EXHIBIT E3

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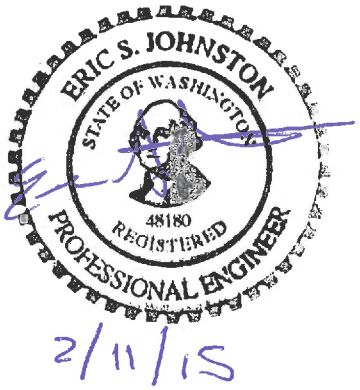

2/11/15

MEMORANDUM

TO:	Cari Hornbein, Senior Planner City of Olympia
FROM:	George Smith, Senior Transportation Planner
DATE:	February 11, 2015
PROJECT #:	1541.01
SUBJECT:	Bayan Trails Traffic Impact Analysis Addendum

INTRODUCTION AND BACKGROUND

Golden Alon Development is proposing construction of *Bayan Trails* development, to be located south of 6th Avenue NE and west of Sleater-Kinney Road. The project will consist of 168 senior apartments with a community building and pool building, and 70 townhomes with no age restriction. The project is projected to be built over six phases. Phase 1 is expected to be completed by 2016, with the remaining portions of the development constructed incrementally over the next eight to ten years based on prevailing market condition.

A Traffic Impact Analysis (TIA) was completed for this project in November of 2014. The study was prepared according to City of Olympia guidelines as part of the required development review and permit procedures for the proposed project. The scope of work for the study was determined through a scoping process involving representatives of the City of Olympia, the project developer, and SCJ Alliance.

The City of Olympia has asked for an addendum to the TIA to include analysis of two additional intersections:

1. Sleater-Kinney Road NE/Alonna Drive NE
2. Sleater-Kinney Road NE/San Mar Drive NE

EXISTING CONDITIONS

Alonna Drive NE is a local access roadway that serves the San Mar Villas residential development. It intersects Sleater-Kinney Road approximately 330 feet north of Kasey Keller Drive NE across from a driveway serving the North Thurston High School.

San Mar Drive NE is a local access roadway that serves the San Mar Villas and intersects Sleater-Kinney Road approximately 500 feet north of Martin Way.

Traffic Count Consultants Inc., a traffic data collection firm, provided evening peak period turning movement counts for the two intersections. The counts were conducted between 4:00 pm and 6:00 pm

at Sleater-Kinney Road/Alonna Drive (February 5, 2015) and Sleater-Kinney Road/San Mar Drive (February 10, 2015).

The traffic volume count worksheets are attached. Per direction from the City of Olympia, the two-hour peak average traffic volumes were used for this analysis. The Existing PM Peak Period Traffic Volumes in the study area are shown on **Figure 3A.**

FUTURE TRAFFIC CONDITIONS

The project-related characteristics having the most effect on area traffic conditions are peak hour trip generation and the directional distribution of traffic volumes on the surrounding roadway network.

Site-Generated Traffic Volumes

The *Bayan Trails* project is projected to generate 95 PM peak hour trips at full project build-out. The site traffic distribution and assignment used for this study were provided in the Traffic Impact Analysis for the *Bayan Trails* Development. It is not anticipated that traffic from the *Bayan Trails* development will use Alonna Drive or San Mar Drive to get to/from Sleater-Kinney Road, although some interaction between communities may occur.

Figure 4 shows the traffic distribution percentages and site traffic assignment on the existing roadway network for Phase 1 and 2. **Figure 5** shows the project site traffic distribution and assignment for Full Build.

Background Traffic Growth

To estimate background growth trends for the traffic on Alonna Drive and San Mar Drive, a 2% annual growth rate was added to existing volumes to represent 2016 and 2022 conditions. Traffic growth on Sleater-Kinney Road was estimated using the methodology described in the TIA.

Figure 6A shows the Projected 2016 PM Peak Period Traffic Volumes without *Bayan Trails*, **Figure 7A** represents the Projected 2016 Projected PM Peak Period Traffic Volumes With Phase 1 and 2 of *Bayan Trails*. **Figure 8A** shows the Projected 2022 PM Peak Period Traffic Volumes With Phase 1 and 2 of *Bayan Trails* and **Figure 9A** shows the Projected 2022 PM Peak Period Traffic Volumes With Full-Build of *Bayan Trails*.

The traffic volume calculations are attached.

TRAFFIC OPERATIONAL ANALYSIS

Traffic analyses were conducted to identify any existing deficiencies within the study area for the 2014 base year and 2016 and 2022 project completion horizon years.

The acknowledged source for determining overall capacity for arterial segments and independent intersections is the current edition of the Highway Capacity Manual (HCM). Capacity analyses were completed for the project horizon year PM two hour peak average traffic volume scenarios for all intersections.

Intersection analysis was performed using version 8 of the Synchro/SimTraffic software package. This software implements the methods of the 2010 HCM. Capacity analysis results are described in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). The City of Olympia has adopted a minimum LOS D standard, however, in the project vicinity Martin Way is a LOS exception area where LOS E is acceptable.

Level of Service

Level of service calculations for intersections determine the amount of "control delay" (in seconds) that drivers will experience while proceeding through an intersection. Control delay includes all deceleration delay, stopped delay and acceleration delay caused by the traffic control device. The LOS is directly related to the amount of delay experienced. The overall LOS grade represents the weighted average of all movements at the intersection. **Table 1** shows the Level of Service criteria for stop sign-controlled intersections.

Table 1. Level of Service Criteria for Stop Sign-Controlled Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	≤10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

Operational Analysis Summary

The analysis was conducted for the following traffic volume scenarios:

- Existing 2014 traffic volumes
- Projected 2016 traffic volumes without the *Bayan Trails* project
- Projected 2016 traffic volumes with Phase 1 and 2 of the *Bayan Trails* project
- Projected 2022 traffic volumes with Phase 1 and 2 of the *Bayan Trails* project
- Projected 2022 traffic volumes with Full-Build of the *Bayan Trails* project

The following is a description of each study intersection:

Sleater-Kinney Road/Alonna Drive

This is a four-way intersection with stop sign-control for the eastbound and westbound approaches. The northbound approach has a left-turn lane, a through lane and a shared through/right-turn lane. The westbound approach has a left-turn lane and a shared through/right-turn lane. The eastbound approach has a single shared lane. The southbound approach has a left-turn lane and a shared through/right-turn lane. There are striped crosswalks on the southbound approach and westbound approach.

During the 2014 PM peak period, the intersection operates at a LOS D for the westbound left-turn lane and an overall LOS A. The westbound left-turn lane will operate at an LOS E in both of the projected 2022 scenarios. The overall intersection average will remain at a LOS A for all the analysis scenarios.

No improvements are needed at this intersection.

Sleater-Kinney Road/San Mar Drive

This is a tee intersection with stop sign-control for the eastbound approach. The northbound approach has one through lane and one shared through/left-turn lane. The eastbound approach has a single shared lane for right turns and left turns. The southbound approach has a single shared through/right-turn lane. There is a striped crosswalk on the northbound approach.

During the 2014 PM peak period, the intersection operates at a LOS B for the minor approach and an overall LOS A. For all analysis scenarios the intersection will operate at a LOS B or better for the minor approach and LOS A for the overall intersection average.

No improvements are needed at this intersection.

Table 2 provides a summary of the level of service analysis for the addendum study intersections. The capacity analysis worksheets are attached.

Table 2. Level of Service (LOS) Summary – PM Peak Period

		Existing 2014 Volumes	Projected 2016		Projected 2022	
			Without Project	With Phase 1 and 2	With Phase 1 and 2	With Full-Build
Intersection	Control Type	LOS (Delay)	LOS (Delay)	LOS (Delay)	LOS (Delay)	LOS (Delay)
Sleater-Kinney Road/Alonna Drive	TWSC	A (0.5)	A (0.5)	A (0.5)	A (0.6)	A (0.6)
Sleater-Kinney Road/San Mar Drive	TWSC	A (0.4)	A (0.4)	A (0.4)	A (0.4)	A (0.4)

NOTE: TWSC = Two-Way Stop-Controlled; Stop-sign on the minor approach(es).

