MEMORANDUM

DATE:	June 19, 2017
TO:	Robert Eichelsdoerfer King County DOT
FROM:	Jeff Schramm / Amy Wasserman TENW
SUBJECT:	Level 1 Traffic Impact Analysis for the proposed Lakeside Industries SR 169 Development (PREA16-0193) TENW Project #5390

This memorandum documents the Level 1 traffic impact analysis (TIA) conducted for the proposed Lakeside Industries SR 169 development. The proposed project is located at 18825 SE Renton Maple Valley Road (SR 169) on the south side of SR 169 in King County as shown in the Figure 1 site vicinity map.

Executive Summary

Proposal. The proposed Lakeside Industries development would accommodate the manufacturing of hot mix asphalt paving materials for construction purposes and commercial sales. Operations will include an asphalt drum mix plant, raw material import and storage/stockpiling, and business services including an administrative office and truck and equipment parking. Vehicular access to the site is proposed via a new full access driveway located approximately 360 feet east (centerline to centerline) of the existing access driveway on SR 169. The existing driveway would be removed as part of the proposed project. Full project buildout is expected in 2019.

Trip Generation. The proposed project is estimated to generate a total of 460 weekday daily trips, with 45 trips occurring during the weekday AM peak hour and 32 trips occurring during the weekday PM peak hour. With credits for the existing use applied, the proposed Lakeside Industries project is estimated to generate approximately 295 new weekday daily trips, with 23 new trips occurring during the AM peak hour (7 in, 16 out), and 16 new trips occurring during the PM peak hour (4 in, 12 out).

Concurrency. The proposed project is located within the Soos Creek travel shed which currently passes the King County concurrency standard.

Site Access Operations Analysis. The results of the LOS analyses conducted at the proposed new site access driveway on SR 169 show that all controlled movements are expected to operate at LOS C or better in 2019 during the AM and PM peak hour with the proposed project, except for the northbound (exiting site) movement during the PM peak hour which is anticipated to operate at LOS E. Also, all 95th percentile queues for controlled movements at the proposed site access driveway are anticipated to be 1 vehicle or less during the AM and PM peak hours with the project.

Sight Distance Assessment. Intersection and stopping sight distances were evaluated at the proposed new site access driveway on SE Renton Maple Valley Road (SR 169) and were verified to meet applicable minimum WSDOT standards.

Parking Demand. Based on information provided by the project applicant, the proposed Lakeside Industries project estimates a maximum on-site parking demand of 54 vehicles. The maximum parking demand of 54 vehicles would be accommodated by the proposed on-site parking supply of 54 stalls.

Frontage and Right-of-Way. Since SR 169 has 150 to 160 feet of existing right-of-way (ROW) along the proposed Lakeside Industries property frontage, no additional ROW dedication is expected to be required by WSDOT.

Mitigation. The traffic impacts of the proposed Lakeside Industries SR 169 project are not expected to create a significant adverse impact to the site or adjacent street network. As a result, there is no identified traffic mitigation anticipated for this project.





Figure 1: Project Site Vicinity

Introduction

Consistent with comments provided by County staff at the project pre-application meeting on December 20, 2016, the following items are addressed in this Level 1 traffic impact analysis:

- Project description
- Existing roadway network
- Collision history
- Planned transportation improvements
- Trip generation
- Transportation concurrency
- Trip distribution and assignment
- Existing and future year traffic volumes at proposed site access
- Traffic operational (LOS) analysis at proposed site access
- Entering and stopping sight distance at proposed site access
- Parking demand
- Frontage improvements
- Mitigation

Project Description

The proposed project is located at 18825 SE Renton Maple Valley Road (SR 169) on the south side of SR 169, and includes redevelopment of the site to accommodate the manufacturing of hot mix asphalt paving materials for construction purposes and commercial sales. Operations will include an asphalt drum mix plant, raw material import and storage/stockpiling, and business services including an administrative office and truck and equipment parking. The site is zoned Industrial (I) and contains several structures that were occupied until recently by Sunset Materials. The existing buildings would be removed with the proposed project.

Vehicular access to the site is proposed via a new full access driveway located approximately 360 feet east (centerline to centerline) of the existing access driveway on SR 169. The existing driveway would be removed as part of the proposed project. Full project buildout is expected in 2019. A preliminary site plan is provided in Figure 2.

Existing Roadway Network

SE Renton Maple Valley Road (SR 169) is an east-west state route that provides access between Interstate 405 in Renton and the City of Enumclaw. In the project vicinity, the roadway is classified as a rural principal arterial based on the King County Functional Classification Arterial Map, and the roadway consists of 5 lanes with 2 travel lanes in each direction and a center two-way-left-turn lane. The posted speed limit on SR 169 is 50 miles per hour (mph) adjacent to the site and no sidewalks or bicycle lanes on SR 169 along the project frontage.

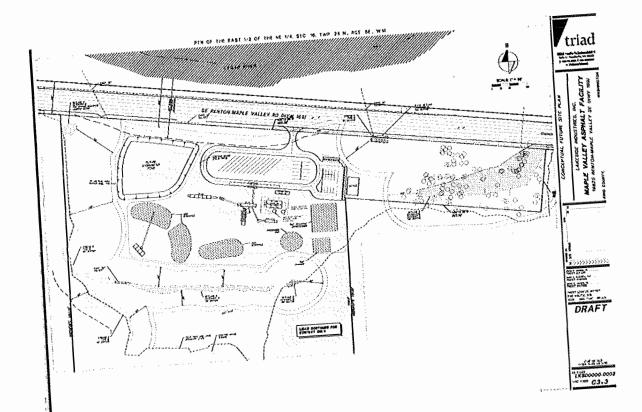




Figure 2: Preliminary Site Plan

(

Collision History

Collision records in the study area were reviewed for the three-year period from January 1, 2013 to December 31, 2015. Collision data was provided by the Washington State Department of Transportation (WSDOT). The detailed collision data is included in Attachment A. As shown in Attachment A, there were no driveway-related collisions at the existing driveway on SE Renton Maple Valley Road (SR 169) within the most recent three years of available data.

Planned Transportation Improvements

Based on a review of King County's 2017-2022 *Capital Improvement Program* (CIP) and WSDOT's 2017-2020 *Statewide Transportation Improvement Program* (STIP), there are no planned improvements on SR 169 in the vicinity of the proposed project.

Trip Generation

Proposed Trip Generation

Based on the information provided by the applicant, the proposed use is not consistent with any Institute of Transportation Engineers (ITE) *Trip Generation* manual land use category since the proposed use is highly specialized and will not cater to the general public.

