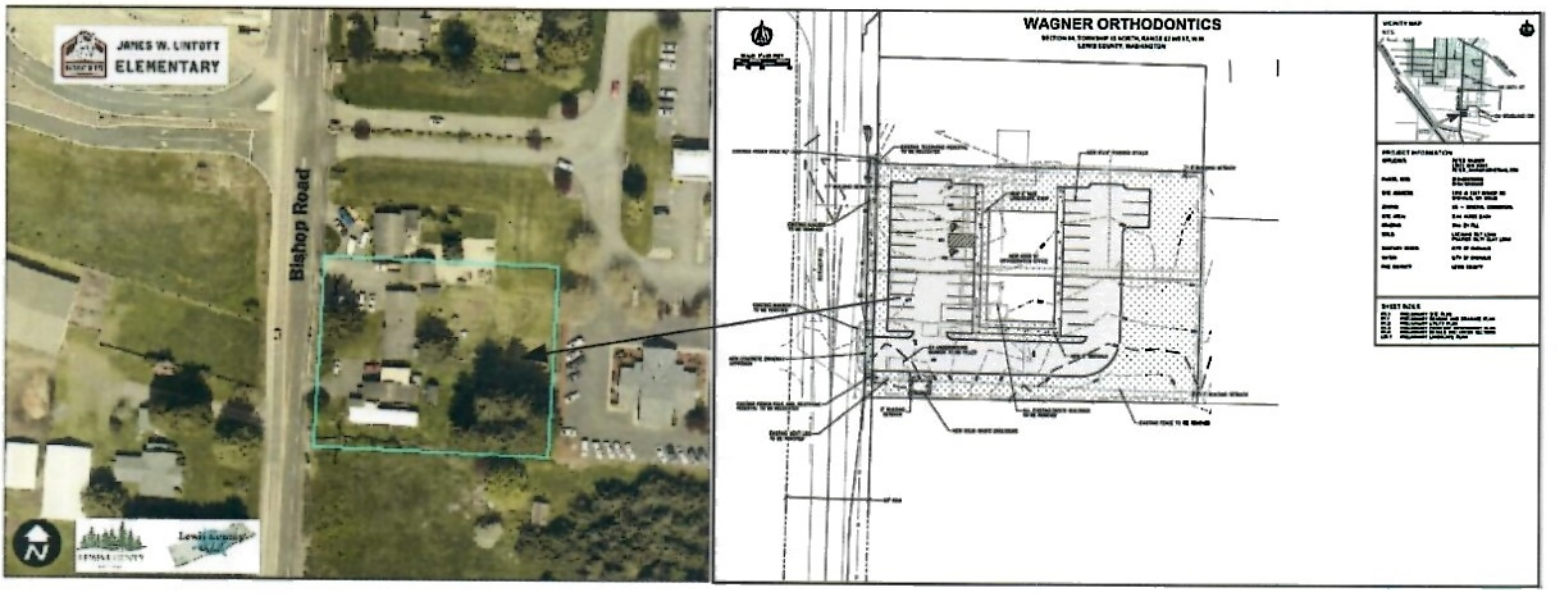
Chehalis
(SEPA-22-003)

WAGNER ORTHODONTICS
TRAFFIC REPORT - REVISED

March 6, 2023



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

JTE . Jake Traffic Engineering, Inc. .

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

March 6, 2023

CITY OF CHEHALIS
Attn: Nick Swanson, City Planner
1321 S. Market Street
Chehalis, WA 98532

Re: Wagner Orthodontics – Chehalis (SEPA-22-003)
Traffic Report - Revised

Dear Mr. Swanson,

I am pleased to provide this Traffic Report – Revised, see attached e-mail correspondence 03.03.2013 and 02.14.2023 City Letter, for a proposed ~4,000 sf Medical-Dental facility located at 1319 & 1327 Bishop Road in Chehalis. Access to the site would be via relocating an existing driveway to the south into a driveway on Bishop Road aligned with the driveway on the west side of the street.

On 12.06.2022 I sent an e-mail to you regarding the project, copy attached. This e-mail noted that the City requested a Traffic Impact Analysis be conducted for the project yet there would be no City street intersections affected (10 or more peak hour peak direction trips). Earlier in the year I worked on a project that required a TIA but did not trigger any formal intersection analysis, reference Alderwood Terrace Traffic Letter dated 03.10.2022 where I conducted a Traffic Letter including Trip Generation and Site Access Inspection.

Below is an aerial view of the site obtained from Lewis County GIS:

Wagner Orthodontics - Chehalis

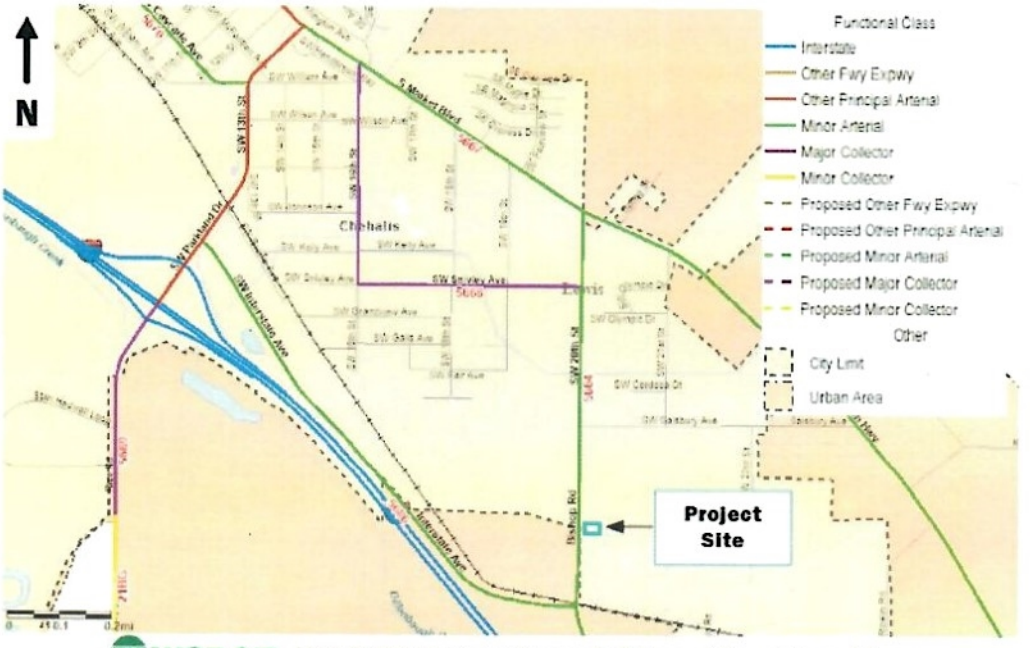
The project site is developed with two single family dwelling units and attendant structures that will be removed to make way for the proposed project.