SUMMARY

The City of Olympia requested the analyses of two additional intersections within the project study area, Sleater-Kinney Road/Alonna Drive and Sleater-Kinney Road/San Mar Drive. The analysis described in this addendum shows that no level of service or circulation problems will be caused from the completion of the proposed *Bayan Trails* development.

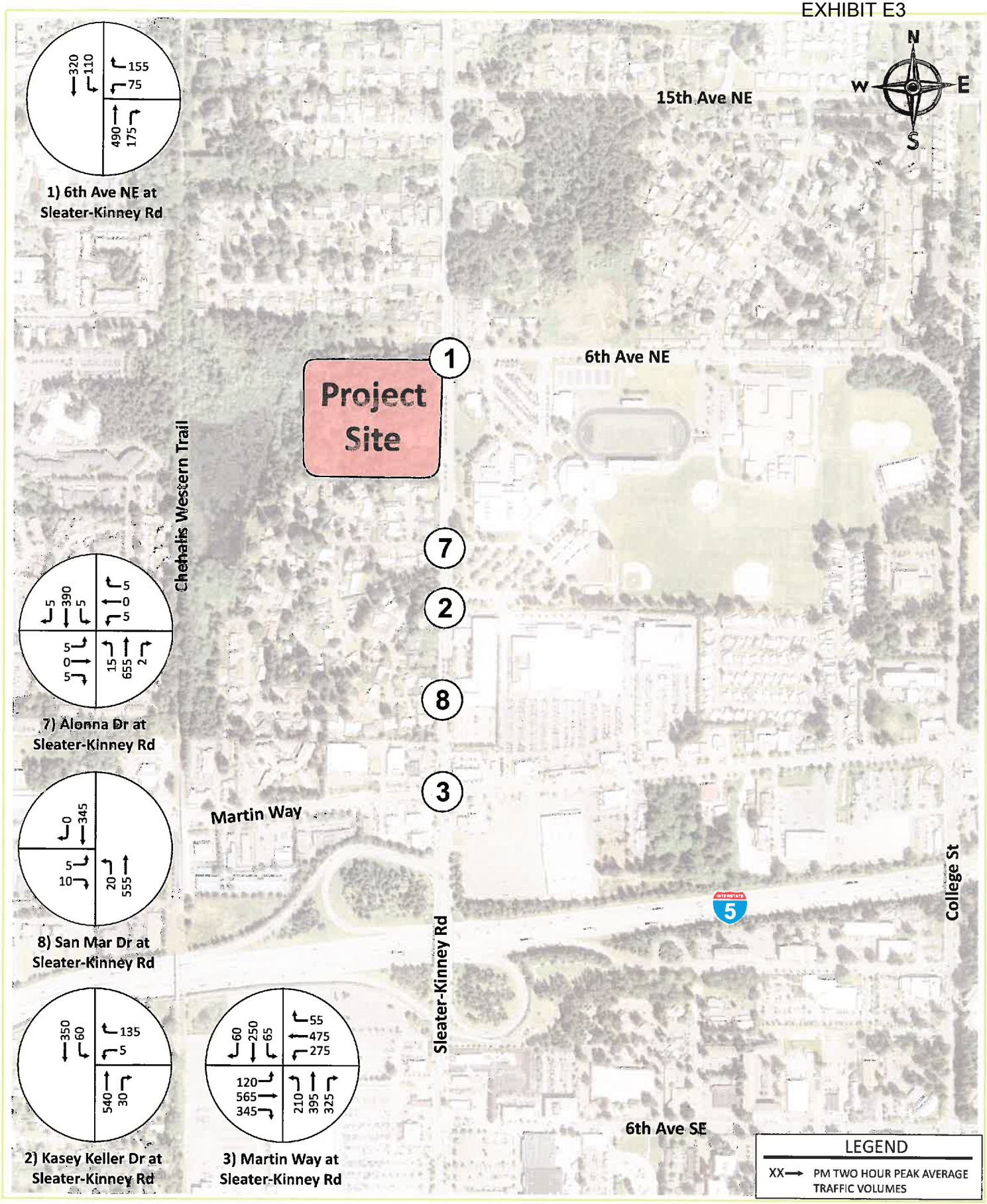

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Figure 3A
Existing 2014 PM Peak Period Traffic Volumes

Bayan Trails
Olympia, Washington
Traffic Impact Analysis Addendum

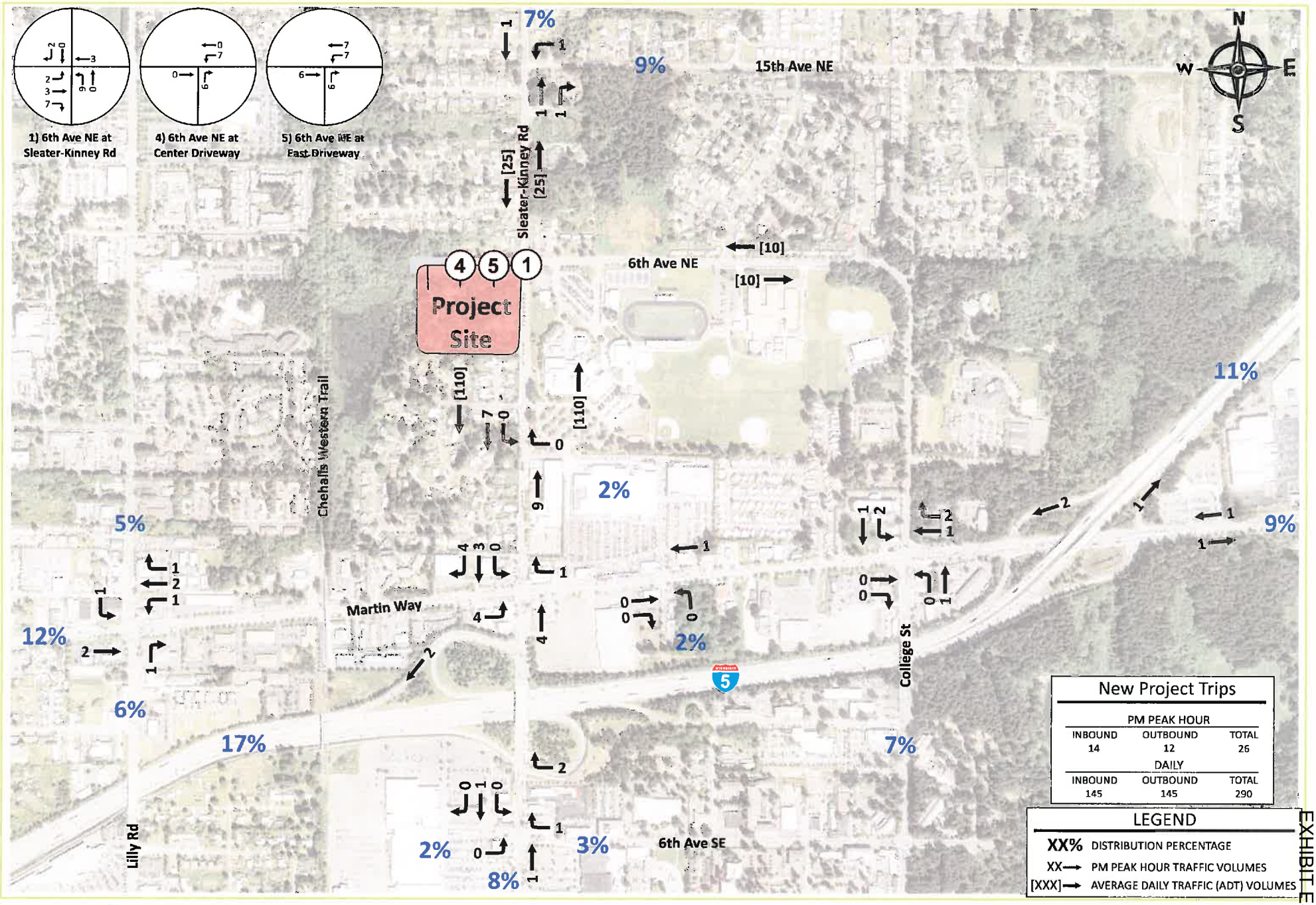

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Figure 4
Phase 1 & Phase 2 Site-Generated Traffic Volumes

