) Jackson Hwy				From South on (NB) Jackson Hwy				From East on (WB) 0				From West on (EB) SW Salisbury Ave				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	0	66	3	0	2	62	0	0	0	0	0	0	0	0	6	139
4:30 P	0	0	87	2	0	4	44	0	0	0	0	0	0	2	0	3	142
4:45 P	1	0	69	9	1	2	54	0	0	0	0	0	0	2	0	4	140
5:00 P	0	0	83	5	0	3	50	0	0	0	0	0	0	3	0	2	146
5:15 P	0	0	94	7	0	1	45	0	0	0	0	0	0	1	0	2	150
5:30 P	0	0	93	5	0	4	42	0	0	0	0	0	0	3	0	5	152
5:45 P	0	0	61	6	0	2	42	0	0	0	0	0	0	4	0	2	117
6:00 P	0	0	61	6	2	2	44	0	0	0	0	0	0	2	0	1	116
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Survey	1	0	614	43	3	20	383	0	0	0	0	0	0	17	0	25	1102
Peak Hour: 4:30 PM to 5:30 PM																	
Total	1	0	339	26	1	10	191	0	0	0	0	0	0	9	0	13	588
Approach	365				201				0				22				588
%HV	0.3%				0.5%				n/a				n/a				0.3%
PHF	0.90				0.90				n/a				0.69				0.97

Jackson Hwy

565

365

200

26

339

36 Ped 0

Bike 0

58

9

22

13

4:30 PM to 5:30 PM

Ped 0

Bike 0

10

191

352

201

553

Jackson Hwy

Bicycles From:

	N	S	E	W
INT 01	0	0	0	0
INT 02	0	0	0	0
INT 03	1	0	0	0
INT 04	0	0	0	0
INT 05	0	0	0	0
INT 06	0	0	0	0
INT 07	0	0	0	0
INT 08	0	0	0	0
INT 09				
INT 10				
INT 11				
INT 12				
	1	0	0	0

Special Notes

608 1.0 PHF Peak Hour Volume

		PHF %HV	
Check	EB	0.69	n/a
	WB	n/a	n/a
In:	NB	0.90	0.5%
Out:	SB	0.90	0.3%
	T Int.	0.97	0.3%

Conditions:

JTE22019M_02P



Prepared for: **Jake Traffic**
Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

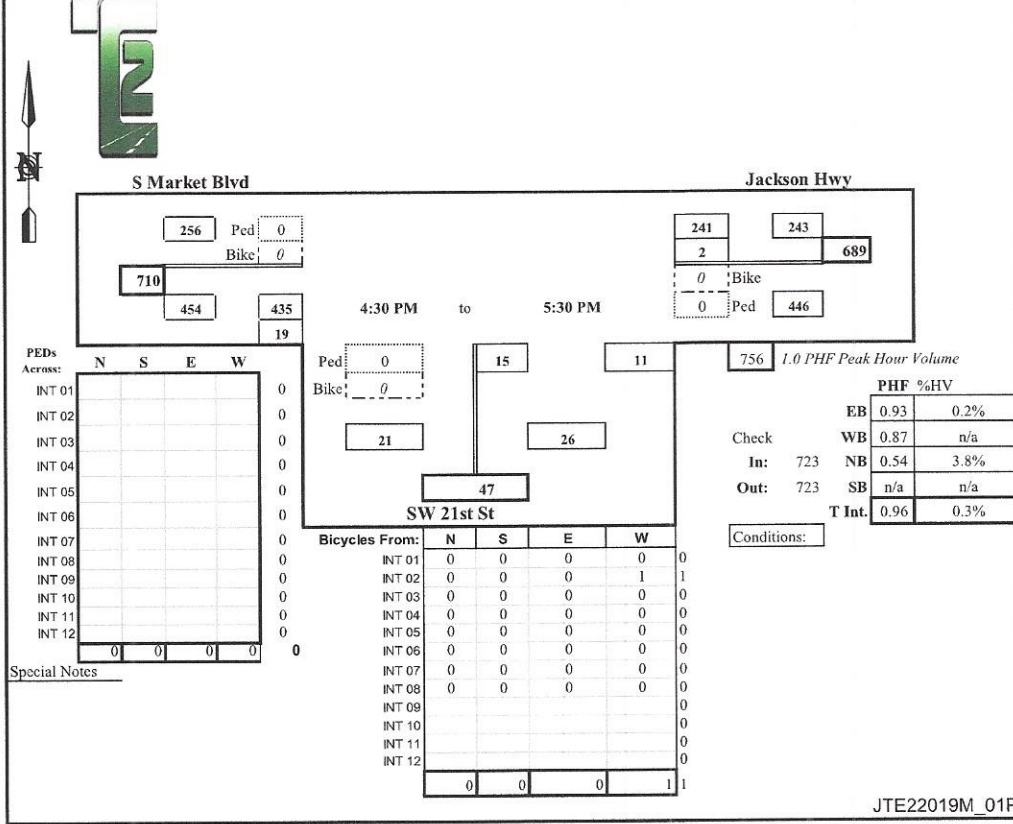
WBE/DBE

Intersection: SW 21st St & Jackson Hwy/S Market Blvd
 Location: Chehalis, Washington