To estimate trip generation from the proposed project, the project applicant provided detailed forecasts of employee trips, trucks trips, and other miscellaneous trips based on their proposed operation. The trip estimates are summarized in Attachment B and are described as follows:

<u>Employee Trips</u> – The facility is planned to have 30 total employees arriving at the site between 6:00 and 9:00 AM and leaving the site between 3:00 and 6:00 PM.

<u>*Truck Trips*</u> – The facility estimates a total of 380 asphalt paving truck trips per day (190 in, 190 out) between 6:00 AM and 6:00 PM.

<u>Other Trips</u> – Miscellaneous other trips associated with the proposed facility may include up to 20 trips per day (10 in, 10 out) for pick-ups and deliveries, mail trips, etc. These other trips would occur outside of the typical AM and PM peak periods to avoid traffic congestion.

As shown in Attachment B, the proposed Lakeside SR 169 project would generate a total of 460 daily trips, with 45 trips occurring during the AM peak hour (23 in, 22 out), and 32 trips occurring during the PM peak hour (10 in, 22 out).

Existing Trip Generation

The existing 12.5-acre site is used by Sunset Materials and includes material stockpiles, office, and equipment shop use in multiple buildings. Weekday daily traffic counts were conducted at the existing driveway to the site on SE Renton Maple Valley Road on January 24 and 25, 2017. Based on the counts, the 2-day average trip generation of the existing site was 53 weekday daily trips with 8 trips occurring during the AM peak hour and 5 trips occurring during the PM peak hour.

Based on information provided by Sunset Materials, at the time of the counts, the site was running 9 trucks per day as it was in the process of moving its operations to a different location. Typical operations at the site included 28 trucks per day. Therefore, the existing observed trip generation was factored up to account for the trip generation of the existing site at the level of typical operations. The detailed existing trip generation counts and forecasts for typical operation are included in Attachment C.

As shown in Attachment C, at typical operation levels, the existing site is estimated to generate a total of 165 daily trips, with 22 trips occurring in the AM peak hour (16 in, 6 out), and 16 trips occurring during the PM peak hour (6 in, 16 out).

Net Trip Generation

The net new trips associated with the proposed Lakeside SR 169 development were determined by subtracting the trips generated by the existing use (Sunset Materials at typical operations) from the total trips generated by the proposed project. The resulting net new trip generation is summarized in Table 1.

Table 1 Trip Generation Summary

	<u> </u>	ips General	led
Time Period	In	Out	Total
Weekday Daily			
Proposed Use	230	230	460
Less Existing Use	-82	-83	-165
New Daily Trips	148	147	295
Weekday AM Peak Hour			
Proposed Use	23	22	45
Less Existing Use	-16	-6	-22
New AM Peak Hour Trips	7	16	23
Weekday PM Peak Hour			
Proposed Use	10	22	32
Less Existing Use	-6	-10	-16
New PM Peak Hour Trips	4	12	16

As shown in Table 1, with credits for the existing use applied, the proposed Lakeside Industries project is estimated to generate a net of 295 new weekday daily trips, with 23 new trips occurring during the AM peak hour (7 in, 16 out), and 16 new trips occurring during the PM peak hour (4 in, 12 out).

Transportation Concurrency

The proposed project is located within the Soos Creek travel shed which currently passes the King County concurrency standard.

Trip Distribution and Assignment

The general distribution of peak hour project generated trips was estimated separately for non-truck vehicles and trucks based on existing travel patterns and truck routing information provided by the project applicant. The weekday project-generated trips were distributed separately generally distributed as follows:

Non-Truck Trips

- 50 percent to/from the west on SE Renton Maple Valley Road (SR 169)
- 50 percent to/from the east on SE Renton Maple Valley Road (SR 169)

Truck Trips

- 40 percent to/from the west on SE Renton Maple Valley Road (SR 169)
- 60 percent to/from the east on SE Renton Maple Valley Road (SR 169)

The estimated trip distribution patterns and assignment of the AM peak hour trips is illustrated in Figure 3 and the trip distribution and assignment of the PM peak hour project trips is illustrated in Figure 4.

Existing and Future Year Traffic Volumes

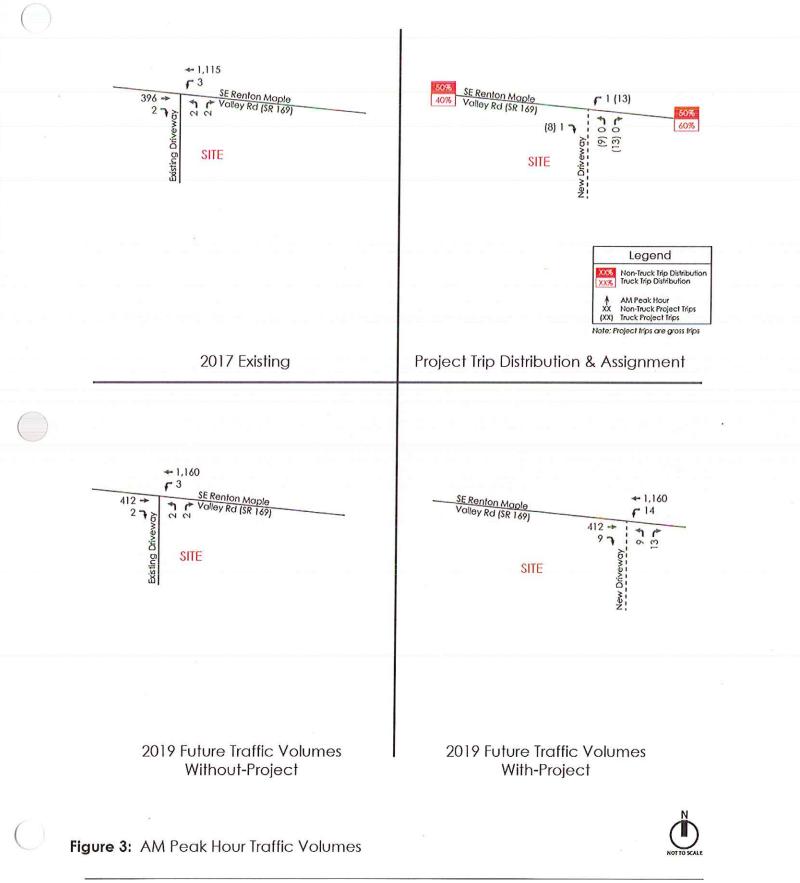
Existing weekday AM and PM peak hour traffic counts at the current access driveway on SE Renton Maple Valley Road (SR 169) were conducted on Tuesday, January 24, 2017 by All Traffic Data, Inc. The existing peak hour traffic volumes represent the highest hour between 7:00-9:00 AM and 4:00-6:00 PM. The existing count sheets are included in Attachment D.