Bayan Trails
Olympia, Washington
Traffic Impact Analysis

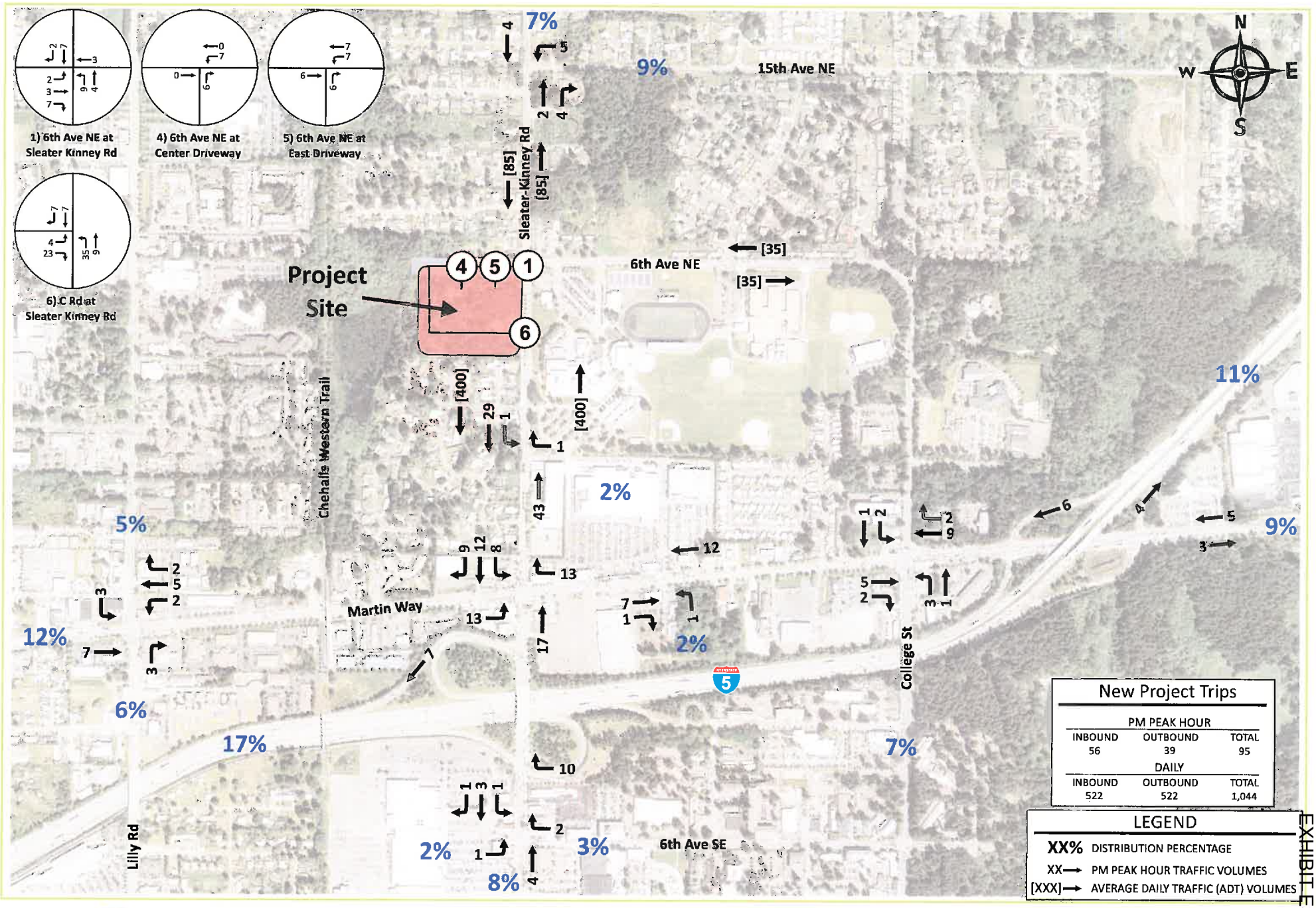

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Figure 5
Full Build Site-Generated
Traffic Volumes

Bayan Trails
Olympia, Washington
Traffic Impact Analysis

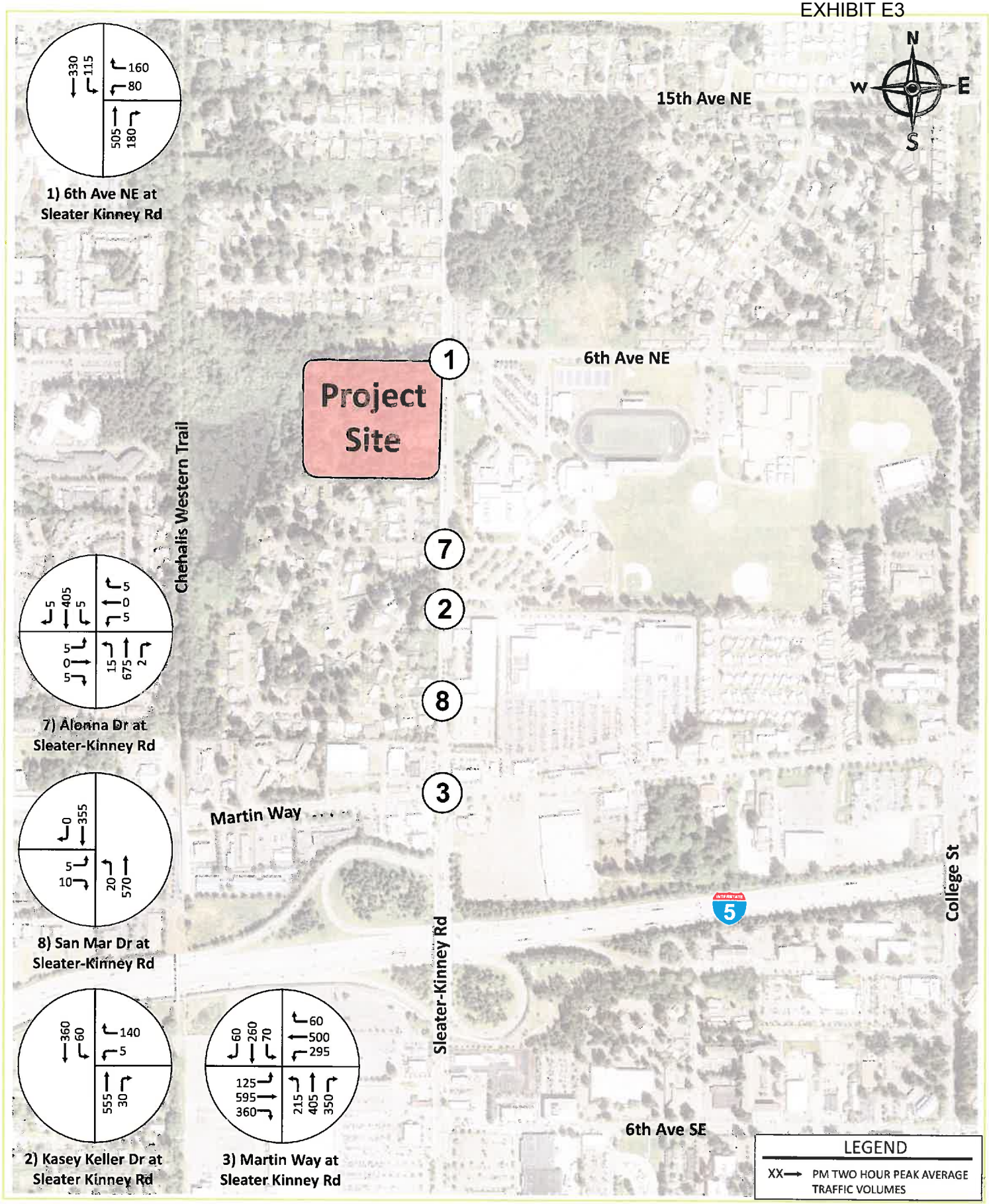

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Figure 6A
Projected 2016 PM Peak Period
Traffic Volumes Without Project