Date of Count: Wed 03/02/2022
 Checked By: Jen

Time Interval Ending at	From North on (SB) 0				From South on (NB) SW 21st St				From East on (WB) Jackson Hwy				From West on (EB) S Market Blvd				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	0	0	0	0	6	0	0	0	0	71	0	0	0	86	6	169
4:30 P	0	0	0	0	1	2	0	1	0	0	64	0	0	0	105	1	173
4:45 P	0	0	0	0	0	4	0	3	0	1	69	0	1	0	105	3	185
5:00 P	0	0	0	0	0	2	0	3	0	0	58	0	0	0	96	9	168
5:15 P	0	0	0	0	0	1	0	1	0	1	56	0	0	0	118	4	181
5:30 P	0	0	0	0	1	8	0	4	0	0	58	0	0	0	116	3	189
5:45 P	0	0	0	0	0	1	0	0	0	1	52	0	0	0	70	1	125
6:00 P	0	0	0	0	0	3	0	0	2	3	44	0	0	0	78	0	128
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Survey	0	0	0	0	2	27	0	12	2	6	472	0	1	0	774	27	1318
Peak Hour: 4:30 PM to 5:30 PM																	
Total	0	0	0	0	1	15	0	11	0	2	241	0	1	0	435	19	723
Approach	0				26				243				454				723
%HV	n/a				3.8%				n/a				0.2%				0.3%
PHF	n/a				0.54				0.87				0.93				0.96





Prepared for: **Jake Traffic**
Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: SW 20th St & S Market Blvd
Location: Chehalis, Washington

Date of Count: Tue 03/29/2022
Checked By: Jen

Time Interval Ending at	From North on (SB)				From South on (NB)				From East on (WB)				From West on (EB)				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	0	0	0	1	19	0	5	0	1	68	0	1	0	107	14	214
4:30 P	0	0	0	0	0	19	0	8	1	2	65	0	0	0	88	12	194
4:45 P	0	0	0	0	0	13	0	4	4	3	60	0	0	0	107	12	199
5:00 P	0	0	0	0	0	9	0	11	1	5	74	0	0	0	94	9	202
5:15 P	0	0	0	0	0	8	0	1	0	2	56	0	0	0	128	18	213
5:30 P	0	0	0	0	0	14	0	1	2	5	46	0	0	0	128	13	207
5:45 P	0	0	0	0	0	8	0	2	0	3	46	0	1	0	98	11	168
6:00 P	0	0	0	0	0	4	0	5	0	7	52	0	0	0	100	23	191
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Survey	0	0	0	0	1	94	0	37	8	28	467	0	2	0	850	112	1588
Peak Hour: 4:30 PM to 5:30 PM																	
Total	0	0	0	0	0	44	0	17	7	15	236	0	0	0	457	52	821

Approach	0				61				251				509				821
%HV	n/a				n/a				2.8%				n/a				0.9%
PHF	n/a				0.76				0.79				0.87				0.96

PEDS Across:

	N	S	E	W	
INT 01	4	1	0	0	5
INT 02	0	0	0	0	0
INT 03	0	0	0	0	0
INT 04	0	0	0	0	0
INT 05	0	3	0	0	3
INT 06	0	1	0	0	1
INT 07	2	1	0	1	4
INT 08	0	0	0	2	2
INT 09					0
INT 10					0
INT 11					0
INT 12					0
Total	6	6	0	3	15

Bicycles From:

	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06					0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
Total	0	0	0	0	0

PHF Peak Hour Volume 1.0 PHF

PHF %HV

Check	EB	0.87	n/a
	WB	0.79	2.8%
In: 821	NB	0.76	n/a
Out: 821	SB	n/a	n/a
T Int.		0.96	0.9%

Conditions:

①
2015



Prepared for: **Jake Traffic Engineering, Inc.**

Traffic Count Consultants, Inc.

Phone: (253) 926-6009 FAX: (253) 922-7211 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Jackson Hwy & SW Salsbury Ave

Date of Count: Wednesday 12/02/2015

Location: Chehalis, Washington

Checked By: Jess

Time Interval Ending at	From North on (SB) Jackson Hwy				From South on (NB) Jackson Hwy				From East on (WB) 0				From West on (EB) SW Salsbury Ave				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	0	86	3	2	2	66	0	0	0	0	0	0	1	0	6	164
4:30 P	0	0	66	0	0	2	43	0	0	0	0	0	0	2	0	6	119
4:45 P	0	0	80	1	1	2	63	0	0	0	0	0	0	3	0	2	151
5:00 P	1	0	88	3	1	5	42	0	0	0	0	0	0	1	0	2	141
5:15 P	0	0	98	0	0	3	37	0	0	0	0	0	0	0	0	6	144
5:30 P	0	0	90	0	0	1	36	0	0	0	0	0	0	1	0	7	135
5:45 P	0	0	72	2	0	1	38	0	0	0	0	0	0	1	0	3	117
6:00 P	0	0	58	3	2	3	42	0	0	0	0	0	0	2	0	1	109
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Survey	1	0	638	12	6	19	367	0	0	0	0	0	0	11	0	33	1080
--------------	---	---	-----	----	---	----	-----	---	---	---	---	---	---	----	---	----	------