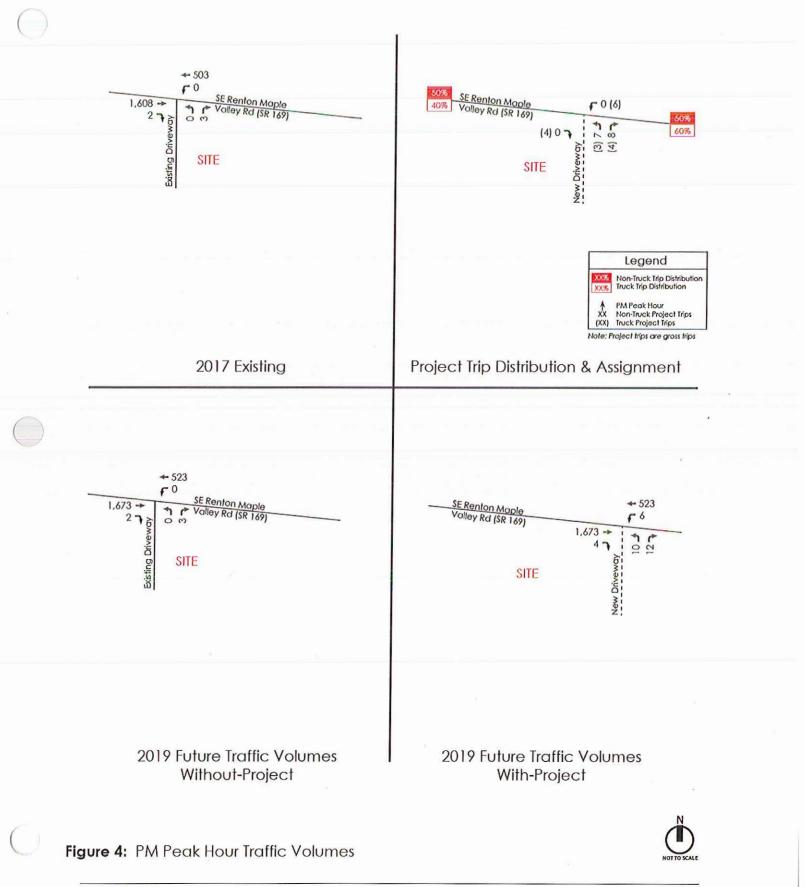
To estimate future 2019 baseline traffic volumes without the project, an annual growth rate of two percent was applied to the existing through volumes on SE Renton Maple Valley Rd (SR 169). Future 2019 with-project traffic volumes were estimated by adding the peak hour trip assignment to the year 2019 without-project volumes.

The 2017 peak hour existing traffic volumes, 2019 without-project traffic volumes, project trip assignments, and 2019 with-project volumes at the site access driveway on SE Renton Maple Valley Road (SR 169) are summarized in Figure 3 for the AM peak hour and Figure 4 for the PM peak hour. Note that the project trips shown on Figures 3 and 4 are gross trips and do not reflect credit for the existing use to be removed.

Site Access Operations Analysis

Future year 2019 With Project AM and PM peak hour level of service (LOS) and queue analyses were conducted at the proposed (relocated) site access driveway on SE Renton Maple Valley Road (SR 169) based on the methodology and procedures outlined in the 6th Edition of the *Highway Capacity Manual* (HCM) using the *Synchro 10* software program. LOS serves as an indicator of the quality of traffic flow and degree of congestion at an intersection or roadway segment. It is a measure of vehicle operating speed, travel time, travel delays, and driving comfort. The LOS methodology is described in Attachment E. The 2019 With-Project AM and PM peak hour volumes at the site driveway used in the LOS analyses are as shown on Figures 3 and 4.





The reported queues for the controlled movements at the unsignalized site driveway are 95th percentile queues, which are exceeded only 5 percent of the time during the analysis period.

The weekday PM peak hour LOS and queue results at the site access driveway for 2018 With-Project conditions are summarized in Table 2. The LOS and queue worksheets are included in Attachment E.

Table 2

Year 2019 With-Project Peak Hour Level of Service Summary at Site Driveway

		A	M PEAK H	OUR	PM	A PEAK H	OUR
Driveway	Movement	LOS ¹	Delay (sec)	Queue Length (veh) ²	LOS ¹	Delay (sec)	Queue Length (veh) ²
Two-Way Stop	Controlled:						
SE Renton Mo	aple Valley Rd (SR 169) / Driveway						
	Northbound left-right (exiting)	С	17.9	<1 veh	E	45.7	<1 veh
					С	17.1	<1 veh

1. LOS = Level of Service, reported by movement for unsignalized intersections.

2. Queues are 95th Percentile queues. < 1 vehicle indicates 95th percentile queue statistically less than 1 vehicle.

As shown in Table 2, the results of the LOS analysis show that all controlled movements at the unsignalized site access driveway on SR 169 are expected to operate at LOS C or better in 2019 during the AM and PM peak hour with the proposed Lakeside SR 169 project, except for the northbound (exiting site) movement during the PM peak hour which is anticipated to operate at LOS E. Also, all 95th percentile queues for controlled movements at the site access driveway are anticipated to be 1 vehicle or less during the AM and PM peak hours with the project.

Sight Distance Assessment

Intersection (entering) sight distances (ISD) and stopping sight distances (SSD) were field verified by TENW on March 1, 2017 at the proposed new site access to SE Renton Maple Valley Road (SR 169). The proposed new site access would be located approximately 360 feet east (centerline to centerline) of the existing driveway to the site. Along the project frontage, SE Renton Maple Valley Road (SR 169) is five lanes (two in each direction with a center-two way left-turn lane) and has a posted speed limit of 50 mph.

The intersection sight distance (ISD)standards were based on the Washington State Department of Transportation (WSDOT) *Design Manual* Chapter 1310.05 Intersection Sight Distance (updated November 2015). The setback distance from the intersection sight distance sight triangle is 18 feet from the edge of traveled way.

Stopping sight distance (SSD) standards were based on the July 2013 edition of the WSDOT Design Manual Chapter 1260.03 Stopping Sight Distance (updated July 2016). WSDOT standards use a driver's eye height of 3.5 feet, and an object height of 2.0 feet.

ISD and SSD were evaluated for a design speed of 55 mph based on a posted speed limit of 50 mph on SE Renton Maple Valley Road (SR 169) as sight distance values are typically represented by a design speed of 5 mph over posted speed.