Bayan Trails
Olympia, Washington
Traffic Impact Analysis Addendum

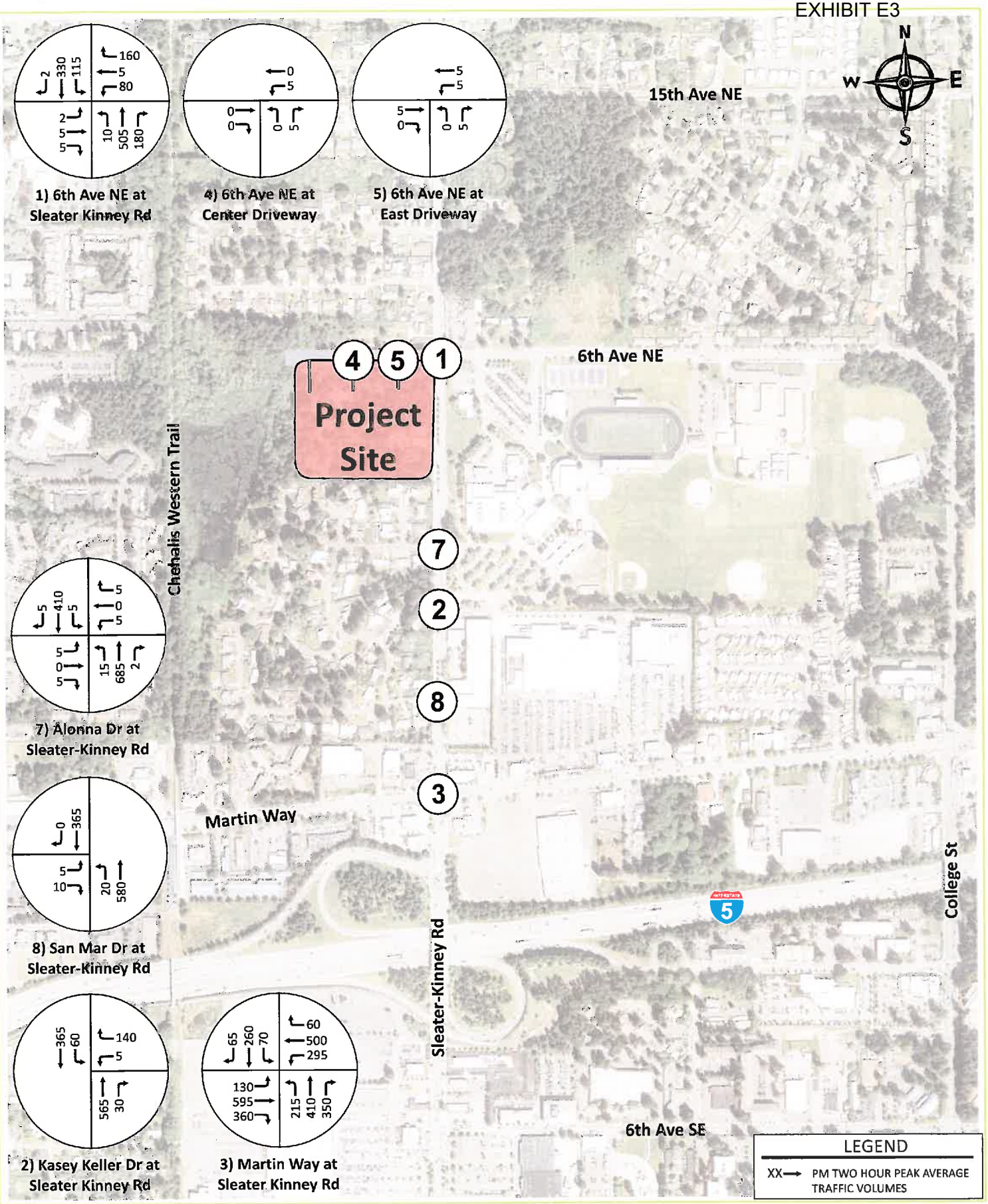

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Figure 7A
Projected 2016 PM Peak Period
Traffic Volumes With Phases 1 and 2

Bayan Trails
Olympia, Washington
Traffic Impact Analysis Addendum

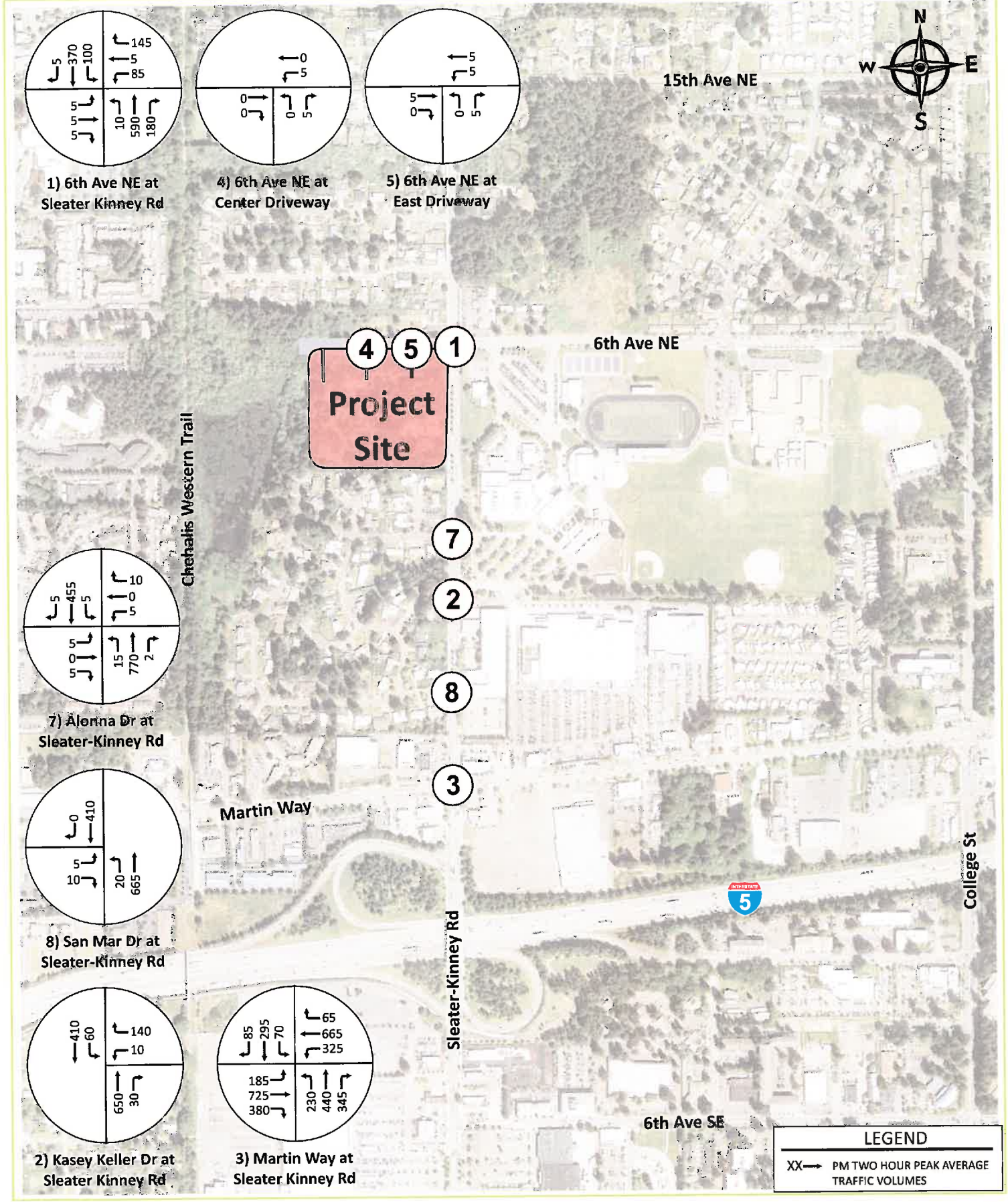

Figure 8A
Projected 2022 PM Peak Period
Traffic Volumes With Phases 1 & 2

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Bayan Trails
Olympia, Washington
Traffic Impact Analysis Addendum