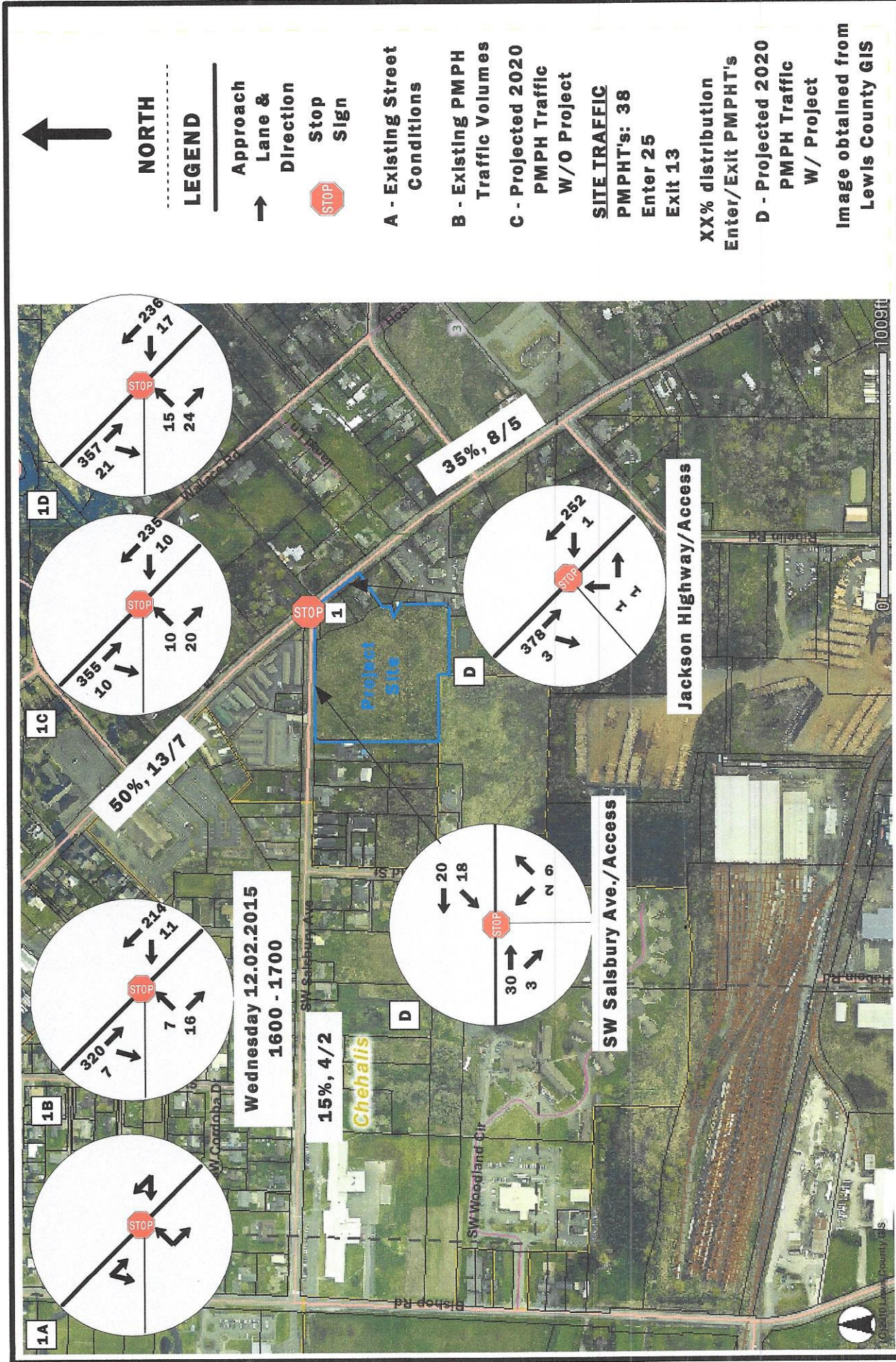
Peak Hour: 4:00 PM to 5:00 PM																	
Total	1	0	320	7	4	11	214	0	0	0	0	0	0	7	0	16	575
Approach	327				225				0				23				575
%HV	0.3%				1.8%				n/a				n/a				0.9%
PHF	0.90				0.83				n/a				0.72				0.88

656 1.0 PHF Peak Hour Volume

Check	PHF %HV			
	EB	WB	NB	SB
In:	0.72	n/a	0.83	1.8%
Out:	n/a	n/a	0.90	0.3%
T Int.	0.88			0.9%

INT	Bicycles From:				Total
	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06					0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

Special Notes



JTE, Inc.
FIGURE 3
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JACKSON VILLA III - LEWIS COUNTY
TRAFFIC IMPACT ANALYSIS

TRAFFIC INFORMATION

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			↑		↑
Traffic Vol, veh/h	9	13	10	191	339	26
Future Vol, veh/h	9	13	10	191	339	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	14	11	208	368	28

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	612	382	396	0	-	0
Stage 1	382	-	-	-	-	-
Stage 2	230	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	456	665	1163	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	808	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	451	665	1163	-	-	-
Mov Cap-2 Maneuver	451	-	-	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	808	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1163	-	557	-	-
HCM Lane V/C Ratio	0.009	-	0.043	-	-
HCM Control Delay (s)	8.1	0	11.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection

Int Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	435	19	2	241	15	11
Future Vol, veh/h	435	19	2	241	15	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	473	21	2	262	16	12

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	494	0	750
Stage 1	-	-	-	-	484
Stage 2	-	-	-	-	266
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1070	-	379
Stage 1	-	-	-	-	620
Stage 2	-	-	-	-	779
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1070	-	378
Mov Cap-2 Maneuver	-	-	-	-	378
Stage 1	-	-	-	-	620
Stage 2	-	-	-	-	777

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	444	-	-	1070	-
HCM Lane V/C Ratio	0.064	-	-	0.002	-
HCM Control Delay (s)	13.7	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔		↔	
Traffic Vol, veh/h	457	52	15	236	44	17
Future Vol, veh/h	457	52	15	236	44	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	497	57	16	257	48	18