A copy of the Preliminary Site Plan prepared by RB Engineering, Inc. dated 07.06.2022 is attached. The site plan shows the 4,000 sf Orthodontic Office, 38 – parking stalls including two accessible stalls, site circulation and an access driveway on Bishop Road near the south property line aligned with the driveway on the west side of the street,

This Traffic Report documents the Traffic Generation, provides the Trip Distribution and inspects the Site Access.

Street System

I understand that the City follows the WSDOT Functional Classification Map, the pertinent section of the WSDOT map is below:



WSDOT WSDOT Functional Classification Map

The primary streets within the study area and their classifications are as follows (streets near the site):

➢ SR – 5	Interstate
➢ S. Market Blvd./Jackson Hwy	Minor Arterial
➢ Bishop Road/SW 20th Street	Minor Arterial
➢ SW Interstate Ave.	Minor Arterial
➢ SW Snively Ave.	Major Collector

Bishop Road is a 2-lane Minor Arterial with a posted speed limit of 25 MPH. North of the site the street provides left turn channelization for the Elementary School and the medical facilities to the north and east of the site. The site access is located at the south end of the taper widening for the left turn channelization that will be discussed later in this report.

Site Traffic 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.

Site Trip Generation

The proposed 4,000 sf Wagner Orthodontics project is expected to generate the vehicular trips during the average weekday, street traffic AM and PM street peak hours as shown in Table 1. The trip generation for the project is calculated using trip rates from the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition, for Medical Dental Office Building (ITE LUC 720) and Single Family Detached Housing (ITE Land Use Code 210) for the existing site development. 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.

The site is developed with 2 – SFDU's that I understand were most recently used as a Child Care facility (about 15 students) that ceased operated a couple of years ago. The traffic generation associated with a Daycare is greater than that noted for the 2 – SFDU's noted in Table 1. Per correspondence with the City no trip credit for the prior use is taken.

Many Agencies identify up to 25% of Medical Office trips as pass-by to account for the fact many patients schedule there medical visit on there way home from work. The site is located

off a Minor Arterial and based on my recent work in the site vicinity I believe a 5% pass-by rate (this correlates into one trip during the PM peak hour) would be a reasonable projection for this project.

TABLE 1 - VEHICULAR TRIP GENERATION
WAGNER ORTHODONTICS - CHEHALIS
TRAFFIC REPORT - REVISED

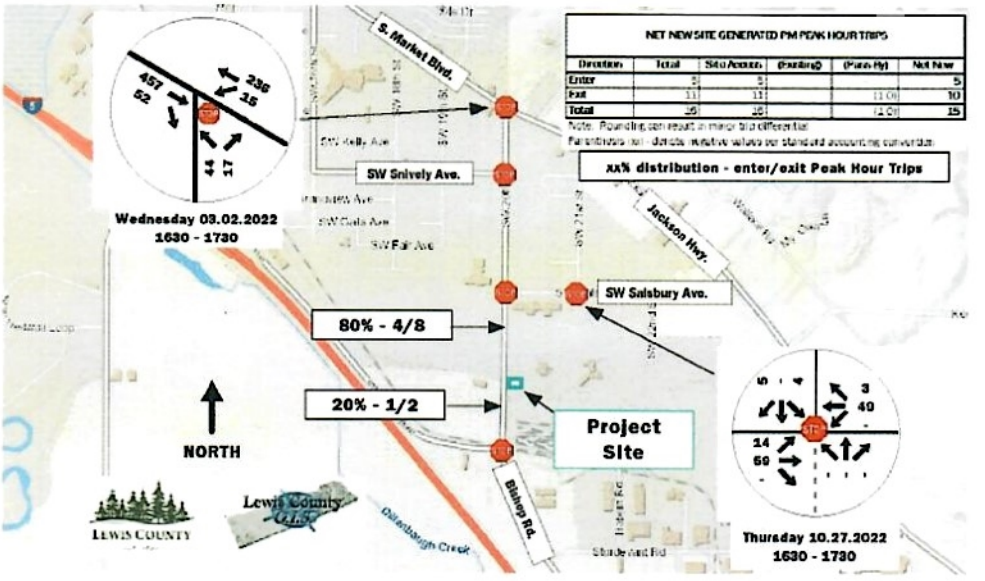
Time Period	Size (X)	TG Rate	Enter %	Enter Trips	Exit %	Exit Trips	Total (T)	Pass-by %*	Pass-by Trips	Net Total
Proposed: Medical-Dental Office Building - Stand Alone - General Urban/Suburban (ITE LUC 720; 4,000 sf										
Weekday	4,000	36.00	50%	72	50%	72	144	--	--	--
AM peak hour	4,000	3.10	79%	10	21%	3	12	--	--	--
PM peak hour	4,000	3.93	30%	5	70%	11	16	5%	1	15
Existing: Single-Family Detached Housing - General Urban/Suburban (ITE LUC 210; 2 - existing units) - Informational Data										
Weekday	(2)	9.43	50%	(9)	50%	(9)	(19)	--	--	--
AM peak hour	(2)	0.7	26%	(0)	74%	(1)	(1)	--	--	--
PM peak hour	(2)	0.94	63%	(1)	37%	(1)	(2)	--	--	(2)

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, patients scheduling a visit on their way way home from work and to account for service/delivery type trips
Trip rates per the Institute of Transportation Engineers Trip Generation Manual 11th Edition
Note: Due to rounding some values may not add up

The Trip Generation indicates that the project would generate about 144 net new trips per day with about 15 (accounting for one pass-by trip) occurring during the PM peak hour added to the City's street grid.

Trip Distribution

The graphic below depicts the projected site PM peak hour trip distribution for the MOB project:



Trips to and from the site were distributed to the surrounding street network based on the characteristics of the network, existing traffic volume patterns (2022 traffic PM peak hour for nearby intersections obtained by JTE, Inc. depicted) and the location of likely trip origins and destinations (residential, business, shopping, social and recreational opportunities).

No intersections would be affected by 10 peak hour peak direction trips and thus operational traffic review should not be required.

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.

Inspection of the five years of recorded incidents occurring near the site did not reveal any apparent issues.

Access Inspection

The project access is proposed via consolidating two existing driveways into one constructed to current City standards.

Sight Lines

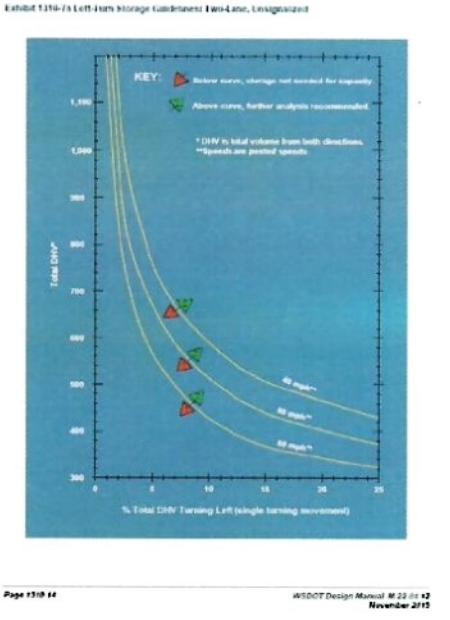
I have inspected the site access sight lines using Google Earth Street View. The following photographs are from Google Earth:

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 turn 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.