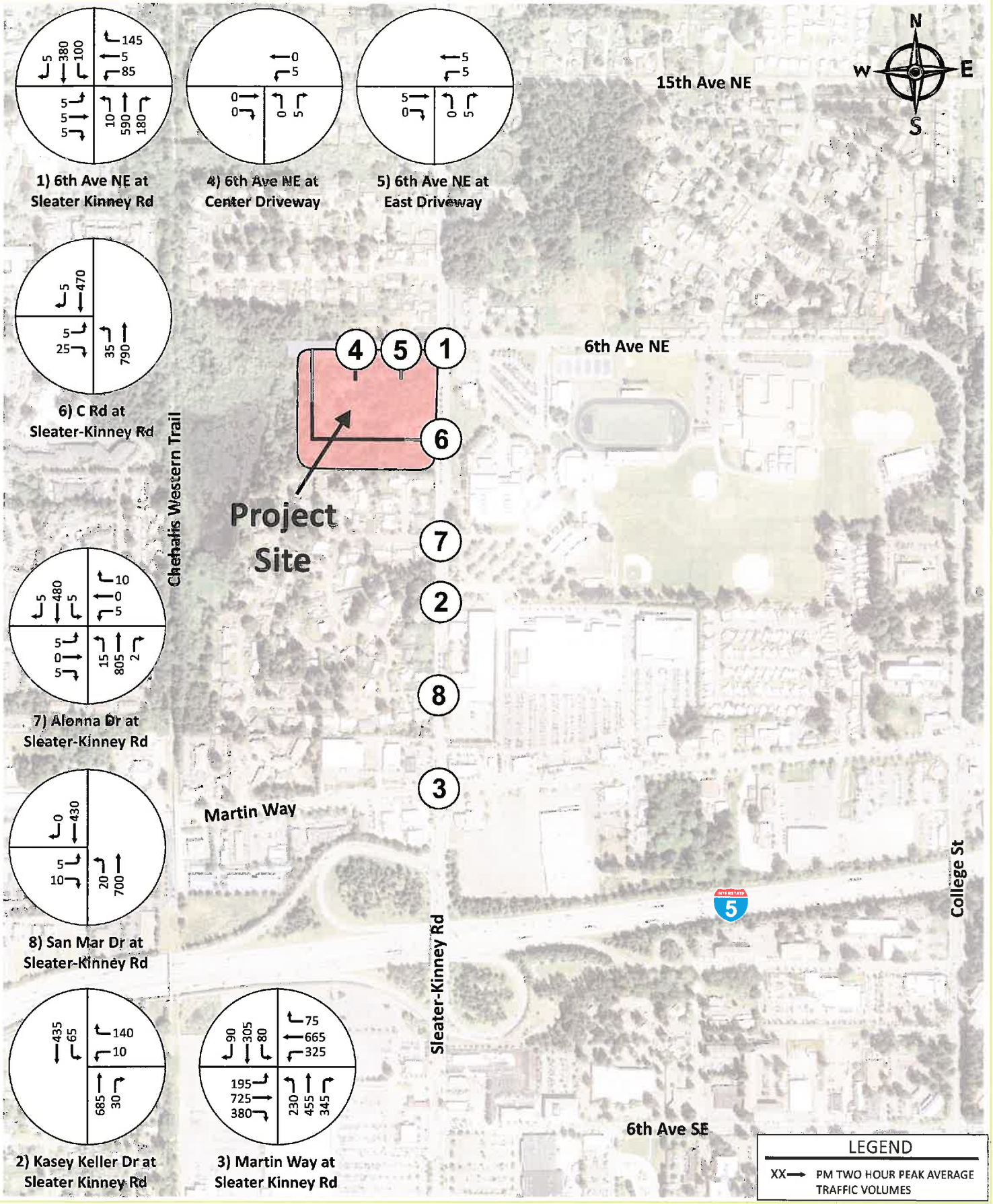

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Figure 9A
Projected 2022 PM Peak Period
Traffic Volumes With Full Build

Bayan Trails
Olympia, Washington
Traffic Impact Analysis Addendum

Prepared for: **SCJ Alliance**

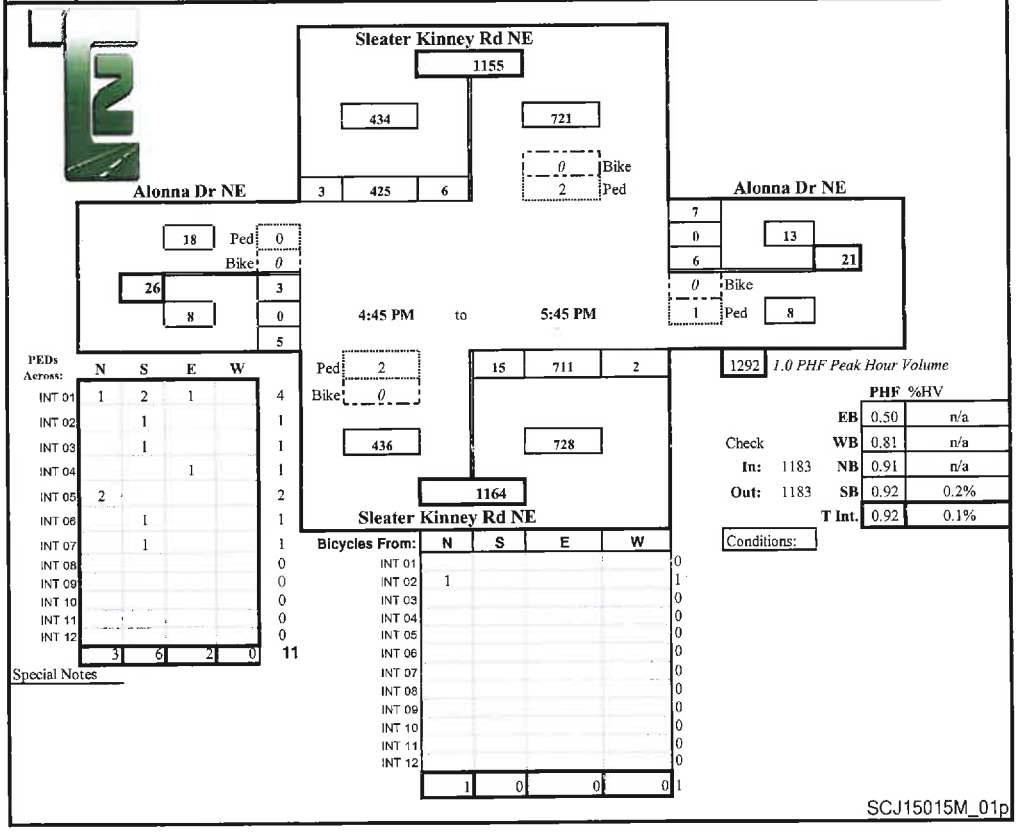
Traffic Count Consultants, Inc.