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	554	0	815 526
Stage 1	-	-	-	-	526 -
Stage 2	-	-	-	-	289 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1016	-	347 552
Stage 1	-	-	-	-	593 -
Stage 2	-	-	-	-	760 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1016	-	341 552
Mov Cap-2 Maneuver	-	-	-	-	341 -
Stage 1	-	-	-	-	593 -
Stage 2	-	-	-	-	746 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	16.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	382	-	-	1016	-
HCM Lane V/C Ratio	0.174	-	-	0.016	-
HCM Control Delay (s)	16.4	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	10	15	10	210	375	30
Future Vol, veh/h	10	15	10	210	375	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	16	11	228	408	33

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	675	425	441	0	-	0
Stage 1	425	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	419	629	1119	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	792	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	414	629	1119	-	-	-
Mov Cap-2 Maneuver	414	-	-	-	-	-
Stage 1	652	-	-	-	-	-
Stage 2	792	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1119	-	521	-	-
HCM Lane V/C Ratio	0.01	-	0.052	-	-
HCM Control Delay (s)	8.2	0	12.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↶	↷
Traffic Vol, veh/h	480	20	5	265	15	10
Future Vol, veh/h	480	20	5	265	15	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	522	22	5	288	16	11

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	544	0	831 533
Stage 1	-	-	-	-	533 -
Stage 2	-	-	-	-	298 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1025	-	340 547
Stage 1	-	-	-	-	588 -
Stage 2	-	-	-	-	753 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1025	-	338 547
Mov Cap-2 Maneuver	-	-	-	-	338 -
Stage 1	-	-	-	-	588 -
Stage 2	-	-	-	-	748 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	399	-	-	1025	-
HCM Lane V/C Ratio	0.068	-	-	0.005	-
HCM Control Delay (s)	14.7	-	-	8.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	↙
Traffic Vol, veh/h	505	55	15	260	50	20
Future Vol, veh/h	505	55	15	260	50	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	549	60	16	283	54	22

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	609	0	894
Stage 1	-	-	-	-	579
Stage 2	-	-	-	-	315
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	970	-	312
Stage 1	-	-	-	-	560
Stage 2	-	-	-	-	740
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	970	-	306
Mov Cap-2 Maneuver	-	-	-	-	306
Stage 1	-	-	-	-	560
Stage 2	-	-	-	-	725

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	18.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	346	-	-	970	-
HCM Lane V/C Ratio	0.22	-	-	0.017	-
HCM Control Delay (s)	18.3	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	10	19	17	210	375	30
Future Vol, veh/h	10	19	17	210	375	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	21	18	228	408	33

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	689	425	441	0	-	0
Stage 1	425	-	-	-	-	-
Stage 2	264	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	412	629	1119	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	405	629	1119	-	-	-
Mov Cap-2 Maneuver	405	-	-	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	780	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1119	-	528	-	-
HCM Lane V/C Ratio	0.017	-	0.06	-	-
HCM Control Delay (s)	8.3	0	12.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↶	↷
Traffic Vol, veh/h	480	31	5	265	21	10
Future Vol, veh/h	480	31	5	265	21	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	522	34	5	288	23	11

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	556	0	837 539
Stage 1	-	-	-	-	539 -
Stage 2	-	-	-	-	298 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1015	-	337 542
Stage 1	-	-	-	-	585 -
Stage 2	-	-	-	-	753 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1015	-	335 542
Mov Cap-2 Maneuver	-	-	-	-	335 -
Stage 1	-	-	-	-	585 -
Stage 2	-	-	-	-	748 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	382	-	-	1015	-
HCM Lane V/C Ratio	0.088	-	-	0.005	-
HCM Control Delay (s)	15.3	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection						
Int Delay, s/veh	1.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔		↔	
Traffic Vol, veh/h	516	55	15	266	50	20
Future Vol, veh/h	516	55	15	266	50	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	561	60	16	289	54	22

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	621	0	591
Stage 1	-	-	-	-	591
Stage 2	-	-	-	-	321
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	960	-	304
Stage 1	-	-	-	-	553
Stage 2	-	-	-	-	735
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	960	-	298
Mov Cap-2 Maneuver	-	-	-	-	298
Stage 1	-	-	-	-	553
Stage 2	-	-	-	-	720

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	18.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	338	-	-	960	-
HCM Lane V/C Ratio	0.225	-	-	0.017	-
HCM Control Delay (s)	18.7	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Summary Reports - Total Crashes by Year