Appropriate sight lines are available at the site access on Bishop Road presuming no signage, vegetation or vehicles are parked in the sight triangle.

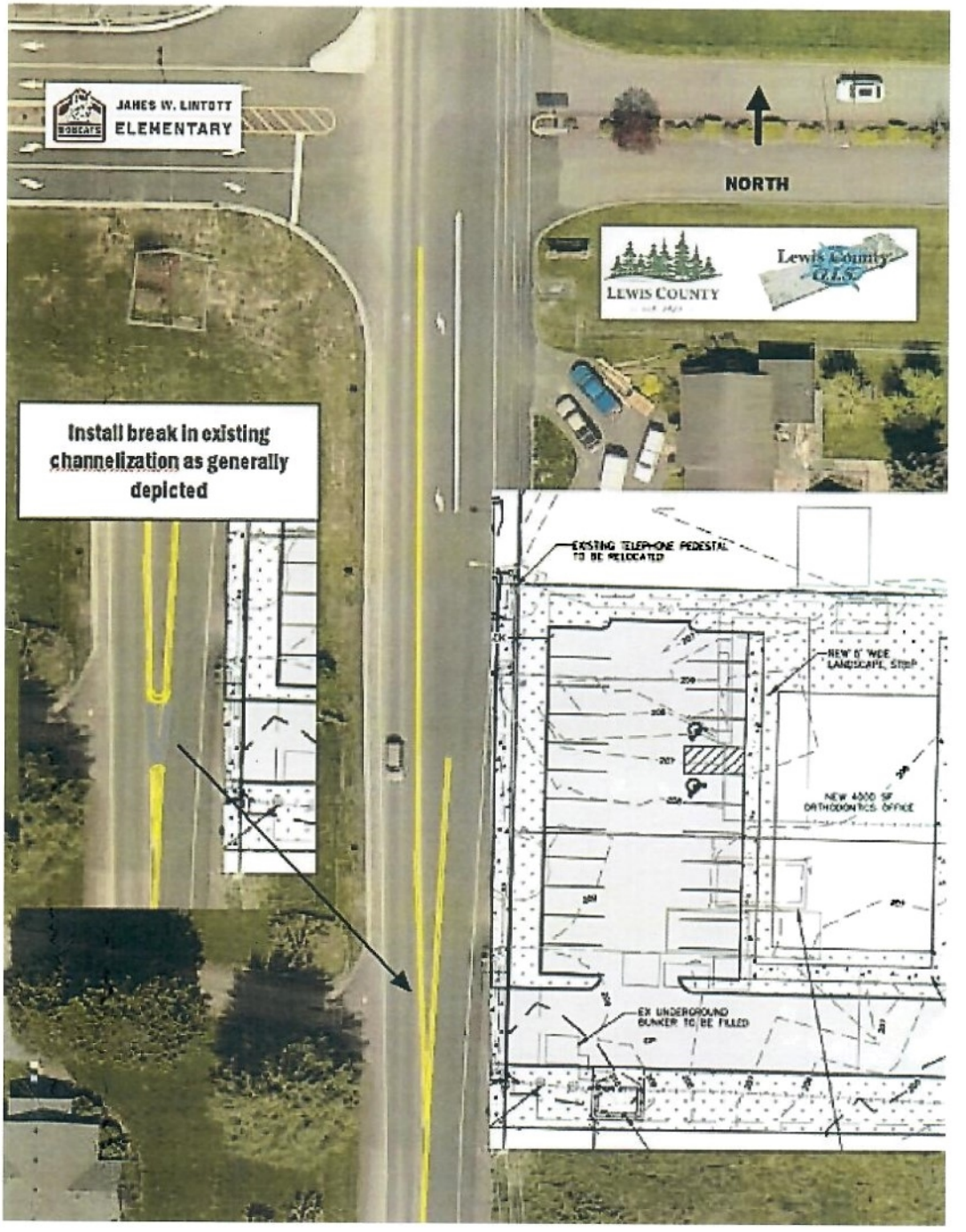
Access Channelization

I have inspected the channelization at the proposed site access using the WSDOT Design Manual Exhibit 1310-7a "Left Turn Storage Guidelines: 2-Lane Unsignalized" to ascertain the need for left turn channelization. A copy of the WSDOT figure is to the right. Site turning traffic turning left into the site, three vehicles is well below the threshold volume to warrant channelization.



The proposed site access is aligned with the driveway on the west side of Bishop Road at the south end of the existing channelization taper for the left turn pocket into the elementary school site.

The graphic below depicts the existing street channelization, enhanced, at the proposed site access. Providing a break in the channelization at the access as generally depicted is suggested.



Traffic Impact Mitigation

The project would be constructed in conformance to City requirements.

Summary and Recommendations

This Traffic Letter documents the Traffic Generation, provides the Trip Distribution and inspects the Site Access for a 4,000 sf Medical-Dental facility located at 1319 & 1327 Bishop Road in Chehalis. Access to the site would be via relocating an existing driveway to the south into a driveway on Bishop Road aligned with the driveway on the west side of the street.

Inspection of the site accesses showed good visibility available, presuming vegetation is properly maintained, signage is limited and no vehicles are parked in the sight triangle.

Based on my project review, I recommend that the Wagner Orthodontics be allowed with the following traffic impact mitigation measures.

- Construct site in accordance with applicable City requirements.
- Construct the site access on Bishop Road including ensuring no parking, signage or vegetation is in the sight triangle to pertinent criteria.
- Provide a break in the existing street channelization as generally depicted in this report to applicable requirements.

Please contact me at 206.762.1978 or email me at jaketraffic@comcast.net if you have any questions.