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

WBE/DBE

Intersection: Sleater Kinney Rd NE & Alonna Dr NE
Location: Olympia, Washington
Date of Count: Thurs 2/05/2015
Checked By: Jess

Time Interval	From North on (SB) Sleater Kinney Rd NE				From South on (NB) Sleater Kinney Rd NE				From East on (WB) Alonna Dr NE				From West on (EB) Alonna Dr NE				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	0	89	0	0	2	135	2	0	2	0	3	0	0	0	2	235
4:30 P	0	3	97	1	0	3	147	0	0	1	0	2	0	1	0	1	256
4:45 P	0	7	92	1	1	2	129	0	0	2	0	3	0	0	0	2	238
5:00 P	1	1	108	1	0	1	164	0	0	4	0	0	0	0	0	4	283
5:15 P	0	0	108	0	0	5	189	0	0	1	0	0	0	1	0	0	304
5:30 P	0	3	113	2	0	2	195	2	0	0	0	4	0	2	0	0	323
5:45 P	0	2	96	0	0	7	163	0	0	1	0	3	0	0	0	1	273
6:00 P	0	1	84	0	0	2	142	0	0	0	0	0	0	1	0	2	232
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	1	17	787	5	1	24	1264	4	0	11	0	15	0	5	0	12	2144
Peak Hour: 4:45 PM to 5:45 PM																	
Total	1	6	425	3	0	15	711	2	0	6	0	7	0	3	0	5	1183
Approach	434				728				13				8				1183
%HV	0.2%				n/a				n/a				n/a				0.1%
PHF	0.92				0.91				0.81				0.50				0.92



SCJ15015M_01p

Prepared for: **SCJ Alliance**

Traffic Count Consultants, Inc.

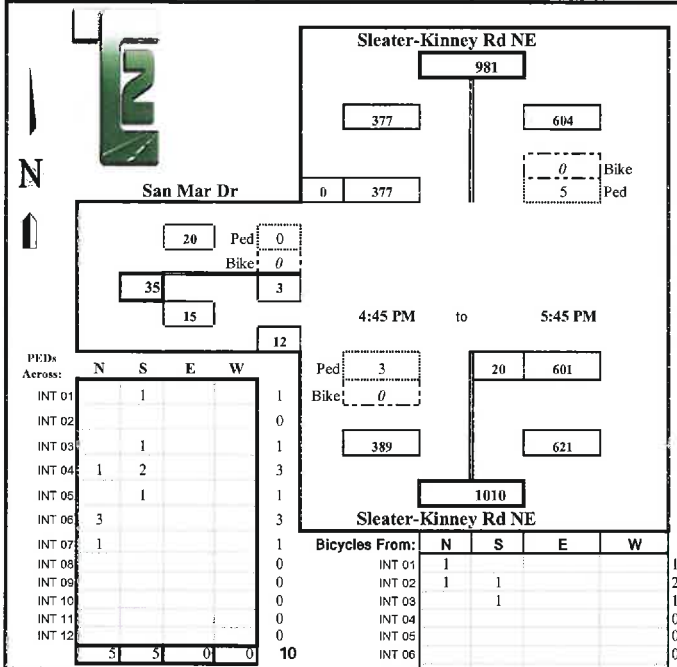
Phone: (253) 926-6009 FAX: (253) 922-7211 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Sleater-Kinney Rd NE & San Mar Dr **Date of Count:** Tues 2/10/2015

Location: Olympia, Washington **Checked By:** Jess

Time Interval	From North on (SB) Sleater-Kinney Rd NE				From South on (NB) Sleater-Kinney Rd NE				From East on (WB) 0				From West on (EB) San Mar Dr				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	0	94	0	0	7	105	0	0	0	0	0	0	1	0	6	213
4:30 P	0	0	84	0	1	8	122	0	0	0	0	0	0	0	0	4	218
4:45 P	0	0	83	1	0	6	109	0	0	0	0	0	0	5	0	4	208
5:00 P	1	0	95	0	0	5	134	0	0	0	0	0	0	1	0	6	241
5:15 P	0	0	97	0	0	5	170	0	0	0	0	0	0	1	0	2	275
5:30 P	0	0	98	0	0	6	175	0	0	0	0	0	0	0	0	2	281
5:45 P	0	0	87	0	0	4	122	0	0	0	0	0	0	1	0	2	216
6:00 P	0	0	69	0	0	7	124	0	0	0	0	0	0	0	0	4	204
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	1	0	707	1	1	48	1061	0	0	0	0	0	0	9	0	30	1856
Peak Hour: 4:45 PM to 5:45 PM																	
Total	1	0	377	0	0	20	601	0	0	0	0	0	0	3	0	12	1013
Approach	377				621				0				15				1013
%HV	0.3%				n/a				n/a				n/a				0.1%
PHF	0.96				0.86				n/a				0.54				0.90



PEDs Across:	N	S	E	W	
INT 01		1			1
INT 02					0
INT 03		1			1
INT 04	1	2			3
INT 05		1			1
INT 06	3				3
INT 07	1				1
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	5	5	0	0	10

Bicycles From:	N	S	E	W	
INT 01	1				1
INT 02	1	1			2
INT 03		1			1
INT 04					0
INT 05					0
INT 06					0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	2	2	0	0	4

1124 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.54	n/a
Check	WB	n/a	n/a
In: 1013	NB	0.86	n/a
Out: 1013	SB	0.96	0.3%
	T Int.	0.90	0.1%

N U's	S U's	E U's	W U's
	0		
	0		
	0		
	1		
	0		
	1		
	1		
	0		
0	3	0	0

Special Notes

Approximately half of the left turns onto San Mar Dr were traveling about 2-3 blocks down the road then making a u-turn; the majority made a right when they returned to the intersection. These vehicles were counted as lefts from south, then rights (or lefts) from west (not u-turns).

SCJ15015M_02p

Bayan Traila Addendum
Olympia, WA
Traffic Volume Worksheet

Growth Rate: 2%
Two Hour Peak Average Rate: 0.92

			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
			Existing Volumes			Projected 2016 Calculation					Growth Calculations to 2022					Projected 2022 Calculation		
			Existing Peak Hour Traffic Volumes	Existing 2014 Peak Hour Traffic Volumes	**Existing 2014 2 Hour Peak Average**	2016 without Project without Pipeline	Pipeline Traffic	**Projected 2016 without Project**	Phase 1 Project Traffic	**Projected 2016 with Project**	Model 2009 Base Volumes	Model 2035 Base Volumes	Model Delta	6 years of Model Growth	6 Years of Background Growth	**Projected 2022 without Full Build**	Phase 2 Project Traffic	**Projected 2022 with Full Build**
7	**Alonna Dr NE/Sleater-Kinney Rd**																	
	Year:	**2014**																
	rt	1	3	3	**3**	3	0	**3**	0	**3**	-	-	0	0	0	**3**	0	**3**
SB	th	2	425	425	**391**	403	0	**403**	7	**410**	274	470	196	45	0	**455**	23	**478**
	lt	3	6	6	**6**	6	0	**6**	0	**6**	-	-	0	0	1	**7**	0	**7**
	rt	4	7	7	**6**	7	0	**7**	0	**7**	-	-	0	0	1	**8**	0	**8**
WB	th	5	0	0	**0**	0	0	**0**	0	**0**	-	-	0	0	0	**0**	0	**0**
	lt	6	6	6	**6**	6	0	**6**	0	**6**	-	-	0	0	1	**7**	0	**7**
	rt	7	2	2	**2**	2	0	**2**	0	**2**	-	-	0	0	0	**2**	0	**2**
NB	th	8	711	711	**654**	674	0	**674**	9	**683**	471	844	373	86	0	**769**	35	**804**
	lt	9	15	15	**14**	14	0	**14**	0	**14**	-	-	0	0	1	**15**	0	**15**
	rt	10	5	5	**5**	5	0	**5**	0	**5**	-	-	0	0	0	**5**	0	**5**
EB	th	11	0	0	**0**	0	0	**0**	0	**0**	-	-	0	0	0	**0**	0	**0**
	lt	12	3	3	**3**	3	0	**3**	0	**3**	-	-	0	0	0	**3**	0	**3**
8	**San Mar Dr NE/Sleater-Kinney Rd**																	
	Year:	**2014**																
	rt	1	0	0	**0**	0	0	**0**	0	**0**	-	-	0	0	0	**0**	0	**0**
SB	th	2	377	377	**347**	357	0	**357**	7	**364**	283	483	200	46	0	**410**	22	**432**
	lt	3	0	0	**0**	0	0	**0**	0	**0**	-	-	0	0	0	**0**	0	**0**
	rt	4	0	0	**0**	0	0	**0**	0	**0**	-	-	0	0	0	**0**	0	**0**
WB	th	5	0	0	**0**	0	0	**0**	0	**0**	-	-	0	0	0	**0**	0	**0**
	lt	6	0	0	**0**	0	0	**0**	0	**0**	-	-	0	0	0	**0**	0	**0**
	rt	7	0	0	**0**	0	0	**0**	0	**0**	-	-	0	0	0	**0**	0	**0**
NB	th	8	601	601	**553**	570	0	**570**	9	**579**	450	820	370	85	0	**664**	34	**698**
	lt	9	20	20	**18**	19	0	**19**	0	**19**	-	-	0	0	2	**21**	0	**21**
	rt	10	12	12	**11**	11	0	**11**	0	**11**	-	-	0	0	1	**12**	0	**12**
EB	th	11	0	0	**0**	0	0	**0**	0	**0**	-	-	0	0	0	**0**	0	**0**
	lt	12	3	3	**3**	3	0	**3**	0	**3**	-	-	0	0	0	**3**	0	**3**