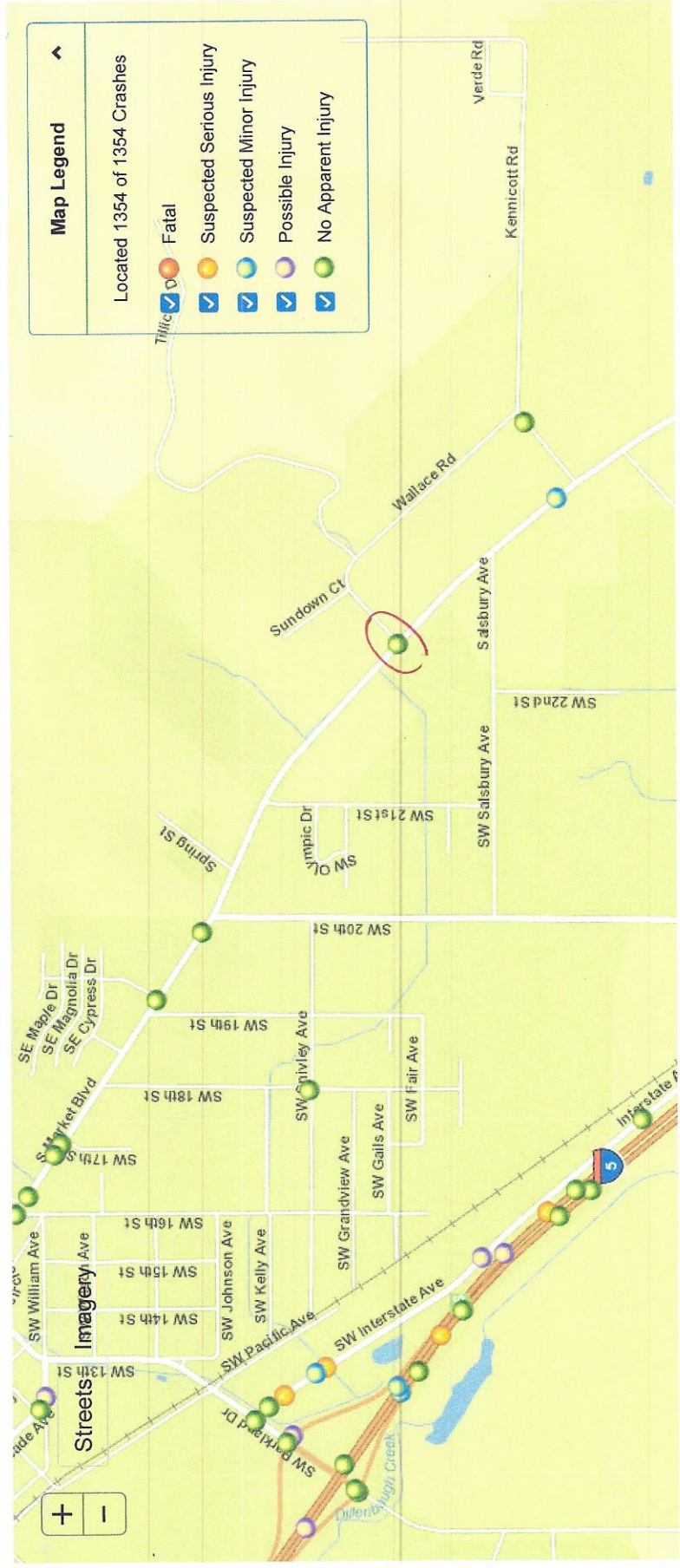
Report Year: 2021

Report Location: Lewis County

Report Jurisdiction: All Roads

Under 23 U.S. Code 148 and 23 U.S. Code 409, safety data, reports, surveys, schedules, list compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such report, surveys, schedules, lists, or data.

Data Charts Notes Map Additional crash data available by clicking on map marker.



(http://www.wsdot.wa.gov)

Summary Reports - Total Crashes by Year

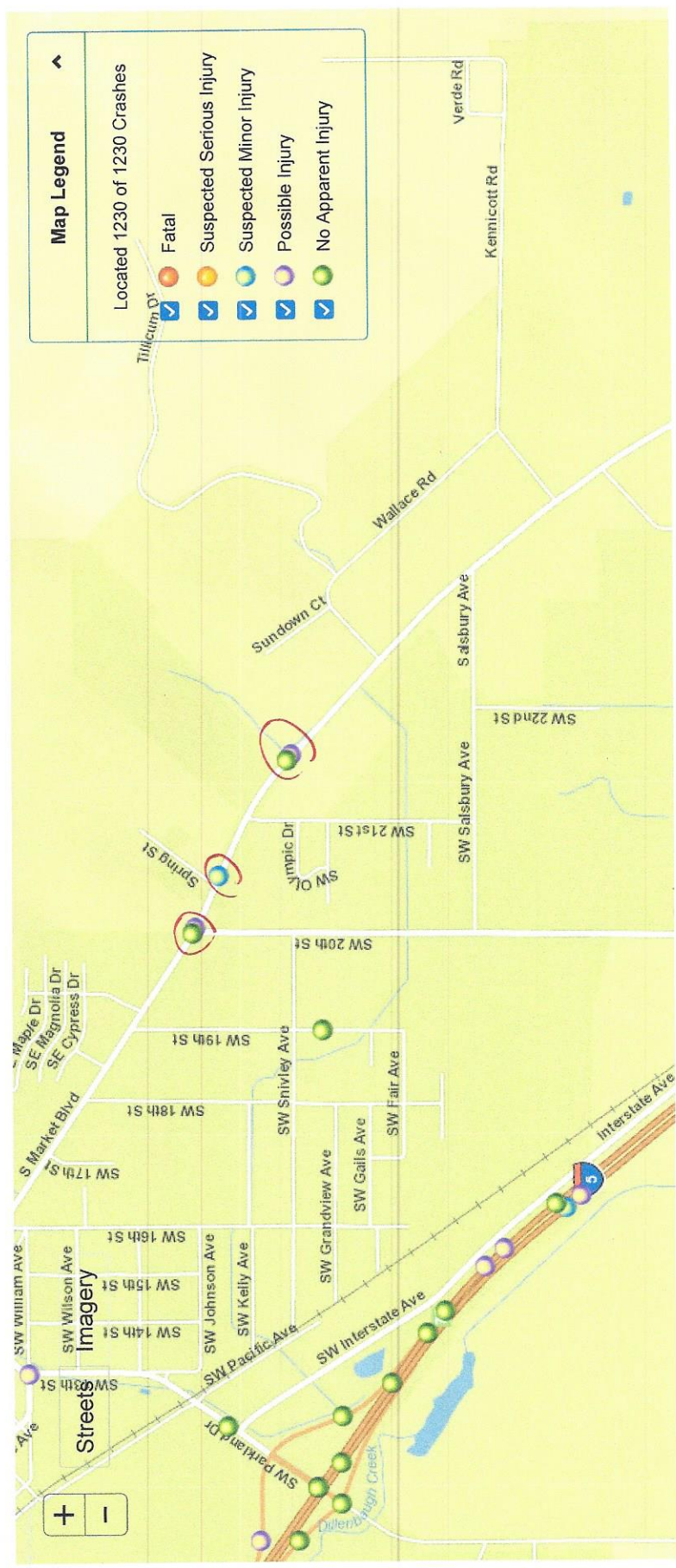
Report Year: 2020

Report Location: Lewis County

Report Jurisdiction: All Roads

Under 23 U.S. Code 148 and 23 U.S. Code 409, safety data, reports, surveys, schedules, list compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such report, surveys, schedules, lists, or data.