Sincerely,

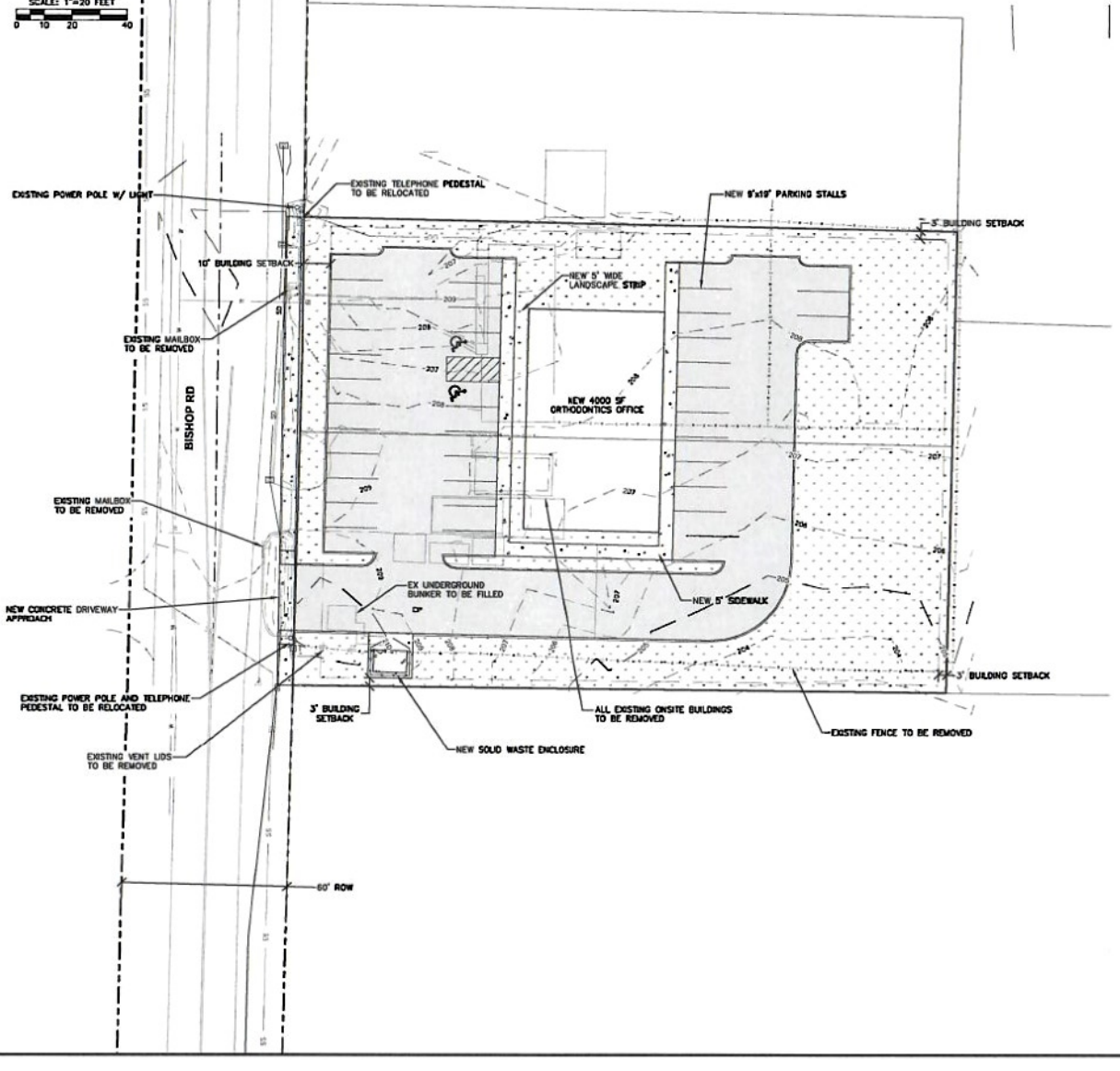
Mark J. Jacobs, PE, PTOE, President
JAKE TRAFFIC ENGINEERING, INC

03.06.2023

MJJ: mjj

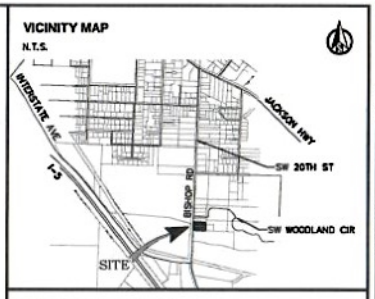
WAGNER ORTHODONTICS

SECTION 04, TOWNSHIP 13 NORTH, RANGE 02 WEST, W.M.
LEWIS COUNTY, WASHINGTON



VICINITY MAP

N.T.S.



PROJECT INFORMATION

APPLICANT:	PETER WAGNER (360) 269 6093 PETER_WAGNER3@HOTMAIL.COM
PARCEL NOS:	010480000000 010479000000
SITE ADDRESS:	1319 & 1327 BISHOP RD CHEHALIS, WA 98532
ZONING:	CG - GENERAL COMMERCIAL
SITE AREA:	0.44 ACRES EACH
GRADING:	XX± CY FILL
SOILS:	LACAMAS SILT LOAM PRATHER SILTY CLAY LOAM
SANITARY SEWER:	CITY OF CHEHALIS
WATER:	CITY OF CHEHALIS
FIRE DISTRICT:	LEWIS COUNTY

SHEET INDEX

REVISION
NO. DATE
DESIGNED BY: JCW
DRAWN BY: JCW
CHECKED BY: RWB
DATE: 7/8/22
SCALE:

WAGNER ORTHODONTICS
CHEHALIS WA.

PRELIMINARY SITE PLAN

RB Engineering
DESIGN → PERMIT → MANAGE
PO Box 922
CHEHALIS, WA 98532
PH: (360) 748-8819
EMAIL: OurOffice@rbpe.com

811 Know what's below. Call 811 before you dig.

JOB NUMBER
21140
DRAWING NAME
21140_PSP
P0.1
1 OF 6

APPENDIX

From: Mark J Jacobs, PE, PTO [mailto:JakeTraffic@comcast.net]
Sent: Friday, March 03, 2023 10:19 AM
To: 'Celest Wilder'
Cc: 'Zach Wirkkala'; 'Robert Balmelli'
Subject: RE: 2022.081 - Traffic Impact Analysis - Response to City Comments

Celest

Per our correspondence today I will revise the Traffic Letter as follows:

- Remove the credit for the existing SFDU's
- Correct typo referring to Alderwood

Let me know if I have missed anything?

Thank you

Mark
206.762.1978 o
206.799.5692 c

From: Celest Wilder [mailto:cwilder@ci.chehalis.wa.us]
Sent: Monday, February 27, 2023 5:20 PM
To: Mark J Jacobs, PE, PTO
Cc: 'Zach Wirkkala'; 'Robert Balmelli'
Subject: RE: 2022.081 - Traffic Impact Analysis - Response to City Comments

Mark,

While a child care facility was the most recent use of the facility, they closed their doors 2 years ago. There is no current use associated with this facility, therefore the full numbers generated by the trip gen study should be used while compiling the TIA for this project. I understand that with 10 am trips and 11 pm trips this project barely triggers the need for a TIA per code, but it does trigger the requirement none the less. I look forward to seeing the updated TIA. Please let me know if you have any further questions.

Thanks!

Celest Wilder, CFM
Engineering Technician II
City of Chehalis Public Works
360-748-0238

From: Mark J Jacobs, PE, PTO <JakeTraffic@comcast.net>
Sent: Monday, February 27, 2023 8:13 AM

To: Celest Wilder <cwilder@ci.chehalis.wa.us>
Cc: 'Zach Wirkkala' <Zachw@rbengineers.com>; 'Robert Balmelli' <Robertb@rbengineers.com>
Subject: 2022.081 - Traffic Impact Analysis - Response to City Comments

Celest

I received the attached City comments Friday.

Page 8 inadvertently called out Alderwood Terrace, an accidental carry over from another report.