Column A: Peak hour traffic volumes from earlier than 2014
Column B: Column A * Growth Rate * Years of Growth or peak hour traffic volumes from 2014 counts
Column C: Column B * 2 Hour Peak Average Rate
Column D: Column B * Growth Rate * Years of Growth (2)
Column E: Pipeline project traffic volumes
Column F: Column D + Column E
Column G: Phase 1 and 2 site-generated new to network traffic volumes
Column H: Column F + Column G
Column I: Existing 2009 TRPC travel demand model turning movement data
Column J: Future 2035 TRPC travel demand model turning movement data
Column K: Column J - Column I
Column L: For Sleater-Kinney through movements, Column K / Model year difference (26) * Years of Growth (6)
Column M: For movements not traveling through on Sleater-Kinney Road, Column F * Growth Rate * Years of Growth (6)
Column N: Column H + Column L
Column O: Phase 3 site-generated new to network traffic volumes
Column P: Column M + Column N

Lanes and Geometrics
7: Sleater-Kinney Rd & Alonna Dr

Existing 2014
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.939			0.875						0.998	
Flt Protected		0.978		0.950			0.950			0.950		
Satd. Flow (prot)	0	1745	0	1805	1662	0	1805	3610	0	1787	1877	0
Flt Permitted		0.978		0.950			0.950			0.950		
Satd. Flow (perm)	0	1745	0	1805	1662	0	1805	3610	0	1787	1877	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		511			468			773			494	
Travel Time (s)		11.6			10.6			17.6			11.2	

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	1	5	5	1	5	15	655	2	5	390	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	5	1	5	5	1	5	16	712	2	5	424	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	827	1185	427	1187	1186	357	429	0	0	714	0	0
Stage 1	438	438	-	746	746	-	-	-	-	-	-	-
Stage 2	389	747	-	441	440	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.2	7.3	6.5	6.9	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.21	-	-
Pot Cap-1 Maneuver	280	191	632	156	190	645	1141	-	-	889	-	-
Stage 1	601	582	-	376	424	-	-	-	-	-	-	-
Stage 2	612	423	-	599	581	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	272	187	632	152	186	645	1141	-	-	889	-	-
Mov Cap-2 Maneuver	272	187	-	152	186	-	-	-	-	-	-	-
Stage 1	593	579	-	371	418	-	-	-	-	-	-	-
Stage 2	597	417	-	589	578	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.7	20.5	0.2	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1141	-	-	348	152	457	889	-	-
HCM Lane V/C Ratio	0.014	-	-	0.034	0.036	0.014	0.006	-	-
HCM Control Delay (s)	8.2	-	-	15.7	29.6	13	9.1	-	-
HCM Lane LOS	A	-	-	C	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	0	-	-

Lanes and Geometrics
8: Sleater-Kinney Rd & San Mar Dr

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.913					
Flt Protected	0.983			0.998		
Satd. Flow (prot)	1705	0	0	3603	1881	0
Flt Permitted	0.983			0.998		
Satd. Flow (perm)	1705	0	0	3603	1881	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	614			553	773	
Travel Time (s)	14.0			12.6	17.6	

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	10	20	555	345	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	6	11	22	617	383	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	737	384	384	0	-	0
Stage 1	384	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Critical Hdwy	6.6	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	373	668	1186	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	363	668	1186	-	-	-
Mov Cap-2 Maneuver	363	-	-	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	669	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1186	-	522	-	-
HCM Lane V/C Ratio	0.019	-	0.032	-	-
HCM Control Delay (s)	8.1	0.1	12.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lanes and Geometrics
7: Sleater-Kinney Rd & Alonna Dr

Projected 2016 without Project
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.939			0.875						0.998	
Flt Protected		0.978		0.950			0.950			0.950		
Satd. Flow (prot)	0	1745	0	1805	1662	0	1805	3610	0	1787	1877	0
Flt Permitted		0.978		0.950			0.950			0.950		
Satd. Flow (perm)	0	1745	0	1805	1662	0	1805	3610	0	1787	1877	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		511			468			773			494	
Travel Time (s)		11.6			10.6			17.6			11.2	

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	1	5	5	1	5	15	675	2	5	405	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	5	1	5	5	1	5	16	734	2	5	440	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	854	1222	443	1224	1224	368	446	0	0	736	0	0
Stage 1	454	454	-	767	767	-	-	-	-	-	-	-
Stage 2	400	768	-	457	457	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.2	7.3	6.5	6.9	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.21	-	-
Pot Cap-1 Maneuver	268	181	619	147	181	635	1125	-	-	872	-	-
Stage 1	589	573	-	365	414	-	-	-	-	-	-	-
Stage 2	603	414	-	587	571	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	260	177	619	143	177	635	1125	-	-	872	-	-
Mov Cap-2 Maneuver	260	177	-	143	177	-	-	-	-	-	-	-
Stage 1	581	570	-	360	408	-	-	-	-	-	-	-
Stage 2	588	408	-	577	568	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.2	21.4	0.2	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1125	-	-	334	143	444	872	-	-
HCM Lane V/C Ratio	0.014	-	-	0.036	0.038	0.015	0.006	-	-
HCM Control Delay (s)	8.2	-	-	16.2	31.2	13.2	9.2	-	-
HCM Lane LOS	A	-	-	C	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	0	-	-

Lanes and Geometrics
8: Sleater-Kinney Rd & San Mar Dr

Projected 2016 without Project
PM Peak Hour

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.913					
Flt Protected	0.983			0.998		
Satd. Flow (prot)	1705	0	0	3603	1881	0
Flt Permitted	0.983			0.998		
Satd. Flow (perm)	1705	0	0	3603	1881	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	614			553	773	
Travel Time (s)	14.0			12.6	17.6	

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	10	20	570	355	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	6	11	22	633	394	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	756	395	396	0	-	0
Stage 1	395	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Critical Hdwy	6.6	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	363	659	1174	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	682	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	352	659	1174	-	-	-
Mov Cap-2 Maneuver	352	-	-	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	662	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1174	-	511	-	-
HCM Lane V/C Ratio	0.019	-	0.033	-	-
HCM Control Delay (s)	8.1	0.1	12.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lanes and Geometrics
7: Sleater-Kinney Rd & Alonna Dr