Data Charts Notes Map Additional crash data available by clicking on map marker.



Summary Reports - Total Crashes by Year

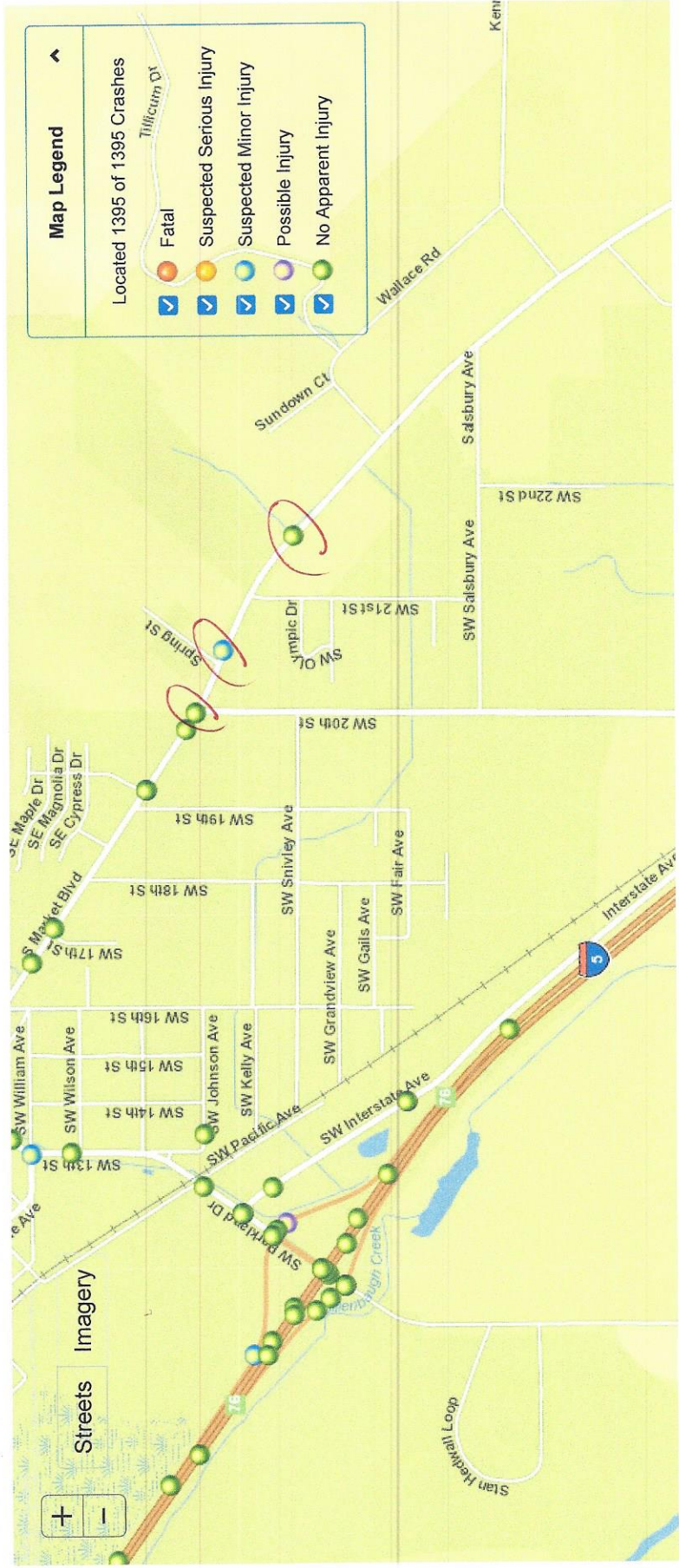
Report Year: 2019

Report Location: Lewis County

Report Jurisdiction: All Roads

Under 23 U.S. Code 148 and 23 U.S. Code 409, safety data, reports, surveys, schedules, list compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such report, surveys, schedules, lists, or data.

Data Charts Notes Map Additional crash data available by clicking on map marker.



(http://www.wsdot.wa.gov)