Intersection (Entering) Sight Distance (ISD)

Based on a 55 mph design speed on SE Renton Maple Valley Road (SR 169), the desirable intersection sight distance for a left-turning passenger vehicle is 687 feet and the desirable intersection sight distance for a left-turning single-unit truck (SU-30) is 849 feet (*Design Manual* Exhibit 1310-19a). This assumes a vehicles making a left-turn from the site driveway and crossing 3 lanes (2 eastbound lanes and a center two-way left-turn lane). This is a conservative assumption since exiting left-turn vehicles can use the center two-way left-turn lane as a refuge and only cross 2 lanes.

Based on field measurements, the available intersection sight distance looking to the east from the proposed driveway location is approximately 850 feet and the available intersection sight distance looking to the west of the proposed driveway location is over 1,000 feet. Therefore, the WSDOT minimum intersection sight distance requirements are met for both a passenger vehicle and a single-unit truck.

Stopping Sight Distance (SSD)

For a 55 mph design speed on SE Renton Maple Valley Road (SR 169), the recommended design value for stopping sight distance based on WSDOT *Design Manual* standards is 495 feet (*Design Manual* Exhibit 1260-1). Approaching the proposed new site access on SE Renton Maple Valley Road from the east and west, the available stopping sight distance was verified to be more than 500 feet, therefore meeting applicable WSDOT standards.

Parking Demand

Based on information provided by the project applicant, the proposed Lakeside Industries project estimates a maximum on-site parking demand of 54 vehicles. The maximum parking demand of 54 vehicles would be accommodated by the proposed on-site parking supply of 54 stalls. The parking demand forecasts are included in Attachment F.

Frontage and Right-of-Way

SR 169 (SE Renton Maple Valley Road) is classified as a rural principal arterial per King County. However, since it is a state highway, any right-of-way (ROW) dedication falls under the jurisdiction of the Washington State Department of Transportation (WSDOT). Since SR 169 has 150 to 160 feet of existing ROW along the proposed Lakeside Industries property frontage, no additional ROW dedication is expected to be required by WSDOT.

Mitigation

The traffic impacts of the proposed Lakeside Industries SR 169 project are not expected to create a significant adverse impact to the site or adjacent street network. As a result, there is no identified traffic mitigation anticipated for this project.

If you have any questions regarding the information presented in this Traffic Impact Analysis, please contact me at (425) 250-0581 or <u>schramm@tenw.com</u>.

cc: Felix Palisoc, WSDOT Karen Deal, Lakeside Industries Jeff Haynie, TENW

Attachments:

- A. Detailed Collision History
- B. Proposed Use Trip Generation
- C. Existing Use Trip Generation
- D. Existing Traffic Count Worksheets
- E. LOS Calculations
- F. Parking Demand Calculations

ATTACHMENT A

Detailed Collision History

DFFICER REPORTED ENGNES THAT OCCURRED ON STATE ROUTE 169 (MP 19.19 - 22.17) FROM JONES RD TO 154th PL 01/01/2013 - 12/31/2015	17) FROM JONES RD TO 154th PL Driveway is at approximutely MP 19.92
Under 23 U.S. Code § 4th and 23 U.S. Code § 148, sufer data, reports, arrever, achealder, hat compled or collected for the purpuse of slott	into complex or collected for the purpose of alenti
evaluation, or planning the solely ensumement of potential crieditatics, includuate conducty conditions, or realized of potential cried as	unditions, or radiustricition crossings are not a

Maxter Maxter<			I													
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	UNISOCTION	PRIMARY 1 TRAFFICWAY	MILEPOST		MOST SEVERE INJUNY TYPE	1 2 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	20-200	HOLE 1 TYPE	JAAL E JUNEDA	Sourts Thur / Mart Housenon Their	VEHICLE 1 ACTION	VENCLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION		VEHICLE 2 COMPASS	
100 130*1 100*100 100*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*10 0.000*	R Sol A															
100 1000 1000 0000 1000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 00000 00000 00000 <	State Route	169	19.26	10/10/2015		101	1 0 0 Passenger Car			Crash Cushions - Impact Attenuations	Goine Straight Ahead		South	North		
120 123-00 123-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-00-00 12-0	State Route	169	05.01	01/01/2015	No Injury	0 0 1	1 0 0 Passenser Car			Carth Bank or Ledge	Goine Straight Ahead		North	South		
100 12.03 (0) (0) (0) (0) (0) (0) (0) (0) (0) (0)	State Route	169	19.40	03/23/2015		0 0	1 0 0 Pickup,Punel Truck 6	or Vanette under 10,000 lb		Fire started in vehicle	Other*		North	South		
101 1023 [INV/INDI to Binkry 0 [0 1 0 [0] Concrete Car Feature Interaction Manueli Manu	State Route	169	19.50	07/29/2015	Possible Injury	1 0 2	3 0 0 Truck (Flatbad, Van,e			From same direction - both poing straight - both moving - rear-end	Goine Straight Ahead	Slowing,	North			South
100 1034 Construction	State Route	169	19.50	2102/61/01	No Injury	0 0	2 0 0 Passenger Car	a la		From same direction - both going straight - both moving - rear-end	Slowing	Stowing	South			North
100 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010	State Route	169	19.58	01/16/2013	No Injury	0 0 1	1 0 0 Pawenger Cur			Miscellaneous Object or Debris on Hoad	Going Straight Ahead		East	West		
100 10.20 Conv. Conv. Mar. Conv. C	State Route	169	19:61	09/15/2014	No Injury	0 0	2 0 0 Passenger Car	d		From same direction - both point straight - both mowing - side-wipe	Changing Lanes	Going Straight Ahead	North		North	South
100 102 (0) (0) (0) (0) (0) (0) (0) (0) (0) (0)	State Route	169	19.70	08/19/2014	No Injury	0 0 1	1 0 0 Passenger Car			Crash Cushions - Impact Attenuators	Going Strapht Ahend		North	South		
100 12070 Constraint	State Route	109	19.75	05/27/2014	Evident Injury	1 0 2	2 0 0 Pickup, Panel Truck c	ar Vanette under 10,000 lb		Guardrail - Face	Going Straight Ahead		North	South		
100 1020 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(0) 1020(State Route	169	19.91	01/20/2014		00	2 0 0 Passenger Car	8		From same direction - both gong straight - both moving - sideswipe	Goine Straight Ahead	Changing Lanes	North			South
100 2022 [Br/L12004] Proved: mean manual Non-discrete manual Concept Standing South <	State Route	10)	19.97	07/05/2015	Possible Injury	3 0 2	2 0 0 Pawencer Car			From same direction - all others.	Muking U-Turn	Going Straight Ahead	South	South		North
1/2 2/33 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01	State Route	169	20.22	05/11/2014	Possible Injury	101	1 0 0 Pickup Panel Truck 6	or Vanette under 10.000 lb		Vehicle overturned	Going Straght Ahead		South	North		
3/20 3/20.44 10 11 10 10 11 10 10 11 10 10 11 10 10 11 10 10 11 10 10 11 10 10 11 10 10 11 10 10 10 11 10 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10	State Route	169	20.30	01/13/2014	No Injury	00	4 D 0 Pickup,Panel Truck 6			From same direction - both yony straight - both moving - rear-end	Goine Strawht Ahead	Going Straight Ahead	North	South	North	South
12/0 202/01/21/20/2028 Doll Province/Cat Flickup Janet 1 rads or Vinnette under 1 0001b Frien opposing a director - all others Come Straight Aheud South South Aheu<	State Route	169	20.34	09/26/2024	Serious Injury	101	1 1 0 Passenger Car			Vehicle poing straight hits pedestruin	Going Straight Ahead		South	North		
12/0 20.00/12/2004/2004 No mjurv 0 (0) (2) (0) (0) Paroneyer Car Pricultariante under 10.000 (b) (1/m) vaniette unde	State Route	169	20.50	11/26/2015	No Inputy	00	2 0 0 Passenger Car	4		From opposite direction - all others	Going Straight Ahead	Goine Straight Ahead	South		North	South
10 20.30 [02/17/2014] Elived in Houstial 1 2 0 0 Puiveneer Car North	State Houte	105	20.69	12/06/2014	No Injury	0 0	2 0 0 Passenger Car	4	Pickup.Panel Truck or Vanette under 10.000 lb	From sume direction - both point straight - both moving - rear-end	Goine Straight Ahead	Slowing	South		South	North
	State Route	160	20.80	01/17/2014	Dirid in Hospital	11	2 0 0 Passenger Car			Wood Sign Pove	Goine Straight Ahead		Morth	South		