Under existing conditions I had identified the site as having 2-SFDU's, you indicated that they operated as early childhood learning center. I understand that about 15 students were served at the center and per ITE LUC 565 Day Care Center. A 15 student daycare would generate about 61 daily, 12 AM and 12 PM peak hour trips. These trips are greater than the traffic credit I had used in Table 1 of the Traffic Report, see below:

TABLE 1 - VEHICULAR TRIP GENERATION
WAGNER ORTHODONTICS - CHEHALIS
TRAFFIC REPORT

Time Period	Size (X)	TG Rate	Enter %	Enter Trips	Exit %	Exit Trips	Total (T)	Pass-by %*	Pass-by Trips	Net
Proposed: Medical-Dental Office Building - Stand Alone - General Urban/Suburban (ITE LUC 720; 4,000 sf										
Weekday	4,000	36.00	50%	72	50%	72	144	-	--	
AM peak hour	4,000	3.10	79%	10	21%	3	12	-	--	
PM peak hour	4,000	3.93	30%	5	70%	11	16	5%	1	
Existing: Single-Family Detached Housing - General Urban/Suburban (ITE LUC 210; 2 - existing units)										
Weekday	(2)	9.43	50%	(9)	50%	(9)	(19)	-	--	
AM peak hour	(2)	0.7	26%	(0)	74%	(1)	(1)	-	--	
PM peak hour	(2)	0.94	63%	(1)	37%	(1)	(2)	-	--	
Net Total: Proposed Medical-Dental Office Building - Existing SFDUs										
Weekday	-	--	--	63	-	63	125	-	--	
AM peak hour	-	--	--	9	-	2	11	-	--	
PM peak hour	-	--	--	4	-	10	14	-	--	

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, patients scheduling a visit on their way way home from work and to account for service/delivery type trips
Trip rates per the Institute of Transportation Engineers Trip Generation Manual 11th Edition
Note: Due to rounding some values may not add up

Section 12.04.330 B, see below, is used to determine when a TIA is required.

B.1 – the project is a small dental office building, my sight line safety inspection showed no apparent issues and traffic data from my recent work in the area indicated acceptable traffic operations.

B2 – **Project needs to meet 2 of the following conditions**
B2.a – the project trip generation is such that the City's 10 **peak hour peak direction threshold is not met**; and after accounting for existing use is even further from meeting this threshold **(NOT MET)**
B2.b – based on traffic data I have collected in the area this threshold is **NOT MET**
B2.c – I understand that the entire City is considered a TBD, thus this threshold **IS MET**
B2.d – the project development, a re-development, would not effect the implementation of the City street system **(NOT MET)**
B2.e. – a TIA is older than 2 years from proposed project completion date, N/A thus **NOT MET**
B2.f. – site development traffic is far less than 10% of the adjacent street traffic, **NOT MET**

Based on the City's criteria outlined above a TIA is not required for the re-development; **and accounting for the existing daycare use that generates more traffic than I presumed based on 2-SFDU's the delta trip generation is even less.**

I conducted a Traffic Report that documented the site traffic generation and inspected the site access and safety.

Please let me know if you have any questions?

Thank you

Mark

Mark J Jacobs, PE, PTOE
JAKE TRAFFIC ENGINEERING, INC
2614 39th Ave. SW
Seattle, WA 98116
206.762.1978 o
206.799.5692 c

12.04.330 Traffic impact analysis.

A. General. A traffic impact analysis (TIA) is a specialized study of the impacts that a specific type and size of development will have on the surrounding transportation system. The TIA is an integral part of the development review process. It is specifically concerned with the generation, distribution, and assignment of traffic to and from a new development or a redevelopment. "New development" is defined as any site action involving SEPA. This may include previous development on a site with consideration to cumulative impacts for the purpose of making a SEPA threshold decision. Redevelopment will include expanded or increased development, or use or occupancy of a building or site that has been dormant for a period of more than five years.

For the purposes of this document, the term "proposed project" will be used to refer to both new development and redevelopment.

These guidelines have been prepared to establish the requirements for a TIA. If a TIA is required for a project, the public works department or designated consultant will be the city contact for matters relating to the TIA. The public works department or designated consultant will also be responsible for reviewing and accepting TIAs as well as approving measures to mitigate impacts.

B. When Required.

1. The need for a TIA will be based on the size of the proposed development, existing street and intersection conditions, traffic volumes, accident history, community concerns, and other pertinent factors associated with the proposed project.

2. A TIA will be required if a proposed development meets two or more of the following conditions:

a. The proposed project generates more than 10 vehicles in the peak direction of the peak hour on the adjacent streets and intersections. This includes the summation of all turning movements that affect the peak direction of traffic.

b. The proposed project generates more than 25 percent of the site-generated peak hour traffic through a signalized intersection or "critical" movement at a nonsignalized intersection.

c. The proposed project is within an existing or proposed transportation benefit area. This may include transportation benefit districts (TBD), local improvement districts (LID), or local/state transportation improvement areas programmed for development reimbursements.

d. The proposed project may potentially affect the implementation of the street system outlined in the transportation element of the comprehensive plan, the six-year transportation improvement program, or any other documented transportation project.

e. If the original TIA was prepared more than two years before the proposed project completion dated.

f. The increase in traffic volume as measured by ADT, peak hour, or peak hour of the "critical" movement is more than 10 percent.

3. Even if it is determined that a TIA is not required, the director of public works or designated consultant may require the developer to have a trip generation study (TGS) conducted. TGSs will be used to forecast project-generated traffic for an established future horizon.

From: Robert Balmelli [mailto:Robertb@rbengineers.com]
Sent: Thursday, February 23, 2023 4:07 PM
To: PE PTOE Mark J. Jacobs (jaketraffic@comcast.net)
Cc: Zach Wirkkala
Subject: FW: Traffic Impact Analysis

Mark,

We received comments on the TIA for Wagner, please review and reply.

Thanks,

Robert Balmelli, PE **Principal Engineer**

RB Engineering PO Box 923 - 91 SW 13th St - Chehalis, WA 98532 - (360) 740-8919
Check out our new website www.RBEngineers.com

From: Anne Marie Alexander <Annemariea@rbengineers.com>
Sent: Monday, February 20, 2023 10:59 AM
To: Zach Wirkkala <Zachw@rbengineers.com>; Robert Balmelli <Robertb@rbengineers.com>
Subject: FW: Traffic Impact Analysis

Wagner Orthodontics SEPA comments attached and saved to project folder.