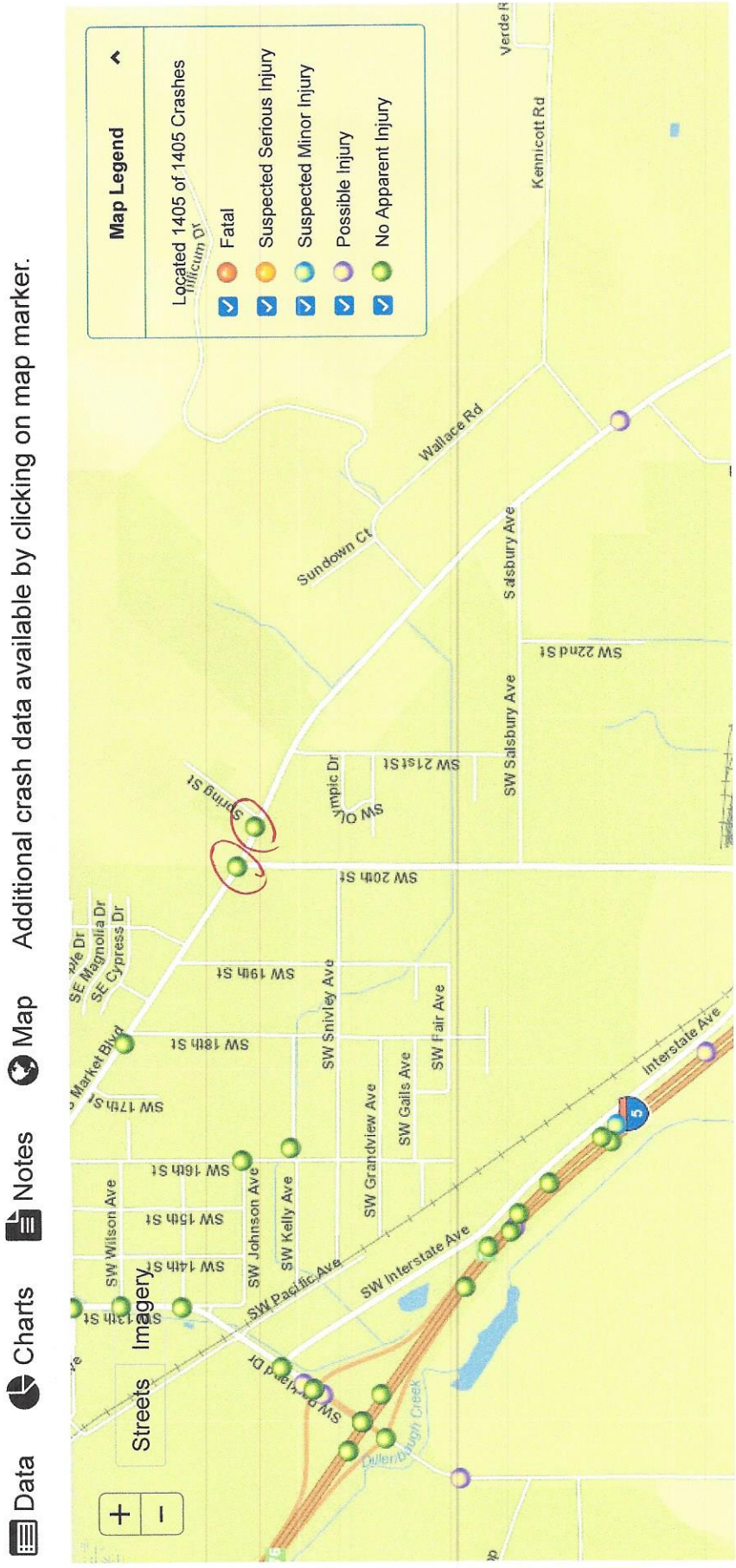
Summary Reports - Total Crashes by Year

Report Year: 2018

Report Location: Lewis County

Report Jurisdiction: All Roads

Under 23 U.S. Code 148 and 23 U.S. Code 409, safety data, reports, surveys, schedules, list compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such report, surveys, schedules, lists, or data.