WSDOT - CRASH DATA and REPORTING

1 of 1

ATTACHMENT B

Proposed Use Trip Generation

Lakeside Industries SR-169 Site

		e Vehicle ps	Truck	Trips	Other (vendors/ mail,	delivery,		Total Trips	
Time Period	Entering	Exiting	Entering	Exiting	Entering	Exiting	Entering	Exiting	Total
before 6 am							0	0	0
6:00 - 7:00 am	15		14	18			29	18	47
7:00 - 8:00 am	10		11	16			21	16	37
8:00 - 9:00 am	2		21	22			23	22	45
9:00 - 10:00 am			22	22	5		27	22	49
10:00 - 11:00 am			20	20	5		25	20	45
11:00 am - 12:00 pm			16	16			16	16	32
12:00 - 1:00 pm	3	3	20	20			23	23	46
1:00 - 2:00 pm	-8		22	22			22	22	44
2:00 - 3:00 pm			18	15		5	18	20	38
3:00 - 4:00 pm		5	10	7		5	10	17.	27
4:00 - 5:00 pm		15	10	7			10	22	32
5:00 - 6:00 pm		7	6	5			6	12	18
after 6 pm							0	0	0
TOTAL TRIPS	30	30	190	190	10	10	230	230	460

Estimated Trip Generation Forecasts - Average Weekday by Trip Type

()

ATTACHMENT C

Existing Use Trip Generation

Sunset Materials Existing Trip Generation

According to information provided by owner:

Sunset Materials (existing site) is currently running 9 trucks and was running 28 trucks at peak operation. Estimated 150-250 trucks/day total.

	# of				Total T	rips Ger	nerated			
	trucks	We	ekday [Daily		AM Trip	S		PM Trip:	S
	per day	in	out	total	in	out	total	in	out	total
January 2017	9	26	27	53	6	2	8	2	3	5
Typical Operations (at full capacity)	28	82	83	165	19	6	25	6	10	16

sday 1/25/17 (e.o.) NB (e.o.)	0 0	0 0	00	00	0 0		00	0 0	0 0	0	0 0	0 0	0	0 0	0 0	-	0 0	0 0	0 0	o -		0	0 0		0	0 0	0 0	0		-	0 0	0	- 0	0	~ -	0 0	0 0	0	- 0	2	0 0	- 0	0 0	- 0	-		0 0		0 0	0 0		0 0	0 0	00		0 0		00	0 0	
Wednesd SB (enter)	0 (0 0	00	00	0 0		0 0	0 0	0 0	0	0 0	- 0	0	00	- 2	0	0 0	ο.	- ~	2 0		0	0 0	0 0	0	0 0	0 0	• •	- 0	0	0 0	0		-	- 0	0 .	- 0	0	- 2	0	0 0	0.	- 0	o -	0	0 -	0 0	, 0	0 0	0 0	0 0	0 0	0 0	00	0 0	0 0	00	0 0	0 0	00
NB (ext)	0 0	0 0	00	0 0	00	000	0 0	0 0	0 0	0	• •	0 0	0	00	0 0	0	0 0	0.	- 0		- 0	2	- 0		•			-	0 -	8	0 0	0	5 0	0	- 0	0 0	0 0	-		2	0 0	- (. 0	0 0	0	0 0	0 0	0 0	0 0	0 0		0 0	0 0		0 0	0 0	00	00	0 0	00
Tuesday S8 (enter)	0	0 0	0 0	0 0	00	00	0 0	0 0	0 0	0	00	0 0	-	00		0	0 0	0 0	N		n 0	-	••	- 0	-		- 0	-	0 7	0	0 0	• •		0	- 0	0	• •	0	- 0	-	0 0	0.		0 0	0	0 0	00	00	00	0	0 0	0 0	0 0	0 0	0 0	0 0	00	0 0	0 0	00
Direction	12.00 AM	15 A 30 A	12 45 AM 1 00 AM	1 15 AM	1 45 AM	2 15 AM	2 30 AM	3 15 AM	3 30 AM	4 CO AM	4 30 AM	4 45 AM 5 00 AM	5 15 AM	5 45 AM	6 00 AM	6 30 AM	6 45 AM	7.15 AM	7.45 AM	8 00 AM	MA 05 8		MA 00 9			10 00 AM	MA 01 01 MA 05 01	10 45 AM	11 00 AM	MA 05 11	11.45 AM	12 15 PM	12 30 PM		1.15 PM	L 1	2 15 PM	2 30 PM	2 45 PM	3 15 PM	3 30 PM 3 45 PM	M 00 PM	M9 06 \$	4 45 PM	5 15 PM	5 30 PM	M9 00 8	6 30 PM	5 45 PM 7 00 PM	7.15 PM	7.45 PM	8 00 PM 8 15 PM	8.30 PM	M CO BM	9 15 PM	9.45 PM	NO 15 PM	10.30 PM	11 00 PM	W4 0E 11

.