Projected 2016 with Project
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.939			0.875						0.998	
Flt Protected		0.978		0.950			0.950			0.950		
Satd. Flow (prot)	0	1745	0	1805	1662	0	1805	3610	0	1787	1877	0
Flt Permitted		0.978		0.950			0.950			0.950		
Satd. Flow (perm)	0	1745	0	1805	1662	0	1805	3610	0	1787	1877	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		511			468			773			494	
Travel Time (s)		11.6			10.6			17.6			11.2	

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	1	5	5	1	5	15	685	2	5	410	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	5	1	5	5	1	5	16	745	2	5	446	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	864	1238	448	1241	1240	373	451	0	0	747	0	0
Stage 1	459	459	-	778	778	-	-	-	-	-	-	-
Stage 2	405	779	-	463	462	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.2	7.3	6.5	6.9	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.21	-	-
Pot Cap-1 Maneuver	264	177	615	143	177	630	1120	-	-	864	-	-
Stage 1	586	570	-	360	410	-	-	-	-	-	-	-
Stage 2	599	409	-	583	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	256	173	615	139	173	630	1120	-	-	864	-	-
Mov Cap-2 Maneuver	256	173	-	139	173	-	-	-	-	-	-	-
Stage 1	578	567	-	355	404	-	-	-	-	-	-	-
Stage 2	584	403	-	573	565	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	21.9	0.2	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1120	-	-	329	139	437	864	-	-
HCM Lane V/C Ratio	0.015	-	-	0.036	0.039	0.015	0.006	-	-
HCM Control Delay (s)	8.3	-	-	16.4	32	13.4	9.2	-	-
HCM Lane LOS	A	-	-	C	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	0	-	-

Lanes and Geometrics
8: Sleater-Kinney Rd & San Mar Dr

Projected 2016 with Project
PM Peak Hour

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.913					
Flt Protected	0.983			0.998		
Satd. Flow (prot)	1705	0	0	3603	1881	0
Flt Permitted	0.983			0.998		
Satd. Flow (perm)	1705	0	0	3603	1881	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	614			553	773	
Travel Time (s)	14.0			12.6	17.6	

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	10	20	580	365	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	6	11	22	644	406	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	773	406	407	0	-	0
Stage 1	406	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Critical Hdwy	6.6	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	355	649	1163	-	-	-
Stage 1	677	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	345	649	1163	-	-	-
Mov Cap-2 Maneuver	345	-	-	-	-	-
Stage 1	677	-	-	-	-	-
Stage 2	657	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1163	-	502	-	-
HCM Lane V/C Ratio	0.019	-	0.033	-	-
HCM Control Delay (s)	8.2	0.1	12.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lanes and Geometrics
7: Sleater-Kinney Rd & Alonna Dr

Projected 2022 without Project
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.939			0.862						0.998	
Flt Protected		0.978		0.950			0.950			0.950		
Satd. Flow (prot)	0	1745	0	1805	1638	0	1805	3610	0	1787	1877	0
Flt Permitted		0.978		0.950			0.950			0.950		
Satd. Flow (perm)	0	1745	0	1805	1638	0	1805	3610	0	1787	1877	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		511			468			773			494	
Travel Time (s)		11.6			10.6			17.6			11.2	

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	1	5	5	1	10	15	770	2	5	455	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	5	1	5	5	1	11	16	811	2	5	479	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	929	1336	482	1338	1338	406	484	0	0	813	0	0
Stage 1	492	492	-	843	843	-	-	-	-	-	-	-
Stage 2	437	844	-	495	495	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.2	7.3	6.5	6.9	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.21	-	-
Pot Cap-1 Maneuver	237	155	588	122	154	600	1089	-	-	816	-	-
Stage 1	562	551	-	329	382	-	-	-	-	-	-	-
Stage 2	574	382	-	560	549	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	228	152	588	118	151	600	1089	-	-	816	-	-
Mov Cap-2 Maneuver	228	152	-	118	151	-	-	-	-	-	-	-
Stage 1	554	548	-	324	376	-	-	-	-	-	-	-
Stage 2	554	376	-	551	546	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.6	20.3	0.2	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1089	-	-	297	118	472	816	-	-
HCM Lane V/C Ratio	0.014	-	-	0.039	0.045	0.025	0.006	-	-
HCM Control Delay (s)	8.4	-	-	17.6	36.9	12.8	9.4	-	-
HCM Lane LOS	A	-	-	C	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	0	-	-

Lanes and Geometrics
8: Sleater-Kinney Rd & San Mar Dr

Projected 2022 without Project
PM Peak Hour

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.907					
Flt Protected	0.985			0.999		
Satd. Flow (prot)	1697	0	0	3606	1881	0
Flt Permitted	0.985			0.999		
Satd. Flow (perm)	1697	0	0	3606	1881	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	614			553	773	
Travel Time (s)	14.0			12.6	17.6	

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	10	20	665	410	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	5	11	21	700	432	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	824	432	433	0	-	0
Stage 1	432	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Critical Hdwy	6.6	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	330	628	1137	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	320	628	1137	-	-	-
Mov Cap-2 Maneuver	320	-	-	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	638	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1137	-	475	-	-
HCM Lane V/C Ratio	0.019	-	0.033	-	-
HCM Control Delay (s)	8.2	0.1	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lanes and Geometrics
7: Sleater-Kinney Rd & Alonna Dr

Projected 2022 with Project
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.939			0.862						0.999	
Flt Protected		0.978		0.950			0.950			0.950		
Satd. Flow (prot)	0	1745	0	1805	1638	0	1805	3610	0	1787	1879	0
Flt Permitted		0.978		0.950			0.950			0.950		
Satd. Flow (perm)	0	1745	0	1805	1638	0	1805	3610	0	1787	1879	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		511			468			773			494	
Travel Time (s)		11.6			10.6			17.6			11.2	

Intersection Summary

Area Type: Other

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	1	5	5	1	10	15	805	2	5	480	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	5	1	5	5	1	11	16	847	2	5	505	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	974	1399	508	1402	1401	425	511	0	0	849	0	0
Stage 1	518	518	-	880	880	-	-	-	-	-	-	-
Stage 2	456	881	-	522	521	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.2	7.3	6.5	6.9	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.21	-	-
Pot Cap-1 Maneuver	221	142	569	110	141	583	1065	-	-	791	-	-
Stage 1	544	536	-	312	368	-	-	-	-	-	-	-
Stage 2	559	367	-	542	535	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	212	139	569	107	138	583	1065	-	-	791	-	-
Mov Cap-2 Maneuver	212	139	-	107	138	-	-	-	-	-	-	-
Stage 1	536	533	-	307	362	-	-	-	-	-	-	-
Stage 2	539	361	-	533	532	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.5	21.7	0.2	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1065	-	-	278	107	451	791	-	-
HCM Lane V/C Ratio	0.015	-	-	0.042	0.049	0.026	0.007	-	-
HCM Control Delay (s)	8.4	-	-	18.5	40.4	13.2	9.6	-	-
HCM Lane LOS	A	-	-	C	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	0	-	-

Lanes and Geometrics
8: Sleater-Kinney Rd & San Mar Dr

Projected 2022 with Project
PM Peak Hour

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.907					
Flt Protected	0.985			0.999		
Satd. Flow (prot)	1697	0	0	3606	1881	0
Flt Permitted	0.985			0.999		
Satd. Flow (perm)	1697	0	0	3606	1881	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	614			553	773	
Travel Time (s)	14.0			12.6	17.6	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	10	20	700	430	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	5	11	21	737	453	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	864	453	454	0	-	0
Stage 1	453	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Critical Hdwy	6.6	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	312	611	1117	-	-	-
Stage 1	645	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	302	611	1117	-	-	-
Mov Cap-2 Maneuver	302	-	-	-	-	-
Stage 1	645	-	-	-	-	-
Stage 2	622	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1117	-	456	-	-
HCM Lane V/C Ratio	0.019	-	0.035	-	-
HCM Control Delay (s)	8.3	0.1	13.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-