Summary Reports - Total Crashes by Year

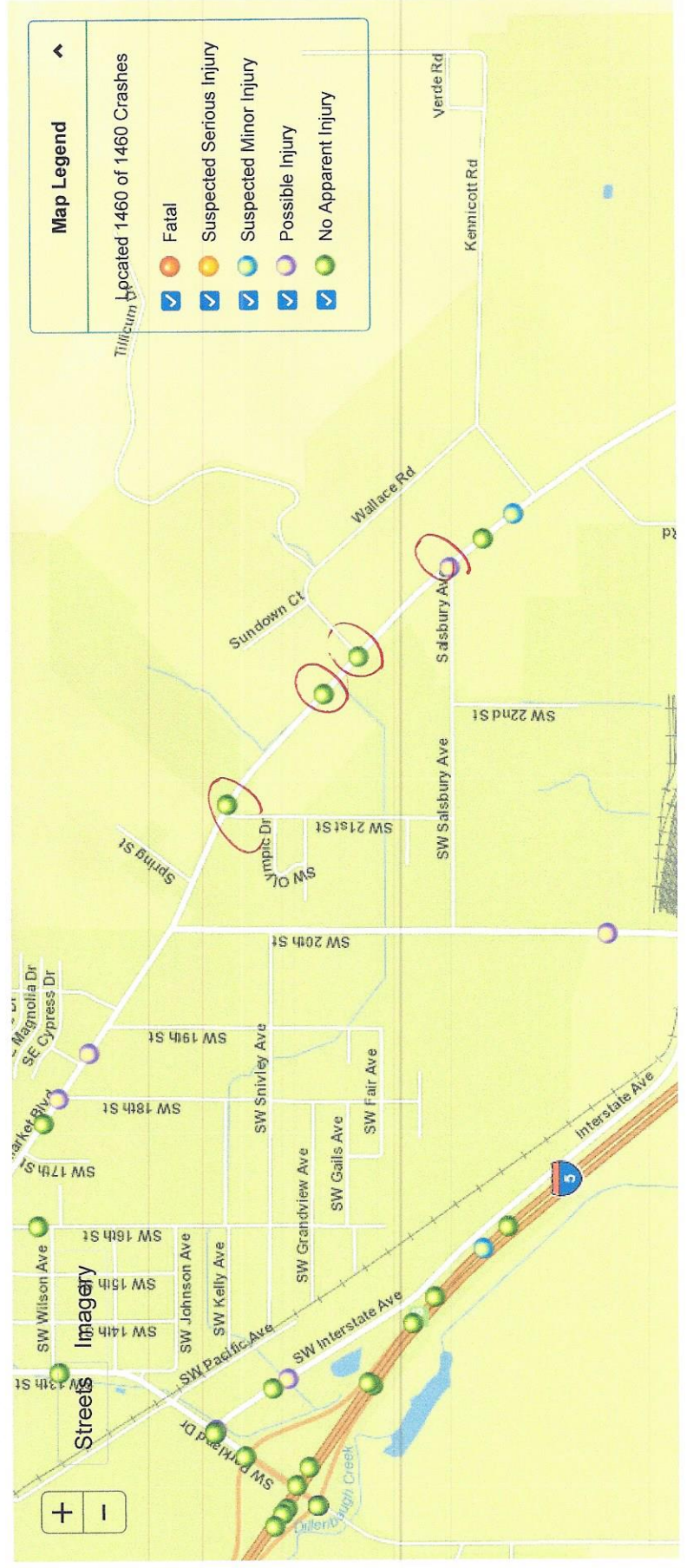
Report Year: 2017

Report Location: Lewis County

Report Jurisdiction: All Roads

Under 23 U.S. Code 148 and 23 U.S. Code 409, safety data, reports, surveys, schedules, list compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such report, surveys, schedules, lists, or data.

Data Charts Notes Map Additional crash data available by clicking on map marker.





American Association of State Highway and Transportation Officials

444 North Capitol Street, NW, Suite 249

Washington, DC 20001

202-624-5800 phone/202-624-5806 fax

www.transportation.org

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at its junction with the major road. For simple unchannelized intersections involving low design speeds and stop or signal control, it may be desirable to warp the crowns of both roads into a plane at the intersection; the appropriate plane depends on the direction of drainage and other conditions. Changes from one cross slope to another should be gradual. Intersections at which a minor road crosses a multilane divided highway with a narrow median on a superelevated curve should be avoided whenever practical because of the difficulty in adjusting grades to provide a suitable crossing. Gradelines of separate turning roadways should be designed to fit the cross slopes and longitudinal grades of the intersection legs.

The alignment and grades are subject to greater constraints at or near intersections than on the open road. At or near intersections, the combination of horizontal and vertical alignment should provide traffic lanes that are clearly visible to drivers at all times, clearly understandable for any desired direction of travel, free from the potential for conflicts to appear suddenly, and consistent in design with the portions of the highway just traveled.

The combination of vertical and horizontal curvature should allow adequate sight distance at an intersection. As discussed in Section 3.5 on “Combinations of Horizontal and Vertical Alignment,” a sharp horizontal curve following a crest vertical curve is undesirable, particularly on intersection approaches.

9.5 INTERSECTION SIGHT DISTANCE

9.5.1 General Considerations

Each intersection has the potential for several different types of vehicular conflicts. The possibility of these conflicts actually occurring can be greatly reduced through the provision of proper sight distances and appropriate traffic controls. The avoidance of conflicts and the efficiency of traffic operations still depend on the judgment, capabilities, and response of each individual driver.

Stopping sight distance is provided continuously along each highway or street so that drivers have a view of the roadway ahead that is sufficient to allow drivers to stop. The provision of stopping sight distance at all locations along each highway or street, including intersection approaches, is fundamental to intersection operation.

Vehicles are assigned the right-of-way at intersections by traffic-control devices or, where no traffic-control devices are present, by the rules of the road. A basic rule of the road, at an intersection where no traffic-control devices are present, requires the vehicle on the left to yield to the vehicle on the right if they arrive at approximately the same time. Sight distance is provided at intersections to allow drivers to perceive the presence of potentially conflicting vehicles. This should occur in sufficient time for a motorist to stop or adjust their speed, as appropriate, to avoid colliding in the intersection. The methods for determining the sight distances needed by drivers approaching intersections are based on the same principles as stopping sight distance, but incorporate modified assumptions based on observed driver behavior at intersections.

The driver of a vehicle approaching an intersection should have an unobstructed view of the entire intersection, including any traffic-control devices, and sufficient lengths along the intersecting highway to permit the driver to anticipate and avoid potential collisions. The sight distance needed under various

assumptions of physical conditions and driver behavior is directly related to vehicle speeds and to the resultant distances traversed during perception-reaction time and braking.

Sight distance is also provided at intersections to allow the drivers of stopped vehicles a sufficient view of the intersecting highway to decide when to enter the intersecting highway or to cross it. If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions. However, in some cases, a major-road vehicle may need to stop or slow to accommodate the maneuver by a minor-road vehicle. To enhance traffic operations, intersection sight distances that exceed stopping sight distances are desirable along the major road.

9.5.2 Sight Triangles

Specified areas along intersection approach legs and across their included corners should be clear of obstructions that might block a driver's view of potentially conflicting vehicles. These specified areas are known as clear sight triangles. The dimensions of the legs of the sight triangles depend on the design speeds of the intersecting roadways and the type of traffic control used at the intersection. These dimensions are based on observed driver behavior and are documented by space-time profiles and speed choices of drivers on intersection approaches (12). Two types of clear sight triangles are considered in intersection design—approach sight triangles and departure sight triangles.

Approach Sight Triangles

Each quadrant of an intersection should contain a triangular area free of obstructions that might block an approaching driver's view of potentially conflicting vehicles. The length of the legs of this triangular area, along both intersecting roadways, should be such that the drivers can see any potentially conflicting vehicles in sufficient time to slow or stop before colliding within the intersection. Figure 9-15A shows typical clear sight triangles to the left and to the right for a vehicle approaching an uncontrolled or yield-controlled intersection.