Transfit r2Lit7 Weak-staff r2Lit7 22 by Average 11 0.41 1.0 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41	AM LEAN RUUN	NOUL I								
oct tysis in oct tysis in oct 1 4 3 0 3 3 1 2 3 10 5 1 5 2 2 1 2 7 5 2 7 5 2 2 3 1 2 7 5 2 7 5 2 3 3 1 2 7 5 2 7 5 2 3 3 1 3 3 1 3 3 1 3 3 3 3 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3		Tue	esday 1/2	4/17	Wedn	Vabes.	125/17	2-6	Day Aver	eče
1 4 3 0 3 3 1 2 10 5 1 6 5 1 2 7 5 2 7 5 2 49/17411 Wedveeldy 112417 209/Average 2 4 3 3 0.4 10.5 1 2 2 3 3 1 0.4 10.5 1 2 3 2 3 3 0.4 1 2 3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3<	hour		out	total	U.	out	total	e,	out	lotal
2 6 5 0 5 5 1 2 7 5 2 7 5 2 2 2 7 5 2 7 5 2 2 4 9 3 2 5 5 4 3 6M 12417 Webeeky (12417 20) Average over 1248 1 0 0 0.1 1235 1 2.0 1 0 0 0 3 5 1 2 3 2 3 1 2 3 0 1 2 3 2 3 2 2 3 0 1 3 5 1 2 3 1 2 2 2 3 3 3 1 2 3 3 2 3 3 3 3 3 3 3 3 3 3 3 3 3<	7-8	0	-	4	9	0	0	9	-	4
3 10 5 1 6 6 2 2 7 5 2 7 5 2 4 9 5 2 7 5 2 60y17417 Wiebesdy172017 20yAkeess out 103 1 2 2 3 5 1 2 3 2 3 5 1 2 3 1 2 0 1 2 3 3 1 2 3 2 2 3 2 2 3 3 1 2 3 2 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	7.15-8.15	4	2	9	s	0	5	\$	-	0
2 7 5 2 7 5 2 7 5 2 9 959/12417 Webeeldy 112417 2004/Average out total in out total in out 3 5 1 2 3 2 2 0 1 1 2 3 1 2 2 1 0 0 2 3 5 1 2 3 2 2 2 0 0 2 3 5 1 2 3 5 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	7:30-8:30	2	9	10	\$	-	9	9	2	80
4 9 3 2 5 4 3 ddy/12417 Wedeesby/12917 2.01 Average 2.01 Average out 1334 in out 3 1 5 1 2.01 Average 3 0.1 1334 in out 3 3 1 5 1 2.01 Average 3 3 3 2 1 2 1 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 <td>7.45-9.45</td> <td>\$</td> <td>2</td> <td>1</td> <td>s</td> <td>2</td> <td>2</td> <td>s</td> <td>3</td> <td>~</td>	7.45-9.45	\$	2	1	s	2	2	s	3	~
oddy 12417 Wednesddy 125117 2.034 Average out 1234 in out 1234 in out 3 5 1 2 3 3 1 1 0 1 2 3 2 3 2 3 1 2 3 1 1 2 3 1 1 2 3 1 1 2 3 1 1 2 3 1 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 <	8-9	\$	4	0	3	2	5	4	•	2
in out total in out total in 513 2 3 5 1 2 3 2 513 2 3 5 1 2 3 2 533 1 2 3 2 3 2 3 2 533 1 2 1 2 3 2 3 2 543 0 0 1 1 2 3 1 3 2 543 0 0 0 1 2 3 1 3 3 3 1		Tue	isday 1/2	2112	Wedn	esday 1	1125/17	2-0	Day Aver	939
2 3 5 1 2 3 3 5815 2 3 5 1 2 3 3 5810 2 4 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 </th <th>hour</th> <th>2.</th> <th>out</th> <th>total .</th> <th>S</th> <th>out</th> <th>total</th> <th>.s</th> <th>out</th> <th>total</th>	hour	2.	out	total .	S	out	total	.s	out	total
5513 2 2 4 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4-5	8		s	1	2	3	~		5
5530 1 0 1 2 3 1 1 5545 0 0 0 1 3 4 1 2 5545 0 0 0 1 3 5 1 2	4 15-5 15	2	2	4	2	-		2	2	4
5545 0 0 0 1 3 0 0 0 2 3	4 30-5 30	-	0	-	-	2	0	-	-	2
0 0 0 2 3	4.45-5.45	0	0	0	-	•	4	-	2	3
	5.6	0	0	0	2	9	s	-	2	3
			5day 1/2	4/17	Wedn	esday 1	125/17	2-C	Day Aver	666
Tuesday 1/24/17 Wednesday 1/25/17 2-Day Average		2.	out	total .	ŝ	ort	total	.5	out	total
Tuesday 1/24/17 Wednesday 1/25/17 2-Day Averag in out total in out total in out	dall	ac.	23	55	24	24	44	28	26	65

ATTACHMENT D

Existing Traffic Count Worksheets



Location: 1 SUNSET MATERIALS DWY & RENTON MAPLE VALLEY RD AM Date and Start Time: Tuesday, January 24, 2017 Peak Hour: 08:00 AM - 09:00 AM

(303) 216-2439 www.alltrafficdata.net

Peak Hour

RENTON MAPLE VALLEY P

1,117 4

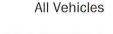
SUNSET MATERIALS

EB

WB

NB

SB All



1.520 E

ON

PHF

0.80

0.89

0.50

0.93

S

1 T

N

HV%

23.6%

7.2%

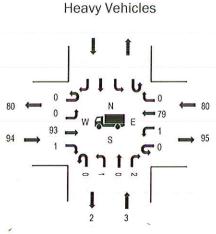
75.0%

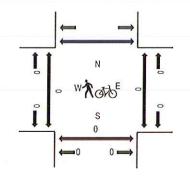
11.6%

1,115

1,118

RENTON MAPLE VALLEY R





Pedestrians/Bicycles in Crosswalk

offic Counts - All Vehicles

SUNSET MATERIALS DWY RENTON MAPLE VALLEY RD RENTON MAPLE VALLEY RD Westbound Rolling Eastbound Northbound Southbound Interval U-Turn Start Time Right U-Turn Left Right U-Turn Thru Right U-Turn Left Thru Right Hour Left Thru Thru Left Total 7:00 AM 1,479 7:15 AM 1,453 1,476 7:30 AM 1,511 7:45 AM 8:00 AM 1,520 8:15 AM 8:30 AM 8:45 AM Count Total 2,266 2,999 Peak Hour 1,115 1,520