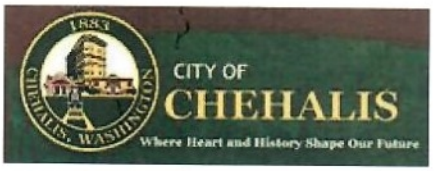
Anne-Marie Alexander **Permit & Marketing Coordinator**

RB Engineering PO Box 923 - 91 SW 13th St - Chehalis, WA 98532 - (360) 740-8919
www.RBEngineers.com

From: Tammy Baraconi <tbaraconi@ci.chehalis.wa.us>
Sent: Friday, February 17, 2023 9:54 AM
To: Chris Aldrich <Chrisa@rbengineers.com>
Cc: Anne Marie Alexander <Annemariea@rbengineers.com>; peter_wagner3@hotmail.com
Subject: Traffic Impact Analysis

Chris,
Attached are the comments on the TIA for Wagner Orthodontics. We also received comments from the County that reiterate what Celest stated in her letter so I did not duplicate them. Let me know if you have any questions. Tammy

Tammy S. Baraconi, CFM
Planning and Building Manager
City of Chehalis Community Development
1321 S. Market Blvd.
Chehalis WA 98532
360.345.2227
tbaraconi@ci.chehalis.wa.us



CITY OF CHEHALIS

Public Works Department
2007 N.E. Kresky
Chehalis, Washington 98532
(360) 748-0238 / Fax (360) 748-0694
www.ci.chehalis.wa.us

February 14, 2023

Ms. Tammy Baraconi
Building and Planning Manager
City of Chehalis Community Development
1321 S Market Blvd
Chehalis, WA 98532

RE: SEPA-22-003 – Traffic Impact Analysis – Wagner Orthodontics – 1319 Bishop Rd

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Ms. Baraconi,

The City of Chehalis Public Works Department has reviewed the Traffic Impact Analysis (TIA) submitted as supporting documentations for SEPA approval in conjunction with a new construction proposal located at 1319 Bishop Road, within the Chehalis city limits. The Public Works Department has the following comment:

- In previous correspondence with city staff, it had been relayed to Mr. Jacobs, of JTE, Inc., that a TIA is required demonstrating compliance with Chehalis Municipal Code 12.04.330 (E)-(K). The following deficiencies have been identified:
  - A horizon year must be identified for traffic analysis purposes. not applicable
  - No determination for LOS on Bishop Road and its nearest intersections, 5 years after the project has been occupied for one full year. none affected by 10 or more peak hour peak direction trips
  - Existing conditions reported in the TIA do not reflect actual existing conditions on site. The two structures identified in the report as detached single family residences had previously operated as an early childhood learning center since at least 2015, and neighboring uses include outpatient medical, dental, independent retirement living, assisted retirement living, memory care, two elementary schools, one middle school, and general office. ✓
  - The PM peak hour, 16:30-17:30, used in determining traffic data for intersections studied does not reflect the actual peak hour in this area. With two elementary schools and a middle school adjacent to this proposed development project, historically the PM peak hour is from 14:00-15:00. Additionally, March 2, 2022 the day that traffic was observed by JTE, Inc., to determine traffic volumes was an early release day according to the Chehalis School District Calendar for the 2021-2022 school year. It is my opinion ✓

that this compounded skewed results for counts received on this day. Accepted traffic counts shall be indicative of the actual PM peak hour.
    - No traffic counts from the intersection of Bishop and Interstate were included in this report.
- Page 8 of the report states that this TIA was prepared for Alderwood Terrace. This document must be updated to reflect the proper project. corrected thank you

If you have any questions or need any additional information, please contact me at 360-345-1109, or cwilder@ci.chehalis.wa.us

Sincerely,

Celest Wilder

Celest Wilder, CFM
Engineer Technician II
City of Chehalis Public Works

cc: Lance Bunker, Public Works Director
Jud Riddle, Street/Stormwater Superintendent
Carol Ruiz, Interim City Engineer

From: Nick Swanson [mailto:nswanson@ci.chehalis.wa.us]
Sent: Friday, December 16, 2022 4:07 PM
To: Mark J Jacobs, PE, PTO
Cc: 'Zach Wirkkala'; 'Robert Balmelli'
Subject: RE: 2022.081 - Wagner Orthodontics - 21140

Hi Mark,

The need for a TIA is based on 12.04.330 Traffic impact analysis of our Municipal Code.

B. When Required.

2. A TIA will be required if a proposed development meets two or more of the following conditions:

a. The proposed project generates more than 10 vehicles in the peak direction of the peak hour on the adjacent streets and intersections. This includes the summation of all turning movements that affect the peak direction of traffic. (We are asserting that Bishop Road is an adjacent street to the project, therefore, a TIA is required. This project BARELY triggers the need, but the need is triggered none-the-less)

c. The proposed project is within an existing or proposed transportation benefit area. This may include transportation benefit districts (TBD), local improvement districts (LID), or local/state transportation improvement areas programmed for development reimbursements. (The entirety of Chehalis City Limits is a TBD area)

If you want to argue that no formal intersection analysis is needed, that must be demonstrated as a part of the report through the TIA itself.
What the City needs is a TIA demonstrating 12.04.330 (E)-(K).
Please remember to also focus on the future horizon date. A lot of the time, it comes back as looking ahead 5 years from today. Code states that it's 5 years after the site has been occupied, or fully operational for ONE FULL YEAR. Realistically, with permitting and construction times, they should be looking 7-8 years ahead.

Please let me know if you have further questions, and have a great weekend!

Sincerely,

Nicholas Swanson
City Planner
1321 S. Market Blvd.
Chehalis, WA 98532
360.485.0373

CITY OF CHEHALIS
Where Heart and History Shape Our Future

These guidelines have been prepared to establish the requirements for a TIA. If a TIA is required for a project, the public works department or designated consultant will be the city contact for matters relating to the TIA. The public works department or designated consultant will also be responsible for reviewing and accepting TIAs as well as approving measures to mitigate impacts.

B. When Required.

1. The need for a TIA will be based on the size of the proposed development, existing street and intersection conditions, traffic volumes, accident history, community concerns, and other pertinent factors associated with the proposed project.

2. A TIA will be required if a proposed development meets two or more of the following conditions:

a. The proposed project generates more than 10 vehicles in the peak direction of the peak hour on the adjacent streets and intersections. This includes the summation of all turning movements that affect the peak direction of traffic. NO

b. The proposed project generates more than 25 percent of the site-generated peak hour traffic through a signalized intersection or "critical" movement at a nonsignalized intersection. NO

c. The proposed project is within an existing or proposed transportation benefit area. This may include transportation benefit districts (TBD), local improvement districts (LID), or local/state transportation improvement areas programmed for development reimbursements. YES

d. The proposed project may potentially affect the implementation of the street system outlined in the transportation element of the comprehensive plan, the six-year transportation improvement program, or any other documented transportation project. NO

e. If the original TIA was prepared more than two years before the proposed project completion dated. N/A

f. The increase in traffic volume as measured by ADT, peak hour, or peak hour of the "critical" movement is more than 10 percent. NO

3. Even if it is determined that a TIA is not required, the director of public works or designated consultant may require the developer to have a trip generation study (TGS) conducted. TGSs will be used to forecast project-generated traffic for an established future horizon. ✓

C. Qualifications for Preparing TIA Documents. The TIA will be prepared by an engineer licensed in the state of Washington and with special training and demonstrated experience in traffic engineering. The applicant will provide the public works department or designated consultant with the credentials of the individual(s) selected to perform the TIA for approval prior to initiating the analysis. ✓

consultant may require that the study also include additional intersections or areas.