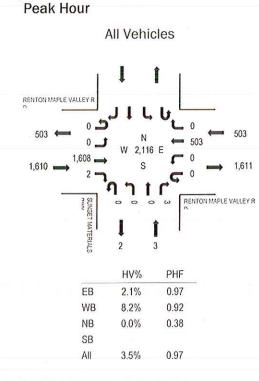
Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

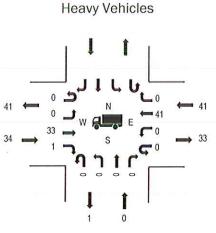
Interval		Hea	avy Vehicle	es		Interval	Pe	destrians/l	Bicycles or	n Crossw	alk
Start Time	EB	NB	WB	SB	Total	Start Time	EB	NB	WB	SB	Total
7:00 AM	7	0	19		26	7:00 AM	0	0	0		0
7:15 AM	4	0	18		22	7:15 AM	0	0	0		0
7:30 AM	7	1	9		17	7:30 AM	0	0	0		0
7:45 AM	16	0	12		28	7:45 AM	0	0	0		0
8:00 AM	22	1	16		39	8:00 AM	0	0	0		0
8:15 AM	22	1	20		43	8:15 AM	0	0	0		0
8:30 AM	27	0	25		52	8:30 AM	0	0	0		0
`•45 AM	23	1	19		43	8:45 AM	0	0	0		0
nt Total	128	4	138		270	Count Total	0	0	0		· 0
Peak Hour	94	3	80		177	Peak Hour	0	0	0		0

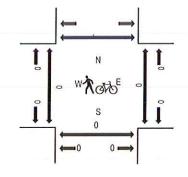


Location: 1 SUNSET MATERIALS DWY & RENTON MAPLE VALLEY RD PM Date and Start Time: Tuesday, January 24, 2017 Peak Hour: 04:00 PM - 05:00 PM

(303) 216-2439 www.alltrafficdata.net







Pedestrians/Bicycles in Crosswalk

offic Counts - All Vehicles

RENTON MAPLE VALLEY RD RENTON MAPLE VALLEY RD SUNSET MATERIALS DWY

	I VLIVI	ONIMA	I LL VAL	LIND	I VLIV		LL V/ILI	LIND	0011	2 I III/ 11	LIMILO	DITI						
Interval		Eas	tbound			West	bound			North	bound			Sout	hbound			Rolling
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	Hour
4:00 PM	0	0	390	0	0	0	127	0	0	0	0	1					518	2,116
4:15 PM	0	0	404	1	0	0	137	0	0	0	0	2					544	2,046
4:30 PM	0	0	412	1	0	0	126	0	0	0	0	0					539	1,957
4:45 PM	0	0	402	0	0	0	113	0	0	0	0	0					515	1,891
5:00 PM	0	0	355	0	0	0	93	0	0	0	0	0					448	1,790
5:15 PM	0	0	349	0	0	0	106	0	0	0	0	0					455	
5:30 PM	0	0	382	0	0	0	91	0	0	0	0	0					473	
5:45 PM	0	0	329	0	0	0	85	0	0	0	0	0					414	
Count Total	0	0	3,023	2	0	0	878	0	0	0	0	3					3,906	
Peak Hour	0	0	1,608	2	0	0	503	0	0	0	0	3					2,116	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

Interval		Hea	avy Vehicle	es		Interval	Pe	destrians/f	Bicycles on	Crossw	alk
Start Time	EB	NB	WB	SB	Total	Start Time	E8	NB	WB	SB	Total
4:00 PM	7	0	16	As abolis	23	4:00 PM	0	0	0		0
4:15 PM	10	0	18		28	4:15 PM	0	0	0		0
4:30 PM	9	0	5		14	4:30 PM	0	0	0		0
4:45 PM	8	0	2		10	4:45 PM	0	0	0		0
5:00 PM	3	0	. 1		4	5:00 PM	0	0	0		0
5:15 PM	10	0	2		12	5:15 PM	0	0	0		0
5:30 PM	7	0	1		8	5:30 PM	0	0	0		0
45 PM	3	0	1		4	5:45 PM	0	0	0		0
nt Total	57	0	46		103	Count Total	0	0	0		0
Peak Hour	34	0	41		75	Peak Hour	0	0	0		0

ATTACHMENT E

LOS Calculations

Level of Service Methodology

Level of service calculations for intersections were based on methodology and procedures outlined in the 6th Edition of the *Highway Capacity Manual*, Special Report 209, Transportation Research Board (2016) using *Synchro 10.0* traffic analysis software.

LOS generally refers to the degree of congestion on a roadway or intersection. It is a measure of vehicle operating speed, travel time, travel delays, and driving comfort. A letter scale from A to F generally describes intersection LOS. At signalized intersections, LOS A represents free-flow conditions (motorists experience little or no delays), and LOS F represents forced-flow conditions where motorists experience an average delay more than 80 seconds per vehicle.

The LOS reported for signalized intersections represents the average control delay (sec/veh) and can be reported for the overall intersection, for each approach, and for each lane group (additional v/c ratio criteria apply to lane group LOS only).

The LOS reported at stop-controlled intersections is based on the average control delay and can be reported for each controlled minor approach, controlled minor lane group, and controlled major-street movement (and for the overall intersection at all-way stop controlled intersections. Additional v/c ratio criteria apply to lane group or movement LOS only).

Table A1 outlines the current HCM 6th Edition LOS criteria for signalized and stop-controlled intersections based on these methodologies.

Table A1

LOS Criteria for Signalized and Stop Controlled Intersections¹

SIGNALIZ	ED INTERSECTIO	<u>SNC</u>	STOP-CONTROLLED INTERSECTIONS			
	LOS by Vo Capacity (V			LOS by V Capacity (<u>olume-to</u> V/C) Ratio ³	
Control Delay (sec/veh)	≤ 1.0	> 1.0	Control Delay (sec/veh)	≤ 1.0	> 1.0	
≤ 10	A	F	≤ 10	А	F	
> 10 to ≤ 20	В	F	> 10 to \le 15	В	F	
> 20 to ≤ 35	С	F	> 15 to ≤ 25	С	F	
> 35 to ≤ 55	D	F	> 25 to ≤ 35	D	F	
> 55 to ≤ 80	E	F	> 35 to ≤ 50	E	F	
> 80	F	F	> 50	F	F	

1 Source: Highway Capacity Manual, 6th Edition, Transportation Research Board, 2016.

2 For approach-based and intersection-wide assessments at signals, LOS is defined solely by control delay.

3 For two-way stop controlled intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole at two-way stop controlled intersections. For approach-based and intersection-wide assessments at all-way stop controlled intersections, LOS is solely defined by control delay.

06/15/	20	17
--------	----	----

		>	*	+	*	p
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	≜ ↑		ħ	<u> </u>	W	
Traffic Volume (vph)	412	9	14	1160	9	13
Future Volume (vph)	412	9	14	1160	9	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Link Speed (mph)	50			50	25	
Link Distance (ft)	659			764	440	
Travel Time (s)	9.0			10.4	12.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	24%	24%	8%	8%	100%	100%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	
Intersection Summary			Section and	a state of the	Contraction of the	

Area Type: Control Type: Unsignalized

Other

2019 With Project AM Peak TENW

HCM 6th TWSC			
3: Site Access Dwy	& SR 169	(SE Renton Map	ole Valley Rd)

06/15/2017

Intersection						hand a second second second		
Int Delay, s/veh	0.3							
Movement	E	BT E	BR	WBL	WBT	NBL	NBR	
Lane Configurations	4	· ĵ»		ή	<u> </u>	Y		
Traffic Vol, veh/h		12	9	14	1160	9	13	
Future Vol, veh/h	4	12	9	14	1160	9	13	
Conflicting Peds, #/hr		0	0	0	0	0	0	
Sign Control	Fi	ee F	ree	Free	Free	Stop	Stop	
RT Channelized			one		None		None	
Storage Length		-	-	100	-	0	-	
Veh in Median Storage, #		0	100000	1000	0	1.00		
Grade, %		0	-		0	0	-	
Peak Hour Factor		92	92	92	92	92	92	
Heavy Vehicles, %		24	24	8	8	100	100	
Nvmt Flow		48	10	15	1261	10	14	
1999-1999 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1				13			TI	
Major/Minor	Majo	r1	The second	Major2		Minor1	A CARLES MARK	
Conflicting Flow All		0	0	458	0	1114	229	A STREET, STRE
Stage 1		-		100		453	225	
Stage 2		-				661		
Critical Hdwy	CONTRACTOR OF	1		4.26		8.8	8.9	
Critical Hdwy Stg 1		-	-	-	-	7.8	0.0	
Critical Hdwy Stg 2			1.0			7.8		
Follow-up Hdwy		-		2.28		4.5	4.3	
Pot Cap-1 Maneuver				1058		97	543	
Stage 1				1000		393	-	
Stage 2					3	281	A CARGO CONTRACTOR	
Platoon blocked, %		2				201		
Nov Cap-1 Maneuver			a Line les les	1058	er in server	96	543	
Nov Cap-1 Maneuver				1000		186	040	
Stage 1		-		-	-	387	-	
Stage 2		Tree of				281	-	
pproach		В	Malain T. In	WB		NB		
ICM Control Delay, s	-	0		0.1		17.9		A REAL PROPERTY OF
ICM LOS		U		0.1		17.9 C		
						U		
linor Lane/Major Mvmt	NBLn1 EB	T EE	R WBL	WBT				
apacity (veh/h)	304		- 1058		1			
ICM Lane V/C Ratio	0.079	-	- 0.014	12				
CM Control Delay (s)	17.9		- 8.5	D Bright				
CM Lane LOS	C		- 0.5 - A					
CM 95th %tile Q(veh)	0.3	ಪರಿ	- A					

.

06/15/2017

	-	V	×	-	1	1	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	^ î»		ň	^	Y		
Traffic Volume (vph)	1673	4	6	523	10	12	
Future Volume (vph)	1673	4	6	523	10	12	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		0	100		0	0	
Storage Lanes		0	1		1	0	
Taper Length (ft)			25		25		
Link Speed (mph)	50			50	25		
Link Distance (ft)	659			764	440		
Travel Time (s)	9.0			10.4	12.0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	2%	9%	9%	32%	32%	
Shared Lane Traffic (%)							
Sign Control	Free			Free	Stop		

Area Type:

Control Type: Unsignalized

Other

2019 With Project PM Peak TENW

Synchro 10 Report Page 1

HCM 6th TWSC			
3: Site Access Dwy	/ & SR 169	(SE Renton Ma	ole Valley Rd)

06/15/2017

Intersection

Int Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	≜ ↑		ĥ	<u>^</u>	×*		
Traffic Vol, veh/h	1673	4	6	523	10	12	
Future Vol, veh/h	1673	4	6	523	10	12	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	P.S. A.S. Market	None		None		None	
Storage Length	-		100	-	0	-	
Veh in Median Storage, #	0	- V.		0	1	an de det geboort	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	9	9	32	32	
Mvmt Flow	1818	4	7	568	11	13	

Major/Minor	٨	Major1			Major2	A COMPANY OF	Minor1		
Conflicting Flow All		0	0		1822	0	2118	911	
Stage 1		-				-	1820		
Stage 2		-	-		-	-	298	-	
Critical Hdwy		sub re	-		4.28		7.44	7.54	
Critical Hdwy Stg 1			-		-		6.44	-	
Critical Hdwy Stg 2		-	-		Time and	Division	6.44	1236-21-10-00-00-0	
Follow-up Hdwy		-	-		2.29	-	3.82	3.62	
Pot Cap-1 Maneuver			12 12 2		304		30	225	
Stage 1		-	-		-	-	82	-	
Stage 2		-	55.		-		645	1	
Platoon blocked, %		÷	-			-			
Mov Cap-1 Maneuver		al	122.4		304	104 1000	29	225	
Mov Cap-2 Maneuver			-		-	-	70	-	
Stage 1		-	-		Sec. and	Mar Island	80		
Stage 2		-			-	-	645	-	
Approach		EB			WB		NB		
HCM Control Delay, s	Constraint and the second second	0	7 90.7	- n - weit	0.2	11-11-11-1	45.7	and strings "	
HCM LOS							E		
							enterito enteritorente		
Vinor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT				
	12 212			-					

Capacity (veh/h)	112		- 304		
HCM Lane V/C Ratio	0.214	-	- 0.021	-	
HCM Control Delay (s)	45.7		- 17.1	-	
HCM Lane LOS	E	-	- C		
HCM 95th %tile Q(veh)	0.8	· · ·	- 0.1		

ATTACHMENT F

Parking Demand Calculations

Lakeside Industries SR-169 Site

Estimated Parking Demand Forecasts

	# of Parking Stalls
Vehicle Type	Needed
Super Solos	3
Transfer Truck & Trailers	4
Truck & Trailers	3
Lowboy and Trailer	1
Water Truck	1
Tack Truck	1
Equipment Trailers	4
Equipment Storage	6
White Fleet	11
Employee/Vendor	20
TOTAL	54