5. A figure will be prepared showing existing average daily traffic (ADT) and peak hour traffic volumes on the adjacent streets and intersections in the study area. Complete turning movement volumes will be diagrammed or illustrated and included in the TIA. The figure will represent the existing traffic volumes for analysis purposes. Refer to the Sample TIA Figure in this section.

G. Development Traffic.

1. This element of the TIA will identify the limits of the study area. The study area will include all pertinent intersections and streets impacted by development traffic.

2. The threshold requirement of development traffic of 10 vehicles in the peak direction of the peak hour on the adjacent streets and intersections will apply. The threshold requirement of the development generating 25 percent or more of site traffic through a signalized intersection or "critical" movements at a nonsignalized intersection will also apply. Each arterial/collector intersection and street impacted as described will be included in the study area for analysis purposes.

NONE IMPACTED

3. A figure illustrating the proposed trip distribution for the proposed project will be included in the TIA. The TGS will be displayed in a tabular format on the figure with peak hour traffic volumes assigned to the study area in accordance with the trip distribution.

a. Trip Generation. Site-generated traffic of proposed projects will be estimated using the latest edition of the "Institute of Traffic Engineers Trip Generation Manual." Variations of trip rates will require the approval of the public works department or designated consultant. Trip rate equations will be used for all land use categories where applicable. Average trip rates will be allowed for those land uses without trip rate equations. Site traffic will be generated for daily a.m. and p.m. peak hour periods. A "pass-by" traffic volume discount for commercial centers will not exceed 25 percent unless approved by the public works department or designated consultant.

b. Trip Distribution. Trip distribution methodology will be clearly defined and discussed in detail in the TIA. For large development projects, the public works director may require a regional trip distribution map. The TIA will identify other transportation modes that may be applicable, such as transit use, bicycle and pedestrian facilities.

H. Future Traffic.

1. Future Traffic Conditions Not Including Site Traffic. Future traffic volumes will be estimated using information from existing transportation forecasts or models, other planned or programmed "on-line" development, and/or transportation projects, or by applying an annual growth rate to the existing traffic volumes as defined in the Chehalis comprehensive plan. The future traffic volumes will be representative of the horizon year(s) for project development. Forecasted nonproject traffic will be added to existing traffic and illustrated in a figure.

2. Future Traffic Conditions Including Site Traffic. The site-generated traffic will be assigned to the street network in the study area based on the approved trip distribution. The

From: Mark J Jacobs, PE, PTO <JakeTraffic@comcast.net>
Sent: Thursday, December 8, 2022 2:15 PM
To: 'Mark J Jacobs, PE, PTO' <JakeTraffic@comcast.net>; Nick Swanson <nswanson@ci.chehalis.wa.us>
Cc: 'Zach Wirkkala' <Zachw@rbengineers.com>; 'Robert Balmelli' <Robertb@rbengineers.com>
Subject: RE: 2022.081 - Wagner Orthodontics - 21140

Nick

I just left a VM regarding the Wagner Orthodontics project.

Thank you

Mark

From: Mark J Jacobs, PE, PTO [mailto:JakeTraffic@comcast.net]
Sent: Tuesday, December 06, 2022 4:28 PM
To: 'nswanson@ci.chehalis.wa.us'
Cc: 'Zach Wirkkala'; 'Robert Balmelli'
Subject: RE: 2022.081 - Wagner Orthodontics - 21140

Nick

I understand you replaced Amelia at the City.

The City requested a Traffic Impact Analysis for the project yet there would be no City street intersections affected (10 or more peak hour peak direction trips). Earlier this year I worked on a project that required a TIA but did not trigger any formal intersection analysis, reference Alderwood Terrace where I conducted a Traffic Letter including Trip Generation and Site Access Inspection.

Let me know if this is what the City is requesting for this project?

Thank you

Mark

Mark J Jacobs, PE, PTOE
JAKE TRAFFIC ENGINEERING, INC
2614 39th Ave. SW
Seattle, WA 98116 - 2503
206.762.1978 o
206.799.5692 c

From: Mark J Jacobs, PE, PTO [mailto:JakeTraffic@comcast.net]
Sent: Tuesday, December 06, 2022 1:35 PM
To: 'Robert Balmelli'

Cc: 'Zach Wirkkala'; 'aschwartz@ci.chehalis.wa.us'
Subject: 2022.081 - Wagner Orthodontics - 21140

Robert

Wagner Orthodontics a proposed ~4,000 sf Medical-Dental facility located at 1319 & 1327 Bishop Road in Chehalis.

The City TIA threshold to study an I/S is 10 or more peak direction trips no City I/S would be affected by site traffic. This is similar to the Alderwood Terrace project where the total site Traffic Generation triggered the requirement for a TIA yet the threshold to conduct operational analysis at an I/S is not met. For the Alderwood Terrace I prepared a Traffic Letter that provided a TG and Site Access Inspection.

I included Amelia on this e-mail for City feedback?

Thank you

Mark

Mark J Jacobs, PE, PTOE
JAKE TRAFFIC ENGINEERING, INC
2614 39th Ave. SW
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206.762.1978 o
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TABLE 1 - VEHICULAR TRIP GENERATION
WAGNER ORTHODONTICS - CHEHALIS
TRAFFIC LETTER

Time Period	Size (X)	TG Rate	Enter %	Enter Trips	Exit %	Exit Trips	Total (T)	Pass-by %*	Pass-by	Net Total
Proposed: Medical-Dental Office Building - Stand Alone - General Urban/Suburban (ITE LUC 720; 4,000 s										
Weekday	4,000	36.00	50%	72	50%	72	144	-	-	-
AM peak hour	4,000	3.10	79%	10	21%	3	12	-	-	-
PM peak hour	4,000	3.93	30%	5	70%	11	16	5%	1	15

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, patients scheduling a visit on their way way home from work and to account for service/delivery type trips
Trip rates per the Institute of Transportation Engineers Trip Generation Manual 11th Edition
Note: Due to rounding some values may not add up

A vehicle trip is defined as a single or one direction vehicle movement with either the origin or destination (exiting or entering) inside the study site. The above trip generation values account for all the site trips made by all vehicles for all purposes, including commuter, visitor, recreation, and service and delivery vehicle trips.

- Gibbs & Olson reviewed my Technical E-mail and provided the City feedback on 02.28.2022 that noted that per CMC 12.04.330B.2.c indicates that a Traffic Impact

---

Analysis is required for projects generating 10 or more PM peak hour trips in the Chehalis Transportation Benefit District's geographical boundaries that are comprised of the corporate limits of the City of Chehalis.

This Traffic Letter documents the Traffic Generation, provides the Trip Distribution and inspects the Site Accesses. Below is an aerial view of the site obtained from Lewis County GIS:

From: Robert Balmelli [mailto:Robertb@rbengineers.com]
Sent: Friday, December 02, 2022 12:44 PM
To: PE PTOE Mark J. Jacobs (jaketraffic@comcast.net)
Cc: Zach Wirkkala
Subject: Wagner Orthodontics - 21140

Mark,

We need a fee to complete a TIA for this attached project. We estimated 15 AM Peak hour and 18 PM Peak trips which triggers TIA with City. Also is close to the new middle schools which is a bit of a nightmare. The last sheet of the set shows a proposed re-channelization of the frontage, let me know your thoughts on that as well. You would be contracting with RBE on this project.

Thanks,

Robert Balmelli, PE **Principal Engineer**

RB Engineering PO Box 923 - 91 SW 13th St - Chehalis, WA 98532 - (360) 740-8919
Check out our new website www.RBEngineers.com

WSDOT

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Report Category	Report Name
Summary Reports	Total Crashes

Select Report Parameters

Report Year	Location		Jurisdiction
2021	Region:	(All)	(All)
	County:	Lewis	
	City:	(All)	

Run Report

Summary Reports - Total Crashes

Report Year: 2021
Location: Lewis County
Jurisdiction: (All)

Under 23 U.S. Code 148 and 23 U.S. Code 407, safety data, reports, surveys, schedules, list complied 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

Most Severe Injury per Crash	Crashes
Fatal	7
Suspected Serious Injury	45
Suspected Minor Injury	171
Possible Injury	170
No Apparent Injury	1,153
Total Crashes	**1,546**

WSDOT

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Report Category	Report Name
Summary Reports	Total Crashes

Select Report Parameters

Report Year	Location		Jurisdiction
2020	Region:	(All)	(All)
	County:	Lewis	
	City:	(All)	

Run Report

Summary Reports - Total Crashes

Report Year: 2020
Location: Lewis County
Jurisdiction: (All)

Under 23 U.S. Code 148 and 23 U.S. Code 407, safety data, reports, surveys, schedules, list complied 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

Most Severe Injury per Crash	Crashes
Fatal	12
Suspected Serious Injury	29
Suspected Minor Injury	119
Possible Injury	153
No Apparent Injury	917
Total Crashes	1,230

WSDOT

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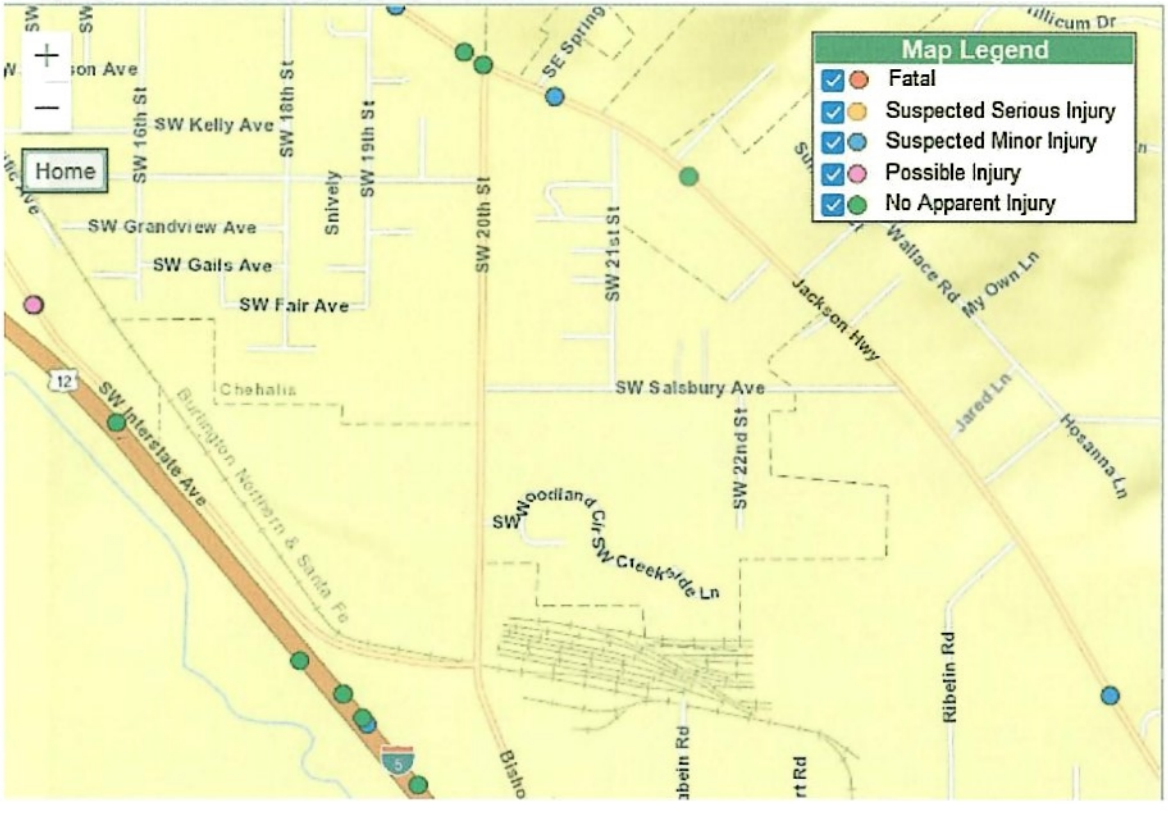
Report Category	Report Name
Summary Reports	Total Crashes

Select Report Parameters

Report Year	Location		Jurisiction
2019	Region:	(All)	(All)
	County:	Lewis	
	City:	(All)	

Run Report



Summary Reports - Total Crashes

Report Year: 2019
Location: Lewis County
Jurisdiction: (All)

Under 23 U.S. Code 148 and 23 U.S. Code 407, safety data, reports, surveys, schedules, list complied 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

Most Severe Injury per Crash	Crashes
Fatal	14
Suspected Serious Injury	29
Suspected Minor Injury	97
Possible Injury	226
No Apparent Injury	1,029
Total Crashes	**1,395**

WSDOT

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Report Category	Report Name
Summary Reports	Total Crashes

Select Report Parameters

Report Year	Location		Jurisiction
2018	Region:	(All)	(All)
	County:	Lewis	
	City:	(All)	

Run Report

Summary Reports - Total Crashes

Report Year: 2018
Location: Lewis County
Jurisdiction: (All)

Under 23 U.S. Code 148 and 23 U.S. Code 407, safety data, reports, surveys, schedules, list complied 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

Most Severe Injury per Crash	Crashes
Fatal	5
Suspected Serious Injury	45
Suspected Minor Injury	105
Possible Injury	264
No Apparent Injury	986
Total Crashes	1,405

WSDOT

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Report Category	Report Name
Summary Reports	Total Crashes

Select Report Parameters

Report Year	Location		Jurisiction
2017	Region:	(All)	(All)
	County:	Lewis	
	City:	(All)	

Run Report

Summary Reports - Total Crashes

Report Year: 2017
Location: Lewis County
Jurisdiction: (All)

Under 23 U.S. Code 148 and 23 U.S. Code 407, 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

Most Severe Injury per Crash	Crashes
Fatal	13
Suspected Serious Injury	37
Suspected Minor Injury	92
Possible Injury	281
No Apparent Injury	1,035
Total Crashes	**1,458**

A Policy on Geometric Design of Highways and Streets

2011
6th Edition

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The Voice of Transportation

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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.